

**PROVIDENCE TOWNSHIP**

**MS4 ANNUAL REPORT**

**SUPPORTING DOCUMENTATION**

**August 2016**

**Prepared for:**

**Providence Township**  
**200 Mt. Airy Road**  
**New Providence, PA 17560**

**Prepared by:**



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**Hanover Project PRT16-12**

## **ANNUAL REPORT APPENDICE**

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**Appendix A.**  
**Providence Township Policies and Procedures**

**PROVIDENCE TOWNSHIP**  
**MS4 – MCM #6**  
**BMP #1**

**Facilities Owned by Providence Township**

1. **Providence Township Municipal Office and Maintenance Garage**  
200 Mt. Airy Road  
New Providence, PA 17560

This is the main office and maintenance facility for Providence Township. Administrative functions occur here as well as maintenance of Township's fleet and storage of road materials, etc.

Size of Lot: 7.15 acres  
Parcel No. 5203051400000

Buildings:      Office  
                     Maintenance Garage  
                     Salt Shed  
                     Steel Dike – holding tar tank  
                     Hoop Structure – housing wood chips used for biomass boiler

Stormwater Facilities: 3 Detention Basins

Property is treated by an outside firm for weeds and bugs. Goods GroGreen treats the yard and Terminix treats the bugs, rodents, etc. in and around the buildings.

All grassed areas are mowed from April through October as needed. Grass clippings are not gathered.



2. **Providence Township Park**  
38 Main Street  
New Providence, PA 17560

This is a small park containing a seesaw and swingset.

Size of Lot: 0.32 acres

Parcel No. 52057460000000

There are no buildings on this property.

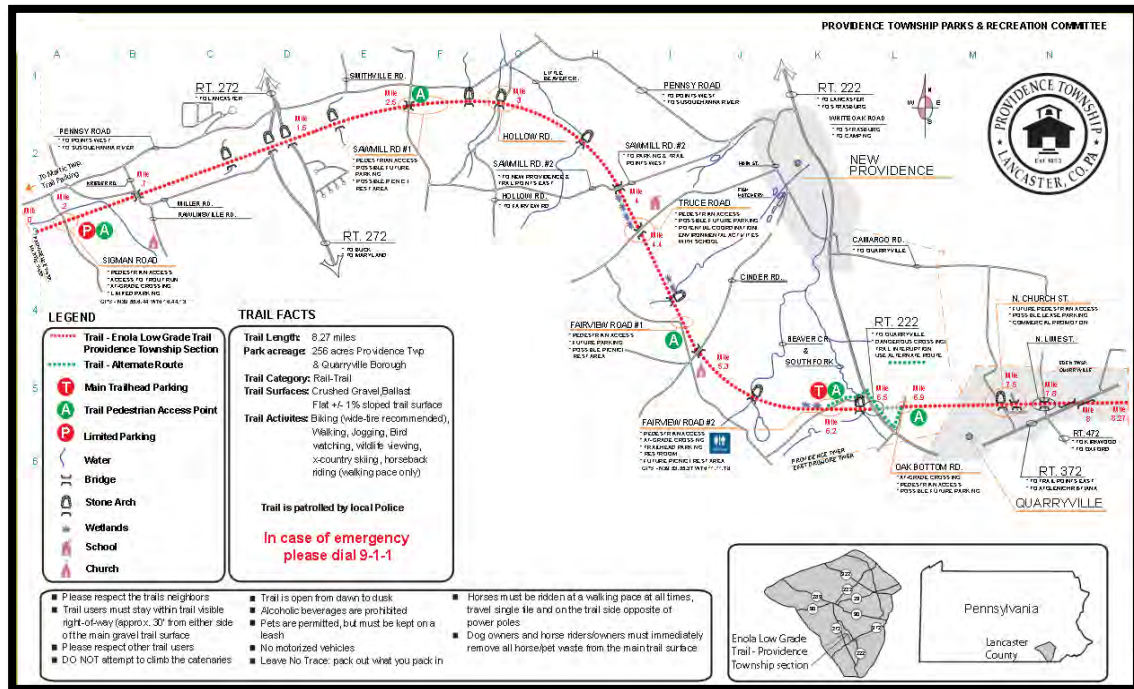
Stormwater Facilities: None

This property is mowed from April through October as needed. Grass clippings are not gathered.



### 3. Enola Low Grade Trail

Providence Township owns approximately 8.27 miles of trail beginning at our western border with Martic Township and extended through Quarryville Borough to the Eden Township line. This area consists of approximately 256 acres of land.



Below are the parcel numbers that encompass the trail:

5203246300000	Truce Road	5207265700000	Fairview Road
5203514300000	Hollow Road	5207866000000	Cinder Road
5203950800000	Beaver Valley Pike	5208918200000	Rawlinsville Road
5204037300000	Truce Road	5209024000000	Pennsy Road
5204622000000	Sawmill Road	5302750300000	North Lime Street
5204652400000	Sigman Road	5303020200000	North Church Street
5204697400000	Lancaster Pike	5308205100000	North Church Street
5204919300000	Pennsy Road	5308451500000	East State Street
5205499800000	Truce Road	5308577000000	State Street
5206556300000	Sigman Road	5200839400000	Fairview Road
5206739200000	Beaver Valley Pike	5206344600000	Beaver Valley Pike
5206904000000	Lancaster Pike		

Stormwater Facilities: Various pipes, swales, outlets and outfalls

Trailhead Parking Areas:

Fairview Road (1): This parking area is partially paved with remainder stone and gravel

Sigman Road: This parking area is stone and gravel

### **Activities Performed by the Township**

- Snow Removal/Deicing
  - Lawn/Grounds Care (Mowing), Third Party Fertilizing/Maintenance
  - General Stormwater Systems Inspections and Maintenance Repairs
  - Township Building Maintenance
  - Right-of-Way Maintenance
  - Road Repairs and Maintenance
  - Vehicle Operation and Maintenance (Fueling, Washing)
  - Street Sweeping
-

**Phase II Stormwater Management Program**  
**MCM#1 – Public Education Plan**  
**Providence Township, Lancaster County**

**BMP-1 Develop, Implement and Maintain a Public Education & Outreach Program**

The Township's strategy is to use outreach and educational opportunities to bring increased awareness of water quality and quantity issues to the citizens of Providence Township.

While a one-size-fits-all approach may make sense in certain situations, such as publishing articles in the Providence Township Patriot newsletter or on the Township website, outreach is more effective if the overarching message is customized to a specific part of the population.

Below are descriptions of such groups that take into account both the general makeup of the population and attributes of our community and the strategies that will be used to educate and reach out to each.

**Residents:**

This broad category includes households and neighborhoods within the MS4 area as well as the rural subdivisions scattered throughout the Township. The MS4 community is characterized by agricultural, forested and residential lots.

Communication in this category will be accomplished through the Township website, which includes links to DEP, Lancaster County Conservation District and the Chesapeake Bay Program.

Township staff meets periodically with homeowners to inspect stormwater facilities and to review general housekeeping and maintenance of the facilities.

**Developers:**

The Township offers pre-application meetings upon request by the developer, issued discussed include stormwater, land development and erosion and sedimentation control practices.

Developers will be informed of potential stormwater issues during the Land Development process meetings with the Providence Township staff, Planning Commission and Supervisors.

**Schools:**

The Township is open to working with youth groups, school groups, scouts and other groups on projects related to stormwater, erosion control and other MS4 related projects.

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**Businesses:**

Educational materials will be distributed through the Township Newsletter (Providence Township Patriot) and the Township Website.

**Municipal Employees:**

Educational materials will be distributed through the Township Newsletters, the Township Website and postings on information bulletin boards within the Township buildings.

Employee training will be held monthly with the safety meeting with topics including building housekeeping and grounds maintenance, road and stormwater facility maintenance, illicit discharge detection, hazardous material handling and storage and other topics to keep staff updated on stormwater and MS4 best management practices.

Other training to be held as deemed necessary.

**Watershed Association Groups:**

The Pequea Creek Watershed has worked with the Township in the past on projects and the Township looks to work with them in the future.

**BMP-2 Develop and Maintain Lists of Target Audience Groups Served by MS4**

Target audience group data bases are updated annually. Data bases are located as noted on the MS4 Stakeholder Mailing listing, which is found on page 18.

**BMP-3**

Providence Township maintains a website (<http://providencetownship.com>) that includes links to the Providence Township Patriot that includes articles on stormwater and BMPs.

The site contains links to DEP's and EPA's stormwater sites as well as the Lancaster County Conservation District and Chesapeake Bay Program.

**BMP-4 Distribute Stormwater Educational Materials to the Target Audiences**

The Township sends copies of the Providence Township Patriot (newsletter) to residents, the newsletter includes stormwater educational information.

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Document date, information type and target audience of each distribution. A copy of the Patriot newsletters will be included in the Township records for the annual reports.

The Township displays educational materials around its facilities (primarily the main office building) for residents and visitors to read.



**Phase II Stormwater Management Program  
MCM #2 – Public Involvement and Participation Plan  
Providence Township, Lancaster County**

**BMP 1 - Develop, Implement and Maintain a Written PIPP Plan**

**Providence Township PIPP Plan**

A copy of the Chesapeake Bay Pollutant Reduction Plan including updates will be kept on file at the Township.

Prior to the adoption of the most recent Stormwater Management Ordinance, the Township; held numerous public meetings and solicited feedback from its appointed boards (Planning Commission and Board of Supervisors) and the general public.

The Township will provide a yearly summary on its stormwater management webpage.

**BMP 2 - Prior to Adoption of Ordinances Provide Opportunities for Public Comment**

Prior to the adoption of the most recent Stormwater Management Ordinance, the Township held numerous public meetings and provided opportunities for public comment and feedback. Any public comments and feedback is documented in the meeting minutes.

**BMP 3 -Regularly Solicit Public Involvement and Participation from Target Groups**

Township employees provide equipment and labor necessary to remove and transport debris that is dumped in or around public stormwater facilities. The employees are involved in water quality monitoring.

Township Staff has meetings with individual property owners to educate on the importance of controlling and improving the quality of stormwater runoff. This is complaint originated.

Staff includes information regarding stormwater in the Township newsletters and website.

The Township displays educational information and other literature to educate residents on the importance of controlling and improving the quality of stormwater runoff.

Developers are educated to the importance of stormwater when designing developments.

Document Township staff and community participants and activities.

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**Providence Township**  
**MCM #3, BMP #1**  
**Illicit Discharge Detection and Elimination (DD&E)**

**Procedures for Identifying Priority Areas**

Establish a database of facilities and activities (sites) located in the Township which has a pollution potential based on SIC Codes, especially focusing in the MS4 area that may affect water quality.

Database will include site name, owner/operator, address, SIC Code and closest MS4 outfall.

The sites will be identified using Federal databases like the Enforcement & Compliance History Online (ECHO), [www.epa.gov/echo/index.html](http://www.epa.gov/echo/index.html) and routine inspections of lands surrounding the Township MS4 outfalls.

Sites will be noted on the Township MS4 map. Database will be verified annually.

Providence Township Listing of Facilities of Environmental Concern							
Name of Facility	Owner/Operator	Address	City	Zip Code	Closest Outfall	GPS Coordinates	SIC Code
Mt. Airy Lumber Mfg.	Mt. Airy Lumber Mfg.	20 Mount Airy Road	New Providence	17560		39.916019, -76.243137	2448
SFS Wolf, Thomas & Rachel	Thomas & Rachel Wolf	371 Snyder Hollow Road	New Providence	17560		39.90023, -76.24521	8811
Tamarack MHP	Frederick Steudler	502 Cedar Lane	New Providence	17560		39.92401, -76.244434	6515

**Procedures for Screening Outfalls**

Establish a database containing all outfalls located in the Township MS4 areas. The database should include a unique identifier, location, condition, priority ranking and last date tested for each outfall. The MS4 outfall map includes the identification labels and locations. Copies of the maps are kept with each MS4 binder.

Initial MS4 permit cycle – All identified regulated small MS4 outfalls shall be screened during Dry Weather at least twice during the permit coverage term (5-years). For each permit coverage year at least 40% of the total number of outfalls should be screened.

Renewal MS4 permit cycle – Each identified regulated small MS4 outfall shall be screened at least once during each permit coverage term (5-year). For areas where problems have been reported or known dry weather flows occur on a continual basis shall be screened annually. The sampling will be based on the MS4 outfall map and inspection driven.

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Conduct dry weather monitoring after a continuous time interval without stormwater producing events that immediately follows an initial 48 hour period with no stormwater producing events. A report shall be prepared for the inspections.

Complete Illicit Discharge Field Screening Data Collection Form during outfall monitoring/inspection.

If a flow is detected from the outfall the flow is considered non-storm related and a sample of the flow should be collected and tested for: temperature, conductivity, chlorine, surfactants, ammonia, E. coli. A visual observation should be taken to complete the information requested on the Data Collection Form.

An illicit discharge is any discharge (or seepage) to the Township storm sewer system that is not composed entirely of stormwater. This does not include certain non-stormwater discharges as described in EPA regulations, the NPDES MS4 permit or Section 8.01.D of the Providence Township Stormwater Management Ordinance (refer to copy of list in the back of this document).

No sampling normally is required when it can be verified that the flow observed is uncontaminated groundwater. However, visual analysis of the water should be performed regularly to ensure that the flow remains uncontaminated. If visual or odor inspections indicate something unusual (e.g. color, turbidity, sheen floatables) in the groundwater flow, it should be treated as a potential illicit discharge, grab samples should be taken and the proper analysis performed.

The sample should be collected and delivered to a laboratory as noted in the Township Collection protocol.

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## **Procedures for Identifying the Source of an Illicit Discharge**

**Providence Township**

**MCM 3, BMP 1**

### **Illicit Discharge Detection and Elimination (DD&E)**

Once a dry weather flow has been determined to be an illicit discharge, follow the techniques outlined on pages 31 through 34 of the attached document, from the IDDE: A Guidance Manual for Municipalities in the State of Ohio, July 2006.

## **Procedures for Eliminating an Illicit Discharge**

Procedures for eliminating an illicit discharge are outlined on pages 35 through 38 of the attached document, from the IDDE: A Guidance Manual for Municipalities in the State of Ohio, July 2006.

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## Chapter 4: Tracing For the Source of an Illicit Discharge

Once an illicit discharge has been identified and detected, the next step is to locate the source of that discharge. The development of a plan to locate and address illicit discharges is required under the Phase II Storm Water Rules. “EPA recommends that the plan include the following five components:”

1. Locate the priority areas
2. Sample or screen the outfall
3. Trace the source of an illicit discharge
4. Remove the source of the illicit discharge
5. Program evaluation and assessment

**The information that is received from the mapping and the inspection protocols established by a community will be valuable in this component (see previous chapters).** During the inspection process, illicit discharges may be located and detected. Once these outfall locations are determined to have an illicit discharge, then the community must start its tracing protocol to determine where the source of the illicit discharge is emanating from. Once located, this discharge needs to be eliminated from the community’s MS4 system.

### Tracing Techniques

There are a number of different techniques that can be utilized to trace for an illicit discharge. Each technique listed must be fully understood and their limitations must be understood as well.

### Visual Inspections/Manholes and Storm Drain Network

Figure 14: Removing storm drain lid



Once a dry weather flow is observed and it has been determined to be an illicit discharge, a key tracing technique involves dry weather inspections along the specific MS4 conveyance system. Typically, if the conveyance system is an open ditch, this is an easier process than if it was within an enclosed storm drain network. The inspection process utilizing this method needs to start at the initial detection location (the MS4 outfall where the illicit discharge has been observed and noted). The next step is to work “upstream” from this location – that is moving up the storm drainage system to the first manhole. Check this manhole to see if there is evidence of flow. You may wish to sample each manhole, but looking for flow, since the flow has already been determined to have an illicit discharge, it is the more cost effective and faster method suggested. If flow is observed at

this manhole, move to the next upstream manhole. Keep moving upstream until no flow or low flow is observed. Keep in mind that as you move upstream, there may be junction lines entering that main storm drainage system at other locations. Utilize the storm drainage maps for the community to determine if this is the case. In these circumstances, you will need to check these manholes as well.

During this inspection process, key observations are necessary, including:

- Presence of flow
- Odors
- Colors/clarity
- Stains or deposits on bottom of structure
- Oil sheen, scum or foam on any standing water

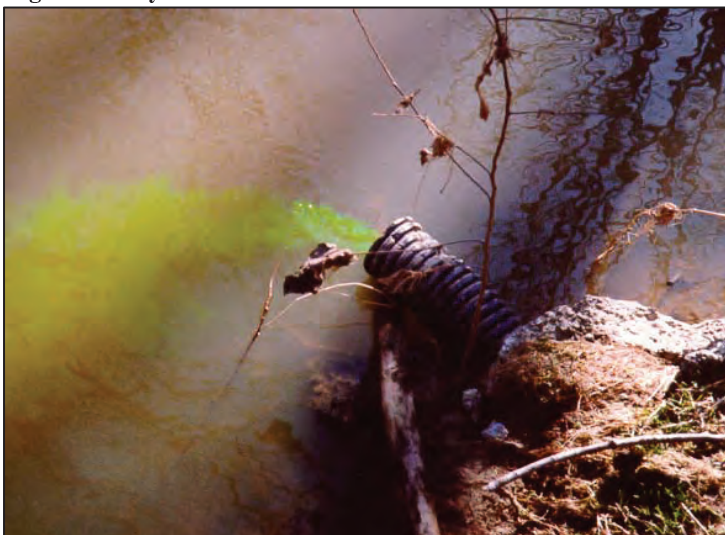
During this process, sampling can be utilized to assist in this tracing process. Once areas are determined to have possible illicit source flows, sampling these individual locations and manholes can assist in directing where the source of the illicit discharge is located. Specific parameters can be used when looking for the illicit discharge. Refer to Chapter 3, Table 3-1 for sample parameters that can be used for specific sources of illicit discharges. Typically, you will use the same parameter that was used when the initial sample was taken to determine if an illicit discharge was present at that flow.

## Dye Testing

Once the area has been determined where the potential illicit discharge source is located, the utilization of dye testing will assist in determining the exact location of the illicit discharge. Permission is required on private property prior to starting a dye test procedure. Access to the building is required. Once permission is granted, the dye testing will begin. Note: before any dye test is conducted, it is a good idea to notify the appropriate district office of the Ohio EPA Division of Emergency and Remedial Response

that a dye test is being conducted as well as the local community fire department and other community personnel. The dye needs to be put into the suspect location. This is done by pouring the dye into sinks, toilets, etc and then flushed through the drainage system. The storm drains and sanitary sewers need to be monitored to observe where the dye discharges to. This procedure is effective in determining direct connections of sanitary lines to storm lines.

Figure 15: Dye at outfall location



## **Televising/Video Inspection**

Another method in determining where the illicit discharge source is located once an area has been determined to contain the discharge, is televising the storm line. Video cameras can be used by either pushing or using a mobile video unit. Both cameras will provide detailed information as to where the infiltration or connection is located within the MS4 system.

## **Indicator Monitoring / Sampling**

When dry weather flow is observed at an outfall location, and the sample reveals that there is a problem with this flow, further monitoring can be done to assist in the location of the illicit discharge. As manholes are opened and dry weather flow is observed, samples can be taken and analyzed. During this process, we are looking for a pattern within the sample analysis, depending on the parameter sampled for. During this type of tracing, the monitoring will allow the field crew to determine if the dry weather flow observed is the source of the flow at the outfall location. There can be circumstances where dry weather flow occurs and it is not “illicit” due to its source (drinking water line break, fire hydrant flushing, etc: refer to Chapter 1: Does This Measure Need to Address All Illicit Discharges?). This flow can combine with an illicit source in the storm drainage system making it difficult to trace. By monitoring the water observed, it will assist in the tracing of the illicit source discharging into the storm drainage system.

Automatic Samplers can also be used during the investigation of intermittent flows. These samplers can be placed at specific locations within the storm drainage system of a community. These samplers can be triggered by dry weather flows. This type of sampling and monitoring is not the best method for most communities due to the cost of the sampling equipment. This type of monitoring can be effective however, in areas with a large intermittent discharge problem and a very complex storm drainage system. These samplers will provide the date and time the sample was collected which will assist the community in locating the source of this discharge.

## **Smoke Testing**

This method should be used during special circumstances when a good storm sewer map is not available for a location and there are known problems of connection issues. Smoke is introduced into the storm drainage system and will emerge at locations that are connected to that system. It is recommended that qualified personnel be used for this method to ensure accurate test results.

“Notifying the public about the date and purpose of smoke testing before starting is critical. The smoke used is non-toxic, but can cause respiratory irritation, which can be a problem for some residents. Residents should be notified one week prior to testing, and should be provided the following information” (Hurco Technologies, Inc., 2003):

- Date testing will occur and reason for smoke testing
- Precautions they can take to prevent smoke from entering their homes or businesses
- What they need to do if smoke enters their home or business, and any health concerns associated with the smoke
- A number residents can call to relay any particular health concerns (e.g., chronic respiratory problems)

## **Optical Brightener Monitoring (OBM) Traps**

OBM traps can be used to assist in tracing intermittent flows that result from wash water with detergent. Detergents contain optical brighteners that can be detected at high concentrations. However, this method usually only picks up highly concentrated discharges. The OBM method may be used as a simple indicator for the presence or absence of intermittent flows or to detect the most concentrated flows.

These traps usually contain unbleached cotton pads or a fabric swatch placed inside of a wire mesh trap. These traps are anchored inside of an outfall using wire that is secured to the pipe itself. Rocks can also be used to hold the trap in place.

These traps will be retrieved after 24-48 hours of dry weather. They need to be removed prior to having contact with storm water. When placed under a fluorescent light, an OBM trap will indicate if it has been exposed to detergents. (Guidelines for SOP, 2-13).



## Chapter 5: Elimination of an Illicit Discharge

Developing and implementing an effective IDDE program requires the successful removal of an illicit discharge once located. Under the Ohio EPA Phase II rules, you must “to the extent allowable under law, effectively prohibit, through ordinance or other regulatory mechanism, non-storm water discharges into your storm sewer system and implement appropriate enforcement procedures and actions”.

There has been a model illicit discharge ordinance developed by a collaborative effort of the Chagrin River Watershed Partners, Inc., the Cuyahoga County Board of Health and the Lake County General Health District. This ordinance has been approved by the Ohio EPA and is located in Appendix E. This model ordinance allows for the regulatory mechanisms for communities to address these illicit discharges and comply with the Ohio EPA Phase II requirements.

Once an illicit discharge has been identified, communities must then determine who is responsible for the removal of the discharge. Ultimately, it is the property owner or the municipality.

- Internal Plumbing Connection: Generally, it is the building owner.
- Service Lateral: This is also generally the building owner. However, in some circumstances, communities may fix the problem and share in the cost with the building owner depending on the policy and procedures communities have developed.
- Infrastructure Failure: This type of discharge is the community’s responsibility if within the dedicated right of way.
- Transitory Discharge: Again, the building owner is responsible to correct.
- Educating residents on habits (illegal dumping, etc).

Typically, the timeframe established for the repair of these illicit discharges is established within the community’s enforcement procedures. During the enforcement of these illicit discharges the communities must provide clear guidance in both their ordinance and with their direction to the responsible party for what actions need to be taken to correct the problem.

Once the removal of the illicit discharge has occurred, it must be confirmed to ensure the correction has been made. For example, this can be confirmed by dye testing internal plumbing fixtures if the source was from an internal or service lateral line source.

There are various methods that can be used to remove an illicit discharge and to fix the problem. Table 5-1 gives an overview of the technique, when to use and the description.

<b>Table 5-1: Methods to Eliminate Discharges</b>			
<b>Technique</b>	<b>Application</b>	<b>Description</b>	<b>Estimated Cost</b>
Service Lateral Disconnection, Reconnection	Lateral is connected to the wrong line	Lateral is disconnected and reconnected to appropriate line	\$2,500-\$5,000
Cleaning	Line is blocked or capacity diminished	Flushing (sending a high pressure water jet through the line); pigging (dragging a large rubber plug through the lines); or rodding	\$1/linear foot
Excavation and Replacement	Line is collapsed, severely blocked, significantly misaligned, or undersized	Existing pipe is removed, new pipe placed in same alignment; Existing pipe abandoned in place, replaced by new pipe in parallel alignment	For 12" line, \$100-\$150/linear foot
Manhole Repair	Decrease ponding; prevent flow of surface water into manhole; prevent groundwater infiltration	Raise frame and lid above grade; install lid inserts; grout, mortar or apply shotcrete inside the walls; install new precast manhole	Vary widely, from \$250 to raise a frame and cover to ~ \$4,000 to replace manhole
Corrosion Control Coating	Improve resistance to corrosion	Spray- or brush-on coating applied to interior of pipe.	< \$10/linear foot
Grouting	Seal leaking joints and small cracks	Seals leaking joints and small cracks.	For a 12" line, ~ \$36-\$54/linear foot
Pipe Bursting	Line is collapsed, severely blocked, or undersized	Existing pipe used as guide for inserting expansion head; expansion head increases area available for new pipe by pushing existing pipe out radially until it cracks; bursting device pulls new pipeline behind it	For 8" pipe, \$40-\$80/linear foot
Slip Lining	Pipe has numerous cracks, leaking joints, but is continuous and not misaligned	Pulling of a new pipe through the old one.	For 12" pipe, \$50-\$75 /linear foot
Fold and Formed Pipe	Pipe has numerous cracks, leaking joints	Similar to slip lining but is easier to install, uses existing manholes for insertion; a folded thermoplastic pipe is pulled into place and rounded to conform to internal diameter of existing pipe	For 8-12" pipe, \$60-\$78/linear foot
Inversion Lining	Pipe has numerous cracks, leaking joints; can be used where there are misalignments	Similar to slip lining but is easier to install, uses existing manholes for insertion; a soft resin impregnated felt tube is inserted into the pipe, inverted by filling it with air or water at one end, and cured in place.	\$75-\$125/linear foot


**SOURCE: Modified from *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, Center for Watershed Protection, 2004**

If the illicit discharge is emanating from outside of your community or jurisdiction, it is important that you notify the community where the discharge is coming from. This should be done in a letter format where you can document that it was sent. The letter should include where the illicit discharge was detected and where it was traced to by your community. Keep records of what your community did, and ask the neighboring community/jurisdiction to inform you when the correction has been made. Include all of your documentation with your annual Phase II Storm Water Report to the EPA.

## Preventing Illegal Dumping

One source of illicit discharge to a community's MS4 system is illegal dumping. This is often difficult to identify and locate. Because of the potential problem that this type of discharge presents, it is important to develop an Illegal Dumping Prevention Program as part of your IDDE Program.

The US EPA has developed an *Illegal Dumping Prevention Guidebook* that provides key information and procedures in addressing this type of illicit discharge. The guidebook can be located at: <http://www.epa.gov/region5/illegaldumping/>. Strategies for preventing illegal dumping include:

- Site maintenance and controls: This includes cleaning up areas where illegal dumping has occurred and to utilize specific controls to prevent further dumping. These controls can include signage or restriction of the area.
- Targeted Enforcement: Utilization of an ordinance that prohibits illegal dumping.
- Education and Involvement: As with components I and II of the Phase II program, community outreach and involvement is vital to any successful IDDE program. This includes a variety of programs that can assist the community in meeting their requirements under this component of Phase II.
  - Educate general public, municipal employees and businesses about water quality issues and how illegal dumping has a direct impact on these water quality issues.
  - Provide for effective ways to dispose of waste
  - Provide a way for citizens to get involved in reporting and preventing illegal dumping, such as storm drain marking that indicates:  
 No dumping – drains directly to lake, creek, or other water body
  - Develop materials/brochures for the public and businesses. This should include businesses that handle hazardous materials as well as restaurants, auto repair shops and others that may have an impact on possible sources of an illicit discharge.

- Develop an anonymous mechanism that can be used by the public, businesses and municipal employees to report illicit discharges.
- Create a service department self-inspection program to detect possible sources of illicit discharges and illegal connections.

**Municipal Parks Operations and Maintenance Program**  
**Providence Township**

**Municipal Parks Grounds Maintenance**

Inspect all stormwater facilities in conjunction with the Township Post-Construction Stormwater Management Program.

Follow the Landscape Maintenance Program when performing grounds maintenance activities that include mowing the trail and small park and treating the surface for weeds.

Provide snow removal.

All disturbed areas should be stabilized with an erosion control device, seeded and/or mulched after completion of disturbance.

In event of a hazardous material leak, apply absorbent material (which is located in a marked container on the trucks) to leak area to stabilize call 911, if necessary. Contaminated absorbent material should be placed in a container and disposed of through a certified third party disposal service.

Prepare documentation of the daily activities.

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## **Municipal Campus Operations and Maintenance Program Providence Township**

### **Hazardous Material Storage**

All hazardous materials should be stored in original labeled containers in the hazardous storage containers in the maintenance shop.

In event of a hazardous material leak, apply absorbent material (which is located in a container) to leak area to stabilize and call 911, if necessary. Contaminated absorbent material should be placed in a separate container and disposed of by Township.

An updated list of all stored materials, the storage location and MSDS sheets for all hazardous materials should be maintained in the Roadmaster's Office.

Secondary containment should be provided for hazardous materials identified as pollutants.

Items should be inspected for integrity of containers and evidence of leaks on a monthly basis.

### **Vehicle Operations and Maintenance**

Follow Vehicle Operations and Maintenance Program when washing and performing preventive maintenance on vehicles.

All activities that could produce illicit discharges, including but not limited to vehicle washing, maintenance, cleaning, mixing and storage of hazardous material should take place in the maintenance building.

### **Salt and Cinder Storage Building**

Locate salt and cinder storage piles under roof to minimize runoff into parking area.

Move residual salt and cinders deposited outside covered storage area under covered storage after each storm event.

Inspect salt storage area once a month.

### **Municipal Campus Grounds Maintenance**

Perform grounds maintenance activities per the Landscape Maintenance Program when performing grounds maintenance activities that include mowing and treatment of the lawn areas.

Provide snow removal and deicing.

All disturbed areas should be stabilized with an erosion control device, seeded and/or mulched as soon as possible after completion of disturbance.

Prepare documentation of daily activities.

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**Winter Road Maintenance Program  
Providence Township**

**Road Salt Application**

Only apply the amount of salt and anti-skid material needed to get the job done, consider temperature when determining volume of salt and anti-skid material to apply. Use the least toxic material available for the conditions.

Wash and rinse truck after completion of salting operation in designated cleaning area in the wash bay. Collect excess salt and anti-skid material and return to salt shed.

Prepare documentation of daily activities.

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**Street Cleaning Operations and Maintenance  
Providence Township**

The Township roads and municipal park areas are to be inspected and cleaned as needed.

Regular inspections are to be conducted to determine if sweeping is necessary.

Street cleaning is performed by the Township employees.

Roads will be checked after a major rain event, and areas of accumulation of sediment will be removed by Township employees.

The Township utilizes a third party for the disposal of the street sweeping waste.

Prepare documentation of daily activities and invoices of third party materials transfer.

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## **Landscape Maintenance Program Providence Township**

Perform mowing at optimal times, which does not include prior to significant forecasted rain events.

Cut grass to minimize clippings being distributed onto impervious surfaces, and washed into stormwater facilities.

All disturbed areas should be stabilized with an erosion control device, seeded and/or mulched as soon as possible after completion of disturbance.

Consider native vegetation where feasible. Avoid placing landscape waste at or near inlets.

Use mulch or a temporary-type binder on exposed soils until permanent landscape is installed.

Do not conduct landscape equipment fueling at or near inlets or waterways.

Mulching can reduce weed growth and reduce the need for herbicides.

Use mechanical methods for vegetation removal where possible. Use pesticides only if there is an actual problem or presence of pests.

Contract "broad based" pest control with certified third party vendor (contractor information on next page).

Follow all applicable regulations and laws for the storage, transport, and use of fertilizers, herbicides, and pesticides.

Do not apply fertilizers, herbicides, or pesticides adjacent to waterways or inlets. Post application notification signs before and after applications.

Sweep and remove fertilizer or dry pesticides from sidewalks and similar surfaces.

Properly store materials as directed, per applicable labels, or as required by applicable laws and regulations.

All employees handling pesticides should be familiar with the most recent MSDS.

Conduct a regular inspection of parks and open spaces to determine minimum requirements for fertilizer and pesticide applications.

Prepare documentation of daily activities.

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### **Pest Control Vendor Information**

**Goods GroGreen** (treats the yard)

121 Pond Road

Quarryville, PA 17566

(717) 786-1296

**Terminix** (treats the bugs, rodents, etc. in and around the buildings)

262 Granite Run Drive

Lancaster, PA 17601

(717) 690-0466

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## **Vehicle Operations and Maintenance Providence Township**

**Fueling:** When fueling vehicles and equipment, stay within visual distance of fueling tanks, keep manual control of filling devices and do not "top off" tanks being filled.

Spills should be cleaned up with spill response material which is located inside the entrance door at the fuel pump. Dispose of used material in container located in the maintenance building.

**Maintenance:** Dispose of greasy rags, oil, air and fuel filters, batteries, spent coolant, degreasers, etc. in appropriate containers.

Clean up any spills with spill clean-up material. Spot clean leaks and drips from floor surface regularly.

Waste and recycling containers should be properly marked and located in properly controlled areas on a concrete slab and secondary containment.

Place used oil in labeled container for use in the waste oil heater located onsite.

Conduct repairs and maintenance indoors in designated area in equipment storage building to reduce potential exposure to rain.

Check vehicles for leaking fluids and oil when returned to storage.

Park leaking vehicles on impervious surface and immediately place absorbent pad (dry mat) under them.

Do not pour liquid waste into floor drains, sinks, outdoor storm drain inlets.

### **Washing:**

If washing on-site use designated cleaning areas, which drains to oil/water separator.

Use phosphate-free biodegradable detergents.

Report illicit discharges to Roadmaster or Township Manager immediately.

Prepare report of daily activities.

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## **Road and Street Maintenance Policy Providence Township**

Schedule asphalt and concrete activities for dry weather.

Install temporary-type BMP's (inlet covers, containment berms, etc.) prior to maintenance activities with inlets and waterways in the vicinity. Prevent excess materials from entering inlets to the maximum extent practicable.

Sweep streets and roads with tracked detris or sediment.

Use filter socks, gravel bags and other temporary-type BMP's to control the potential for sediment or debris from entering inlets and drains as applicable.

Sweep up debris from maintenance activities.

Thoroughly clean up areas of repair and maintenance at the end of the work day or the end of the maintenance activities.

Have spill clean-up material readily available.

Vegetation along the roadsides should be maintained in an appropriate manner to reduce pollutants in stormwater runoff.

Township shall evaluate throughout the year the seasonal leaf fall to determine the extent of leaf collection that year.

Collected leaves will be collected by third party vendor.

Prepare report of daily activities.

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## **MS4 Stakeholder Mailing List Providence Township**

**Municipal Employees:** Mailing List is located in the MS4 Notebook in Township Manager's office. A copy of the Excel spreadsheet is attached.

**Volunteer Fire Companies:**

- Quarryville Volunteer Fire Company
- Rawlinsville Volunteer Fire Company
- Refton Volunteer Fire Company
- Willow Street Volunteer Fire Company

**Police:** Pennsylvania State Police

**Homeowners:** Mailing List is located in the MS4 Notebook in Township Manager's office. A copy of the Excel spreadsheet is attached.

**Schools:**

Solanco School District  
Providence Elementary School (located within the Township)

Amish Schools:

- New Providence Amish Parochial School  
178 Cinder Road  
New Providence, PA 17560  
Contact: John B. Esch (717)786-4865  
David King (717)786-8874
  - Deer Hollow Old Order Amish School  
261 Truce Road  
New Providence, PA 17560  
Contact: John B. Esch (717)786-4865  
David King (717)786-8874
  - Hillside Amish Parochial School  
31 Esh Road  
New Providence, PA 17560  
Contact: John B. Esch (717)786-4865  
David King (717)786-8874
  - Providence-Drumore Amish Parochial School  
150 Smithville Road  
New Providence, PA 17560  
Contact: Isaac Fisher (717)786-0388
-

- Pennsy Ridge Amish School  
180 Pennsy Road  
New Providence, PA 17560  
Contact: John B. Esch (717)786-4865  
David King (717)786-8874

**Watershed Associations:**

- Pequea Watershed  
Contact: Kara Kalupson (717)786-7955  
2 E. Pennsy Road  
New Providence, PA 17560

**Volunteer Groups:**

- Providence Township Parks/Recreation Committee  
Contact: Brian Longenecker  
163 Sawmill Road  
New Providence, PA 17560

**Developers:**

- Lancaster Home Builders  
Contact: Joe Nadu
-

# PROVIDENCE TOWNSHIP OFFICIALS DIRECTORY

200 MT. AIRY ROAD

NEW PROVIDENCE, PA 17560

PHONE: 786.7596 FAX: 786.2565; [www.providencetownship.com](http://www.providencetownship.com) email: [vicki@providencetownship.com](mailto:vicki@providencetownship.com)

*Supervisors Meetings - First Monday of the month at 7:00PM*

*Zoning Hearing Board Meetings - Second Tuesday of the month at 7:00PM*

*Planning Commission Meetings - Third Monday of the month at 7:00PM*

New Providence 17560 Holtwood 17532 Pequea 17565 Willow Street 17584 Quarryville 17566

OFFICE	STREET	TOWN	PHONE	TERM
<b>SUPERVISORS</b>	<a href="mailto:dgerhart@providencetownship.com">dgerhart@providencetownship.com</a>	<a href="mailto:cwshaffer@providencetownship.com">cwshaffer@providencetownship.com</a>	<a href="mailto:jschroeder@providencetownship.com">jschroeder@providencetownship.com</a>	<b>6 years</b>
David J. Gerhart, Chair	238 Sawmill Road	New Providence	786.2778 home; 468.1113 cell	2017
C. William Shaffer, Vice Chair	39 Ridge Road	New Providence	786.3434 home; 951.9413; 327.9504	2019
John Schroeder	17 Solar Dr.	New Providence	806.5626 home; 715.3866 cell	2021
<b>ROAD MASTER</b>	<a href="mailto:jason@providencetownship.com">jason@providencetownship.com</a>			
Jason McClune	56 Miller Rd.	Willow Street 17584	923-0383 home; 278.2666 cell	
<b>SECRETARY</b>	<a href="mailto:vicki@providencetownship.com">vicki@providencetownship.com</a>			
Vicki L. Eldridge	168 Hollow Road	New Providence	806.3068 unlisted; 799.1336 cell	
<b>ZONING OFFICER</b>	<a href="mailto:connie@providencetownship.com">connie@providencetownship.com</a>			
Constance M. Peiffer	35 Cinder Road	New Providence	786.4485 unlisted; 682.2823 cell	
<b>ADMIN ASSISTANT</b>	<a href="mailto:secretary@providencetownship.com">secretary@providencetownship.com</a>			
Connie Kauffman	607 Bunker Hill Rd.	Strasburg 17579	875.3361 cell	
<b>TREASURER</b>				
C. William Shaffer, Vice Chair	39 Ridge Road	New Providence	786.3434 home; 951.9413; 327.9504	
<b>ROAD CREW</b>	<a href="mailto:jim@providencetownship.com">jim@providencetownship.com</a>			
James R. Grube, Jr., Foreman	95 Good Road	New Providence	786.7839 home; 715.7621 cell	
Paul Keys	315 Little Britain Road	Peach Bottom 17563	548.8920 home; 224.7310 cell	
Carl R. Kreider	125 Scheller Road	New Providence	786.5474	
Kevin Kreider	1024 Georgetown Road	Paradise 17562	806.0561 home; 286.3915 cell	
<b>TAX COLLECTOR</b>	150 N Queen Street Suite 122			<b>4 years</b>
Lancaster County	PO Box 1447	Lancaster 17608	299-8222	2017
<b>ELECTED AUDITORS</b>				<b>6 years</b>
Daniel H. Siegrist	225 Mt. Hope School Road	Willow Street 17584	284.4268 home; 629.3344 cell	2021
Clifford T. Clayton	183 Clearfield Road	New Providence	284.3992 home; 725.5230 cell	2019
Harry Gossert, Jr.	167 Smithville Road	New Providence	786.3939	2017

<b>OFFICE</b>	<b>STREET</b>	<b>TOWN</b>	<b>PHONE</b>	<b>TERM</b>
<b>APPOINTED CPA FIRM</b>				
Maher Duessel	3003 N Front St Ste 101	Harrisburg 17110	232.1230	
<b>SOLICITOR</b>	<a href="mailto:melvinn@epix.net">melvinn@epix.net</a>			
Melvin Newcomer, Esquire	339 N. Duke St, PO Box 539	Lancaster 17608	393.7885; 393.0382 fax; 575.9175 cell	
<b>ENGINEERS</b>	<a href="mailto:mark@solancoengineering.com">mark@solancoengineering.com</a>	<a href="mailto:RobV@ravassociates.com">RobV@ravassociates.com</a>		
Solanco Engineering	103 Fite Way, Suite C	Quarryville 17566	786.0355 Mark Cell: 413.9857	
<b>ALTERNATE ENGINEERS</b>				
ARRO Consulting	108 W Airport Rad	Lititz 17543	569.7021	
<b>SEWAGE ENFORCEMENT OFFICER</b>				
Marvin S. Stoner	115 Blackbear Rd	Quarryville	786.3205, 786.5640 fax	
<b>DISTRICT JUSTICE</b>				<b>6 years</b>
Stuart Mylin	25 E State Street	Quarryville	786.7368	2017
<b>PLANNING COMMISSION</b>	<a href="mailto:Andrew.Odell@exeloncorp.com">Andrew.Odell@exeloncorp.com</a>	<a href="mailto:kara.kalupson@rettew.com">kara.kalupson@rettew.com</a>	<a href="mailto:tnard26@hotmail.com">tnard26@hotmail.com</a>	<b>4 years</b>
Andrew Odell	459 Radcliff Road	Willow Street 17584	824.3400 home; 610.212.1155 cell	2016
Anthony Nardella	132 Hollow Road	New Providence	786.1371 home; 682.8934 cell	2017
Kara Kalupson	2 E Pennsy Rd	New Providence	786.7995home; 468.2655 cell	2018
Pamela Minnick	64 Mt Hope School Rd., PO Box 594	Willow Street 17584	786.3034	2019
Kenneth Wiker	993 Truce Rd.	Holtwood 17532	284.3128 home 381-6281 cell	2019
Brent Musser, Alternate	373 Fairview Rd.	New Providence		
<a href="mailto:pminnick@fult.com">pminnick@fult.com</a>	<a href="mailto:klmewiker@frontiernet.net">klmewiker@frontiernet.net</a>	<a href="mailto:brent.musser@mussersmarket.com">brent.musser@mussersmarket.com</a>		
<b>ZONING HEARING BOARD</b>				<b>3 years</b>
Albert Warfel	213 Pennsy Rd.	New Providence	786.1866	2016
Bradford Duvall	210 Clearfield Road	New Providence	284.5230; 278.1177 cell	2017
James Hess	586 Truce Road	New Providence	786.7713	2018
Anna Hipple, Alternate	85 Mt. Airy Road	New Providence	786.7676; 468.7260 cell	2016
<b>ZONING HEARING BOARD COUNSEL</b>		<a href="mailto:goodkenn@comcast.net">goodkenn@comcast.net</a>	<b>Thomas Goodman</b>	
Goodman & Kenneff	246B Manor Ave	Millersville 17551	872.4605	
<b>EMERGENCY MANAGEMENT</b>				
James Herr, Coordinator	112 S Summit Ave	Quarryville	786.2173	



OFFICE	STREET	TOWN	PHONE	TERM
JANITORIAL SERVICE				
J L Brendel Cleaning Service	231 Circle Drive	Quarryville	786.8990	
BUILDING INSPECTORS				
Comm Code Inspection Service	176 Doe Run Road	Manheim PA 17545	Pete Kingsley 278.0964; 664.4953 fax	
Associated Building Inspections	PO Box 423	Ephrata PA 17522	Randy 866.733.1654 Ron 293.9835	
Light-Heigel & Associates Inc.	805 Estelle Drive	Palmyra PA 17078	Marty Sowers 800.257.2190; 838.3820 fax	
Innovated Inspection Services	533 Janet Ave.	Lancaster, PA 17601	Rich Jones 435.8448	
VACANCY BOARD				
Abigail Odell	459 Radcliff Road	Willow Street	824.3400 home	
SOLANCO SAFETY COMMITTEE				
John Schroeder	17 Solar Dr.	New Providence	806.5626 home; 475.1774 cell	
PARKS/RECREATION COMMITTEE				
Brian Longenecker	163 Sawmill Road	New Providence	786-6060	
RECYCLING COORDINATOR				
Connie Kauffman	607 Bunker Hill Rd.	Strasburg	875.3361 cell	
AG SECURITY AREA ADVISORY COMMITTEE				
Omar Smoker	1198 Rawlinsville Road	New Providence	284.3562	
Lester J. Wiker	971 Truce Road	New Providence	284.4505	
Nancy Zimmerman-Clayton	183 Clearfield Road	New Providence	284.3992	
Kenneth Harnish	331 Clearfield Road	New Providence	284.5085	
David Gerhart	238 Sawmill Road	New Providence	786.2778 home; 468.1113 cell	
LANCASTER COUNTY REDEVELOPMENT AUTHORITY				
John Schroeder	17 Solar Dr.	New Providence	806.5626 home; 475.1774 cell	
C. William Shaffer	39 Ridge Road	New Providence	786-3434 home; 951-9413; 327-9504	
COMMITTEE PEOPLE				
West District				
Dave King [R]	285 Clearfield Road	New Providence	284.0958	
East District				
Andrew Odell	459 Radcliff Road	Willow Street 17584	824.3400	

<b>OFFICE</b>	<b>STREET</b>	<b>TOWN</b>	<b>PHONE</b>	<b>TERM</b>
<b>ELECTION BOARD</b>				<b>4 years</b>
<b>West-Township Office</b>	<i>200 Mt. Airy Road</i>	<i>New Providence</i>	<i>786.7596</i>	
Roger Hippensteel, Judge	<i>42 Penny Road</i>	<i>Holtwood</i>	<i>284.2442</i>	<i>2017</i>
Greg Hohenwarter, Inspector	<i>376 Truce Road</i>	<i>New Providence</i>	<i>786.9289</i>	<i>2017</i>
<b>East - New Prov COG</b>	<i>269 Cinder Road</i>	<i>New Providence</i>		
Loretta Bueche, Judge	<i>7 Apache Lane</i>	<i>Willow Street 17584</i>		<i>2017</i>
John Schroeder, Inspector	<i>17 Solar Drive</i>	<i>New Providence</i>	<i>786.1087</i>	<i>2017</i>
<b>U.S SENATORS</b>				
Patrick J. Toomey (REP)	Room 502 Hart Bldg	Washington DC 20510	202.224.4254	
	228 Walnut Street #1104	Harrisburg PA 17101	717.782.3951; 717.782.4920 fax	
Robert Casey (DEM)	B-40 Dirksen Office Bldg	Washington DC 20510	202.224.6324; 202.228.0604 fax	
	22 S 3rd St Ste 6A	Harrisburg PA 17101	231.7540; 231.7542 fax	
<b>PA GENERAL ASSEMBLY</b>		<a href="mailto:ismucker@pasen.gov">ismucker@pasen.gov</a>		
Senator Lloyd Smucker [R]	185 Main Capitol	Harrisburg PA 17120	787.6535; 800.235.1313 (Harrisburg)	
	Senate Box 203013			
	123 N Prince Street	Lancaster 17603	397.1309; fax 299.7798	
<b>PA HOUSE OF REPRESENTATIVES</b>		<a href="mailto:bcutler@pahousegop.com">bcutler@pahousegop.com</a> ; <a href="mailto:snelson@pahousegop.com">snelson@pahousegop.com</a>		
Bryan Cutler [R]	33G Friendly Drive	Quarryville 17566	284.1965; fax 284.1968	
	51A E Wing PO Box 202100, Harrisburg PA 17120		783.6424; 772.9859 fax	
<b>LANCASTER COUNTY COMMISSIONERS</b>		<a href="mailto:McCueA@co.lancaster.pa.us">McCueA@co.lancaster.pa.us</a>		
Dennis Stuckey	150 N. Queen St, Ste 715	Lancaster 17603	299.8300; fax 293.7208	
Joshua Parsons	150 N. Queen St, Ste 715	Lancaster 17603	299.8300; fax 293.7208	
Craig Lehman	150 N. Queen St, Ste 715	Lancaster 17603	299.8300; fax 293.7208	
<b>GOVERNOR'S OFFICE</b>				
Tom Wolf (DEM)	225 Main Capitol Building	Harrisburg 17120	787.2500	

	<b>PROVIDENCE TOWNSHIP MAILING LIST</b>					
1	POSTAL PATRON	4	BUCK HEIGHTS RD	HOLTWOOD	PA	17532
2	POSTAL PATRON	11	BUCK HEIGHTS RD	HOLTWOOD	PA	17532
3	POSTAL PATRON	12	BUCK HEIGHTS RD	HOLTWOOD	PA	17532
4	POSTAL PATRON	20	BUCK HEIGHTS RD	HOLTWOOD	PA	17532
5	POSTAL PATRON	24	BUCK HEIGHTS RD	HOLTWOOD	PA	17532
6	POSTAL PATRON	26	BUCK HEIGHTS RD	HOLTWOOD	PA	17532
7	POSTAL PATRON	28	BUCK HEIGHTS RD	HOLTWOOD	PA	17532
8	POSTAL PATRON	33	BUCK HEIGHTS RD	HOLTWOOD	PA	17532
9	POSTAL PATRON	39	BUCK HEIGHTS RD	HOLTWOOD	PA	17532
10	POSTAL PATRON	34	BUCK HEIGHTS RD	HOLTWOOD	PA	17532
11	POSTAL PATRON	47	BUCK HEIGHTS RD	HOLTWOOD	PA	17532
12	POSTAL PATRON	437	CLEARFIELD RD	HOLTWOOD	PA	17532
13	POSTAL PATRON	439	CLEARFIELD RD	HOLTWOOD	PA	17532
14	POSTAL PATRON	442	CLEARFIELD RD	HOLTWOOD	PA	17532
15	POSTAL PATRON	456	CLEARFIELD RD	HOLTWOOD	PA	17532
16	POSTAL PATRON	474	CLEARFIELD RD	HOLTWOOD	PA	17532
17	POSTAL PATRON	475	CLEARFIELD RD	HOLTWOOD	PA	17532
18	POSTAL PATRON	479	CLEARFIELD RD	HOLTWOOD	PA	17532
19	POSTAL PATRON	480	CLEARFIELD RD	HOLTWOOD	PA	17532
20	POSTAL PATRON	484	CLEARFIELD RD	HOLTWOOD	PA	17532
21	POSTAL PATRON	488	CLEARFIELD RD	HOLTWOOD	PA	17532
22	POSTAL PATRON	494	CLEARFIELD RD	HOLTWOOD	PA	17532
23	POSTAL PATRON	500	CLEARFIELD RD	HOLTWOOD	PA	17532
24	POSTAL PATRON	508	CLEARFIELD RD	HOLTWOOD	PA	17532
25	POSTAL PATRON	516	CLEARFIELD RD	HOLTWOOD	PA	17532
26	POSTAL PATRON	539	CLEARFIELD RD	HOLTWOOD	PA	17532
27	POSTAL PATRON	541	CLEARFIELD RD	HOLTWOOD	PA	17532
28	POSTAL PATRON	546	CLEARFIELD RD	HOLTWOOD	PA	17532
29	POSTAL PATRON	552	CLEARFIELD RD	HOLTWOOD	PA	17532
30	POSTAL PATRON	6	LAUREL DR	HOLTWOOD	PA	17532
31	POSTAL PATRON	13	LAUREL DR	HOLTWOOD	PA	17532
32	POSTAL PATRON	14	LAUREL DR	HOLTWOOD	PA	17532
33	POSTAL PATRON	21	LAUREL DR	HOLTWOOD	PA	17532
34	POSTAL PATRON	22	LAUREL DR	HOLTWOOD	PA	17532
35	POSTAL PATRON	28	LAUREL DR	HOLTWOOD	PA	17532
36	POSTAL PATRON	33	LAUREL DR	HOLTWOOD	PA	17532
37	POSTAL PATRON	44	LAUREL DR	HOLTWOOD	PA	17532
38	POSTAL PATRON	124	MAGNOLIA DR	HOLTWOOD	PA	17532
39	POSTAL PATRON	24	PENNY RD	HOLTWOOD	PA	17532
40	POSTAL PATRON	28	PENNY RD	HOLTWOOD	PA	17532
41	POSTAL PATRON	29	PENNY RD	HOLTWOOD	PA	17532
42	POSTAL PATRON	32	PENNY RD	HOLTWOOD	PA	17532
43	POSTAL PATRON	36	PENNY RD	HOLTWOOD	PA	17532
44	POSTAL PATRON	37	PENNY RD	HOLTWOOD	PA	17532
45	POSTAL PATRON	42	PENNY RD	HOLTWOOD	PA	17532
46	POSTAL PATRON	43	PENNY RD	HOLTWOOD	PA	17532
47	POSTAL PATRON	44	PENNY RD	HOLTWOOD	PA	17532
48	POSTAL PATRON	50	PENNY RD	HOLTWOOD	PA	17532
49	POSTAL PATRON	53	PENNY RD	HOLTWOOD	PA	17532
50	POSTAL PATRON	57	PENNY RD	HOLTWOOD	PA	17532
51	POSTAL PATRON	58	PENNY RD	HOLTWOOD	PA	17532
52	POSTAL PATRON	62	PENNY RD	HOLTWOOD	PA	17532
53	POSTAL PATRON	63	PENNY RD	HOLTWOOD	PA	17532
54	POSTAL PATRON	68	PENNY RD	HOLTWOOD	PA	17532
55	POSTAL PATRON	72	PENNY RD	HOLTWOOD	PA	17532

56	POSTAL PATRON	73	PENNY RD	HOLTWOOD	PA	17532
57	POSTAL PATRON	76	PENNY RD	HOLTWOOD	PA	17532
58	POSTAL PATRON	80	PENNY RD	HOLTWOOD	PA	17532
59	POSTAL PATRON	84	PENNY RD	HOLTWOOD	PA	17532
60	POSTAL PATRON	88	PENNY RD	HOLTWOOD	PA	17532
61	POSTAL PATRON	141	PENNY RD	HOLTWOOD	PA	17532
62	POSTAL PATRON	206	PENNY RD	HOLTWOOD	PA	17532
63	POSTAL PATRON	213	PENNY RD	HOLTWOOD	PA	17532
64	POSTAL PATRON	214	PENNY RD	HOLTWOOD	PA	17532
65	POSTAL PATRON	56A	PENNY RD	HOLTWOOD	PA	17532
66	POSTAL PATRON	56B	PENNY RD	HOLTWOOD	PA	17532
67	POSTAL PATRON	58A	PENNY RD	HOLTWOOD	PA	17532
68	POSTAL PATRON	58B	PENNY RD	HOLTWOOD	PA	17532
69	POSTAL PATRON	58C	PENNY RD	HOLTWOOD	PA	17532
70	POSTAL PATRON	62A	PENNY RD	HOLTWOOD	PA	17532
71	POSTAL PATRON	62B	PENNY RD	HOLTWOOD	PA	17532
72	POSTAL PATRON	62C	PENNY RD	HOLTWOOD	PA	17532
73	POSTAL PATRON	64A	PENNY RD	HOLTWOOD	PA	17532
74	POSTAL PATRON	64B	PENNY RD	HOLTWOOD	PA	17532
75	POSTAL PATRON	64C	PENNY RD	HOLTWOOD	PA	17532
76	POSTAL PATRON	208	PENNY RD	HOLTWOOD	PA	17532
77	POSTAL PATRON	1509	RAWLINSVILLE RD	HOLTWOOD	PA	17532
78	POSTAL PATRON	1581	RAWLINSVILLE RD	HOLTWOOD	PA	17532
79	POSTAL PATRON	1653	RAWLINSVILLE RD	HOLTWOOD	PA	17532
80	POSTAL PATRON	1655	RAWLINSVILLE RD	HOLTWOOD	PA	17532
81	POSTAL PATRON	1657	RAWLINSVILLE RD	HOLTWOOD	PA	17532
82	POSTAL PATRON	1663	RAWLINSVILLE RD	HOLTWOOD	PA	17532
83	POSTAL PATRON	1741	RAWLINSVILLE RD	HOLTWOOD	PA	17532
84	POSTAL PATRON	882	TRUCE RD	HOLTWOOD	PA	17532
85	POSTAL PATRON	888	TRUCE RD	HOLTWOOD	PA	17532
86	POSTAL PATRON	894	TRUCE RD	HOLTWOOD	PA	17532
87	POSTAL PATRON	900	TRUCE RD	HOLTWOOD	PA	17532
88	POSTAL PATRON	904	TRUCE RD	HOLTWOOD	PA	17532
89	POSTAL PATRON	935	TRUCE RD	HOLTWOOD	PA	17532
90	POSTAL PATRON	947	TRUCE RD	HOLTWOOD	PA	17532
91	POSTAL PATRON	957	TRUCE RD	HOLTWOOD	PA	17532
92	POSTAL PATRON	966	TRUCE RD	HOLTWOOD	PA	17532
93	POSTAL PATRON	970	TRUCE RD	HOLTWOOD	PA	17532
94	POSTAL PATRON	971	TRUCE RD	HOLTWOOD	PA	17532
95	POSTAL PATRON	978	TRUCE RD	HOLTWOOD	PA	17532
96	POSTAL PATRON	984	TRUCE RD	HOLTWOOD	PA	17532
97	POSTAL PATRON	993	TRUCE RD	HOLTWOOD	PA	17532
98	POSTAL PATRON	1000	TRUCE RD	HOLTWOOD	PA	17532
99	POSTAL PATRON	1015	TRUCE RD	HOLTWOOD	PA	17532
100	POSTAL PATRON		PO BOX 86	LANCASTER	PA	17568
101	POSTAL PATRON		PO BOX 306	LANCASTER	PA	17584
102	POSTAL PATRON	1803	KIRKWOOD PK	KIRKWOOD	PA	17536
103	POSTAL PATRON	44	N CHRISTIAN ST STE 100	LANCASTER	PA	17602
104	POSTAL PATRON	292	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
105	POSTAL PATRON	104	ARCHERY CT	NEW PROVIDENCE	PA	17560
106	POSTAL PATRON	105	ARCHERY CT	NEW PROVIDENCE	PA	17560
107	POSTAL PATRON	106	ARCHERY CT	NEW PROVIDENCE	PA	17560
108	POSTAL PATRON	108	ARCHERY CT	NEW PROVIDENCE	PA	17560
109	POSTAL PATRON	110	ARCHERY CT	NEW PROVIDENCE	PA	17560
110	POSTAL PATRON	112	ARCHERY CT	NEW PROVIDENCE	PA	17560
111	POSTAL PATRON	114	ARCHERY CT	NEW PROVIDENCE	PA	17560
112	POSTAL PATRON	2	ARCHERY RD	NEW PROVIDENCE	PA	17560
113	POSTAL PATRON	12	ARCHERY RD	NEW PROVIDENCE	PA	17560

114	POSTAL PATRON	25	ARCHERY RD	NEW PROVIDENCE	PA	17560
115	POSTAL PATRON	65	ARCHERY RD	NEW PROVIDENCE	PA	17560
116	POSTAL PATRON	83	ARCHERY RD	NEW PROVIDENCE	PA	17560
117	POSTAL PATRON	85	ARCHERY RD	NEW PROVIDENCE	PA	17560
118	POSTAL PATRON	88	ARCHERY RD	NEW PROVIDENCE	PA	17560
119	POSTAL PATRON	101	ARCHERY RD	NEW PROVIDENCE	PA	17560
120	POSTAL PATRON	149	ARCHERY RD	NEW PROVIDENCE	PA	17560
121	POSTAL PATRON	1	ASHTON DR	NEW PROVIDENCE	PA	17560
122	POSTAL PATRON	2	ASHTON DR	NEW PROVIDENCE	PA	17560
123	POSTAL PATRON	4	ASHTON DR	NEW PROVIDENCE	PA	17560
124	POSTAL PATRON	5	ASHTON DR	NEW PROVIDENCE	PA	17560
125	POSTAL PATRON	6	ASHTON DR	NEW PROVIDENCE	PA	17560
126	POSTAL PATRON	7	ASHTON DR	NEW PROVIDENCE	PA	17560
127	POSTAL PATRON	8	ASHTON DR	NEW PROVIDENCE	PA	17560
128	POSTAL PATRON	9	ASHTON DR	NEW PROVIDENCE	PA	17560
129	POSTAL PATRON	10	ASHTON DR	NEW PROVIDENCE	PA	17560
130	POSTAL PATRON	11	ASHTON DR	NEW PROVIDENCE	PA	17560
131	POSTAL PATRON	12	ASHTON DR	NEW PROVIDENCE	PA	17560
132	POSTAL PATRON	13	ASHTON DR	NEW PROVIDENCE	PA	17560
133	POSTAL PATRON	14	ASHTON DR	NEW PROVIDENCE	PA	17560
134	POSTAL PATRON	15	ASHTON DR	NEW PROVIDENCE	PA	17560
135	POSTAL PATRON	16	ASHTON DR	NEW PROVIDENCE	PA	17560
136	POSTAL PATRON	17	ASHTON DR	NEW PROVIDENCE	PA	17560
137	POSTAL PATRON	18	ASHTON DR	NEW PROVIDENCE	PA	17560
138	POSTAL PATRON	19	ASHTON DR	NEW PROVIDENCE	PA	17560
139	POSTAL PATRON	20	ASHTON DR	NEW PROVIDENCE	PA	17560
140	POSTAL PATRON	21	ASHTON DR	NEW PROVIDENCE	PA	17560
141	POSTAL PATRON	22	ASHTON DR	NEW PROVIDENCE	PA	17560
142	POSTAL PATRON	23	ASHTON DR	NEW PROVIDENCE	PA	17560
143	POSTAL PATRON	24	ASHTON DR	NEW PROVIDENCE	PA	17560
144	POSTAL PATRON	26	ASHTON DR	NEW PROVIDENCE	PA	17560
145	POSTAL PATRON	27	ASHTON DR	NEW PROVIDENCE	PA	17560
146	POSTAL PATRON	28	ASHTON DR	NEW PROVIDENCE	PA	17560
147	POSTAL PATRON	29	ASHTON DR	NEW PROVIDENCE	PA	17560
148	POSTAL PATRON	30	ASHTON DR	NEW PROVIDENCE	PA	17560
149	POSTAL PATRON	31	ASHTON DR	NEW PROVIDENCE	PA	17560
150	POSTAL PATRON	146	ASTER DR	NEW PROVIDENCE	PA	17560
151	POSTAL PATRON	147	ASTER DR	NEW PROVIDENCE	PA	17560
152	POSTAL PATRON	148	ASTER DR	NEW PROVIDENCE	PA	17560
153	POSTAL PATRON	149	ASTER DR	NEW PROVIDENCE	PA	17560
154	POSTAL PATRON	151	ASTER DR	NEW PROVIDENCE	PA	17560
155	POSTAL PATRON	152	ASTER DR	NEW PROVIDENCE	PA	17560
156	POSTAL PATRON	153	ASTER DR	NEW PROVIDENCE	PA	17560
157	POSTAL PATRON	154	ASTER DR	NEW PROVIDENCE	PA	17560
158	POSTAL PATRON	155	ASTER DR	NEW PROVIDENCE	PA	17560
159	POSTAL PATRON	156	ASTER DR	NEW PROVIDENCE	PA	17560
160	POSTAL PATRON	157	ASTER DR	NEW PROVIDENCE	PA	17560
161	POSTAL PATRON	158	ASTER DR	NEW PROVIDENCE	PA	17560
162	POSTAL PATRON	159	ASTER DR	NEW PROVIDENCE	PA	17560
163	POSTAL PATRON	160	ASTER DR	NEW PROVIDENCE	PA	17560
164	POSTAL PATRON	161	ASTER DR	NEW PROVIDENCE	PA	17560
165	POSTAL PATRON	162	ASTER DR	NEW PROVIDENCE	PA	17560
166	POSTAL PATRON	163	ASTER DR	NEW PROVIDENCE	PA	17560
167	POSTAL PATRON	17	BARR RD	NEW PROVIDENCE	PA	17560
168	POSTAL PATRON	29	BARR RD	NEW PROVIDENCE	PA	17560
169	POSTAL PATRON	30	BARR RD	NEW PROVIDENCE	PA	17560
170	POSTAL PATRON	31	BARR RD	NEW PROVIDENCE	PA	17560
171	POSTAL PATRON	32	BARR RD	NEW PROVIDENCE	PA	17560

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230	POSTAL PATRON	2439	BEAVER VALLEY PIKE	NEW PROVIDENCE	PA	17560
231	POSTAL PATRON	2440	BEAVER VALLEY PIKE	NEW PROVIDENCE	PA	17560
232	POSTAL PATRON	2441	BEAVER VALLEY PIKE	NEW PROVIDENCE	PA	17560
233	POSTAL PATRON	2442	BEAVER VALLEY PIKE	NEW PROVIDENCE	PA	17560
234	POSTAL PATRON	801	BIRCH ST	NEW PROVIDENCE	PA	17560
235	POSTAL PATRON	802	BIRCH ST	NEW PROVIDENCE	PA	17560
236	POSTAL PATRON	803	BIRCH ST	NEW PROVIDENCE	PA	17560
237	POSTAL PATRON	804	BIRCH ST	NEW PROVIDENCE	PA	17560
238	POSTAL PATRON	805	BIRCH ST	NEW PROVIDENCE	PA	17560
239	POSTAL PATRON	806	BIRCH ST	NEW PROVIDENCE	PA	17560
240	POSTAL PATRON	807	BIRCH ST	NEW PROVIDENCE	PA	17560
241	POSTAL PATRON	808	BIRCH ST	NEW PROVIDENCE	PA	17560
242	POSTAL PATRON	809	BIRCH ST	NEW PROVIDENCE	PA	17560
243	POSTAL PATRON	810	BIRCH ST	NEW PROVIDENCE	PA	17560
244	POSTAL PATRON	811	BIRCH ST	NEW PROVIDENCE	PA	17560
245	POSTAL PATRON	812	BIRCH ST	NEW PROVIDENCE	PA	17560
246	POSTAL PATRON	813	BIRCH ST	NEW PROVIDENCE	PA	17560
247	POSTAL PATRON	814	BIRCH ST	NEW PROVIDENCE	PA	17560
248	POSTAL PATRON	815	BIRCH ST	NEW PROVIDENCE	PA	17560
249	POSTAL PATRON	816	BIRCH ST	NEW PROVIDENCE	PA	17560
250	POSTAL PATRON	817	BIRCH ST	NEW PROVIDENCE	PA	17560
251	POSTAL PATRON	243	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
252	POSTAL PATRON	244	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
253	POSTAL PATRON	245	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
254	POSTAL PATRON	246	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
255	POSTAL PATRON	247	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
256	POSTAL PATRON	248	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
257	POSTAL PATRON	249	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
258	POSTAL PATRON	251	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
259	POSTAL PATRON	252	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
260	POSTAL PATRON	253	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
261	POSTAL PATRON	254	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
262	POSTAL PATRON	255	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
263	POSTAL PATRON	256	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
264	POSTAL PATRON	257	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
265	POSTAL PATRON	258	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
266	POSTAL PATRON	259	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
267	POSTAL PATRON	260	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
268	POSTAL PATRON	261	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
269	POSTAL PATRON	262	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
270	POSTAL PATRON	263	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
271	POSTAL PATRON	264	BUTTERCUP DR	NEW PROVIDENCE	PA	17560
272	POSTAL PATRON	333	CARNATION DR	NEW PROVIDENCE	PA	17560
273	POSTAL PATRON	334	CARNATION DR	NEW PROVIDENCE	PA	17560
274	POSTAL PATRON	335	CARNATION DR	NEW PROVIDENCE	PA	17560
275	POSTAL PATRON	336	CARNATION DR	NEW PROVIDENCE	PA	17560
276	POSTAL PATRON	337	CARNATION DR	NEW PROVIDENCE	PA	17560
277	POSTAL PATRON	338	CARNATION DR	NEW PROVIDENCE	PA	17560
278	POSTAL PATRON	339	CARNATION DR	NEW PROVIDENCE	PA	17560
279	POSTAL PATRON	340	CARNATION DR	NEW PROVIDENCE	PA	17560
280	POSTAL PATRON	341	CARNATION DR	NEW PROVIDENCE	PA	17560
281	POSTAL PATRON	342	CARNATION DR	NEW PROVIDENCE	PA	17560
282	POSTAL PATRON	343	CARNATION DR	NEW PROVIDENCE	PA	17560
283	POSTAL PATRON	344	CARNATION DR	NEW PROVIDENCE	PA	17560
284	POSTAL PATRON	345	CARNATION DR	NEW PROVIDENCE	PA	17560
285	POSTAL PATRON	346	CARNATION DR	NEW PROVIDENCE	PA	17560
286	POSTAL PATRON	347	CARNATION DR	NEW PROVIDENCE	PA	17560
287	POSTAL PATRON	348	CARNATION DR	NEW PROVIDENCE	PA	17560

288	POSTAL PATRON	349	CARNATION DR	NEW PROVIDENCE	PA	17560
289	POSTAL PATRON	351	CARNATION DR	NEW PROVIDENCE	PA	17560
290	POSTAL PATRON	352	CARNATION DR	NEW PROVIDENCE	PA	17560
291	POSTAL PATRON	353	CARNATION DR	NEW PROVIDENCE	PA	17560
292	POSTAL PATRON	354	CARNATION DR	NEW PROVIDENCE	PA	17560
293	POSTAL PATRON	355	CARNATION DR	NEW PROVIDENCE	PA	17560
294	POSTAL PATRON	357	CARNATION DR	NEW PROVIDENCE	PA	17560
295	POSTAL PATRON	358	CARNATION DR	NEW PROVIDENCE	PA	17560
296	POSTAL PATRON	359	CARNATION DR	NEW PROVIDENCE	PA	17560
297	POSTAL PATRON	360	CARNATION DR	NEW PROVIDENCE	PA	17560
298	POSTAL PATRON	361	CARNATION DR	NEW PROVIDENCE	PA	17560
299	POSTAL PATRON	362	CARNATION DR	NEW PROVIDENCE	PA	17560
300	POSTAL PATRON	363	CARNATION DR	NEW PROVIDENCE	PA	17560
301	POSTAL PATRON	364	CARNATION DR	NEW PROVIDENCE	PA	17560
302	POSTAL PATRON	365	CARNATION DR	NEW PROVIDENCE	PA	17560
303	POSTAL PATRON	501	CEDAR LN	NEW PROVIDENCE	PA	17560
304	POSTAL PATRON	502	CEDAR LN	NEW PROVIDENCE	PA	17560
305	POSTAL PATRON	503	CEDAR LN	NEW PROVIDENCE	PA	17560
306	POSTAL PATRON	504	CEDAR LN	NEW PROVIDENCE	PA	17560
307	POSTAL PATRON	505	CEDAR LN	NEW PROVIDENCE	PA	17560
308	POSTAL PATRON	506	CEDAR LN	NEW PROVIDENCE	PA	17560
309	POSTAL PATRON	507	CEDAR LN	NEW PROVIDENCE	PA	17560
310	POSTAL PATRON	508	CEDAR LN	NEW PROVIDENCE	PA	17560
311	POSTAL PATRON	509	CEDAR LN	NEW PROVIDENCE	PA	17560
312	POSTAL PATRON	510	CEDAR LN	NEW PROVIDENCE	PA	17560
313	POSTAL PATRON	511	CEDAR LN	NEW PROVIDENCE	PA	17560
314	POSTAL PATRON	512	CEDAR LN	NEW PROVIDENCE	PA	17560
315	POSTAL PATRON	513	CEDAR LN	NEW PROVIDENCE	PA	17560
316	POSTAL PATRON	101	CHERRY LN	NEW PROVIDENCE	PA	17560
317	POSTAL PATRON	102	CHERRY LN	NEW PROVIDENCE	PA	17560
318	POSTAL PATRON	103	CHERRY LN	NEW PROVIDENCE	PA	17560
319	POSTAL PATRON	104	CHERRY LN	NEW PROVIDENCE	PA	17560
320	POSTAL PATRON	105	CHERRY LN	NEW PROVIDENCE	PA	17560
321	POSTAL PATRON	106	CHERRY LN	NEW PROVIDENCE	PA	17560
322	POSTAL PATRON	107	CHERRY LN	NEW PROVIDENCE	PA	17560
323	POSTAL PATRON	108	CHERRY LN	NEW PROVIDENCE	PA	17560
324	POSTAL PATRON	109	CHERRY LN	NEW PROVIDENCE	PA	17560
325	POSTAL PATRON	110	CHERRY LN	NEW PROVIDENCE	PA	17560
326	POSTAL PATRON	111	CHERRY LN	NEW PROVIDENCE	PA	17560
327	POSTAL PATRON	112	CHERRY LN	NEW PROVIDENCE	PA	17560
328	POSTAL PATRON	3	CHURCH RD	NEW PROVIDENCE	PA	17560
329	POSTAL PATRON	15	CHURCH RD	NEW PROVIDENCE	PA	17560
330	POSTAL PATRON	7	CINDER RD	NEW PROVIDENCE	PA	17560
331	POSTAL PATRON	11	CINDER RD	NEW PROVIDENCE	PA	17560
332	POSTAL PATRON	15	CINDER RD	NEW PROVIDENCE	PA	17560
333	POSTAL PATRON	23	CINDER RD	NEW PROVIDENCE	PA	17560
334	POSTAL PATRON	27	CINDER RD	NEW PROVIDENCE	PA	17560
335	POSTAL PATRON	31	CINDER RD	NEW PROVIDENCE	PA	17560
336	POSTAL PATRON	35	CINDER RD	NEW PROVIDENCE	PA	17560
337	POSTAL PATRON	39	CINDER RD	NEW PROVIDENCE	PA	17560
338	POSTAL PATRON	66	CINDER RD	NEW PROVIDENCE	PA	17560
339	POSTAL PATRON	82	CINDER RD	NEW PROVIDENCE	PA	17560
340	POSTAL PATRON	85	CINDER RD	NEW PROVIDENCE	PA	17560
341	POSTAL PATRON	86	CINDER RD	NEW PROVIDENCE	PA	17560
342	POSTAL PATRON	88	CINDER RD	NEW PROVIDENCE	PA	17560
343	POSTAL PATRON	107	CINDER RD	NEW PROVIDENCE	PA	17560
344	POSTAL PATRON	115	CINDER RD	NEW PROVIDENCE	PA	17560
345	POSTAL PATRON	119	CINDER RD	NEW PROVIDENCE	PA	17560



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462	POSTAL PATRON	297	CLEARFIELD RD	NEW PROVIDENCE	PA	17560
463	POSTAL PATRON	301	CLEARFIELD RD	NEW PROVIDENCE	PA	17560
464	POSTAL PATRON	306	CLEARFIELD RD	NEW PROVIDENCE	PA	17560
465	POSTAL PATRON	309	CLEARFIELD RD	NEW PROVIDENCE	PA	17560
466	POSTAL PATRON	331	CLEARFIELD RD	NEW PROVIDENCE	PA	17560
467	POSTAL PATRON	350	CLEARFIELD RD	NEW PROVIDENCE	PA	17560
468	POSTAL PATRON	435	DAISY DR	NEW PROVIDENCE	PA	17560
469	POSTAL PATRON	436	DAISY DR	NEW PROVIDENCE	PA	17560
470	POSTAL PATRON	437	DAISY DR	NEW PROVIDENCE	PA	17560
471	POSTAL PATRON	438	DAISY DR	NEW PROVIDENCE	PA	17560
472	POSTAL PATRON	439	DAISY DR	NEW PROVIDENCE	PA	17560
473	POSTAL PATRON	440	DAISY DR	NEW PROVIDENCE	PA	17560
474	POSTAL PATRON	441	DAISY DR	NEW PROVIDENCE	PA	17560
475	POSTAL PATRON	442	DAISY DR	NEW PROVIDENCE	PA	17560
476	POSTAL PATRON	443	DAISY DR	NEW PROVIDENCE	PA	17560
477	POSTAL PATRON	444	DAISY DR	NEW PROVIDENCE	PA	17560
478	POSTAL PATRON	445	DAISY DR	NEW PROVIDENCE	PA	17560
479	POSTAL PATRON	446	DAISY DR	NEW PROVIDENCE	PA	17560
480	POSTAL PATRON	447	DAISY DR	NEW PROVIDENCE	PA	17560
481	POSTAL PATRON	448	DAISY DR	NEW PROVIDENCE	PA	17560
482	POSTAL PATRON	449	DAISY DR	NEW PROVIDENCE	PA	17560
483	POSTAL PATRON	451	DAISY DR	NEW PROVIDENCE	PA	17560
484	POSTAL PATRON	452	DAISY DR	NEW PROVIDENCE	PA	17560
485	POSTAL PATRON	453	DAISY DR	NEW PROVIDENCE	PA	17560
486	POSTAL PATRON	454	DAISY DR	NEW PROVIDENCE	PA	17560
487	POSTAL PATRON	455	DAISY DR	NEW PROVIDENCE	PA	17560
488	POSTAL PATRON	456	DAISY DR	NEW PROVIDENCE	PA	17560
489	POSTAL PATRON	457	DAISY DR	NEW PROVIDENCE	PA	17560
490	POSTAL PATRON	458	DAISY DR	NEW PROVIDENCE	PA	17560
491	POSTAL PATRON	459	DAISY DR	NEW PROVIDENCE	PA	17560
492	POSTAL PATRON	460	DAISY DR	NEW PROVIDENCE	PA	17560
493	POSTAL PATRON	461	DAISY DR	NEW PROVIDENCE	PA	17560
494	POSTAL PATRON	462	DAISY DR	NEW PROVIDENCE	PA	17560
495	POSTAL PATRON	463	DAISY DR	NEW PROVIDENCE	PA	17560
496	POSTAL PATRON	464	DAISY DR	NEW PROVIDENCE	PA	17560
497	POSTAL PATRON	465	DAISY DR	NEW PROVIDENCE	PA	17560
498	POSTAL PATRON	466	DAISY DR	NEW PROVIDENCE	PA	17560
499	POSTAL PATRON	467	DAISY DR	NEW PROVIDENCE	PA	17560
500	POSTAL PATRON	6	DENNIS DR	NEW PROVIDENCE	PA	17560
501	POSTAL PATRON	9	DENNIS DR	NEW PROVIDENCE	PA	17560
502	POSTAL PATRON	10	DENNIS DR	NEW PROVIDENCE	PA	17560
503	POSTAL PATRON	13	DENNIS DR	NEW PROVIDENCE	PA	17560
504	POSTAL PATRON	14	DENNIS DR	NEW PROVIDENCE	PA	17560
505	POSTAL PATRON	18	DENNIS DR	NEW PROVIDENCE	PA	17560
506	POSTAL PATRON	19	DENNIS DR	NEW PROVIDENCE	PA	17560
507	POSTAL PATRON	23	DENNIS DR	NEW PROVIDENCE	PA	17560
508	POSTAL PATRON	24	DENNIS DR	NEW PROVIDENCE	PA	17560
509	POSTAL PATRON	27	DENNIS DR	NEW PROVIDENCE	PA	17560
510	POSTAL PATRON	28	DENNIS DR	NEW PROVIDENCE	PA	17560
511	POSTAL PATRON	31	DENNIS DR	NEW PROVIDENCE	PA	17560
512	POSTAL PATRON	34	DENNIS DR	NEW PROVIDENCE	PA	17560
513	POSTAL PATRON	35	DENNIS DR	NEW PROVIDENCE	PA	17560
514	POSTAL PATRON	39	DENNIS DR	NEW PROVIDENCE	PA	17560
515	POSTAL PATRON	40	DENNIS DR	NEW PROVIDENCE	PA	17560
516	POSTAL PATRON	44	DENNIS DR	NEW PROVIDENCE	PA	17560
517	POSTAL PATRON	401	DOGWOOD LN	NEW PROVIDENCE	PA	17560
518	POSTAL PATRON	402	DOGWOOD LN	NEW PROVIDENCE	PA	17560
519	POSTAL PATRON	403	DOGWOOD LN	NEW PROVIDENCE	PA	17560

520	POSTAL PATRON	404	DOGWOOD LN	NEW PROVIDENCE	PA	17560
521	POSTAL PATRON	405	DOGWOOD LN	NEW PROVIDENCE	PA	17560
522	POSTAL PATRON	406	DOGWOOD LN	NEW PROVIDENCE	PA	17560
523	POSTAL PATRON	407	DOGWOOD LN	NEW PROVIDENCE	PA	17560
524	POSTAL PATRON	408	DOGWOOD LN	NEW PROVIDENCE	PA	17560
525	POSTAL PATRON	409	DOGWOOD LN	NEW PROVIDENCE	PA	17560
526	POSTAL PATRON	410	DOGWOOD LN	NEW PROVIDENCE	PA	17560
527	POSTAL PATRON	411	DOGWOOD LN	NEW PROVIDENCE	PA	17560
528	POSTAL PATRON	412	DOGWOOD LN	NEW PROVIDENCE	PA	17560
529	POSTAL PATRON	901	DOGWOOD ST	NEW PROVIDENCE	PA	17560
530	POSTAL PATRON	902	DOGWOOD ST	NEW PROVIDENCE	PA	17560
531	POSTAL PATRON	903	DOGWOOD ST	NEW PROVIDENCE	PA	17560
532	POSTAL PATRON	904	DOGWOOD ST	NEW PROVIDENCE	PA	17560
533	POSTAL PATRON	905	DOGWOOD ST	NEW PROVIDENCE	PA	17560
534	POSTAL PATRON	906	DOGWOOD ST	NEW PROVIDENCE	PA	17560
535	POSTAL PATRON	907	DOGWOOD ST	NEW PROVIDENCE	PA	17560
536	POSTAL PATRON	908	DOGWOOD ST	NEW PROVIDENCE	PA	17560
537	POSTAL PATRON	909	DOGWOOD ST	NEW PROVIDENCE	PA	17560
538	POSTAL PATRON	910	DOGWOOD ST	NEW PROVIDENCE	PA	17560
539	POSTAL PATRON	911	DOGWOOD ST	NEW PROVIDENCE	PA	17560
540	POSTAL PATRON	912	DOGWOOD ST	NEW PROVIDENCE	PA	17560
541	POSTAL PATRON	913	DOGWOOD ST	NEW PROVIDENCE	PA	17560
542	POSTAL PATRON	914	DOGWOOD ST	NEW PROVIDENCE	PA	17560
543	POSTAL PATRON	4	E MILLER RD	NEW PROVIDENCE	PA	17560
544	POSTAL PATRON	5	E MILLER RD	NEW PROVIDENCE	PA	17560
545	POSTAL PATRON	7	E MILLER RD	NEW PROVIDENCE	PA	17560
546	POSTAL PATRON	9	E MILLER RD	NEW PROVIDENCE	PA	17560
547	POSTAL PATRON	1	EAGLE DR	NEW PROVIDENCE	PA	17560
548	POSTAL PATRON	2	EAGLE DR	NEW PROVIDENCE	PA	17560
549	POSTAL PATRON	3	EAGLE DR	NEW PROVIDENCE	PA	17560
550	POSTAL PATRON	4	EAGLE DR	NEW PROVIDENCE	PA	17560
551	POSTAL PATRON	16	EAGLE DR	NEW PROVIDENCE	PA	17560
552	POSTAL PATRON	50	EAGLE DR	NEW PROVIDENCE	PA	17560
553	POSTAL PATRON	73	EAGLE DR	NEW PROVIDENCE	PA	17560
554	POSTAL PATRON	74	EAGLE DR	NEW PROVIDENCE	PA	17560
555	POSTAL PATRON	3	EARL DR	NEW PROVIDENCE	PA	17560
556	POSTAL PATRON	4	EARL DR	NEW PROVIDENCE	PA	17560
557	POSTAL PATRON	9	EARL DR	NEW PROVIDENCE	PA	17560
558	POSTAL PATRON	10	EARL DR	NEW PROVIDENCE	PA	17560
559	POSTAL PATRON	14	EARL DR	NEW PROVIDENCE	PA	17560
560	POSTAL PATRON	17	EARL DR	NEW PROVIDENCE	PA	17560
561	POSTAL PATRON	18	EARL DR	NEW PROVIDENCE	PA	17560
562	POSTAL PATRON	22	EARL DR	NEW PROVIDENCE	PA	17560
563	POSTAL PATRON	25	EARL DR	NEW PROVIDENCE	PA	17560
564	POSTAL PATRON	30	EARL DR	NEW PROVIDENCE	PA	17560
565	POSTAL PATRON	31	EARL DR	NEW PROVIDENCE	PA	17560
566	POSTAL PATRON	35	EARL DR	NEW PROVIDENCE	PA	17560
567	POSTAL PATRON	44	EARL DR	NEW PROVIDENCE	PA	17560
568	POSTAL PATRON	45	EARL DR	NEW PROVIDENCE	PA	17560
569	POSTAL PATRON	55	EARL DR	NEW PROVIDENCE	PA	17560
570	POSTAL PATRON	3	EAST PENNSY RD	NEW PROVIDENCE	PA	17560
571	POSTAL PATRON	5	EAST PENNSY RD	NEW PROVIDENCE	PA	17560
572	POSTAL PATRON	3	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
573	POSTAL PATRON	4	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
574	POSTAL PATRON	5	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
575	POSTAL PATRON	6	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
576	POSTAL PATRON	7	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
577	POSTAL PATRON	8	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560

578	POSTAL PATRON	9	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
579	POSTAL PATRON	10	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
580	POSTAL PATRON	11	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
581	POSTAL PATRON	12	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
582	POSTAL PATRON	13	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
583	POSTAL PATRON	14	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
584	POSTAL PATRON	15	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
585	POSTAL PATRON	16	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
586	POSTAL PATRON	18	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
587	POSTAL PATRON	19	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
588	POSTAL PATRON	20	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
589	POSTAL PATRON	22	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
590	POSTAL PATRON	23	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
591	POSTAL PATRON	24	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
592	POSTAL PATRON	28	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
593	POSTAL PATRON	29	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
594	POSTAL PATRON	30	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
595	POSTAL PATRON	31	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
596	POSTAL PATRON	32	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
597	POSTAL PATRON	33	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
598	POSTAL PATRON	34	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
599	POSTAL PATRON	35	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
600	POSTAL PATRON	36	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
601	POSTAL PATRON	37	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
602	POSTAL PATRON	38	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
603	POSTAL PATRON	39	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
604	POSTAL PATRON	40	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
605	POSTAL PATRON	42	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
606	POSTAL PATRON	12A	ECHO VALLEY DR	NEW PROVIDENCE	PA	17560
607	POSTAL PATRON	5	ELK CIRCLE	NEW PROVIDENCE	PA	17560
608	POSTAL PATRON	8	ELK CIRCLE	NEW PROVIDENCE	PA	17560
609	POSTAL PATRON	1001	ELM ST	NEW PROVIDENCE	PA	17560
610	POSTAL PATRON	1002	ELM ST	NEW PROVIDENCE	PA	17560
611	POSTAL PATRON	1003	ELM ST	NEW PROVIDENCE	PA	17560
612	POSTAL PATRON	1004	ELM ST	NEW PROVIDENCE	PA	17560
613	POSTAL PATRON	1005	ELM ST	NEW PROVIDENCE	PA	17560
614	POSTAL PATRON	1006	ELM ST	NEW PROVIDENCE	PA	17560
615	POSTAL PATRON	1007	ELM ST	NEW PROVIDENCE	PA	17560
616	POSTAL PATRON	1009	ELM ST	NEW PROVIDENCE	PA	17560
617	POSTAL PATRON	1010	ELM ST	NEW PROVIDENCE	PA	17560
618	POSTAL PATRON	1011	ELM ST	NEW PROVIDENCE	PA	17560
619	POSTAL PATRON	1012	ELM ST	NEW PROVIDENCE	PA	17560
620	POSTAL PATRON	27	ESH RD	NEW PROVIDENCE	PA	17560
621	POSTAL PATRON	33	ESH RD	NEW PROVIDENCE	PA	17560
622	POSTAL PATRON	44	FAIRVIEW RD	NEW PROVIDENCE	PA	17560
623	POSTAL PATRON	47	FAIRVIEW RD	NEW PROVIDENCE	PA	17560
624	POSTAL PATRON	55	FAIRVIEW RD	NEW PROVIDENCE	PA	17560
625	POSTAL PATRON	69	FAIRVIEW RD	NEW PROVIDENCE	PA	17560
626	POSTAL PATRON	72	FAIRVIEW RD	NEW PROVIDENCE	PA	17560
627	POSTAL PATRON	74	FAIRVIEW RD	NEW PROVIDENCE	PA	17560
628	POSTAL PATRON	76	FAIRVIEW RD	NEW PROVIDENCE	PA	17560
629	POSTAL PATRON	78	FAIRVIEW RD	NEW PROVIDENCE	PA	17560
630	POSTAL PATRON	83	FAIRVIEW RD	NEW PROVIDENCE	PA	17560
631	POSTAL PATRON	106	FAIRVIEW RD	NEW PROVIDENCE	PA	17560
632	POSTAL PATRON	172	FAIRVIEW RD	NEW PROVIDENCE	PA	17560
633	POSTAL PATRON	173	FAIRVIEW RD	NEW PROVIDENCE	PA	17560
634	POSTAL PATRON	182	FAIRVIEW RD	NEW PROVIDENCE	PA	17560
635	POSTAL PATRON	200	FAIRVIEW RD	NEW PROVIDENCE	PA	17560

[illegible]

694	POSTAL PATRON	30	FARMINGTON WAY	NEW PROVIDENCE	PA	17560
695	POSTAL PATRON	31	FARMINGTON WAY	NEW PROVIDENCE	PA	17560
696	POSTAL PATRON	32	FARMINGTON WAY	NEW PROVIDENCE	PA	17560
697	POSTAL PATRON	33	FARMINGTON WAY	NEW PROVIDENCE	PA	17560
698	POSTAL PATRON	34	FARMINGTON WAY	NEW PROVIDENCE	PA	17560
699	POSTAL PATRON	35	FARMINGTON WAY	NEW PROVIDENCE	PA	17560
700	POSTAL PATRON	36	FARMINGTON WAY	NEW PROVIDENCE	PA	17560
701	POSTAL PATRON	37	FARMINGTON WAY	NEW PROVIDENCE	PA	17560
702	POSTAL PATRON	4	FOX HOLLOW CT	NEW PROVIDENCE	PA	17560
703	POSTAL PATRON	5	FOX HOLLOW CT	NEW PROVIDENCE	PA	17560
704	POSTAL PATRON	6	FOX HOLLOW CT	NEW PROVIDENCE	PA	17560
705	POSTAL PATRON	12	GOOD RD	NEW PROVIDENCE	PA	17560
706	POSTAL PATRON	18	GOOD RD	NEW PROVIDENCE	PA	17560
707	POSTAL PATRON	22	GOOD RD	NEW PROVIDENCE	PA	17560
708	POSTAL PATRON	28	GOOD RD	NEW PROVIDENCE	PA	17560
709	POSTAL PATRON	34	GOOD RD	NEW PROVIDENCE	PA	17560
710	POSTAL PATRON	40	GOOD RD	NEW PROVIDENCE	PA	17560
711	POSTAL PATRON	48	GOOD RD	NEW PROVIDENCE	PA	17560
712	POSTAL PATRON	52	GOOD RD	NEW PROVIDENCE	PA	17560
713	POSTAL PATRON	56	GOOD RD	NEW PROVIDENCE	PA	17560
714	POSTAL PATRON	59	GOOD RD	NEW PROVIDENCE	PA	17560
715	POSTAL PATRON	60	GOOD RD	NEW PROVIDENCE	PA	17560
716	POSTAL PATRON	61	GOOD RD	NEW PROVIDENCE	PA	17560
717	POSTAL PATRON	64	GOOD RD	NEW PROVIDENCE	PA	17560
718	POSTAL PATRON	67	GOOD RD	NEW PROVIDENCE	PA	17560
719	POSTAL PATRON	72	GOOD RD	NEW PROVIDENCE	PA	17560
720	POSTAL PATRON	79	GOOD RD	NEW PROVIDENCE	PA	17560
721	POSTAL PATRON	83	GOOD RD	NEW PROVIDENCE	PA	17560
722	POSTAL PATRON	87	GOOD RD	NEW PROVIDENCE	PA	17560
723	POSTAL PATRON	92	GOOD RD	NEW PROVIDENCE	PA	17560
724	POSTAL PATRON	95	GOOD RD	NEW PROVIDENCE	PA	17560
725	POSTAL PATRON	103	GOOD RD	NEW PROVIDENCE	PA	17560
726	POSTAL PATRON	110	GOOD RD	NEW PROVIDENCE	PA	17560
727	POSTAL PATRON	119	GOOD RD	NEW PROVIDENCE	PA	17560
728	POSTAL PATRON	124	GOOD RD	NEW PROVIDENCE	PA	17560
729	POSTAL PATRON	152	GOOD RD	NEW PROVIDENCE	PA	17560
730	POSTAL PATRON	171	GOOD RD	NEW PROVIDENCE	PA	17560
731	POSTAL PATRON	172	GOOD RD	NEW PROVIDENCE	PA	17560
732	POSTAL PATRON	180	GOOD RD	NEW PROVIDENCE	PA	17560
733	POSTAL PATRON	216	GOOD RD	NEW PROVIDENCE	PA	17560
734	POSTAL PATRON	224	GOOD RD	NEW PROVIDENCE	PA	17560
735	POSTAL PATRON	230	GOOD RD	NEW PROVIDENCE	PA	17560
736	POSTAL PATRON	242	GOOD RD	NEW PROVIDENCE	PA	17560
737	POSTAL PATRON	8	HENRY DR	NEW PROVIDENCE	PA	17560
738	POSTAL PATRON	19	HENRY DR	NEW PROVIDENCE	PA	17560
739	POSTAL PATRON	22	HENRY DR	NEW PROVIDENCE	PA	17560
740	POSTAL PATRON	25	HENRY DR	NEW PROVIDENCE	PA	17560
741	POSTAL PATRON	30	HENRY DR	NEW PROVIDENCE	PA	17560
742	POSTAL PATRON	35	HENRY DR	NEW PROVIDENCE	PA	17560
743	POSTAL PATRON	38	HENRY DR	NEW PROVIDENCE	PA	17560
744	POSTAL PATRON	43	HENRY DR	NEW PROVIDENCE	PA	17560
745	POSTAL PATRON	44	HENRY DR	NEW PROVIDENCE	PA	17560
746	POSTAL PATRON	48	HENRY DR	NEW PROVIDENCE	PA	17560
747	POSTAL PATRON	52	HENRY DR	NEW PROVIDENCE	PA	17560
748	POSTAL PATRON	1	HERITAGE CT	NEW PROVIDENCE	PA	17560
749	POSTAL PATRON	2	HERITAGE CT	NEW PROVIDENCE	PA	17560
750	POSTAL PATRON	3	HERITAGE CT	NEW PROVIDENCE	PA	17560
751	POSTAL PATRON	4	HERITAGE CT	NEW PROVIDENCE	PA	17560

752	POSTAL PATRON	5	HERITAGE CT	NEW PROVIDENCE	PA	17560
753	POSTAL PATRON	6	HERITAGE CT	NEW PROVIDENCE	PA	17560
754	POSTAL PATRON	8	HERITAGE CT	NEW PROVIDENCE	PA	17560
755	POSTAL PATRON	15	HERR RD	NEW PROVIDENCE	PA	17560
756	POSTAL PATRON	30	HERR RD	NEW PROVIDENCE	PA	17560
757	POSTAL PATRON	48	HERR RD	NEW PROVIDENCE	PA	17560
758	POSTAL PATRON	56	HERR RD	NEW PROVIDENCE	PA	17560
759	POSTAL PATRON	58	HERR RD	NEW PROVIDENCE	PA	17560
760	POSTAL PATRON	67	HERR RD	NEW PROVIDENCE	PA	17560
761	POSTAL PATRON	4	HILLTOP LN	NEW PROVIDENCE	PA	17560
762	POSTAL PATRON	26	HILLTOP LN	NEW PROVIDENCE	PA	17560
763	POSTAL PATRON	32	HILLTOP LN	NEW PROVIDENCE	PA	17560
764	POSTAL PATRON	34	HILLTOP LN	NEW PROVIDENCE	PA	17560
765	POSTAL PATRON	40	HILLTOP LN	NEW PROVIDENCE	PA	17560
766	POSTAL PATRON	44	HILLTOP LN	NEW PROVIDENCE	PA	17560
767	POSTAL PATRON	46	HILLTOP LN	NEW PROVIDENCE	PA	17560
768	POSTAL PATRON	48	HILLTOP LN	NEW PROVIDENCE	PA	17560
769	POSTAL PATRON	52	HILLTOP LN	NEW PROVIDENCE	PA	17560
770	POSTAL PATRON	26	HOLLOW RD	NEW PROVIDENCE	PA	17560
771	POSTAL PATRON	58	HOLLOW RD	NEW PROVIDENCE	PA	17560
772	POSTAL PATRON	92	HOLLOW RD	NEW PROVIDENCE	PA	17560
773	POSTAL PATRON	125	HOLLOW RD	NEW PROVIDENCE	PA	17560
774	POSTAL PATRON	132	HOLLOW RD	NEW PROVIDENCE	PA	17560
775	POSTAL PATRON	149	HOLLOW RD	NEW PROVIDENCE	PA	17560
776	POSTAL PATRON	150	HOLLOW RD	NEW PROVIDENCE	PA	17560
777	POSTAL PATRON	154	HOLLOW RD	NEW PROVIDENCE	PA	17560
778	POSTAL PATRON	160	HOLLOW RD	NEW PROVIDENCE	PA	17560
779	POSTAL PATRON	168	HOLLOW RD	NEW PROVIDENCE	PA	17560
780	POSTAL PATRON	176	HOLLOW RD	NEW PROVIDENCE	PA	17560
781	POSTAL PATRON	184	HOLLOW RD	NEW PROVIDENCE	PA	17560
782	POSTAL PATRON	185	HOLLOW RD	NEW PROVIDENCE	PA	17560
783	POSTAL PATRON	219	HOLLOW RD	NEW PROVIDENCE	PA	17560
784	POSTAL PATRON	242	HOLLOW RD	NEW PROVIDENCE	PA	17560
785	POSTAL PATRON	247	HOLLOW RD	NEW PROVIDENCE	PA	17560
786	POSTAL PATRON	252	HOLLOW RD	NEW PROVIDENCE	PA	17560
787	POSTAL PATRON	259	HOLLOW RD	NEW PROVIDENCE	PA	17560
788	POSTAL PATRON	260	HOLLOW RD	NEW PROVIDENCE	PA	17560
789	POSTAL PATRON	264	HOLLOW RD	NEW PROVIDENCE	PA	17560
790	POSTAL PATRON	266	HOLLOW RD	NEW PROVIDENCE	PA	17560
791	POSTAL PATRON	268	HOLLOW RD	NEW PROVIDENCE	PA	17560
792	POSTAL PATRON	270	HOLLOW RD	NEW PROVIDENCE	PA	17560
793	POSTAL PATRON	271	HOLLOW RD	NEW PROVIDENCE	PA	17560
794	POSTAL PATRON	273	HOLLOW RD	NEW PROVIDENCE	PA	17560
795	POSTAL PATRON	275	HOLLOW RD	NEW PROVIDENCE	PA	17560
796	POSTAL PATRON	277	HOLLOW RD	NEW PROVIDENCE	PA	17560
797	POSTAL PATRON	280	HOLLOW RD	NEW PROVIDENCE	PA	17560
798	POSTAL PATRON	287	HOLLOW RD	NEW PROVIDENCE	PA	17560
799	POSTAL PATRON	288	HOLLOW RD	NEW PROVIDENCE	PA	17560
800	POSTAL PATRON	291	HOLLOW RD	NEW PROVIDENCE	PA	17560
801	POSTAL PATRON	292	HOLLOW RD	NEW PROVIDENCE	PA	17560
802	POSTAL PATRON	293	HOLLOW RD	NEW PROVIDENCE	PA	17560
803	POSTAL PATRON	299	HOLLOW RD	NEW PROVIDENCE	PA	17560
804	POSTAL PATRON	305	HOLLOW RD	NEW PROVIDENCE	PA	17560
805	POSTAL PATRON	309	HOLLOW RD	NEW PROVIDENCE	PA	17560
806	POSTAL PATRON	312	HOLLOW RD	NEW PROVIDENCE	PA	17560
807	POSTAL PATRON	340	HOLLOW RD	NEW PROVIDENCE	PA	17560
808	POSTAL PATRON	403	HOLLOW RD	NEW PROVIDENCE	PA	17560
809	POSTAL PATRON	407	HOLLOW RD	NEW PROVIDENCE	PA	17560



810	POSTAL PATRON	408	HOLLOW RD	NEW PROVIDENCE	PA	17560
811	POSTAL PATRON	411	HOLLOW RD	NEW PROVIDENCE	PA	17560
812	POSTAL PATRON	423	HOLLOW RD	NEW PROVIDENCE	PA	17560
813	POSTAL PATRON	427	HOLLOW RD	NEW PROVIDENCE	PA	17560
814	POSTAL PATRON	431	HOLLOW RD	NEW PROVIDENCE	PA	17560
815	POSTAL PATRON	449	HOLLOW RD	NEW PROVIDENCE	PA	17560
816	POSTAL PATRON	461	HOLLOW RD	NEW PROVIDENCE	PA	17560
817	POSTAL PATRON	540	HOLLOW RD	NEW PROVIDENCE	PA	17560
818	POSTAL PATRON	577	HOLLOW RD	NEW PROVIDENCE	PA	17560
819	POSTAL PATRON	597	HOLLOW RD	NEW PROVIDENCE	PA	17560
820	POSTAL PATRON	619	HOLLOW RD	NEW PROVIDENCE	PA	17560
821	POSTAL PATRON	620	HOLLOW RD	NEW PROVIDENCE	PA	17560
822	POSTAL PATRON	647	HOLLOW RD	NEW PROVIDENCE	PA	17560
823	POSTAL PATRON	677	HOLLOW RD	NEW PROVIDENCE	PA	17560
824	POSTAL PATRON	697	HOLLOW RD	NEW PROVIDENCE	PA	17560
825	POSTAL PATRON	699	HOLLOW RD	NEW PROVIDENCE	PA	17560
826	POSTAL PATRON	703	HOLLOW RD	NEW PROVIDENCE	PA	17560
827	POSTAL PATRON	709	HOLLOW RD	NEW PROVIDENCE	PA	17560
828	POSTAL PATRON	715	HOLLOW RD	NEW PROVIDENCE	PA	17560
829	POSTAL PATRON	721	HOLLOW RD	NEW PROVIDENCE	PA	17560
830	POSTAL PATRON	725	HOLLOW RD	NEW PROVIDENCE	PA	17560
831	POSTAL PATRON	729	HOLLOW RD	NEW PROVIDENCE	PA	17560
832	POSTAL PATRON	735	HOLLOW RD	NEW PROVIDENCE	PA	17560
833	POSTAL PATRON	741	HOLLOW RD	NEW PROVIDENCE	PA	17560
834	POSTAL PATRON	742	HOLLOW RD	NEW PROVIDENCE	PA	17560
835	POSTAL PATRON	745	HOLLOW RD	NEW PROVIDENCE	PA	17560
836	POSTAL PATRON	749	HOLLOW RD	NEW PROVIDENCE	PA	17560
837	POSTAL PATRON	283	HOLLOW RD	NEW PROVIDENCE	PA	17560
838	POSTAL PATRON	536	HOLLY DR	NEW PROVIDENCE	PA	17560
839	POSTAL PATRON	537	HOLLY DR	NEW PROVIDENCE	PA	17560
840	POSTAL PATRON	538	HOLLY DR	NEW PROVIDENCE	PA	17560
841	POSTAL PATRON	539	HOLLY DR	NEW PROVIDENCE	PA	17560
842	POSTAL PATRON	540	HOLLY DR	NEW PROVIDENCE	PA	17560
843	POSTAL PATRON	541	HOLLY DR	NEW PROVIDENCE	PA	17560
844	POSTAL PATRON	542	HOLLY DR	NEW PROVIDENCE	PA	17560
845	POSTAL PATRON	543	HOLLY DR	NEW PROVIDENCE	PA	17560
846	POSTAL PATRON	544	HOLLY DR	NEW PROVIDENCE	PA	17560
847	POSTAL PATRON	546	HOLLY DR	NEW PROVIDENCE	PA	17560
848	POSTAL PATRON	547	HOLLY DR	NEW PROVIDENCE	PA	17560
849	POSTAL PATRON	548	HOLLY DR	NEW PROVIDENCE	PA	17560
850	POSTAL PATRON	549	HOLLY DR	NEW PROVIDENCE	PA	17560
851	POSTAL PATRON	551	HOLLY DR	NEW PROVIDENCE	PA	17560
852	POSTAL PATRON	552	HOLLY DR	NEW PROVIDENCE	PA	17560
853	POSTAL PATRON	553	HOLLY DR	NEW PROVIDENCE	PA	17560
854	POSTAL PATRON	554	HOLLY DR	NEW PROVIDENCE	PA	17560
855	POSTAL PATRON	555	HOLLY DR	NEW PROVIDENCE	PA	17560
856	POSTAL PATRON	556	HOLLY DR	NEW PROVIDENCE	PA	17560
857	POSTAL PATRON	557	HOLLY DR	NEW PROVIDENCE	PA	17560
858	POSTAL PATRON	558	HOLLY DR	NEW PROVIDENCE	PA	17560
859	POSTAL PATRON	559	HOLLY DR	NEW PROVIDENCE	PA	17560
860	POSTAL PATRON	560	HOLLY DR	NEW PROVIDENCE	PA	17560
861	POSTAL PATRON	561	HOLLY DR	NEW PROVIDENCE	PA	17560
862	POSTAL PATRON	562	HOLLY DR	NEW PROVIDENCE	PA	17560
863	POSTAL PATRON	563	HOLLY DR	NEW PROVIDENCE	PA	17560
864	POSTAL PATRON	564	HOLLY DR	NEW PROVIDENCE	PA	17560
865	POSTAL PATRON	565	HOLLY DR	NEW PROVIDENCE	PA	17560
866	POSTAL PATRON	566	HOLLY DR	NEW PROVIDENCE	PA	17560
867	POSTAL PATRON	567	HOLLY DR	NEW PROVIDENCE	PA	17560

868	POSTAL PATRON	568	HOLLY DR	NEW PROVIDENCE	PA	17560
869	POSTAL PATRON	6	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
870	POSTAL PATRON	11	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
871	POSTAL PATRON	12	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
872	POSTAL PATRON	21	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
873	POSTAL PATRON	22	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
874	POSTAL PATRON	23	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
875	POSTAL PATRON	25	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
876	POSTAL PATRON	27	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
877	POSTAL PATRON	28	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
878	POSTAL PATRON	29	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
879	POSTAL PATRON	31	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
880	POSTAL PATRON	34	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
881	POSTAL PATRON	43	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
882	POSTAL PATRON	96	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
883	POSTAL PATRON	105	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
884	POSTAL PATRON	107	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
885	POSTAL PATRON	156	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
886	POSTAL PATRON	162	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
887	POSTAL PATRON	271	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
888	POSTAL PATRON	17	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
889	POSTAL PATRON	36	HOPKINS MILL RD	NEW PROVIDENCE	PA	17560
890	POSTAL PATRON	1	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
891	POSTAL PATRON	2	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
892	POSTAL PATRON	3	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
893	POSTAL PATRON	4	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
894	POSTAL PATRON	5	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
895	POSTAL PATRON	6	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
896	POSTAL PATRON	7	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
897	POSTAL PATRON	8	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
898	POSTAL PATRON	9	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
899	POSTAL PATRON	10	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
900	POSTAL PATRON	11	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
901	POSTAL PATRON	12	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
902	POSTAL PATRON	13	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
903	POSTAL PATRON	14	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
904	POSTAL PATRON	15	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
905	POSTAL PATRON	16	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
906	POSTAL PATRON	17	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
907	POSTAL PATRON	18	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
908	POSTAL PATRON	19	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
909	POSTAL PATRON	20	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
910	POSTAL PATRON	21	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
911	POSTAL PATRON	22	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
912	POSTAL PATRON	23	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
913	POSTAL PATRON	24	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
914	POSTAL PATRON	25	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
915	POSTAL PATRON	26	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
916	POSTAL PATRON	27	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
917	POSTAL PATRON	28	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
918	POSTAL PATRON	29	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
919	POSTAL PATRON	30	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
920	POSTAL PATRON	31	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
921	POSTAL PATRON	33	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
922	POSTAL PATRON	34	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
923	POSTAL PATRON	35	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
924	POSTAL PATRON	36	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
925	POSTAL PATRON	37	KIMBERLY AVE	NEW PROVIDENCE	PA	17560

926	POSTAL PATRON	38	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
927	POSTAL PATRON	39	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
928	POSTAL PATRON	40	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
929	POSTAL PATRON	41	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
930	POSTAL PATRON	42	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
931	POSTAL PATRON	43	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
932	POSTAL PATRON	44	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
933	POSTAL PATRON	45	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
934	POSTAL PATRON	46	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
935	POSTAL PATRON	47	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
936	POSTAL PATRON	48	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
937	POSTAL PATRON	49	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
938	POSTAL PATRON	50	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
939	POSTAL PATRON	51	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
940	POSTAL PATRON	52	KIMBERLY AVE	NEW PROVIDENCE	PA	17560
941	POSTAL PATRON	116	KIMBERLY CT	NEW PROVIDENCE	PA	17560
942	POSTAL PATRON	118	KIMBERLY CT	NEW PROVIDENCE	PA	17560
943	POSTAL PATRON	120	KIMBERLY CT	NEW PROVIDENCE	PA	17560
944	POSTAL PATRON	122	KIMBERLY CT	NEW PROVIDENCE	PA	17560
945	POSTAL PATRON	124	KIMBERLY CT	NEW PROVIDENCE	PA	17560
946	POSTAL PATRON	126	KIMBERLY CT	NEW PROVIDENCE	PA	17560
947	POSTAL PATRON	128	KIMBERLY CT	NEW PROVIDENCE	PA	17560
948	POSTAL PATRON	130	KIMBERLY CT	NEW PROVIDENCE	PA	17560
949	POSTAL PATRON	132	KIMBERLY CT	NEW PROVIDENCE	PA	17560
950	POSTAL PATRON	134	KIMBERLY CT	NEW PROVIDENCE	PA	17560
951	POSTAL PATRON	136	KIMBERLY CT	NEW PROVIDENCE	PA	17560
952	POSTAL PATRON	17	KINSEY LN	NEW PROVIDENCE	PA	17560
953	POSTAL PATRON	29	KINSEY LN	NEW PROVIDENCE	PA	17560
954	POSTAL PATRON	40	KINSEY LN	NEW PROVIDENCE	PA	17560
955	POSTAL PATRON	3	KRANTZ MILL RD	NEW PROVIDENCE	PA	17560
956	POSTAL PATRON	13	KRANTZ MILL RD	NEW PROVIDENCE	PA	17560
957	POSTAL PATRON	27	KRANTZ MILL RD	NEW PROVIDENCE	PA	17560
958	POSTAL PATRON	29	KRANTZ MILL RD	NEW PROVIDENCE	PA	17560
959	POSTAL PATRON	38	KRANTZ MILL RD	NEW PROVIDENCE	PA	17560
960	POSTAL PATRON	2	LAKESIDE DR	NEW PROVIDENCE	PA	17560
961	POSTAL PATRON	3	LAKESIDE DR	NEW PROVIDENCE	PA	17560
962	POSTAL PATRON	4	LAKESIDE DR	NEW PROVIDENCE	PA	17560
963	POSTAL PATRON	5	LAKESIDE DR	NEW PROVIDENCE	PA	17560
964	POSTAL PATRON	6	LAKESIDE DR	NEW PROVIDENCE	PA	17560
965	POSTAL PATRON	7	LAKESIDE DR	NEW PROVIDENCE	PA	17560
966	POSTAL PATRON	8	LAKESIDE DR	NEW PROVIDENCE	PA	17560
967	POSTAL PATRON	271	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
968	POSTAL PATRON	356	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
969	POSTAL PATRON	381	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
970	POSTAL PATRON	384	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
971	POSTAL PATRON	391	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
972	POSTAL PATRON	400	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
973	POSTAL PATRON	407	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
974	POSTAL PATRON	415	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
975	POSTAL PATRON	417	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
976	POSTAL PATRON	449	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
977	POSTAL PATRON	450	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
978	POSTAL PATRON	475	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
979	POSTAL PATRON	479	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
980	POSTAL PATRON	480	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
981	POSTAL PATRON	484	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
982	POSTAL PATRON	485	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
983	POSTAL PATRON	488	LANCASTER PIKE	NEW PROVIDENCE	PA	17560

[illegible]

1042	POSTAL PATRON	709	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
1043	POSTAL PATRON	712	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
1044	POSTAL PATRON	717	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
1045	POSTAL PATRON	718	LANCASTER PIKE	NEW PROVIDENCE	PA	17560
1046	POSTAL PATRON	251	LANCASTER PIKE NORTH	NEW PROVIDENCE	PA	17560
1047	POSTAL PATRON	255	LANCASTER PIKE NORTH	NEW PROVIDENCE	PA	17560
1048	POSTAL PATRON	277	LANCASTER PIKE NORTH	NEW PROVIDENCE	PA	17560
1049	POSTAL PATRON	286	LANCASTER PIKE NORTH	NEW PROVIDENCE	PA	17560
1050	POSTAL PATRON	314	LANCASTER PIKE NORTH	NEW PROVIDENCE	PA	17560
1051	POSTAL PATRON	317	LANCASTER PIKE NORTH	NEW PROVIDENCE	PA	17560
1052	POSTAL PATRON	321	LANCASTER PIKE NORTH	NEW PROVIDENCE	PA	17560
1053	POSTAL PATRON	322	LANCASTER PIKE NORTH	NEW PROVIDENCE	PA	17560
1054	POSTAL PATRON	341	LANCASTER PIKE NORTH	NEW PROVIDENCE	PA	17560
1055	POSTAL PATRON	373	LANCASTER PIKE NORTH	NEW PROVIDENCE	PA	17560
1056	POSTAL PATRON	385	LANCASTER PIKE NORTH	NEW PROVIDENCE	PA	17560
1057	POSTAL PATRON	265	LANCASTER PIKE SOUTH	NEW PROVIDENCE	PA	17560
1058	POSTAL PATRON	267	LANCASTER PIKE SOUTH	NEW PROVIDENCE	PA	17560
1059	POSTAL PATRON	271	LANCASTER PIKE SOUTH	NEW PROVIDENCE	PA	17560
1060	POSTAL PATRON	279	LANCASTER PIKE SOUTH	NEW PROVIDENCE	PA	17560
1061	POSTAL PATRON	1	LIBERTY HILL CT	NEW PROVIDENCE	PA	17560
1062	POSTAL PATRON	2	LIBERTY HILL CT	NEW PROVIDENCE	PA	17560
1063	POSTAL PATRON	3	LIBERTY HILL CT	NEW PROVIDENCE	PA	17560
1064	POSTAL PATRON	4	LIBERTY HILL CT	NEW PROVIDENCE	PA	17560
1065	POSTAL PATRON	5	LIBERTY HILL CT	NEW PROVIDENCE	PA	17560
1066	POSTAL PATRON	6	LIBERTY HILL CT	NEW PROVIDENCE	PA	17560
1067	POSTAL PATRON	7	LIBERTY HILL CT	NEW PROVIDENCE	PA	17560
1068	POSTAL PATRON	8	LIBERTY HILL CT	NEW PROVIDENCE	PA	17560
1069	POSTAL PATRON	9	LIBERTY HILL CT	NEW PROVIDENCE	PA	17560
1070	POSTAL PATRON	627	LILAC DR	NEW PROVIDENCE	PA	17560
1071	POSTAL PATRON	629	LILAC DR	NEW PROVIDENCE	PA	17560
1072	POSTAL PATRON	631	LILAC DR	NEW PROVIDENCE	PA	17560
1073	POSTAL PATRON	633	LILAC DR	NEW PROVIDENCE	PA	17560
1074	POSTAL PATRON	635	LILAC DR	NEW PROVIDENCE	PA	17560
1075	POSTAL PATRON	637	LILAC DR	NEW PROVIDENCE	PA	17560
1076	POSTAL PATRON	639	LILAC DR	NEW PROVIDENCE	PA	17560
1077	POSTAL PATRON	641	LILAC DR	NEW PROVIDENCE	PA	17560
1078	POSTAL PATRON	643	LILAC DR	NEW PROVIDENCE	PA	17560
1079	POSTAL PATRON	645	LILAC DR	NEW PROVIDENCE	PA	17560
1080	POSTAL PATRON	647	LILAC DR	NEW PROVIDENCE	PA	17560
1081	POSTAL PATRON	649	LILAC DR	NEW PROVIDENCE	PA	17560
1082	POSTAL PATRON	651	LILAC DR	NEW PROVIDENCE	PA	17560
1083	POSTAL PATRON	652	LILAC DR	NEW PROVIDENCE	PA	17560
1084	POSTAL PATRON	653	LILAC DR	NEW PROVIDENCE	PA	17560
1085	POSTAL PATRON	654	LILAC DR	NEW PROVIDENCE	PA	17560
1086	POSTAL PATRON	655	LILAC DR	NEW PROVIDENCE	PA	17560
1087	POSTAL PATRON	656	LILAC DR	NEW PROVIDENCE	PA	17560
1088	POSTAL PATRON	657	LILAC DR	NEW PROVIDENCE	PA	17560
1089	POSTAL PATRON	658	LILAC DR	NEW PROVIDENCE	PA	17560
1090	POSTAL PATRON	659	LILAC DR	NEW PROVIDENCE	PA	17560
1091	POSTAL PATRON	660	LILAC DR	NEW PROVIDENCE	PA	17560
1092	POSTAL PATRON	661	LILAC DR	NEW PROVIDENCE	PA	17560
1093	POSTAL PATRON	662	LILAC DR	NEW PROVIDENCE	PA	17560
1094	POSTAL PATRON	663	LILAC DR	NEW PROVIDENCE	PA	17560
1095	POSTAL PATRON	664	LILAC DR	NEW PROVIDENCE	PA	17560
1096	POSTAL PATRON	665	LILAC DR	NEW PROVIDENCE	PA	17560
1097	POSTAL PATRON	667	LILAC DR	NEW PROVIDENCE	PA	17560
1098	POSTAL PATRON	668	LILAC DR	NEW PROVIDENCE	PA	17560
1099	POSTAL PATRON	669	LILAC DR	NEW PROVIDENCE	PA	17560

[illegible]

1158	POSTAL PATRON	44	MAIN ST	NEW PROVIDENCE	PA	17560
1159	POSTAL PATRON	46	MAIN ST	NEW PROVIDENCE	PA	17560
1160	POSTAL PATRON	47	MAIN ST	NEW PROVIDENCE	PA	17560
1161	POSTAL PATRON	48	MAIN ST	NEW PROVIDENCE	PA	17560
1162	POSTAL PATRON	49	MAIN ST	NEW PROVIDENCE	PA	17560
1163	POSTAL PATRON	53	MAIN ST	NEW PROVIDENCE	PA	17560
1164	POSTAL PATRON	54	MAIN ST	NEW PROVIDENCE	PA	17560
1165	POSTAL PATRON	55	MAIN ST	NEW PROVIDENCE	PA	17560
1166	POSTAL PATRON	56	MAIN ST	NEW PROVIDENCE	PA	17560
1167	POSTAL PATRON	57	MAIN ST	NEW PROVIDENCE	PA	17560
1168	POSTAL PATRON	58	MAIN ST	NEW PROVIDENCE	PA	17560
1169	POSTAL PATRON	59	MAIN ST	NEW PROVIDENCE	PA	17560
1170	POSTAL PATRON	62	MAIN ST	NEW PROVIDENCE	PA	17560
1171	POSTAL PATRON	65	MAIN ST	NEW PROVIDENCE	PA	17560
1172	POSTAL PATRON	66	MAIN ST	NEW PROVIDENCE	PA	17560
1173	POSTAL PATRON	69	MAIN ST	NEW PROVIDENCE	PA	17560
1174	POSTAL PATRON	73	MAIN ST	NEW PROVIDENCE	PA	17560
1175	POSTAL PATRON	75	MAIN ST	NEW PROVIDENCE	PA	17560
1176	POSTAL PATRON	78	MAIN ST	NEW PROVIDENCE	PA	17560
1177	POSTAL PATRON	79	MAIN ST	NEW PROVIDENCE	PA	17560
1178	POSTAL PATRON	80	MAIN ST	NEW PROVIDENCE	PA	17560
1179	POSTAL PATRON	81	MAIN ST	NEW PROVIDENCE	PA	17560
1180	POSTAL PATRON	85	MAIN ST	NEW PROVIDENCE	PA	17560
1181	POSTAL PATRON	89	MAIN ST	NEW PROVIDENCE	PA	17560
1182	POSTAL PATRON	96	MAIN ST	NEW PROVIDENCE	PA	17560
1183	POSTAL PATRON	106	MAIN ST	NEW PROVIDENCE	PA	17560
1184	POSTAL PATRON	121	MAIN ST	NEW PROVIDENCE	PA	17560
1185	POSTAL PATRON	124	MAIN ST	NEW PROVIDENCE	PA	17560
1186	POSTAL PATRON	127	MAIN ST	NEW PROVIDENCE	PA	17560
1187	POSTAL PATRON	134	MAIN ST	NEW PROVIDENCE	PA	17560
1188	POSTAL PATRON	140	MAIN ST	NEW PROVIDENCE	PA	17560
1189	POSTAL PATRON	141	MAIN ST	NEW PROVIDENCE	PA	17560
1190	POSTAL PATRON	142	MAIN ST	NEW PROVIDENCE	PA	17560
1191	POSTAL PATRON	146	MAIN ST	NEW PROVIDENCE	PA	17560
1192	POSTAL PATRON	147	MAIN ST	NEW PROVIDENCE	PA	17560
1193	POSTAL PATRON	152	MAIN ST	NEW PROVIDENCE	PA	17560
1194	POSTAL PATRON	153	MAIN ST	NEW PROVIDENCE	PA	17560
1195	POSTAL PATRON	158	MAIN ST	NEW PROVIDENCE	PA	17560
1196	POSTAL PATRON	165	MAIN ST	NEW PROVIDENCE	PA	17560
1197	POSTAL PATRON	166	MAIN ST	NEW PROVIDENCE	PA	17560
1198	POSTAL PATRON	175	MAIN ST	NEW PROVIDENCE	PA	17560
1199	POSTAL PATRON	188	MAIN ST	NEW PROVIDENCE	PA	17560
1200	POSTAL PATRON	194	MAIN ST	NEW PROVIDENCE	PA	17560
1201	POSTAL PATRON	201	MAIN ST	NEW PROVIDENCE	PA	17560
1202	POSTAL PATRON	206	MAIN ST	NEW PROVIDENCE	PA	17560
1203	POSTAL PATRON	159	MAIN ST	NEW PROVIDENCE	PA	17560
1204	POSTAL PATRON	41	MAIN ST APT 1	NEW PROVIDENCE	PA	17560
1205	POSTAL PATRON	61	MAIN ST APT 1	NEW PROVIDENCE	PA	17560
1206	POSTAL PATRON	63	MAIN ST APT 1	NEW PROVIDENCE	PA	17560
1207	POSTAL PATRON	41	MAIN ST APT 2	NEW PROVIDENCE	PA	17560
1208	POSTAL PATRON	61	MAIN ST APT 2	NEW PROVIDENCE	PA	17560
1209	POSTAL PATRON	63	MAIN ST APT 2	NEW PROVIDENCE	PA	17560
1210	POSTAL PATRON	41	MAIN ST APT 3	NEW PROVIDENCE	PA	17560
1211	POSTAL PATRON	61	MAIN ST APT 3	NEW PROVIDENCE	PA	17560
1212	POSTAL PATRON	63	MAIN ST APT 3	NEW PROVIDENCE	PA	17560
1213	POSTAL PATRON	41	MAIN ST APT 4	NEW PROVIDENCE	PA	17560
1214	POSTAL PATRON	61	MAIN ST APT 4	NEW PROVIDENCE	PA	17560
1215	POSTAL PATRON	63	MAIN ST APT 4	NEW PROVIDENCE	PA	17560

1216	POSTAL PATRON	41	MAIN ST APT 5	NEW PROVIDENCE	PA	17560
1217	POSTAL PATRON	41	MAIN ST APT 6	NEW PROVIDENCE	PA	17560
1218	POSTAL PATRON	41	MAIN ST APT 7	NEW PROVIDENCE	PA	17560
1219	POSTAL PATRON	201	MAPLE LN	NEW PROVIDENCE	PA	17560
1220	POSTAL PATRON	202	MAPLE LN	NEW PROVIDENCE	PA	17560
1221	POSTAL PATRON	203	MAPLE LN	NEW PROVIDENCE	PA	17560
1222	POSTAL PATRON	204	MAPLE LN	NEW PROVIDENCE	PA	17560
1223	POSTAL PATRON	205	MAPLE LN	NEW PROVIDENCE	PA	17560
1224	POSTAL PATRON	206	MAPLE LN	NEW PROVIDENCE	PA	17560
1225	POSTAL PATRON	207	MAPLE LN	NEW PROVIDENCE	PA	17560
1226	POSTAL PATRON	208	MAPLE LN	NEW PROVIDENCE	PA	17560
1227	POSTAL PATRON	209	MAPLE LN	NEW PROVIDENCE	PA	17560
1228	POSTAL PATRON	210	MAPLE LN	NEW PROVIDENCE	PA	17560
1229	POSTAL PATRON	211	MAPLE LN	NEW PROVIDENCE	PA	17560
1230	POSTAL PATRON	212	MAPLE LN	NEW PROVIDENCE	PA	17560
1231	POSTAL PATRON	1101	MAPLE ST	NEW PROVIDENCE	PA	17560
1232	POSTAL PATRON	1102	MAPLE ST	NEW PROVIDENCE	PA	17560
1233	POSTAL PATRON	1103	MAPLE ST	NEW PROVIDENCE	PA	17560
1234	POSTAL PATRON	1104	MAPLE ST	NEW PROVIDENCE	PA	17560
1235	POSTAL PATRON	1105	MAPLE ST	NEW PROVIDENCE	PA	17560
1236	POSTAL PATRON	1106	MAPLE ST	NEW PROVIDENCE	PA	17560
1237	POSTAL PATRON	1107	MAPLE ST	NEW PROVIDENCE	PA	17560
1238	POSTAL PATRON	1108	MAPLE ST	NEW PROVIDENCE	PA	17560
1239	POSTAL PATRON	1109	MAPLE ST	NEW PROVIDENCE	PA	17560
1240	POSTAL PATRON	1110	MAPLE ST	NEW PROVIDENCE	PA	17560
1241	POSTAL PATRON	148	MILLER RD	NEW PROVIDENCE	PA	17560
1242	POSTAL PATRON	149	MILLER RD	NEW PROVIDENCE	PA	17560
1243	POSTAL PATRON	159	MILLER RD	NEW PROVIDENCE	PA	17560
1244	POSTAL PATRON	160	MILLER RD	NEW PROVIDENCE	PA	17560
1245	POSTAL PATRON	162	MILLER RD	NEW PROVIDENCE	PA	17560
1246	POSTAL PATRON	170	MILLER RD	NEW PROVIDENCE	PA	17560
1247	POSTAL PATRON	174	MILLER RD	NEW PROVIDENCE	PA	17560
1248	POSTAL PATRON	12	MT AIRY RD	NEW PROVIDENCE	PA	17560
1249	POSTAL PATRON	18	MT AIRY RD	NEW PROVIDENCE	PA	17560
1250	POSTAL PATRON	19	MT AIRY RD	NEW PROVIDENCE	PA	17560
1251	POSTAL PATRON	21	MT AIRY RD	NEW PROVIDENCE	PA	17560
1252	POSTAL PATRON	23	MT AIRY RD	NEW PROVIDENCE	PA	17560
1253	POSTAL PATRON	24	MT AIRY RD	NEW PROVIDENCE	PA	17560
1254	POSTAL PATRON	29	MT AIRY RD	NEW PROVIDENCE	PA	17560
1255	POSTAL PATRON	33	MT AIRY RD	NEW PROVIDENCE	PA	17560
1256	POSTAL PATRON	34	MT AIRY RD	NEW PROVIDENCE	PA	17560
1257	POSTAL PATRON	37	MT AIRY RD	NEW PROVIDENCE	PA	17560
1258	POSTAL PATRON	40	MT AIRY RD	NEW PROVIDENCE	PA	17560
1259	POSTAL PATRON	41	MT AIRY RD	NEW PROVIDENCE	PA	17560
1260	POSTAL PATRON	48	MT AIRY RD	NEW PROVIDENCE	PA	17560
1261	POSTAL PATRON	51	MT AIRY RD	NEW PROVIDENCE	PA	17560
1262	POSTAL PATRON	52	MT AIRY RD	NEW PROVIDENCE	PA	17560
1263	POSTAL PATRON	57	MT AIRY RD	NEW PROVIDENCE	PA	17560
1264	POSTAL PATRON	58	MT AIRY RD	NEW PROVIDENCE	PA	17560
1265	POSTAL PATRON	63	MT AIRY RD	NEW PROVIDENCE	PA	17560
1266	POSTAL PATRON	66	MT AIRY RD	NEW PROVIDENCE	PA	17560
1267	POSTAL PATRON	69	MT AIRY RD	NEW PROVIDENCE	PA	17560
1268	POSTAL PATRON	75	MT AIRY RD	NEW PROVIDENCE	PA	17560
1269	POSTAL PATRON	76	MT AIRY RD	NEW PROVIDENCE	PA	17560
1270	POSTAL PATRON	80	MT AIRY RD	NEW PROVIDENCE	PA	17560
1271	POSTAL PATRON	85	MT AIRY RD	NEW PROVIDENCE	PA	17560
1272	POSTAL PATRON	90	MT AIRY RD	NEW PROVIDENCE	PA	17560
1273	POSTAL PATRON	92	MT AIRY RD	NEW PROVIDENCE	PA	17560



1274	POSTAL PATRON	109	MT AIRY RD	NEW PROVIDENCE	PA	17560
1275	POSTAL PATRON	114	MT AIRY RD	NEW PROVIDENCE	PA	17560
1276	POSTAL PATRON	117	MT AIRY RD	NEW PROVIDENCE	PA	17560
1277	POSTAL PATRON	118	MT AIRY RD	NEW PROVIDENCE	PA	17560
1278	POSTAL PATRON	125	MT AIRY RD	NEW PROVIDENCE	PA	17560
1279	POSTAL PATRON	130	MT AIRY RD	NEW PROVIDENCE	PA	17560
1280	POSTAL PATRON	134	MT AIRY RD	NEW PROVIDENCE	PA	17560
1281	POSTAL PATRON	145	MT AIRY RD	NEW PROVIDENCE	PA	17560
1282	POSTAL PATRON	146	MT AIRY RD	NEW PROVIDENCE	PA	17560
1283	POSTAL PATRON	178	MT AIRY RD	NEW PROVIDENCE	PA	17560
1284	POSTAL PATRON	187	MT AIRY RD	NEW PROVIDENCE	PA	17560
1285	POSTAL PATRON	188	MT AIRY RD	NEW PROVIDENCE	PA	17560
1286	POSTAL PATRON	193	MT AIRY RD	NEW PROVIDENCE	PA	17560
1287	POSTAL PATRON	197	MT AIRY RD	NEW PROVIDENCE	PA	17560
1288	POSTAL PATRON	200	MT AIRY RD	NEW PROVIDENCE	PA	17560
1289	POSTAL PATRON	201	MT AIRY RD	NEW PROVIDENCE	PA	17560
1290	POSTAL PATRON	209	MT AIRY RD	NEW PROVIDENCE	PA	17560
1291	POSTAL PATRON	213	MT AIRY RD	NEW PROVIDENCE	PA	17560
1292	POSTAL PATRON	217	MT AIRY RD	NEW PROVIDENCE	PA	17560
1293	POSTAL PATRON	223	MT AIRY RD	NEW PROVIDENCE	PA	17560
1294	POSTAL PATRON	247	MT AIRY RD	NEW PROVIDENCE	PA	17560
1295	POSTAL PATRON	249	MT AIRY RD	NEW PROVIDENCE	PA	17560
1296	POSTAL PATRON	254	MT AIRY RD	NEW PROVIDENCE	PA	17560
1297	POSTAL PATRON	257	MT AIRY RD	NEW PROVIDENCE	PA	17560
1298	POSTAL PATRON	258	MT AIRY RD	NEW PROVIDENCE	PA	17560
1299	POSTAL PATRON	261	MT AIRY RD	NEW PROVIDENCE	PA	17560
1300	POSTAL PATRON	262	MT AIRY RD	NEW PROVIDENCE	PA	17560
1301	POSTAL PATRON	268	MT AIRY RD	NEW PROVIDENCE	PA	17560
1302	POSTAL PATRON	269	MT AIRY RD	NEW PROVIDENCE	PA	17560
1303	POSTAL PATRON	273	MT AIRY RD	NEW PROVIDENCE	PA	17560
1304	POSTAL PATRON	274	MT AIRY RD	NEW PROVIDENCE	PA	17560
1305	POSTAL PATRON	275	MT AIRY RD	NEW PROVIDENCE	PA	17560
1306	POSTAL PATRON	277	MT AIRY RD	NEW PROVIDENCE	PA	17560
1307	POSTAL PATRON	280	MT AIRY RD	NEW PROVIDENCE	PA	17560
1308	POSTAL PATRON	283	MT AIRY RD	NEW PROVIDENCE	PA	17560
1309	POSTAL PATRON	286	MT AIRY RD	NEW PROVIDENCE	PA	17560
1310	POSTAL PATRON	289	MT AIRY RD	NEW PROVIDENCE	PA	17560
1311	POSTAL PATRON	295	MT AIRY RD	NEW PROVIDENCE	PA	17560
1312	POSTAL PATRON	301	MT AIRY RD	NEW PROVIDENCE	PA	17560
1313	POSTAL PATRON	302	MT AIRY RD	NEW PROVIDENCE	PA	17560
1314	POSTAL PATRON	306	MT AIRY RD	NEW PROVIDENCE	PA	17560
1315	POSTAL PATRON	309	MT AIRY RD	NEW PROVIDENCE	PA	17560
1316	POSTAL PATRON	310	MT AIRY RD	NEW PROVIDENCE	PA	17560
1317	POSTAL PATRON	319	NORTHVIEW LN	QUARRYVILLE	PA	17560
1318	POSTAL PATRON	325	NORTHVIEW LN	QUARRYVILLE	PA	17560
1319	POSTAL PATRON	330	NORTHVIEW LN	QUARRYVILLE	PA	17560
1320	POSTAL PATRON	331	NORTHVIEW LN	QUARRYVILLE	PA	17560
1321	POSTAL PATRON	2	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1322	POSTAL PATRON	22	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1323	POSTAL PATRON	25	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1324	POSTAL PATRON	61	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1325	POSTAL PATRON	67	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1326	POSTAL PATRON	71	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1327	POSTAL PATRON	81	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1328	POSTAL PATRON	87	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1329	POSTAL PATRON	91	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1330	POSTAL PATRON	92	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1331	POSTAL PATRON	94	OAK BOTTOM RD	QUARRYVILLE	PA	17560

1332	POSTAL PATRON	95	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1333	POSTAL PATRON	96	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1334	POSTAL PATRON	97	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1335	POSTAL PATRON	128	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1336	POSTAL PATRON	131	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1337	POSTAL PATRON	132	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1338	POSTAL PATRON	133	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1339	POSTAL PATRON	136	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1340	POSTAL PATRON	137	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1341	POSTAL PATRON	149	OAK BOTTOM RD	QUARRYVILLE	PA	17560
1342	POSTAL PATRON	1201	OAK ST	NEW PROVIDENCE	PA	17560
1343	POSTAL PATRON	1202	OAK ST	NEW PROVIDENCE	PA	17560
1344	POSTAL PATRON	1203	OAK ST	NEW PROVIDENCE	PA	17560
1345	POSTAL PATRON	1204	OAK ST	NEW PROVIDENCE	PA	17560
1346	POSTAL PATRON	1205	OAK ST	NEW PROVIDENCE	PA	17560
1347	POSTAL PATRON	1207	OAK ST	NEW PROVIDENCE	PA	17560
1348	POSTAL PATRON	1208	OAK ST	NEW PROVIDENCE	PA	17560
1349	POSTAL PATRON	1209	OAK ST	NEW PROVIDENCE	PA	17560
1350	POSTAL PATRON	1210	OAK ST	NEW PROVIDENCE	PA	17560
1351	POSTAL PATRON	1211	OAK ST	NEW PROVIDENCE	PA	17560
1352	POSTAL PATRON	2371	OLD RD	NEW PROVIDENCE	PA	17560
1353	POSTAL PATRON	2373	OLD RD	NEW PROVIDENCE	PA	17560
1354	POSTAL PATRON	2375	OLD RD	NEW PROVIDENCE	PA	17560
1355	POSTAL PATRON	2377	OLD RD	NEW PROVIDENCE	PA	17560
1356	POSTAL PATRON	2379	OLD RD	NEW PROVIDENCE	PA	17560
1357	POSTAL PATRON	2381	OLD RD	NEW PROVIDENCE	PA	17560
1358	POSTAL PATRON	2385	OLD RD	NEW PROVIDENCE	PA	17560
1359	POSTAL PATRON	2387	OLD RD	NEW PROVIDENCE	PA	17560
1360	POSTAL PATRON	2389	OLD RD	NEW PROVIDENCE	PA	17560
1361	POSTAL PATRON	2383	OLD RD	NEW PROVIDENCE	PA	17560
1362	POSTAL PATRON	2391	OLD RD	NEW PROVIDENCE	PA	17560
1363	POSTAL PATRON	2	PENNSY RD	NEW PROVIDENCE	PA	17560
1364	POSTAL PATRON	4	PENNSY RD	NEW PROVIDENCE	PA	17560
1365	POSTAL PATRON	14	PENNSY RD	NEW PROVIDENCE	PA	17560
1366	POSTAL PATRON	32	PENNSY RD	NEW PROVIDENCE	PA	17560
1367	POSTAL PATRON	47	PENNSY RD	NEW PROVIDENCE	PA	17560
1368	POSTAL PATRON	49	PENNSY RD	NEW PROVIDENCE	PA	17560
1369	POSTAL PATRON	52	PENNSY RD	NEW PROVIDENCE	PA	17560
1370	POSTAL PATRON	58	PENNSY RD	NEW PROVIDENCE	PA	17560
1371	POSTAL PATRON	62	PENNSY RD	NEW PROVIDENCE	PA	17560
1372	POSTAL PATRON	66	PENNSY RD	NEW PROVIDENCE	PA	17560
1373	POSTAL PATRON	102	PENNSY RD	NEW PROVIDENCE	PA	17560
1374	POSTAL PATRON	112	PENNSY RD	NEW PROVIDENCE	PA	17560
1375	POSTAL PATRON	121	PENNSY RD	NEW PROVIDENCE	PA	17560
1376	POSTAL PATRON	124	PENNSY RD	NEW PROVIDENCE	PA	17560
1377	POSTAL PATRON	136	PENNSY RD	NEW PROVIDENCE	PA	17560
1378	POSTAL PATRON	138	PENNSY RD	NEW PROVIDENCE	PA	17560
1379	POSTAL PATRON	183	PENNSY RD	NEW PROVIDENCE	PA	17560
1380	POSTAL PATRON	186	PENNSY RD	NEW PROVIDENCE	PA	17560
1381	POSTAL PATRON	191	PENNSY RD	NEW PROVIDENCE	PA	17560
1382	POSTAL PATRON	213	PENNSY RD	NEW PROVIDENCE	PA	17560
1383	POSTAL PATRON	237	PENNSY RD	NEW PROVIDENCE	PA	17560
1384	POSTAL PATRON	241	PENNSY RD	NEW PROVIDENCE	PA	17560
1385	POSTAL PATRON	243	PENNSY RD	NEW PROVIDENCE	PA	17560
1386	POSTAL PATRON	247	PENNSY RD	NEW PROVIDENCE	PA	17560
1387	POSTAL PATRON	280	PENNSY RD	NEW PROVIDENCE	PA	17560
1388	POSTAL PATRON	299	PENNSY RD	NEW PROVIDENCE	PA	17560
1389	POSTAL PATRON	305	PENNSY RD	NEW PROVIDENCE	PA	17560

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1448	POSTAL PATRON	716	PINE BLVD	NEW PROVIDENCE	PA	17560
1449	POSTAL PATRON	717	PINE BLVD	NEW PROVIDENCE	PA	17560
1450	POSTAL PATRON	718	PINE BLVD	NEW PROVIDENCE	PA	17560
1451	POSTAL PATRON	720	PINE BLVD	NEW PROVIDENCE	PA	17560
1452	POSTAL PATRON	722	PINE BLVD	NEW PROVIDENCE	PA	17560
1453	POSTAL PATRON	724	PINE BLVD	NEW PROVIDENCE	PA	17560
1454	POSTAL PATRON	725	PINE BLVD	NEW PROVIDENCE	PA	17560
1455	POSTAL PATRON	726	PINE BLVD	NEW PROVIDENCE	PA	17560
1456	POSTAL PATRON	728	PINE BLVD	NEW PROVIDENCE	PA	17560
1457	POSTAL PATRON	730	PINE BLVD	NEW PROVIDENCE	PA	17560
1458	POSTAL PATRON	732	PINE BLVD	NEW PROVIDENCE	PA	17560
1459	POSTAL PATRON	733	PINE BLVD	NEW PROVIDENCE	PA	17560
1460	POSTAL PATRON	734	PINE BLVD	NEW PROVIDENCE	PA	17560
1461	POSTAL PATRON	736	PINE BLVD	NEW PROVIDENCE	PA	17560
1462	POSTAL PATRON	738	PINE BLVD	NEW PROVIDENCE	PA	17560
1463	POSTAL PATRON	739	PINE BLVD	NEW PROVIDENCE	PA	17560
1464	POSTAL PATRON	740	PINE BLVD	NEW PROVIDENCE	PA	17560
1465	POSTAL PATRON	741	PINE BLVD	NEW PROVIDENCE	PA	17560
1466	POSTAL PATRON	742	PINE BLVD	NEW PROVIDENCE	PA	17560
1467	POSTAL PATRON	744	PINE BLVD	NEW PROVIDENCE	PA	17560
1468	POSTAL PATRON	746	PINE BLVD	NEW PROVIDENCE	PA	17560
1469	POSTAL PATRON	748	PINE BLVD	NEW PROVIDENCE	PA	17560
1470	POSTAL PATRON	1	PONDEROSA LN	NEW PROVIDENCE	PA	17560
1471	POSTAL PATRON	2	PONDEROSA LN	NEW PROVIDENCE	PA	17560
1472	POSTAL PATRON	3	PONDEROSA LN	NEW PROVIDENCE	PA	17560
1473	POSTAL PATRON	4	PONDEROSA LN	NEW PROVIDENCE	PA	17560
1474	POSTAL PATRON	5	PONDEROSA LN	NEW PROVIDENCE	PA	17560
1475	POSTAL PATRON	6	PONDEROSA LN	NEW PROVIDENCE	PA	17560
1476	POSTAL PATRON	7	PONDEROSA LN	NEW PROVIDENCE	PA	17560
1477	POSTAL PATRON	8	PONDEROSA LN	NEW PROVIDENCE	PA	17560
1478	POSTAL PATRON	301	POPLAR LN	NEW PROVIDENCE	PA	17560
1479	POSTAL PATRON	302	POPLAR LN	NEW PROVIDENCE	PA	17560
1480	POSTAL PATRON	303	POPLAR LN	NEW PROVIDENCE	PA	17560
1481	POSTAL PATRON	304	POPLAR LN	NEW PROVIDENCE	PA	17560
1482	POSTAL PATRON	305	POPLAR LN	NEW PROVIDENCE	PA	17560
1483	POSTAL PATRON	306	POPLAR LN	NEW PROVIDENCE	PA	17560
1484	POSTAL PATRON	307	POPLAR LN	NEW PROVIDENCE	PA	17560
1485	POSTAL PATRON	308	POPLAR LN	NEW PROVIDENCE	PA	17560
1486	POSTAL PATRON	309	POPLAR LN	NEW PROVIDENCE	PA	17560
1487	POSTAL PATRON	310	POPLAR LN	NEW PROVIDENCE	PA	17560
1488	POSTAL PATRON	311	POPLAR LN	NEW PROVIDENCE	PA	17560
1489	POSTAL PATRON	312	POPLAR LN	NEW PROVIDENCE	PA	17560
1490	POSTAL PATRON	1169	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1491	POSTAL PATRON	1177	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1492	POSTAL PATRON	1183	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1493	POSTAL PATRON	1189	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1494	POSTAL PATRON	1198	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1495	POSTAL PATRON	1208	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1496	POSTAL PATRON	1209	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1497	POSTAL PATRON	1227	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1498	POSTAL PATRON	1229	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1499	POSTAL PATRON	1237	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1500	POSTAL PATRON	1238	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1501	POSTAL PATRON	1243	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1502	POSTAL PATRON	1250	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1503	POSTAL PATRON	1258	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1504	POSTAL PATRON	1262	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1505	POSTAL PATRON	1266	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560

1506	POSTAL PATRON	1270	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1507	POSTAL PATRON	1274	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1508	POSTAL PATRON	1282	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1509	POSTAL PATRON	1290	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1510	POSTAL PATRON	1293	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1511	POSTAL PATRON	1296	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1512	POSTAL PATRON	1296	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1513	POSTAL PATRON	1300	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1514	POSTAL PATRON	1302	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1515	POSTAL PATRON	1305	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1516	POSTAL PATRON	1309	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1517	POSTAL PATRON	1310	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1518	POSTAL PATRON	1314	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1519	POSTAL PATRON	1322	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1520	POSTAL PATRON	1334	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1521	POSTAL PATRON	1345	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1522	POSTAL PATRON	1347	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1523	POSTAL PATRON	1378	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1524	POSTAL PATRON	1391	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1525	POSTAL PATRON	1436	RAWLINSVILLE RD	NEW PROVIDENCE	PA	17560
1526	POSTAL PATRON	131	REFTON RD	NEW PROVIDENCE	PA	17560
1527	POSTAL PATRON	154	REFTON RD	NEW PROVIDENCE	PA	17560
1528	POSTAL PATRON	161	REFTON RD	NEW PROVIDENCE	PA	17560
1529	POSTAL PATRON	175	REFTON RD	NEW PROVIDENCE	PA	17560
1530	POSTAL PATRON	177	REFTON RD	NEW PROVIDENCE	PA	17560
1531	POSTAL PATRON	221	REFTON RD	NEW PROVIDENCE	PA	17560
1532	POSTAL PATRON	223	REFTON RD	NEW PROVIDENCE	PA	17560
1533	POSTAL PATRON	4	RIDGE RD	NEW PROVIDENCE	PA	17560
1534	POSTAL PATRON	33	RIDGE RD	NEW PROVIDENCE	PA	17560
1535	POSTAL PATRON	37	RIDGE RD	NEW PROVIDENCE	PA	17560
1536	POSTAL PATRON	39	RIDGE RD	NEW PROVIDENCE	PA	17560
1537	POSTAL PATRON	40	RIDGE RD	NEW PROVIDENCE	PA	17560
1538	POSTAL PATRON	5	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1539	POSTAL PATRON	6	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1540	POSTAL PATRON	7	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1541	POSTAL PATRON	8	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1542	POSTAL PATRON	9	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1543	POSTAL PATRON	10	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1544	POSTAL PATRON	11	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1545	POSTAL PATRON	12	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1546	POSTAL PATRON	13	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1547	POSTAL PATRON	14	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1548	POSTAL PATRON	15	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1549	POSTAL PATRON	51	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1550	POSTAL PATRON	52	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1551	POSTAL PATRON	53	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1552	POSTAL PATRON	54	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1553	POSTAL PATRON	55	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1554	POSTAL PATRON	56	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1555	POSTAL PATRON	57	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1556	POSTAL PATRON	58	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1557	POSTAL PATRON	59	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1558	POSTAL PATRON	60	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1559	POSTAL PATRON	61	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1560	POSTAL PATRON	62	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1561	POSTAL PATRON	63	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1562	POSTAL PATRON	64	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1563	POSTAL PATRON	65	RIDGEDALE DR	NEW PROVIDENCE	PA	17560

1564	POSTAL PATRON	66	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1565	POSTAL PATRON	67	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1566	POSTAL PATRON	68	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1567	POSTAL PATRON	69	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1568	POSTAL PATRON	70	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1569	POSTAL PATRON	71	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1570	POSTAL PATRON	72	RIDGEDALE DR	NEW PROVIDENCE	PA	17560
1571	POSTAL PATRON	7	RUSH DR	NEW PROVIDENCE	PA	17560
1572	POSTAL PATRON	8	RUSH DR	NEW PROVIDENCE	PA	17560
1573	POSTAL PATRON	15	RUSH DR	NEW PROVIDENCE	PA	17560
1574	POSTAL PATRON	16	RUSH DR	NEW PROVIDENCE	PA	17560
1575	POSTAL PATRON	21	RUSH DR	NEW PROVIDENCE	PA	17560
1576	POSTAL PATRON	22	RUSH DR	NEW PROVIDENCE	PA	17560
1577	POSTAL PATRON	23	SAWMILL RD	NEW PROVIDENCE	PA	17560
1578	POSTAL PATRON	49	SAWMILL RD	NEW PROVIDENCE	PA	17560
1579	POSTAL PATRON	129	SAWMILL RD	NEW PROVIDENCE	PA	17560
1580	POSTAL PATRON	134	SAWMILL RD	NEW PROVIDENCE	PA	17560
1581	POSTAL PATRON	137	SAWMILL RD	NEW PROVIDENCE	PA	17560
1582	POSTAL PATRON	160	SAWMILL RD	NEW PROVIDENCE	PA	17560
1583	POSTAL PATRON	163	SAWMILL RD	NEW PROVIDENCE	PA	17560
1584	POSTAL PATRON	171	SAWMILL RD	NEW PROVIDENCE	PA	17560
1585	POSTAL PATRON	173	SAWMILL RD	NEW PROVIDENCE	PA	17560
1586	POSTAL PATRON	180	SAWMILL RD	NEW PROVIDENCE	PA	17560
1587	POSTAL PATRON	197	SAWMILL RD	NEW PROVIDENCE	PA	17560
1588	POSTAL PATRON	238	SAWMILL RD	NEW PROVIDENCE	PA	17560
1589	POSTAL PATRON	257	SAWMILL RD	NEW PROVIDENCE	PA	17560
1590	POSTAL PATRON	264	SAWMILL RD	NEW PROVIDENCE	PA	17560
1591	POSTAL PATRON	272	SAWMILL RD	NEW PROVIDENCE	PA	17560
1592	POSTAL PATRON	280	SAWMILL RD	NEW PROVIDENCE	PA	17560
1593	POSTAL PATRON	289	SAWMILL RD	NEW PROVIDENCE	PA	17560
1594	POSTAL PATRON	290	SAWMILL RD	NEW PROVIDENCE	PA	17560
1595	POSTAL PATRON	296	SAWMILL RD	NEW PROVIDENCE	PA	17560
1596	POSTAL PATRON	312	SAWMILL RD	NEW PROVIDENCE	PA	17560
1597	POSTAL PATRON	321	SAWMILL RD	NEW PROVIDENCE	PA	17560
1598	POSTAL PATRON	348	SAWMILL RD	NEW PROVIDENCE	PA	17560
1599	POSTAL PATRON	358	SAWMILL RD	NEW PROVIDENCE	PA	17560
1600	POSTAL PATRON	364	SAWMILL RD	NEW PROVIDENCE	PA	17560
1601	POSTAL PATRON	372	SAWMILL RD	NEW PROVIDENCE	PA	17560
1602	POSTAL PATRON	386	SAWMILL RD	NEW PROVIDENCE	PA	17560
1603	POSTAL PATRON	387	SAWMILL RD	NEW PROVIDENCE	PA	17560
1604	POSTAL PATRON	390	SAWMILL RD	NEW PROVIDENCE	PA	17560
1605	POSTAL PATRON	398	SAWMILL RD	NEW PROVIDENCE	PA	17560
1606	POSTAL PATRON	409	SAWMILL RD	NEW PROVIDENCE	PA	17560
1607	POSTAL PATRON	410	SAWMILL RD	NEW PROVIDENCE	PA	17560
1608	POSTAL PATRON	412	SAWMILL RD	NEW PROVIDENCE	PA	17560
1609	POSTAL PATRON	413	SAWMILL RD	NEW PROVIDENCE	PA	17560
1610	POSTAL PATRON	420	SAWMILL RD	NEW PROVIDENCE	PA	17560
1611	POSTAL PATRON	423	SAWMILL RD	NEW PROVIDENCE	PA	17560
1612	POSTAL PATRON	424	SAWMILL RD	NEW PROVIDENCE	PA	17560
1613	POSTAL PATRON	429	SAWMILL RD	NEW PROVIDENCE	PA	17560
1614	POSTAL PATRON	430	SAWMILL RD	NEW PROVIDENCE	PA	17560
1615	POSTAL PATRON	432	SAWMILL RD	NEW PROVIDENCE	PA	17560
1616	POSTAL PATRON	437	SAWMILL RD	NEW PROVIDENCE	PA	17560
1617	POSTAL PATRON	447	SAWMILL RD	NEW PROVIDENCE	PA	17560
1618	POSTAL PATRON	448	SAWMILL RD	NEW PROVIDENCE	PA	17560
1619	POSTAL PATRON	455	SAWMILL RD	NEW PROVIDENCE	PA	17560
1620	POSTAL PATRON	467	SAWMILL RD	NEW PROVIDENCE	PA	17560
1621	POSTAL PATRON	468	SAWMILL RD	NEW PROVIDENCE	PA	17560

1622	POSTAL PATRON	472	SAWMILL RD	NEW PROVIDENCE	PA	17560
1623	POSTAL PATRON	473	SAWMILL RD	NEW PROVIDENCE	PA	17560
1624	POSTAL PATRON	477	SAWMILL RD	NEW PROVIDENCE	PA	17560
1625	POSTAL PATRON	481	SAWMILL RD	NEW PROVIDENCE	PA	17560
1626	POSTAL PATRON	482	SAWMILL RD	NEW PROVIDENCE	PA	17560
1627	POSTAL PATRON	501	SAWMILL RD	NEW PROVIDENCE	PA	17560
1628	POSTAL PATRON	505	SAWMILL RD	NEW PROVIDENCE	PA	17560
1629	POSTAL PATRON	511	SAWMILL RD	NEW PROVIDENCE	PA	17560
1630	POSTAL PATRON	517	SAWMILL RD	NEW PROVIDENCE	PA	17560
1631	POSTAL PATRON	549	SAWMILL RD	NEW PROVIDENCE	PA	17560
1632	POSTAL PATRON	551	SAWMILL RD	NEW PROVIDENCE	PA	17560
1633	POSTAL PATRON	557	SAWMILL RD	NEW PROVIDENCE	PA	17560
1634	POSTAL PATRON	559	SAWMILL RD	NEW PROVIDENCE	PA	17560
1635	POSTAL PATRON	561	SAWMILL RD	NEW PROVIDENCE	PA	17560
1636	POSTAL PATRON	575	SAWMILL RD	NEW PROVIDENCE	PA	17560
1637	POSTAL PATRON	586	SAWMILL RD	NEW PROVIDENCE	PA	17560
1638	POSTAL PATRON	588	SAWMILL RD	NEW PROVIDENCE	PA	17560
1639	POSTAL PATRON	592	SAWMILL RD	NEW PROVIDENCE	PA	17560
1640	POSTAL PATRON	622	SAWMILL RD	NEW PROVIDENCE	PA	17560
1641	POSTAL PATRON	642	SAWMILL RD	NEW PROVIDENCE	PA	17560
1642	POSTAL PATRON	670	SAWMILL RD	NEW PROVIDENCE	PA	17560
1643	POSTAL PATRON	438	SAWMILL RD	NEW PROVIDENCE	PA	17560
1644	POSTAL PATRON	553	SAWMILL RD	NEW PROVIDENCE	PA	17560
1645	POSTAL PATRON	555	SAWMILL RD	NEW PROVIDENCE	PA	17560
1646	POSTAL PATRON	594	SAWMILL RD	NEW PROVIDENCE	PA	17560
1647	POSTAL PATRON	462	SAWMILL RD	NEW PROVIDENCE	PA	17560
1648	POSTAL PATRON	9	SCHELLER RD	NEW PROVIDENCE	PA	17560
1649	POSTAL PATRON	14	SCHELLER RD	NEW PROVIDENCE	PA	17560
1650	POSTAL PATRON	18	SCHELLER RD	NEW PROVIDENCE	PA	17560
1651	POSTAL PATRON	21	SCHELLER RD	NEW PROVIDENCE	PA	17560
1652	POSTAL PATRON	24	SCHELLER RD	NEW PROVIDENCE	PA	17560
1653	POSTAL PATRON	25	SCHELLER RD	NEW PROVIDENCE	PA	17560
1654	POSTAL PATRON	30	SCHELLER RD	NEW PROVIDENCE	PA	17560
1655	POSTAL PATRON	31	SCHELLER RD	NEW PROVIDENCE	PA	17560
1656	POSTAL PATRON	34	SCHELLER RD	NEW PROVIDENCE	PA	17560
1657	POSTAL PATRON	40	SCHELLER RD	NEW PROVIDENCE	PA	17560
1658	POSTAL PATRON	42	SCHELLER RD	NEW PROVIDENCE	PA	17560
1659	POSTAL PATRON	44	SCHELLER RD	NEW PROVIDENCE	PA	17560
1660	POSTAL PATRON	52	SCHELLER RD	NEW PROVIDENCE	PA	17560
1661	POSTAL PATRON	56	SCHELLER RD	NEW PROVIDENCE	PA	17560
1662	POSTAL PATRON	60	SCHELLER RD	NEW PROVIDENCE	PA	17560
1663	POSTAL PATRON	64	SCHELLER RD	NEW PROVIDENCE	PA	17560
1664	POSTAL PATRON	82	SCHELLER RD	NEW PROVIDENCE	PA	17560
1665	POSTAL PATRON	90	SCHELLER RD	NEW PROVIDENCE	PA	17560
1666	POSTAL PATRON	91	SCHELLER RD	NEW PROVIDENCE	PA	17560
1667	POSTAL PATRON	95	SCHELLER RD	NEW PROVIDENCE	PA	17560
1668	POSTAL PATRON	99	SCHELLER RD	NEW PROVIDENCE	PA	17560
1669	POSTAL PATRON	103	SCHELLER RD	NEW PROVIDENCE	PA	17560
1670	POSTAL PATRON	107	SCHELLER RD	NEW PROVIDENCE	PA	17560
1671	POSTAL PATRON	111	SCHELLER RD	NEW PROVIDENCE	PA	17560
1672	POSTAL PATRON	117	SCHELLER RD	NEW PROVIDENCE	PA	17560
1673	POSTAL PATRON	125	SCHELLER RD	NEW PROVIDENCE	PA	17560
1674	POSTAL PATRON	133	SCHELLER RD	NEW PROVIDENCE	PA	17560
1675	POSTAL PATRON	136	SCHELLER RD	NEW PROVIDENCE	PA	17560
1676	POSTAL PATRON	139	SCHELLER RD	NEW PROVIDENCE	PA	17560
1677	POSTAL PATRON	23	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1678	POSTAL PATRON	40	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1679	POSTAL PATRON	42	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560

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1738	POSTAL PATRON	461	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1739	POSTAL PATRON	472	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1740	POSTAL PATRON	481	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1741	POSTAL PATRON	482	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1742	POSTAL PATRON	490	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1743	POSTAL PATRON	494	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1744	POSTAL PATRON	498	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1745	POSTAL PATRON	501	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1746	POSTAL PATRON	501	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1747	POSTAL PATRON	502	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1748	POSTAL PATRON	505	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1749	POSTAL PATRON	509	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1750	POSTAL PATRON	513	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1751	POSTAL PATRON	514	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1752	POSTAL PATRON	525	SCHOOLHOUSE RD	NEW PROVIDENCE	PA	17560
1753	POSTAL PATRON	4	SCOTT RD	NEW PROVIDENCE	PA	17560
1754	POSTAL PATRON	5	SCOTT RD	NEW PROVIDENCE	PA	17560
1755	POSTAL PATRON	15	SCOTT RD	NEW PROVIDENCE	PA	17560
1756	POSTAL PATRON	40	SCOTT RD	NEW PROVIDENCE	PA	17560
1757	POSTAL PATRON	46	SCOTT RD	NEW PROVIDENCE	PA	17560
1758	POSTAL PATRON	50	SCOTT RD	NEW PROVIDENCE	PA	17560
1759	POSTAL PATRON	52	SCOTT RD	NEW PROVIDENCE	PA	17560
1760	POSTAL PATRON	54	SCOTT RD	NEW PROVIDENCE	PA	17560
1761	POSTAL PATRON	62	SCOTT RD	NEW PROVIDENCE	PA	17560
1762	POSTAL PATRON	65	SCOTT RD	NEW PROVIDENCE	PA	17560
1763	POSTAL PATRON	66	SCOTT RD	NEW PROVIDENCE	PA	17560
1764	POSTAL PATRON	67	SCOTT RD	NEW PROVIDENCE	PA	17560
1765	POSTAL PATRON	74	SCOTT RD	NEW PROVIDENCE	PA	17560
1766	POSTAL PATRON	78	SCOTT RD	NEW PROVIDENCE	PA	17560
1767	POSTAL PATRON	82	SCOTT RD	NEW PROVIDENCE	PA	17560
1768	POSTAL PATRON	86	SCOTT RD	NEW PROVIDENCE	PA	17560
1769	POSTAL PATRON	92	SCOTT RD	NEW PROVIDENCE	PA	17560
1770	POSTAL PATRON	96	SCOTT RD	NEW PROVIDENCE	PA	17560
1771	POSTAL PATRON	102	SCOTT RD	NEW PROVIDENCE	PA	17560
1772	POSTAL PATRON	104	SCOTT RD	NEW PROVIDENCE	PA	17560
1773	POSTAL PATRON	3	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1774	POSTAL PATRON	4	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1775	POSTAL PATRON	5	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1776	POSTAL PATRON	6	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1777	POSTAL PATRON	7	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1778	POSTAL PATRON	8	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1779	POSTAL PATRON	9	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1780	POSTAL PATRON	10	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1781	POSTAL PATRON	11	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1782	POSTAL PATRON	13	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1783	POSTAL PATRON	15	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1784	POSTAL PATRON	17	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1785	POSTAL PATRON	19	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1786	POSTAL PATRON	21	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1787	POSTAL PATRON	23	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1788	POSTAL PATRON	25	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1789	POSTAL PATRON	27	SHENKS WOOD CT	NEW PROVIDENCE	PA	17560
1790	POSTAL PATRON	109	SIGMAN RD	NEW PROVIDENCE	PA	17560
1791	POSTAL PATRON	145	SIGMAN RD	NEW PROVIDENCE	PA	17560
1792	POSTAL PATRON	151	SIGMAN RD	NEW PROVIDENCE	PA	17560
1793	POSTAL PATRON	154	SIGMAN RD	NEW PROVIDENCE	PA	17560
1794	POSTAL PATRON	155	SIGMAN RD	NEW PROVIDENCE	PA	17560
1795	POSTAL PATRON	161	SIGMAN RD	NEW PROVIDENCE	PA	17560

1796	POSTAL PATRON	164	SIGMAN RD	NEW PROVIDENCE	PA	17560
1797	POSTAL PATRON	168	SIGMAN RD	NEW PROVIDENCE	PA	17560
1798	POSTAL PATRON	175	SIGMAN RD	NEW PROVIDENCE	PA	17560
1799	POSTAL PATRON	183	SIGMAN RD	NEW PROVIDENCE	PA	17560
1800	POSTAL PATRON	191	SIGMAN RD	NEW PROVIDENCE	PA	17560
1801	POSTAL PATRON	218	SIGMAN RD	NEW PROVIDENCE	PA	17560
1802	POSTAL PATRON	223	SIGMAN RD	NEW PROVIDENCE	PA	17560
1803	POSTAL PATRON	106	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1804	POSTAL PATRON	121	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1805	POSTAL PATRON	130	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1806	POSTAL PATRON	153	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1807	POSTAL PATRON	167	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1808	POSTAL PATRON	177	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1809	POSTAL PATRON	180	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1810	POSTAL PATRON	252	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1811	POSTAL PATRON	260	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1812	POSTAL PATRON	287	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1813	POSTAL PATRON	288	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1814	POSTAL PATRON	308	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1815	POSTAL PATRON	329	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1816	POSTAL PATRON	335	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1817	POSTAL PATRON	336	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1818	POSTAL PATRON	341	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1819	POSTAL PATRON	345	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1820	POSTAL PATRON	350	SMITHVILLE RD	NEW PROVIDENCE	PA	17560
1821	POSTAL PATRON	14	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1822	POSTAL PATRON	21	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1823	POSTAL PATRON	34	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1824	POSTAL PATRON	35	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1825	POSTAL PATRON	47	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1826	POSTAL PATRON	64	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1827	POSTAL PATRON	82	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1828	POSTAL PATRON	127	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1829	POSTAL PATRON	143	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1830	POSTAL PATRON	146	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1831	POSTAL PATRON	149	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1832	POSTAL PATRON	218	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1833	POSTAL PATRON	219	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1834	POSTAL PATRON	226	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1835	POSTAL PATRON	245	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1836	POSTAL PATRON	248	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1837	POSTAL PATRON	256	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1838	POSTAL PATRON	259	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1839	POSTAL PATRON	269	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1840	POSTAL PATRON	287	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1841	POSTAL PATRON	301	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1842	POSTAL PATRON	313	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1843	POSTAL PATRON	314	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1844	POSTAL PATRON	322	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1845	POSTAL PATRON	331	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1846	POSTAL PATRON	332	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1847	POSTAL PATRON	334	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1848	POSTAL PATRON	336	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1849	POSTAL PATRON	337	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1850	POSTAL PATRON	340	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1851	POSTAL PATRON	341	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1852	POSTAL PATRON	344	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1853	POSTAL PATRON	348	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560

1854	POSTAL PATRON	351	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1855	POSTAL PATRON	354	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1856	POSTAL PATRON	371	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1857	POSTAL PATRON	442	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1858	POSTAL PATRON	456	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1859	POSTAL PATRON	464	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1860	POSTAL PATRON	467	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1861	POSTAL PATRON	474	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1862	POSTAL PATRON	475	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1863	POSTAL PATRON	476	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1864	POSTAL PATRON	488	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1865	POSTAL PATRON	500	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1866	POSTAL PATRON	501	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1867	POSTAL PATRON	501	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1868	POSTAL PATRON	507	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1869	POSTAL PATRON	512	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1870	POSTAL PATRON	517	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1871	POSTAL PATRON	523	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1872	POSTAL PATRON	525	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1873	POSTAL PATRON	527	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1874	POSTAL PATRON	528	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1875	POSTAL PATRON	533	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1876	POSTAL PATRON	545	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1877	POSTAL PATRON	555	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1878	POSTAL PATRON	561	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1879	POSTAL PATRON	571	SNYDER HOLLOW RD	NEW PROVIDENCE	PA	17560
1880	POSTAL PATRON	2	SOLAR DR	NEW PROVIDENCE	PA	17560
1881	POSTAL PATRON	3	SOLAR DR	NEW PROVIDENCE	PA	17560
1882	POSTAL PATRON	4	SOLAR DR	NEW PROVIDENCE	PA	17560
1883	POSTAL PATRON	5	SOLAR DR	NEW PROVIDENCE	PA	17560
1884	POSTAL PATRON	7	SOLAR DR	NEW PROVIDENCE	PA	17560
1885	POSTAL PATRON	8	SOLAR DR	NEW PROVIDENCE	PA	17560
1886	POSTAL PATRON	9	SOLAR DR	NEW PROVIDENCE	PA	17560
1887	POSTAL PATRON	11	SOLAR DR	NEW PROVIDENCE	PA	17560
1888	POSTAL PATRON	12	SOLAR DR	NEW PROVIDENCE	PA	17560
1889	POSTAL PATRON	13	SOLAR DR	NEW PROVIDENCE	PA	17560
1890	POSTAL PATRON	14	SOLAR DR	NEW PROVIDENCE	PA	17560
1891	POSTAL PATRON	15	SOLAR DR	NEW PROVIDENCE	PA	17560
1892	POSTAL PATRON	17	SOLAR DR	NEW PROVIDENCE	PA	17560
1893	POSTAL PATRON	18	SOLAR DR	NEW PROVIDENCE	PA	17560
1894	POSTAL PATRON	19	SOLAR DR	NEW PROVIDENCE	PA	17560
1895	POSTAL PATRON	21	SOLAR DR	NEW PROVIDENCE	PA	17560
1896	POSTAL PATRON	22	SOLAR DR	NEW PROVIDENCE	PA	17560
1897	POSTAL PATRON	23	SOLAR DR	NEW PROVIDENCE	PA	17560
1898	POSTAL PATRON	6	SOUTHFORK PLACE	NEW PROVIDENCE	PA	17560
1899	POSTAL PATRON	15	SOUTHFORK PLACE	NEW PROVIDENCE	PA	17560
1900	POSTAL PATRON	16	SOUTHFORK PLACE	NEW PROVIDENCE	PA	17560
1901	POSTAL PATRON	21	SOUTHFORK PLACE	NEW PROVIDENCE	PA	17560
1902	POSTAL PATRON	22	SOUTHFORK PLACE	NEW PROVIDENCE	PA	17560
1903	POSTAL PATRON	25	SOUTHFORK PLACE	NEW PROVIDENCE	PA	17560
1904	POSTAL PATRON	29	SOUTHFORK PLACE	NEW PROVIDENCE	PA	17560
1905	POSTAL PATRON	30	SOUTHFORK PLACE	NEW PROVIDENCE	PA	17560
1906	POSTAL PATRON	10	SOUTHFORK PLACE	NEW PROVIDENCE	PA	17560
1907	POSTAL PATRON	101	SPRUCE LN	NEW PROVIDENCE	PA	17560
1908	POSTAL PATRON	102	SPRUCE LN	NEW PROVIDENCE	PA	17560
1909	POSTAL PATRON	103	SPRUCE LN	NEW PROVIDENCE	PA	17560
1910	POSTAL PATRON	104	SPRUCE LN	NEW PROVIDENCE	PA	17560
1911	POSTAL PATRON	105	SPRUCE LN	NEW PROVIDENCE	PA	17560

1912	POSTAL PATRON	106	SPRUCE LN	NEW PROVIDENCE	PA	17560
1913	POSTAL PATRON	107	SPRUCE LN	NEW PROVIDENCE	PA	17560
1914	POSTAL PATRON	108	SPRUCE LN	NEW PROVIDENCE	PA	17560
1915	POSTAL PATRON	109	SPRUCE LN	NEW PROVIDENCE	PA	17560
1916	POSTAL PATRON	110	SPRUCE LN	NEW PROVIDENCE	PA	17560
1917	POSTAL PATRON	112	SPRUCE LN	NEW PROVIDENCE	PA	17560
1918	POSTAL PATRON	23	STUMP RD	NEW PROVIDENCE	PA	17560
1919	POSTAL PATRON	25	STUMP RD	NEW PROVIDENCE	PA	17560
1920	POSTAL PATRON	35	STUMP RD	NEW PROVIDENCE	PA	17560
1921	POSTAL PATRON	39	STUMP RD	NEW PROVIDENCE	PA	17560
1922	POSTAL PATRON	60	STUMP RD	NEW PROVIDENCE	PA	17560
1923	POSTAL PATRON	4	TRUCE RD	NEW PROVIDENCE	PA	17560
1924	POSTAL PATRON	10	TRUCE RD	NEW PROVIDENCE	PA	17560
1925	POSTAL PATRON	13	TRUCE RD	NEW PROVIDENCE	PA	17560
1926	POSTAL PATRON	17	TRUCE RD	NEW PROVIDENCE	PA	17560
1927	POSTAL PATRON	32	TRUCE RD	NEW PROVIDENCE	PA	17560
1928	POSTAL PATRON	44	TRUCE RD	NEW PROVIDENCE	PA	17560
1929	POSTAL PATRON	71	TRUCE RD	NEW PROVIDENCE	PA	17560
1930	POSTAL PATRON	74	TRUCE RD	NEW PROVIDENCE	PA	17560
1931	POSTAL PATRON	75	TRUCE RD	NEW PROVIDENCE	PA	17560
1932	POSTAL PATRON	84	TRUCE RD	NEW PROVIDENCE	PA	17560
1933	POSTAL PATRON	88	TRUCE RD	NEW PROVIDENCE	PA	17560
1934	POSTAL PATRON	114	TRUCE RD	NEW PROVIDENCE	PA	17560
1935	POSTAL PATRON	122	TRUCE RD	NEW PROVIDENCE	PA	17560
1936	POSTAL PATRON	128	TRUCE RD	NEW PROVIDENCE	PA	17560
1937	POSTAL PATRON	134	TRUCE RD	NEW PROVIDENCE	PA	17560
1938	POSTAL PATRON	137	TRUCE RD	NEW PROVIDENCE	PA	17560
1939	POSTAL PATRON	142	TRUCE RD	NEW PROVIDENCE	PA	17560
1940	POSTAL PATRON	144	TRUCE RD	NEW PROVIDENCE	PA	17560
1941	POSTAL PATRON	146	TRUCE RD	NEW PROVIDENCE	PA	17560
1942	POSTAL PATRON	150	TRUCE RD	NEW PROVIDENCE	PA	17560
1943	POSTAL PATRON	154	TRUCE RD	NEW PROVIDENCE	PA	17560
1944	POSTAL PATRON	170	TRUCE RD	NEW PROVIDENCE	PA	17560
1945	POSTAL PATRON	185	TRUCE RD	NEW PROVIDENCE	PA	17560
1946	POSTAL PATRON	244	TRUCE RD	NEW PROVIDENCE	PA	17560
1947	POSTAL PATRON	278	TRUCE RD	NEW PROVIDENCE	PA	17560
1948	POSTAL PATRON	317	TRUCE RD	NEW PROVIDENCE	PA	17560
1949	POSTAL PATRON	351	TRUCE RD	NEW PROVIDENCE	PA	17560
1950	POSTAL PATRON	359	TRUCE RD	NEW PROVIDENCE	PA	17560
1951	POSTAL PATRON	365	TRUCE RD	NEW PROVIDENCE	PA	17560
1952	POSTAL PATRON	373	TRUCE RD	NEW PROVIDENCE	PA	17560
1953	POSTAL PATRON	376	TRUCE RD	NEW PROVIDENCE	PA	17560
1954	POSTAL PATRON	382	TRUCE RD	NEW PROVIDENCE	PA	17560
1955	POSTAL PATRON	387	TRUCE RD	NEW PROVIDENCE	PA	17560
1956	POSTAL PATRON	388	TRUCE RD	NEW PROVIDENCE	PA	17560
1957	POSTAL PATRON	390	TRUCE RD	NEW PROVIDENCE	PA	17560
1958	POSTAL PATRON	392	TRUCE RD	NEW PROVIDENCE	PA	17560
1959	POSTAL PATRON	393	TRUCE RD	NEW PROVIDENCE	PA	17560
1960	POSTAL PATRON	396	TRUCE RD	NEW PROVIDENCE	PA	17560
1961	POSTAL PATRON	397	TRUCE RD	NEW PROVIDENCE	PA	17560
1962	POSTAL PATRON	400	TRUCE RD	NEW PROVIDENCE	PA	17560
1963	POSTAL PATRON	401	TRUCE RD	NEW PROVIDENCE	PA	17560
1964	POSTAL PATRON	405	TRUCE RD	NEW PROVIDENCE	PA	17560
1965	POSTAL PATRON	406	TRUCE RD	NEW PROVIDENCE	PA	17560
1966	POSTAL PATRON	410	TRUCE RD	NEW PROVIDENCE	PA	17560
1967	POSTAL PATRON	412	TRUCE RD	NEW PROVIDENCE	PA	17560
1968	POSTAL PATRON	420	TRUCE RD	NEW PROVIDENCE	PA	17560
1969	POSTAL PATRON	432	TRUCE RD	NEW PROVIDENCE	PA	17560

1970	POSTAL PATRON	436	TRUCE RD	NEW PROVIDENCE	PA	17560
1971	POSTAL PATRON	438	TRUCE RD	NEW PROVIDENCE	PA	17560
1972	POSTAL PATRON	442	TRUCE RD	NEW PROVIDENCE	PA	17560
1973	POSTAL PATRON	446	TRUCE RD	NEW PROVIDENCE	PA	17560
1974	POSTAL PATRON	452	TRUCE RD	NEW PROVIDENCE	PA	17560
1975	POSTAL PATRON	455	TRUCE RD	NEW PROVIDENCE	PA	17560
1976	POSTAL PATRON	456	TRUCE RD	NEW PROVIDENCE	PA	17560
1977	POSTAL PATRON	459	TRUCE RD	NEW PROVIDENCE	PA	17560
1978	POSTAL PATRON	463	TRUCE RD	NEW PROVIDENCE	PA	17560
1979	POSTAL PATRON	468	TRUCE RD	NEW PROVIDENCE	PA	17560
1980	POSTAL PATRON	471	TRUCE RD	NEW PROVIDENCE	PA	17560
1981	POSTAL PATRON	475	TRUCE RD	NEW PROVIDENCE	PA	17560
1982	POSTAL PATRON	476	TRUCE RD	NEW PROVIDENCE	PA	17560
1983	POSTAL PATRON	477	TRUCE RD	NEW PROVIDENCE	PA	17560
1984	POSTAL PATRON	480	TRUCE RD	NEW PROVIDENCE	PA	17560
1985	POSTAL PATRON	487	TRUCE RD	NEW PROVIDENCE	PA	17560
1986	POSTAL PATRON	491	TRUCE RD	NEW PROVIDENCE	PA	17560
1987	POSTAL PATRON	495	TRUCE RD	NEW PROVIDENCE	PA	17560
1988	POSTAL PATRON	499	TRUCE RD	NEW PROVIDENCE	PA	17560
1989	POSTAL PATRON	500	TRUCE RD	NEW PROVIDENCE	PA	17560
1990	POSTAL PATRON	515	TRUCE RD	NEW PROVIDENCE	PA	17560
1991	POSTAL PATRON	519	TRUCE RD	NEW PROVIDENCE	PA	17560
1992	POSTAL PATRON	534	TRUCE RD	NEW PROVIDENCE	PA	17560
1993	POSTAL PATRON	541	TRUCE RD	NEW PROVIDENCE	PA	17560
1994	POSTAL PATRON	548	TRUCE RD	NEW PROVIDENCE	PA	17560
1995	POSTAL PATRON	548	TRUCE RD	NEW PROVIDENCE	PA	17560
1996	POSTAL PATRON	550	TRUCE RD	NEW PROVIDENCE	PA	17560
1997	POSTAL PATRON	556	TRUCE RD	NEW PROVIDENCE	PA	17560
1998	POSTAL PATRON	565	TRUCE RD	NEW PROVIDENCE	PA	17560
1999	POSTAL PATRON	580	TRUCE RD	NEW PROVIDENCE	PA	17560
2000	POSTAL PATRON	586	TRUCE RD	NEW PROVIDENCE	PA	17560
2001	POSTAL PATRON	594	TRUCE RD	NEW PROVIDENCE	PA	17560
2002	POSTAL PATRON	608	TRUCE RD	NEW PROVIDENCE	PA	17560
2003	POSTAL PATRON	613	TRUCE RD	NEW PROVIDENCE	PA	17560
2004	POSTAL PATRON	619	TRUCE RD	NEW PROVIDENCE	PA	17560
2005	POSTAL PATRON	623	TRUCE RD	NEW PROVIDENCE	PA	17560
2006	POSTAL PATRON	627	TRUCE RD	NEW PROVIDENCE	PA	17560
2007	POSTAL PATRON	631	TRUCE RD	NEW PROVIDENCE	PA	17560
2008	POSTAL PATRON	647	TRUCE RD	NEW PROVIDENCE	PA	17560
2009	POSTAL PATRON	662	TRUCE RD	NEW PROVIDENCE	PA	17560
2010	POSTAL PATRON	669	TRUCE RD	NEW PROVIDENCE	PA	17560
2011	POSTAL PATRON	670	TRUCE RD	NEW PROVIDENCE	PA	17560
2012	POSTAL PATRON	672	TRUCE RD	NEW PROVIDENCE	PA	17560
2013	POSTAL PATRON	2	TYLER DR	NEW PROVIDENCE	PA	17560
2014	POSTAL PATRON	4	TYLER DR	NEW PROVIDENCE	PA	17560
2015	POSTAL PATRON	6	TYLER DR	NEW PROVIDENCE	PA	17560
2016	POSTAL PATRON	8	TYLER DR	NEW PROVIDENCE	PA	17560
2017	POSTAL PATRON	9	TYLER DR	NEW PROVIDENCE	PA	17560
2018	POSTAL PATRON	10	TYLER DR	NEW PROVIDENCE	PA	17560
2019	POSTAL PATRON	11	TYLER DR	NEW PROVIDENCE	PA	17560
2020	POSTAL PATRON	12	TYLER DR	NEW PROVIDENCE	PA	17560
2021	POSTAL PATRON	13	TYLER DR	NEW PROVIDENCE	PA	17560
2022	POSTAL PATRON	14	TYLER DR	NEW PROVIDENCE	PA	17560
2023	POSTAL PATRON	16	TYLER DR	NEW PROVIDENCE	PA	17560
2024	POSTAL PATRON	18	TYLER DR	NEW PROVIDENCE	PA	17560
2025	POSTAL PATRON	20	WINDING LN	NEW PROVIDENCE	PA	17560
2026	POSTAL PATRON	24	WINDING LN	NEW PROVIDENCE	PA	17560
2027	POSTAL PATRON	31	WINDING LN	NEW PROVIDENCE	PA	17560

2028	POSTAL PATRON	32	WINDING LN	NEW PROVIDENCE	PA	17560
2029	POSTAL PATRON	34	WINDING LN	NEW PROVIDENCE	PA	17560
2030	POSTAL PATRON	38	WINDING LN	NEW PROVIDENCE	PA	17560
2031	POSTAL PATRON	45	WINDING LN	NEW PROVIDENCE	PA	17560
2032	POSTAL PATRON	50	WINDING LN	NEW PROVIDENCE	PA	17560
2033	POSTAL PATRON	62	WINDING LN	NEW PROVIDENCE	PA	17560
2034	POSTAL PATRON	75	WINDING LN	NEW PROVIDENCE	PA	17560
2035	POSTAL PATRON	83	WINDING LN	NEW PROVIDENCE	PA	17560
2036	POSTAL PATRON	95	WINDING LN	NEW PROVIDENCE	PA	17560
2037	POSTAL PATRON	32	WINDING LN - REAR	NEW PROVIDENCE	PA	17560
2038	POSTAL PATRON	5	WOODLAND DR	NEW PROVIDENCE	PA	17560
2039	POSTAL PATRON	8	WOODLAND DR	NEW PROVIDENCE	PA	17560
2040	POSTAL PATRON	9	WOODLAND DR	NEW PROVIDENCE	PA	17560
2041	POSTAL PATRON	15	WOODLAND DR	NEW PROVIDENCE	PA	17560
2042	POSTAL PATRON	19	WOODLAND DR	NEW PROVIDENCE	PA	17560
2043	POSTAL PATRON	20	WOODLAND DR	NEW PROVIDENCE	PA	17560
2044	POSTAL PATRON	6	WOODLAND DR	NEW PROVIDENCE	PA	17560
2045	POSTAL PATRON	1	WOODS DR	NEW PROVIDENCE	PA	17560
2046	POSTAL PATRON	2	WOODS DR	NEW PROVIDENCE	PA	17560
2047	POSTAL PATRON	3	WOODS DR	NEW PROVIDENCE	PA	17560
2048	POSTAL PATRON	4	WOODS DR	NEW PROVIDENCE	PA	17560
2049	POSTAL PATRON	5	WOODS DR	NEW PROVIDENCE	PA	17560
2050	POSTAL PATRON	6	WOODS DR	NEW PROVIDENCE	PA	17560
2051	POSTAL PATRON	7	WOODS DR	NEW PROVIDENCE	PA	17560
2052	POSTAL PATRON	9	WOODS DR	NEW PROVIDENCE	PA	17560
2053	POSTAL PATRON	10	WOODS DR	NEW PROVIDENCE	PA	17560
2054	POSTAL PATRON	12	WOODS DR	NEW PROVIDENCE	PA	17560
2055	POSTAL PATRON	16	WOODS DR	NEW PROVIDENCE	PA	17560
2056	POSTAL PATRON	48	WOODS DR	NEW PROVIDENCE	PA	17560
2057	POSTAL PATRON	51	WOODS DR	NEW PROVIDENCE	PA	17560
2058	POSTAL PATRON	88	WOODS DR	NEW PROVIDENCE	PA	17560
2059	POSTAL PATRON	103	WOODS DR	NEW PROVIDENCE	PA	17560
2060	POSTAL PATRON		PO BOX 63	NEW PROVIDENCE	PA	17560
2061	POSTAL PATRON		PO BOX 39	NEW PROVIDENCE	PA	17560
2062	POSTAL PATRON		PO BOX 138	NEW PROVIDENCE	PA	17560
2063	POSTAL PATRON		PO BOX 360	NEW PROVIDENCE	PA	17560
2064	POSTAL PATRON		PO BOX 51	NEW PROVIDENCE	PA	17560
2065	POSTAL PATRON		PO BOX 126	NEW PROVIDENCE	PA	17560
2066	POSTAL PATRON		PO BOX 74	NEW PROVIDENCE	PA	17560
2067	POSTAL PATRON		PO BOX 137	NEW PROVIDENCE	PA	17560
2068	POSTAL PATRON		PO BOX 64	NEW PROVIDENCE	PA	17560
2069	POSTAL PATRON		PO BOX 82	NEW PROVIDENCE	PA	17560
2070	POSTAL PATRON		PO BOX 143	NEW PROVIDENCE	PA	17560
2071	POSTAL PATRON		PO BOX 177	NEW PROVIDENCE	PA	17560
2072	POSTAL PATRON		PO BOX 26	NEW PROVIDENCE	PA	17560
2073	POSTAL PATRON		PO BOX 172	NEW PROVIDENCE	PA	17560
2074	POSTAL PATRON		PO BOX 87	NEW PROVIDENCE	PA	17560
2075	POSTAL PATRON		PO BOX 62	NEW PROVIDENCE	PA	17560
2076	POSTAL PATRON		PO BOX 75	NEW PROVIDENCE	PA	17560
2077	POSTAL PATRON		PO BOX 53	NEW PROVIDENCE	PA	17560
2078	POSTAL PATRON		PO BOX 112	NEW PROVIDENCE	PA	17560
2079	POSTAL PATRON		PO BOX 27	NEW PROVIDENCE	PA	17560
2080	POSTAL PATRON		PO BOX 156	NEW PROVIDENCE	PA	17560
2081	POSTAL PATRON		PO BOX 96	NEW PROVIDENCE	PA	17560
2082	POSTAL PATRON		PO BOX 145	NEW PROVIDENCE	PA	17560
2083	POSTAL PATRON		PO BOX 15	NEW PROVIDENCE	PA	17560
2084	POSTAL PATRON		PO BOX 121	NEW PROVIDENCE	PA	17560
2085	POSTAL PATRON		PO BOX 71	NEW PROVIDENCE	PA	17560

2086	POSTAL PATRON		PO BOX 360	NEW PROVIDENCE	PA	17560
2087	POSTAL PATRON		1024 GEORGETOWN RD	PARADISE	PA	17562
2088	POSTAL PATRON	315	LITTLE BRITAIN RD	PEACH BOTTOM	PA	17563
2089	POSTAL PATRON	13	FROGTOWD RD	PEQUEA	PA	17565
2090	POSTAL PATRON	4	FROGTOWN RD	PEQUEA	PA	17565
2091	POSTAL PATRON	9	FROGTOWN RD	PEQUEA	PA	17565
2092	POSTAL PATRON	12	FROGTOWN RD	PEQUEA	PA	17565
2093	POSTAL PATRON	20	FROGTOWN RD	PEQUEA	PA	17565
2094	POSTAL PATRON	24	FROGTOWN RD	PEQUEA	PA	17565
2095	POSTAL PATRON	25	FROGTOWN RD	PEQUEA	PA	17565
2096	POSTAL PATRON	29	FROGTOWN RD	PEQUEA	PA	17565
2097	POSTAL PATRON	31	FROGTOWN RD	PEQUEA	PA	17565
2098	POSTAL PATRON	32	FROGTOWN RD	PEQUEA	PA	17565
2099	POSTAL PATRON	35	FROGTOWN RD	PEQUEA	PA	17565
2100	POSTAL PATRON	40	FROGTOWN RD	PEQUEA	PA	17565
2101	POSTAL PATRON	46	FROGTOWN RD	PEQUEA	PA	17565
2102	POSTAL PATRON	52	FROGTOWN RD	PEQUEA	PA	17565
2103	POSTAL PATRON	58	FROGTOWN RD	PEQUEA	PA	17565
2104	POSTAL PATRON	71	FROGTOWN RD	PEQUEA	PA	17565
2105	POSTAL PATRON	936	PENNSY RD	PEQUEA	PA	17565
2106	POSTAL PATRON	939	PENNSY RD	PEQUEA	PA	17565
2107	POSTAL PATRON	946	PENNSY RD	PEQUEA	PA	17565
2108	POSTAL PATRON	949	PENNSY RD	PEQUEA	PA	17565
2109	POSTAL PATRON	950	PENNSY RD	PEQUEA	PA	17565
2110	POSTAL PATRON	953	PENNSY RD	PEQUEA	PA	17565
2111	POSTAL PATRON	958	PENNSY RD	PEQUEA	PA	17565
2112	POSTAL PATRON	959	PENNSY RD	PEQUEA	PA	17565
2113	POSTAL PATRON	965	PENNSY RD	PEQUEA	PA	17565
2114	POSTAL PATRON	966	PENNSY RD	PEQUEA	PA	17565
2115	POSTAL PATRON	974	PENNSY RD	PEQUEA	PA	17565
2116	POSTAL PATRON	990	PENNSY RD	PEQUEA	PA	17565
2117	POSTAL PATRON	24	SIGMAN RD	PEQUEA	PA	17565
2118	POSTAL PATRON	28	SIGMAN RD	PEQUEA	PA	17565
2119	POSTAL PATRON	30	SIGMAN RD	PEQUEA	PA	17565
2120	POSTAL PATRON	46	SIGMAN RD	PEQUEA	PA	17565
2121	POSTAL PATRON	49	SIGMAN RD	PEQUEA	PA	17565
2122	POSTAL PATRON	57	SIGMAN RD	PEQUEA	PA	17565
2123	POSTAL PATRON	62	SIGMAN RD	PEQUEA	PA	17565
2124	POSTAL PATRON	85	SIGMAN RD	PEQUEA	PA	17565
2125	POSTAL PATRON	370	STEINMAN FARM RD	PEQUEA	PA	17565
2126	POSTAL PATRON	1	BRACKBILL CT	QUARRYVILLE	PA	17566
2127	POSTAL PATRON	2	BRACKBILL CT	QUARRYVILLE	PA	17566
2128	POSTAL PATRON	3	BRACKBILL CT	QUARRYVILLE	PA	17566
2129	POSTAL PATRON	4	BRACKBILL CT	QUARRYVILLE	PA	17566
2130	POSTAL PATRON	5	BRACKBILL CT	QUARRYVILLE	PA	17566
2131	POSTAL PATRON	6	BRACKBILL CT	QUARRYVILLE	PA	17566
2132	POSTAL PATRON	7	BRACKBILL CT	QUARRYVILLE	PA	17566
2133	POSTAL PATRON	8	BRACKBILL CT	QUARRYVILLE	PA	17566
2134	POSTAL PATRON	9	BRACKBILL CT	QUARRYVILLE	PA	17566
2135	POSTAL PATRON	10	BRACKBILL CT	QUARRYVILLE	PA	17566
2136	POSTAL PATRON	67	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2137	POSTAL PATRON	68	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2138	POSTAL PATRON	72	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2139	POSTAL PATRON	74	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2140	POSTAL PATRON	80	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2141	POSTAL PATRON	87	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2142	POSTAL PATRON	106	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2143	POSTAL PATRON	111	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2144	POSTAL PATRON	112	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566

2145	POSTAL PATRON	114	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2146	POSTAL PATRON	118	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2147	POSTAL PATRON	122	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2148	POSTAL PATRON	128	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2149	POSTAL PATRON	130	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2150	POSTAL PATRON	131	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2151	POSTAL PATRON	133	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2152	POSTAL PATRON	138	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2153	POSTAL PATRON	139	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2154	POSTAL PATRON	156	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2155	POSTAL PATRON	160	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2156	POSTAL PATRON	161	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2157	POSTAL PATRON	168	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2158	POSTAL PATRON	180	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2159	POSTAL PATRON	185	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2160	POSTAL PATRON	186	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2161	POSTAL PATRON	194	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2162	POSTAL PATRON	197	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2163	POSTAL PATRON	198	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2164	POSTAL PATRON	201	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2165	POSTAL PATRON	202	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2166	POSTAL PATRON	205	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2167	POSTAL PATRON	208	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2168	POSTAL PATRON	211	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2169	POSTAL PATRON	214	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2170	POSTAL PATRON	215	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2171	POSTAL PATRON	221	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2172	POSTAL PATRON	222	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2173	POSTAL PATRON	224	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2174	POSTAL PATRON	228	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2175	POSTAL PATRON	231	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2176	POSTAL PATRON	233	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2177	POSTAL PATRON	237	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2178	POSTAL PATRON	238	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2179	POSTAL PATRON	245	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2180	POSTAL PATRON	249	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2181	POSTAL PATRON	251	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2182	POSTAL PATRON	259	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2183	POSTAL PATRON	263	BUCK HEIGHTS RD	QUARRYVILLE	PA	17566
2184	POSTAL PATRON	942A	BUCK RD	QUARRYVILLE	PA	17566
2185	POSTAL PATRON	942B	BUCK RD	QUARRYVILLE	PA	17566
2186	POSTAL PATRON	942C	BUCK RD	QUARRYVILLE	PA	17566
2187	POSTAL PATRON	901	BUCK ROAD	QUARRYVILLE	PA	17566
2188	POSTAL PATRON	370	CAMARGO RD	QUARRYVILLE	PA	17566
2189	POSTAL PATRON	376	CAMARGO RD	QUARRYVILLE	PA	17566
2190	POSTAL PATRON	505	CAMARGO RD	QUARRYVILLE	PA	17566
2191	POSTAL PATRON	507	CAMARGO RD	QUARRYVILLE	PA	17566
2192	POSTAL PATRON	522	CAMARGO RD	QUARRYVILLE	PA	17566
2193	POSTAL PATRON	523	CAMARGO RD	QUARRYVILLE	PA	17566
2194	POSTAL PATRON	555	CAMARGO RD	QUARRYVILLE	PA	17566
2195	POSTAL PATRON	558	CAMARGO RD	QUARRYVILLE	PA	17566
2196	POSTAL PATRON	560	CAMARGO RD	QUARRYVILLE	PA	17566
2197	POSTAL PATRON	562	CAMARGO RD	QUARRYVILLE	PA	17566
2198	POSTAL PATRON	568	CAMARGO RD	QUARRYVILLE	PA	17566
2199	POSTAL PATRON	572	CAMARGO RD	QUARRYVILLE	PA	17566
2200	POSTAL PATRON	581	CAMARGO RD	QUARRYVILLE	PA	17566
2201	POSTAL PATRON	585	CAMARGO RD	QUARRYVILLE	PA	17566
2202	POSTAL PATRON	387	CLEARFIELD RD	QUARRYVILLE	PA	17566



2203	POSTAL PATRON	388	CLEARFIELD RD	QUARRYVILLE	PA	17566
2204	POSTAL PATRON	395	CLEARFIELD RD	QUARRYVILLE	PA	17566
2205	POSTAL PATRON	396	CLEARFIELD RD	QUARRYVILLE	PA	17566
2206	POSTAL PATRON	401	CLEARFIELD RD	QUARRYVILLE	PA	17566
2207	POSTAL PATRON	402	CLEARFIELD RD	QUARRYVILLE	PA	17566
2208	POSTAL PATRON	410	CLEARFIELD RD	QUARRYVILLE	PA	17566
2209	POSTAL PATRON	416	CLEARFIELD RD	QUARRYVILLE	PA	17566
2210	POSTAL PATRON	424	CLEARFIELD RD	QUARRYVILLE	PA	17566
2211	POSTAL PATRON	1	EVANS DR	QUARRYVILLE	PA	17566
2212	POSTAL PATRON	11	EVANS DR	QUARRYVILLE	PA	17566
2213	POSTAL PATRON	15	EVANS DR	QUARRYVILLE	PA	17566
2214	POSTAL PATRON	16	EVANS DR	QUARRYVILLE	PA	17566
2215	POSTAL PATRON	20	EVANS DR	QUARRYVILLE	PA	17566
2216	POSTAL PATRON	21	EVANS DR	QUARRYVILLE	PA	17566
2217	POSTAL PATRON	22	EVANS DR	QUARRYVILLE	PA	17566
2218	POSTAL PATRON	24	EVANS DR	QUARRYVILLE	PA	17566
2219	POSTAL PATRON	26	EVANS DR	QUARRYVILLE	PA	17566
2220	POSTAL PATRON	29	EVANS DR	QUARRYVILLE	PA	17566
2221	POSTAL PATRON	33	EVANS DR	QUARRYVILLE	PA	17566
2222	POSTAL PATRON	37	EVANS DR	QUARRYVILLE	PA	17566
2223	POSTAL PATRON	39	EVANS DR	QUARRYVILLE	PA	17566
2224	POSTAL PATRON	41	EVANS DR	QUARRYVILLE	PA	17566
2225	POSTAL PATRON	208	FITE WAY	QUARRYVILLE	PA	17566
2226	POSTAL PATRON	210	FITE WAY	QUARRYVILLE	PA	17566
2227	POSTAL PATRON	214	FITE WAY	QUARRYVILLE	PA	17566
2228	POSTAL PATRON	216	FITE WAY	QUARRYVILLE	PA	17566
2229	POSTAL PATRON	102	GROFFDALE RD	QUARRYVILLE	PA	17566
2230	POSTAL PATRON	104	GROFFDALE RD	QUARRYVILLE	PA	17566
2231	POSTAL PATRON	106	GROFFDALE RD	QUARRYVILLE	PA	17566
2232	POSTAL PATRON	108	GROFFDALE RD	QUARRYVILLE	PA	17566
2233	POSTAL PATRON	110	GROFFDALE RD	QUARRYVILLE	PA	17566
2234	POSTAL PATRON	202	GROFFDALE RD	QUARRYVILLE	PA	17566
2235	POSTAL PATRON	204	GROFFDALE RD	QUARRYVILLE	PA	17566
2236	POSTAL PATRON	206	GROFFDALE RD	QUARRYVILLE	PA	17566
2237	POSTAL PATRON	208	GROFFDALE RD	QUARRYVILLE	PA	17566
2238	POSTAL PATRON	210	GROFFDALE RD	QUARRYVILLE	PA	17566
2239	POSTAL PATRON	212	GROFFDALE RD	QUARRYVILLE	PA	17566
2240	POSTAL PATRON	301	GROFFDALE RD	QUARRYVILLE	PA	17566
2241	POSTAL PATRON	302	GROFFDALE RD	QUARRYVILLE	PA	17566
2242	POSTAL PATRON	303	GROFFDALE RD	QUARRYVILLE	PA	17566
2243	POSTAL PATRON	304	GROFFDALE RD	QUARRYVILLE	PA	17566
2244	POSTAL PATRON	305	GROFFDALE RD	QUARRYVILLE	PA	17566
2245	POSTAL PATRON	306	GROFFDALE RD	QUARRYVILLE	PA	17566
2246	POSTAL PATRON	307	GROFFDALE RD	QUARRYVILLE	PA	17566
2247	POSTAL PATRON	308	GROFFDALE RD	QUARRYVILLE	PA	17566
2248	POSTAL PATRON	309	GROFFDALE RD	QUARRYVILLE	PA	17566
2249	POSTAL PATRON	310	GROFFDALE RD	QUARRYVILLE	PA	17566
2250	POSTAL PATRON	311	GROFFDALE RD	QUARRYVILLE	PA	17566
2251	POSTAL PATRON	312	GROFFDALE RD	QUARRYVILLE	PA	17566
2252	POSTAL PATRON	315	GROFFDALE RD	QUARRYVILLE	PA	17566
2253	POSTAL PATRON	316	GROFFDALE RD	QUARRYVILLE	PA	17566
2254	POSTAL PATRON	317	GROFFDALE RD	QUARRYVILLE	PA	17566
2255	POSTAL PATRON	318	GROFFDALE RD	QUARRYVILLE	PA	17566
2256	POSTAL PATRON	319	GROFFDALE RD	QUARRYVILLE	PA	17566
2257	POSTAL PATRON	320	GROFFDALE RD	QUARRYVILLE	PA	17566
2258	POSTAL PATRON	321	GROFFDALE RD	QUARRYVILLE	PA	17566
2259	POSTAL PATRON	322	GROFFDALE RD	QUARRYVILLE	PA	17566
2260	POSTAL PATRON	323	GROFFDALE RD	QUARRYVILLE	PA	17566

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2319	POSTAL PATRON	797	LANCASTER PIKE	QUARRYVILLE	PA	17566
2320	POSTAL PATRON	800	LANCASTER PIKE	QUARRYVILLE	PA	17566
2321	POSTAL PATRON	801	LANCASTER PIKE	QUARRYVILLE	PA	17566
2322	POSTAL PATRON	804	LANCASTER PIKE	QUARRYVILLE	PA	17566
2323	POSTAL PATRON	811	LANCASTER PIKE	QUARRYVILLE	PA	17566
2324	POSTAL PATRON	815	LANCASTER PIKE	QUARRYVILLE	PA	17566
2325	POSTAL PATRON	819	LANCASTER PIKE	QUARRYVILLE	PA	17566
2326	POSTAL PATRON	820	LANCASTER PIKE	QUARRYVILLE	PA	17566
2327	POSTAL PATRON	823	LANCASTER PIKE	QUARRYVILLE	PA	17566
2328	POSTAL PATRON	834	LANCASTER PIKE	QUARRYVILLE	PA	17566
2329	POSTAL PATRON	835	LANCASTER PIKE	QUARRYVILLE	PA	17566
2330	POSTAL PATRON	840	LANCASTER PIKE	QUARRYVILLE	PA	17566
2331	POSTAL PATRON	848	LANCASTER PIKE	QUARRYVILLE	PA	17566
2332	POSTAL PATRON	851	LANCASTER PIKE	QUARRYVILLE	PA	17566
2333	POSTAL PATRON	865	LANCASTER PIKE	QUARRYVILLE	PA	17566
2334	POSTAL PATRON	877	LANCASTER PIKE	QUARRYVILLE	PA	17566
2335	POSTAL PATRON	881	LANCASTER PIKE	QUARRYVILLE	PA	17566
2336	POSTAL PATRON	883	LANCASTER PIKE	QUARRYVILLE	PA	17566
2337	POSTAL PATRON	897	LANCASTER PIKE	QUARRYVILLE	PA	17566
2338	POSTAL PATRON	900	LANCASTER PIKE	QUARRYVILLE	PA	17566
2339	POSTAL PATRON	915	LANCASTER PIKE	QUARRYVILLE	PA	17566
2340	POSTAL PATRON	924	LANCASTER PIKE	QUARRYVILLE	PA	17566
2341	POSTAL PATRON	925	LANCASTER PIKE	QUARRYVILLE	PA	17566
2342	POSTAL PATRON	937	LANCASTER PIKE	QUARRYVILLE	PA	17566
2343	POSTAL PATRON	938	LANCASTER PIKE	QUARRYVILLE	PA	17566
2344	POSTAL PATRON	952	LANCASTER PIKE	QUARRYVILLE	PA	17566
2345	POSTAL PATRON	955	LANCASTER PIKE	QUARRYVILLE	PA	17566
2346	POSTAL PATRON	956	LANCASTER PIKE	QUARRYVILLE	PA	17566
2347	POSTAL PATRON	958	LANCASTER PIKE	QUARRYVILLE	PA	17566
2348	POSTAL PATRON	960	LANCASTER PIKE	QUARRYVILLE	PA	17566
2349	POSTAL PATRON	962	LANCASTER PIKE	QUARRYVILLE	PA	17566
2350	POSTAL PATRON	964	LANCASTER PIKE	QUARRYVILLE	PA	17566
2351	POSTAL PATRON	965	LANCASTER PIKE	QUARRYVILLE	PA	17566
2352	POSTAL PATRON	966	LANCASTER PIKE	QUARRYVILLE	PA	17566
2353	POSTAL PATRON	6	OVERLOOK DR	QUARRYVILLE	PA	17566
2354	POSTAL PATRON	7	OVERLOOK DR	QUARRYVILLE	PA	17566
2355	POSTAL PATRON	675	TRUCE RD	QUARRYVILLE	PA	17566
2356	POSTAL PATRON	677	TRUCE RD	QUARRYVILLE	PA	17566
2357	POSTAL PATRON	679	TRUCE RD	QUARRYVILLE	PA	17566
2358	POSTAL PATRON	683	TRUCE RD	QUARRYVILLE	PA	17566
2359	POSTAL PATRON	685	TRUCE RD	QUARRYVILLE	PA	17566
2360	POSTAL PATRON	687	TRUCE RD	QUARRYVILLE	PA	17566
2361	POSTAL PATRON	690	TRUCE RD	QUARRYVILLE	PA	17566
2362	POSTAL PATRON	691	TRUCE RD	QUARRYVILLE	PA	17566
2363	POSTAL PATRON	693	TRUCE RD	QUARRYVILLE	PA	17566
2364	POSTAL PATRON	695	TRUCE RD	QUARRYVILLE	PA	17566
2365	POSTAL PATRON	698	TRUCE RD	QUARRYVILLE	PA	17566
2366	POSTAL PATRON	705	TRUCE RD	QUARRYVILLE	PA	17566
2367	POSTAL PATRON	715	TRUCE RD	QUARRYVILLE	PA	17566
2368	POSTAL PATRON	722	TRUCE RD	QUARRYVILLE	PA	17566
2369	POSTAL PATRON	723	TRUCE RD	QUARRYVILLE	PA	17566
2370	POSTAL PATRON	725	TRUCE RD	QUARRYVILLE	PA	17566
2371	POSTAL PATRON	731	TRUCE RD	QUARRYVILLE	PA	17566
2372	POSTAL PATRON	737	TRUCE RD	QUARRYVILLE	PA	17566
2373	POSTAL PATRON	743	TRUCE RD	QUARRYVILLE	PA	17566
2374	POSTAL PATRON	749	TRUCE RD	QUARRYVILLE	PA	17566
2375	POSTAL PATRON	755	TRUCE RD	QUARRYVILLE	PA	17566
2376	POSTAL PATRON	780	TRUCE RD	QUARRYVILLE	PA	17566

2377	POSTAL PATRON	784	TRUCE RD	QUARRYVILLE	PA	17566
2378	POSTAL PATRON	794	TRUCE RD	QUARRYVILLE	PA	17566
2379	POSTAL PATRON	804	TRUCE RD	QUARRYVILLE	PA	17566
2380	POSTAL PATRON	806	TRUCE RD	QUARRYVILLE	PA	17566
2381	POSTAL PATRON	818	TRUCE RD	QUARRYVILLE	PA	17566
2382	POSTAL PATRON	822	TRUCE RD	QUARRYVILLE	PA	17566
2383	POSTAL PATRON	826	TRUCE RD	QUARRYVILLE	PA	17566
2384	POSTAL PATRON	830	TRUCE RD	QUARRYVILLE	PA	17566
2385	POSTAL PATRON	834	TRUCE RD	QUARRYVILLE	PA	17566
2386	POSTAL PATRON	689A	TRUCE RD	QUARRYVILLE	PA	17566
2387	POSTAL PATRON	689B	TRUCE RD	QUARRYVILLE	PA	17566
2388	POSTAL PATRON	444	W FOURTH ST	QUARRYVILLE	PA	17566
2389	POSTAL PATRON	450	W FOURTH ST	QUARRYVILLE	PA	17566
2390	POSTAL PATRON	452	W FOURTH ST	QUARRYVILLE	PA	17566
2391	POSTAL PATRON	457	W FOURTH ST	QUARRYVILLE	PA	17566
2392	POSTAL PATRON	458	W FOURTH ST	QUARRYVILLE	PA	17566
2393	POSTAL PATRON	462	W FOURTH ST	QUARRYVILLE	PA	17566
2394	POSTAL PATRON	464	W FOURTH ST	QUARRYVILLE	PA	17566
2395	POSTAL PATRON	467	W FOURTH ST	QUARRYVILLE	PA	17566
2396	POSTAL PATRON	468	W FOURTH ST	QUARRYVILLE	PA	17566
2397	POSTAL PATRON	471	W FOURTH ST	QUARRYVILLE	PA	17566
2398	POSTAL PATRON	472	W FOURTH ST	QUARRYVILLE	PA	17566
2399	POSTAL PATRON	475	W FOURTH ST	QUARRYVILLE	PA	17566
2400	POSTAL PATRON	476	W FOURTH ST	QUARRYVILLE	PA	17566
2401	POSTAL PATRON	479	W FOURTH ST	QUARRYVILLE	PA	17566
2402	POSTAL PATRON	481	W FOURTH ST	QUARRYVILLE	PA	17566
2403	POSTAL PATRON	482	W FOURTH ST	QUARRYVILLE	PA	17566
2404	POSTAL PATRON	485	W FOURTH ST	QUARRYVILLE	PA	17566
2405	POSTAL PATRON	487	W FOURTH ST	QUARRYVILLE	PA	17566
2406	POSTAL PATRON	488	W FOURTH ST	QUARRYVILLE	PA	17566
2407	POSTAL PATRON	489	W FOURTH ST	QUARRYVILLE	PA	17566
2408	POSTAL PATRON	490	W FOURTH ST	QUARRYVILLE	PA	17566
2409	POSTAL PATRON	491	W FOURTH ST	QUARRYVILLE	PA	17566
2410	POSTAL PATRON	492	W FOURTH ST	QUARRYVILLE	PA	17566
2411	POSTAL PATRON	495	W FOURTH ST	QUARRYVILLE	PA	17566
2412	POSTAL PATRON	497	W FOURTH ST	QUARRYVILLE	PA	17566
2413	POSTAL PATRON	498	W FOURTH ST	QUARRYVILLE	PA	17566
2414	POSTAL PATRON	501	W FOURTH ST	QUARRYVILLE	PA	17566
2415	POSTAL PATRON	503	W FOURTH ST	QUARRYVILLE	PA	17566
2416	POSTAL PATRON	504	W FOURTH ST	QUARRYVILLE	PA	17566
2417	POSTAL PATRON	505	W FOURTH ST	QUARRYVILLE	PA	17566
2418	POSTAL PATRON	510	W FOURTH ST	QUARRYVILLE	PA	17566
2419	POSTAL PATRON	325	NORTHVIEW LN	QUARRYVILLE	PA	17566
2420	POSTAL PATRON	46	QUARRY RD	QUARRYVILLE	PA	17566
2421	POSTAL PATRON	1246	ROBERT FULTON HWY	QUARRYVILLE	PA	17566
2422		207	E STATE ST	QUARRYVILLE	PA	17566
2423	POSTAL PATRON		PO BOX 4706	REFTON	PA	17604
2424	POSTAL PATRON		PO BOX 716	REFTON	PA	17604
2425	POSTAL PATRON	1858	BEAVER VALLEY PIKE	STRASBURG	PA	17579
2426	POSTAL PATRON	1860	BEAVER VALLEY PIKE	STRASBURG	PA	17579
2427	POSTAL PATRON	1930	BEAVER VALLEY PIKE	STRASBURG	PA	17579
2428	POSTAL PATRON	983	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2429	POSTAL PATRON	2	APACHE LN	WILLOW STREET	PA	17584
2430	POSTAL PATRON	3	APACHE LN	WILLOW STREET	PA	17584
2431	POSTAL PATRON	4	APACHE LN	WILLOW STREET	PA	17584
2432	POSTAL PATRON	5	APACHE LN	WILLOW STREET	PA	17584
2433	POSTAL PATRON	6	APACHE LN	WILLOW STREET	PA	17584
2434	POSTAL PATRON	7	APACHE LN	WILLOW STREET	PA	17584

2435	POSTAL PATRON	8	APACHE LN	WILLOW STREET	PA	17584
2436	POSTAL PATRON	9	APACHE LN	WILLOW STREET	PA	17584
2437	POSTAL PATRON	10	APACHE LN	WILLOW STREET	PA	17584
2438	POSTAL PATRON	11	APACHE LN	WILLOW STREET	PA	17584
2439	POSTAL PATRON	13	APACHE LN	WILLOW STREET	PA	17584
2440	POSTAL PATRON	14	APACHE LN	WILLOW STREET	PA	17584
2441	POSTAL PATRON	19	APACHE LN	WILLOW STREET	PA	17584
2442	POSTAL PATRON	20	APACHE LN	WILLOW STREET	PA	17584
2443	POSTAL PATRON	27	APACHE LN	WILLOW STREET	PA	17584
2444	POSTAL PATRON	28	APACHE LN	WILLOW STREET	PA	17584
2445	POSTAL PATRON	32	APACHE LN	WILLOW STREET	PA	17584
2446	POSTAL PATRON	35	APACHE LN	WILLOW STREET	PA	17584
2447	POSTAL PATRON	41	APACHE LN	WILLOW STREET	PA	17584
2448	POSTAL PATRON	46	APACHE LN	WILLOW STREET	PA	17584
2449	POSTAL PATRON	54	APACHE LN	WILLOW STREET	PA	17584
2450	POSTAL PATRON	4	BIRCH INTERVAL	WILLOW STREET	PA	17584
2451	POSTAL PATRON	7	BIRCH INTERVAL	WILLOW STREET	PA	17584
2452	POSTAL PATRON	8	BIRCH INTERVAL	WILLOW STREET	PA	17584
2453	POSTAL PATRON	11	BIRCH INTERVAL	WILLOW STREET	PA	17584
2454	POSTAL PATRON	12	BIRCH INTERVAL	WILLOW STREET	PA	17584
2455	POSTAL PATRON	16	BIRCH INTERVAL	WILLOW STREET	PA	17584
2456	POSTAL PATRON	1281	BYERLAND CHURCH RD	WILLOW STREET	PA	17584
2457	POSTAL PATRON	1296	BYERLAND CHURCH RD	WILLOW STREET	PA	17584
2458	POSTAL PATRON	1321	BYERLAND CHURCH RD	WILLOW STREET	PA	17584
2459	POSTAL PATRON	1327	BYERLAND CHURCH RD	WILLOW STREET	PA	17584
2460	POSTAL PATRON	1331	BYERLAND CHURCH RD	WILLOW STREET	PA	17584
2461	POSTAL PATRON	1332	BYERLAND CHURCH RD	WILLOW STREET	PA	17584
2462	POSTAL PATRON	1337	BYERLAND CHURCH RD	WILLOW STREET	PA	17584
2463	POSTAL PATRON	1342	BYERLAND CHURCH RD	WILLOW STREET	PA	17584
2464	POSTAL PATRON	1361	BYERLAND CHURCH RD	WILLOW STREET	PA	17584
2465	POSTAL PATRON	3	CHEROKEE RD	WILLOW STREET	PA	17584
2466	POSTAL PATRON	4	CHEROKEE RD	WILLOW STREET	PA	17584
2467	POSTAL PATRON	11	CHEROKEE RD	WILLOW STREET	PA	17584
2468	POSTAL PATRON	12	CHEROKEE RD	WILLOW STREET	PA	17584
2469	POSTAL PATRON	21	CHEROKEE RD	WILLOW STREET	PA	17584
2470	POSTAL PATRON	27	CHEROKEE RD	WILLOW STREET	PA	17584
2471	POSTAL PATRON	32	CHEROKEE RD	WILLOW STREET	PA	17584
2472	POSTAL PATRON	35	CHEROKEE RD	WILLOW STREET	PA	17584
2473	POSTAL PATRON	43	CHEROKEE RD	WILLOW STREET	PA	17584
2474	POSTAL PATRON	46	CHEROKEE RD	WILLOW STREET	PA	17584
2475	POSTAL PATRON	49	CHEROKEE RD	WILLOW STREET	PA	17584
2476	POSTAL PATRON	53	CHEROKEE RD	WILLOW STREET	PA	17584
2477	POSTAL PATRON	54	CHEROKEE RD	WILLOW STREET	PA	17584
2478	POSTAL PATRON	60	CHEROKEE RD	WILLOW STREET	PA	17584
2479	POSTAL PATRON	65	CHEROKEE RD	WILLOW STREET	PA	17584
2480	POSTAL PATRON	72	CHEROKEE RD	WILLOW STREET	PA	17584
2481	POSTAL PATRON	75	CHEROKEE RD	WILLOW STREET	PA	17584
2482	POSTAL PATRON	4	CORN PLANTER RD	WILLOW STREET	PA	17584
2483	POSTAL PATRON	18	CORN PLANTER RD	WILLOW STREET	PA	17584
2484	POSTAL PATRON	26	CORN PLANTER RD	WILLOW STREET	PA	17584
2485	POSTAL PATRON	30	CORN PLANTER RD	WILLOW STREET	PA	17584
2486	POSTAL PATRON	37	CORN PLANTER RD	WILLOW STREET	PA	17584
2487	POSTAL PATRON	38	CORN PLANTER RD	WILLOW STREET	PA	17584
2488	POSTAL PATRON	41	CORN PLANTER RD	WILLOW STREET	PA	17584
2489	POSTAL PATRON	10	CORN PLANTER RD	WILLOW STREET	PA	17584
2490	POSTAL PATRON	29	CORN PLANTER RD	WILLOW STREET	PA	17584
2491	POSTAL PATRON	44	CORN PLANTER RD	WILLOW STREET	PA	17584
2492	POSTAL PATRON	21	HAWTHORNE CIR	WILLOW STREET	PA	17584

2493	POSTAL PATRON	24	HAWTHORNE CIR	WILLOW STREET	PA	17584
2494	POSTAL PATRON	26	HAWTHORNE CIR	WILLOW STREET	PA	17584
2495	POSTAL PATRON	30	HAWTHORNE CIR	WILLOW STREET	PA	17584
2496	POSTAL PATRON	31	HAWTHORNE CIR	WILLOW STREET	PA	17584
2497	POSTAL PATRON	34	HAWTHORNE CIR	WILLOW STREET	PA	17584
2498	POSTAL PATRON	38	HAWTHORNE CIR	WILLOW STREET	PA	17584
2499	POSTAL PATRON	41	HAWTHORNE CIR	WILLOW STREET	PA	17584
2500	POSTAL PATRON	44	HAWTHORNE CIR	WILLOW STREET	PA	17584
2501	POSTAL PATRON	50	HAWTHORNE CIR	WILLOW STREET	PA	17584
2502	POSTAL PATRON	54	HAWTHORNE CIR	WILLOW STREET	PA	17584
2503	POSTAL PATRON	58	HAWTHORNE CIR	WILLOW STREET	PA	17584
2504	POSTAL PATRON	60	HAWTHORNE CIR	WILLOW STREET	PA	17584
2505	POSTAL PATRON	62	HAWTHORNE CIR	WILLOW STREET	PA	17584
2506	POSTAL PATRON	65	HAWTHORNE CIR	WILLOW STREET	PA	17584
2507	POSTAL PATRON	66	HAWTHORNE CIR	WILLOW STREET	PA	17584
2508	POSTAL PATRON	69	HAWTHORNE CIR	WILLOW STREET	PA	17584
2509	POSTAL PATRON	72	HAWTHORNE CIR	WILLOW STREET	PA	17584
2510	POSTAL PATRON	75	HAWTHORNE CIR	WILLOW STREET	PA	17584
2511	POSTAL PATRON	76	HAWTHORNE CIR	WILLOW STREET	PA	17584
2512	POSTAL PATRON	80	HAWTHORNE CIR	WILLOW STREET	PA	17584
2513	POSTAL PATRON	84	HAWTHORNE CIR	WILLOW STREET	PA	17584
2514	POSTAL PATRON	85	HAWTHORNE CIR	WILLOW STREET	PA	17584
2515	POSTAL PATRON	90	HAWTHORNE CIR	WILLOW STREET	PA	17584
2516	POSTAL PATRON	95	HAWTHORNE CIR	WILLOW STREET	PA	17584
2517	POSTAL PATRON	96	HAWTHORNE CIR	WILLOW STREET	PA	17584
2518	POSTAL PATRON	100	HAWTHORNE CIR	WILLOW STREET	PA	17584
2519	POSTAL PATRON	103	HAWTHORNE CIR	WILLOW STREET	PA	17584
2520	POSTAL PATRON	104	HAWTHORNE CIR	WILLOW STREET	PA	17584
2521	POSTAL PATRON	110	HAWTHORNE CIR	WILLOW STREET	PA	17584
2522	POSTAL PATRON	111	HAWTHORNE CIR	WILLOW STREET	PA	17584
2523	POSTAL PATRON	112	HAWTHORNE CIR	WILLOW STREET	PA	17584
2524	POSTAL PATRON	114	HAWTHORNE CIR	WILLOW STREET	PA	17584
2525	POSTAL PATRON	191	HERRVILLE RD	WILLOW STREET	PA	17584
2526	POSTAL PATRON	200	HERRVILLE RD	WILLOW STREET	PA	17584
2527	POSTAL PATRON	201	HERRVILLE RD	WILLOW STREET	PA	17584
2528	POSTAL PATRON	203	HERRVILLE RD	WILLOW STREET	PA	17584
2529	POSTAL PATRON	204	HERRVILLE RD	WILLOW STREET	PA	17584
2530	POSTAL PATRON	205	HERRVILLE RD	WILLOW STREET	PA	17584
2531	POSTAL PATRON	49	HILL VIEW DR	WILLOW STREET	PA	17584
2532	POSTAL PATRON	50	HILL VIEW DR	WILLOW STREET	PA	17584
2533	POSTAL PATRON	51	HILL VIEW DR	WILLOW STREET	PA	17584
2534	POSTAL PATRON	66	HILL VIEW DR	WILLOW STREET	PA	17584
2535	POSTAL PATRON	67	HILL VIEW DR	WILLOW STREET	PA	17584
2536	POSTAL PATRON	68	HILL VIEW DR	WILLOW STREET	PA	17584
2537	POSTAL PATRON	69	HILL VIEW DR	WILLOW STREET	PA	17584
2538	POSTAL PATRON	70	HILL VIEW DR	WILLOW STREET	PA	17584
2539	POSTAL PATRON	71	HILL VIEW DR	WILLOW STREET	PA	17584
2540	POSTAL PATRON	72	HILL VIEW DR	WILLOW STREET	PA	17584
2541	POSTAL PATRON	73	HILL VIEW DR	WILLOW STREET	PA	17584
2542	POSTAL PATRON	75	HILL VIEW DR	WILLOW STREET	PA	17584
2543	POSTAL PATRON	76	HILL VIEW DR	WILLOW STREET	PA	17584
2544	POSTAL PATRON	77	HILL VIEW DR	WILLOW STREET	PA	17584
2545	POSTAL PATRON	78	HILL VIEW DR	WILLOW STREET	PA	17584
2546	POSTAL PATRON	79	HILL VIEW DR	WILLOW STREET	PA	17584
2547	POSTAL PATRON	20	KREIDER RD	WILLOW STREET	PA	17584
2548	POSTAL PATRON	47	LANCASTER PIKE NORTH	WILLOW STREET	PA	17584
2549	POSTAL PATRON	109	LANCASTER PIKE NORTH	WILLOW STREET	PA	17584
2550	POSTAL PATRON	117	LANCASTER PIKE NORTH	WILLOW STREET	PA	17584

2551	POSTAL PATRON	123	LANCASTER PIKE NORTH	WILLOW STREET	PA	17584
2552	POSTAL PATRON	122	LANCASTER PIKE SOUTH	WILLOW STREET	PA	17584
2553	POSTAL PATRON	124	LANCASTER PIKE SOUTH	WILLOW STREET	PA	17584
2554	POSTAL PATRON	136	LANCASTER PIKE SOUTH	WILLOW STREET	PA	17584
2555	POSTAL PATRON	160	LANCASTER PIKE SOUTH	WILLOW STREET	PA	17584
2556	POSTAL PATRON	166	LANCASTER PIKE SOUTH	WILLOW STREET	PA	17584
2557	POSTAL PATRON	106	LANCASTER PIKE SOUTH	WILLOW STREET	PA	17584
2558	POSTAL PATRON	20	MILLER RD	WILLOW STREET	PA	17584
2559	POSTAL PATRON	48	MILLER RD	WILLOW STREET	PA	17584
2560	POSTAL PATRON	56	MILLER RD	WILLOW STREET	PA	17584
2561	POSTAL PATRON	62	MILLER RD	WILLOW STREET	PA	17584
2562	POSTAL PATRON	75	MILLER RD	WILLOW STREET	PA	17584
2563	POSTAL PATRON	81	MILLER RD	WILLOW STREET	PA	17584
2564	POSTAL PATRON	82	MILLER RD	WILLOW STREET	PA	17584
2565	POSTAL PATRON	89	MILLER RD	WILLOW STREET	PA	17584
2566	POSTAL PATRON	90	MILLER RD	WILLOW STREET	PA	17584
2567	POSTAL PATRON	97	MILLER RD	WILLOW STREET	PA	17584
2568	POSTAL PATRON	99	MILLER RD	WILLOW STREET	PA	17584
2569	POSTAL PATRON	103	MILLER RD	WILLOW STREET	PA	17584
2570	POSTAL PATRON	117	MILLER RD	WILLOW STREET	PA	17584
2571	POSTAL PATRON	122	MILLER RD	WILLOW STREET	PA	17584
2572	POSTAL PATRON	125	MILLER RD	WILLOW STREET	PA	17584
2573	POSTAL PATRON	127	MILLER RD	WILLOW STREET	PA	17584
2574	POSTAL PATRON	133	MILLER RD	WILLOW STREET	PA	17584
2575	POSTAL PATRON	137	MILLER RD	WILLOW STREET	PA	17584
2576	POSTAL PATRON	143	MILLER RD	WILLOW STREET	PA	17584
2577	POSTAL PATRON	144	MILLER RD	WILLOW STREET	PA	17584
2578	POSTAL PATRON	145	MILLER RD	WILLOW STREET	PA	17584
2579	POSTAL PATRON	147	MILLER RD	WILLOW STREET	PA	17584
2580	POSTAL PATRON	167	MILLER RD	WILLOW STREET	PA	17584
2581	POSTAL PATRON	173	MILLER RD	WILLOW STREET	PA	17584
2582	POSTAL PATRON	179	MILLER RD	WILLOW STREET	PA	17584
2583	POSTAL PATRON	195	MILLER RD	WILLOW STREET	PA	17584
2584	POSTAL PATRON	14	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2585	POSTAL PATRON	15	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2586	POSTAL PATRON	21	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2587	POSTAL PATRON	22	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2588	POSTAL PATRON	31	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2589	POSTAL PATRON	32	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2590	POSTAL PATRON	41	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2591	POSTAL PATRON	42	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2592	POSTAL PATRON	52	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2593	POSTAL PATRON	55	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2594	POSTAL PATRON	61	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2595	POSTAL PATRON	64	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2596	POSTAL PATRON	69	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2597	POSTAL PATRON	70	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2598	POSTAL PATRON	81	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2599	POSTAL PATRON	82	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2600	POSTAL PATRON	99	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2601	POSTAL PATRON	100	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2602	POSTAL PATRON	105	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2603	POSTAL PATRON	110	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2604	POSTAL PATRON	113	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2605	POSTAL PATRON	114	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2606	POSTAL PATRON	117	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2607	POSTAL PATRON	121	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2608	POSTAL PATRON	122	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584

[illegible]



2667	POSTAL PATRON	414	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2668	POSTAL PATRON	426	MT HOPE SCHOOL RD	WILLOW STREET	PA	17584
2669	POSTAL PATRON	1	PARK VIEW DR	WILLOW STREET	PA	17584
2670	POSTAL PATRON	2	PARK VIEW DR	WILLOW STREET	PA	17584
2671	POSTAL PATRON	3	PARK VIEW DR	WILLOW STREET	PA	17584
2672	POSTAL PATRON	4	PARK VIEW DR	WILLOW STREET	PA	17584
2673	POSTAL PATRON	5	PARK VIEW DR	WILLOW STREET	PA	17584
2674	POSTAL PATRON	6	PARK VIEW DR	WILLOW STREET	PA	17584
2675	POSTAL PATRON	7	PARK VIEW DR	WILLOW STREET	PA	17584
2676	POSTAL PATRON	8	PARK VIEW DR	WILLOW STREET	PA	17584
2677	POSTAL PATRON	9	PARK VIEW DR	WILLOW STREET	PA	17584
2678	POSTAL PATRON	10	PARK VIEW DR	WILLOW STREET	PA	17584
2679	POSTAL PATRON	11	PARK VIEW DR	WILLOW STREET	PA	17584
2680	POSTAL PATRON	12	PARK VIEW DR	WILLOW STREET	PA	17584
2681	POSTAL PATRON	13	PARK VIEW DR	WILLOW STREET	PA	17584
2682	POSTAL PATRON	14	PARK VIEW DR	WILLOW STREET	PA	17584
2683	POSTAL PATRON	15	PARK VIEW DR	WILLOW STREET	PA	17584
2684	POSTAL PATRON	24	PARK VIEW DR	WILLOW STREET	PA	17584
2685	POSTAL PATRON	25	PARK VIEW DR	WILLOW STREET	PA	17584
2686	POSTAL PATRON	26	PARK VIEW DR	WILLOW STREET	PA	17584
2687	POSTAL PATRON	27	PARK VIEW DR	WILLOW STREET	PA	17584
2688	POSTAL PATRON	28	PARK VIEW DR	WILLOW STREET	PA	17584
2689	POSTAL PATRON	29	PARK VIEW DR	WILLOW STREET	PA	17584
2690	POSTAL PATRON	30	PARK VIEW DR	WILLOW STREET	PA	17584
2691	POSTAL PATRON	31	PARK VIEW DR	WILLOW STREET	PA	17584
2692	POSTAL PATRON	32	PARK VIEW DR	WILLOW STREET	PA	17584
2693	POSTAL PATRON	33	PARK VIEW DR	WILLOW STREET	PA	17584
2694	POSTAL PATRON	34	PARK VIEW DR	WILLOW STREET	PA	17584
2695	POSTAL PATRON	35	PARK VIEW DR	WILLOW STREET	PA	17584
2696	POSTAL PATRON	36	PARK VIEW DR	WILLOW STREET	PA	17584
2697	POSTAL PATRON	37	PARK VIEW DR	WILLOW STREET	PA	17584
2698	POSTAL PATRON	38	PARK VIEW DR	WILLOW STREET	PA	17584
2699	POSTAL PATRON	39	PARK VIEW DR	WILLOW STREET	PA	17584
2700	POSTAL PATRON	40	PARK VIEW DR	WILLOW STREET	PA	17584
2701	POSTAL PATRON	41	PARK VIEW DR	WILLOW STREET	PA	17584
2702	POSTAL PATRON	42	PARK VIEW DR	WILLOW STREET	PA	17584
2703	POSTAL PATRON	43	PARK VIEW DR	WILLOW STREET	PA	17584
2704	POSTAL PATRON	44	PARK VIEW DR	WILLOW STREET	PA	17584
2705	POSTAL PATRON	45	PARK VIEW DR	WILLOW STREET	PA	17584
2706	POSTAL PATRON	46	PARK VIEW DR	WILLOW STREET	PA	17584
2707	POSTAL PATRON	47	PARK VIEW DR	WILLOW STREET	PA	17584
2708	POSTAL PATRON	48	PARK VIEW DR	WILLOW STREET	PA	17584
2709	POSTAL PATRON	74	PARK VIEW DR	WILLOW STREET	PA	17584
2710	POSTAL PATRON	13A	PARK VIEW DR	WILLOW STREET	PA	17584
2711	POSTAL PATRON	657	PENNSY RD	WILLOW STREET	PA	17584
2712	POSTAL PATRON	660	PENNSY RD	WILLOW STREET	PA	17584
2713	POSTAL PATRON	686	PENNSY RD	WILLOW STREET	PA	17584
2714	POSTAL PATRON	699	PENNSY RD	WILLOW STREET	PA	17584
2715	POSTAL PATRON	703	PENNSY RD	WILLOW STREET	PA	17584
2716	POSTAL PATRON	717	PENNSY RD	WILLOW STREET	PA	17584
2717	POSTAL PATRON	731	PENNSY RD	WILLOW STREET	PA	17584
2718	POSTAL PATRON	735	PENNSY RD	WILLOW STREET	PA	17584
2719	POSTAL PATRON	737	PENNSY RD	WILLOW STREET	PA	17584
2720	POSTAL PATRON	739	PENNSY RD	WILLOW STREET	PA	17584
2721	POSTAL PATRON	751	PENNSY RD	WILLOW STREET	PA	17584
2722	POSTAL PATRON	759	PENNSY RD	WILLOW STREET	PA	17584
2723	POSTAL PATRON	761	PENNSY RD	WILLOW STREET	PA	17584
2724	POSTAL PATRON	766	PENNSY RD	WILLOW STREET	PA	17584

2725	POSTAL PATRON	768	PENNSY RD	WILLOW STREET	PA	17584
2726	POSTAL PATRON	781	PENNSY RD	WILLOW STREET	PA	17584
2727	POSTAL PATRON	786	PENNSY RD	WILLOW STREET	PA	17584
2728	POSTAL PATRON	788	PENNSY RD	WILLOW STREET	PA	17584
2729	POSTAL PATRON	813	PENNSY RD	WILLOW STREET	PA	17584
2730	POSTAL PATRON	817	PENNSY RD	WILLOW STREET	PA	17584
2731	POSTAL PATRON	821	PENNSY RD	WILLOW STREET	PA	17584
2732	POSTAL PATRON	822	PENNSY RD	WILLOW STREET	PA	17584
2733	POSTAL PATRON	825	PENNSY RD	WILLOW STREET	PA	17584
2734	POSTAL PATRON	826	PENNSY RD	WILLOW STREET	PA	17584
2735	POSTAL PATRON	832	PENNSY RD	WILLOW STREET	PA	17584
2736	POSTAL PATRON	836	PENNSY RD	WILLOW STREET	PA	17584
2737	POSTAL PATRON	837	PENNSY RD	WILLOW STREET	PA	17584
2738	POSTAL PATRON	840	PENNSY RD	WILLOW STREET	PA	17584
2739	POSTAL PATRON	841	PENNSY RD	WILLOW STREET	PA	17584
2740	POSTAL PATRON	845	PENNSY RD	WILLOW STREET	PA	17584
2741	POSTAL PATRON	846	PENNSY RD	WILLOW STREET	PA	17584
2742	POSTAL PATRON	859	PENNSY RD	WILLOW STREET	PA	17584
2743	POSTAL PATRON	861	PENNSY RD	WILLOW STREET	PA	17584
2744	POSTAL PATRON	864	PENNSY RD	WILLOW STREET	PA	17584
2745	POSTAL PATRON	867	PENNSY RD	WILLOW STREET	PA	17584
2746	POSTAL PATRON	872	PENNSY RD	WILLOW STREET	PA	17584
2747	POSTAL PATRON	873	PENNSY RD	WILLOW STREET	PA	17584
2748	POSTAL PATRON	895	PENNSY RD	WILLOW STREET	PA	17584
2749	POSTAL PATRON	922	PENNSY RD	WILLOW STREET	PA	17584
2750	POSTAL PATRON	923	PENNSY RD	WILLOW STREET	PA	17584
2751	POSTAL PATRON	930	PENNSY RD	WILLOW STREET	PA	17584
2752	POSTAL PATRON	931	PENNSY RD	WILLOW STREET	PA	17584
2753	POSTAL PATRON	16	POND VIEW DR	WILLOW STREET	PA	17584
2754	POSTAL PATRON	17	POND VIEW DR	WILLOW STREET	PA	17584
2755	POSTAL PATRON	18	POND VIEW DR	WILLOW STREET	PA	17584
2756	POSTAL PATRON	19	POND VIEW DR	WILLOW STREET	PA	17584
2757	POSTAL PATRON	20	POND VIEW DR	WILLOW STREET	PA	17584
2758	POSTAL PATRON	21	POND VIEW DR	WILLOW STREET	PA	17584
2759	POSTAL PATRON	22	POND VIEW DR	WILLOW STREET	PA	17584
2760	POSTAL PATRON	23	POND VIEW DR	WILLOW STREET	PA	17584
2761	POSTAL PATRON	29	PRIMROSE LN	WILLOW STREET	PA	17584
2762	POSTAL PATRON	33	PRIMROSE LN	WILLOW STREET	PA	17584
2763	POSTAL PATRON	37	PRIMROSE LN	WILLOW STREET	PA	17584
2764	POSTAL PATRON	360	RADCLIFF RD	WILLOW STREET	PA	17584
2765	POSTAL PATRON	378	RADCLIFF RD	WILLOW STREET	PA	17584
2766	POSTAL PATRON	386	RADCLIFF RD	WILLOW STREET	PA	17584
2767	POSTAL PATRON	398	RADCLIFF RD	WILLOW STREET	PA	17584
2768	POSTAL PATRON	402	RADCLIFF RD	WILLOW STREET	PA	17584
2769	POSTAL PATRON	410	RADCLIFF RD	WILLOW STREET	PA	17584
2770	POSTAL PATRON	413	RADCLIFF RD	WILLOW STREET	PA	17584
2771	POSTAL PATRON	420	RADCLIFF RD	WILLOW STREET	PA	17584
2772	POSTAL PATRON	424	RADCLIFF RD	WILLOW STREET	PA	17584
2773	POSTAL PATRON	427	RADCLIFF RD	WILLOW STREET	PA	17584
2774	POSTAL PATRON	430	RADCLIFF RD	WILLOW STREET	PA	17584
2775	POSTAL PATRON	434	RADCLIFF RD	WILLOW STREET	PA	17584
2776	POSTAL PATRON	438	RADCLIFF RD	WILLOW STREET	PA	17584
2777	POSTAL PATRON	444	RADCLIFF RD	WILLOW STREET	PA	17584
2778	POSTAL PATRON	459	RADCLIFF RD	WILLOW STREET	PA	17584
2779	POSTAL PATRON	912	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2780	POSTAL PATRON	913	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2781	POSTAL PATRON	939	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2782	POSTAL PATRON	949	RAWLINSVILLE RD	WILLOW STREET	PA	17584

2783	POSTAL PATRON	952	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2784	POSTAL PATRON	959	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2785	POSTAL PATRON	977	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2786	POSTAL PATRON	978	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2787	POSTAL PATRON	982	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2788	POSTAL PATRON	987	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2789	POSTAL PATRON	1012	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2790	POSTAL PATRON	1020	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2791	POSTAL PATRON	1021	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2792	POSTAL PATRON	1027	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2793	POSTAL PATRON	1028	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2794	POSTAL PATRON	1029	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2795	POSTAL PATRON	1039	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2796	POSTAL PATRON	1045	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2797	POSTAL PATRON	1046	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2798	POSTAL PATRON	1048	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2799	POSTAL PATRON	1050	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2800	POSTAL PATRON	1052	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2801	POSTAL PATRON	1053	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2802	POSTAL PATRON	1055	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2803	POSTAL PATRON	1056	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2804	POSTAL PATRON	1057	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2805	POSTAL PATRON	1063	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2806	POSTAL PATRON	1067	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2807	POSTAL PATRON	1069	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2808	POSTAL PATRON	1090	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2809	POSTAL PATRON	1099	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2810	POSTAL PATRON	1116	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2811	POSTAL PATRON	1119	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2812	POSTAL PATRON	1125	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2813	POSTAL PATRON	1131	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2814	POSTAL PATRON	1137	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2815	POSTAL PATRON	1143	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2816	POSTAL PATRON	1149	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2817	POSTAL PATRON	1155	RAWLINSVILLE RD	WILLOW STREET	PA	17584
2818	POSTAL PATRON	52	RIDGE VIEW DR	WILLOW STREET	PA	17584
2819	POSTAL PATRON	53	RIDGE VIEW DR	WILLOW STREET	PA	17584
2820	POSTAL PATRON	54	RIDGE VIEW DR	WILLOW STREET	PA	17584
2821	POSTAL PATRON	55	RIDGE VIEW DR	WILLOW STREET	PA	17584
2822	POSTAL PATRON	56	RIDGE VIEW DR	WILLOW STREET	PA	17584
2823	POSTAL PATRON	57	RIDGE VIEW DR	WILLOW STREET	PA	17584
2824	POSTAL PATRON	58	RIDGE VIEW DR	WILLOW STREET	PA	17584
2825	POSTAL PATRON	59	RIDGE VIEW DR	WILLOW STREET	PA	17584
2826	POSTAL PATRON	60	RIDGE VIEW DR	WILLOW STREET	PA	17584
2827	POSTAL PATRON	61	RIDGE VIEW DR	WILLOW STREET	PA	17584
2828	POSTAL PATRON	62	RIDGE VIEW DR	WILLOW STREET	PA	17584
2829	POSTAL PATRON	63	RIDGE VIEW DR	WILLOW STREET	PA	17584
2830	POSTAL PATRON	64	RIDGE VIEW DR	WILLOW STREET	PA	17584
2831	POSTAL PATRON	65	RIDGE VIEW DR	WILLOW STREET	PA	17584
2832	POSTAL PATRON		PO BOX 594	WILLOW STREET	PA	17584
2833	POSTAL PATRON		PO BOX 360	WILLOW STREET	PA	17560
2834	POSTAL PATRON		PO BOX 110	WILLOW STREET	PA	17584
2835	POSTAL PATRON		PO BOX 355	WILLOW STREET	PA	17584
2836	POSTAL PATRON		PO BOX 168	WILLOW STREET	PA	17584
2837	POSTAL PATRON		PO BOX 204	WILLOW STREET	PA	17584
2838	POSTAL PATRON		PO BOX 388	WILLOW STREET	PA	17584
2839	POSTAL PATRON		PO BOX 43	WILLOW STREET	PA	17584
2840	POSTAL PATRON		PO BOX 24	WILLOW STREET	PA	17584

2841	POSTAL PATRON		PO BOX 11	WILLOW STREET	PA	17584
2842	POSTAL PATRON		PO BOX 440	WILLOW STREET	PA	17584
2843	POSTAL PATRON		PO BOX 219	WILLOW STREET	PA	17584
2844	POSTAL PATRON	1028	MILLWOOD RD	WILLOW STREET	PA	17584
2845	POSTAL PATRON	44	N CHRISTIAN ST STE 100	LANCASTER	PA	17602
2846	POSTAL PATRON		PO BOX 4	NEW PROVIDENCE	PA	17560

## **PROVIDENCE TOWNSHIP PROHIBITED DISCHARGE LIST**

## **ARTICLE VIII. PROHIBITIONS**

### **SECTION 8.01 PROHIBITED DISCHARGES AND CONNECTIONS**

- A. The following connections are prohibited, except as provided in Section 8.01D below.
- (1) Any drain or conveyance, whether on the surface or subsurface, that allows any non-stormwater discharge including sewage, process wastewater, and wash water to enter a municipal separate storm sewer (if applicable), or waters of this

Commonwealth, and any connections to the storm sewer from indoor drains and sinks; and

- (2) Any drain or conveyance connected from a commercial or industrial land use to the Municipal Separate Storm Sewer (if applicable) which has not been documented in plans, maps, or equivalent records, and approved by the Township.
- B. No person shall allow, or cause to allow, discharges into surface waters of this Commonwealth which are not composed entirely of stormwater, except (1) as provided in Section 8.01D below and (2) discharges allowed under a state or federal permit.
- C. No person shall place any structure, fill, landscaping or vegetation into a SWM Facility or within a drainage easement that will limit or diminish the functioning of the SWM Facility in any manner without the written approval of the Township.
- D. The following discharges are authorized unless they are determined to be significant contributors to pollution to the waters of this Commonwealth:
  - (1) Discharges from firefighting activities
  - (2) Potable water sources including water line flushing
  - (3) Irrigation drainage
  - (4) Air conditioning condensate
  - (5) Springs
  - (6) Water from crawl space pumps
  - (7) Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used
  - (8) Flows from riparian habitats and wetlands
  - (9) Uncontaminated water from foundations or from footing drains
  - (10) Lawn watering
  - (11) De-chlorinated swimming pool discharges
  - (12) Uncontaminated groundwater
  - (13) Water from individual residential car washing
  - (14) Routine external building wash down (which does not use detergents or other compounds)
  - (15) Diverted stream flows
  - (16) Rising ground waters
  - (17) Other discharges approved by the Township

- E. In the event that the Township or DEP determines that any of the discharges identified in Section 8.01D, above, significantly contribute to pollution of the waters of this Commonwealth, the Township or DEP will notify the responsible person(s) to cease the discharge.

#### **SECTION 8.02 ALTERATION OF SWM BMPS**

No person shall modify, remove, fill, landscape, or alter any SWM BMPs, facilities, areas, or structures unless it is part of an approved maintenance program, without the written approval of the Township.



## **PROVIDENCE TOWNSHIP MS4 MAP**



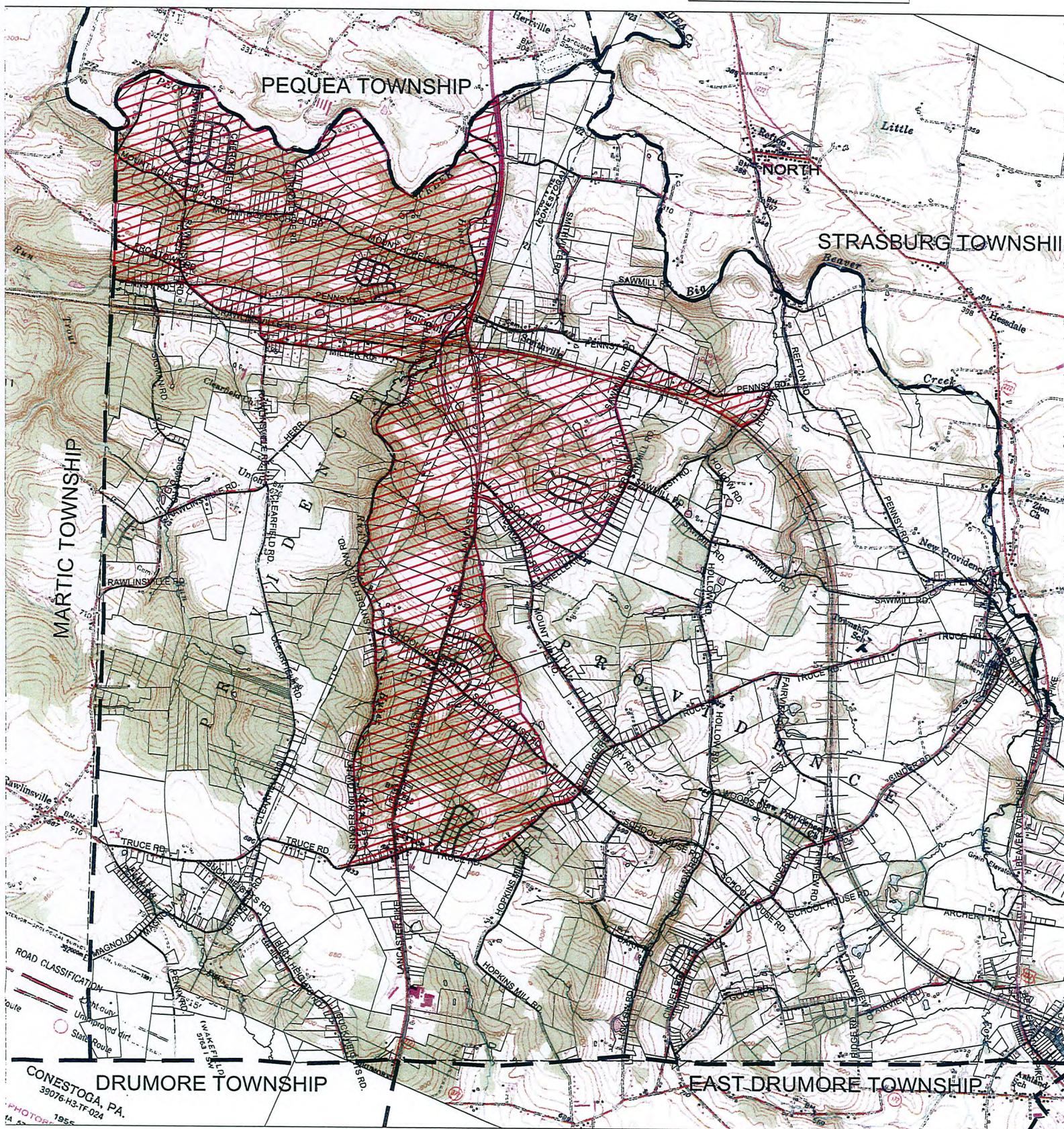
# USGS MAP OF MS4 AREA 2000 CENSUS

## LEGEND

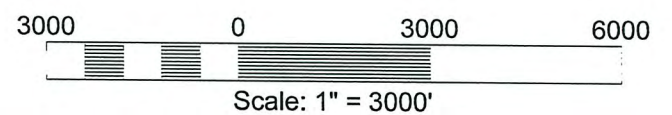


CONESTOGA QUADRANGLE  
PENNSYLVANIA—LANCASTER CO.  
7.5 MINUTE SERIES (TOPOGRAPHIC)

QUARRYVILLE QUADRANGLE  
PENNSYLVANIA—LANCASTER CO.  
7.5 MINUTE SERIES (TOPOGRAPHIC)



RAV ASSOCIATES INC.  
ENGINEERS - CONSULTANTS  
14 Main Street, Landisville, PA  
17538 (717) 898-8100



## USGS MAP OF MS4 AREA

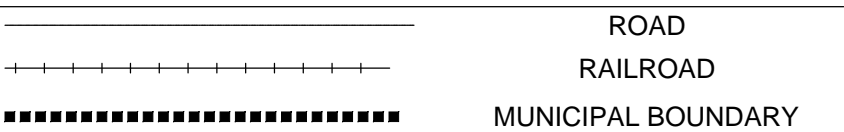
JOB NO.	SCALE:	DATE:	SHEET:
PT-68	AS SHOWN	09/08/2012	1 OF 1



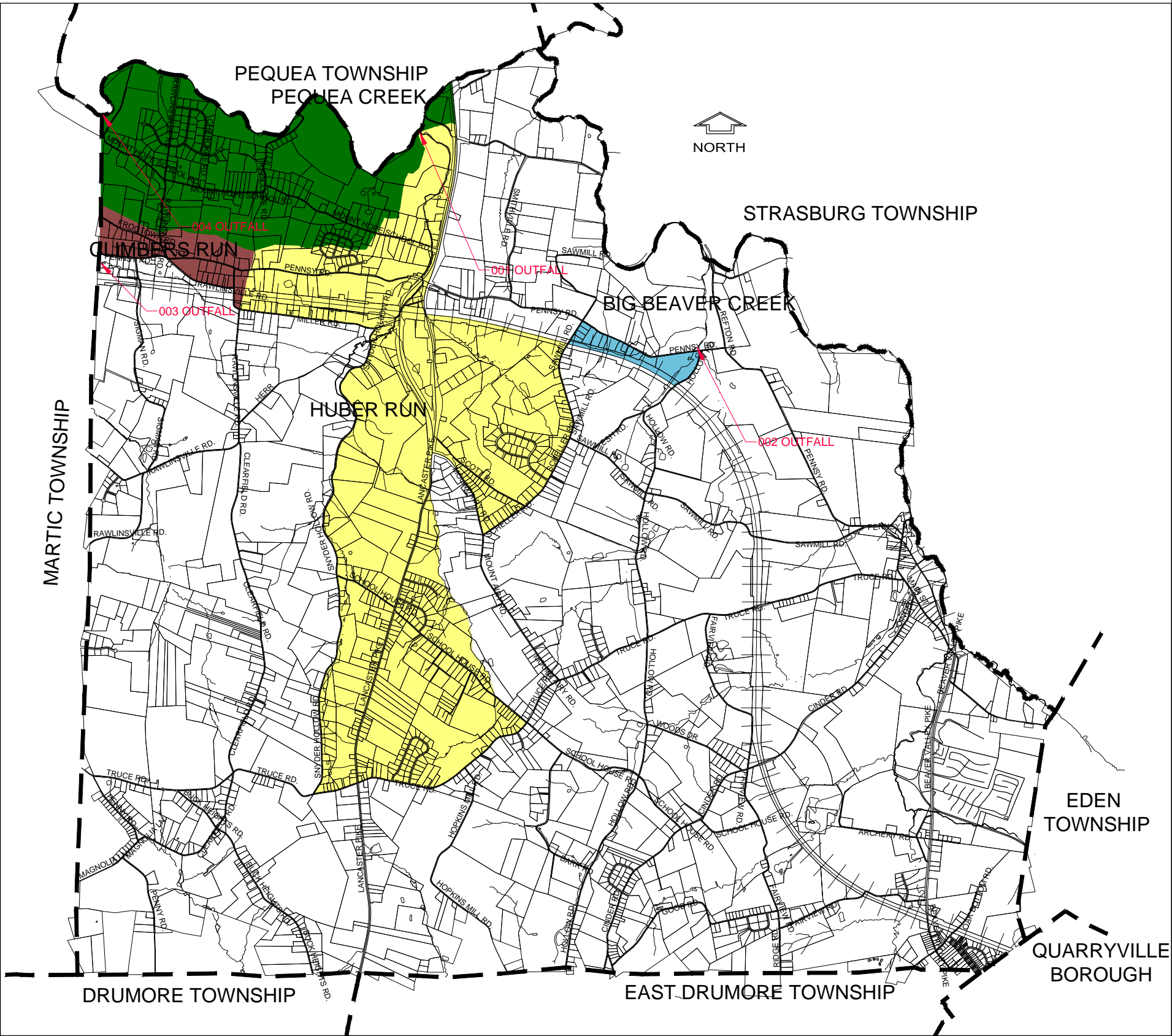
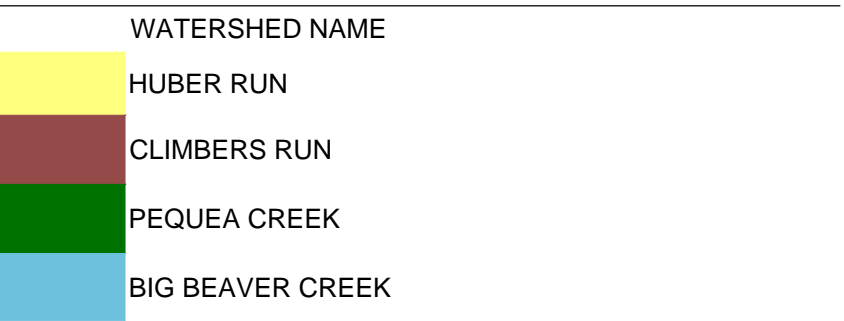
## **STORMWATER PIPE INVENTORY**

PROVIDENCE TOWNSHIP  
WATERS OF THE COMMONWEALTH

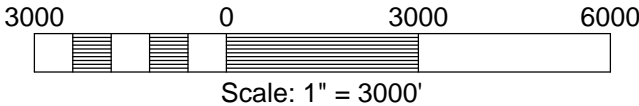
LEGEND



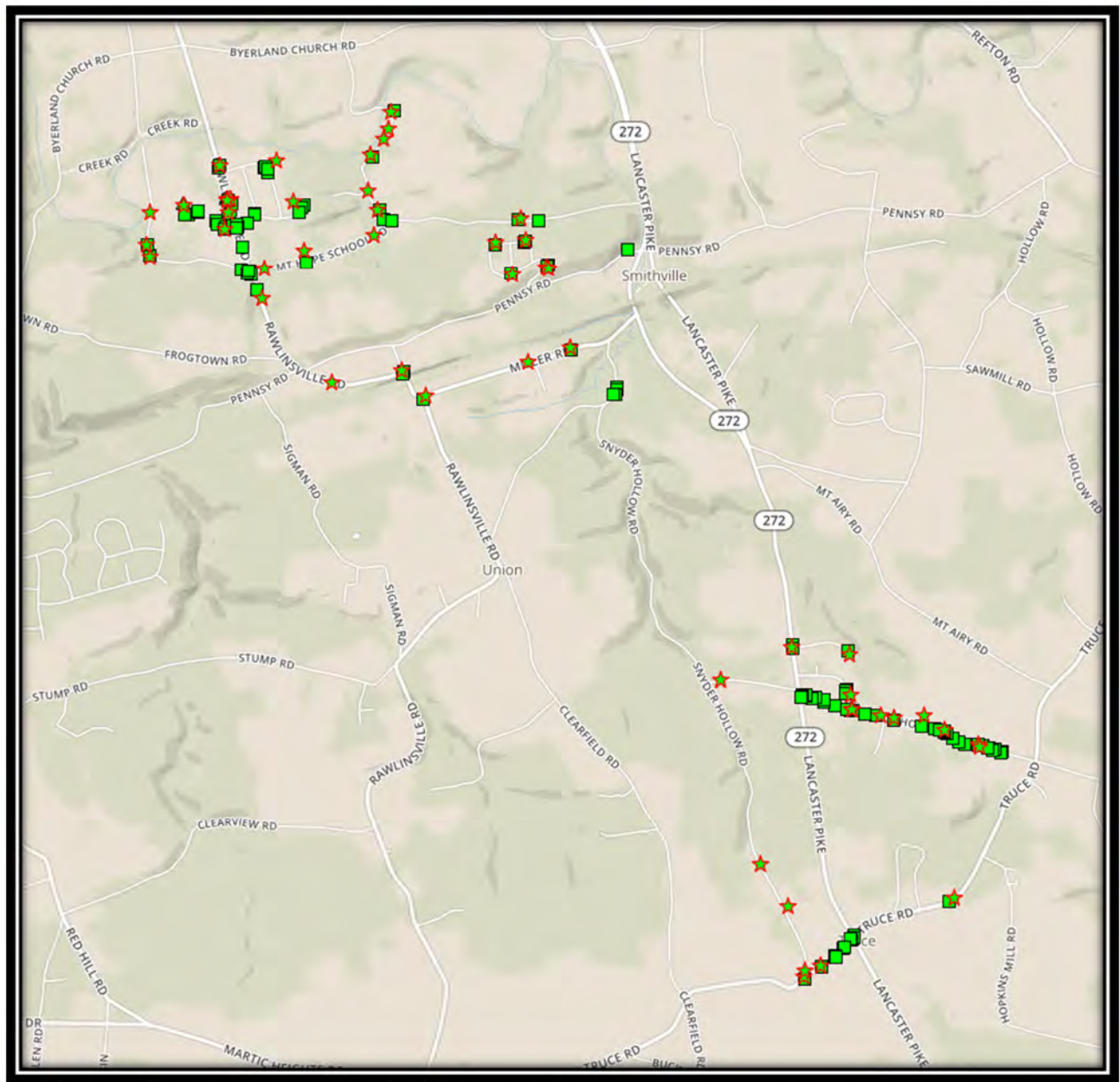
WATERSHED LEGEND



RAV ASSOCIATES INC.  
ENGINEERS - CONSULTANTS  
14 Main Street, Landisville, PA  
17538 (717) 898-8100





WATERS OF THE COMMONWEALTH			
JOB NO. PT-68	SCALE: NONE	DATE: 01/30/2015	SHEET: 1 OF 1



Providence Township – Outfall and Inlet System Map  
May 31, 2016

### Map Legend

- |                  |   |
|------------------|---|
| Boxes – Inlets   |  |
| Stars - Outfalls |  |

**Appendix B.**  
**Public Education Materials**

# Providence Township Patriot

Keeping Providence Township Residents Informed

200 Mount Airy Road, New Providence, PA 17560

[www.providencetownship.com](http://www.providencetownship.com)

*Spring, Volume X,i*

## SPRING CLEAN UP TIME

The township will once again be accepting woody yard waste from residents at the township maintenance shed on two Saturday mornings this spring. If you have woody yard waste (shrub trimmings, branches, etc.) that you wish to dispose of, please plan on bringing them to the township on the following Saturdays:

**April 16, 2016 and May 7, 2016 from 8:00 A.M. —12:00 (Noon)**

Do you have perennials to thin out? The Parks/Rec Committee is accepting donated perennials to be planted along the trail. The perennials can be dropped off at the township building on the same dates as woody waste drop off.

## PERMITS & ZONING

Getting Started "On the Right Track"



A discussion with the township zoning officer should always be the first step prior to starting a building project in Providence Township no matter how small the scope of the project. The zoning officer will help you understand the permit process which can be very in depth and may involve building, zoning and stormwater permits. It is all too common that projects are started without the proper permits and the township must take enforcement action against a property owner. It is always the township's desire to achieve voluntary compliance without the use of legal action. Even voluntary compliance has a financial impact on the owner as the permit fees will be 2X the original permit fee plus \$75.00 for work started without a required permit.

In cases where the township is not able to obtain voluntary compliance a legal proceeding will be commenced. The ordinances of the township permit the filing of a civil action before a magisterial district judge in the amount of \$500 per day of violation plus court and township attorney costs. The costs can accrue very quickly and become very costly to the property owner.

**The best course of action is to always contact your township zoning officer prior to commencing your project!**

## STORMWATER POLLUTION

Providence Township is taking action to reduce stormwater pollution!

What is stormwater pollution? As rain and snowmelt flow across the hard surfaces in our community, it can pick up a variety of polluting substances including heavy metals, grass clippings, bacteria, fertilizers, and trash. Much of this storm water runoff drains into road inlets and pipes, and is then discharged directly into our local streams: the Big Beaver Creek and Pequea Creek. These pollutants are harmful to the fish and wildlife that depend on clean water to thrive. They are also harmful to us! To reduce stormwater pollution, and improve local water quality, Providence Township must develop, implement, and enforce a Stormwater Management Program (SWMP). This task is required by the National Pollutant Discharge Elimination System (NPDES) permit which regulates stormwater discharges from the township's municipal separate storm sewer system (MS4): a series of inlets, pipes, catch basins, and swales that collect, convey, and discharge stormwater directly into our streams. The permit only regulates the MS4 located in the designated urbanized areas of the township which are based on US Census data.

*Serving approximately 7,000 residents and 2,850 households*



## HELPFUL INFORMATION

### Contact Information

Telephone: 717-786-7596

Facsimile: 717-786-2565

Website: [www.providencetownship.com](http://www.providencetownship.com)

### Township Hours:

Monday – Thursday

6:30 a.m. – 4:30 p.m. *Closed every Friday*

### Board of Supervisors

*Meetings: First Monday, 7:00 p.m.*

David J. Gerhart, Chair

C. William Shaffer, Vice Chair

John Schroeder

### Township Manager

Vicki Eldridge

[vicki@providencetownship.com](mailto:vicki@providencetownship.com)

### Zoning Officer

Constance Peiffer

[connie@providencetownship.com](mailto:connie@providencetownship.com)

### Road Master

Jason McClune

[roadmaster@providencetownship.com](mailto:roadmaster@providencetownship.com)

### Planning Commission

*Meetings: Third Monday, 7:00 p.m.*

Andrew Odell, Chair

Anthony Nardella

Kara Kalupson

Pamela Minnick

Kenneth Wiker

### Zoning Hearing Board

*Meetings: Second Tuesday, 7:00 p.m.*

Bradford Duvall

James Hess

Ralph Dubree

Anna Hipple, Alternate

### Emergency Management Coordinator

Jim Herr

**ENCK BROS. DRYWALL, INC.**

- DRYWALL
- METAL STUDS
- INSULATION



- ACT CEILING
- DRYVIT
- PLASTERS

**717.786.8787 QUARRYVILLE, PA PA006819**

## Providence Township is pleased to introduce:

- **Supervisor:** John Schroeder

- **Road Master:** Jason McClune

I grew up in the McClune's Garage family business owned by my father and grandfather Terry and Carl McClune at 136 Lancaster Pike South. After graduating from Solanco High School, I studied business at Harrisburg Area Community College and East Stroudsburg University. I worked over nine years at McClune's Garage before moving on to be the Director of Transportation for the Solanco School District. At Solanco, I was in charge of everything to do with school buses, school bus stops and school bus routes for fifteen years.

I have been married to my wife Mandy for eight years and we currently live on Miller Road in Providence Township with my youngest daughter Kara. My oldest daughter Allison is finishing her second year of college at Lancaster Bible College. I retired from a twenty-three year career of fastpitch softball. My greatest highlight was winning the ISC 2 world tournament in Waterloo, Canada in 2007. The team (South Lebanon TNT) was inducted into the Lebanon ASA Hall of Fame in 2009. I am currently the varsity assistant softball coach at Solanco High School.

My family has taught me the importance of preparation, hard work and respect. I will use these values everyday as I take over as Road Master for Providence Township.

- **Planning Commission Members:**  
Pamela Minnick and Kenneth Wiker

**Volunteers are still needed to serve as alternates on the Planning Commission. Interested parties should contact Vicki Eldridge at 717.786.7596 x 4 or [vicki@providencetownship.com](mailto:vicki@providencetownship.com).**

**Kilgore Electric, Inc.**

**COMMERCIAL**

- Bucket Truck Service
- Parking Light Service
- Lighting Upgrades & Repairs
- Under Ground Wiring

**New & Existing Construction**

Service Upgrades  
Generator Systems

**RESIDENTIAL**

- Expert Re-Wiring
- Central Vac
- Computer Outlets
- Circuit Breakers
- Ceiling Fans
- Telephone/Cable Wiring

PA006974

**Ron Kilgore 717.786.2030**



**RECYCLING** Providence Township residents are required to recycle. All licensed trash haulers will supply recycle bins to their respective customers. If you need a replacement bin, they are available at the township office.

**WHAT DO I PUT IN MY RECYCLE BIN?**

**Glass:** Clear, green and brown glass food and beverage bottles and jars should be thoroughly rinsed and lids should be removed. Throw the lids in the trash. It is not necessary to remove labels.

**DO NOT PUT IN THE BIN:** light bulbs, window and auto glass, drinking glasses and cookware are not recyclable and should be put in the trash.

**Metals:** All food and beverage cans which are made from aluminum, steel, tin or a combination of metals should be rinsed prior to placing in the bin. Do not crush the cans.

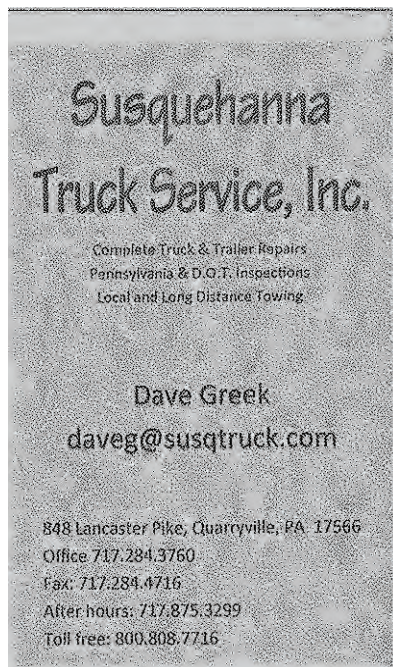
**DO NOT PUT IN THE BIN:** Other aluminum and metal products like foil, pie plates, and hangers are not recyclable and should be put in the trash.

**Plastic Bottles:** Plastic household bottles with a #1 (PETE) such as water, soft drink and juice bottles or #2 (HDPE) like milk and detergent bottles. Throw the lid in the trash. Rinse and smash.

**DO NOT PUT IN THE BIN:** Plastic tubs such as yogurt and butter containers, toys and other plastic packaging.

**Newspapers:** All newspapers, including inserts, should be placed in strong paper bags (not to exceed 30 lbs.). Put the bag next to or on top of the recycling bin. PLEASE DO NOT PUT NEWSPAPERS OUT FOR COLLECTION WHEN IT IS RAINING.

**POLICE COVERAGE** The Pennsylvania State Police is your police force. The non-emergency phone number for the state police is (717)299-7650.



**ENOLA**

**GRADE TRAIL** The Providence Township portion of the trail is open for recreation. The trail is surfaced between Sigman Road and Fairview Road. The surfacing has been completed through Quarryville Borough as well. The trail is open 7 days a week from dawn to dusk. Please take time to get outdoors and enjoy our treasure! Keep up to date with trail activities on the trail website [www.enolalowgradetrail.com](http://www.enolalowgradetrail.com).

**LOW**



**Taxpayer Involvement is Power**  
Rep. Bryan Cutler (R-Peach Bottom)

Many pressing issues demand our attention each day, making it difficult to focus on anything outside of our immediate responsibilities. There isn't enough time to dedicate to family, friends, jobs and hobbies. Yet, it is so important to take an active role in the world around us; only we can represent

our opinions.

Decisions are made daily that impact us. For example, PennDOT will be presenting multiple traffic control alternatives for the Route 272 Corridor in Providence Township in April. The area of Route 272 in between the intersections of Pennsy and Byerland Church roads have been studied, and residents may contact Providence Township at 717-786-7596 or my office at 717-284-1965 for information regarding the proposals. I encourage everyone to take advantage of this opportunity to be involved in the process.

Commonwealth citizens are also welcome to submit their ideas and strategies to improve government efficiency. Recently, the House Majority Policy Committee unveiled PennSAVE. The task force is researching several potential cost-saving measures across state government, including possible state agency and program consolidation, unaddressed audit findings, government procurement policies, as well as overall waste, fraud and system abuse. The public may share feedback by visiting [www.paqoppolicy.com](http://www.paqoppolicy.com) and selecting the "PennSAVE" banner.

Another great opportunity to take a proactive role is by attending my upcoming town hall meeting, which I will be holding on Thursday, April 14, from 7 - 8:30 p.m. at the Providence Township Building, 200 Mount Airy Road, New Providence. The meeting will provide residents of the 100<sup>th</sup> District with the opportunity to hear an update from Harrisburg and ask any questions they have. It is a time to talk about the concerns of the people. Space limits us to 50 attendees, so everyone is asked to RSVP to my office at 717-284-1965 to reserve a spot.

The power of the taxpayer goes far beyond simply pushing a button behind a curtain a couple of times a year; there are so many opportunities that give a voice to the opinions and concerns of the people who government was created to represent. Your opinions and concerns matter, and I encourage you to share them so your government is most beneficial to you

A rectangular advertisement with a bright yellow background. At the top, the text "Probst Family Auction, LLC" is written in a bold, black, sans-serif font, followed by "Full Auction Service" in a slightly smaller font. Below this, on the left, is a yellow starburst graphic with the text "GOING ONCE, GOING TWICE, GOING PROBST" in a bold, black, sans-serif font. To the right of the starburst is a circular logo with a black border. Inside the circle, there is a small crest at the top, and the word "PROBST" is written in a large, bold, black, sans-serif font, with "Auctioneers" written in a smaller, cursive font below it. At the bottom of the advertisement, on the left, is the name "Eric R. Probst, Auctioneer" followed by the address "912 Rawlinsville Road" and "Willow Street, PA 17584". On the right, the contact information is listed: "Email: eric@probstauction.com", "Web: www.probstauction.com", and "Office Phone: (717) 464-3700".

## **MARK YOUR CALENDAR**

**Saturday Oct. 29, 2016 from of 10:00 A.M. —11:30 A.M. Composting Workshop**

The township will be hosting a Home Composting Workshop conducted by a Lancaster County Penn State Extension Master Gardener. Learn how you can improve your garden and reduce waste. Immediately following will be a Rain Barrel Presentation given by the West Lampeter Township Community Development Director. Questions will be welcomed. Please plan to attend these informative and FREE sessions!

## **REMEMBER TO VOTE!**

**Tuesday, April 26, 2016 7:00 a.m.—8:00 p.m. Primary Election Day**

**GO PAPERLESS!** Would you like to receive this publication via email? If so, email [secretary@providencetownship.com](mailto:secretary@providencetownship.com)

 <b>Complete Septic Sewer Drain Service</b>  On Staff Certified SEO PA HIC Number: PA030870	<b>691 Truce Road Quarryville, PA 17566</b>  Phone: (717) 284-5228 Fax: (717) 284-2035 <a href="http://www.finsenvironmentalservice.com">www.finsenvironmentalservice.com</a>
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<b>Lisa Kilgore</b> Independent Beauty Consultant  456 Cinder Road New Providence, PA 17560 717-629-0930 717-786-1318 Fax <a href="mailto:kilelect@comcast.net">kilelect@comcast.net</a> <a href="http://marykay.com/lkilgore">marykay.com/lkilgore</a>  God First, Family Second, Career Third	 <b>MARY KAY</b>
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*Keeping our residents informed!*

PRSR STD  
US POSTAGE  
PAID  
LANCASTER, PA  
PERMIT #299

**PROVIDENCE TOWNSHIP PATRIOT**  
A publication of Providence Township  
Providence Township Municipal Office  
200 Mt. Airy Road  
New Providence, PA 17560



# The Basics of Manure Management Requirements

All farming operations that land apply manure or agricultural process wastewater, whether they generate the manure or import it from another operation, **must** have a written Manure Management Plan. All farming operations that include an Animal Concentration Area (ACA) or pasture **must** have a written Manure Management Plan.

For farms **not** defined as Concentrated Animal Feeding Operations (CAFOs) or Concentrated Animal Operations (CAOs), Manure Management Plans can be prepared by the farmer, although the farmer may benefit from getting assistance by those trained and experienced in developing plans. Manure Management Plans do not have to be submitted for approval but must be kept on the farm and made available upon request.

It should be noted that farms defined as CAFOs or as CAOs are required to develop more detailed written plans, called Nutrient Management Plans. These plans must be developed by a Certified Nutrient Management Specialist and submitted to the local county conservation district for review and approval.

Pennsylvania Chapter 91 regulations address pollution control and prevention at agricultural operations. Section 91.36 of the regulations refers to the Manure Management Manual (MMM) as containing standards for development of a Manure Management Plan. The MMM is available to assist farmers to develop a written Manure Management Plan. A farmer can use a plan different than the MMM, but they then must get DEP review and approval. The following is an overview of the sections of a Manure Management Plan. Complete details are outlined in the *Manure Management for Environmental Protection*.

**Operation Information - Section 1** – Manure Management Plans include contact information and general information about the farm.

**Mechanical Manure Application - Section 2** – Manure Management Plans identify manure and fertilizer application rates for each crop group, manure application setbacks from environmentally sensitive areas, and requirements for winter application.

- 1) Manure Application Rates and Timing – Use one of these three options for determining rates:
  - The Manure Application Rate Tables included in the MMM; or
  - Nitrogen or Phosphorus Balance Worksheets; or
  - The P-Index developed by a certified individual.
- 2) Environmentally Sensitive Areas – identification of streams, sinkholes, public drinking water sources, and private drinking water sources:
  - 100 foot setback from these environmentally sensitive areas.
  - The setback from a stream can be reduced if using designated conservation practices.
- 3) Winter Application - Winter application of manure is discouraged. DEP encourages farmers to use other management like solid manure stacking and liquid manure storage. You may winter spread, but there are additional conditions and restrictions, including:
  - Setback of 100 ft. from top of stream banks, lakes and ponds.
  - **No application** on fields with slopes greater than 15%.
  - All fields must have minimum 25% crop residue at application time or an established and growing crop/cover crop.
  - Maximum application rates of 5000 gal/ac or 20 tons/ac non-poultry manure and 3 tons/ac poultry.

**NOTE:** In the MMM, "Winter" is identified as:

- December 15 through February 28 or
- Anytime the ground is frozen at least 4 inches, or
- Anytime the ground is snow covered.



Winter spreading is allowed,  
but various conditions and restrictions apply.

## Farm Maps - Section 3 –

The Manure Management Plan must include a map. The map will identify field boundaries and acreage, environmentally sensitive areas, manure storage structures, manure stockpiling and stacking areas, pastures, ACAs and roads.



## Record Keeping - Section 4 –

Farmers are required to keep records of manure application, crop yield, manure export, and manure storage observations (if applicable). The farmer may use his current methods of recordkeeping **or** the MMM provides blank reporting forms that can be used.



### Manure Storage and Stockpiling/Stacking Area –

**Section 5** – The Manure Management Plan must identify any manure storage and stockpiling/stacking areas on the farm. Manure and agricultural process wastewater must be properly stored. Liquid or semi-solid manure storage facilities built since the year 2000 must be designed by a licensed PA Professional Engineer.

Manure stacking in farmstead areas must use an improved stacking pad or covered area. Manure in these improved stacking pads does not necessarily need to be covered.

In-field stacking on unimproved areas is allowed for stackable manure. Manure stacking in crop fields includes 100 ft. setbacks from environmentally sensitive areas and stockpiles must be on lands of less than 8% slope.

*Permanent manure storages should not leak or overflow – a minimum “freeboard” needs to be maintained. Any discharges need to be addressed immediately.*

*Pastures should maintain average vegetation height of at least 3" during the growing season.*



**Pasture Management - Section 6** – The Manure Management Plan should identify pastures. Farmers have options for managing pastures, including:

- Maintain “dense vegetation throughout the growing season”, which *minimize bare spots and maintain average vegetation height of at least 3 inches.*
- **Or** develop a Prescribed Grazing Plan, as outlined in NRCS PA Technical Guide Practice Standard 528 – Prescribed Grazing Plan.

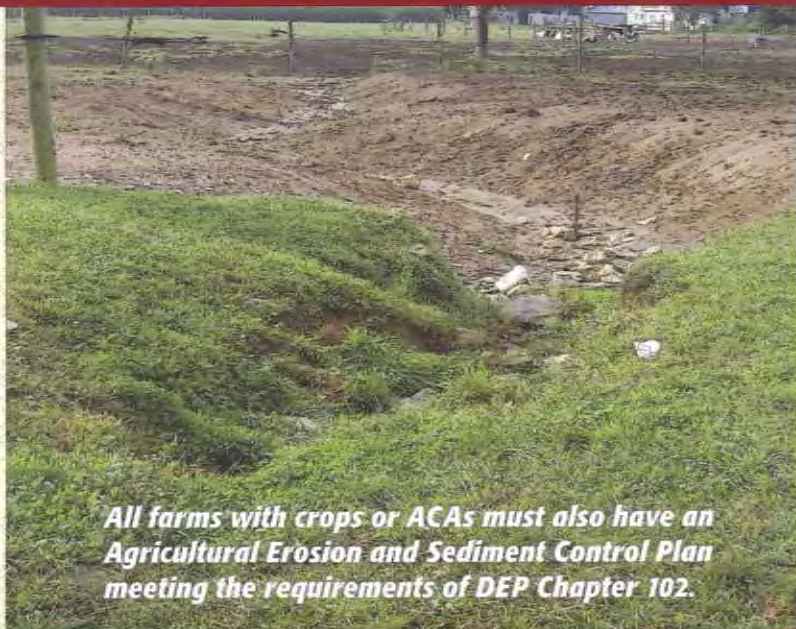
## *Manure Management for Environmental Protection*

**is available online, at regional DEP offices or at local county conservation district offices.**



**Animal Concentration Areas - Section 7** – The Manure Management Plans should include barnyards, feedlots, loafing areas, exercise lots or other similar animal confinement areas that will not maintain the dense vegetation of a pasture. ACAs are not pastures. When managing ACAs, the farmer should:

- Divert clean water away from the ACA.
- Collect or treat dirty water flowing from ACA.
- Limit animal access to streams.
- Minimize the size of the ACA.
- Move feeding and watering areas away from streams.
- Routinely remove manure.



*All farms with crops or ACAs must also have an Agricultural Erosion and Sediment Control Plan meeting the requirements of DEP Chapter 102.*

## *A Manure Management Plan should include . . .*

- ☒ Acres of the operation: Owned and Rented
- ☒ Animals on the operation: Animal type, Animal # (normal production day), Days on farm per year
- ☒ Manure application rates and timing
- ☒ Crop rotation used on the operation
- ☒ Identify Environmentally Sensitive Areas
  - ☒ Winter application: If manure is applied during the winter
- ☒ Manure storage facilities: If manure is stored in a manure storage facility, identify type of tank, structure, pond or lagoon.
- ☒ Solid manure stockpiling or stacking: If manure is stockpiled or stacked in outdoor areas
- ☒ Identify pasture areas and list acres: Owned and Rented
- ☒ Identify Animal Concentration Areas (ACAs): Owned and Rented







# Pequea Creek Watershed Association

Preserve Protect Enhance

A Not For Profit Organization



Visit us on Facebook!

**Any Questions Please contact:**

**Kara M. Kalupson**

**717.786.7995**

**[kmk2962@aol.com](mailto:kmk2962@aol.com)**

## Our Mission Statement

To preserve, protect and enhance the watershed of the Pequea Creek and all its tributaries through protection, restoration and education; to partner with private and public landowners to achieve these goals; and to highlight the importance of improving and protecting our natural resources.



# Pequea Creek Watershed Association

## Preserve Protect Enhance

A Non Profit Corporation

There are many impaired and polluted streams within our watershed including parts of the Big and Little Beaver that are stocked yearly by the Pennsylvania Fish and Boat Commission.

### DID YOU KNOW?

- THE PEQUEA CREEK IS NAMED AFTER THE PEKOWI TRIBE, A DIVISION OF THE SHAWNEE PEOPLE. THE NAME OF THE CREEK IS SHAWNEE FOR "DUST" OR "ASHES".



### Our First Clean-Up

Our first Clean-Up was a section of the Big Beaver Creek along Route 222 in New Providence.

An entire trailer-load of garbage was collected by over 25 volunteers!



## Clean Water Benefits Everyone!

### Our Second Clean-Up

Our second Clean-Up started at the headwaters of the Big Beaver Creek. This time we began what will become an ongoing stream analysis. It includes testing the water, taking notes, as well as, taking photos to document the various conditions along the Big Beaver Creek.

### Tree Planting

The best way to protect a stream's ecosystem is to plant native trees and shrubs along the banks in what is called a Riparian Buffer.

Forested stream banks protect and enhance water quality in numerous ways. They provide habitat for birds and mammals, shade streams to reduce water temperatures, and they stabilize stream banks.

Our group, with the help of approximately 28 volunteers, planted 100 trees along the Pequea Creek at the Strasburg Township Park.



### Become a member and help us provide many services

including the following: educate the public; purchase native plants for riparian buffers; complete stream clean-ups and water analysis; sponsor stream channel improvements, fishing derbies and more!

Yearly Membership dues:

Single: \$10.00  
Family \$20.00  
Business: \$50.00

Make checks payable to:

Pequea Watershed  
Association

Name \_\_\_\_\_

Mailing Address \_\_\_\_\_

Phone Number \_\_\_\_\_

We are members of the Lancaster County Clean Water Consortium

Please Remit to:  
Kara M. Kalupson  
PO Box 21  
New Providence, PA 17560



**WHEN YOU'RE WASHING YOUR CAR IN  
THE DRIVEWAY, REMEMBER YOU'RE  
NOT JUST WASHING YOUR CAR  
IN THE DRIVEWAY.**



All the soap, scum, and oily grit runs along the curb. Then into the storm drain and directly into our lakes, streams and into coastal waters including the Chesapeake Bay. And that causes pollution which is unhealthy for fish. So how do you avoid this whole mess? Easy. Wash your car on grass or gravel instead of the street. Or better yet, take it to a car wash where the water gets treated and recycled.

If you have questions regarding storm water, please contact your municipality or Pennsylvania Department of Environmental Protection's Regional Office.  
For general questions, you may also contact DEP's Bureau of Water Management at (717) 772-5661 or visit [www.dep.state.pa.us](http://www.dep.state.pa.us).  
Thanks to the Washington State Water Quality Consortium for permission to adapt and use this poster.



# WHEN YOU'RE FERTILIZING THE LAWN, REMEMBER, YOU'RE NOT JUST FERTILIZING THE LAWN.



You fertilize the lawn. Then it rains. The rain washes the fertilizer along the curb, into the storm drain, and directly into our lakes, streams and into coastal waters including the Chesapeake Bay. This causes algae to grow, which uses up oxygen that fish need to survive. So if you fertilize, please follow directions and use sparingly.

If you have questions regarding storm water, please contact your municipality or Pennsylvania Department of Environmental Protection's Regional Office. For general questions, you may also contact DEP's Bureau of Water Management at (717) 772-5661 or visit [www.dep.state.pa.us](http://www.dep.state.pa.us). Thanks to the Washington State Water Quality Consortium for permission to adapt and use this poster.



# WHEN YOUR CAR'S LEAKING OIL ON THE STREET, REMEMBER IT'S NOT JUST LEAKING OIL ON THE STREET.



Leaking oil goes from car to street. And is washed from the street into the storm drain and into our lakes, streams and into coastal waters including the Chesapeake Bay. Now imagine the number of cars in the area and you can imagine the amount of oil that finds its way from leaky gaskets into our water. So please, fix oil leaks.

If you have questions regarding storm water, please contact your municipality or Pennsylvania Department of Environmental Protection's Regional Office.  
For general questions, you may also contact DEP's Bureau of Water Management at (717) 772-5661 or visit [www.dep.state.pa.us](http://www.dep.state.pa.us).  
Thanks to the Washington State Water Quality Consortium for permission to adapt and use this poster.



# WHEN YOUR PET GOES ON THE LAWN, REMEMBER IT DOESN'T JUST GO ON THE LAWN.



When our pets leave those little surprises, rain washes all that pet waste and bacteria into our storm drains. And then pollutes our waterways. So what to do? Simple. Dispose of it properly (preferably in the toilet). Then that little surprise gets treated like it should.

If you have questions regarding storm water, please contact your municipality or Pennsylvania Department of Environmental Protection's Regional Office.  
For general questions, you may also contact DEP's Bureau of Water Management at (717) 772-5661 or visit [www.dep.state.pa.us](http://www.dep.state.pa.us).  
Thanks to the Washington State Water Quality Consortium for permission to adapt and use this poster.



WHEN YOUR CAR'S LEAKING OIL ON  
THE STREET, REMEMBER IT'S NOT JUST  
LEAKING OIL ON THE STREET.



Leaking oil goes from car to street. And is washed from the street into the storm drain  
and into our lakes, streams and into coastal waters including the Chesapeake Bay.  
Now imagine the number of cars in the area and you can imagine the amount of oil  
that finds its way from leaky gaskets into our water. So please, fix oil leaks.

If you have questions regarding storm water, please contact your municipality or Pennsylvania Department of Environmental Protection's Regional Office.  
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Thanks to the Washington State Water Quality Consortium for permission to adapt and use this poster.

WHEN YOU'RE FERTILIZING THE LAWN,  
REMEMBER, YOU'RE NOT JUST  
FERTILIZING THE LAWN.

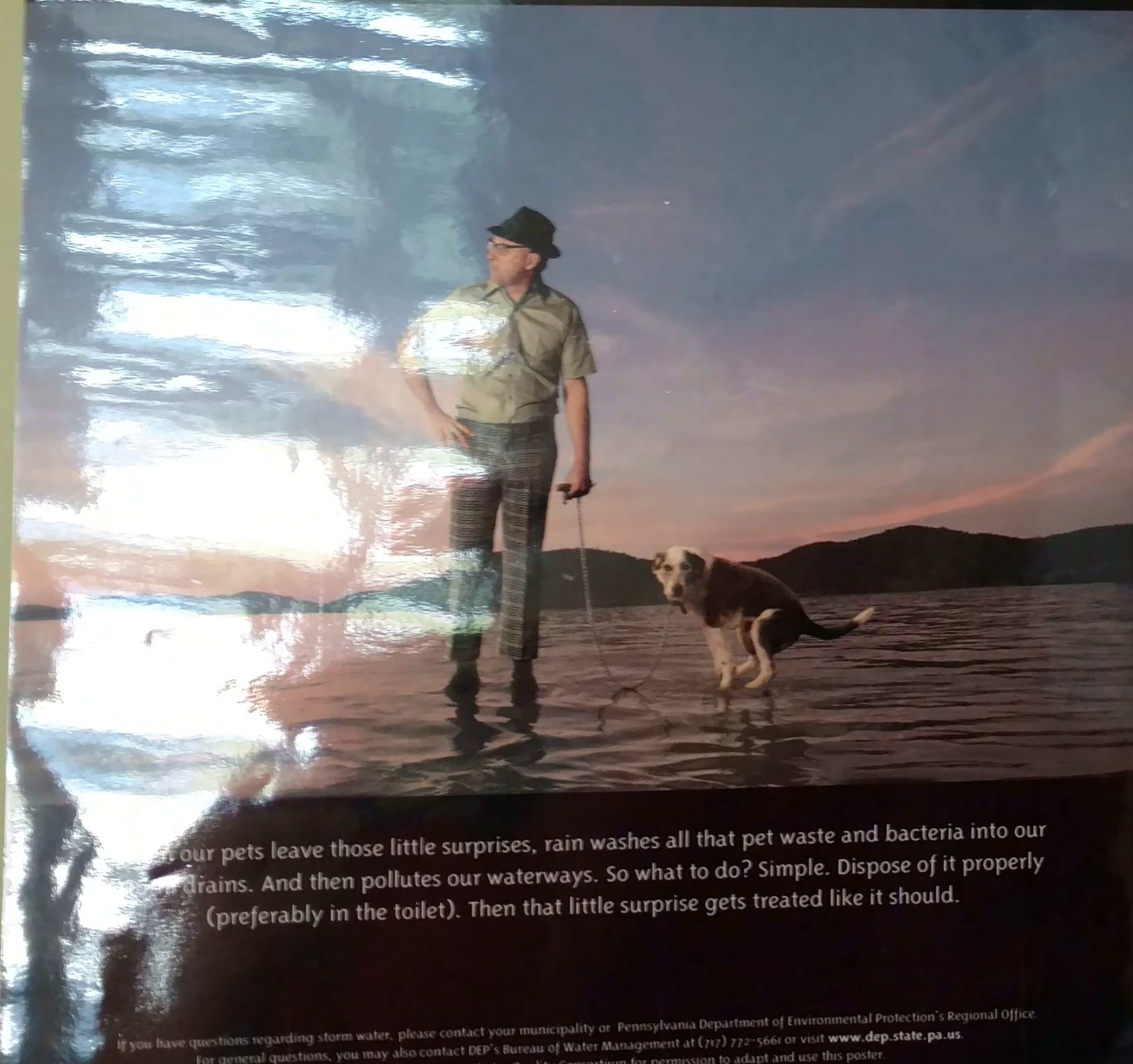


You fertilize the lawn. Then it rains. The rain washes the fertilizer along the curb, into the storm drain,  
and directly into our lakes, streams and into coastal waters including the Chesapeake Bay.  
This causes algae to grow, which uses up oxygen that fish need to survive.  
So if you fertilize, please follow directions and use sparingly.

If you have questions regarding storm water, please contact your municipality or Pennsylvania Department of Environmental Protection's Regional Office.  
For general questions, you may also contact DEP's Bureau of Water Management at (717) 772-5661 or visit [www.dep.state.pa.us](http://www.dep.state.pa.us).  
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If you have questions regarding storm water, please contact your municipality or Pennsylvania Department of Environmental Protection's Regional Office. For general questions, you may also contact DEP's Bureau of Water Management at (717) 772-5661 or visit [www.dep.state.pa.us](http://www.dep.state.pa.us). Thanks to the Washington State Water Quality Consortium for permission to adapt and use this poster.

WHEN YOU'RE WASHING YOUR CAR IN  
THE DRIVEWAY, REMEMBER YOU'RE  
NOT JUST WASHING YOUR CAR  
IN THE DRIVEWAY.



All the soap, scum, and oily grit runs along the curb, then into the storm drain and directly into our lakes, streams and into coastal waters including the Chesapeake Bay. And that causes pollution which is unhealthy for fish. So how do you avoid this whole mess? Easy. Wash your car on grass or gravel instead of the street. Or better yet, take it to a car wash where the water gets treated and recycled.

If you have questions regarding storm water, please contact your municipality or Pennsylvania Department of Environmental Protection's Regional Office. For general questions, you may also contact DEP's Bureau of Water Management at (717) 772-5661 or visit [www.dep.state.pa.us](http://www.dep.state.pa.us). Thanks to the Washington State Water Quality Consortium for permission to adapt and use this poster.







**Appendix C.**  
**Providence Township**  
**Stormwater Management Ordinance**

# PROVIDENCE TOWNSHIP



# STORM WATER MANAGEMENT ORDINANCE

ADOPTED MAY 5, 2014





# PROVIDENCE TOWNSHIP STORMWATER MANAGEMENT ORDINANCE

ORDINANCE NO. 14-01

LANCASTER COUNTY, PENNSYLVANIA

Adopted at a Public Meeting Held on

May 5, 2014

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## **ARTICLE I. GENERAL PROVISIONS**

### **SECTION 1.01 SHORT TITLE**

This Ordinance shall be known and may be cited as the "Providence Township Stormwater Management Ordinance (SWMO)."

### **SECTION 1.02 STATEMENT OF FINDINGS**

The Board of Supervisors of the Providence Township finds that:

- A. Inadequate management of accelerated stormwater runoff resulting from development throughout a watershed increases flood flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of existing streams and storm sewers, greatly increases the cost of public facilities to convey and manage stormwater, undermines floodplain management and flood control efforts in downstream communities, reduces groundwater recharge, threatens public health and safety, and increases nonpoint source pollution of water resources.
- B. A comprehensive program of SWM, including reasonable regulation of development and activities causing accelerated runoff is fundamental to the public health, safety, welfare, and the protection of the people of the Township and all the people of the Commonwealth, their resources, and the environment.
- C. Stormwater is an important water resource, which provides groundwater recharge for water supplies and base flow of streams, which also protects and maintains surface water quality.
- D. Federal and state regulations require certain municipalities to implement a program of stormwater controls. These municipalities are required to obtain a permit for stormwater discharges from their Municipal Separate Storm Sewer Systems (MS4) under the National Pollutant Discharge Elimination System (NPDES).
- E. Riparian forest buffers enhance water quality by filtering pollutants in runoff, providing light control and temperature moderation, processing pollutants, increasing infiltration and providing channel and shoreline stability thus decreasing erosion (DEP Riparian Forest Buffer Guidance, November 27, 2010).

### **SECTION 1.03 PURPOSE**

The purpose of this Ordinance is to promote health, safety, and welfare by minimizing the harms and maximizing the benefits described in Section 1.02 of this Ordinance through provisions designed to:

- A. Meet legal water quality requirements under state law, including regulations at 25 Pa. Code Chapter 93 to protect, maintain, reclaim, and restore the existing and designated uses of the waters of this Commonwealth.
- B. Preserve the natural drainage systems as much as practicable.
- C. Manage stormwater runoff close to the source.
- D. Provide procedures and performance standards for stormwater planning and management.
- E. Maintain groundwater recharge to prevent degradation of surface and groundwater quality and to otherwise protect water resources.
- F. Prevent scour and erosion of stream banks and streambeds.
- G. Provide proper Operation and Maintenance of all Stormwater Management Best Management Practices (SWM BMPs) that are implemented within the Township.
- H. Provide standards to meet NPDES permit requirements.
- I. Promote stormwater runoff prevention through the use of nonstructural Best Management Practices (BMPs).
- J. Provide a regulatory environment that supports the proportion, density and intensity of development called for in the comprehensive plan; allow for creative methods of improving water quality and managing stormwater runoff; and promote a regional approach to water resource management.
- K. Help preserve and protect exceptional natural resources and conserve and restore natural resource systems.
- L. Promote stormwater management practices that emphasize infiltration, evaporation, and transpiration.

#### **SECTION 1.04 STATUTORY AUTHORITY**

- A. Primary Authority: The Township is empowered to regulate these activities by the authority of the Act of October 4, 1978, 32 P.L. 864 (Act 167), 32 P.S. Section 680.1, et seq., as amended, the "Stormwater Management Act" and Act 394 of 1937, as amended, 35 P.S. Section 691.1 et seq. the Pennsylvania Clean Streams Law. The Township also is empowered to regulate land use activities that affect stormwater impacts by the authority of the Second Class Township Code, Act of May 1, 1933, P.L. 103, No. 69, as reenacted and amended by the Act of November 9, 1995, P.L. 350, No. 60, as amended.
- B. Secondary Authority: The Township also is empowered to regulate land use activities that affect runoff by the authority of the Act of July 31, 1968, P.L. 805, No. 247, The Pennsylvania Municipalities Planning Code, as amended.

#### **SECTION 1.05 APPLICABILITY**

The provisions, regulations, limitations, and restrictions of this ordinance shall apply to regulated activities as defined in this Ordinance.

- A. This chapter applies to any regulated earth disturbance activities within the Township and all stormwater runoff entering into the Township's separate storm sewer system from lands within the boundaries of the Township.
- B. Earth disturbance activities and associated stormwater management controls are also regulated under existing state law and implementing regulations. This chapter shall operate in coordination with those parallel requirements; the requirements of this chapter shall be no less restrictive in meeting the purposes of this chapter than state law.
- C. The provisions, regulations, limitations, and restrictions of this chapter governing maintenance of SWM Facilities shall apply to all SWM Facilities existing on the date of this chapter or installed after the date of this chapter and shall apply to all persons responsible for maintenance of such SWM Facilities and all persons who own or occupy the land upon which such SWM Facilities are located.
- D. The provisions, regulations, limitations and restrictions of this chapter governing grading, erosion and sedimentation control, excavation and other earth disturbance activities shall apply to all persons performing any such activities within the Township and to all landowners of lots upon which such activities are performed.
- E. No person shall use or modify any land or watercourse, and no person shall disturb, move, strip or modify the earth, and no person shall build, install or extend any structure

or other impervious surface or semi-impervious surface without full compliance with the terms of this chapter and other applicable regulations.

- F. It shall be the responsibility of the developer and, if different, the landowner, to ensure that all contractors, agents or other persons comply with all requirements of the chapter and with any approved SWM Site Plan or stormwater management permit.

#### **SECTION 1.06 REPEALS AND CONTINUATION OF PRIOR REGULATIONS**

Any other ordinance provision(s) or regulation of the Township inconsistent with any of the provisions of this Ordinance is hereby repealed to the extent of the inconsistency only.

- A. Except as otherwise required by law, this Ordinance is intended as a continuation of, and not a repeal of, existing regulations governing the subject matter. To the extent that this Ordinance restates regulations contained in ordinances previously enacted by the Board of Supervisors, this Ordinance shall be considered a restatement and not a repeal of such regulations. It is the specific intent of the Board of Supervisors that all provisions of this Ordinance shall be considered in full force and effect as of the date such regulations were initially enacted. All ordinances or parts of ordinances inconsistent with the provisions of this Ordinance are hereby repealed. It is expressly provided that the provisions of this Ordinance shall not affect any act done, contract executed or liability incurred prior to its effective date, or affect any suit or prosecution pending or to be instituted to enforce any rights, rule, regulation or ordinance, or part thereof, or to punish any violation which occurred under any prior storm water regulation or ordinance. In the event any violation has occurred under any prior storm water regulation or ordinance of Providence Township, prosecution may be initiated against the alleged offender pursuant to the provisions of said prior storm water regulation or ordinance, and the provisions and penalties provided in said prior stormwater regulation or ordinance shall remain effective as to said violation.
- B. Any Plan (hereinafter defined) pending at the time of the effective date of this Chapter shall be allowed to proceed with revisions, finalization and implementation in accordance with any ordinance in effect prior hereto.

#### **SECTION 1.07 SEVERABILITY**

Should any section, provision or part thereof of this Ordinance be declared invalid by a court of competent jurisdiction, such decision shall not affect the validity of any of the remaining provisions of this Ordinance.



#### **SECTION 1.08 COMPATIBILITY WITH OTHER ORDINANCE REQUIREMENTS**

Approvals issued pursuant to this Ordinance do not relieve the Applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act, or ordinance.

#### **SECTION 1.09 ERRONEOUS PERMIT**

Any permit or authorization issued or approved based on false, misleading or erroneous information provided by an applicant is void without the necessity of any proceedings for revocation. Any work undertaken or use established pursuant to such permit or other authorization is unlawful. No action may be taken by a board, agency or employee of the Providence Township purporting to validate such a violation.

#### **SECTION 1.10 MUNICIPAL LIABILITY**

Except as specifically provided by the Pennsylvania Storm Water Management Act, Act of October 4, 1978, P.L. 864, No. 167, as amended, 32 P.S. §680.1 et seq., the making of any administrative decision by the Providence Township or any of its officials or employees shall not constitute a representation, guarantee or warranty of any kind by the Township of the practicability or safety of any proposed structure or use with respect to damage from erosion, sedimentation, storm water runoff, flood, or any other matter, and shall create no liability upon or give rise to any cause of action against the Township and its officials and employees. Township, by enacting and amending this Ordinance, does not waive or limit any immunity granted to the Township and its officials and employees by the Governmental Immunity Act, 42 Pa. C.S. §8541 et seq., and does not assume any liabilities or obligations.

#### **SECTION 1.11 DUTY OF PERSONS ENGAGED IN THE DEVELOPMENT OF LAND**

Notwithstanding any provision(s) of this Ordinance, including exemptions, any landowner or any person engaged in the alteration or development of land which may affect stormwater runoff characteristics shall implement such measures as are reasonably necessary to prevent injury to health, safety, or other property. Such measures also shall include actions as are required to manage the rate, volume, direction, and quality of resulting stormwater runoff in a manner which otherwise adequately protects health, property, and water quality.

## ARTICLE II.        DEFINITIONS OF TERMS

### SECTION 2.01   INTERPRETATION AND WORD USAGE

The language set forth in the text of this Ordinance shall be interpreted in accordance with the following rules of construction:

- A.    Words used or defined in one tense or form shall include other tenses or derivative forms.
- B.    Words in the singular number shall include the plural number, and words in the plural number shall include the singular number.
- C.    The masculine gender shall include the feminine and neuter. The feminine gender shall include the masculine and neuter. The neuter gender shall include the masculine and feminine.
- D.    The word "person" includes individuals, firms, partnerships, joint ventures, trusts, trustees, estates, corporations, associations, and any other similar entities.
- E.    The word "Lot" includes the words "plot", "Tract", and "Parcel".
- F.    The words "shall," "must" and "will" are mandatory in nature and establish an obligation or duty to comply with the particular provision. The words "may" and "should" are permissive.
- G.    The time, within which any act required by this Ordinance is to be performed, shall be computed by excluding the first day and including the last day. However, if the last day is a Saturday or Sunday or a holiday declared by the United States Congress or the Pennsylvania General Assembly, it shall also be excluded. The word "day" shall mean a calendar day, unless otherwise indicated.
- H.    Any words not defined in this Ordinance or in Section 107 of the MPC shall be construed as defined in standard dictionary usage.
- I.    References to officially adopted regulations, standards, or publications of DEP or other governmental agencies shall include the regulation, publication, or standard in effect on the date when a SWM Site Plan is first filed. It is the intent of the Board of Supervisors in enacting this Section to incorporate such changes to statutes, regulations, and publications to the extent authorized by 1 Pa. C.S. § 1937.

## **SECTION 2.02 DEFINITIONS OF TERMS**

**Accelerated Erosion** – The removal of the surface of the land through the combined action of man's activity and the natural processes at a rate greater than would occur because of the natural process alone.

**Access Easement** – A right granted by a landowner to a grantee, allowing entry for the purpose of inspecting, maintaining and repairing SWM Facilities.

**Act 167 Plan** – A plan prepared under the authority of The Stormwater Management Act.

**Agricultural Activity** – Activities associated with agriculture such as agricultural cultivation, agricultural operation, and animal heavy use areas. This includes the work of producing crops and raising livestock including tillage, land clearing, plowing, disking, harrowing, planting, harvesting crops, or pasturing and raising of livestock and installation of Conservation Practices. Construction of new buildings or impervious areas is not considered an agricultural activity.

**Alteration** – As applied to land, a change in topography as a result of the moving of soil and rock from one location or position to another; also the changing of surface conditions by causing the surface to be more or less impervious; earth disturbance activity.

**Animal Heavy Use Areas** – A barnyard, feedlot, loafing area, exercise lot, or other similar area on an agricultural operation where due to the concentration of animals, it is not possible to establish and maintain vegetative cover of a density capable of minimizing accelerated erosion and sedimentation by usual planting methods. The term does not include entrances, pathways and walkways between areas where animals are housed or kept in concentration.

**Applicant** – A Landowner and/or Developer, as hereinafter defined, including his heirs, successors and assigns, who has filed an application to the Township for approval to engage in any regulated activity at a Development Site located within the Township.

**BMP (Best Management Practice)** – Activities, facilities, control measures, planning or procedures used to minimize accelerated erosion and sedimentation and manage stormwater to protect, maintain, reclaim, and restore the quality of waters and the existing and designated uses of waters within this Commonwealth before, during and after earth disturbance activities<sup>1</sup>. See also Non-structural BMP and Structural BMP.

**BMP Manual** – The Pennsylvania Stormwater Best Management Practices Manual of December 2006, or most recent version thereof.

**Board of Supervisors** – The governing body of the Township.

**Building** – Any enclosed or open structure, other than a boundary wall or fence, occupying more than four (4) square feet of area and/or having a roof supported by columns, piers, or walls.

**Carbonate Geology** – Limestone or dolomite bedrock. Carbonate geology is often associated with karst topography.

**Certificate of Completion** – Documentation verifying that all permanent SWM facilities have been constructed according to the plans and specifications and approved revisions thereto.

**Chapter 102** – 25 Pa. Code Chapter 102, Erosion and Sediment Control.

**Chapter 105** – 25 Pa. Code, Chapter 105, Dam Safety and Waterway Management.

**Chapter 106** – 25 Pa. Code, Chapter 106, Floodplain Management.

**Cistern** – A reservoir or tank for storing rainwater.

**Clean Water Act** – the 1972 Amendments to the Federal Water Pollution Control Act, P.L. 92-500 of 1972, 33 U.S.C. §1251 et seq.

**Conservation District** - The Lancaster County Conservation District or any agency successor thereto.

**Conservation Plan** – A plan written by an NRCS certified planner that identifies Conservation Practices and includes site-specific BMPs for agricultural plowing or tilling activities and Animal Heavy Use Areas.

**Conservation Practices** – Practices installed on agricultural lands to improve farmland, soil and/or water quality which have been identified in a current Conservation Plan.

**Conveyance** – (n) Any structure that carries a flow. (v) The ability of a pipe, culvert, swale or similar facility to carry the peak flow from the design storm.

**Culvert** – A structure with appurtenant works which can convey a stream under or through an embankment or fill.

**Dam** – An artificial barrier, together with its appurtenant works, constructed for the purpose of impounding or storing water or another fluid or semifluid, or a refuse bank, fill or structure for highway, railroad or other purposes which does or may impound water or another fluid or semifluid.

**DCNR** – the Pennsylvania Department of Conservation and Natural Resources or any agency successor thereto.

**DEP** also PA DEP or PADEP – The Pennsylvania Department of Environmental Protection or any agency successor to the Pennsylvania Department of Environmental Protection.

**Design Storm** – The magnitude and temporal distribution of precipitation from a storm event measured in probability of occurrence (e.g., a 5-year storm) and duration (e.g., 24-hours), used in the design and evaluation of SWM systems.

**Designee** – The agent of Lancaster County and/or agent of Providence Township involved with the administration, review or enforcement of any provisions of this chapter by appointment, contract or memorandum of understanding.

**Detention Basin** – An impoundment structure designed to manage stormwater runoff by temporarily storing the runoff and releasing it at a controlled rate.

**Developer** – A person who undertakes any Regulated Activity of this Ordinance.

**Development Site (Site)** – The specific area of land where regulated activities in the Township are planned, conducted or maintained.

**Disappearing Stream** – A stream in an area underlain by limestone or dolomite that flows underground for a portion of its length.

**Disturbed Area** – A land area where an earth disturbance activity is occurring or has occurred.

**Drainage Conveyance Facility** - A SWM Facility designed to transmit stormwater runoff, including streams, channels, swales, pipes, conduits, storm sewers, etc.

**Drainage Easement** – Rights to occupy and use another person's real property for the installation and operation of SWM Facilities, or for the maintenance of natural drainageways to preserve and maintain a channel for the flow of stormwater therein, or to safeguard health, safety, property, and facilities

**E&S** – Erosion and Sediment.

**E&S Plan (also Erosion and Sediment Control Plan)** – A site-specific plan consisting of both drawings and a narrative that identifies BMPs to minimize accelerated erosion and sedimentation before, during, and after earth disturbance activities.

**E & S Manual** – The Erosion and Sediment Pollution Control Program Manual, Number 363-2134-008, prepared by DEP.

**Earth Disturbance Activity** – A construction or other human activity which disturbs the surface of the land, including, but not limited to: clearing and grubbing; grading; excavations; embankments; land development; agricultural plowing or tilling; operation of animal heavy use areas; timber harvesting activities; road maintenance activities; oil and gas activities; well drilling; mineral extraction; building construction; and the moving, depositing, stockpiling, or storing of soil, rock, or earth materials<sup>1</sup>.

**Environmentally Sensitive Area** – slopes greater than 15% percent, shallow bedrock (located within 6 feet of ground surface<sup>2</sup>), wetlands, Natural Heritage Areas and other areas designated as Conservation or Preservation in *Greenscapes*, the Green Infrastructure Element of the County

Comprehensive Plan, where encroachment by land development or land disturbance results in degradation of the natural resource.

**Erosion** – The natural process by which the surface of the land is worn away by water, wind, or chemical action. See also, “Accelerated Erosion” as defined above.

**Existing Conditions** – The dominant land cover during the 5-year period immediately preceding a proposed regulated activity.

**FEMA** - The Federal Emergency Management Agency and any agency successor thereto.

**Flood** – A general but temporary condition of partial or complete inundation of normally dry land areas from the overflow of streams, rivers, and other waters of this Commonwealth.

**Flood Fringe** – That portion of the floodplain outside of the floodway<sup>3</sup>.

**Floodplain** – As defined in the Township Zoning Ordinance.

**Floodplain Management Act** - Act of October 4, 1978, P.L. 851, No. 166, as amended 32 P.S. Section 679.101 et seq.

**Floodway** – As defined in the Township Zoning Ordinance.

**Forest Management/Timber Operations** – Planning and activities necessary for the management of forest land. These include conducting a timber inventory and preparation of forest management plans, silvicultural treatment, cutting budgets, logging road design and construction, timber harvesting, site preparation and reforestation.

**Freeboard** – A vertical distance between the elevation of the design high water and the top of a dam, levee, tank, basin or diversion ridge. The vertical distance is required as a safety margin in a pond or basin.

**Frequency** – The probability or chance that a given storm event/flood will be equaled or exceeded in a given year.

**Grade** – (n) A slope, usually of a road, channel or natural ground specified in percent and shown on plans as specified herein. (v) To finish the surface of a roadbed, top of embankment or bottom of excavation.

**Groundwater Recharge** – The process by which water from above the ground surface is added to the saturated zone of an aquifer, either directly or indirectly.

**Hydrologic Soil Group (HSG)** – Refers to soils grouped according to their runoff-producing characteristics by NRCS. There are four (4) runoff potential groups ranging from A to D.

- A. (Low runoff potential) Soils having high infiltration rates even when thoroughly wetted and consisting chiefly of deep-, well- to excessively-drained sands or gravels. These soils have a high rate of water transmission (greater than 0.30 inches/hour).
- B. Soils having moderate infiltration rates when thoroughly wetted and consisting chiefly of moderately deep- to deep-, moderately well- to well-drained soils with moderately fine- to moderately-coarse textures. These soils have a moderate rate of water transmission (from 0.15 to 0.30 inches/hour).
- C. Soils having slow infiltration rates when thoroughly wetted and consisting chiefly of soils with a layer that impedes downward movement of water, or soils with moderately fine to fine texture. These soils have a slow rate of water transmission (from 0.05 to 0.15 inches/hour).
- D. (High runoff potential) Soils having very slow infiltration rates when thoroughly wetted and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a clay pan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission (from 0 to 0.05 inches/hour).

**Impervious Surface (Impervious Area)** – Surfaces which prevent the infiltration of water into the ground. All structures, buildings, parking areas, driveways, roads, streets, sidewalks, decks, and any areas of concrete, asphalt, packed stone, and compacted soil shall be considered impervious surface if they prevent infiltration.

**Impoundment** – A retention or detention facility designed to retain stormwater runoff and infiltrate it into the ground (in the case of a retention basin) or release it at a controlled rate (in the case of a detention basin).



**Infiltration Structures** – A structure designed to direct runoff into the ground (e.g. french drains, seepage pits, seepage trench, rain gardens, vegetated swales, pervious paving, infiltration basins, etc.).

**Inlet** – A surface connection to a closed drain. The upstream end of any structure through which water may flow.

**Intermittent** – A natural, transient body or conveyance of water that exists for a relatively long time, but for weeks or months of the year is below the local water table and obtains its flow from both surface runoff and groundwater discharges.

**Invasive Vegetation (Invasives)** – Plants which grow quickly and aggressively, spreading, and displacing other plants. Invasives typically are introduced into a region far from their native habitat. See Invasive Plants in Pennsylvania by the Department of Conservation and Natural Resources.

**Karst** – A type of topography or landscape characterized by features including but not limited to surface depressions, sinkholes, rock pinnacles/uneven bedrock surface, underground drainage, and caves. Karst is formed on carbonate rocks, such as limestone or dolomite.

**Land Development** – Any of the following activities:

- A. The improvement of one lot or two or more contiguous lots, tracts or parcels of land for any purpose involving:
  - (1) A group of two or more residential or nonresidential buildings, whether proposed initially or cumulatively, or a single nonresidential building on a lot or lots regardless of the number of occupants or tenure; or
  - (2) The division or allocation of land or space, whether initially or cumulatively, between or among two or more existing or prospective occupants by means of, or for the purpose of streets, common areas, leaseholds, condominiums, building groups or other features.
- B. Any subdivision of land.
- C. Development in accordance with Section 503(1.1) of the Pennsylvania Municipalities Planning Code.

**Land Disturbance** – Any activity involving grading, tilling, digging or filling of ground or stripping of vegetation or any other activity that causes an alteration to the natural condition of the land.

**Landowner** – The legal or beneficial owner or owners of land including: the holder of an option or contract to purchase (whether or not such option or contract is subject to any condition), a lessee if he is authorized under the lease to exercise the rights of the landowner, or other person having a proprietary interest in land.

**Limiting Zone** – A rock formation, other stratum, or soil condition which is so slowly permeable that it effectively limits downward passage of effluent<sup>12</sup>. Seasonal high water tables, whether perched or regional, also constitute a limiting zone.

**Lineament** – A linear feature in a landscape which is an expression of an underlying geological structure such as a fault.

**Manning's Equation** – An equation for calculation of velocity of flow (e.g. feet per second) and flow rate (e.g. cubic feet per second) in open channels based upon channel shape, roughness, depth of flow and slope. Manning's Equation assumes steady, gradually varied flow.

**Maximum Extent Practicable (MEP)** – Applies when the applicant demonstrates to the Township's satisfaction that the performance standard is not achievable. The applicant shall take into account the best available technology, cost effectiveness, geographic features, and other competing interests such as protection of human safety and welfare, protection of endangered and threatened resources, and preservation of historic properties in making the assertion that the performance standard cannot be met and that a different means of control is appropriate.<sup>5</sup>

**MPC** – The Pennsylvania Municipalities Planning Code, Act of 1968, P.L. 805, No. 247, as reenacted and amended, 53 P.S. Section 10101 et seq.

**Municipal Separate Storm Sewer** – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains), which is all of the following: (1) owned or operated by a state, city, town, borough, township, county, district, association or other public body (created under state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater or other wastes; (2) designed or used for collecting or conveying stormwater; (3) not a combined sewer; and (4) not part of a Publicly Owned Treatment Works as defined at 40 CFR § 122.2.

**Municipal Separate Storm Sewer System (MS4)** – All separate storm sewers that are defined as “large” or “medium” or “small” Municipal Separate Storm Sewer Systems pursuant to 40 CFR §§ 122.26(b)(18), or designated as regulated under 40 CFR § 122.26(a)(1)(v).

**Municipality** – The Township of Providence, Lancaster County, Pennsylvania.

**NRCS** - Natural Resources Conservation Service (previously Soil Conservation Service, or SCS).

**National Pollution Discharge Elimination System (NPDES)** – A permit issued under 25 Pa. Code Chapter 92a (relating to National Pollutant Discharge Elimination System permitting, monitoring and compliance) for the discharge or potential discharge of pollutants from a point source to surface waters.

**Native Vegetation** – Plant species that have evolved or are indigenous to a specific geographical area. These plants are adapted to local soil and weather conditions as well as pests and diseases.

**Natural Drainageway** – An existing channel for water runoff that was formed by natural processes.

**Natural Ground Cover** – Ground cover which mimics the infiltration characteristics of predominant hydrologic soil group found at the site.

**Nonpoint Source Pollution** – Any source of water pollution that does not meet the legal definition of “point source” in section 502(14) of the Clean Water Act.

**Non-structural BMPs** – Planning and design approaches, operational and/or behavior-related practices which minimize stormwater runoff generation resulting from an alteration of the land surface or limit contact of pollutants with stormwater runoff.

**Open Channel** – A drainage element in which stormwater flows with an open surface. Open channels include, but shall not be limited to, natural and man-made drainage ways, swales, streams, ditches, canals, and pipes flowing partly full. Open channels may include closed conduits so long as the flow is not under pressure.

**Outfall** – Point where water flows from a conduit, stream, pipe, or drain.

**Peak Discharge** – The maximum rate of stormwater runoff from a specific storm event.

**PennDOT** – The Pennsylvania Department of Transportation or any agency successor thereto.

**Person** – An individual, partnership, public or private association or corporation, or a governmental unit, public utility or any other legal entity whatsoever which is recognized by law as the subject of rights and duties.

**Pervious Area** – Any material / surface that allows water to pass through at a rate equal to or greater than natural ground cover.

**Pipe** – A culvert, closed conduit, or similar structure (including appurtenances) that conveys stormwater.

**Plans** – The SWM and erosion and sediment control plans and narratives.

**Planning Commission** – The Planning Commission of Providence Township, Lancaster County, Pennsylvania.

**PMF (PROBABLE MAXIMUM FLOOD)** – The flood that may be expected from the most severe combination of critical meteorologic and hydrologic conditions that are reasonably possible in any area. The PMF is derived from the probable maximum precipitation (PMP) as determined on the basis of data obtained from the National Oceanographic and Atmospheric Administration (NOAA).

**Present Worth** – The equivalence of any future amount to any present amount.

**Project Site** – The specific area of land where any regulated earth disturbance activities in the Township are planned, conducted or maintained.

**Process Wastewater** – Water that comes in contact with any raw material, product, by-product, or waste during any production or industrial process.

**Qualified Person** – Any person licensed by the Pennsylvania Department of State or otherwise qualified by law to perform the work required by this Ordinance.

**Rate Control** – SWM controls used to manage the peak flows for the purposes of channel protection and flood mitigation.

**Rational Formula (Rational Method)** – A rainfall-runoff relation used to estimate peak flow.

**Redevelopment** – Any physical improvement to a previously developed lot that involves earthmoving, removal, or addition of impervious surfaces.

**Regional Stormwater Management Plan** – A plan to manage stormwater runoff from an area larger than a single Development Site. A Regional Stormwater Management Plan could include two adjacent parcels, an entire watershed, or some defined area in between. Regional Stormwater Management Plans can be prepared for new development, or as a retrofit to manage runoff from already developed areas.

**Regulated Activities** – Activities, including Earth Disturbance Activities that involve the alteration or development of land in a manner that may affect stormwater runoff. Regulated activities shall include, but not be limited to:

- A. Land Development subject to the requirements of the Providence Township Subdivision and Land Development Ordinance;
- B. Removal of ground cover, grading, filling or excavation;
- C. Construction of new or additional impervious or semi-impervious surfaces (driveways, parking lots, etc.), and associated improvements;
- D. Construction of new buildings or additions to existing buildings;
- E. Installation or alteration of SWM Facilities and appurtenances thereto;
- F. Diversion or piping of any watercourse; and,
- G. Any other regulated activities where the Township determines that said activities may affect any existing watercourse's SWM Facilities, or stormwater drainage patterns.

**Release Rate** – For a specific design storm or list of design storms, the percentage of peak flow rate for existing conditions which may not be exceeded for the proposed conditions.

**Retention Basin** – A SWM Facility that includes a permanent pool for water quality treatment and additional capacity above the permanent pool for temporary runoff storage.

**Riser** – A vertical pipe extending from the bottom of a pond that is used to control the discharge rate from the pond for a specified design storm.

**Riparian** – Pertaining to a stream, river or other watercourse. Also, plant communities occurring in association with any spring, lake, river, stream or creek through which waters flow at least periodically.

**Riparian Buffer** – A BMP that is an area of permanent vegetation along a watercourse.

**Riparian Corridor** – A narrow strip of land, centered on a stream or river that includes the floodplain as well as related riparian habitats adjacent to the floodplain<sup>6</sup>.

**Riparian Corridor Easement** – An easement created for the purpose of protecting and preserving a Riparian Corridor.

**Riparian Forest Buffer** – A type of Riparian Buffer that consists of permanent vegetation that is predominantly native trees, shrubs and forbs along a watercourse that is maintained in a natural state or sustainably managed to protect and enhance water quality, stabilize stream channels and banks, and separate land use activities from surface waters.

**Road Maintenance** – Earth disturbance activities within the existing road cross section, such as grading and repairing existing unpaved road surfaces, cutting road banks, cleaning or clearing drainage ditches and other similar activities.

**Rooftop Detention** – Temporary ponding and gradual release of stormwater falling directly onto roof surfaces by incorporating controlled-flow roof drains into building designs.

**Runoff** – Any part of precipitation that flows over the land surface.

SCS - U.S. Department of Agriculture, Soil Conservation Service (now known as NRCS).

**Sediment** – Soils or other materials transported by stormwater as a product of erosion<sup>1</sup>.

**Sediment Basin** – A barrier, dam, retention or detention basin located and designed to retain rock, sand, gravel, silt, or other material transported by water.

**Sediment Pollution** – The placement, discharge or any other introduction of sediment into the waters of the Commonwealth occurring from the failure to design, construct, implement or maintain control measures and control facilities in accordance with the requirements of this Ordinance.

**Sedimentation** – The action or process of forming or depositing sediment in Waters of this Commonwealth<sup>1</sup>.

**Seepage Pit/Seepage Trench** – An area of excavated earth filled with loose stone or similar coarse material, into which surface water is directed for infiltration into the ground.

**Semi-impervious / Semi-pervious surface** – A surface which prevents some infiltration of water into the ground.

**Sheet Flow** – Runoff which flows over the ground surface as a thin, even layer, not concentrated in a channel.

**Small Project** - Regulated Activities that, do not create more than 5,000 square feet of impervious area or involve the removal of ground cover, grading, filling, or excavation of more than 1 acre, and do not require the submission of a subdivision or land development plan.

**Small Storm Event** – A storm having a frequency of recurrence of once every two (2) years or smaller.

**Soil-Cover Complex Method** – A method of runoff computation developed by the SCS (now NRCS) that is based on relating soil type and land use/cover to a runoff parameter called Curve

Number (CN). For more information, see "Urban Hydrology for Small Watersheds," Second edition, Technical Release No. 55, SCS, June 1986 (or most current edition).

**Soil Group, Hydrologic** – See "Hydrologic Soil Group".

**State Water Quality Requirements** – The regulatory requirements to protect, maintain, reclaim, and restore water quality under Title 25 of the Pennsylvania Code, the Clean Streams Law and the Clean Water Act.

**Storage** – A volume above or below ground that is available to hold stormwater.

**Storm Event** – A storm of a specific duration, intensity, and frequency.<sup>7</sup>

**Storm Sewer** – A system of pipes and/or open channels designed to convey stormwater.

**Stormwater** – Drainage runoff from the surface of the land resulting from precipitation or snow or ice melt.

**Stormwater Management Act** – Act of October 4, 1978, P.L. 864, No. 167, as amended 32 P.S. Section 680.1 et seq.

**Stormwater Management Best Management Practices (SWM BMP)** – See BMPs.

**Stormwater Management Facility (SWM Facility)** – Any structure, natural or man-made, that, due to its condition, design, or construction, conveys, stores, infiltrates/evaporates/transpires, cleans or otherwise affects stormwater runoff. Typical SWM Facilities include, but are not limited to, detention and retention basins, open channels, watercourses, road gutters, swales, storm sewers, pipes, BMPs, and infiltration structures.

**Stormwater Management Operation and Maintenance Plan (O & M Plan)** – A plan, including a narrative, to ensure proper functioning of the SWM Facilities in accordance with Article VI of this Ordinance.



**Stormwater Management Site Plan (SWM Site Plan)** – The Plan prepared by the Developer or his representative indicating how stormwater runoff will be managed at a particular development site according to this Ordinance.

**Stream** – A watercourse.

**Structural BMPs** – Physical devices and practices that capture and treat stormwater runoff. Structural stormwater BMPs are permanent appurtenances to the Development Site.

**Structure** – Any man-made object having an ascertainable stationary location on or in land or water, whether or not affixed to the land.<sup>8</sup>

**Subdivision** – A subdivision as defined in the MPC.

**Swale** – A low lying stretch of land which gathers or carries surface water runoff.

**SWM** – Stormwater Management.

**SWM Site Plan** – A Stormwater Management Site Plan.

**Timber Operations** – See Forest Management.

**Time of Concentration (T<sub>c</sub>)** – The time for surface runoff to travel from the hydraulically most distant point of the watershed to a point of interest within the watershed. This time is the combined total of overland flow time and flow time in pipes or channels, if any.

**Top of Streambank** – First substantial break in slope between the edge of the bed of the stream and the surrounding terrain. The top of streambank can either be a natural or constructed (that is, road or railroad grade) feature, lying generally parallel to the watercourse.

**Township** - The Township of Providence, Lancaster County, Pennsylvania.

**Treatment Train** – The sequencing of structural Best Management Practices to achieve optimal flow management and pollutant removal from urban stormwater.

**USDA** – United States Department of Agriculture or agency thereto.

**Volume Control** – SWM controls, or BMPs, used to remove a predetermined amount of runoff or the increase in volume between the pre- and post-development design storm.

**Watercourse** – A channel or conveyance of surface water having defined bed and banks, whether natural or artificial, with perennial or intermittent flow.

**Watershed** – The entire region or area drained by a watercourse.

**Waters of this Commonwealth** – Any and all rivers, streams, creeks, rivulets, impoundments, ditches, watercourses, storm sewers, lakes, dammed water, wetlands, ponds, springs, and all other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of Pennsylvania.

**Wetland** – Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, ferns, and similar areas.

**Woodland** – Land predominantly covered with trees and shrubs. Without limiting the foregoing, Woodlands include all land areas of 10,000 square feet or greater, supporting at least 100 trees per acre, so that either (i) at least 50 trees are two inches or greater in [diameter at breast height] [(DBH)], or (ii) 50 trees are at least 12 feet in height.

## ARTICLE III. STORMWATER MANAGEMENT STANDARDS

### SECTION 3.01 GENERAL REQUIREMENTS

- A. Preparation of a SWM Site Plan is required for all regulated activities, unless preparation and submission of the SWM Site Plan is specifically exempted according to Section 5.01 Section 5.01 or the activity qualifies as a Small Project.
- B. No regulated activities shall commence until the Township issues unconditional written approval of a SWM Site Plan or Stormwater Permit.
- C. The Township may, after consultation with DEP, approve measures for meeting the state water quality requirements other than those in this Ordinance, provided that they meet the minimum requirements of, and do not conflict with, state law including, but not limited to, the Clean Streams Law. The Township shall maintain a record of consultations with DEP pursuant to this paragraph. Where an NPDES permit for stormwater discharges associated with construction activities is required, issuance of an NPDES permit shall constitute satisfaction of consultation with DEP.
- D. For all regulated activities, erosion and sediment control and stormwater management BMPs shall be designed, implemented, operated, and maintained to meet the purposes and requirements of this Ordinance and to meet all requirements under Title 25 of the Pennsylvania Code and the Clean Streams Law. Various BMPs and their design standards are listed in the *Erosion and Sediment Pollution Control Program Manual* (E&S Manual)<sup>9</sup>, No. 363-2134-008 (March 2012), as amended and updated, and the BMP Manual.
- E. Developers have the option to propose a Regional Stormwater Management Plan or participate in a Regional Stormwater Management Plan developed by others. A Regional Stormwater Management Plan may include offsite volume and rate control, as appropriate and supported by a detailed design approved by the Township in accordance with Section 3.01C. A Regional Stormwater Management Plan must meet all of the volume and rate control standards required by this Ordinance for the area defined by the Regional Stormwater Management Plan, but not necessarily for each individual Development Site. Appropriate agreements must be established to ensure the

requirements of this ordinance and the requirements of the Regional Stormwater Management Plan are met.

F. Impervious areas:

- (1) The measurement of impervious area shall include all of the impervious areas in the total proposed development even if development is to take place in stages or phases.
- (2) For development taking place in stages or phases, the entire development plan must be used in determining conformance with this Ordinance.
- (3) Any areas designed to initially be gravel or crushed stone shall be assumed to be impervious.

G. All regulated activities shall include such measures as necessary to:

- (1) Protect health, safety, and property;
- (2) Meet the water quality goals of this Ordinance by implementing measures to:
  - (a) Protect and/or improve the function of floodplains, wetlands, and wooded areas.
  - (b) Protect and/or improve native plant communities including those within the riparian corridor.
  - (c) Protect and/or improve natural drainageways from erosion.
  - (d) Minimize thermal impacts to waters of this Commonwealth.
  - (e) Disconnect impervious surfaces by directing runoff to pervious areas, wherever possible.
- (3) To the maximum extent practicable, the techniques for Low Impact Development (LID) Practices described in the BMP Manual shall be incorporated. The proposed LID Practices shall be noted on the Storm Water Management Site Plan.

H. The design of all SWM Facilities over karst shall include an evaluation of measures to minimize adverse effects.

I. Infiltration BMPs shall be spread out, made as shallow as practicable, and located to maximize use of natural on-site infiltration features while still meeting the other

requirements of this Ordinance. Infiltration BMPs shall include pretreatment BMPs unless shown to be unnecessary.

- J. Infiltration BMPs intended to receive runoff from developed areas shall be selected based on suitability of soils and Development Site conditions and shall be constructed on soils that have the following characteristics:
  - (1) A minimum depth of 24 inches between the bottom of the facility and the limiting zone, unless it is demonstrated to the satisfaction of the Township that the selected BMP has design criteria which allow for a smaller separation.
  - (2) A stabilized infiltration rate sufficient to accept the additional stormwater load and drain completely as determined by field tests conducted by the Applicant's professional designer.
    - (a) The stabilized infiltration rate is to be determined in the same location and within the same soil horizon as the bottom of the infiltration facility.
    - (b) The stabilized infiltration rate is to be determined as specified in the BMP Manual.
- K. The calculation methodology to be used in the analysis of volume and peak rates of discharge shall be as required in Section 3.05 (Calculation Methodology).
- L. A planting plan is required for all vegetated stormwater BMPs.
  - (1) Native or Naturalized/Non-invasive Vegetation suitable to the soil and hydrologic conditions of the Development Site shall be used unless otherwise specified in the BMP Manual.
  - (2) Invasive Vegetation may not be included in any planting schedule.
  - (3) The limit of existing, native vegetation to remain shall be delineated on the plan along with proposed construction protection measures.
  - (4) All planting shall be performed in conformance with good nursery and landscape practice. Plant materials shall conform to the standards recommended by the American Association of Nurseryman, Inc. in the American Standard of Nursery Stock.
- M. Areas proposed for infiltration BMPs shall be protected from sedimentation and compaction during the construction phase to maintain maximum infiltration capacity.

Staging of earthmoving activities and selection of construction equipment should consider this protection.

- N. Infiltration BMPs shall not be constructed nor receive runoff from disturbed areas until the entire contributory drainage area to the infiltration BMP has achieved final stabilization.
- O. Stormwater Easements
  - (1) A minimum ten (10) foot wide access easement shall be provided for all stormwater serving multiple properties and not located within a public right-of-way. Easements shall provide for ingress and egress to a public right-of-way.
  - (2) Drainage easements shall be provided where the conveyance, treatment, or storage of stormwater, either existing or proposed, is identified on the SWM Site Plan. Drainage easements shall be provided to contain and convey the 100-year frequency flood.
  - (3) Stormwater facilities not located within a public right of way shall be contained in and centered within a minimum 20 foot wide stormwater management easement. All easements shall have adequate information to be located in the field.
  - (4) Stormwater management easements are required for all on-site areas used to convey stormwater of 2cfs or greater for a 100 year storm. Roof drains do not require stormwater management easements.
  - (5) Unless a concentrated discharge of stormwater to an adjacent property is within an existing watercourse, an easement burdening the adjacent property shall be required.
  - (6) Where a Development Site is traversed by watercourses other than permanent streams, a drainage easement shall be provided conforming substantially to the line of such watercourses. The terms of the easement shall prohibit excavation, the placing of fill or structures, and any alterations that may affect adversely the flow of stormwater within any portion of the easement.
  - (7) Nothing shall be placed, planted, set, or put within the area of an easement that would adversely affect the function of the easement or conflict with the easement agreement.
- P. The Township may require additional stormwater control measures for stormwater discharges to special management areas including but not limited to:
  - (1) Water bodies listed as "impaired" on Pennsylvania's Clean Water Act 303(d)/305(b) Integrated List.
  - (2) Any water body or watershed with an approved Total Maximum Daily Load (TMDL).
  - (3) Critical areas with sensitive resources (e.g., state-designated special protection waters, cold water fisheries, carbonate or other groundwater recharge areas highly

vulnerable to contamination, drainage areas to water supply reservoirs, source water protection zones, etc.)

- Q. Non-Roof drains and sump pumps shall be tributary to infiltration or vegetative BMPs. Use of catchment facilities for the purpose of reuse is also permitted.
- R. Unless specifically approved by the Township in light of circumstances unique to the site, roof drains shall not be connected to streets, sanitary or storm sewers or to roadside ditches and instead shall discharge to infiltration areas or vegetative BMPs.

### SECTION 3.02 VOLUME CONTROLS

Volume control BMPs are intended to maintain existing hydrologic conditions for small storm events by promoting groundwater recharge and/or evapotranspiration as described in this section. Runoff volume controls shall be implemented using the *Design Storm Method* described in Section 3.02A below, or through continuous modeling approaches or other means as described in the BMP Manual. Small Projects may use the method described in Section 3.02B to design volume control BMPs.

- A. The *Design Storm Method* is applicable to any size of regulated activity. This method requires detailed modeling based on site conditions.
  - (1) Do not increase the post-development total runoff volume for all storms equal to or less than the 2-year 24-hour storm event.
  - (2) For modeling purposes:
    - (a) Existing (pre-development ) non-forested pervious areas must be considered meadow in good condition.
    - (b) When the existing project site contains impervious area, twenty percent (20%) of existing impervious area to be disturbed shall be considered meadow in good condition in the model for existing conditions.
    - (c) The maximum loading ratio for volume control facilities in Karst areas shall be 3:1 impervious drainage area to infiltration area and 5:1 total drainage area to infiltration area. The maximum loading ratio for volume control facilities in non-Karst areas shall be 5:1 impervious drainage area to infiltration area and 8:1 total drainage area to infiltration area. A higher ratio may be approved by the Township if justification is provided. Hydraulic depth may be used as an alternative to an area-based loading ratio if the design hydraulic depth is shown to be less than the depth that could result from the maximum area loading ratio.
- B. Volume Control for Small Projects
  - (1) At least the first one inch (1") of runoff from new impervious surfaces or an equivalent volume shall be permanently removed from the runoff flow – i.e. it

shall not be released into the surface Waters of this Commonwealth. Removal options include reuse, evaporation, transpiration and infiltration.

- C. A detailed geologic evaluation of the Development Site shall be performed in areas of carbonate geology to determine the design parameters of recharge facilities. A report shall be prepared in accordance with Section 4.05A of this Ordinance.
  - (1) If the developer can prove through analysis that the development site is in an area underlain by carbonate geology, and such geologic conditions may result in sinkhole formations, then the development site is exempt from volume control requirements as described in this chapter. However, the development site shall still be subject to NPDES and E&S requirements.
- D. Storage facilities, including normally dry, open top facilities, shall completely drain the volume control storage over a period of time not less than 24 hours and not more than 72 hours from the end of the design storm. Any designed infiltration at such facilities is exempt from the minimum 24 hour standard, i.e. may infiltrate in a shorter period of time, provided that none of this water will be discharged into Waters of this Commonwealth.
- E. Any portion of the volume control storage that meets the following criteria may also be used as rate control storage;
  - (1) Volume control storage that depends on infiltration is designed according to the infiltration standards in Section 3.01.
  - (2) The volume control storage which will be used for rate control is that storage which is available within 24 hours from the end of the design storm based on the stabilized infiltration rate and/or the evapotranspiration rate.
- F. Applicable worksheets from of the BMP Manual shall be used when establishing Volume Controls.

### **SECTION 3.03 RATE CONTROLS**

Rate control for large storms, up to the 100-year event, is essential to protect against immediate downstream erosion and flooding.

- A. Match Pre-development Hydrograph. Applicants shall provide infiltration facilities or utilize other techniques which will allow the post-development 100 year hydrograph to match the pre-development 100 year hydrograph, along all parts of the hydrograph, for the Development Site. To match the pre-development hydrograph, the post-development peak rate must be less than or equal to the pre-development peak rate, and the post-development runoff volume must be less than or equal to the pre-development volume for the same storm event. A shift in hydrograph peak time of up to five minutes and a rate variation of up to 5% at a given time may be allowable to account for the timing effect of



BMPs used to manage the peak rate and runoff volume. "Volume Control" volumes as given in Section 3.02 above may be used as part of this option.

- B. Where the pre-development hydrograph cannot be matched, the calculated post-development peak rate of storm water runoff from any regulated activity shall not exceed the calculated pre-development peak rate of runoff for all design storms (two-, five-, ten-, twenty-five-, fifty-, and one-hundred-year 24-hour storms\*).

\* A 24 hour SCS type II storm or an IDF Curve Rational Method storm. See Table 2 in Section 3.05 or (NOAA) Atlas 14 data for the specific project site..

- C. All basins not including groundwater recharge and/or water quality storage shall include an outlet structure to allow for draining the basin to a completely dry position within 24 hours following the end of the design rainfall. All basins that include groundwater recharge and/or water quality storage shall include an outlet structure to allow draining the basin to the level of the groundwater recharge and/or water quality storage within 24 hours following the end of the design rainfall.
- D. A variety of BMPs should be employed and tailored to suit the Development Site. The following is a partial listing of BMPs which can be utilized in SWM systems for rate control where appropriate:

- (1) Decreased impervious surface coverage.
- (2) Routed flow over grass.
- (3) Grassed channels and vegetated strips.
- (4) Bio-retention areas (rain gardens).
- (5) Concrete lattice block or permeable surfaces.
- (6) Seepage pits, seepage trenches or other infiltration structures.
- (7) Rooftop detention.
- (8) Parking lot detention.
- (9) Cisterns and underground reservoirs.
- (10) Amended soils.
- (11) Retention basins.
- (12) Detention basins.
- (13) Other methods as may be found in the BMP Manual.

- E. Small Projects are not required to provide for Rate Control.

#### SECTION 3.04 STORMWATER MANAGEMENT PERFORMANCE STANDARDS

- A. Runoff from impervious areas shall be drained to pervious areas within the Development Site to the maximum extent practicable.
- B. Stormwater runoff from a Development Site to an adjacent property shall flow directly into a natural drainageway, watercourse, or into an existing storm sewer system, or onto adjacent properties in a manner similar to the runoff characteristics of the pre-development flow.
- C. Stormwater flows onto adjacent property shall not be created, increased, decreased, relocated, or otherwise altered without written notification of the adjacent property owner(s) by the developer. Such stormwater flows shall be subject to the requirements of this Ordinance, including the establishment of a drainage easement. Copies of all such notifications shall be included in SWM Site Plan submissions.
- D. Existing on-site natural and man-made SWM Facilities shall be used to the maximum extent practicable.
- E. Stormwater runoff shall not be transferred from one sub-watershed to another unless they are sub-watersheds of a common watershed that join together within the perimeter of the Development Site and the effect of the transfer does not alter the peak discharge onto adjacent lands.
- F. Minimum floor elevations for all structures that would be affected by a basin, other temporary impoundments, or open conveyance systems where ponding may occur shall be two (2) feet above the 100-year water surface elevation. If basement or underground facilities are proposed, detailed calculations addressing the effects of stormwater ponding on the structure and water-proofing and/or flood-proofing design information shall be submitted for approval.
- G. All stormwater conveyance facilities (excluding detention, retention, and wetland basin outfall structures) shall be designed to convey a 25-year storm event\*. All stormwater conveyance facilities (excluding detention, retention, and wetland basin outfall structures) conveying water originating from offsite shall be designed to convey a 50-year storm event\*. Safe conveyance of the 100-year runoff event\* to appropriate peak rate control BMPs and throughout the site must be demonstrated in the design.

\* A 24 hour SCS Type II storm or an IDF Curve Rational Method storm.
- H. Erosion protection shall be provided along all open channels, and at all points of discharge. Flow velocities from any storm sewer may not result in erosion of the receiving channel.

### SECTION 3.05 CALCULATION METHODOLOGY

- A. Any stormwater runoff calculations involving drainage areas greater than 200 acres and time of concentration (Tc) greater than 60 minutes, including on- and off-site areas, shall use generally accepted calculation techniques based on the NRCS soil-cover complex method with the rainfall depths provided in Table 2, or other method acceptable to the Township Engineer.
- B. Stormwater runoff from all Development Sites shall be calculated using either the modified rational method, a soil-cover-complex methodology, or other method acceptable to the Township. Table 1 summarizes acceptable computation methods. It is assumed that all methods will be selected by the design professional based on the individual limitations and suitability of each method for a particular Development Site.

Table 1

ACCEPTABLE COMPUTATION METHODOLOGIES FOR STORMWATER MANAGEMENT PLANS		
METHOD	METHOD DEVELOPED BY	APPLICABILITY
TR-20 (or commercial computer package based on TR-20)	USDA NRCS	Applicable where use of full hydrology computer model is desirable or necessary.
WinTR-55 (or commercial computer package based on TR-55)	USDA NRCS	Applicable for land development plans within limitations described in TR-55.
HEC-1 / HEC-HMS	US Army Corps of Engineers	Applicable where use of full hydrologic computer model is desirable or necessary.
Rational Method (or commercial computer package based on Rational Method)	Emil Kuichling (1889)	For development sites less than 200 acres, Tc<60 min. or as approved by the Township.
EFH2	USDA NRCS	Applicable in rural and undeveloped areas subject to the Program Limits.
Other Methods	Varies	Other methodologies approved by the Township.

- C. If the SCS method is used, Antecedent Moisture Condition 1 is to be used in areas of carbonate geology, and Antecedent Moisture Condition 2 is to be used in all other areas. A type II distribution shall be used in all areas.

Table 2

Storm Event (years)	Rainfall (inches)
2	3.1
5	4.1
10	5.0
25	5.5
50	6.2
100	7.0

- D. If the Rational Method is used, the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 data (see item "B" above) or PennDOT Publication 584 "PennDOT Drainage Manual," 2010 Edition, or latest, or the PDT-IDF chart included in APPENDIX B shall be used to determine the rainfall intensity in inches per hour based on the information for the 5 through 60 minute duration storm events.
- E. Hydrographs may be obtained from NRCS methods such as TR-55, TR20, or from use of the "modified" or "unit hydrograph" rational methods. If "modified" or "unit hydrograph" rational methods are used, the ascending leg of the hydrograph shall have a length equal to three times the time of concentration ( $3 \times T_c$ ) and the descending leg shall have a length equal to 7 times the time of concentration ( $7 \times T_c$ ) to approximate an SCS Type II hydrograph.<sup>11</sup>
- F. Runoff calculations shall include a hydrologic and hydraulic analysis indicating volume and velocities of flow and the grades, sizes, and capacities of water carrying structures, sediment basins, retention and detention structures and sufficient design information to construct such facilities. Runoff calculations shall also indicate both pre-development and post-development rates for peak discharge of stormwater runoff from all discharge points.
- G. For the purpose of calculating pre-development peak discharges, all runoff coefficients, both on-site and off-site, shall be based on actual land use assuming summer or good land conditions. Post-development runoff coefficients for off-site discharges used to design

conveyance facilities shall be based on actual land use assuming winter or poor land conditions.

- H. Criteria and assumptions to be used in the determination of stormwater runoff and design of management facilities are as follows:
- (1) Runoff coefficients shall be based on the information contained in APPENDIX C and APPENDIX D if the actual land use is listed in those Appendices. If the actual land use is not listed in these Appendices, runoff coefficients shall be chosen from other published documentation, and a copy of said documentation shall be submitted with the SWM Site Plan.
  - (2) A sample worksheet for calculating  $T_c$  is provided in APPENDIX H. Times of concentration ( $T_c$ ) shall be based on the following design parameters:
    - (a) Sheet flow: The maximum length for each reach of sheet or overland flow before shallow concentrated or open channel flow develops is one hundred fifty (150) feet. Flow lengths greater than one hundred (100) feet shall be justified based on the actual conditions at each Development Site. Sheet flow may be determined using the nomograph in APPENDIX F, or the Manning's kinematic solution shown in the Sheet Flow section of Worksheet No. 1 in APPENDIX H.
    - (b) Shallow concentrated flow: Travel time for shallow concentrated flow shall be determined using Figure 3-1 from TR-55, Urban Hydrology for small watersheds, as shown in APPENDIX G.
    - (c) Open Channel flows: At points where sheet and shallow concentrated flows concentrate in field depressions, swales, gutters, curbs, or pipe collection systems, the travel times to downstream end of the Development Site between these design points shall be based upon Manning's Equation and/or acceptable engineering design standards as determined by the Township Engineer.
  - (3) The developer may use stormwater credits for Non-Structural BMPs in accordance with the BMP Manual. The allowable reduction will be determined by the Township Engineer.
  - (4) Peak rate control is not required for off-site runoff. Off-site runoff may be bypassed around the site provided all other discharge requirements are met. If offsite runoff is routed through rate control facilities, runoff coefficients for off-site discharges used to design those rate control facilities shall be based on actual land use assuming winter or poor land conditions.
- I. Times of Concentration shall be calculated based on the methodology recommended in the respective model used. Times of Concentration for channel and pipe flow shall be

computed using Manning's equation. Supporting documentation and calculations must be submitted for review and approval

#### **SECTION 3.06 RIPARIAN CORRIDORS**

- A. In order to protect and improve water quality, a Riparian Corridor Easement is encouraged to be created and recorded as part of any Land Development that encompasses a Riparian Corridor.
- B. Except as otherwise required by Chapter 102, the Riparian Corridor Easement shall be measured to be the greater of the limit of the 100-year floodplain or 35 feet from the top of streambank (on each side).
- C. Minimum Management Requirements for Riparian Corridors.
  - (1) Existing native vegetation shall be protected and maintained within the Riparian Corridor Easement.
  - (2) Whenever practicable, invasive vegetation shall be actively removed and the Riparian Corridor Easement shall be planted with native trees, shrubs and other vegetation to create a diverse native plant community appropriate to the intended ecological context of the site.
  - (3) Any un-vegetated areas within the corridor shall be established with permanent vegetation.
- D. The Riparian Corridor Easement shall be enforceable by the Township and shall be recorded in the Lancaster County Recorder of Deeds Office, so that it shall run with the land and shall limit the use of the property located therein. The easement shall allow for continued private ownership and shall not be deemed a public right-of-way nor imply public rights of access.
- E. Any permitted use within the Riparian Corridor Easement shall be conducted in a manner that will maintain the stream stability, and preserve and protect the ecological function of the floodplain.
- F. The following conditions shall apply when public and/or private recreation trails are permitted within Riparian Corridors:
  - (1) Trails shall be designed to have the least impact on native plant species and other sensitive environmental features.

#### **SECTION 3.07 ABOVE-GROUND STORAGE FACILITY DESIGN CRITERIA**

Above-ground storage facilities consist of all stormwater facilities which store, infiltrate/evaporate/transpire, clean or otherwise affect stormwater runoff, and the top of which is

exposed to the natural environment. Above-ground storage facilities are located above the finished ground elevation. Above-ground storage facilities do not include SWM Facilities designed for conveyance or cisterns.

- A. All basins shall be structurally sound and shall be constructed of sound and durable materials. The completed structure and the foundation of all basins shall be stable under all probable conditions of operation.
- B. Design criteria. Above-ground storage facilities shall comply with the design criteria in the following table:

Above-ground Storage Facility Design Criteria			
	Facility Depth		
	Less than 2 feet	2 feet to 6 feet	Greater than 6 feet
(a) Embankment Geometry			
[1] Top width (minimum)	2 feet	5 feet	8 feet
[2] Interior side slope (maximum)	2 : 1	3 : 1	5 : 1
[3] Exterior side slope (maximum)	2 : 1	3 : 1	3 : 1
(b) Embankment construction			
[1] Key trench	Not required	Required	Required
[2] Pipe collar	Not required	Required	Required
[3] Compaction density	Not required	Required	Required
(c) Internal Construction			
[1] Dewatering feature	N/A	Required	Required
[2] Pretreatment elements	Not required*	Required	Required
(d) Outlet Structure			
[1] Pipe size (minimum)	6 inches	12 inches	15 inches

Above-ground Storage Facility Design Criteria			
	Facility Depth		
	Less than 2 feet	2 feet to 6 feet	Greater than 6 feet
[2] Pipe material	SLHDPE, PVC, RCP	SLHDPE, RCP	RCP
[3] Anticlogging devices	Required	Required	Required
[4] Antivortex design	Not required	Required	Required
[5] Watertight joints in piping?	No	Yes	Yes
(e) Spillway Requirements			
[1] Spillway freeboard (minimum)	Not required	6 inches	12 inches
[2] Width (minimum)	Not required	10 feet	20 feet
[3] Width (maximum)	Not required	50 feet	50 feet
[4] Spillway channel design	Not required	Required	Required
[5] Routing of 100 year storm	Permitted	Permitted	Permitted

\*Pretreatment required for infiltration BMPs unless shown to be unnecessary.

N/A = Not applicable

SLHDPE = Smooth lined high density polyethylene pipe; PVC = Polyvinyl chloride;

RCP = Reinforced concrete pipe

#### C. Facility depth.

- (1) For the purposes of the design criteria, the facility depth is defined to be the depth between the bottom invert of the lowest orifice and the invert of the spillway. If there is no spillway, the top of the berm shall be used. For basins with no orifices



or outlet structure at the bottom of the basin, the bottom elevation of the basin shall be used.

- (2) Facilities with a facility depth greater than six feet (6 feet) shall not be permitted in residential areas.
- (3) Facilities with a facility depth greater than 15 feet require a dam permit from DEP.
- (4) The maximum depth of water for above ground storage facilities without restricted access shall not exceed six (6) feet unless approved by modification or waiver by The Board of Supervisors. Access to basins with a maximum depth of water greater than six (6) feet shall be restricted by fencing that will discourage access.

D. Embankment construction.

- (1) Impervious core/key trench. An impervious core/key trench, when required, shall consist of a cutoff trench (below existing grade) and a core trench (above existing grade). A key trench may not be required wherever it can be shown that another design feature, such as the use of an impermeable liner, accomplishes the same purpose.
  - (a) Materials used for the core shall conform to the Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the No. 200 sieve.
  - (b) The dimensions of the core shall provide a minimum trench depth of two (2) feet below existing grade, minimum width of four (4) feet and side slope of 1H:1V or flatter.
  - (c) The core should extend up both abutments to the 10-year water surface elevation or six (6) inches below the emergency spillway elevation, whichever is lower.
  - (d) The core shall extend four (4) feet below any pipe penetrations through the impervious core. The core shall be installed along or parallel to the centerline of the embankment.
  - (e) The area under the embankment shall be cleared, grubbed and stripped of topsoil to a depth of two feet prior to any placement and compaction of earth fill.
- (2) Compaction.
  - (a) Compaction requirements shall be the same as those for the embankment to assure maximum density and minimum permeability.
  - (b) The core shall be constructed concurrently with the outer shell of the embankment. Core and key trench shall be constructed to a minimum of 95 % Standard Proctor Density.

- (c) The trench shall be dewatered during backfilling and compaction operations.
- (3) Pipe collars. All pipe collars, when required, shall be designed in accordance with Chapter 7 of the E&S Manual. The material shall consist of concrete or otherwise non-degradable material around the outfall barrel and shall be watertight.
- (4) Embankment fill material. The embankment fill material shall be taken from an appropriate borrow area which shall be free of roots, stumps, wood, rubbish, stones greater than 6 inches, frozen or other objectionable materials.
- (5) Embankment compaction. When required, embankments shall be compacted by sheepsfoot or pad roller. The loose lift thickness shall be nine (9) inches or less, depending on roller size, and the maximum particle size is six (6) inches or less (two-thirds of the lift thickness). Five passes of the compaction equipment over the entire surface of each lift is required. Embankment compaction to visible non-movement is also required.

E. Internal construction.

- (1) Bottom slope. The minimum bottom slope of facilities not designed for infiltration shall be one percent (1%). A flatter slope may be used if an equivalent dewatering mechanism is provided.
- (2) Dewatering features. When required, dewatering shall be provided through the use of underdrain, surface device, or alternate approved by the Township Engineer. If the facility is to be used for infiltration, the dewatering device should be capable of being disconnected and only be made operational if the basin is not dewatering within the required timeframe.
- (3) Pretreatment elements. When required, pretreatment elements shall consist of forebays, or alternate approved by the Township Engineer, to keep silt to a smaller portion of the facility for ease of maintenance.
- (4) Infiltration basins. Within basins designed for infiltration, existing native vegetation shall be preserved, if possible. For existing unvegetated areas or for infiltration basins that require excavation, a planting plan shall be prepared in

accordance with § 301.N and the BMP Manual which is designed to promote infiltration.

F. Outlet configuration.

- (1) For facilities with a depth of two (2) feet or greater, a type D-W endwall or riser box outlet structure shall be provided.
- (2) For facilities with a depth less than two (2) feet, the designer must specify a suitable outlet structure.
- (3) All discharge control devices with appurtenances shall be made of reinforced concrete and stainless steel. Bolts/fasteners shall be stainless steel.

G. Spillway.

- (1) Material. The spillway shall be designed to provide a non-erosive, stable condition when the project is completed.
- (2) Non-emergency use. Use of the spillway to convey flows greater than the 50-year design storm is permitted.
- (3) Emergency use. The spillway shall be designed to convey the 100-year peak rate of runoff which enters the basin after development in a manner which will not damage the integrity of the facility and will not create a downstream hazard.
- (4) When required, freeboard shall be measured from the top of the water surface elevation for emergency use.

H. Breach analysis. The Township may require a breach analysis based on site-specific conditions and concern of threat for downstream property. When required, the breach analysis shall be conducted in accordance with the NRCS methodology, the US Army Corps of Engineers methodology (HEC-1) or other methodologies as approved by the Township.

I. SWM Facilities which qualify as a dam per DEP regulations or facilities deemed a potential threat to the life, safety or welfare of the general public shall be subject to the following requirements:

- (1) Facilities which qualify as a dam per DEP regulation shall obtain the required permit through DEP and design the facility in accordance with DEP standards.
- (2) Additional requirements and analysis may be required by the Township to prove that the proposed facility has been designed to limit the potential risk to the life, safety or welfare of the general public.

### SECTION 3.08 SUBSURFACE STORAGE FACILITY DESIGN CRITERIA

Subsurface storage facilities consist of all stormwater facilities which store, infiltrate/evaporate/transpire, clean or otherwise affect stormwater runoff and the top of which is not exposed to the natural environment. Subsurface facilities are located below the finished ground elevation. Subsurface facilities do not include SWM Facilities designed for conveyance.

A. Subsurface storage facilities shall comply with the design criteria in the following table:

Subsurface storage facility design criteria		
	Facility Type	
	Infiltration and Storage	Storage without Infiltration
<b>(a) Facility Geometry</b>		
[1] Depth from surface (maximum)	2 feet less than limiting zone	N/A
[2] Loading ratio (maximum)	Per BMP Manual*	N/A
<b>(b) Distribution System Requirements</b>		
[1] Pipe size (minimum)	4 inches	4 inches
[2] Pretreatment	Required	Required
[3] Loading/balancing	Required	Not required
[4] Observation/access ports	Required	Required

\*Unless otherwise determined by professional geologic evaluation.

B. Distribution system requirements.

- (1) Pretreatment requirements. The facility shall be designed to provide a method to eliminate solids, sediment, and other debris from entering the subsurface facility.
- (2) Loading/balancing. The facility shall be designed to provide a means of evenly balancing the flow across the surface of the facility to be used for infiltration.
- (3) Observation/access ports.
  - (a) For facilities with the bottom less than five (5) feet below the average grade of the ground surface, a clean-out shall be an acceptable observation port.

- (b) For facilities with the bottom five (5) feet or more below the average grade of the ground surface, a manhole or other means acceptable to the Township shall be provided for access to and monitoring of the facility.
- (c) The number of access points shall be sufficient to flush or otherwise clean out the system.

C. Materials.

- (1) Pipe material. Distribution system piping may be PVC, SLHDPE, or RCP.
- (2) Stone for infiltration beds. The stone used for infiltration beds shall be clean washed, uniformly graded coarse aggregate. The void ratio for design shall be assumed to be 40 percent.
- (3) Backfill material. Material consistency and placement depths for backfill shall be (at a minimum) per all applicable pipe manufacturer's recommendations, further providing it should be free of large (not exceeding 6 inches in any dimension) objectionable or detritus material. Select non-aggregate material should be indigenous to the surrounding soil material for non-vehicular areas. Backfill within vehicular areas shall comply with this section unless otherwise specified in in the Township Subdivision and Land Development or Road Ordinance or by the Township Engineer. Furthermore, if the design concept includes the migration of runoff through the backfill to reach the infiltration facility, the material shall be well drained, free of excess clay or clay-like materials and generally uniform in gradation.
- (4) Lining material. Non-woven geotextiles shall be placed on the sides and top of subsurface infiltration facilities. No geotextiles shall be placed on the bottom of subsurface infiltration facilities.

D. Cover.

- (1) When located under pavement, the top of the subsurface facility shall be a minimum of three (3) inches below the bottom of pavement subbase.
- (2) Where located under vegetative cover, the top of the subsurface facility shall be a minimum of 12 inches below the surface elevation or as required to establish vegetation.

E. Subsurface facilities shall be designed to safely convey and/or bypass flows from storms exceeding the design storm.

F. Infiltration facilities shall be designed with measures to protect infiltration facilities from compaction and sedimentation during and after construction.

### SECTION 3.09 CONVEYANCE FACILITY DESIGN CRITERIA

Conveyance facilities consist of all stormwater facilities which carry flow, which may be located either above or below the finished grade. Conveyance facilities do not include SWM Facilities which store, infiltrate/evaporate/transpire, or clean stormwater runoff.

- A. Design criteria. Conveyance facilities shall comply with the design criteria in the following table:

Conveyance facility design criteria			
Location	Within public street right-of-way	Outside public street right-of-way	
Loading	All	Vehicular loading	Non-vehicular loading
(a) Pipe design			
[1] Material	SLHDPE, RCP	PVC, SLHDPE, RCP	PVC, SLHDPE, RCP
[2] Slope (minimum)	0.5%	0.5%	0.5%
[3] Cover	1 foot to stone subgrade	1 foot to stone subgrade	1 foot to surface
[4] Diameter (minimum)	15 inches	12 inches	8 inches
[5] Street crossing angle	75° to 90°	N/A	N/A
[6] Access/maintenance port frequency (maximum)	400 feet	400 feet	600 feet
(b) Inlet design			
[1] Material	Concrete	Concrete	N/A
[2] Grate depression	½-1 inches	2 inches	1 inch minimum
(c) Manhole design			
[1] Material	Concrete	Concrete	Concrete

Conveyance facility design criteria			
Location	Within public street right-of-way	Outside public street right-of-way	
Loading	All	Vehicular loading	Non-vehicular loading
(d) Swale design			
[1] Freeboard (minimum)	6 inches	N/A	6 inches
[2] Velocity (maximum)	Stability check	N/A	Stability check
[3] Slope (minimum)	1%	N/A	1%
[4] Side slopes (residential area)	4 : 1 max	N/A	4 : 1 max
[5] Side slopes (non-residential area)	4 : 1 max	N/A	3 : 1 max
[6] Bottom width to flow depth ratio	12 : 1	N/A	12 : 1
(e) Outlet design			
[1] End treatment	Headwall/endwall	N/A	Headwall/endwall or flared end section
[2] Energy dissipater	Required	N/A	Required

N/A = Not applicable or no criteria specified

SLHDPE = Smooth lined high density polyethylene pipe; PVC = Polyvinyl chloride;

RCP = Reinforced concrete pipe

- B. Conveyance pipes, culverts, manholes, inlets and endwalls within the public street right-of-way or proposed for dedication shall conform to the requirements of PennDOT

Standards for Roadway Construction, Publication No. 72M as directed by the Township Engineer.

- C. Conveyance pipes, culverts, manholes, inlets and endwalls outside the public street right-of-way which are subject to vehicular loading shall be designed for the HS-25 loading condition.
- D. All material and workmanship for conveyance facilities shall conform to current PennDOT 408 specifications.
- E. Conveyance pipes.
  - (1) Backfill requirements. Backfill material. Material consistency and placement depths for backfill shall be (at a minimum) per all applicable pipe manufacturer's recommendations, further providing it should be free of large (not exceeding 6 inches in any dimension) objectionable or detritus material. Select non-aggregate material should be indigenous to the surrounding soil material for non-vehicular areas. Backfill within vehicular areas shall comply with this section unless otherwise specified in the Township Subdivision and Land Development or Road Ordinance or by the Township Engineer.
  - (2) Inlets or manholes shall be placed at all points of changes in the horizontal or vertical directions of conveyance pipes. Curved pipe sections are prohibited.
  - (3) Access/maintenance ports. An access/maintenance port is required and may either be an inlet or manhole.
  - (4) Watertight joints shall be provided where pipe sections are joined, except for perforated pipe installed as pavement base drain.
  - (5) The street crossing angle shall be measured between the pipe centerline and the street centerline.
  - (6) Elliptical pipe of an equivalent cross-sectional area may be substituted in lieu of circular pipe where cover or utility conflict conditions exist.
  - (7) The roughness coefficient (Manning "n" values) used for conveyance pipe capacity calculations should be determined in accordance with APPENDIX E, or per the manufacturer's specifications.
- F. Inlets.
  - (1) All pipes must enter inlets completely through one of the sides. No corner entry of pipes is permitted.
  - (2) Within the public street right-of-way, the gutter spread based on the 25-year storm shall be no greater than one half of the travel lane and have a maximum depth of three inches (3 inches) at the curb line. A parking lane shall not be considered as part of the travel lane. In the absence of pavement markings separating a travel



lane from the parking lane, the parking lane shall be assumed to be seven feet (7 feet) wide if parking is permitted on the street.

- (3) Flow depth within intersections. Within intersections of streets, the maximum depth of flow shall be one and one-half inches (1 ½ inches) based on the 25-year storm.
- (4) Curbed streets.
  - (a) Inlets in streets shall be located along the curb line.
  - (b) Top units shall be PennDOT Type "C". The hood shall be aligned with the adjacent curb height.
- (5) All inlets placed in paved areas shall have heavy duty bicycle-safe grating consistent with PennDOT Publication 72M, latest edition. A note to this effect shall be added to the SWM Site Plan or inlet details therein.
- (6) Inlets, junction boxes, or manholes greater than five feet (5 feet) in depth shall be equipped with ladder rungs and shall be detailed on the SWM Site Plan.

G. Swales.

- (1) A swale shall be considered as any man-made ditch designed to convey stormwater directly to another stormwater management facility or surface waters.
- (2) Inlets within swales shall have PennDOT Type "M" top units or equivalent approved by the Township Engineer.
- (3) Swale capacities and velocities shall be computed using the Manning equation using the following design parameters:
  - (a) The first condition shall consider swale stability based upon a low degree of retardance ("n" = 0.03);
  - (b) The second condition shall consider swale capacity based upon a higher degree of retardance ("n" = 0.05); and
  - (c) All vegetated swales shall have a minimum slope of 1% unless otherwise approved by the Township Engineer.
  - (d) The "n" factors to be used for paved or riprap swales or gutters shall be based upon accepted engineering design practices, as approved by the Township Engineer.

- (4) All swales shall be designed to maximize infiltration and concentrate low flows to minimize siltation and meandering, unless geotechnical conditions do not permit infiltration.
- H. Culverts. In addition to the material requirements in this section, culverts designed to convey Waters of this Commonwealth may be constructed with either a corrugated metal arch or a precast concrete culvert.
- I. Level spreaders.
  - (1) Shall discharge at existing grade onto undisturbed vegetation.
  - (2) Discharge at a depth not exceeding 3.0 inches for a 50-year, 24-hour design storm.
- J. Energy dissipaters. Energy dissipaters shall be designed in accordance with the requirements in the E&S Manual.
- K. End treatments.
  - (1) Where the connecting pipe has a diameter 18 inches or greater, headwalls and endwalls shall be provided with a protective barrier device to prevent entry of the storm sewer pipe by unauthorized persons. Such protection devices shall be designed to be removable for cleaning.
  - (2) Headwalls and endwalls shall be constructed of concrete.
  - (3) Flared end sections shall be of the same material as the connecting pipe and be designed for the size of the connecting pipe.

**SECTION 3.10 RESERVE.**

## **ARTICLE IV. STORMWATER MANAGEMENT SITE PLANS**

### **SECTION 4.01 GENERAL PLAN REQUIREMENTS**

- A. The SWM Site Plan shall consist of a narrative and all applicable calculations, maps, plans and supplemental information necessary to demonstrate compliance with this Ordinance.
- B. All landowners of land included in the SWM Site Plan shall be required to execute all applications and final documents.
- C. All SWM Site Plans and calculations shall be prepared and sealed by a Qualified Person. All stormwater designs, assumptions, methods and data must be presented in a manner acceptable to the Township Engineer.
- D. Where the regulated activity constitutes subdivision or land development as hereinabove defined, the SWM Site Plan shall be submitted with and form an integral part of the plans required under the Township Subdivision and Land Development Ordinance.
- E. All stormwater management materials shall be submitted in a format that is clear, concise, legible, neat and well organized.
- F. All coordinates as depicted on the plan shall be based on the following:
  - (1) Horizontal datum shall be referenced to the PA South Zone State Plane Coordinate System (NAD83).
  - (2) Vertical datum shall be referenced to NAVD 88.

### **SECTION 4.02 DRAFTING STANDARDS**

- A. The Plan shall be clearly and legibly drawn.
- B. If the Plan is prepared in two (2) or more drawing sheets, a key map showing the location of the sheets and a match line shall be placed on each sheet.
- C. Each sheet shall be numbered to show the relationship to the total number of sheets in the Plan (e.g. Sheet 1 of 5).
- D. Drawings or maps of the project area shall be drawn at 1" = 50' or larger scale (i.e. 1" = 40', 1" = 30', etc.) and shall be submitted on 24-inch x 36-inch sheets. The drainage area maps can be submitted at any scale provided the maps are legible.
- E. SWM Site Plans shall be prepared in a form that meets the requirements for recording for the Office of the Recorder of Deeds of Lancaster County.
- F. The total Development Site boundary and size with distances marked to the nearest foot and bearings to the nearest degree shall be clearly indicated on the Plan.

#### SECTION 4.03 SWM SITE PLAN INFORMATION

The following items shall be included in the SWM Site Plan:

- A. The date of the SWM Site Plan and latest revision, graphic scale, written scale and North arrow.
- B. The name of the development, the name and address of the owner of the property, and the name of the individual or firm preparing the Plan.
- C. The file or project number assigned by the firm that prepared the Plan.
- D. Certificate for Approval by the Township Board of Supervisors or Designee. See Appendix A Certificate for Approval By Providence Township Board of Supervisors or Designee.
- E. Certificate, signature and seal of a Qualified Professional preparing the Storm Water Management Site Plan. See Appendix A "Storm Water Management Designer Certification".
- F. The following signature block for the Landowner, acknowledging that the SWM Facilities are fixtures that cannot be altered or removed without prior approval by the Township. "I \_\_\_\_\_, hereby represent that no person shall modify, remove, fill, landscape, or alter any Storm Water Management BMPs, facilities, areas, or structures without the written approval of Providence Township."
- G. A note on the Plan referencing a recorded Stormwater Operation and Maintenance (O&M) Agreement that indicates the location and responsibility for maintenance of the on-site and off-site facilities.
- H. A note informing the owner that the Township shall have the right-of-entry for the purposes of inspecting all stormwater conveyance, treatment, or storage facilities.
- I. A location map, drawn to a scale of a minimum of one inch equals two thousand feet (1" = 2,000'), relating the Plan to Township boundaries, at least two (2) intersections of road centerline or other identifiable landmarks.
- J. Existing Features.

The following features shall be shown on all Storm Water Management Site Plans and shall be shown on a separate sheet titled "Existing Conditions". No proposed features shall be included on this sheet.

- (1) In areas of disturbance, contours at intervals of one (1) or two (2) feet. In areas of steep slopes (greater than 15 percent) and areas undisturbed, five-foot contour intervals may be used.
- (2) The locations of all existing utilities (including on lot disposal systems and wells), sanitary sewers, and water lines and associated easements.
- (3) An overlay showing soil names and boundaries.
- (4) Names of all adjacent landowners, property boundaries and locations and dimensions of easements as indicated by a boundary survey.
- (5) Physical features including railroads, streets, flood hazard boundaries, wetlands, sinkholes, streams, lakes, ponds and other waterbodies, existing drainage courses, karst features, areas of native vegetation including trees greater than 6" diameter at breast height, woodlands, other environmentally sensitive areas and the total extent of the upstream area draining through the Development Site.

K. Proposed Features.

- (1) Changes to the land surface and vegetative cover, including final proposed contours at intervals of one (1) or two (2) feet in areas of disturbance. In areas of steep slopes (greater than 15 percent) and areas undisturbed, five-foot contour intervals may be used.
- (2) Proposed structures, roads, paved areas, buildings and other impervious and semi-impervious areas.
- (3) The location of any proposed on-lot disposal systems, replacement drainfield easements, and water supply wells.
- (4) A note indicating existing and proposed land use(s).
- (5) Plan and profile drawings of all proposed SWM facilities, including BMPs, drainage structures, pipes, open channels, and swales. This information shall be of the quality required for the construction of all facilities.
- (6) Where pervious pavement is to be installed, pavement material and construction specifications shall be included.
- (7) The location of all existing and proposed easements, including drainage easements, access easements and riparian corridor easements.
- (8) A planting plan shall be provided for all vegetated BMPs in accordance with Section 3.01L.

L. The type and location of all E&S control facilities.

M. Storm water management facilities located within or affecting the floodplain of any watercourse shall comply with the requirements of the flood plain regulations provided in

the Zoning Ordinance or any future ordinances regulating construction or development within areas of the Township subject to flooding.

- N. The minimum floor elevations for all structures that would be affected by a basin, other temporary impoundments, or open conveyance systems where ponding may occur shall be two (2) feet above the 100 year water surface. If basement or underground facilities are proposed, detailed calculations addressing the effects of the storm water ponding on the structure and water-proofing and/or flood proofing design information shall be provided for review and approval.
- O. No outlet structure from a storm water management facility, or swale, shall discharge directly onto a Township or State roadway.

#### **SECTION 4.04 ADDITIONAL INFORMATION**

- A. General description of the Development Site, including a description of existing natural and hydrologic features and any environmentally sensitive areas.
- B. General description of the overall SWM concept for the project, including a description of permanent SWM techniques, non-structural BMPs to be employed and construction specifications of the materials to be used for structural SWM facilities. The narrative shall include a description of any treatment trains and how the facilities are meant to function with each other to manage stormwater runoff.
- C. A summary narrative stating the effect of the project (in terms of runoff volumes, water quality and peak flows) on adjacent properties and on any existing Township SWM Facilities that may receive runoff from the Development Site.
- D. Complete hydrologic, hydraulic, and structural computations for all SWM Facilities in a format suitable to the Township Engineer.
- E. Expected project time schedule.
- F. Project Inspection Schedule for all BMPs.

#### **SECTION 4.05 SUPPLEMENTAL INFORMATION**

- A. In areas of carbonate geology, a detailed geologic evaluation prepared by a registered Professional Geologist (PG) or other Qualified Person must be submitted as part of the SWM Site Plan. The report shall include, but not be limited to the following:
  - (1) The location of the following karst features;
    - (a) Sinkholes.
    - (b) closed depressions.
    - (c) lineaments in carbonate areas.

- (d) fracture traces.
  - (e) Caverns.
  - (f) intermittent lakes.
  - (g) ephemeral disappearing streams.
  - (h) bedrock pinnacles (surface or subsurface).
- (2) A plan for remediation of any identified karst features.
- (3) Impacts of SWM Facilities on adjacent karst features, and impacts of karst features on adjacent SWM Facilities.
- B. A NPDES and E&S Plan, including all approvals, as required by Chapter 102, shall be provided to the Township prior to unconditional SWM Site Plan approval.
- C. For any activities that require a DEP Joint Permit Application and are regulated under Chapter 105 or Chapter 106, or require any other permit under applicable state or federal regulations, the permit(s) shall be part of the SWM Site Plan and must be obtained prior to unconditional SWM Site Plan approval.
- D. For any activities that require a Penn DOT Highway Occupancy Permit, the permit(s) shall be part of the SWM Site Plan and must be obtained prior to unconditional SWM Site Plan approval. If PennDOT requires that the Township be the permittee for such drainage facilities, the Applicant shall enter into an Agreement, in recordable form, assuming all of the obligations which PennDOT may place upon the Township as permittee, including, but not limited to, longterm maintenance of any such facilities, compliance with all conditions contained in the permit, and indemnification of the Township for any costs or penalties which PennDOT may seek to impose on the Township. The Township shall have no obligation to make any applications to PennDOT.
- E. An Operation and Maintenance (O&M) Plan shall be included that addresses the requirements of Section 6.03.
- F. All SWM Facilities must be located on a map and described in detail. The content of the map(s) and computations shall include, but not be limited to:
  - (1) All calculations, assumptions and criteria used for the design of the SWM Facilities must be included for both pre-development and post-development conditions. If multiple facilities are used in conjunction with each other, such as infiltration BMPs with vegetation-based management practices, a summary narrative shall be included which describes the construction sequence and how the facilities are meant to function with each other to manage stormwater runoff.
  - (2) When groundwater recharge methods such as seepage pits, beds or trenches are used, the locations of existing and proposed septic tank infiltration areas and wells must be shown. A minimum fifty-foot separation from on-lot disposal system



(OLDS) infiltration areas is required. Infiltration rates shall be based upon perk and probe tests conducted at the site of the proposed facility.

- (3) A description of how each permanent stormwater BMP will be operated and maintained, and the identity of the person(s) responsible for operations and maintenance.

## **ARTICLE V. PLAN PROCESSING PROCEDURES**

### **SECTION 5.01 EXEMPTION FROM PLAN SUBMISSION REQUIREMENTS**

- A. The following regulated activities are specifically exempt from the SWM Site Plan preparation and submission requirements articulated in Section 3.01A, Article IV and Article V of this Ordinance:
- (1) Agricultural activity, provided the activities are performed according to the requirements of Chapter 102.
  - (2) Forest management and timber operations, provided the activities are performed according to the requirements of Chapter 102.
  - (3) Conservation Practices being installed as part of the implementation of a Conservation Plan written by an NRCS certified planner.
  - (4) The cumulative installation of 1,000 or fewer square feet of Impervious Surface coverage proposed after (Township selects the effective date of the Ordinance or an earlier date); provided that the activities meet the criteria of Section 5.01C, below, and are conducted in accordance with all requirements of this Ordinance.
  - (5) Domestic landscape and/or vegetable gardening.
- B. The Township may deny or revoke any exemption pursuant to this Section at any time for any project that the Township believes may pose a threat to public health, safety, property or the environment.
- C. An Applicant proposing the cumulative installation of 1,000 square feet or less of Impervious Surface coverage may be exempt from the design, plan submittal, and processing requirements of Articles III, IV, and V of this Ordinance if the proposal meets the criteria in the Section 5.01C. No person or activity is exempted from compliance with Section 6.05 and Article VII, Article VIII, and Article IX of this Ordinance. Exemptions do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other code, law, regulation, or ordinance. Exemption shall not relieve an applicant from implementing such measures as necessary to meet compliance with any NPDES Permit requirements. Any exemption based on false, misleading, or erroneous information provided by an applicant is void without the

necessity of any proceedings for revocation. Any work undertaken or use established pursuant to such permit or other authorization is unlawful.

- (1) Any Applicant desiring exemption from design, plan submission, and plan processing requirements shall complete an application for exemption. The application form is on file at the Township Office.
- (2) The Applicant for exemption shall provide the Township with all information necessary for the Township to determine that:
  - (a) There shall be no disturbance of land within Floodplains, Wetlands, and Environmentally Sensitive Areas.
  - (b) The Applicant shall minimize soil disturbance, take steps to minimize Erosion and Sedimentation during construction activity, and promptly reclaim all disturbed areas with topsoil and vegetation.
  - (c) The Applicant shall take steps to insure that Runoff is directed to Pervious Areas on the subject property. No Runoff shall be directed onto an abutting street or neighboring property.
  - (d) The proposed Impervious Surface shall not adversely impact any existing known problem areas or downstream property owners or the quality of runoff entering any Municipal Separate Storm Sewer System.
  - (e) The Applicant shall comply with the erosion and sediment control requirements of Chapter 102 and the proposed Impervious Surface shall not create accelerated Erosion and Sedimentation.
- (3) If the proposed activity does not meet all of the criteria set forth in Section 5.07D(2) above, the Applicant shall follow the Small Project processing procedure in Section 5.02.
- (4) The Applicant shall comply with applicable State Water Quality Standards. If the proposed activity is located in a High Quality (HQ) or Exceptional Value (EV) watershed, the applicant shall be responsible for compliance with all federal and state requirements applicable to those special protection waters. This exemption does not provide relief from any other applicable state or federal requirements.
- (5) No Applicant and no activity shall violate or cause to be violated: the Federal Clean Water Act, Clean Streams Law, or any regulation issued thereunder, an NPDES permit, any recorded Stormwater Management or Operations and



Maintenance Agreement, or any requirement applicable to a Municipal Separate Storm Sewer System.

- D. Installation of additional impervious surface coverage on a lot where all of the following conditions have been met:
- (1) The lot has a previously approved SWM Site Plan which included SWM Facilities to handle such future impervious surface coverage.
  - (2) The SWM Facilities on the approved SWM Site Plan were installed and inspected and approved by the Township Engineer.
  - (3) The Township approved the SWM Site Plan no more than five years before the application to add the impervious surface coverage was submitted to the Township or, if the Township approved the SWM Site Plan more than five years before the application to add the impervious surface coverage was submitted to the Township, there have been no amendments to the design standards of this Chapter between the date of approval of the SWM Site Plan and the submission of the application to add impervious surface coverage.
- E. Public road improvement projects initiated and/or sponsored by the Township and/or the Pennsylvania Department of Transportation shall be exempt from these stormwater management criteria under the following circumstances:
- (1) The road improvement project is required as part of a safety improvement project.
  - (2) A general analysis is provided and it can be demonstrated that the proposed improvements will not adversely affect any adjacent property owners, nor will the improvements adversely affect downstream stormwater management facilities. Otherwise, mitigation of these impacts will be required as part of the proposed improvements.
- F. Road Maintenance projects initiated and/or sponsored by the Township and/or the Pennsylvania Department of Transportation shall be exempt from these stormwater management criteria.

#### **SECTION 5.02 SMALL PROJECTS.**

- A. Anyone proposing a Small Project, shall submit 2 copies of the Small Project Permit Application to the Township.
- B. A complete Small Project Permit Application shall include:
- (1) Small Project Permit Application Form (On file at the Township Office)
  - (2) Small Project Sketch Plan including the following:
    - (a) Name and address of landowner (and/or) developer
    - (b) Date of Small Project Application submission.

- (c) Name of individual and/or firm that prepared the sketch if different than the landowner and/or developer
  - (d) Location and square footage of proposed impervious area or land disturbance
  - (e) Approximate footprint and location of all structures on adjacent properties if located within 50 feet of the proposed impervious area or land disturbance
  - (f) Location of existing SWM Facilities if present
  - (g) Location and description of proposed SWM Facilities
  - (h) Direction of proposed stormwater discharge (e.g. with arrows)
  - (i) Scale and north arrow
- (3) Filing fee (in accordance with the Township's current fee schedule).
- C. The Small Project Application shall be submitted in a format that is clear, concise, legible, neat and well organized.
  - D. Small Project applications need not demonstrate literal compliance with Article III, Article IV and Article VI of this ordinance. However, Small Project applications must demonstrate they comply with the intent of this Ordinance as outlined in Section 1.02 and Section 1.03. The Township Board of Supervisors or their Designee may require additional information or invoke any section of this Ordinance deemed necessary to adequately demonstrate compliance with the intent of this Ordinance.
  - E. The Township Board of Supervisors or their Designee may require an applicant to submit a full SWM Site Plan if in their opinion a Small Project application proposes significant risk to the Township.
  - F. Applications for Small Project Permits shall be reviewed and acted upon by the Township Board of Supervisors or their Designee within 30 days of filing a complete permit application.
  - G. Approval of a Small Project Permits shall be valid for a period not to exceed 2 years. This two-year time period shall commence on the date that the Township Board of Supervisors or their Designee signs the approved Small Project Permit.
  - H. Written requests for an extension shall be made at least 30 days prior to the expiration date. If refused, the Township Board of Supervisors or their Designee shall cite the reason(s) for such refusal.

#### **SECTION 5.03 PRE-APPLICATION MEETING**

- A. Applicants are encouraged to schedule a pre-application meeting to review the overall stormwater management concept with Township Staff/Engineer. The pre-application

meeting is not mandatory and shall not constitute formal filing of a plan with the Township. Topics discussed may include the following;

- (1) Available geological maps, plans and other available data.
- (2) Findings of the site analysis including identification of any environmentally sensitive areas, wellhead protection areas, riparian corridors, hydrologic soil groups, existing natural drainageways, karst features, areas conducive to infiltration to be utilized for volume control, etc.
- (3) Results of infiltration tests.
- (4) Applicable Subdivision and Land Development and/or Zoning Ordinance provisions.
- (5) The conceptual project layout, including proposed structural and non-structural BMPs.

#### **SECTION 5.04 STORMWATER MANAGEMENT SITE PLAN SUBMISSION**

- A. When a SWM Site Plan is required, the applicant shall submit the following to the Township:
  - (1) 2 copies of the SWM Site Plan prepared in accordance with the requirements of Article IV of this Ordinance.
  - (2) Two (2) copies of all supplemental data, plus electronic copies of plan and report files.
  - (3) An application and filing fee (in accordance with the Township's current fee schedule).
- B. The SWM Site Plan shall be submitted in a format that is clear, concise, legible, neat and well-organized.
- C. All submittals including plans and reports shall include an electronic format acceptable to the Township.
- D. The applicant is responsible for submitting plans to any other agencies such as the Conservation District, PennDOT, DEP, etc. when permits from these agencies are required. Final approval shall be conditioned upon the applicant obtaining all necessary permits.
- E. Incomplete submissions as determined by the Board of Supervisors or its designee, shall be returned to the Applicant within 7 days, along with a statement that the submission is incomplete and a list of deficiencies found. Otherwise, the application shall be deemed accepted for filing as of the date of submission. Acceptance of the application shall not, however, constitute an approval of the plan or a waiver of any deficiencies or



irregularities. The applicant may appeal the Township's decision not to accept a particular application in accordance with Section 9.05 of this Ordinance.

- F. At its sole discretion and in accordance with this Article, when a SWM Site Plan is found to be deficient, Township Board of Supervisors or their Designee may either disapprove the submission and require a resubmission, or in the case of minor deficiencies, Township Board of Supervisors or their Designee may accept submission of revisions.

#### **SECTION 5.05 TOWNSHIP REVIEW**

- A. When the regulated activity constitutes a Subdivision or Land Development, the SWM Site Plan and Subdivision/Land Development Plan shall be processed concurrently according to the plan processing procedure outlined in the Providence Township Subdivision and Land Development Ordinance.
- B. When the regulated activity constitutes a Small Project, the Small Project permit application shall be processed according to Section 5.02.
- C. When the regulated activity does not constitute a Subdivision or Land Development or a Small Project the SWM Site Plan shall be processed according to the plan processing procedure outlined in this Ordinance.
- D. All applications for approval of a SWM Site Plan shall be acted upon by the Township Board of Supervisors or their Designee, who shall render his/her decision and communicate it to the developer not later than 90 days following the date the application is filed.
  - (1) The decision of the Township Board of Supervisors or their Designee shall be in writing and shall be communicated to the developer or their agent personally or mailed to him/her at his/her last known address not later than 15 days following the decision.
  - (2) When the application is not approved in terms as filed, the decision shall specify the defects found in the application and shall describe the requirements which have not been met and shall, in each case, cite the provisions of the chapter relied upon for the decision.
- E. If the Township disapproves the SWM Site Plan, the Township will state the reasons for the disapproval in writing. The Township also may approve the SWM Site Plan with conditions and, if so, shall provide the acceptable conditions for approval in writing. Such

conditional approval shall be contingent upon the applicant's written acceptance of the conditions.

- F. Revisions to a SWM Site Plan after submission but before Township action shall require a resubmission of the modified SWM Site Plan consistent with Section 5.04 of this Ordinance and be subject to review as specified in Section 5.05 of this Ordinance.
- G. For the purposes of review deadlines, each resubmission required under Section 5.05F (after submission but before approval) shall constitute a new submission for the purposes of time limits as set forth in the MPC and this ordinance.
- H. Any substantial revisions to a SWM Site Plan after approval shall be submitted as a new plan to the Township, accompanied by the applicable Review Fee.

#### **SECTION 5.06 AUTHORIZATION TO CONSTRUCT AND TERM OF VALIDITY**

- A. Approval of a SWM Site Plan shall be valid for a period not to exceed five years. This five-year time period shall commence on the date that the Township Board of Supervisors or their Designee signs the approved SWM Site Plan.
- B. If SWM Facilities included in this approved SWM Site Plan have not been constructed within this five-year time period, then the Township Board of Supervisors or their Designee may consider the SWM Site Plan disapproved and may recommend that the Township revoke any and all permits. SWM Site Plans that are considered disapproved by the Township or its designee shall be resubmitted in accordance with Section 5.04 of this chapter.
- C. An extension of an unexpired SWM Site Plan shall be issued by the Township following the submission of a written request if, in the opinion of the Township Board of Supervisors or their Designee, the subject property or affected surrounding area has not been altered in a manner which requires alteration or revision of the stormwater management plan. Written requests shall be made at least 30 days prior to the expiration date.
- D. The refusal of an extension of time shall cite the reason(s) for such refusal.
- E. A SWM Site Plan shall not expire while a request for an extension is pending.

#### **SECTION 5.07 AS-BUILT PLAN**

- A. Upon completion of the SWM Site Plan improvements and prior to the release of financial security, the applicant shall submit an As-Built Plan to the Township. The As-

Built Plan must show the final design specifications for all SWM Facilities and be sealed by a registered Qualified Person.

B. Review by Township Engineer.

- (1) The As-Built Plan shall be reviewed by the Township Engineer to verify the plan includes all of the SWM Facilities on the subject property and the verify the facilities are shown at the correct location.
- (2) The Township Engineer shall either approve the As-Built Plan or identify corrections required.
- (3) If the Township Engineer identifies corrections required to the As-Built Plan, the applicant shall submit a revised As-Built Plan to the Township addressing the corrections.

C. All coordinates as depicted on the As-Built Plan shall be based on the following:

- (1) Horizontal datum shall be referenced to the PA South Zone State Plane Coordinate System (NAD83).
- (2) Vertical datum shall be referenced to NAVD 88.

D. The following information should be included with the as-built plan:

- (1) Actual location of floodplain by elevation and dimension from property line.
- (2) Actual location and cross section of swales and accompanying easements. The plan should demonstrate that the swales intercept and convey stormwater according to the approved subwatershed plan.
- (3) Actual horizontal and vertical location of SWM Facilities including type and size of storm drainage pipes, inverts and rims of structures, slopes and accompanying easements.
- (4) Actual location and connection point(s) of perforated underdrain(s).
- (5) Actual location and connection point(s) of roof leader drain(s).
- (6) Detention and infiltration basins.
  - (a) Actual contours of the basin.
  - (b) Actual outlet structure details, including type, size and inverts of outlet pipes. Include the orifice plate size and location on the as-built survey, if applicable.
  - (c) Actual elevation and widths for the embankment and emergency spillway.
  - (d) Compaction results and soils testing data for embankments structures.
  - (e) Certification that compaction of the basin bottom did not occur (for infiltration basins).

- (f) Actual volume of the basin and post-development flow rates based upon as-built conditions for the basin. Calculations should be signed and sealed by a design professional.
  - (7) Actual location and dimensions of all BMP facilities.
- E. The As-Built Plan shall be submitted in a format that is clear, concise, legible, neat and well organized.
- F. All submittals including plans and reports shall include an electronic format acceptable to the Township.
- G. Digital inventory.
  - (1) When required. A digital inventory shall be submitted following approval of the As-Built Plan by the Township Engineer if the project includes any of the following:
    - (a) SWM Facilities which are offered for dedication to the Township.
    - (b) SWM Facilities which connect to or alter any portion of the Township's MS4.
    - (c) BMPs included on a NPDES permit.
  - (2) Digital inventory requirements.
    - (a) The digital inventory shall be in an electronic format acceptable to the Township Engineer.
    - (b) The digital inventory shall include all information included and shown on the approved As-Built Plan.
    - (c) All coordinates as depicted on the plan shall be based on the PA South Zone State Plan Coordinate System (NAD83 for horizontal and NAVD88 for vertical).

#### **SECTION 5.08 CERTIFICATE OF COMPLETION**

- A. At the completion of the project, the applicant shall provide Certification of Completion qualified person verifying that all permanent SWM Facilities have been constructed according to the Plans and specifications and approved revisions thereto.
- B. Upon receipt of the Certificate of Completion, the Township shall conduct a final inspection to certify compliance with this Ordinance.

#### **SECTION 5.09 FINANCIAL SECURITY**

- A. A financial security (bond, restricted account or letter of credit) for stormwater related improvements shall be supplied by the Developer in conjunction with the



subdivision/land development approval, or in conjunction with the SWM Site Plan approval if no subdivision/land development plan is required.

- B. The applicant shall provide a financial security to the Township for the timely installation and proper construction of all SWM facilities, including E&S BMPS, as required by the approved SWM Site Plan and this Chapter and, as applicable, in accordance with the provisions of Sections 509, 510, and 511 of the MPC.
- C. Where required, the developer shall file with the Board of Supervisors financial security in an amount sufficient to cover the costs of all storm water management facilities required by this Chapter. Without limitation as to other types of financial security which the Township may approve, which approval shall not be unreasonably withheld, Federal or Commonwealth chartered lending institution irrevocable letters of credit and restrictive or escrow accounts in such lending institutions shall be deemed acceptable financial security. Such financial security shall be posted with a bonding company or Federal or Commonwealth chartered lending institution chosen by the developer provided said bonding company or lending institution is authorized to conduct such business within the Commonwealth. Such bond, or other security, shall provide for, and secure to the public, completion of all storm water management facilities within one (1) year of the date fixed on the final approved plan for such facilities. The amount of financial security shall be equal to one hundred ten (110%) percent of the cost of the required facilities for which financial security is to be posted. The cost of the facilities shall be established by submission to the Board of Supervisors of a bona fide bid or bids from the contractor or contractors chosen, the developer to complete the facilities, or in the absence of such bona fide bids, the cost shall be established by estimate and approved by the Township. If the developer requires more than one (1) year from the date of posting of the financial security to complete the required facilities, the amount of financial security may be increased by an additional ten (10%) percent for each one (1) year period beyond the first anniversary date from posting of financial security, or to an amount not exceeding one hundred ten (110%) percent of the cost of completing the required facilities, as reestablished on or about the expiration of the preceding one (1) year period by using the above bidding procedure.
- D. In the case where development is projected over a period of years, the Board of Supervisors may authorize submission of storm water management plan applications by section or stages of development subject to such requirements or guarantees as to storm water management facilities in future sections or stages of development as it finds essential for the protection of any finally approved section of the development.
- E. As the work of installing the required SWM Facilities proceeds, the party posting the financial security may request the Board of Supervisors to release or authorize the release, from time to time, such portions of the financial security necessary for payment to the contractor or contractors performing the work. Any such requests shall be in writing addressed to the Board of Supervisors, and the Board of Supervisors shall have 45 days from receipt of such request within which to allow the Township Engineer to

certify, in writing, to the Board of Supervisors that such portion of the work upon the SWM Facilities has been completed in accordance with the approved SWM Site Plan. Upon such certification the Board of Supervisors shall authorize release by the bonding company or lending institution of an amount as estimated by the Township Engineer fairly representing the value of the SWM Facilities completed. The Board of Supervisors may, prior to final release at the time of completion and certification by its Engineer, require retention of 10% of the estimated cost of the aforesaid SWM Facilities.

F. Schedule of Inspections.

- (1) During the construction of the development, the Township Engineer or other authorized Township official may inspect the premises to determine that the work is progressing in compliance with the information provided on the approved SWM Site Plan and with all applicable Township laws and ordinances.
- (2) The cost for the conducting of inspections by the Township Engineer or other authorized Township official shall be borne by the developer in accordance with the inspection fee adopted by resolution of the Board of Supervisors.
- (3) In the event the Township Engineer or other authorized Township official discovers that the work does not comply with the approved SWM Site Plan or any applicable laws or ordinances, the Developer shall take all actions necessary to bring the work into compliance with the approved SWM Site Plan or other applicable laws or ordinances.
- (4) If, at any stage of the work, the Township Engineer or authorized official determines that the soil or other conditions are not as stated or shown in the approved application, or that there has been a false statement or misrepresentation by the developer, the Township Engineer or authorized official may refuse to approve further work until a revised plan is submitted and approved, as required by Section 5.04.

G. Final Inspection. When the developer has completed all the required facilities, he shall notify the Township in writing by certified or registered mail, and shall send a copy of such notice to the Township Engineer. The Township shall, within ten (10) days after receipt of such notice, authorize the Township Engineer to inspect the required facilities. The Township Engineer shall promptly file a report, in writing, with the Township and shall mail a copy of the report to the developer by certified or registered mail. The report shall be made and mailed within thirty (30) days after receipt by the Township Engineer of the aforesaid authorization by the Township.

## **ARTICLE VI. OPERATION AND MAINTENANCE (O&M)**

### **SECTION 6.01 RESPONSIBILITIES OF DEVELOPERS AND LANDOWNERS**

- A. The Landowner, successor and assigns shall maintain all SWM Facilities in good working order in accordance with the approved O & M Plan.
- B. The Landowner shall convey to the Township easements to assure access for inspections and maintenance, if required.
- C. The Landowner shall keep on file with the Township the name, address and telephone number of the person or company responsible for maintenance activities; in the event of a change, new information will be submitted to the Township within ten (10) days of the change.
- D. The Landowner shall enumerate permanent SWM Facilities as permanent real estate appurtenances and record as deed restrictions or easements that run with the land.
- E. The record owner of the Development Site shall sign and record an Operation and Maintenance (O&M) Agreement covering all SWM Facilities, including riparian buffers and riparian forest buffers, which are to be privately owned. Said agreement, designated as APPENDIX I, is attached and made part hereto. The O&M Plan and Agreement shall be recorded as a restrictive covenant agreement that runs with the land.

### **SECTION 6.02 OPERATION AND MAINTENANCE AGREEMENTS**

- A. The Operation and Maintenance Agreement shall be subject to the review and approval of the Township solicitor and Board of Supervisors or their Designee.
- B. The Township is exempt from the requirement to sign and record an O&M agreement.

### **SECTION 6.03 OPERATION AND MAINTENANCE (O&M) PLAN CONTENTS**

- A. The O&M Plan shall clearly establish the operation and maintenance necessary to ensure the proper functioning of all temporary and permanent SWM Facilities and erosion and sedimentation control facilities.
- B. The following shall be addressed in the O&M Plan:
  - (1) Description of maintenance requirements, including, but not limited to, the following:
    - (a) Regular inspection of the SWM Facilities. To assure proper implementation of BMPs, maintenance and care SWM BMPs should be inspected by a qualified person, which may include the landowner, or the owner's designee (including the Township for dedicated and owned facilities), according to the following minimum frequencies:

- [1] Annually for the first 5 years.
  - [2] Once every 3 years thereafter.
  - [3] As specified in the O&M Agreement pursuant to Section 6.02.
- (b) All pipes, swales, and detention facilities shall be kept free of any debris or other obstruction and in original design condition.
  - (c) Removal of silt from all permanent structures which trap silt or sediment in order to keep the material from building up in grass waterways, pipes, detention or retention basins, infiltration structures, or BMPs, and thus reducing their capacity to convey or store water.
  - (d) Re-establishment of vegetation of scoured areas or areas where vegetation has not been successfully established. Selection of seed mixtures shall be subject to approval by the Township.
- (2) Riparian forest buffer management plan prepared in accordance with Chapter 102 §14(b)(4) if required.
  - (3) Identification of a responsible individual, corporation, association or other entity for ownership and maintenance of both temporary and permanent SWM and erosion and sedimentation control facilities.
  - (4) Establishment of suitable easements for access to all facilities.

#### **SECTION 6.04 MAINTENANCE OF FACILITIES ACCEPTED BY THE TOWNSHIP**

- A. The Township reserves the right to accept or reject any proposal to dedicate ownership and operating responsibility of any SWM Facilities to the Township.
- B. If SWM Facilities are accepted by the Township for dedication, the landowner/developer shall be required to pay a specified amount to the Township Stormwater Maintenance Fund to defray costs of periodic inspections and maintenance expenses. This fee shall be provided to the Township prior to unconditional SWM Site plan approval. The amount of



the deposit shall be determined as follows subject to the approval of the Township Board of Supervisors:

- (1) The deposit shall cover the estimated costs for maintenance and inspections for twenty-five (25) years. The Township will establish the estimated costs according to the O&M requirements outlined in the approved O&M Plan.
  - (2) The amount of the deposit to the fund shall be converted to present worth of the annual series values.
  - (3) If a storage facility is proposed that also serves as a recreation facility (e.g. ballfield, lake), the Township may reduce or waive the amount of the maintenance fund deposit based upon the value of the land for public recreation purpose.
- C. If at any time a dedicated storage facility is eliminated due to the installation of storm sewers or other storage facility such as a regional detention facility, the unused portion of the maintenance fund deposit will be applied to the cost of abandoning the facility and connecting to the storm sewer system or other facility.
- D. Maintenance shall be conducted as necessary to provide for the continued functioning of the SWM Facility. Costs of inspections, maintenance and repairs are recoverable from the Township Stormwater Maintenance Fund.

#### **SECTION 6.05 MAINTENANCE OF EXISTING FACILITIES / BMPS**

- A. SWM Facilities existing on the effective date of this Ordinance which have not been accepted by the Township or for which maintenance responsibility has not been assumed by a private entity such as a homeowners' association shall be maintained by the individual Landowners. Such maintenance shall include at a minimum those items set forth in Section 6.03B(1) above. If the Township determines at any time that any permanent SWM facility has been eliminated, altered, blocked through the erection of structures or the deposit of materials, or improperly maintained, the condition constitutes a nuisance, and the Township shall notify the Landowner of corrective measures that are required, and provide for a reasonable period of time, not to exceed 30 days, within which the owner shall take such corrective action. If the Landowner does not take the required corrective action, the Township may either perform the work or contract for the performance of the work and bill the Landowner for the cost of the work plus a penalty of 10% of the cost of the work. If such bill is not paid by the property owner within 30 days, the Township may file a Township claim against the property upon which the work was performed in accordance with the applicable laws. The Township shall have the right to choose among the remedies and may use one or more remedies concurrently.

#### **SECTION 6.06 STORMWATER MAINTENANCE FUND**

- A. Persons installing stormwater management facilities shall be required to pay a specified amount to the Township Stormwater Maintenance Fund to help defray costs of periodic

inspections and maintenance expenses. The amount of the deposit shall be determined as follows:

- (1) If the stormwater management facilities are to be privately owned and maintained, the deposit shall cover the cost of periodic inspections performed by the Township, for a period of ten (10) years, as estimated by the Township. After that period of time, inspections will be performed at the expense of the Township.
- (2) If the stormwater management facilities are to be owned and maintained by the Township, the deposit shall cover the estimated costs for maintenance and inspections for twenty five (25) years. The Township will establish the estimated costs utilizing information submitted by the Applicant.
- (3) The amount of the deposit to the fund shall be converted to present worth of the annual series values. The Township shall determine the present worth equivalents that shall be subject to the approval of the governing body.

## **ARTICLE VII. FEES AND EXPENSES**

### **SECTION 7.01 GENERAL**

- A. The Township shall impose a filing fee to be paid at the time any application is submitted pursuant to the provisions of this Ordinance.
- B. The fee required by this Ordinance is the Township Storm Water Management Review Fee and shall be established by resolution of the Township Board of Supervisors. The fee may be modified from time to time by resolution.

### **SECTION 7.02 EXPENSES COVERED BY FEES**

- A. In addition to the filing fee identified in Section 7.01.A, any person filing an application shall be responsible for the following fees:
  - (1) Any review of the SWM Site Plan and related documents by the Township's Engineer, Solicitor or other professional consultant retained by the Township for that purpose.
  - (2) Any review of the Stormwater Operation and Maintenance Plan and any related agreements by the Township's Engineer, Solicitor or other professional consultant retained by the Township for that purpose.
  - (3) Any review of any other documents or materials required in connection with the application by the Township's Engineer, Solicitor or other professional consultant retained by the Township for that purpose.
  - (4) Inspections
  - (5) Any additional work required to enforce any permit provisions regulated by this Ordinance; to require or oversee the correction of violations; and, to assure proper completion of stipulated remedial actions.
- B. The Township shall not unconditionally approve a SWM Site Plan, building permit, or subdivision and land development plan for any property subject to the provisions of this Ordinance until any and all filing fees and expenses and required financial security have been paid by the applicant in accordance with this Ordinance.

## **ARTICLE VIII. PROHIBITIONS**

### **SECTION 8.01 PROHIBITED DISCHARGES AND CONNECTIONS**

A. The following connections are prohibited, except as provided in Section 8.01D below.

- (1) Any drain or conveyance, whether on the surface or subsurface, that allows any non-stormwater discharge including sewage, process wastewater, and wash water to enter a municipal separate storm sewer (if applicable), or waters of this



Commonwealth, and any connections to the storm sewer from indoor drains and sinks; and

- (2) Any drain or conveyance connected from a commercial or industrial land use to the Municipal Separate Storm Sewer (if applicable) which has not been documented in plans, maps, or equivalent records, and approved by the Township.
- B. No person shall allow, or cause to allow, discharges into surface waters of this Commonwealth which are not composed entirely of stormwater, except (1) as provided in Section 8.01D below and (2) discharges allowed under a state or federal permit.
- C. No person shall place any structure, fill, landscaping or vegetation into a SWM Facility or within a drainage easement that will limit or diminish the functioning of the SWM Facility in any manner without the written approval of the Township.
- D. The following discharges are authorized unless they are determined to be significant contributors to pollution to the waters of this Commonwealth:
- (1) Discharges from firefighting activities
  - (2) Potable water sources including water line flushing
  - (3) Irrigation drainage
  - (4) Air conditioning condensate
  - (5) Springs
  - (6) Water from crawl space pumps
  - (7) Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used
  - (8) Flows from riparian habitats and wetlands
  - (9) Uncontaminated water from foundations or from footing drains
  - (10) Lawn watering
  - (11) De-chlorinated swimming pool discharges
  - (12) Uncontaminated groundwater
  - (13) Water from individual residential car washing
  - (14) Routine external building wash down (which does not use detergents or other compounds)
  - (15) Diverted stream flows
  - (16) Rising ground waters
  - (17) Other discharges approved by the Township

- E. In the event that the Township or DEP determines that any of the discharges identified in Section 8.01D, above, significantly contribute to pollution of the waters of this Commonwealth, the Township or DEP will notify the responsible person(s) to cease the discharge.

#### **SECTION 8.02 ALTERATION OF SWM BMPS**

No person shall modify, remove, fill, landscape, or alter any SWM BMPs, facilities, areas, or structures unless it is part of an approved maintenance program, without the written approval of the Township.

## **ARTICLE IX. ENFORCEMENT AND PENALTIES**

### **SECTION 9.01 RIGHT-OF-ENTRY**

Upon presentation of proper credentials, duly authorized representatives of the Township may enter at reasonable times upon any property within the Township to investigate or ascertain the condition of the subject property in regard to any aspect regulated by this Ordinance.

### **SECTION 9.02 SCHEDULE OF INSPECTIONS**

- A. The Designee may inspect all phases of the construction, operations, maintenance and any other implementation of SWM Facilities and BMPs.
- B. During any stage of the regulated earth disturbance activities if the Designee determines that any BMPs are not being implemented in accordance with this chapter, the Township may suspend or revoke any existing permits or other approvals until the deficiencies are corrected.
- C. During any stage of the work, if the Designee determines that the permanent SWM Facilities are not being installed in accordance with the approved stormwater management plan, the Township shall revoke any existing permits until a revised SWM Site Plan is submitted and approved, as specified in this chapter.
- D. During any phase of the work, if the Designee determines that the soil or other site conditions are not as stated or shown in the approved SWM site plan or that the developer has provided a false statement or misrepresentation, the Designee may refuse to approve further work and revoke existing building permits until a revised plan is submitted and approved, as required under by article V of this ordinance.

### **SECTION 9.03 ENFORCEMENT**

- A. In the event that a person fails to comply with the requirements of this Ordinance or fails to conform to the requirements of any permit issued hereunder, the Township shall order

compliance by written notice to the responsible person. Such notice may require without limitation:

- (1) The performance of monitoring, analyses, and reporting;
  - (2) The elimination of prohibited connections or discharges;
  - (3) Cessation of any violating discharges, practices, or operations;
  - (4) The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;
  - (5) Payment of a fine to cover administrative and remediation costs;
  - (6) The implementation of stormwater BMPs; and
  - (7) Operation and maintenance of stormwater BMPs.
- B. Such notification shall set forth the nature of the violation(s) and establish a time limit for correction of these violations(s). Said notice may further advise that, if applicable, should the violator fail to take the required action within the established deadline, the work will be done by the Township or designee and the expense thereof shall be charged to the violator.
- C. Failure to comply within the time specified shall also subject such person to the penalty provisions of this Ordinance. All such penalties shall be deemed cumulative and shall not prevent the Township from pursuing any and all other remedies available in law or equity. It shall be the responsibility of the owner of the real property on which any Regulated Activity is proposed to occur, is occurring, or has occurred, to comply with the terms and conditions of this Ordinance.
- D. Any permit or approval issued by the Township pursuant to this ordinance may be suspended by the Township for:
- (1) Noncompliance with or failure to implement any provision of the approved SWM Site Plan or O&M Agreement.
  - (2) A violation of any provisions of this ordinance or any other applicable law, ordinance, rule, or regulation relating to the regulated activity.
  - (3) The creation of any condition or the commission of any act during construction or development that constitutes or creates a hazard, nuisance, pollution or endangers the life or property of others.
- E. A suspended permit may be reinstated by the Township when:
- (1) The Township has inspected and approved the corrections to the violation that caused the suspension;
  - (2) The Township is satisfied that the violation has been corrected.



#### **SECTION 9.04 PENALTIES –**

- A. Any person who or which has violated any provisions of this Ordinance, shall, upon a judicial determination thereof, be subject to civil judgment for each such violation of not less than one hundred and 00/100 dollars (\$100.00), or more than five hundred and 00/100 dollars (\$500.00), for each violation, recoverable with costs. Each day that a violation occurs shall constitute a separate offense. All fines shall be paid to Providence Township.
- B. In addition, the Providence Township may institute injunctive, mandamus or any other appropriate action or proceeding at law or in equity for the enforcement of this Ordinance, and may request any court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus or other appropriate forms of remedy or relief.

#### **SECTION 9.05 APPEALS**

- A. Any person aggrieved by any administrative action of the Township may appeal to Providence Township's Board of Supervisors within 30 days of that action. Any such appeal shall be governed by the procedures of Article V of the Local Agency Law, 2 Pa. C.S.A. 401 et seq.
- B. Any person aggrieved by any decision of Providence Township's Board of Supervisors may appeal to the Lancaster County Court of Common Pleas, in accordance with Article VII of Local Agency Law, 2 Pa. C.S.A. 701 et seq., within 30 days of that decision.

#### **SECTION 9.06 MODIFICATION OF ORDINANCE PROVISIONS**

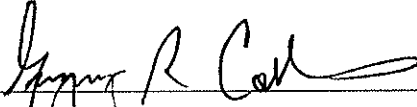
- A. The provisions of this Ordinance not relating to water quality are intended as minimum standards for the protection of the public health, safety, and welfare. The Township reserves the right to modify or to extend them conditionally in individual cases as may be necessary in the public interest; provided, however, that such variation shall not have the effect of nullifying the intent and purpose of this Ordinance, and that the applicant shows to the satisfaction of the Township that the applicable regulation is unreasonable, or will cause undue hardship, or that an alternative proposal will allow for equal or better results. The list of such modifications, along with an explanation of and justification for each modification, shall be included on the plan. This section does not apply during an enforcement action.
- B. In granting waivers/modifications for provisions of this Ordinance not relating to water quality, the Township may impose such conditions as will, in its judgment, secure substantially the objectives of the standards and requirements of this Ordinance.

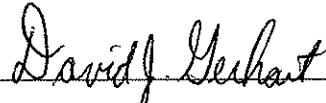


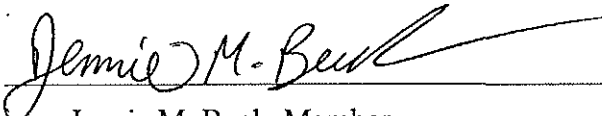
## REFERENCES

1. 25 Pennsylvania Code, Chapter 102 Erosion and Sediment Control
2. Minnesota Pollution Control Agency
3. Code of Federal Regulations – Title 44: Emergency Management and Assistance, §9.4 Definitions
4. *25 Pa.Code Chapter 105*
5. Based on definition in Wisconsin Department of Natural Resources Administrative Rule NR 151.006.
6. Pennsylvania Department of Environmental Protection. No. 363-0300-002 (December 2006), as amended and updated. *Pennsylvania Stormwater Best Management Practices Manual*. Harrisburg, PA.
7. City of Jacksonville website, <http://www3.coj.net/Departments/CityFees/Glossary.aspx>
8. Lancaster County Model Subdivision and Land Development Ordinance.
9. Pennsylvania Department of Environmental Protection. No. 363-2134-008 (March 2012), as amended and updated. *Erosion and Sediment Pollution Control Program Manual*. Harrisburg, PA.
10. CSN Technical Bulletin No. 5, Stormwater Design for High Intensity Redevelopment Projects in the Chesapeake Bay Watershed, version 2.0. Chesapeake Stormwater Network, January 5, 2011 – page 43.
11. “Penn State Urban Hydrology Model User Manual” by Thomas A. Seybert, PE, David F. Kibler, PE, and Elizabeth I. White, PE, August 1993 page 70 and VT/PSUHM help screen.
12. 25 Pa. Code, Chapter 71 Administration of Sewage Facilities Planning Program, § 71.1

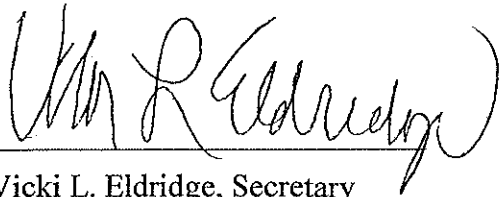
ENACTED and ORDAINED at a regular meeting of the Providence Township Board of Supervisors on the 5<sup>th</sup> day of May, 2014 . This Ordinance shall take effect five (5) days after the adoption of this Ordinance.

  
\_\_\_\_\_  
Gregory R. Collins, Chairman

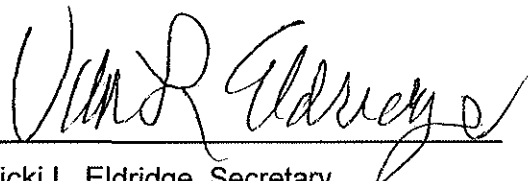
  
\_\_\_\_\_  
David J. Gerhart, Vice Chairman

  
\_\_\_\_\_  
Jennie M. Buck, Member

ATTEST:

  
\_\_\_\_\_  
Vicki L. Eldridge, Secretary

I hereby certify that the foregoing Ordinance was advertised in the Intelligencer Journal-New Era on April 25, 2014, a newspaper of general circulation in the Township and was duly enacted and approved as set forth at a regular meeting of the Providence Township Board of Supervisors held on May 5, 2014.

  
\_\_\_\_\_  
Vicki L. Eldridge, Secretary



**APPENDIX A STORM WATER MANAGEMENT PLAN CERTIFICATIONS**

**CERTIFICATE FOR APPROVAL BY PROVIDENCE TOWNSHIP BOARD OF SUPERVISORS**

At a meeting on \_\_\_\_\_, 20\_\_\_\_, the Providence Township Board of Supervisors approved this project, and all conditions have been met. This approval includes the complete set of plans and information that are filed with the Township in File No. \_\_\_\_\_, based upon its conformity with the standards of the Providence Township Storm Water Management Ordinance.

\_\_\_\_\_  
Township Seal

\_\_\_\_\_  
Signature

**CERTIFICATE FOR APPROVAL BY PROVIDENCE TOWNSHIP BOARD OF SUPERVISORS DESIGNEE**

I, (Board of Supervisors Designee), on this date, have reviewed and hereby certify that that to the best of my knowledge the Storm Water Management Site Plan meets all design standards and criteria of the Township Storm Water Management Ordinance. Approved by the Providence Township Board of Supervisors Designee this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\*

\_\_\_\_\_  
\*Signature of the Designee

**STORM WATER MANAGEMENT DESIGNER CERTIFICATION**

I hereby certify that, to the best of my knowledge, the storm water management facilities shown and described hereon are designed in conformance with the Township Storm Water Management Ordinance. I also certify that the proposed detention basin (circle one) is/is not underlain by carbonate geology.

\_\_\_\_\_, 20\_\_\_\_ \* \_\_\_\_\_

\*\*

\*Signature of the qualified professional responsible for the preparation of the plan.

\*\*Seal of the individual.

**APPENDIX B STORM INTENSITY-DURATION-FREQUENCY CHART**  
**(PDT-IDF)**

Storm Frequency⇒	2 Years	5 Years	10 Years	25 Years	50 Years	100 Years
Time (Minutes)	Rainfall Intensity (Inches per Hour)					
5.0	4.63	5.40	6.02	6.70	7.51	8.19
6.0	4.34	5.15	5.70	6.39	7.22	7.90
7.0	4.12	4.95	5.42	6.10	6.95	7.62
8.0	3.92	4.70	5.17	5.85	6.70	7.36
9.0	3.75	4.50	4.95	5.62	6.47	7.12
10.0	3.59	4.30	4.75	5.41	6.26	6.90
11.0	3.45	4.15	4.58	5.22	6.07	6.70
12.0	3.32	4.00	4.42	5.05	5.88	6.50
13.0	3.21	3.85	4.27	4.89	5.71	6.33
14.0	3.10	3.70	4.16	4.74	5.56	6.16
15.0	3.00	3.55	4.00	4.60	5.40	6.00
20.0	2.60	3.10	3.50	4.03	4.78	5.34
25.0	2.31	2.65	3.15	3.61	4.30	4.83
30.0	2.09	2.45	2.82	3.27	3.92	4.41
40.0	1.76	2.05	2.39	2.78	3.34	3.79
50.0	1.53	1.77	2.08	2.42	2.92	3.33
60.0	1.35	1.60	1.85	2.15	2.60	2.98

# APPENDIX C RUNOFF COEFFICIENTS "C" FOR RATIONAL FORMULA

Soil Group ⇒	A			B			C			D		
Slope ⇒	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+
<b>Land Use</b>												
Cultivated Land:												
Winter Conditions	.14	.23	.34	.21	.32	.41	.27	.37	.48	.34	.45	.56
Summer Conditions	.10	.16	.22	.14	.20	.28	.19	.26	.33	.23	.29	.38
Fallow Fields:												
Poor Conditions	.12	.19	.28	.17	.25	.34	.23	.33	.40	.27	.35	.45
Good Conditions	.08	.13	.16	.11	.15	.21	.14	.19	.26	.18	.23	.31
Forest/Woodland	.08	.11	.14	.10	.14	.18	.12	.16	.20	.15	.20	.25
Grass Areas:												
Good Conditions	.10	.16	.20	.14	.19	.26	.18	.22	.30	.21	.25	.35
Average Conditions	.12	.18	.22	.16	.21	.28	.20	.25	.34	.24	.29	.41
Poor Conditions	.14	.21	.30	.18	.28	.37	.25	.35	.44	.30	.40	.50
Impervious Areas	.90	.91	.92	.91	.92	.93	.92	.93	.94	.93	.94	.95
Weighted Residential												
Lot Size ¼ Acre	.29	.33	.36	.31	.35	.40	.34	.38	.44	.36	.41	.48
Lot Size ¼ Acre	.26	.30	.34	.29	.33	.38	.32	.36	.42	.34	.38	.46
Lot Size ¼ Acre	.24	.28	.31	.26	.32	.35	.29	.35	.40	.32	.36	.45
Lot Size ½ Acre	.21	.25	.28	.24	.27	.32	.27	.31	.37	.30	.34	.43
Lot Size 1 Acre	.18	.23	.26	.21	.24	.30	.24	.29	.36	.28	.32	.41

# APPENDIX D RUNOFF CURVE NUMBERS "CN" FOR SCS METHOD\*

Soil Group ⇒	A			B			C			D		
Slope ⇒	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+	0-2%	2-6%	6%+
<b>Land Use</b>												
Cultivated Land:												
Winter Conditions	48	60	65	62	73	73	68	78	79	77	81	88
Summer Conditions	35	51	61	48	55	70	57	65	77	64	69	80
Fallowed Fields:												
Poor Conditions	45	54	76	56	63	85	64	74	90	69	77	93
Good Conditions	30	44	74	43	48	83	48	54	88	56	60	90
Forest/Woodland	30	30	40	42	46	55	45	50	70	50	56	77
Grass Areas:												
Good Conditions	35	39	51	48	54	61	56	59	74	62	63	80
Average Conditions	45	49	53	52	55	69	60	63	79	65	69	84
Poor Conditions	48	55	68	56	67	79	66	74	86	73	81	89
Impervious Areas	96	97	98	96	97	98	96	97	98	96	97	98
Weighted Residential												
Lot Size ¼ Acre	71	75	77	74	76	85	78	80	90	81	83	92
Lot Size ¼ Acre	61	62	67	66	69	75	67	69	83	75	78	87
Lot Size ½ Acre	57	59	65	64	66	72	65	66	81	74	77	86
Lot Size ½ Acre	54	57	63	62	64	70	63	65	80	72	76	85
Lot Size 1 Acre	51	55	62	61	63	68	61	64	79	71	75	84

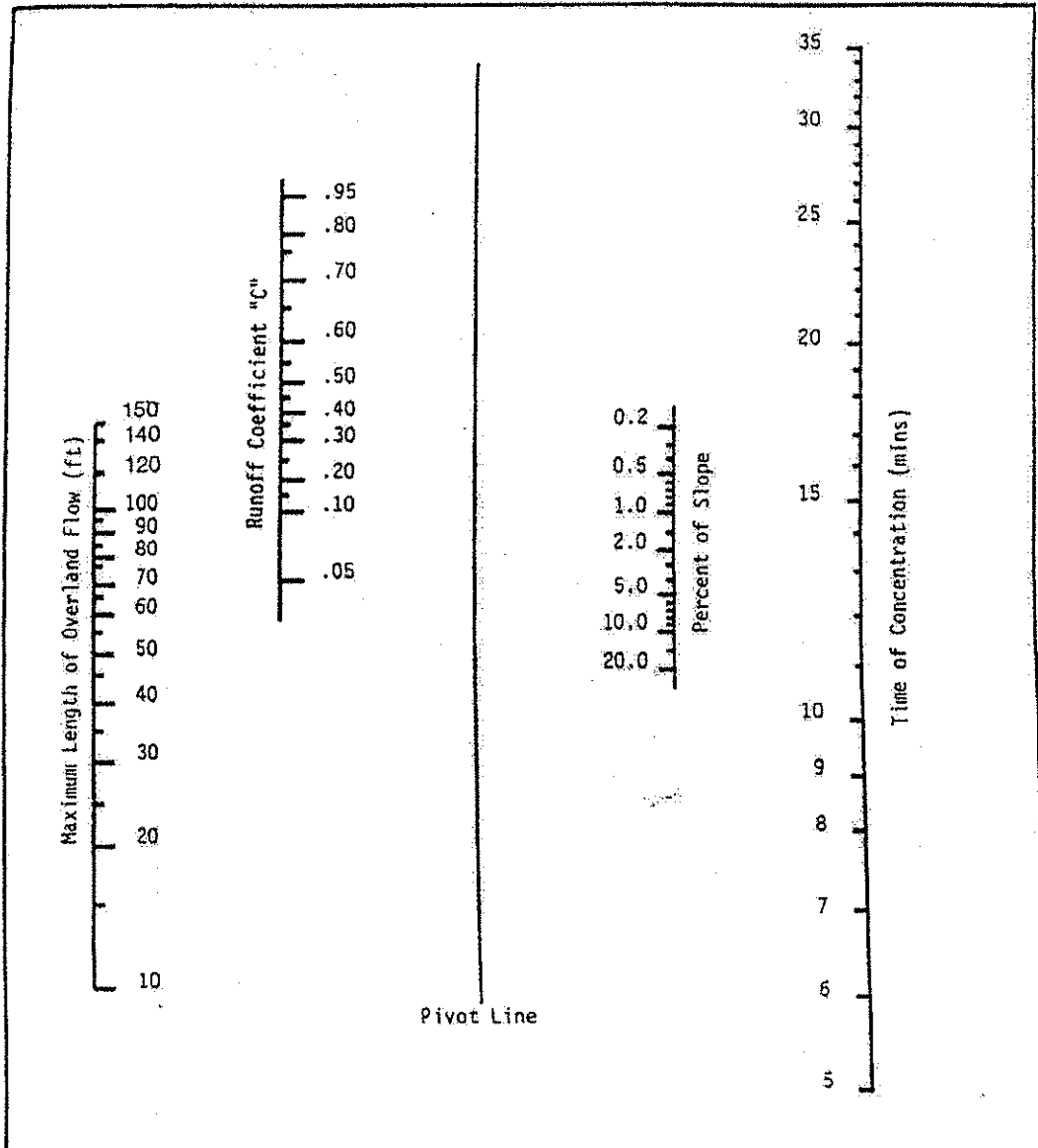


## APPENDIX E MANNING "N" VALUES FOR PIPES

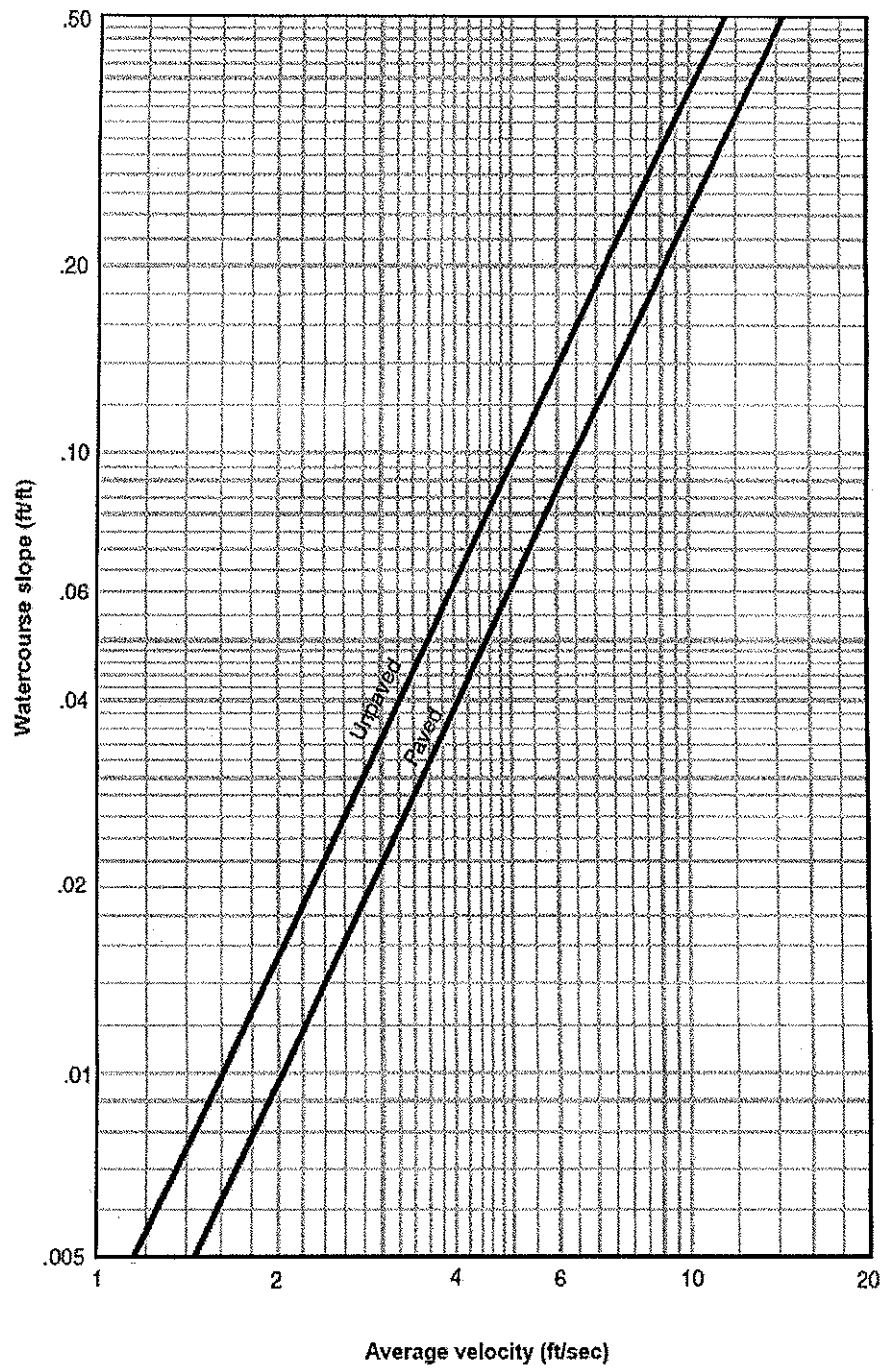
Pipe Material	Manning "n" Value
Helical Corrugated Steel/Aluminum 2 2/3 × 1/2 Corrugations Diameter (Inches)	
15	0.014
18	0.015
21	0.016
24	0.017
27	0.018
30	0.019
36	0.020
42	0.021
48	0.021
Reinforced Concrete -- All Diameters	0.013
Corrugated Polyethylene -- Smooth Lining -- All Diameters	0.012
Note: Arch pipe shall have the Manning "n" value of an equal periphery of circular pipe.	

# APPENDIX F TIME OF CONCENTRATION (TC) NOMOGRAPH

For Determining Sheet Flow (For Use with Rational Method)



APPENDIX G AVERAGE VELOCITIES FOR ESTIMATING TRAVEL TIME FOR  
SHALLOW CONCENTRATED FLOW



## APPENDIX H TIME OF CONCENTRATION WORKSHEET

### Worksheet #1: Time of Concentration ( $T_c$ ) or Travel Time ( $T_t$ )

Project \_\_\_\_\_ By \_\_\_\_\_ Date \_\_\_\_\_  
 Location \_\_\_\_\_ Checked \_\_\_\_\_ Date \_\_\_\_\_  
 Circle One: Present Developed \_\_\_\_\_  
 Circle One:  $T_c$   $T_t$  through subarea \_\_\_\_\_  
 NOTES: Space for as many as two segments per flow type can be used for each worksheet.  
 Include a map, schematic or description of flow segments.

#### Sheet Flow (Applicable to $T_c$ Only)

	Segment ID			
1. Surface description (table 3-1).....				
2. Manning's roughness coefficient, $n$ (table 3-1).....				
3. Flow length, $L$ (total $L \leq **150$ ft).....ft				
4. Two-year 24-Hour rainfall, $P_2$ .....in				
5. Land slope, $s$ .....ft/ft				
6. $T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} \times S^{0.4}}$ Compute $T_t$ .....hr		+		=

#### Shallow Concentrated Flow

	Segment ID			
7. Surface description (paved or unpaved).....				
8. Flow Length, $L$ .....ft				
9. Watercourse slope, $s$ .....ft/ft				
10. Average velocity, $V$ (figure 3-1).....ft/s				
11. $T_t = \frac{L}{3,600 \times V}$ Compute $T_t$ .....hr		+		=

#### Channel Flow

	Segment ID			
12. Cross sectional flow area, $a$ .....ft <sup>2</sup>				
13. Wetted perimeter, $P_w$ .....ft				
14. Hydraulic radius, $R = \frac{a}{P_w}$ Compute $r$ .....ft				
15. Channel slope, $s$ .....ft/ft				
16. Manning's roughness coefficient, $n$ .....				
17. $V = \frac{1.49 \times r^n \times s^{1/2}}{n}$ Compute $V$ .....ft/s				
18. Flow Length, $L$ .....ft/s				
19. $T_t = \frac{L}{3,600 \times V}$ Compute $T_t$ .....hr		+		=
20. Watershed or subarea $T_c$ or $T_t$ (add $T_t$ in steps 6, 11 and 19).....hr				

\* Table 3-1 per latest TR-55, Urban Hydrology for Small Watersheds

\*\* 150 Feet Sheet flow length per latest TR-55 revision



**APPENDIX I OPERATION AND MAINTENANCE (O&M) AGREEMENT  
STORMWATER MANAGEMENT FACILITIES**

**THIS AGREEMENT**, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between \_\_\_\_\_, (hereinafter the "Landowner"), and \_\_\_\_\_, \_\_\_\_\_ County, Pennsylvania, (hereinafter "Township");

**WITNESSETH**

**WHEREAS**, the Landowner is the owner of certain real property as recorded by deed in the land records of \_\_\_\_\_ County, Pennsylvania, Deed Book \_\_\_\_\_ at page \_\_\_\_\_, (hereinafter "Property").

**WHEREAS**, the Landowner is proceeding to build and develop the Property; and

**WHEREAS**, the SWM FACILITIES Operation and Maintenance (O&M) Plan approved by the Township (hereinafter referred to as the "O&M Plan") for the property identified herein, which is attached hereto as Appendix A and made part hereof, as approved by the Township, provides for management of stormwater within the confines of the Property through the use of Stormwater Management Best Management Practices (BMPs); and

**WHEREAS**, the Township, and the Landowner, his successors and assigns, agree that the health, safety, and welfare of the residents of the Township and the protection and maintenance of water quality require that on-site SWM Facilities be constructed and maintained on the Property; and

**WHEREAS**, the Township requires, through the implementation of the SWM Site Plan, that SWM Facilities as required by said SWM Site Plan and the Township Stormwater Management Ordinance be constructed and adequately operated and maintained by the Landowner, successors, and assigns.

**NOW, THEREFORE**, in consideration of the foregoing promises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The Landowner shall construct the SWM Facilities in accordance with the plans and specifications identified in the SWM Site Plan.

2. The Landowner shall operate and maintain the SWM Facilities as shown on the SWM Site Plan in good working order in accordance with the specific operation and maintenance requirements noted on the approved O&M Plan.
3. The Landowner hereby grants permission to the Township, its authorized agents and employees, to enter upon the property, at reasonable times and upon presentation of proper credentials, to inspect the SWM Facilities whenever necessary. Whenever possible, the Township shall notify the Landowner prior to entering the property.
4. In the event the Landowner fails to operate and maintain the SWM Facilities per paragraph 2, the Township or its representatives may enter upon the Property and take whatever action is deemed necessary to maintain said SWM Facilities. It is expressly understood and agreed that the Township is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the Township.
5. In the event the Township, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the Township for all expenses (direct and indirect) incurred, plus a 10% penalty, within 10 days of receipt of invoice from the Township.
6. The intent and purpose of this Agreement is to ensure the proper maintenance of the onsite SWM Facilities by the Landowner; provided, however, that this Agreement shall not be deemed to create or effect any additional liability of any party for damage alleged to result from or be caused by stormwater runoff.
7. The Landowner, its executors, administrators, assigns, and other successors in interests, shall release the Township from all damages, accidents, casualties, occurrences, or claims which might arise or be asserted against said employees and representatives from the construction, presence, existence, or maintenance of the BMP(s) by the Landowner or Township.

This Agreement shall be recorded at the Office of the Recorder of Deeds of \_\_\_\_\_ County, Pennsylvania, and shall constitute a covenant running with the Property and/or equitable servitude, and shall be binding on the Landowner, his administrators, executors, assigns, heirs, and any other successors in interests, in perpetuity.

ATTEST:

WITNESS the following signatures and seals:

(SEAL)

For the Township:

\_\_\_\_\_

For the Landowner:

\_\_\_\_\_

ATTEST:

\_\_\_\_\_ (City, Township, Township)

County of \_\_\_\_\_, Pennsylvania

I, \_\_\_\_\_, a Notary Public in and for the county and state aforesaid, whose commission expires on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, do hereby certify that \_\_\_\_\_ whose name(s) is/are signed to the foregoing Agreement bearing date of the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, has acknowledged the same before me in my said county and state.

**GIVEN UNDER MY HAND THIS** \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

(SEAL)

**Appendix D.**  
**Stormwater Management Ordinance**  
**Advertisement/Certification**



# LANCASTER NEWSPAPERS, INC.

8 WEST KING STREET, P.O. BOX 1328, LANCASTER, PA 17608-1328

FOR CLASSIFIED BILLING INQUIRIES (717) 291-8711

EMAIL: class@lnpnews.com FAX (717) 291-8728

## INVOICE

BILLING DATE:	ACCOUNT NO:
04/25/14	262249

AMOUNT DUE UPON RECEIPT

PROVIDENCE TOWNSHIP  
200 MOUNT AIRY ROAD  
NEW PROVIDENCE PA 17560

Sales Rep EAG

AD	CLASS	DESCRIPTION	START	STOP	TIMES	UNITS	AMOUNT	BALANCE
3219688	107	LEGAL NOTICE NOTICE IS HER IJ	04/25/14	04/25/14	1	93L	379.21	379.21

**PROOF OF PUBLICATION NOTICE IN**

State of Pennsylvania}  
 } ss:  
 County of Lancaster}

Penny L. Stauffer of the County and State aforesaid, being duly sworn, deposes and says that the Intelligencer Journal-New Era a daily newspaper of general circulation published at Lancaster, County and State aforesaid, was established 1794-1877 since which date said daily newspaper has been regularly issued in said county, and that a copy of the printed notice or publication is attached hereto exactly the same as was printed and published in the regular editions and issues of said daily newspaper on the following dates:

25<sup>TH</sup> DAY OF APRIL 2014

Affiant further deposes that she is the Billing Clerk duly authorized by the Lancaster Newspapers, Inc., a corporation, publisher of said Intelligencer Journal-Lancaster New Era-Sunday News a newspaper of general circulation, to verify the foregoing statement under oath, and also declares that affiant is not interested in the subject matter of the aforesaid notice or advertisement and that all allegations in the foregoing statement as to time, place and character of publication are true.

**LEGAL NOTICE**

Notice is hereby given that the Providence Township Board of Supervisors will hold a public hearing at its regularly-scheduled meeting on Monday, May 5, 2014, beginning at or after 7:00 P. M. at the Providence Township Municipal Office, 200 Mount Airy Road, New Providence, Pennsylvania 17560, to consider, and, if appropriate at that meeting, or at a subsequent meeting held within sixty (60) days of the date of publication of this advertisement, the enactment of an Ordinance, the title of which is as follows:

**PROVIDENCE TOWNSHIP STORMWATER MANAGEMENT ORDINANCE (SWMO).**

The proposed Ordinance may be summarized as follows: The Ordinance sets forth comprehensive regulations for stormwater management within Providence Township and contains the following Articles: Article I, General Provisions; Article II, Definitions of Terms; Article III, Stormwater Management Stan-

dards; Article IV, Stormwater Management Site Plan; Article V, Plan Processing (O&M); Article VII, Fees and Expenses; Article VII, Prohibitions; and Article IX, Enforcement and Penalties. In addition, there are various appendices, which include applications, calculations, worksheets, certificates and agreements.

A copy of the proposed Ordinance may be examined without charge at the offices of this newspaper during business hours or at the Providence Township Municipal Office, 200 Mount Airy Road, New Providence, Pennsylvania 17560, Mondays through Thursdays, from 6:30 A. M. to 4:30 P. M. A copy of the proposed ordinance may be obtained for the cost of reproduction at the Providence Township Municipal Office during the above hours.

Interested persons are invited to attend the public hearing and offer testimony and comments, if desired.


KLUXEN,  
 NEWCOMER &  
 DREISBACH

Solicitor for  
 Providence Township

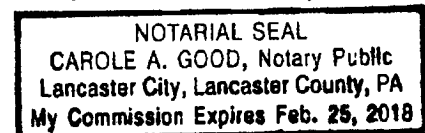
  
 (Signature)

**COPY OF NOTICE OF PUBLICATION**

Sworn and subscribed to before me this  
 25<sup>TH</sup> DAY OF APRIL 2014

  
 Notary Public

My commission expires  
 Commonwealth of Pennsylvania



REFERENCE NO.	DESCRIPTION	INVOICE DATE	INVOICE AMOUNT	DISCOUNT TAKEN	AMOUNT PAID
262249-32195		4/25/14	379.21		379.21
CHECK DATE	CHECK NO.	PAYEE		DISCOUNTS TAKEN	CHECK AMOUNT
4/30/14	21570	CLASSIFIED ACCOUNTS SECTION			\$379.21

SFMS00051HG-1

TO REORDER, CALL YOUR LOCAL SAFEGUARD DISTRIBUTOR AT 717-393-3421

J7351Y0010000

B13SF016063



SAFEGUARD

LITHO USA SFHG2 CK7SHG112H

# PROVIDENCE TOWNSHIP ZONING OFFICE

Monday through Thursday, closed Friday | Hours: 6:30 a.m. – 4:30 p.m.



May 28, 2014

PA Department of Environmental Protection  
Southcentral Regional Office  
909 Elmerton Avenue  
Harrisburg, PA 17110-8200

To Whom It May Concern:

This letter is to inform the Department of Environmental Protection that Providence Township, in Lancaster County, has adopted a Storm Water Management Ordinance consistent with the SWM Plan and the provisions of Act 167. The name of the Ordinance is the Providence Township Storm Water Management Ordinance. The Ordinance was adopted on May 5, 2014 with Ordinance No. 14-01.

Sincerely,

Constance Peiffer, Zoning Officer/BCO

Cc: Vicki Eldridge, Township Manager  
Board of Supervisors  
Rob Visniski, RAV Associates



**Appendix E.**  
**Roadmaster Reports**



# PUBLIC WORKS REPORT



# ROAD REPORT      June 6, 2016

The month of May brought the start of many spring projects. We had a full road crew for all but one week and the weather cooperated. There were no major breakdowns which allowed us to complete our projects on time. Those project included:



# First Round of Road Bank Mowing





# Truce Road Bank Removal



Remove bank to road level and reseed



# Shenks Woods Court Swale Improvement Project



Dig out, regrade and reseed swale



# Buck Heights Road Tree and Stump Removal



Remove trees and stumps for future paving project



# Tunnel Under Railroad By Sawmill Road



Repoint brick to repair creek tunnel



# Fairview Road Flexamat Project



Replace rip-rap with flexamat for improved water run off



# Fairview Road RR Bridge Flexamat Project



Repair bank, create swale, install flexamat to eliminate bank erosion



# Mt Hope School Road Flexamat Project



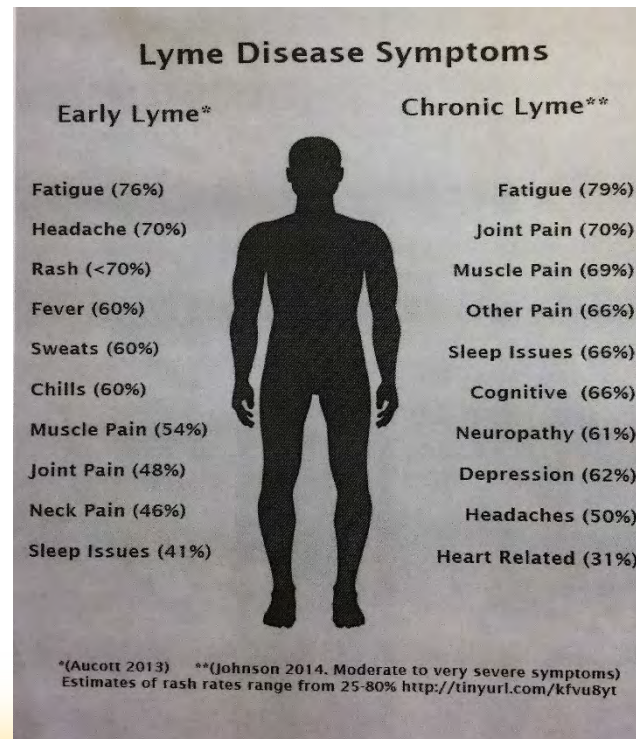
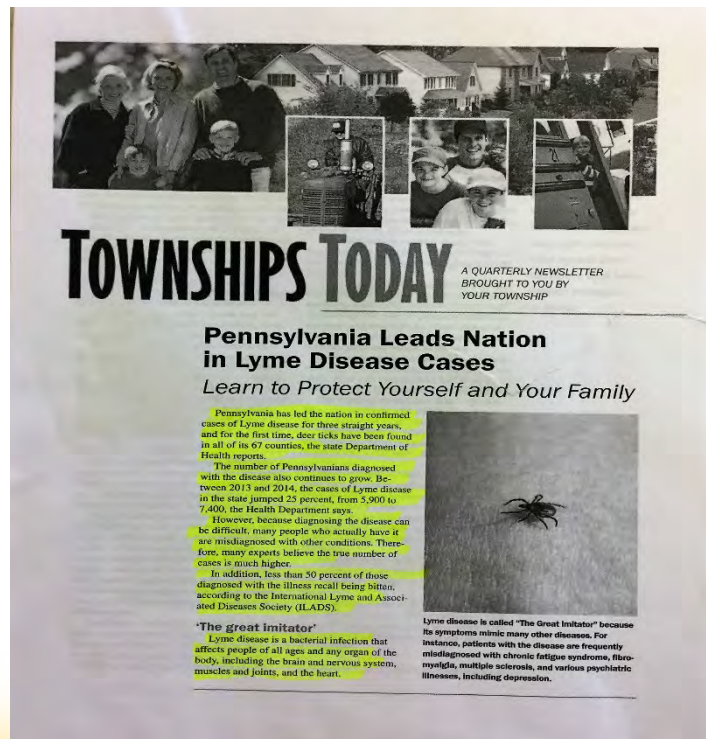
Remove rip-rap, repair bank, install flexamat, pave side of road with berm, to repair bank erosion



# Safety Training

## Lyme Disease

- How to Protect Yourself
- Township Today Article
- Lyme Disease Diagram
- Tick Bite Picture





# An Overview of Providence Township Storm Water Management Program



A power point educating township employees on our storm water management program



# Horse Manure Removal



- Discovered illegal dumping of horse manure with-in 50' of a stream
- Met with home owner to educate proper way of disposing of horse manure and to clean up current manure
- Home owner complied and installed a dumpster for manure removal



# Road Counter (May)

- Road counter update 24 hour totals

- Pennsy Rd (Between Township Line/Rawlinsville Rd) 1181
- Pennsy Rd (Between Rawlinsville Rd/Kreider Rd) 827
- Pennsy Rd (Between Kreider Rd/Rte 272) 2286
- Frogtown Rd 699
- Miller Rd 697
- Snyder Hollow Rd (Between Schoolhouse/Miller) 129
- Woods Dr 279
- Good Dr 197
- Truce Rd (Between Hollow Rd/Mt Airy Rd) 998
- Truce Rd (Between Main St/Fairview Rd) 997
- Pennsy Rd (Between Refton Rd/Schoolhouse Rd) 677



# Projects to be completed in June

- Second round of road bank mowing
- Hollow Road pipe replacement
- Prep work on Buck Heights Road for blacktop
- Gutter clean out on trail
- Document storm water inlet and outlets
- First Responder Safety Training







# PUBLIC WORKS REPORT



# ROAD REPORT     July 5, 2016

The month of June was productive. The road crew was able to work on several projects:



## Start of the Second Round of Road Bank Mowing





# Prep for Buck Heights Road Paving Project



Remove road bank and create swale



# Cinder Road Bridge At Railroad Swale Clean Up



Dig out and regrade swale



# Hollow Road Inlet Box and Pipe Installation



Remove storm water from roadway into storm pipe



# Hollow Road Inlet Box and Pipe Replacement



Replace storm water pipe and add inlet box with headwall



# Remove Graffiti From Hollow Road Tunnel



Pressure washed the stone to remove the paint



## Update on Flexamat Projects



1 Month Later. Looking like they are supposed to.



# Pennsy Road Manure Spill 6/25/16 @ 505 Pennsy Road



Contacted DEP and PA Fish and Boat Commission



# Shop Work

- Preventive maintenance on mowers
- Replace leaking hose on boom mower
- Fabricate cross conveyor to fit Western Start truck
- Research the cost and benefits for the use of salt brine as a winter maintenance tool

## MS4 Permit Work

- Meeting with CS Datum
- Documenting inlets, swales and outfalls in our MS4 area

35 hours of total time

# Safety Training

## Safety Days @ York Expo Center



**South Central PA Safety Day**  
June 23, 2016



**Working Together for a Safer Tomorrow**

**York Expo Center**  
Memorial Halls, 335 Carlisle Ave., York, PA

Safe Driving Practices  
Incident Reporting  
Electric Hazards  
Trench Rescue

All five members of the road crew attended

### Sessions at a Glance

Time Line	Dining Area	Session 1	Session 2	Session 3	Outside Demos
7:00	Attendee Orientation				Vacuum Excavation
7:15					
7:30		Safe Driving Practices	Gain Web Ticket Entry Access	Prudent Techniques	
7:45					
8:00	Excavator Program	Incident Report		Crossing the Line	Vacuum Excavation
8:15					
8:30		Hazard Mitigation & Land Use		Working Safely in Trenches	Electric Hazard
8:45			Gain Web Ticket Entry Access		
9:00	Crossing the Line	Prudent Techniques		Know What's Below	
9:15					
9:30		Safe Driving Practices		KARL Responses	Trench Rescue
9:45			Gain Web Ticket Entry Access	Working Safely in Trenches	
10:00		Incident Report			
10:15					
10:30	Construction Confined Space	Hazard Mitigation & Land Use		Partnering for Success	Safe Utility Pole Installation
10:45					
11:00					
11:15			Compliance Committee Meeting		
11:30					
11:45	Keynote: Eric Giguere				
12:00					
12:15					
12:30	Lunch				
12:45					
1:00	Jeopardy				
1:15					
1:30					
1:45	Door Prizes				

# Road Counter (May)

- Road counter update 24 hour totals
  - Sigman Rd 196
  - Stump Rd 348
  - Oak Bottom Rd (222/ Groffdale Dr) 733
  - Mt Hope School Rd (272/Radcliff Rd) 610
  - Clearfield Rd (Rawlinsville Rd/Truce) 379
  - Hopkins Mill Rd 379
  - Hollow Rd (372/Barr Rd) 512
  - Barr Rd 90
  - Byerland Church Rd (272/Pequea Creek) 278
  - Byerland Church Rd (272/Smithville Rd) 666
  - Smithville Rd (Byerland Church/Pennsy Rd) 137
  - Smithville Rd (Byerland Church/Refton Rd) 421
  - Krantz Mill Rd 423
  - Refton Rd (Pennsy Rd/Krantz Mill Rd) 649





# Projects to be completed in July

- Finish second round of road bank mowing
- Prep work on Buck Heights Road for blacktop
- Install warning signs on Byerland Church Rd and Truce Rd for hidden driveways.
- Install 4 inlet boxes, drain tile, and cross pipes on Cinder Rd
- Document storm water inlet and outlets
- First Responder Safety Training







# PUBLIC WORKS REPORT



# ROAD REPORT August 8, 2016

The month of July was very active and productive. We had several contractors in to complete the Buck Heights Road paving project, seal coat several roads, paint lines and repair some rocks on the southbound tunnel of Route 272. The road crew was very busy replacing several pipes and inlet boxes along with several other projects:



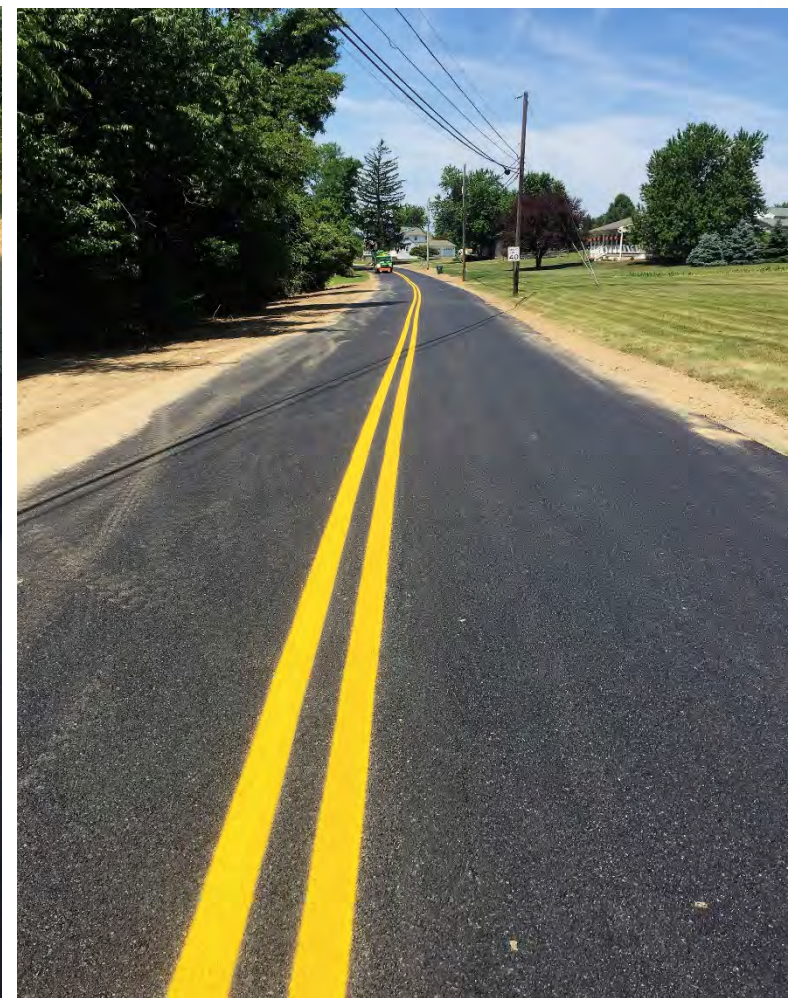
## Finished the Second Round of Road Bank Mowing



14 Days of mowing including mowing the trail



# Buck Heights Road Paving Project



Milled the edges, laid fabric and paved the roadway



## Seal Coat (Tar and Chip)

- Barr Rd
- Schoolhouse Rd
- Fairview Rd
- Pennsy Rd
- Byerland Church Rd
- Herr Rd
- Stump Rd
- Woodland Dr



Work done by Hammaker East



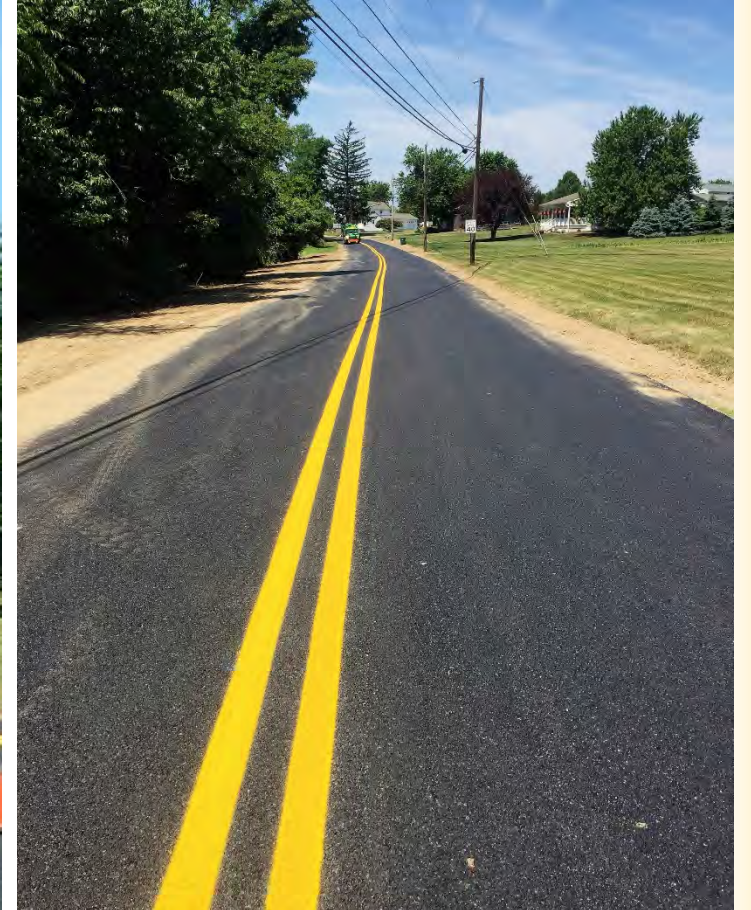
# Seal Coat (Tar and Chip)





# Line Painting

- Byerland Church Rd
- Mt Hope School Rd
- Sigman Rd
- Clearfield Rd
- Buck Heights Rd
- Penny Rd
- Schoolhouse Rd
- Good Rd
- Fairview Rd
- Mt Airy Rd
- Scheller Rd
- Pennsy Rd
- Refton Rd
- Krantz Mill Rd
- Kreider Rd



Work done by Alpha Space Control Line Painting



## Truce Road intersection at Main Street



Install 2 inlet boxes, storm water pipe and remove rock



## Main Street



Install drain tile to eliminate water from coming up through the surface



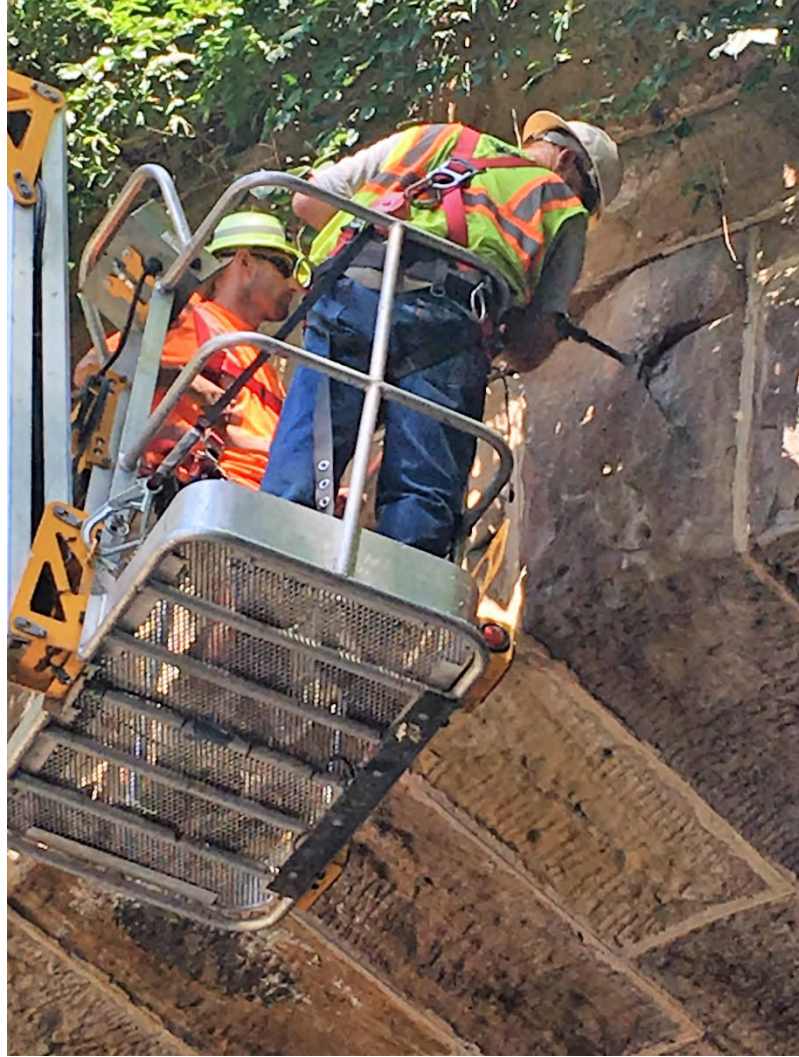
# Clearfield Road



Emergency pipe replacement



## Route 272 Southbound Tunnel



Emergency repairs on south side of southbound tunnel



# Shop Work

- Preventive maintenance on mowers
- Repair steering box seal on flail mower

# MS4 Permit Work

- Documenting inlets, swales and outfalls in our MS4 area
- Create Good Housekeeping Operation and Maintenance (O & M) Program
- Cleaned several inlet grates

80 hours of total time

# Road Counter (July)

## Road counter update 24 hour totals

- |                                |     |
|--------------------------------|-----|
| • Radcliff Rd                  | 110 |
| • Pennsy Rd (272/Smithville)   | 921 |
| • Scott Rd                     | 184 |
| • Sawmill Rd (Pennsy/Scheller) | 192 |
| • Hollow Rd (Turce/Sawmill)    | 225 |
| • Sawmill Rd (Hollow/Scheller) | 188 |



# Sign Replacement Program

## **Sign Replacement Program for Providence Township**

Providence Township is participating in a sign replacement management program to ensure that roadside traffic signs have sufficient visibility to provide vital information to travelers both day and night.

The manual on uniform traffic control devices, (MUTCD) sets the standards Providence Township uses for traffic control devices and the 2013 edition specifies a minimum retro reflectivity level and methods to ensure compliance. Retro reflectivity is the light that bounces back when vehicle headlights hit a sign, making the sign bright and easy to read.

To comply with the standards, Providence Township has decided to replace signs when they reach their expected life. That procedure was judged more cost-effective and less labor intensive than other management procedures such as using an inspector to check individual signs.

When signs are installed, the installation date is recorded and the age will be compared to the expected life of the specific sign. Expected sign life is based on the experience of the sign retro reflectivity degradation in our geographic area, the color of the sign and other factors.

Traffic signs that Providence Township uses generally have a service life of about 18 years. All stop signs, school signs and directional signs will meet the retro reflectivity by the end of 2016.

Examples of signs that are not included in this program are parking signs, walking/crossing signs, adopt-a-highway signs, all signs with blue or brown backgrounds.

Damaged or defaced signs will still be cleaned or replaced as Providence Township learns of them.

It is against the law to interfere with road devices, signs or signals under the Pennsylvania Vehicle Code. Violations of that law could result not only in fines, but also requirement for restitution if a missing or damaged sign results in personal injury or property damage.



# Projects to be completed in August







- Install 4 inlet boxes, drain tile, and cross pipes on Cinder Road
- Repair inlet boxes on Farmington Way and Radcliff Road
- Remove road bank on Truce Road
- Repair swales on Fox Hollow Court and Hollow Road
- Document storm water inlets, pipes and outfalls
- First Responder Safety Training

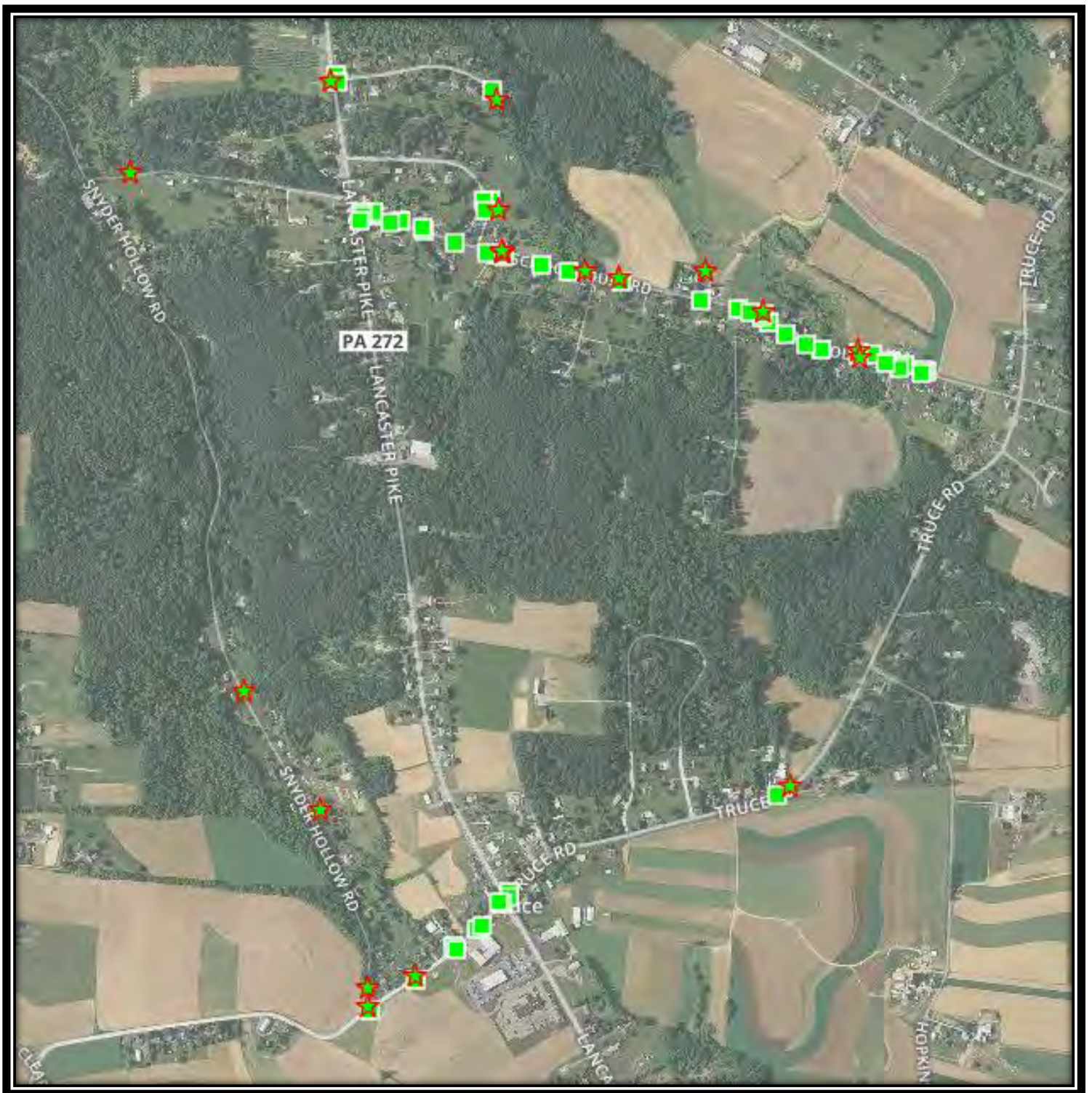


**Appendix F.**  
**MS4 Outfall Maps**








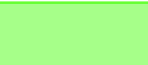
**Providence Township, Lancaster County –  
MS4 Map – Central Region - Legend**

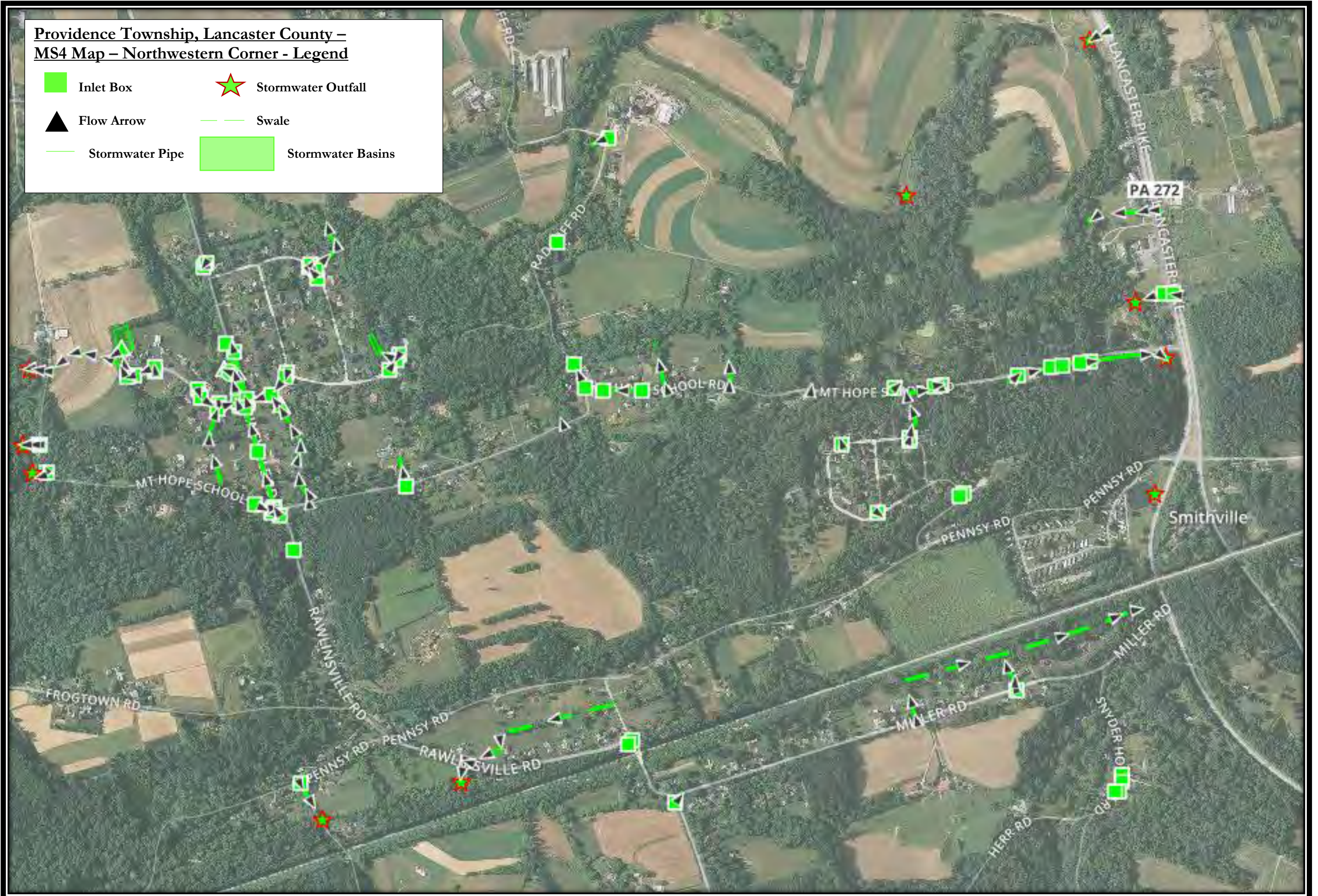
- |   |  |
|---|--|
|  Inlet Box       |  Stormwater Outfall |
|  Flow Arrow      |  Swale              |
|  Stormwater Pipe |  Stormwater Basins  |





**Providence Township, Lancaster County –  
MS4 Map – Northwestern Corner - Legend**

- |   |  |
|---|--|
|  Inlet Box       |  Stormwater Outfall |
|  Flow Arrow      |  Swale              |
|  Stormwater Pipe |  Stormwater Basins  |





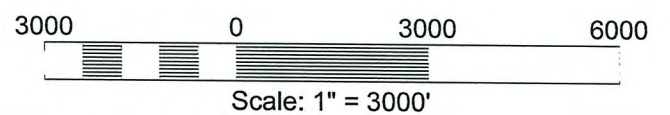
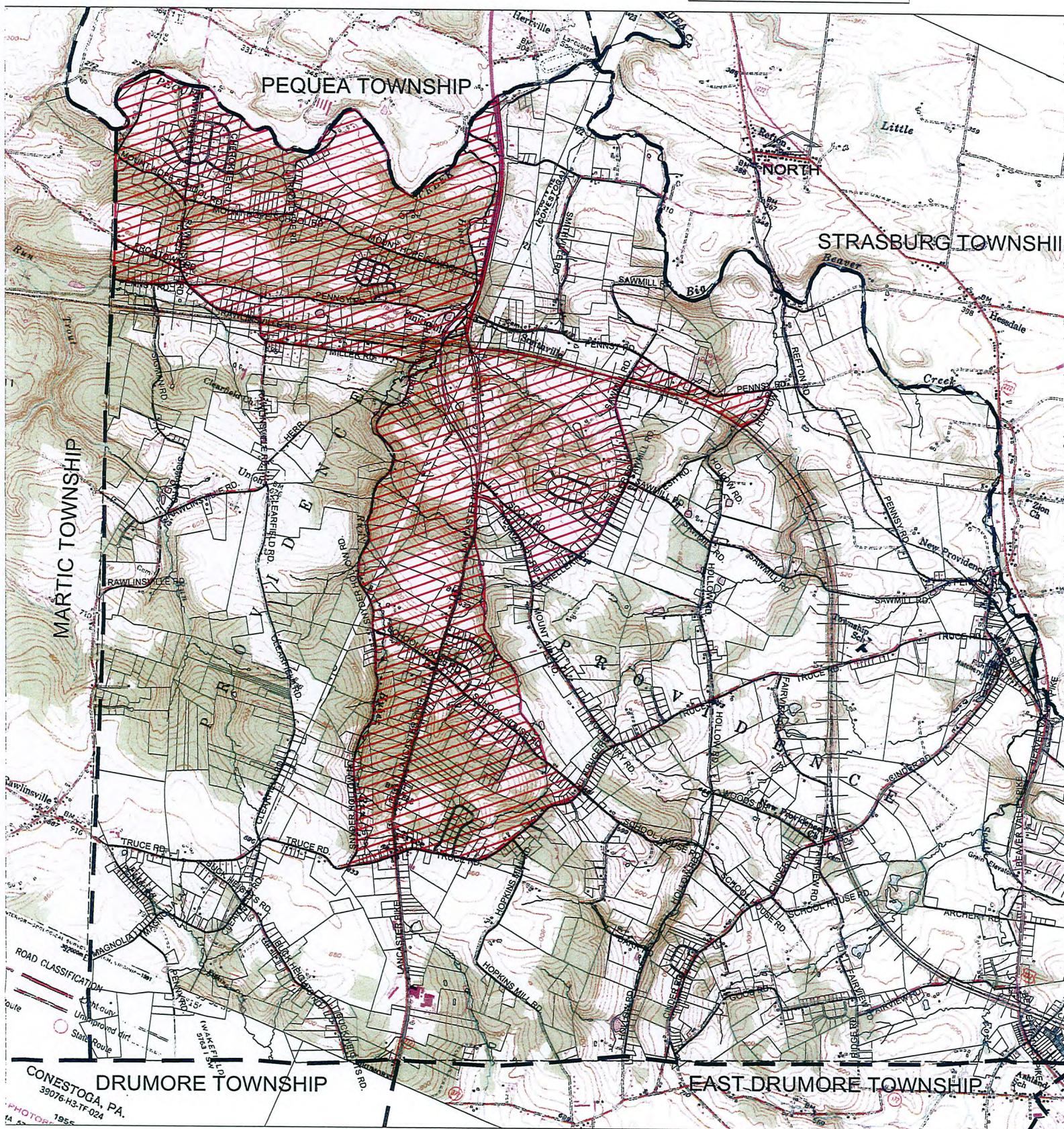
# USGS MAP OF MS4 AREA 2000 CENSUS

## LEGEND



CONESTOGA QUADRANGLE  
PENNSYLVANIA—LANCASTER CO.  
7.5 MINUTE SERIES (TOPOGRAPHIC)

QUARRYVILLE QUADRANGLE  
PENNSYLVANIA—LANCASTER CO.  
7.5 MINUTE SERIES (TOPOGRAPHIC)

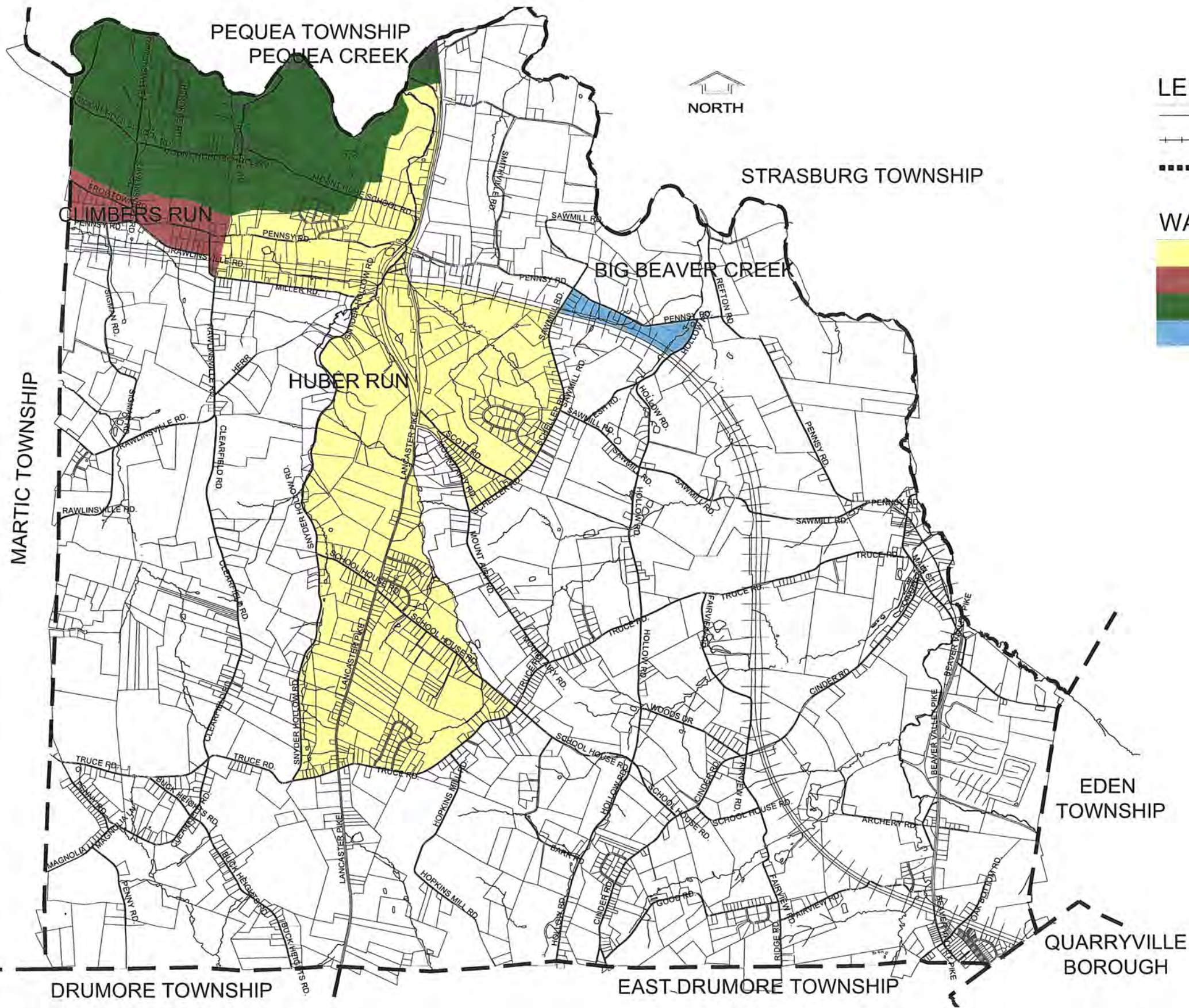


RAV ASSOCIATES INC.  
ENGINEERS - CONSULTANTS  
14 Main Street, Landisville, PA  
17538 (717) 898-8100

## USGS MAP OF MS4 AREA

JOB NO.	SCALE:	DATE:	SHEET:
PT-68	AS SHOWN	09/08/2012	1 OF 1





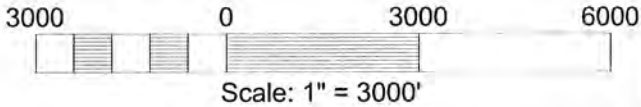
LEGEND

- ROAD
- RAILROAD
- MUNICIPAL BOUNDARY

WATERSHED LEGEND

- HUBER RUN
- CLIMBERS RUN
- PEQUEA CREEK
- BIG BEAVER CREEK

DRAFT



RAV ASSOCIATES INC.  
 ENGINEERS - CONSULTANTS  
 14 Main Street, Landisville,  
 PA 17538 (717) 898-8100

DATE:	PAGE:
DATE	



**Appendix G.**  
**Inspection Documentation**

## Inspection Record

Municipality: Providence Township

Record: \_\_\_\_\_

Permit #: PAG133618Inspection Date: 8-8-16Inspector: CARL PAOL

General Information		
<b>Weather Condition(s)</b> <input type="checkbox"/> Clear <input type="checkbox"/> Partly Cloudy <input checked="" type="checkbox"/> Cloudy	<b>Precipitation</b> <input type="checkbox"/> Misty <input type="checkbox"/> Light Rain <input type="checkbox"/> Rain <input type="checkbox"/> Heavy Rain <input type="checkbox"/> Snow <input type="checkbox"/> Hail <input type="checkbox"/> Other: _____	<b>Inspection Type</b> <input checked="" type="checkbox"/> Regular <input type="checkbox"/> Pre-Rain Event <input type="checkbox"/> During a Rain Event <input type="checkbox"/> Post Rain Event <input type="checkbox"/> Other: _____
<b>Wind Condition</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> 1 to 10 mph <input type="checkbox"/> Greater than 10 mph	<b>Other of Note</b>  	

Inspection of BMPs					
<b>BMP</b>	<b>Facility or Activity</b>	<b>Properly Functioning</b>	<b>Maintenance or Repairs</b>	<b>Photos</b>	<b>Follow-Up Required</b>
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Comments &amp; Notes:</b> BYLINDER church Rd. (BOX 1296) weed eat inlet Pipe gutter needs cleaned					<b>Spill, Leak, or Discharge observed</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>BMP</b>	<b>Facility or Activity</b>	<b>Properly Functioning</b>	<b>Maintenance or Repairs</b>	<b>Photos</b>	<b>Follow-Up Required</b>
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Comments &amp; Notes:</b> BOX needs cleaned out. Discharge Pipe m.t. HOPE School Rd, (BOX 81)					<b>Spill, Leak, or Discharge observed</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>BMP</b>	<b>Facility or Activity</b>	<b>Properly Functioning</b>	<b>Maintenance or Repairs</b>	<b>Photos</b>	<b>Follow-Up Required</b>
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Comments &amp; Notes:</b> Discharge needs cleaned out. m.t. HOPE School Rd, (BOX 122)					<b>Spill, Leak, or Discharge observed</b> <input type="checkbox"/> Yes <input type="checkbox"/> No

BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: <i>needs CLEAN out intake side, weedeated.  (Box 141) m.t. Hope School Rd.</i>					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: <i>needs CLEAN out discharge pipe  (Box 444) Radcliff Rd. weed eat.</i>					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: <i>SINK HOLE pipe need cement rd.  discharge pipe needs cleaned out.  (Box 360) Radcliff</i>					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: <i>(Box 402) Box needs cleaned out.  Radcliff Rd.</i>					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: <i>(Box 2) Box needs cleaned out.  APACHE LA.</i>					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No



BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: Box needs cleaned out. dead end of m.t. Hole school Rd. BOX 363					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: (Smithville Trailer Park) inlet out let pipe cleaned out.					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: (BOX 699) Pennsy Rd. gutter need cleaned.					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: Box needs cleaned out. Horthore eagle wing. (Box 9)					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: Box needs cleaned out. (BOX 30)					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No

BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: (Pennsy Rd. Box 731) gutters need cleaned out Pipe under driveway					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: discharge end needs cleaned 271 House no. Clearfield Rd.					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: Pennsy Rd. Kreider Rd. (Box 841) Pipe needs cleaned out.					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: (Box 97) gutter need cleaned. Miller Rd, weedeated Around Pipes					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: Pipe need cleaned out. Herr Rd. (Box 30)					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No

BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: discharge end cleaned out (needs) Penny Rd down at Line					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: Truce - Snyder Hollow Rd. Discharge Pipe needs cleaned out.					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: discharge pipe cleaned out. Snyder Hollow Rd. (Box. 492) (needs)					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: inlet outlet need cleaned out. Short Piece of School House (Box 482)					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: Short Piece of School House - Snyder Hollow Rd. Sink Hole started.					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No



BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: discharge end need cleaned- Snyder Hollow Rd. (Box 219)					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input checked="" type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes: spacing needs cleaned out Snyder Hollow Rd Box 64					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes:					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes:					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes:					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes:					Spill, Leak, or Discharge observed <input type="checkbox"/> Yes <input type="checkbox"/> No

BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes:					Spill, Leak, or Discharge observed
					<input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes:					Spill, Leak, or Discharge observed
					<input type="checkbox"/> Yes <input type="checkbox"/> No

<b>General Comments</b>	
Does the MS4 PPGHP reflect activities & operations <input type="checkbox"/> Yes <input type="checkbox"/> No	Does the MS4 PPGHP Need Revised <input type="checkbox"/> Yes <input type="checkbox"/> No
Clarification	
Concerns (including locations and potential action)	
Other Comments/Notes	

<b>Planned Follow-up Action:</b>		
<input type="checkbox"/> Follow-up Inspection	<input type="checkbox"/> Training	<input type="checkbox"/> Activity: _____

---

 Signature of Inspector

---

 Date

---

 Printed Name of Inspector

---

 Signature of Authorized Municipal Representative

---

 Date

---

 Printed Name of Authorized Municipal Representative

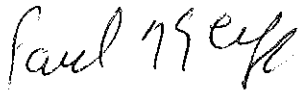
8-16-16

Carl Kreider and I inspected inlets, pipes, and swales on the following roads on 8-8-16:

- Byerland Church Rd
- Smithville Rd
- Herrville Rd
- Refton Rd
- Krantz Mill Rd
- Pennsy Rd (272/Main St)
- Sawmill Rd
- Hollow Rd (Truce Rd/Pennsy Rd)
- Mt Airy Rd
- Scheller Rd
- Scott Rd
- Farmington Way
- Fox Hollow Ct
- Esh Rd
- Schoolhouse Rd (Truce Rd/272)

I deem all inlet, pipes and swales open and functional except for the ones I put down on the inspection report.

Paul Keys

A handwritten signature in black ink that reads "Paul Keys". The signature is written in a cursive, flowing style.



8-8-16

Carl Kreider and I inspected inlets, pipes, and swales on the following roads on 8-8-16:

- Cherokee Rd
- Apache Rd
- Cornplanter Rd
- Mt Hope School Rd
- Radcliff Rd
- Pennsy Rd (Between 272/Township Line)
- Sigman Rd
- Penny Rd (Clearfield/372)
- Snyder Hollow Rd
- Miller Rd
- Kreider Rd
- Primrose Rd
- Hawthorne Circle
- Birch Interval
- Clearfield Rd

I deem all inlet, pipes and swales open and functional except for the ones I put down on the inspection report.

Paul Keys

A handwritten signature in black ink that reads "Paul Keys". The signature is written in a cursive style with a large, stylized "P" and "K".

**Appendix H.**  
**20 Miller Road**  
**Illicit Discharge Incident**

## **Memo of events for 20 Miller Rd, Jeff Gascon property.**

4/28/16—Jim Grube and I see a large piece of plastic in Huber Run from the Miller Rd bridge. Upon investigating the piece of plastic we found several large loads of horse manure with-in 50' of the stream. The tire tracks from the dump site led us to 20 Miller Rd the Jeff Gascon property. The property has 2 horses on the property.

4/28/16—I contact Deborah Miller of the Department of Environmental Protection to ask if she could send me information on Manure Mangement

4/28/16—Ms. Miller send me the Manure Management Manuel.

5/2/16-5/4/16-5/9/16—I attempt to see Mr. Gascon at his property to discuss the manure dumping. He was not home each time I stopped.

5/11/16—I write a letter to Mr. Gascon asking him to contact me to discuss the removal of the manure on the Penn Dot right of way

5/13/16—Mr. Gascon contacts me to discuss the issue. We talked about how he must have a manure management plan in place for his property with two horses. I explained what was needed and why and what damage manure does to streams if not properly disposed of.

5/16/16—I write Mr. Gascon a follow up letter from our conversation. I included Dept of Environmental Protection information on how to create a manure management program.

5/23/16—Went back to the Penn Dot Right of Way and took pictures of the removed manure. I also took a picture of the dumpster full of manure that is next to the horse shed. Wrote a final letter thanking Mr. Gascon for following through with the removal of manure next to the stream. The letter also stated that he has satisfied any future concerns about the disposal of the manure on his property.



# PROVIDENCE TOWNSHIP BOARD OF SUPERVISORS

David J. Gerhart • C. William Shaffer • John Schroeder  
Monday through Thursday, closed Friday | Hours: 6:30 a.m. – 4:30 p.m. | Meeting: First Monday, 7:00 p.m.



5-11-2016  
May 23, 2016

Jeffrey Gascon  
20 Miller Road  
Willow Street, Pa 17584

Mr. Gascon,

I have been asked to investigate horse manure dumping on the PENN DOT right of way between route 272 and Huber Run. Please contact me at your earliest convenience so we can discuss this matter. I can be reached in my office Monday through Thursday 6:30am to 4:30pm at 717-786-7596.

Respectfully,

Jason McClune  
Road Master  
Providence Township  
[roadmaster@providencetownship.com](mailto:roadmaster@providencetownship.com)

# PROVIDENCE TOWNSHIP BOARD OF SUPERVISORS

David J. Gerhart • C. William Shaffer • John Schroeder  
Monday through Thursday, closed Friday | Hours: 6:30 a.m. – 4:30 p.m. | Meeting: First Monday, 7:00 p.m.



May 16, 2016

Jeffrey Gascon  
20 Miller Road  
Willow Street, Pa 17584

Mr. Gascon,

Thank you for taking the time to contact me on Friday May 13<sup>th</sup> to discuss the horse manure dumping referenced in the letter sent on May 11<sup>th</sup>. As per our conversation you said you would remove the manure and stack it in an approved dumpster for proper disposal. You said this process should take less than one week.

As promised, I am sending information on how to best manage your horse manure on your property. I have also included the contact person at PA Dept of Environmental Protection should you have any questions on developing your Manure Management Plan.

I will be back the week of May 23<sup>rd</sup> to see if you have made any progress on your plan.

Respectfully,

Jason McClune  
Road Master  
Providence Township  
roadmaster@providencetownship.com

# LAND APPLICATION OF MANURE

A supplement to Manure Management for Environmental Protection

## Manure Management Plan Guidance

361-0300-002



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



## MANURE MANAGEMENT PLAN INSTRUCTIONS

The following Manure Management Planning forms and instructions serve as the standard plan format for farmers who own or manage operations where manure or agricultural process wastewater is land applied. Acceptable alternative formats include those approved for use under Act 38 and the CAFO programs. Other planning formats and procedures require DEP approval.

Questions concerning the manure management plan should be directed to the DEP regional office serving the county or alternatively to the county conservation district. Requests for approval of alternative formats should be directed to DEP, Division of Conservation Districts and Nutrient Management, P.O. Box 8465, Harrisburg, PA 17105-8465, phone number 717-783-7576.

The Manure Management Plan has seven sections as outlined below. The first four sections are required for all manure management plans. Section 5 is required if the farm stores either liquid or solid manure. Sections 6 and 7 are required if the farm pastures animals or has ACAs. This manual provides directions on how to complete each of the seven plan sections, the required criteria for developing and implementing a manure management plan, as well as examples of how to complete many of the standard forms. Appendix I includes the Manure Application Rate Charts that farmers can use to "look up" application rates for specific manure types and crops. In addition, DEP has developed a Manure Management Plan Workbook for farmers to use that contains a blank copy of the planning forms.

**Section 1 - General Information.** This section includes general information about the farm. **This section is always required in a manure management plan.**

**Section 2 - Mechanical Manure Application Rate and Timing.** This section documents manure application rates and timing for mechanical application of manure. **This section is always required in a manure management plan.**

**Section 3 - Farm Map.** This section provides a farm map identifying the location of fields, structures, environmentally sensitive areas and manure application setbacks. **This section is always required in a manure management plan.**

**Section 4 - Recordkeeping.** This section provides a description of required recordkeeping and provides forms that can be used for recordkeeping. **This section is always required in a manure management plan.**

**Section 5 - Managing Manure Storage in Structures and Stockpiling/Stacking Areas.** **This section is only necessary if the farm has a manure storage facility or stockpiles or stacks manure.**

**Section 6 - Pasture Management.** This section is **only necessary if the farm has one or more pasture fields.**

**Section 7 - Animal Concentration Areas.** **This section is only necessary if the farm has one or more ACAs (such as barnyards, feedlots, animal exercise areas).**

## REQUIREMENTS FOR MANURE MANAGEMENT PLANS

Every farm in Pennsylvania that land applies manure or agricultural process wastewater (generated on the farm or received from an importer), regardless of size, is required to have and implement a written Manure Management Plan. This includes manure and agricultural process wastewater application by various types of equipment and/or direct application of manure by animals on pastures and in Animal Concentration Areas (ACAs). In other words, farms that do not mechanically apply manure but which do have pastures or ACAs still need a manure management plan.

**The Manure Management Plan format in this manual must be used for the written manure management plan unless the farmer gets approval from DEP for an alternative plan format.** In addition to developing a written plan, the farmer must also complete and maintain records to demonstrate compliance with the Manure Management Plan. DEP has developed a Manure Management Plan Workbook for farmers to use that contains the forms described in this manual. Requests for approval of alternative formats should be directed to DEP's Division of Conservation Districts and Nutrient Management, P.O. Box 8465, Harrisburg, PA 17105-8465, phone number 717-783-7576.

Once completed, this Workbook will become the farm's Manure Management Plan which must be implemented. The staff from DEP or county conservation district may request to see a copy of this plan when they visit a farm. The farmer should also provide a copy of the Manure Management Plan Summary Worksheet to the individual that land applies manure at a farm or on any rented land. Failure to follow the plan is a violation of state, and in some cases, federal law.

Manure Management Plans can be prepared by the farmer although the farmer may benefit from obtaining assistance from individuals trained and experienced in developing these plans. Assistance may be available from a variety of sources including certified nutrient management specialists, certified manure brokers and haulers, county conservation districts, Natural Resource Conservation Service (NRCS) staff, Penn State University staff and farm organizations.

Farms defined as Concentrated Animal Feeding Operations (CAFOs) and Concentrated Animal Operations (CAOs) are required to develop written plans as well. The nutrient management plans for these animal operations are required to follow a different more detailed process and must be developed by a Certified Nutrient Management Specialist.

In addition to obtaining approval from DEP, animal operations that do not want to follow the planning process outlined in this manual may obtain the assistance of a certified planner and utilize the nutrient management planning process under the Nutrient and Odor Management Act, 3 Pa.C.S. §§ 501-522 (Act 38) used by the CAFOs and CAOs. This alternative planning process is acceptable to DEP and may provide for some added flexibility in the application of manure on the farm.

## 2. Manure Stockpiling/Stacking

Some operations typically hire out or lease stockpiling/stacking areas around the farm or to the local municipal authority when direct manure application is impractical. These operations would be able to avoid weather limits or field conditions unsuitable for spreading equipment.

Manure stacking in the restricted area must use an improved stacking pad or covered area. 100 feet from the nearby water body, stream and provide a distance with the requirement.

The requirements relating to stacking of manure in other areas (not on the farmstead) such as on crop fields are:

- Keeping all stockpiles/stacks at least 100 feet from sensitive areas such as streams, lakes and ponds, 100 feet from any open water, 100 feet from any drinking water well, ditches or wetlands. These stacks cannot be placed within areas of uncovered water that such as a creek, ditch or reservoir.
- Stockpiling/stacking manure on properly constructed improved stacking pads whenever possible. When stockpiling/stacking on uncovered ground in crop fields, the stockpiles/stacks should not be in the same location each year.
- Placing these areas at a distance of a 100 feet includes the area within 100 feet from the top of the slope where possible, sloping upwards away from stockpiling/stacking area.
- Placing stacks on areas with less than 5% slope.
- The material must be dry enough to allow for stacking at least 4 feet in height. When stacked on the application field, the material needs to be limited to the amount that can be spread on fields nearby to the stack.
- When stacked on the application field, cover stockpiled/stacked manure with a plastic tarp or other similar water resistant cover if it will be in place for more than 10 days. Manure stacked on a properly designed improved stacking pad does not need to be covered.



## ATTACHMENT B- Common Complaint Contacts List

### What the Lancaster County Conservation District is Responsible for:

---

#### 1) Biosolids Application to Farmland Complaints

Kevin Seibert, Agriculture Compliance Coordinator  
(717) 299-5361 Ext. 125  
(If unavailable, see "Other Organizations")

#### 2) Excessive Soil Erosion from Ag Operations

Kevin Seibert, Agricultural Compliance Coordinator  
(717) 299-5361, Ext. 125

#### 3) Excessive Soil Erosion from Construction Sites

Nate Kurtz, E&S Program Manager  
(717) 299-5361, Ext. 141

#### 4) Manure Complaints

Kevin Seibert, Agriculture Compliance Coordinator  
(717) 299-5361, Ext. 125  
(If unavailable, see "Other Organizations")

#### 5) Act 38 Nutrient Management Law Compliance Complaints

Jeff Hill, Agriculture Program Manager  
(717) 299-5361, Ext. 143

#### 6) Fly Related Complaints

Shelly Dehoff  
Pennsylvania Agriculture Ombudsman Program  
(717) 299-5361 x149  
(717) 880-0848  
shelly.dehoff@gmail.com  
OR  
Kevin Seibert, Agriculture Compliance Coordinator  
(717) 299-5361 Ext. 125

### What Other Organizations are Responsible for:

---

#### Stormwater Complaints (Vary from case to case)

1. Local (Borough or Township)
2. Lancaster County Planning Commission  
Dean Severson (717) 299-8333
3. Pennsylvania Department of Transportation  
(717) 299-7621

#### Invasive Species Complaints (plant or insects)

PA Dept of Agriculture Region VI Office  
717-772-5209

#### Dead Animal (Mortality) Disposal Complaints

PA Dept of Agriculture Region VI Office  
Joyce McLaughlin (717) 783-8300  
Fax: 717-787-1868

#### Pesticide Application Complaints

PA Dept of Agriculture Region VI Office  
Joe Uran (717) 772-5212  
Hypersensitivity Registry Forms  
Dona McCorry (717) 787-4392

#### Stream & Wetland Encroachment Complaints

PA Dept of Environmental Protection

Jeff Minski (717) 705-4709

#### Biosolids Application to Farmland Complaints

PA Dept of Environmental Protection  
Eric Laur, Soil Scientist  
(717) 507-4773

#### Manure or Other Contaminant Complaints

PA Dept of Environmental Protection  
Deborah Miller (717) 705-4780  
e-mail -- debomiller@state.pa.us  
And/Or  
PA Fish and Boat Commission  
Lancaster Co. Office (Lititz)  
(717) 626-0228

#### Manure Odor Complaints

PA Dept of Environmental Protection  
Jeff Minski  
717-705-4709  
OR  
State Conservation Commission  
Karl Diamond  
570-836-2181 x 120



5-9-16





7-9-16





5-9-16





5-23-16





# PROVIDENCE TOWNSHIP BOARD OF SUPERVISORS

David J. Gerhart • C. William Shaffer • John Schroeder  
Monday through Thursday, closed Friday | Hours: 6:30 a.m. – 4:30 p.m. | Meeting: First Monday, 7:00 p.m.



May 23, 2016

Jeffrey Gascon  
20 Miller Road  
Willow Street, Pa 17584

Mr. Gascon,

This is a follow up to my letter sent on May 16, 2016. I want to thank you for taking the time to remove the horse manure that was dumped alongside Huber Run. I also see that you have purchased a dumpster for the manure and have it in your driveway. Your actions satisfy any concerns I have with further manure management on your property.

Thank you for your prompt response and understanding in this matter.

Respectfully,

Jason McClune  
Road Master  
Providence Township  
[roadmaster@providencetownship.com](mailto:roadmaster@providencetownship.com)



5-23-14





5-23-16



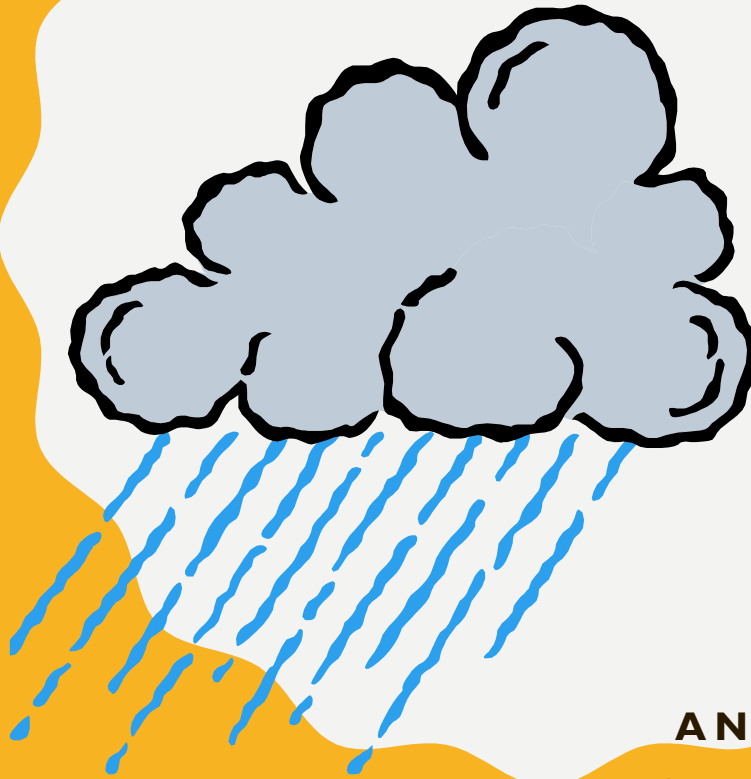






**Appendix I.**  
**Employee Education Materials**

# WHEN IT RAINS, IT DRAINS



AN OVERVIEW OF  
PROVIDENCE TOWNSHIP  
STORM WATER MANAGEMENT  
PROGRAM





Clean Water





# LET'S TALK ABOUT...

- What storm water is and why it can be a problem in our community.
- What Providence Township is doing to manage storm water and how these activities will benefit us.

# WHAT IS STORM WATER?

- Rain events
- Snow melt
- Other surface runoff and drainage






# WHERE DOES STORM WATER GO IN OUR COMMUNITY?

- Travels over our land
- Carried through municipal separate storm sewer system (MS4)
- Discharges into Township streams
  - Beaver Creek
  - Pequea Creek
  - Fishing Creek





# A “POINT” OF CONFUSION: POINT SOURCE VS. NONPOINT SOURCE

- POINT source
  - Travels through a conveyance system
  - Regulated under permit program
- NONPOINT source
  - Runoff that is not a point source
  - Addressed through voluntary programs

# WHY IS STORM WATER A PROBLEM?

- Problem: Decrease in quality
- Problem: Increase in quantity
- Cause: Developed and disturbed land



















# WHY IS STORM WATER A PROBLEM?

- Problem: Non-storm water discharges enter systems
- Cause: Illicit discharges
- Cause: Illicit connections



household wastewater  
(toilet, sinks, etc.)

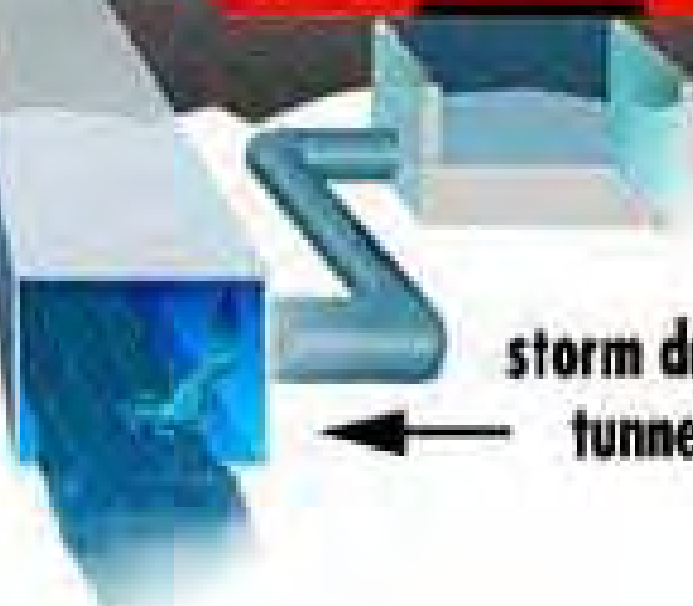


catch basin

sewer pipe



storm drain  
tunnel




**2 UNDERGROUND  
SYSTEMS**



# STORM WATER POLLUTANTS

- Sediment
- Nutrients
- Bacteria
- Oxygen Demand
- Oil and Grease
- Trace Metals
- Toxic Chemicals
- Chlorides
- Thermal Impacts





# PA WATER QUALITY AND STORM WATER IMPACTS

- Total of 83,438 stream miles in PA Assessed
  - Total of approximately 86,000 miles in PA
- 24.2% of assessed waters are impaired
- Urban runoff #3 source of impairment
  - 4,325 miles of rivers and streams
  - 21.4% of all impaired river and stream miles



**Now We Know About  
Storm Water and Its  
Impacts on Our  
Community. . .**

**But What Are We  
Doing About It?**



# STORM WATER PERMIT PROGRAM FOR SMALL COMMUNITIES

- New federal regulation requires permit for our community
- PA DEP created state permitting program to meet federal regulation






# WHAT DOES OUR PERMIT REQUIRE?

- Implement a storm water management program
- Track progress toward goals
- Report on our progress



# THE PROVIDENCE TOWNSHIPS MOTTO FOR STORM WATER IS?

- Slow it down
- Spread it out
- Soak it up



**WHAT THE  
TOWNSHIP IS  
EXPECTED TO DO  
FOR OUR:**





# STORM WATER PROGRAM

- Public Education
  - Jason/Vicki
- Construction Site Runoff Management
  - Connie P
- Illicit Discharge Detection and Elimination
  - Jason
- Public Involvement
  - Jason/Vicki/Connie
- Post-Construction Storm Water Management
  - Connie P
- Good Housekeeping and Pollution Prevention
  - Jason



# PUBLIC EDUCATION AND OUTREACH

- Distribute educational materials developed by PA DEP
  - Whenever we do a project that alters or changes runoff, we must educate the homeowners why...
- Develop outreach plan for community
  - Same as above



# PUBLIC INVOLVEMENT/PARTICIPATION

- Provide public notice
- Create a public involvement plan
- Hold a public meeting on the program
- Start a volunteer program
  - Water Quality Monitoring
  - Storm Drain Stenciling
  - Stream Clean-Ups





# ILLICIT DISCHARGE DETECTION AND ELIMINATION MINIMUM CONTROL MEASURE

- Enact DEP's model ordinance or update our existing ordinance
- Develop storm sewer system map
- Implement program to detect non-storm water in system
- Educate community on problems related to dumping in storm sewers



# CONSTRUCTION SITE STORM WATER RUNOFF CONTROL

- Enact DEP's model ordinance or update our existing ordinance
- Coordinate with County Conservation District
  - Erosion and Sediment Control Program
  - NPDES Construction Storm Water Permitting
- Educate construction industry



# POST-CONSTRUCTION STORM WATER MANAGEMENT

- Adopt PA DEP's model storm water management ordinance
- Ensure proper operation and maintenance of post-construction controls






# POLLUTION PREVENTION/ GOOD HOUSEKEEPING

- Implement O & M program that focuses on pollution prevention
- Train township employees on good housekeeping practices
- Educate community on pollution prevention

# How Will Our Storm Water Program Benefit Our Community?





# EXPECTED BENEFITS OF OUR STORM WATER PROGRAM

- Enhanced fishing
- Enhanced opportunities for recreation
- Reduced flood damage
- Drinking water benefits
- Navigational benefits
- Reduced illness
- Enhanced aesthetic value





# WHAT IS EXPECTED FROM MUNICIPAL EMPLOYEES?

- Pass along information about the storm water program to community residents
- Report any storm water issues to Jason McClune



# IF YOU HAVE QUESTIONS

- Contact
  - Jason McClune
  - Vicki Eldredge

**Appendix J.**  
**Providence Township**  
**Good Housekeeping**  
**Operation and Maintenance (O&M)**  
**Program**



# Good Housekeeping Operation & Maintenance (O&M) Program

Municipal Pollution Prevention/Good Housekeeping Plan (MS4 PPGHP)



Providence Township, Lancaster County

July 2016

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## Section 1 Background & Introduction

The Good Housekeeping Operation and Maintenance Program (O&M Program) was developed to outline operational management and maintenance practices, policies, procedures, and protocols (or Best Management Practices (“BMPs”)) for reducing and/or preventing pollutants associated with municipal facilities and activities from entering receiving waters as outlined and/or required by the National Pollutant Discharge Elimination System (NPDES) and an issued NPDES Small Municipal Separate Storm Sewer System (MS4) Permit (including PAG-13). Providence Township’s O&M Program document is derived from the Lancaster Inter-Municipal Committee’s *Municipal Operations and Maintenance Good Housekeeping Guidance & BMP Manual*, 2012 Edition.

Compliance is a broad word with respect to an issued MS4 Permit and corresponding applicable laws and regulations such as Title 40 (“40 CFR”) and 25 Pa. Code, which provide the basis of the permit. There are two primary categories for consideration for an MS4 Permit—documentation and program effectiveness. A program is built to effectively prevent or reduce pollutants from entering receiving waters via stormwater runoff or non-stormwater discharges to meet the requirements of an MS4 Permit. Documentation provides the specifics of the program; along with evidence the permitted entity is addressing not only the requirements of the MS4 Permit, but also the applicable laws and regulations.

The O&M Program specifically addresses the regulatory requirements outlined for municipal good housekeeping practices for operations and maintenance of facilities and activities, and is also known as Minimum Control Measure Number Six (“MCM #6”) in the Township’s MS4 Permit. Specifically, the O&M Program addresses:

- municipal operations
- the stormwater collection and conveyance system
- facilities, activities, and land uses that have the potential to generate stormwater runoff
- facilities, activities, and land uses that may contribute pollutants via stormwater runoff or non-stormwater discharges to receiving waters
- pollution prevention and good housekeeping control measures for reducing or eliminating the discharge of pollutants from municipal facilities and activities through BMPs such as:
  - practices and procedures
  - maintenance and inspection activities
  - assessing goals and effectiveness
  - training and education (as required by 40 CFR Part 122.34(b)(6)(i))

Section 4 of the O&M Program is the Operational Plan of the program. This section provides the specifics of activities, policies, procedures, and so on. The O&M Program as described in the contents section effectively becomes the MS4 Pollution Prevention/Good Housekeeping Plan (“MS4 PPGHP”) for MCM #6 of an issued MS4 Permit.

## **1.1 OBJECTIVES**

The O&M Program has four main objectives:

1. Identify and document all municipal facilities and activities that may contribute pollutants to receiving waters via the regulated MS4 through stormwater runoff or a non-stormwater discharge.
2. Implement, maintain, and document all practices, controls, procedures, and so on for a group of selected BMPs aimed at reducing or preventing pollutants that may result from municipal facilities or activities.
3. Implement, maintain, and document an employee and contractor training program to improve the knowledge of employees and contractors for reducing or preventing pollutants that may result from municipal facilities or activities.
4. Identify and document all other activities, policies, etc. that focus on pollution prevention and good housekeeping for municipal operations.

## **1.2 APPLICABLE REGULATIONS**

The United States Congress established the Federal Water Pollution Control Act in 1948. This law provides the foundation of current water quality and water pollution control regulations. In 1972, Congress passed an amendment to the original act known as the Clean Water Act (“CWA”). The CWA prohibits non-permitted discharges to waters of the United States in Section 301, and also authorized the NPDES in Section 402. The U.S. Environmental Protection Agency (“EPA”) developed the NPDES through promulgation of regulations found in 40 CFR. The Commonwealth of Pennsylvania issues NPDES permits through an approved program following requirements that meet or exceed 40 CFR §123. In 1987, Congress passed another amendment to the original Federal Water Pollution Control Act, commonly known as the Water Quality Act, and specifically labeled stormwater as a “problem”.

25 Pa. Code Chapter 92a incorporates 40 CFR into the Pennsylvania Code, referred to as NPDES Permitting, Monitoring, and Compliance. Additional chapters in 25 Pa. Code that affect municipal operations governed by an MS4 Permit include Chapter 93 (Water Quality Standards and Criteria), Chapter 96 (Water Quality Protection Requirements), and Chapter 105 (Waterway Management). Chapter 96 also outlines requirements associated with an issued Total Maximum Daily Load (“TMDL”).

## **1.3 O&M PROGRAM MODIFICATIONS AND ANNUAL REVIEWS**

From time-to-time, the language in the O&M Program or a reference for the program may be edited. Such modifications are noted and found in Appendix T, which may also contain changes to the Township’s MS4 NPDES permit number.

The program, along with its components, will be reviewed annually at the end of each calendar year and can be found in Appendix S. Typical components to be reviewed are the BMP Implementation and Maintenance Schedule and selected BMPs. Modifications or revisions to the O&M Program may occur during the annual reviews, which are intended to:

- Ensure that selected BMPs and program information match actual municipal facilities and activities;
- Qualitatively measure effectiveness and goals of the overall program;
- Qualitatively measure effectiveness and goals of individual components of the program; and
- Outline new goals for the program or components of the program.

#### **1.4 EFFECTIVE PERMIT**

The O&M Program is developed to address the requirements of MCM #6 in Providence Township's NPDES MS4 Permit (Permit No. PAG133618), effective until August 31, 2016. A copy of the current permit and any future renewal permits can be found in the Township's Stormwater Management Program Compliance Documents.



## Section 2 Purpose & Responsibilities

Providence Township, Lancaster County is a permitted entity under the Commonwealth of Pennsylvania Department of Environmental Protection NPDES MS4 Permit. Permitted entities are required to develop, implement, and maintain a written O&M Program per MCM #6 as outlined in the MS4 Permit, and further described in applicable federal regulations. The ultimate purpose of the O&M Program is to prevent and/or reduce polluted runoff from municipal operations and activities. As noted in Section 1, the *LIMC Municipal Operation and Maintenance Good Housekeeping Guidance & BMP Manual* was used for the development of the Township's O&M Program.

### 2.1 O&M PROGRAM OVERVIEW

The O&M Program lists procedures and practices (BMPs) intended to minimize pollution to receiving waters conveyed by stormwater runoff or non-stormwater discharges through direct discharge or the regulated MS4. The O&M Program describes the facilities, activities, and land uses that have the potential to generate stormwater runoff along with polluting the runoff. Procedures and practices include, but are not limited to documentation, inspections, monitoring, and training.

Based on the guidance within the *LIMC Municipal Operation and Maintenance Good Housekeeping Guidance & BMP Manual* and other relevant sources, this O&M Program addresses the three BMPs under MCM #6 in Appendix A of the issued MS4 Permit (PAG-13) and applicable regulations, as follows:

*BMP #1: Identify and document all facilities and activities that are owned or operated by the permittee and have the potential for generating stormwater runoff to the regulated small MS4. This includes activities conducted by contractors for the permittee. [List of activities and facilities omitted.]*

*BMP #2: Develop, implement, and maintain a written operation and maintenance (O&M) program for all municipal operations and facilities that could contribute to the discharge of pollutants from the regulated small MS4s, as identified under BMP #1. This program (or programs) shall address municipally owned stormwater collection or conveyance systems, but could include other areas (as identified under BMP #1). The O&M program(s) should stress pollution prevention and good housekeeping measures, contain site-specific information, and address the following areas:*

- Management practices, policies, procedures, etc. shall be developed and implemented to reduce or prevent the discharge of pollutants to your regulated small MS4s. You should consider eliminating maintenance-area discharges from floor drains and other drains if they have the potential to discharge to storm sewers.*

- *Maintenance activities, maintenance schedules, and inspection procedures to reduce the potential for pollutants to reach your regulated small MS4s. You should also review your procedures for maintaining your stormwater BMPs.*
- *Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt / sand (anti-skid) storage locations and snow disposal areas.*
- *Procedures for the proper disposal of waste removed from your regulated small MS4s and your municipal operations, including dredge spoil, accumulated sediments, trash, household hazardous waste, used motor oil, and other debris.*

*BMP #3: Develop and implement an employee training program that addresses appropriate topics to further the goal of preventing or reducing the discharge of pollutants from municipal operations to your regulated small MS4s. The program may be developed and implemented using guidance and training materials that are available from federal, state or local agencies, or other organizations. Any municipal employee or contractor shall receive training. This could include public works staff, building / zoning / code enforcement staff, engineering staff (on-site and contracted), administrative staff, elected officials, police and fire responders, volunteers, and contracted personnel. Training topics should include operation, inspection, maintenance and repair activities associated with any of the municipal operations / facilities identified under BMP #1. Training should cover all relevant parts of the permittee's overall stormwater management program that could affect municipal operations, such as illicit discharge detection and elimination, construction sites, and ordinance requirements.*

### **2.1.1 DOCUMENTATION**

All documentation relative to good housekeeping and pollution prevention referenced in the O&M Program or as applicable will be centralized into one location. Documentation guidance for selected and implemented BMPs is contained within the BMP Fact Sheets found in Section 5.3. Persons responsible for the implementation and maintenance of the O&M Program and corresponding activities and procedures of the BMPs outlined in the program are as follows:

Vicki Eldredge. – Township Manager  
Jason McClune – Roadmaster

The responsible persons, or their successors, assume the following duties:

- Ensure compliance with MCM #6 of the MS4 Permit and applicable laws and regulations as it pertains to pollution prevention and good housekeeping for municipal operations;
- Implement elements of the MS4 PPGHP, such as the O&M Program;
- Inspect Township facilities;
- Document activities and inspection results; and
- Correlate activities and procedures with other MS4 Permit requirements.

### **2.1.2 INSPECTIONS**

Inspections of municipal facilities and activities will be conducted in accordance with Section 4 and the BMP Fact Sheets in Section 5.3. Details on the Fact Sheets include the frequency and methodology of regular inspections for the implemented BMPs. Certain rain events will warrant inspections of certain BMPs outside of the normal regular inspection frequency. A defined rain event that will warrant an inspection of particular BMPs is a rainfall greater than 3.1 inches in a 24-hour period of time<sup>1</sup>. The rain gauge at the township municipal building , will be used to determine whether a defined rain event has occurred.

For any continuous rain event greater than 24 hours in duration, all BMPs identified for rain event inspections will be inspected after the event has finished. As warranted, Township personnel may inspect applicable BMPs prior to a significant and forecasted rain event.

### **2.1.3 MONITORING AND ANALYTICAL TESTING**

General monitoring is a continuous activity, and further described in Section 4 of the O&M Program. Analytical monitoring will be conducted periodically or as warranted, and may be conducted to help determine the effectiveness of the program. Such monitoring may include field testing by qualified municipal employees or a qualified laboratory. Actual analytical monitoring protocols are further described in Section 4 of the O&M Program.

From time to time, analytical testing of samples will be required. These samples should be sent to a qualified laboratory, such as one used for the Township's Illicit Discharge Detection & Elimination (IDD&E) Program.

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<sup>1</sup> The volume of rainfall resulting from a "2-year storm" for our local region.



#### **2.1.4 TRAINING**

Training of employees and relevant contractors will be conducted for both general pollution prevention knowledge and implemented BMPs as it pertains to MCM #6 and good housekeeping. A training plan will be developed annually and documented in Appendix E. More information regarding employee and contractor training is found in Section 4.3 of the O&M Program.

### **2.2 BMP SELECTION**

A primary purpose of the O&M Program is to document the selection, implementation, and maintenance of BMPs to meet the requirements of MCM #6 for the Township's MS4 Permit and applicable federal and state regulations and laws. The process for selecting, implementing, and maintaining BMPs is as follows:

- Complete inventories of municipal facilities and activities (Section 3).
- Select BMPs corresponding to the inventory (Section 4).
- Identify BMPs as either existing or proposed.
- Complete and maintain a schedule of inspections, maintenance, and implementation of proposed BMPs, if applicable (Section 4).
- Periodically review implemented BMPs (Section 4).

BMPs are assigned measurable goals with possible measurements of effectiveness, if applicable. Such goals and measurements are further described in Section 4. BMPs selected for implementation are further described in Appendix F.

## **Section 3 Description of Municipality**

Understanding the boundaries, features, and facilities of a municipality aids with establishing a comprehensive and effective program. This section describes not only the geographic features of the municipality for consideration, but also the facilities and activities of the municipality that may contribute to stormwater runoff and water quality.

### **3.1 MUNICIPAL BOUNDARIES**

The municipal boundaries of Providence Township, Lancaster County can be generally described by the following:

EAST: Big Beaver Creek and Little Beaver Creek

NORTH: Big Beaver Creek and Pequea Creek

WEST: Rawlinsville Road

SOUTH: Route 372

A map showing these municipal boundaries can be found in Appendix C.

### **3.2 MUNICIPAL INVENTORY**

Providence Township owns several facilities and conducts certain activities at those locations. These facilities and activities have the potential to generate stormwater flows or contribute pollutants to the runoff. In fact, the facilities and activities may contribute pollutants directly through contact with stormwater runoff or non-stormwater discharges.

A complete list of all municipal facilities, activities, and land uses can be found on the Municipal Inventory (Activities) List in Appendix A or the Municipal Facility Detail Sheets in Appendix B. These will be reviewed annually for accuracy or needed modifications by a responsible person noted in Section 2 at the end of each calendar year. An Activity Record will be completed and logged for this action to document the annual review. Activity Records can be found in Appendix H with the corresponding log in Appendix I.

A primary facility of the municipality is the Township Campus. A number of activities are located or conducted within the boundaries of the Campus. Appendix B contains a layout of the Township Campus that identifies the structures and activities there, most notably those at the “municipal yard”. A map showing the locations of all municipally-owned or operated sites is also found in Appendix C.

### **3.3 STORMWATER COLLECTION AND CONVEYANCE SYSTEM**

Providence Township's storm sewer system collects and conveys stormwater to receiving waters using pipes, curbs, ditches, basins, and inlets to do so. A goal of Providence Township is to prevent or reduce polluted stormwater in the entire collection and conveyance system. The MS4 NPDES Permit focuses this goal into a regulated area based on criteria established by the U.S. Census Bureau. This regulated area and the corresponding components of the storm sewer system within it are found in Appendix C.

The stormwater collection and conveyance system in the regulated area drains to the following waters:

- Big Beaver Creek
- Climbers Run
- Huber Run
- Pequea Creek

BMPs addressing components of the collection and conveyance system are further described in Sections 4 and 5. The BMPs are accompanied by practices aimed at reducing or preventing polluted discharges from municipal facilities and activities from entering the regulated MS4.



## **Section 4 Operational Plan**

The Operational Plan outlines the specific practices, controls, and procedures aimed at reducing or eliminating the discharge of pollutants from streets, roads, municipal facilities, municipal activities, storage areas, and any other municipally owned facility or activity as identified in Section 3, the Municipal Inventory List, and the Municipal Facility Detail Sheets. The Operational Plan also addresses training and education of municipal employees and contractors for specified activities.

### **4.1 BEST MANAGEMENT PRACTICES (BMPs)**

Based on the Municipal Inventory List in Appendix A and Municipal Facility Detail Sheets in Appendix B, a set of BMPs have been selected. They are primarily source-control measures related by the goal to reduce or prevent the discharge of pollutants. The selected BMPs are referenced in Appendix F, and were determined by using the BMP Selection Matrix (Appendix D).

The objectives, protocols/practices (including operations and maintenance), inspection procedures, and documentation procedures of selected BMPs can be found within the individual BMP Fact Sheets located in Section 5.3 or noted in the BMP Selection Matrix. The BMP Selection Matrix also provides relevant goals for individual BMPs selected, along with a measurement of effectiveness if applicable. Goals, or milestones, of selected BMPs (including implementation (if applicable) and maintenance practices) will be outlined in a schedule format. The BMP Implementation and Maintenance Schedule can be found in Appendix G.

The BMP Selection Matrix and corresponding Fact Sheets of selected BMPs will be reviewed annually by the Township at the end of each calendar year. Effectiveness, established milestones/goals, and practices will be reviewed. An Activity Record will be completed and logged for this action. Along with this action, the BMP Implementation and Maintenance Schedule will be reviewed and updated to note any changes in the annual review.

#### **4.1.1 WASTE DISPOSAL PLAN**

Along with the selection of BMP GH-7, Waste Handling and Disposal, the Waste Disposal Plan addressing collection and disposal of waste removed from the regulated MS4 and as a result of municipal activities is found in Appendix N. The Plan addresses disposal of wastes such as dredge spoil, accumulated sediments, trash, hazardous wastes (including household), used motor oil, and other debris.

#### **4.1.2 SPILL RESPONSE AND CONTROL PLAN**

Along with the selection of BMP GH-10, Spill Prevention and Control, the Spill Response and Control Plan addressing spills that may pollute stormwater runoff or contribute pollutants directly to receiving waters via the regulated MS4 is found in Appendix O. The plan outlines such items as spill control materials and responsibilities.

#### **4.2 PROGRAM GOALS**

Goals have been identified and established for the facilitation of the O&M Program. Milestones associated with the goals can be found on the BMP Implementation and Maintenance Schedule as well. Goals may be modified, changed, or added during annual reviews. Such modifications will be noted and found in Appendix T. Initial goals associated with the program or components of the program are as follows:

- Promote greater awareness among Township Staff regarding actions that promote pollution prevention and water quality improvement.
- Eliminate all pollutants emanating from the Township Campus that would have otherwise been introduced into surface waters.
- Reduce the amount of pollutants from other Township-owned sites through better institutional controls (i.e. BMPs).

#### **4.3 TRAINING AND EDUCATION**

An annual training plan will be developed by Township Staff at the beginning of each calendar year. The topics of focus in the training plan are based on selected BMPs or any items relative to stormwater and water quality. The Annual Training and Education Plan can be found in Appendix E, laying out the upcoming year's training opportunities intended for municipal employees and contractors. The following are typical methods of delivery conducted by personnel listed in Section 2, depending on the audience and subject matter:

- Formal or informal
- "Tailgate" training
- On-site
- Classroom or similar

Training Records will be completed and logged documenting training completed, and will include information such as the training date, location, instructor(s)/presenter(s), and subject matter. Training Records can be found in Appendix K, and a log providing a summary overview can be found in Appendix

J. Records will be completed for training activities outlined in the Annual Training Plan and for non-planned activities as well.

#### **4.4 INSPECTIONS**

Inspections of facilities and activities as outlined in selected BMPs will be conducted by responsible persons listed in Section 2. Inspection Records are located in Appendix L, and the corresponding log providing a summary of inspections is located in Appendix I. Inspections will be conducted on a regular basis, as set forth by the BMP Fact Sheets for a particular facility or activity.

Inspections will typically involve the following actions:

- Compare the observed facility or activity against the BMP Fact Sheet.
- Note any necessary maintenance or repairs.
- Note if a spill, leak or discharge was observed.
- Address any concerns identified during observation.
- Determine if any follow-up activities are required (e.g., training or spill control).

Monitoring will be conducted in conjunction with inspections to ensure that the O&M Program is effective per Section 4.7.

#### **4.5 BMP IMPLEMENTATION AND MAINTENANCE ACTIVITIES**

Any activities associated with implementing or maintaining a BMP for a municipal operation or facility will be documented on an Activity Record (Appendix H), and logged in Appendix I. Activities include repairs to a facility or activity, street sweeping, waste transport, modifying a facility or activity to reflect a BMP, illicit discharge or connection to the MS4, etc. The BMP Fact Sheets located in Section 5.3 provide guidance for the activities and associated documentation. Scheduled implementation and maintenance activities can be found on the BMP Implementation and Maintenance Schedule (Appendix G).

#### **4.6 EVENTS**

Significant events are recorded on Event Records (Appendix M), and also logged into Appendix I. Such events include defined rain events and detected illicit discharges.



## **4.7 MEASURING EFFECTIVENESS**

The BMP Selection Matrix (Appendix D) provides for the development of measuring the effectiveness of the BMPs. The primary measurement of effectiveness is ensuring proper execution of practices and protocols outlined in the O&M Program (specifically within the BMP Fact Sheets), documentation thereof, and the review of materials reflecting BMP implementation and maintenance.

### **4.7.1 GENERAL MONITORING**

General monitoring entails frequent observations of municipal activities and facilities outside the normal inspection schedule. Municipal employees and contractors will observe potential polluting conditions (e.g., leaks and discharges) during normal operations.

### **4.7.2 FIELD MONITORING**

Field monitoring entails documented observations of municipal facilities and activities. A Monitoring Report (Appendix P) will be completed for field monitoring, and subsequently entered on the summary log in Appendix Q. Locations of field monitoring conducted are further identified on the Municipal Facility Detail Sheets (Appendix B). Field monitoring may include sample acquisition by qualified municipal employees or contractors with a field test kit.

The Pollutant Guidance Table found in Appendix R provides guidelines for field observations and testing of samples, and also contains applicable analytical guidelines. There is no overarching frequency established for field monitoring. Field monitoring will be conducted as needed or as identified as a measurement of effectiveness for selected BMPs.

### **4.7.3 ANALYTICAL MONITORING**

From time to time, analytical monitoring and testing will be conducted to measure the quality of runoff produced by Township-owned or operated facilities to ensure selected practices and protocols for good housekeeping are effective. Sampling for laboratory testing will be conducted in locations identified in Section 4.7.2 and the Municipal Facility Detail Sheets (Appendix B). Testing will be conducted by a laboratory listed in Section 2, but sample acquisition may be completed by qualified municipal personnel, contractors, or the laboratory staff. The monitoring report will note the person acquiring the sample, along with proper chain of custody forms and other relevant information to ensure quality control.

There is no overarching frequency identified for analytical monitoring, which will be conducted as needed and for potential pollutants as deemed appropriate to test for, or as identified as a measurement of

effectiveness for selected BMPs. Analytical monitoring may also include sample acquisition at other locations in the regulated area of the MS4, as addressed by the Township's *Illicit Discharge Detection & Elimination Program*.

#### **4.8 ANNUAL REPORTS**

All activities and items associated with the O&M Program including modifications, training endeavors, goals, etc. will be summarized in Annual Reports. Copies of the Annual Reports are found in Appendix S.

## **Section 5 Best Management Practices (BMPs)**

This section contains a general set of BMP Fact Sheets for municipal operations. The Township's operations are not limited to the BMPs contained within this document; however, the Township does not need to select and implement those that are not applicable. Most BMPs found within the manual are considered source control BMPs.

A bibliography and works cited accompany this document, and each BMP Fact Sheet contains specific source references that guided their development. Such references may not be listed in the bibliography.

### **5.1 INTRODUCTION**

The BMP Fact Sheets contained within this manual offer recommended protocols for a particular municipal activity or facility. Along with those standards, guidance for documentation and inspections is also provided. A BMP Fact Sheet includes only baseline guidance, and can be tailored to meet individual Township needs, capacities, and abilities. These elements are considered non-structural BMPs with focus on education and source control of potential pollutants.

When warranted, the Fact Sheets may need to be updated, modified, or removed. At the same time, additional BMP Facts Sheets may be added. Listed protocols are designed to help provide MS4 NPDES Permit compliance guidance to the Maximum Extent Practicable (MEP).

### **5.2 SELF-ASSESSMENT FOR SELECTING BMPs**

As indicated, the selection of BMPs should consider common sense and practicality when looking ahead to implementation. Through the Municipal Inventory List and the Municipal Facility Detail Sheets (Appendices A & B), the Township has assessed current facilities and programs (e.g., wash facility, leaf collection, salt storage, etc.). This self-assessment factored both the practices and corresponding requirements of a BMP in conjunction with available resources and capabilities. Along with the BMPs contained in this document, a template is provided in Appendix U for the creation of an additional practice.

### **5.3 BMP FACT SHEETS**

BMP Fact Sheets can be found on the following pages. For the sake of consistency, the general outline of a BMP Fact Sheet will be as follows:

- Objectives of the BMP



- A general description of the focus of the BMP
- Considerations including recommendations for tailoring the BMP to a municipality's needs, if applicable
- Recommendations and Protocols (an explanation of the BMP) including alternative practices
- Documentation guidance
- Measurements and inspection protocols including recommended frequencies (or defined frequencies)
- Additional sources of information for the development of the fact sheet
- Actual outlines may vary for several fact sheets based on the actual BMP.

### OBJECTIVES

- Increase municipal employee awareness of:
  - Illicit discharges and detection
  - Good housekeeping BMPs and measures
  - Construction site BMPs
  - Structural BMP operation and maintenance
  - General stormwater management
- Prepare municipal employees for:
  - Spill prevention and response
  - Implementation and maintenance of BMPs
  - Point source discharge identification

### DESCRIPTION

Municipal employee training activities provide the applicable knowledge and awareness necessary to facilitate a stormwater management program within a municipality. Education and training of employees provides a municipality with an additional level of preparedness with not only properly implementing and maintaining BMPs, but also reacting to situations that require timely attention including spill response and control. A primary goal of this BMP is to increase the knowledge and capabilities of municipal staff with proper stormwater management practices as it relates to the selection of all BMPs in the municipal SWMP.

### CONSIDERATIONS

Training and education programs should be developed and reviewed/modified on an annual basis. All municipal employees including public works staff, administrative staff, elected officials, engineering staff, inspection staff, and zoning officials should be considered during development of an annual program.

Training and education pursuits can be administered in a number of ways including in-house training, in-house presentations, joint training sessions, distribution of relevant printed materials, certification programs, informal "round-table" discussions, and seminars.

The training and education BMP is one of the few within an entire SWMP where the overall measurement of effectiveness is dependent on the success or effectiveness of the other BMPs selected and made a part of the overall municipal program.

Materials for training events and sessions conducted in-house can be downloaded from the U.S. EPA and Pennsylvania DEP websites. Attendance at workshops provided by the Lancaster County Clean Water

Consortium will aid in achieving training and education goals. The LIMC will provide materials and topics for use by the municipalities annually as well.

As a general guideline, training activities should be conducted annually as outlined within this BMP. However, additional focus should be afforded to specific items within the municipal SWMP (i.e. selected BMPs in the SWMP, and so on) during the first two years of the permit cycle.

## RECOMMENDATIONS AND PROTOCOLS

The templates provided within this manual can be used to establish your annual employee training and education program along with documenting unplanned training events. Refer to the "Documentation" section of this fact sheet. The following table provides training and education events should be included, at a minimum, in the annual program. Further descriptions are provided after the table.

EVENT DESCRIPTION	TARGETED AUDIENCE	FREQUENCY
Safety Training	Public Works Staff	Monthly
SWMP Review	All Staff	Annually
Targeted BMP Training	Varies by Department	Annually
Illicit Discharge and Detection	Public Works Staff	Annually
Spill Response and Prevention	Public Works Staff	Bi-Annually
SWMP Updates	All Staff	Bi-Annually

## SAFETY TRAINING

"Safety" training involves on-site, or in-field, training and reviews of specific topics relative to the Township O&M Program, selected BMPs, and/or the Township SWMP. The primary focus for this type of event is to maintain the installed structural and non-structural BMPs. These training sessions will provide opportunities to review the operation and maintenance of the BMPs, as well as other considerations such as:

- General stormwater awareness
- Vehicle & equipment fueling, cleaning, and repairs
- Illicit discharge and detection
- Storage of materials
- Basin/inlet cleaning and maintenance
- General housekeeping
- Hazardous materials
- Municipal yard maintenance

## SWMP REVIEW



Annually, the entire staff should be educated on general stormwater awareness and changes or updates to the municipal SWMP. This type of event can be completed in-house.

### **TARGETED BMP TRAINING**

It is important to note that targeted BMP training should focus on items of issue affecting the municipal SWMP. A specific structural or non-structural BMP should be identified for training purposes, especially those that are determined to require additional focus. This training is likely specific to segments of Township Staff depending on subject matter, and could vary from workshops open to the public to in-house presentations. Recommended target BMPs (with target audience) include, but are not limited to:

- Public education planning workshops (administrative staff)
- Innovative BMP design (planning staff, zoning officials)
- General stormwater management awareness (all staff)
- Construction site BMPs (public works staff, inspectors, planning staff)
- Good Housekeeping BMPs (public works staff)
- Basin and outfall cleaning & maintenance (public works staff)
- Ordinance review (elected officials, administrative staff)

### **ILLICIT DISCHARGE AND DETECTION**

These training events are designed to increase the knowledge and response capabilities of the Public Works Staff. Training events are recommended to be held annually, including an in-the-field "mock" review or exercise to outline recognition of illicit discharges and reporting requirements. Another training session should include a review of all the outfalls within the municipality where an illicit discharge will affect the MS4, held at least once per NPDES permit cycle. This type of training event can be a combined in-the-field review of outfall locations, in-house review of the outfall map, and discussion of types of point source discharges.

### **SPILL RESPONSE AND PREVENTION**

This training event follows the same idea as the Illicit Discharge and Detection Training, utilizing an in-the-field session covering hands-on procedures for identifying a spill and proper procedures for control and containment. Municipal employees will be better prepared for proper implementation and maintenance of BMPs. A comprehensive review should be completed during this training session to outline prevention techniques, as detailed in BMP Fact Sheet GH-10: Spill Prevention and Control.

### **SWMP UPDATES**

Updates on SWMP changes or events of note (e.g., illicit discharges, flooding, ordinance changes, etc.) should be reviewed annually with all Staff. This can take place via meeting or internal memo to ensure that the common message is conveyed to all personnel. Other topics may include changes to the Township SWMP or regulation changes that will affect it.

## DOCUMENTATION

Proper documentation is essential to demonstrate compliance with the Clean Water Act, NPDES, and general requirements of the issued MS4 permit. As with all elements of an MS4 permit, all documentation should be centralized. The following templates can be used to help achieve compliance:

- **Annual Municipal Employee Training and Education Plan:** This template is used to develop a training and education program on an annual basis, prior to the upcoming year's activities. The plan is a guidance document and does not need updated (unless absolutely necessary) through the year. Additional training events not outlined in this plan need only to be documented through a Training Record and entered into the Training and Education Log.
- **Training Record:** This document is used to provide record of a training event or session. An attendee's log is required to be attached to all records completed.
- **Training and Education Log:** The log provides a general summary of all training activities relative to the SWMP for municipal employees (or as outlined within a selected BMP). Logs can be "renewed" on an annual basis or become a comprehensive list over the life of the permit cycle. It is imperative the log is kept up-to-date and complete.

## MEASUREMENT OF EFFECTIVENESS

Effectiveness can be demonstrated by properly conducting and documenting training activities as recommended in this Fact Sheet.

## SOURCES

U.S. Environmental Protection Agency

[http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min\\_measure&min\\_measure\\_id=6](http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=6)

Pennsylvania Department of Environmental Protection; final version of PAG-13

<http://files.dep.state.pa.us/Water/Watershed%20Management/WatershedPortalFiles/StormwaterManagement/PAG-13/FinalPAG-13.pdf>

Capitol District Regional Planning Commission (CDRPC)

<http://www.cdrpc.org/NET/WQ/MS4.html#POLLPREV>



**OBJECTIVES**

- Increase contractor awareness of:
  - Illicit discharges and detection
  - Good housekeeping BMPs and measures
  - General stormwater management
- Prepare contractors for:
  - Spill response and prevention
  - Responsibilities toward the Clean Water Act

**DESCRIPTION**

Contractor training distributes important knowledge and awareness necessary to facilitate the Township's SWMP to contractors and associated personnel. This provides the Township with an additional level of preparedness not only for proper implementation and maintenance of BMPs, but also for reacting to situations that require timely attention like spill response and control. A primary goal of this BMP is to increase the knowledge and capabilities of contractors with proper stormwater management practices in regard to the role of municipal operations and maintenance in the Township SWMP.

**CONSIDERATIONS**

The term "contractors" refers to any entity or the personnel of such entity that performs work on municipal property or for the municipality and is not an employee of the municipality. Contractors can include, but are not limited to, general contractors, plumbing contractors, landscape contractors, engineers, and inspectors. More specifically, training is intended for contractors with an executed contract or agreement with the municipality.

Providence Township is the operator of the MS4, and any contractors completing work that will affect the MS4 should be educated in the goals and requirements of the SWMP in order to reduce the potential of discharges to receiving waters. Providence Township is responsible for its MS4 whether it completes work with its own forces or contracts the work to a private entity. The contractor training BMP is one of the few where the overall measurement of effectiveness is dependent on the success or effectiveness of other BMPs made a part of the overall program.

## **RECOMMENDATIONS AND PROTOCOLS**

The templates provided within this manual can be used to guide contractor training activities, as detailed in the "Documentation" section of this Fact Sheet. A degree of responsibility should be extended to a contractor for proper stormwater management practices. This can be achieved through awareness of contract language or information reviews. Based on the objectives listed within this Fact Sheet, the following represents more detailed guidance regarding contractor training:

### **ILLICIT DISCHARGES AND DETECTION**

Contractors should be aware and knowledgeable of the Township's *Illicit Discharge Detection & Elimination Program*. Liability specified in contractual language should be extended to a contractor for self-produced illicit discharges. Notification protocol should also be established between the contractor and Township if the contractor observes an illicit discharge. This protocol should include initial response measures by the contractor and follow-up by Township Staff.

### **GENERAL STORMWATER MANAGEMENT**

A contractor should be aware and knowledgeable of proper stormwater management practices as it pertains to the goals and objectives of the Township SWMP and the contractor's operations on Township property.

### **GOOD HOUSEKEEPING BMPs AND MEASURES**

A contractor should be aware of the Good Housekeeping BMPs that the Township is implementing, and educated on its responsibilities for such BMPs. For example, if a contractor will use hazardous materials for the completion of their work and the Township has chosen and follows a hazardous materials BMP, the contractor should follow practices for proper storage, inspections, etc. as they pertain to the activity.

### **SPILL PREVENTION AND RESPONSE**

Contractors should be aware and knowledgeable to the municipality's spill response and prevention initiatives. A contractor should be required to have a Spill Response and Prevention Plan that aligns with the Township's objectives and plans. As with illicit discharges, a notification protocol should be established between the contractor and Township for spills, with the contractor being expected to produce employee spill prevention and response training documentation to the Township. If a contractor has not completed spill prevention and response training, this training should be completed in order to be consistent with the SWMP. A contractor can be invited to municipal training exercises as it pertains to spill prevention and response.

## RESPONSIBILITIES TOWARD THE CLEAN WATER ACT

Contractors should be made aware of responsibilities to conduct its operations in conjunction with the Township SWMP. This can be achieved through contractual language and training. A contractor can become the "operator" and complete a pollution prevention plan that aligns with the Township SWMP. A review of site plans, if applicable, should be completed (and as required by MCM #4 of the MS4 permit) during the preconstruction period to ascertain any potential impacts by contractor activities.

## DOCUMENTATION

Proper documentation is essential to demonstrate compliance with the Clean Water Act, NPDES, and general requirements of the issued MS4 permit. As with all elements of an MS4 permit, all documentation should be centralized. The following templates can be used to help achieve compliance:

- **Contractor Training Record:** This document is used to provide record of a training event or session. An attendee's log is required to be attached to all records completed. This template can be used to document a preconstruction review of site plans with a contractor to ascertain potential impacts and outline plans to address such potential impacts.
- **Training and Education Log:** The log provides a general summary of all training activities relative to the SWMP. The log is generally used for municipal employee training and education activities. However, contractor training activities can be noted on this log.

Forwarding relevant information to the contractor for review and understanding in lieu of training sessions may be an acceptable practice. It is important for the contractor to acknowledge acceptance of the information in written form, then attached to a training record and entered into the log.

## MEASUREMENT OF EFFECTIVENESS

Effectiveness can be demonstrated by properly conducting and documenting training activities as recommended in this Fact Sheet.



### OBJECTIVES

- Reduce or prevent the following pollutants contributed to receiving waters from non-stormwater discharges through observations and properly maintained BMPs:
  - Nutrients (e.g., nitrogen and phosphorus)
  - Oil and grease
  - Trash
  - Sediment
  - Organic and inorganic chemicals (e.g., pesticides)
  - Bacteria
  - Metals
  - Oxygen-demanding substances
- Identify and correct potential/observed non-stormwater discharges through:
  - Training
  - Spill response and prevention
  - Inspections

### DESCRIPTION

Non-stormwater discharges generally have no or minimal stormwater runoff included. A non-stormwater discharge can originate from illegal dumping activities, accidental spills, poor BMPs at or adjacent to storm drains and waterways, wash water, and improperly connected drainage systems. Nonstormwater discharges can also pollute aquifer recharge areas and wetlands through these activities. A combination of source control and treatment BMPs may be necessary to prevent pollutants associated with non-stormwater discharges.

### CONSIDERATIONS

Potential pollutants from non-stormwater activities can be caused by standard municipal activities including street sweeping, landscape maintenance, and sidewalk repairs. The EPA developed a list of potential pollutants associated with municipal activities and can be found within the appendix of the LIMC Good Housekeeping BMP Manual.

Routine inspections and knowledge of potential sources are essential for the success of managing non-stormwater discharges.

Confined space entry training should be considered due to inspections or necessary corrective measures that may be required.

A non-stormwater discharge is different than a spill. A spill is "contained" within an area and has not discharged into a drain or receiving waterway. A non-stormwater discharge is a pollutant discharged to a drain or waterway without necessarily the help of the stormwater.

Illegal dumping activities that can result in non-stormwater discharges are generally due to the absence of a proper disposal location. Assure proper disposal locations exist and are known.

Most BMPs within the manual reference non-stormwater discharges and associated pollutants (i.e. organic/inorganic chemicals, oil and grease, and so on). Most of these types of pollutants can be discharged directly or discharged with stormwater.

Non-stormwater discharges primarily originate from fixed facilities operated and maintained by a municipality such as wash bays, storage areas, and fueling stations. However, discharges can result from activities such as pesticide applications and saw cutting concrete.

## **RECOMMENDATIONS AND PROTOCOLS**

It is recommended to sub-divide non-stormwater management programs into fixed facility and field operations. Fixed facilities will have a concentration of actual BMPs, whereas field operations are more dependent on training initiatives.

For the objectives listed, the following represent further recommendations and protocols for non-stormwater discharges:

### **REDUCE OR PREVENT SPECIFIC POLLUTANTS**

#### *General*

- Ensure proper BMPs are implemented and maintained for facilities and operational activities (i.e. Vehicle and Equipment Cleaning, Landscape Maintenance, and so on).
- Continually train personnel on potential pollutants with specific activities or at fixed facilities.
- Identify and catalog specific pollutants associated with fixed facilities or operational activities.

### *Illicit Connections*

- Complete or confirm "as-built" plans of drains and piping within fixed facilities to help identify discharge destinations (i.e. storm drain, sanitary sewer, or other).
- If the origin of a recurring non-stormwater discharge is unknown, complete dye or TV testing to identify the source and correct.
- Enforce correction measures for improper connections to the MS4 including, but not limited to, toilets and car wash drains.
- Consider smoke testing to confirm improperly connected wastewater and stormwater piping connections.

### *Illegal Dumping*

- Regularly inspect "hot spots" where dumping activities have occurred.
- Ensure enforcement action protocols for illegal dumping activities is set in place including BMP information, fines (as applicable), and offender training.
- Build and maintain a field investigation kit for observed or reported dumping activities. Pre-developed stormwater pollutant kits are available. Kits should contain protective gloves, sample jars, field testing materials (pH meter/paper, etc.), and sample acquisition tools.
- Never hose down with water spills, leaks, or other observed potential non-stormwater discharges. Implement proper spill prevention and control techniques (see BMP Fact Sheet GH-10: Spill Prevention and Control).
- Post "No Dumping, Drains to Waterways" or similar stamp/sign at storm drains and "hot spot" locations.

NOTE: Illegally dumped pollutants include all specific listed pollutants in the objective section of this fact sheet (i.e. allowing sediment in an uncontrolled fashion into drains and waterways is an illegal dumping activity).

## **IDENTIFY AND CORRECT POTENTIAL/OBSERVED NON-STORMWATER DISCHARGES**

### *General*

- Implement a notification protocol for encountered non-stormwater discharges (i.e. who to report to, who documents the report, and so on).

### *Training*

- Educate employees on recognizing dry weather flows and non-stormwater discharges.
- Continually provide training for spill response and control.
- Employees should be trained on use of field investigation kits.



- Training should include identifying proper clean-up materials if hazardous materials are a part of a non-stormwater discharge (see BMP Fact Sheet GH-8: Hazardous Materials) (i.e. understanding of incompatible materials).
- Instruct proper documentation of non-stormwater discharges, including citations (if applicable).

#### *Spill Response and Prevention*

- Well-trained employees understand the tools and necessary response procedures for spills that may result in non-stormwater discharges.
- See BMP Fact Sheet GH-10: Spill Prevention and Control.

#### *Inspections*

- All fixed facilities and operational activities are inspected. Observation of a non-stormwater discharge is a standard inspection activity.
- Inspect "hot spots" for illegal dumping activities and signs of potential non-stormwater discharges on a regular basis.
- Complete annual inspections with the goal of identifying illicit connections to the storm drain system.

## **DOCUMENTATION**

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For non-stormwater discharges, the following templates are provided within the BMP manual to assist the municipality with documentation compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to non-stormwater discharges.
- **Training and Education Log:** Enter a completed training record for nonstormwater discharges into the log.
- **Event Record:** If a non-stormwater discharge is observed, an event record should be executed that also outlines the nature of the discharge, location, offender (if known), and response and remediation procedures.
- **Activity Record:** Complete an activity record for activities completed that would eliminate a non-stormwater discharge, corrects an issue that caused a nonstormwater discharge, or was specifically acted to identify a potential source of non-stormwater discharges (i.e. dye testing, TV testing, etc.).

- **Inspection, Event, and Activity Log:** Enter an activity or event record for nonstormwater discharges into the log.

## **ADDITIONAL DOCUMENTATION CONSIDERATIONS**

Inspection record templates are set up that consideration is provided toward non-stormwater discharges during an inspection of fixed facilities and operational activities.

The pollutant (i.e. pesticides, sediment, oil, and so on) should be entered into the event record along with the nature of the determination.

If a non-stormwater discharge is observed or reported, create an event record. The event record should include planned remediation and enforcement activities (if applicable).

Consider organizing an enforcement protocol that includes citations and reporting requirements.

## **INSPECTIONS AND MEASUREMENTS**

All BMPs inspected are provided consideration for observation of non-stormwater discharges. A check box for non-stormwater discharges is provided on the inspection record template. If checked and a non-stormwater discharge is observed during a scheduled inspection, an event record should be generated.

If a discharge is reported, investigate the reported location as a fixed facility (if applicable). If a non-stormwater discharge can be identified during the follow-up, generate an event record.

Effectiveness can be demonstrated by documenting implementation and maintenance of practices and protocols associated with this BMP.

## **SOURCES**

U.S. Environmental Protection Agency Pollution Prevention/Good Housekeeping for Municipal Operations information at

[http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min\\_measure&min\\_measure\\_id=6](http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=6)

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

Spirit of St. Louis Airport Tenant Pollution Prevention Plan at

<http://spiritairport.com/spiritairport/files/TenantPPP.pdf>

CALTRANS BMP Field Manual, January 2003 edition at  
[http://www.dot.ca.gov/hq/construc/stormwater/BMP\\_Field\\_Manual\\_Master\\_5x8\\_revision5.pdf](http://www.dot.ca.gov/hq/construc/stormwater/BMP_Field_Manual_Master_5x8_revision5.pdf)



### OBJECTIVES

- Understand proper handling and disposal of waste materials, including:
  - Storage and transport
  - Reuse and recycling
  - Documentation
  - Solid and liquid waste
- Implement and conduct activities aimed at pollution prevention, such as:
  - Training
  - Waste management
  - Inspections
  - Spill response and prevention
- Reduce the potential for specific pollutants discharging to waterways:
  - General trash
  - Metals
  - Oil and grease
  - Bacteria
  - Sediment
  - Organic/inorganic chemicals

### DESCRIPTION

Improper storage and handling of waste materials can allow a number of pollutants including oils and greases, toxic and chemical compounds (including nutrients), bacteria, metals, and other wastes to enter waterways through stormwater runoff and non-stormwater discharges. Proper handling, along with recycling and waste reduction will reduce the potential for polluting waterways, groundwater, and recharge points.

### CONSIDERATIONS

Hazardous waste cannot be reused or recycled. It must be disposed of by a licensed hazardous waste hauler. Refer to BMP Fact Sheet GH-8: Hazardous Materials for more specific information regarding hazardous materials.

Consider disposal with organizations such as the Lancaster County Solid Waste Management Authority with an established and certified Environmental Management System (EMS) designed to manage impacts on the environment.

Reuse and recycling will reduce the potential for waste storage areas (and waste transport and disposal) from polluting waterways and ground water.

## **RECOMMENDATIONS AND PROTOCOLS**

A properly designed waste storage area is crucial for managing the potential for waste products to pollute waterways.

For the objectives listed, the following represent further recommendations and protocols for waste handling and disposal:

### **PROPER HANDLING AND DISPOSAL OF WASTE MATERIALS**

- Store waste in trash storage areas that are secure, yet accessible for transport.
- Document disposal operations if transported to a waste facility. See section regarding DOCUMENTATION below.
- Separate out materials of different types (e.g., general trash, used oil, etc.), specifically isolate materials to be recycled or reused.
- Provide cover over storage areas, if feasible.
- Do not mix liquid wastes with solid waste.
- Obtain documentation from waste haulers and waste facilities establishing they are an approved hauler or disposal facility.
- Dispose of rinse or wash water into sanitary sewers if approved by sewer authority.

### **TRAINING**

- Train employees on proper storage and handling practices of waste materials.
- Train employees on clean-up procedures specific to waste materials.
- See BMP Fact Sheet GH-1: Employee Training and Education for more information.
- If a Waste Management Program is established, make employees knowledgeable of the program through training activities.

### **SPILL RESPONSE AND PREVENTION**

- See BMP Fact Sheet GH-10: Spill Prevention and Control for more information.
- Provide additional training measures/notes for waste materials for employees.

## **INSPECTIONS**

- See "Inspections and Measurements" section within this Fact Sheet.

## **WASTE MANAGEMENT PROGRAM**

- Establish a Waste Management Plan/Program that addresses production planning and sequencing, storage and disposal, close loop recycling, loss prevention and housekeeping, waste segregation, and reuse procedures.
- Establish a material tracking system.
- Program should outline storage and disposal procedures for segregated materials (e.g., used oil, batteries, general waste, liquids, etc.).

## **GENERAL POLLUTION PREVENTION PROTOCOLS**

- Recycle materials wherever possible.
- Keep storage areas clean. If paved area, do not clean with water via hose if storm drains are nearby.
- Storage containers should be structurally sound and free of defects. Transfer any waste from damaged containers to new or sound containers.

## **REDUCE THE POTENTIAL OF SPECIFIC POLLUTANTS**

- Post "No Littering" signs; consider enforcement of violations.
- Provide sufficient number of trash receptacles; clean out receptacles regularly.
- Prevent stormwater from entering waste storage areas.
- Prevent waste materials from directly contacting rain water.
- Provide covers on dumpsters or other storage devices to reduce the potential for specific pollutants discharging with stormwater.
- Do not dispose of sediment with general trash. Store as appropriate in separate areas (see BMP Fact Sheet GH-21: Outdoor Storage of Materials).

## **DOCUMENTATION**

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For waste handling and disposal, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:



- **Training Record:** This document is used to provide record of a training event or session relative to waste handling and disposal.
- **Training and Education Log:** Enter a completed training record for waste handling and disposal into the log.
- **Waste Management Plan:** Establish a centralized plan that outlines waste storage areas, disposal facilities, waste haulers, recycling and reuse procedures, waste reduction, disposal frequencies, and waste segregation techniques and procedures.
- **Event Record:** If a discharge is observed, an event record should be executed that also outlines response and remediation procedures.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP for waste handling and disposal.
- **Activity Record:** Complete an activity record when remediation occurs or waste is transported to a facility. Attach "truck tickets" establishing waste transport and destination.
- **Inspection, Event, and Activity Log:** Enter an inspection, activity, or event record for waste handling and disposal into the log.
- **Municipal Yard Map:** Organize and complete a municipal yard map (including locations of interior building features). Identify the hazardous waste material storage area(s) on the map. Place a copy of the map within your SWMP documentation.

## INSPECTIONS AND MEASUREMENTS

Frequency of inspections is recommended as follows:

- *Rain Event Inspection:* Conduct an inspection of the waste storage area after a defined rain event (if storage area is located outside).
- *Regular Inspection:* If a rain event does not dictate an inspection, inspect the waste storage area on a monthly basis (outdoor storage areas follow a different timeline. See BMP Fact Sheet GH-20: Outdoor Container Storage and BMP Fact Sheet GH-21: Outdoor Storage of Materials for more information).

Items that should be inspected and maintained in waste material storage areas (and recommended maintenance actions):

- *Integrity of storage containers:* replace/repair leaking or cracked containers.
- *Evidence of leaks:* isolate and clean-up leaks; replace leaking containers.
- *Cleanliness:* Sweep and remove debris or trash; do not hose down.
- *Tarps or plastic sheets (if applicable):* repair or replace torn or damaged tarps or plastic sheets.
- *Storage area layout:* assure area is accessible for haulers and "isolated" from run-on or runoff.

- *Solid Waste Trash Containers:* assure liquid materials are not leaking; assure containers are structurally sound.
- *Miscellaneous:* observe and correct any signs of corrosion, pest damage, or other observed item that may result in leaking containers, spills, etc.
- *Spill Prevention and Control Materials:* Replace used or defunct spill clean-up materials.

## MEASUREMENT OF EFFECTIVENESS

Effectiveness can be measured by establishing and maintaining a written waste disposal plan and documenting waste transport disposal destinations and inspections.

## SOURCES

Lancaster County Solid Waste Management Authority Environmental Stewardship Overview at [http://www.lcswma.org/lcswma\\_stewardship\\_overview.html](http://www.lcswma.org/lcswma_stewardship_overview.html)

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

Harvard University. 2002. Solid Waste Container Best Management Practices - Fact Sheet On-line Resources - Environmental Health and Safety.

Weber County Engineering Department at <http://www.co.weber.ut.us/mediawiki/index.php/Engineering>

Pennsylvania Department of Environmental Protection; final version of PAG-13 at <http://files.dep.state.pa.us/Water/Watershed%20Management/WatershedPortalFiles/StormwaterManagement/PAG-13/FinalPAG-13.pdf>

### OBJECTIVES

- Conduct proper storage and maintenance of storage facilities for hazardous materials:
  - Storage area considerations
  - Hazardous substance identification
  - Documentation
- Implement and conduct activities to reduce the potential for polluted/illicit discharges:
  - Training
  - Spill response and prevention
  - Inspections
  - Contaminated soil/materials

### DESCRIPTION

Illicit discharges of hazardous materials are generally a result of improper storage practices and use of such materials. An effective storage area and inspection/training program is necessary to help reduce the potential for illicit discharges from hazardous materials.

### CONSIDERATIONS

Improper handling of hazardous materials may leave residue exposed to rainfalls, hence a potential discharge of pollutants to receiving waterways. Hazardous materials should be kept "isolated" to the maximum extent practicable (MEP) to reduce the potential for discharges.

It is assumed a municipality has an established Hazardous Waste Operations and Emergency Response Plan (or similar plan) in place. This fact sheet focuses on storing hazardous materials relative to preventing discharges to receiving waterways.

A storage area for hazardous materials should be confined to hazardous materials only. Storage procedures need to consider the manufacturer's recommendations, and an understanding of incompatible materials should be achieved when storing hazardous materials. The appendix of this BMP Manual includes an Incompatible Materials Chart along with a list of highly hazardous chemicals.

A release of a reportable quantity (RQ) of an extremely hazardous chemical (or CERCLA substance) requires a release notification. If any chemicals are stored that can be found on the list of such chemicals, a written release notification protocol—as required by law—should be developed and easily accessible



for reporting purposes. A current list of extremely hazardous chemicals can be found in 40 CFR 355, Appendix A.

Procedures should also be identified for household hazardous wastes as, from time to time, a municipality may need to provide consideration for such materials. Procedures can be incorporated into the waste management and disposal plan or O&M manual as required by PAG-13.

Hazardous materials stored directly on floors can become wet if the floor becomes wet. This action can lead to corrosion of materials and adjacent structures.

An inventory list along with Materials Safety Data Sheets (MSDS) should be kept to have an understanding of the hazardous materials stored. A possible consideration, with the goal of reducing paper, is selecting an electronic MSDS system. Such systems are deemed acceptable by the Occupational Health and Safety Administration (OSHA).

## **RECOMMENDATIONS AND PROTOCOLS**

Storage facilities for hazardous materials should be dedicated areas. These areas can be storage sheds, buildings, "lean-to" structures, identified locations within a building, and so on.

For the objectives listed, the following represent further recommendations and protocols for hazardous materials:

### **STORAGE AREA CONSIDERATIONS**

- Ensure sufficient access for material procurement and inspections.
- Store materials away from high-traffic areas.
- Store materials on pallets or in storage lockers off the ground. This practice will facilitate inspections for leaking containers and can reduce pest damage.
- Do not place storage areas over or immediately adjacent to drains or waterways.
- Storage areas should be located on highly impervious surfaces such as concrete.
- Cover material containers with tarps or similar acceptable materials if not stored in a locker or similar storage facility.
- Provide consideration for household hazardous materials (document such wastes as applicable).
- Identify a disposal storage area within the designated hazardous material storage area until the materials are properly disposed.
- Assure storage facility is constructed of proper materials and meets local fire and building codes
- Equip storage areas with the appropriate spill clean-up materials. See BMP Fact Sheet GH-10: Spill Prevention and Control for more information.

## **HAZARDOUS MATERIALS IDENTIFICATION**

- Place and update placards at the storage area indicating the dangers associated with chemicals currently stored.
- Store hazardous materials in the appropriate container and clearly label.
- Assure MSDS accompanies any new material deliveries. The MSDS will identify the level of hazard associated with the material.
- Review the chemical composition of a material and cross-reference with the U.S. Dept. of Labor, OSHA highly hazardous chemical list. If a material contains a chemical listed, mark the container to denote this fact.

## **DOCUMENTATION**

- Keep an updated inventory list of hazardous materials. The inventory list should be checked during regular inspections.
- Keep an Incompatible Materials Chart relatively close to the storage area for easy reference.
- Keep MSDS sheets readily available for the stored hazardous materials.
- See "Documentation" section within this fact sheet for more information.

## **TRAINING**

- Depending on the types and operational uses of hazardous materials stored, additional training activities may be required per OSHA's Hazardous Waste Operations and Emergency Response final rule (29 CFR 1910.120).
- See BMP Fact Sheet GH-1: Employee Training and Education for more information.
- Train employees on proper storage and handling practices of hazardous materials.
- Train employees on clean-up procedures specific to hazardous materials.
- Notify employees to any changes in the inventory of stored hazardous materials.

## **SPILL RESPONSE AND PREVENTION**

- See BMP Fact Sheet GH-10: Spill Prevention and Control for more information.
- Dry cleanup methods should be used for containing and cleaning up hazardous materials if applicable and safe.
- Provide additional training measures/notes for hazardous chemicals for employees specific to stored hazardous materials (i.e., incompatible chemicals).

## **INSPECTIONS**

- See "Inspections and Measurements" section within this Fact Sheet.

## CONTAMINATED SOIL/MATERIALS

- Soils and materials may be contaminated from leaking containers storing hazardous materials. These contaminated items should be isolated and securely stored until proper disposal techniques are identified.
- For contaminated soils, stockpile in a separate location. Cover the soil with tarps or plastic sheets and install a berm around stockpile to prevent runoff and run-on. Locate stockpiles away from drains and receiving waters.
- Contaminated materials (i.e. cardboard) can be installed in the hazardous materials storage area; as long as the contaminated materials poses no fire or health hazards and will not result in polluted discharges or further contamination until proper disposal is achieved.

## DOCUMENTATION

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For hazardous materials, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to hazardous materials.
- **Training and Education Log:** Enter a completed training record for hazardous materials into the log.
- **Hazardous Materials Inventory List:** Keep an updated inventory of stored hazardous materials. This can also be a section of a master material inventory list.
- **Activity Record:** Complete a record if materials are transported for disposal or remediation is completed due to an event or note from an inspection.
- **Event Record:** If a discharge is observed, an event record should be executed that also outlines response and remediation procedures.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP for hazardous materials.
- **Inspection, Event, and Activity Log:** Enter an inspection, activity, or event record for hazardous materials into the log.
- **MSDS**
- **Municipal Yard Map:** Organize and complete a municipal yard map (including locations of interior building features). Identify the hazardous materials storage area on the map. Place a copy of the map within your SWMP documentation.



## INSPECTIONS AND MEASUREMENTS

Frequency of inspections for hazardous materials is recommended as follows:

- *Rain Event Inspection:* Conduct an inspection of the storage after a defined rain event (if storage area is located outside). A defined rain event is determined in the SWMP.
- *Regular Inspection:* If a rain event does not dictate an inspection, inspect the storage area on a monthly basis (if inside) or every two weeks (if outside).

Items that should be inspected and maintained in hazardous materials storage areas (and recommended maintenance actions):

- *Integrity of storage containers:* replace leaking or cracked containers.
- *Evidence of leaks:* isolate and clean-up leaks; replace leaking containers.
- *Cleanliness:* Sweep and remove debris or trash.
- *Inventory:* assure inventory matches records and is accounted for.
- *Tarps or plastic sheets (if applicable):* repair or replace torn or damaged tarps or plastic sheets.
- *Contaminated soils/materials (if applicable):* inspect contaminated soil stockpiles and materials. until proper disposal. Assure contaminated soil stockpiles are intact and no run-on or runoff is observed.
- *Storage layout:* assure containers and materials are neatly stored and as recommended by the manufacturer.
- *Miscellaneous:* observe and correct any signs of corrosion, pest damage, or other observed item that may result in leaking containers, spills, etc.
- *Spill Prevention and Control Materials:* Replace used or defunct spill clean-up materials.
- *Signs:* Assure placards properly represent the hazardous materials stored.

## SOURCES

U.S. Environmental Protection Agency Hazardous Materials Storage fact sheet at  
<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?>

United States Department of Labor, OSHA Training Interpretation at  
[http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=INTERPRETATIONS&p\\_id=20295](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=20295)

CALTRANS BMP Field Manual, January 2003 edition at  
[http://www.dot.ca.gov/hq/construc/stormwater/BMP\\_Field\\_Manual\\_Master\\_5x8\\_revision5.pdf](http://www.dot.ca.gov/hq/construc/stormwater/BMP_Field_Manual_Master_5x8_revision5.pdf)

FedCenter Hazardous Materials Storage at  
<http://www.fedcenter.gov/assistance/facilitytour/labs/hazmat/>

Pennsylvania Emergency Management Agency Hazardous Material Emergency Planning and Response Act outline at

[http://www.portal.state.pa.us/portal/server.pt/community/programs\\_and\\_services/4547/hazardous\\_material\\_preparedness/458022](http://www.portal.state.pa.us/portal/server.pt/community/programs_and_services/4547/hazardous_material_preparedness/458022)

Pennsylvania Department of Environmental Protection; final version of PAG-13 at

<http://files.dep.state.pa.us/Water/Watershed%20Management/WatershedPortalFiles/StormwaterManagement/PAG-13/FinalPAG-13.pdf>

### OBJECTIVES

- Utilize proper spill prevention and control techniques and procedures:
  - Spill control materials
  - Documentation
  - Reporting
  - Pollution prevention
- Implement and conduct activities to reduce pollutants from spills:
  - Training
  - Inspections
  - Planning and actions
  - Contaminated soil/materials

### DESCRIPTION

Spills and leaks, if not properly controlled, can adversely impact receiving waters. Due to the type of work or the materials involved, many activities that occur either at a facility or as a part of a field program have the potential for accidental spills and leaks. Proper spill response planning and preparation will lead to spill prevention and control, and can enable employees to effectively respond to problems when they occur and minimize the discharge of pollutants to the environment.

### CONSIDERATIONS

Spill Prevention and Control is a complement to most BMP Fact Sheets. It is a source control measure that should be considered for any Best Management Practice where spills or leaks can occur, and cause harm or damage to the environment or receiving waterways.

A Spill Prevention Control and Countermeasure Plan (SPCC) is required for facilities that are subject to the oil pollution regulations specified in Part 112 of Title 40 of the Code of Federal Regulations or if they have a storage capacity of 10,000 gallons or more of petroleum. (Health and Safety Code 6.67)

An initial Spill Prevention Response Plan (Plan) and any future updates, which address the requirements described in Chapter 9 of the act (35 P. S. § § 6021.901— 6021.904) and the corresponding chapter, shall be submitted to the DEP for aboveground storage tank facilities with an aggregate above ground storage capacity greater than 21,000 gallons. A current copy of the Plan shall be readily available at the facility at all times.



If a Spill Response Plan is developed, clearly identify the persons responsible for implementing the plan. Outline notification protocols, safety measures, and address federal and state regulations.

If a spill or leak discharges into the storm sewer, monitor and test downstream to assess any impacts or additional remediation that may be needed.

When collecting information for building the Municipal Inventory List, assess facilities and programs against federal and state requirements for outlining spill response protocols. Such protocols may include pre-plan testing and testing as during a spill response event.

Costs associated with Spill Prevention Control can vary widely and should be considered extensively when developing and implementing a Spill Control Plan.

## **RECOMMENDATIONS AND PROTOCOLS**

For the objectives listed, the following represent further recommendations and protocols for spill prevention and control:

### **SPILL CONTROL MATERIALS**

- Identify locations for the placement of spill control stations. Such areas include vehicle/equipment fueling locations, storage locations, and waste storage locations. Stations would include a variety of kits relative to the station's purpose (e.g., control drums, absorbent pads, chemical neutralizers, etc.).
- Identify locations for placement of spill control kits. Such locations include municipal vehicles or on municipal equipment.
- Spill Control materials include, but are not limited to: chemical neutralizers, drip diverters, pans (for oil drips), pipe repair materials, absorbent pads, particulate absorbents, gels, sealing bags/wraps, rags, brooms, and containment devices.

### **POLLUTION PREVENTION**

- General Monitoring
- Develop and implement a Spill Response and Control Plan (or similar title). Such a plan should address, but not limited to: description of facilities and activities, personnel, material handling procedures, response protocols, and control materials.
- Material handling procedures should be clearly defined for pollution prevention. Such procedures should address, but not limited to: recycling, material transfer protocols, designated handling areas.
- Do not hose off areas with water where spills were contained and cleaned up.
- Consider substituting products where efficient or applicable.

- Keep inlet protection materials readily available in case a spill response requires "isolating" or protecting an inlet from a spill.
- Reduce the potential for pollutants into storm drains by storing away from such drains, or protecting such drains from runoff.

## **DOCUMENTATION**

- See "Documentation" section within this fact sheet for more information.

## **REPORTING**

- Establish notification protocols for reporting observed spills or leaks.
- Federal regulations require that any oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 800-424-8802 (24-hour line).
- For recordkeeping purposes, a report (Event Record) should include, but not limited to: date and time of incident/observation, weather conditions, cause of spill or leak (if known), response procedures implemented, follow-up actions, and persons/entities notified.

## **TRAINING**

- See BMP Fact Sheet GH-1: Employee Training and Education for more information.
- Training regarding spills and prevention control should be conducted on a regular basis. Focus should be provided on spill prevention and control when training is conducted for other BMPs where spills or leaks can occur.
- Training should include field exercises.

## **INSPECTIONS**

- See "Inspections and Measurements" section within this Fact Sheet.

## **PLANNING AND ACTIONS**

- Locate spill control materials in readily accessible areas and ensure all municipal employees understand where the locations are and how to use.
- If a Spill Response Plan is developed, ensure it is easily accessible.
- Consider leak detection devices and diversion berms in handling areas for potential spills or leaks.
- Perform preventative maintenance on tanks, pumps, valves, or any similar equipment.
- Post spill response procedures in activity areas.
- Develop a notification protocol system and outline through a plan the follow-up procedures for a spill or leak.

## **CONTAMINATED SOIL/MATERIALS**

- Contaminated materials can still pollute through discharge or exposure to runoff. Assure contaminated materials are properly stored (and ultimately disposed of).

## DOCUMENTATION

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For spill prevention and control, templates are provided within the BMP manual to assist the municipality with documentation compliance. Training can be specific to spill prevention and control. However, inspections and other associated record templates are considered complementary as other BMP Fact Sheets will outline the necessity for monitoring and addressing leaks and spills. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to spill prevention and control. For other training exercises where spill prevention and control should be considered, indicate the topic was reviewed.
- **Training and Education Log:** Enter a completed training record for spill prevention and control into the log.
- **Spill Response and Control Plan**
- **Event Record:** If a discharge is observed, an event record should be executed that also outlines response and remediation procedures. An Event Record for a discharge should be more detailed than a normal Event Record as outlined above in this Fact Sheet.
- **Activity Record:** Record any activities associated with improving or addressing spill response controls and procedures.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP.
- **Inspection, Event, and Activity Log:** Enter an inspection, activity, or event record into the log.
- **Municipal Yard Map:** Organize and complete a municipal yard map (including locations of interior building features). Identify the locations of spill response kits or stations on the map. Place a copy of the map within your SWMP documentation.

## INSPECTIONS AND MEASUREMENTS

Frequency of inspections for spills and leaks is recommended as follows:



- *All Inspections:* For all inspections conducted, observations should include signs of spills and leaks. At the same time, spill response kits and stations should be reviewed to assure proper materials are readily available, and in good working order.

Essentially, every inspection should include reviews for spills, discharges, or leaks.

Items that should be reviewed during an inspection for spill control and prevention:

- *Integrity of storage containers:* replace leaking or cracked containers.
- *Evidence of leaks:* isolate and clean-up leaks; replace leaking containers.
- *Cleanliness:* Sweep and remove debris or trash.
- *Inventory:* assure inventory matches records and is accounted for.
- *Tarps or plastic sheets (if applicable):* repair or replace torn or damaged tarps or plastic sheets.
- *Contaminated soils/materials (if applicable):* inspect contaminated soil stockpiles and materials until proper disposal. Assure contaminated soil stockpiles are intact and no run-on or runoff is observed.
- *Storage layout:* assure containers and materials are neatly stored and as recommended by the manufacturer.
- *Collection devices:* Assure collection devices (i.e. drip pans) are properly placed and no leaks are observed from such devices.
- *Miscellaneous:* observe and correct any signs of corrosion, pest damage, or other observed item that may result in leaking containers, spills, etc.
- *Spill Prevention and Control Materials:* Replace used or defunct spill clean-up materials.

Measurement of effectiveness can be calculated in several ways. The recommended measurement is a ratio of total spills/leaks observed/encountered versus successful spill control. Successful spill control means the spill was contained in a timely manner, cleaned up, and no discharge (non-stormwater discharges, and so on) was observed or measured. Self-identify a tracking mechanism for collecting such data. Repetitive training geared towards spill prevention and response is generally viewed as a successful tool for effectiveness as well.

## SOURCES

U.S. Environmental Protection Agency Pollution Prevention/Good Housekeeping for Municipal Operations information at <http://cfpub.epa.gov/npdas/stormwater/menuofbmps/index.cfm?>

FedCenter Hazardous Materials Storage at  
<http://www.fedcenter.gov/assistance/facilitytour/labs/hazmat/>

The Pennsylvania Code for Facility Operations and Spill Response Plan at  
<http://www.pacode.com/secure/data/025/chapter245/s245.512.html>

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

Boulder, Colorado Spill Response Standard Operating Procedure at <http://www.bouldercolorado.gov/www/pace/government/documents/SpillPreventionCleanupandReportingSOP.pdf>

The Pennsylvania Department of Environmental Protection at [http://www.depweb.state.pa.us/portal/server.pt/community/dep\\_home/5968](http://www.depweb.state.pa.us/portal/server.pt/community/dep_home/5968)

**OBJECTIVES**

- Practice efficient and safe housekeeping practices through:
  - Planning
  - Training
  - General practices

**DESCRIPTION**

An entire program is dependent on basic general practices as a foundation. Following certain efficient and safe practices as a guide for all BMPs will increase the effectiveness of a program and reduce the potential for pollutants to enter receiving waters.

**CONSIDERATIONS**

At times, efficient housekeeping practices generally rely on behavioral changes in personnel. Through training and exercises, general practices that are safe and protect the environment can become normal operating procedures.

There are no limitations to this BMP or its effectiveness. This BMP provides baseline practices that establish a strong, safe, and efficient program for normal municipal operations and the reduction of potential pollutants discharging into receiving waters.

**RECOMMENDATIONS AND PROTOCOLS**

For the objectives listed, the following represent further recommendations and protocols for general housekeeping:

**PLANNING**

- Identify and assess current operations against proposed or wanted practices.
- Develop a comprehensive MS4 Pollution Prevention/Good Housekeeping Plan that addresses all operations and facilities. Outline planned operating procedures to increase the effectiveness of a program.



- Address all operations and facilities including, but not limited to: construction, training, "hotspots," storm drain conveyance system, street sweeping, spill response, waste disposal, and building maintenance.
- Identify products or materials that will aid in increasing the effectiveness of general housekeeping practices.
- Outline costs associated with a planned program. Understanding monetary limitations will improve the effectiveness of chosen BMPs.

## **TRAINING**

- See BMP Fact Sheet GH-1: Employee Training and Education for more information.
- Provide training for all BMPs selected.
- Provide or assure training for regulated activities including, but not limited to: pesticides, confined space entry, and hazardous material handling.
- Train personnel in general practices as noted within this fact sheet or as developed within your plan.

## **GENERAL PRACTICES**

- Keep work sites and operating areas clean of debris and trash.
- Keep and maintain cleaning equipment and materials.
- Follow procedures or protocols outlined in selected or developed BMPs.
- Provide employees a summary of BMPs, and continually update on changes.
- Establish daily "close-out" checklists that address, but not limited to: cleaning, storing materials, securing areas, and general monitoring.
- Assure employees are knowledgeable and capable with respect to spill prevention and control, hazardous materials, and illicit discharges (non-stormwater discharges).
- Develop contingency plans addressing weather extremes and spills with a written organizational structure that further describes notification protocols and responsibilities for selected BMPs.

## **DOCUMENTATION**

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For general housekeeping, documentation is only relevant for training purposes. Training will build a foundation, and improve the effectiveness of the overall program and selected BMPs. For General Housekeeping, the following templates may be used for documentation purposes:

- **Operation and Maintenance Program (O&M Program)**

- **Training Record:** This document is used to provide record of a training event or session relative to general housekeeping.
- **Training and Education Log:** Enter a completed training record for general housekeeping into the log.

## INSPECTIONS AND MEASUREMENTS

Every inspection will address general housekeeping to a degree. The effectiveness of BMPs is dependent on baseline practices outlined in this fact sheet (i.e. keep operating areas clean, remove litter, observe for leaks/spills, train, and so on).

## SOURCES

GLRC Good Housekeeping and Pollution Prevention for Municipal Activities at <http://www.mywatersheds.org/publications/Final%20Muni%20Handbook/Final%20Municipal%20Handbook.pdf>

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

Urban Subwatershed Restoration Manual No. 9 at <http://www.cleanwatermn.org/Documents/MS4%20toolkit%20files/SWPPP%20Implementation/CWP%20municipal%20housekeeping%20manual.pdf>

### OBJECTIVES

- Properly store materials:
  - Storage areas
  - Documentation
- Maintain storage areas and handling procedures:
  - Training
  - General practices
  - Inspections
- Reduce potential for specific pollutants:
  - Non-stormwater discharges
  - Hazardous materials

### DESCRIPTION

Responsible management of common chemicals, such as fertilizers, solvents, paints, cleaners, and automotive products, can significantly reduce polluted runoff. Such products must be handled properly in all stages of development, use, and disposal. Material storage encompasses the selection of the individual product, the correct use and storage of the product, and the responsible disposal of associated waste(s).

### CONSIDERATIONS

Consider the proper use and storage of all materials used including, but not limited to: soil, salt, hazardous chemicals (acids, paints, and so on), fertilizers, detergents, asphalt, pesticides, petroleum products, and so on. Compatibility should be considered when outlining storage locations.

Storage locations (if indoors) need to meet building and fire code requirements.

A storage area for hazardous materials should be confined to hazardous materials only. Storage procedures need to consider the manufacturer's recommendations, and an understanding of incompatible materials should be achieved when storing hazardous materials. The appendix of this BMP Manual includes an Incompatible Materials Chart along with a list of highly hazardous chemicals. See BMP Fact Sheet GH-8: Hazardous Materials for more information.



## **RECOMMENDATIONS AND PROTOCOLS**

Storage areas should be dedicated areas. These areas can be storage sheds, buildings, "lean-to" structures, identified locations within a building, and so on. For the objectives listed, the following represent further recommendations and protocols for general material storage:

### **STORAGE AREAS**

- Ensure sufficient access for material procurement and inspections.
- Store materials away from high-traffic areas.
- Consider "isolation" measures such as berms, containment devices, and similar to reduce the potential for runoff from leaks or spills.
- Do not place storage areas over or immediately adjacent to drains or waterways.
- Storage areas should be located on highly impervious surfaces such as concrete.
- Outdoor stockpile areas shall be provided protective measures to reduce run-on and runoff, including diversion berms and covers.
- Do not store incompatible materials with each other.
- Cover material containers with tarps or similar acceptable materials if not stored in a locker or similar storage facility.
- Ensure proper spacing of materials in storage areas to allow access for addressing spills or leaks.
- Assure storage facility is constructed of proper materials and meets local fire and building codes.
- Equip storage areas with the appropriate spill clean-up materials. See BMP Fact Sheet GH-10: Spill Prevention and Control for more information.

### **DOCUMENTATION**

- Keep an updated inventory list of stored materials. The inventory list should be checked during regular inspections.
- Label all containers with contents and proper handling instructions. At times, insufficient labeling will lead to improper use or disposal.
- Keep an Incompatible Materials Chart relatively close to the storage area for easy reference.
- Keep MSDS sheets readily available for all materials.
- See "Documentation" section within this fact sheet for more information.

### **TRAINING**

- Train employees on material usage and incompatibilities.
- Train employees on spill response procedures; see BMP Fact Sheet GH-10: Spill Prevention and Control for more information.
- Train employees on understanding MSDS.
- See BMP Fact Sheet GH-1: Employee Training and Education for more information.
- Notify employees to any changes in the inventory of stored hazardous materials.

## INSPECTIONS

- See "Inspections and Measurements" section within this Fact Sheet.

## GENERAL PRACTICES

- Store bagged and boxed materials on pallets.
- Keep ample supply of appropriate spill cleanup material near storage areas.
- Do not "overload" storage areas. Provide ample room for access and inspections.
- Inspect outdoor storage areas after a defined rain event.
- Keep storage areas clean and free of debris.
- Remove and dispose expired materials.

## REDUCE POTENTIAL FOR SPECIFIC POLLUTANTS

- Secondary containment should be provided for hazardous chemicals and chemicals identified as specific pollutants (e.g., nitrogen and phosphorus as outlined in the Chesapeake Bay TMDL).
- Highly hazardous chemicals can be placed in appropriate lockers to help contain any leaks.
- Consider secondary containment for material handling procedures for hazardous or toxic chemicals.
- Refer to BMP Fact Sheet GH-5 for non-stormwater discharges and recommended practices for preventing/reducing polluted discharges.

## DOCUMENTATION

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For general material storage, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to material storage or use.
- **Training and Education Log:** Enter a completed training record for general material storage and use into the log.
- **Hazardous Materials Inventory List:** Keep an updated inventory of stored hazardous materials. This may be a section of a master material inventory list.
- **Event Record:** If a discharge is observed in a storage area, an event record should be executed that also outlines response and remediation procedures.

- **Activity Record:** Complete when remediation is conducted or improvements are made to storage areas.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP.
- **Inspection, Event, and Activity Log:** Enter an inspection, activity, or event record for material storage or use into the log as outlined within this BMP. A record (and corresponding log entry) is not necessary for each and every time material is stored or used.
- **MSDS**
- **Master Material Inventory List**
- **Municipal Yard Map:** Organize and complete a municipal yard map (including locations of interior building features). Identify the material storage areas on the map. Place a copy of the map within your SWMP documentation.

## INSPECTIONS AND MEASUREMENTS

Frequency of inspections for storage areas is recommended as follows:

- *Rain Event Inspection:* Conduct an inspection of the storage after a defined rain event (if storage area is located outside). A defined rain event is determined in the SWMP.
- *Regular Inspection:* If a rain event does not dictate an inspection, inspect the storage area on a monthly basis (if inside) or every two weeks (if outside). See BMP Fact Sheet GH-21 for more information regarding outdoor storage.

Items that should be inspected and maintained in material storage areas (and recommended maintenance actions):

- *Integrity of storage containers:* replace leaking or cracked containers.
- *Evidence of leaks:* isolate and clean-up leaks; replace leaking containers.
- *Cleanliness:* Sweep and remove debris or trash.
- *Inventory:* assure inventory matches records and is accounted for.
- *Isolation measures:* assure implemented measures (e.g., berms, containment devices, etc.) are sound and in working order.
- *Tarps or plastic sheets (if applicable):* repair or replace torn or damaged tarps or plastic sheets.
- *Contaminated soils/materials (if applicable):* inspect contaminated soil stockpiles and materials until proper disposal. Assure contaminated soil stockpiles are intact and no run-on or runoff is observed.
- *Storage layout:* assure containers and materials are neatly stored and as recommended by the manufacturer.
- *Miscellaneous:* observe and correct any signs of corrosion, pest damage, or other observed item that may result in leaking containers, spills, etc.



- *Spill Prevention and Control Materials:* Replace used or defunct spill clean-up materials *Signs:* Assure placards properly represent the hazardous materials stored.

Effectiveness can be demonstrated by following the recommendations of this fact sheet. Specifically, effectiveness can be established if discharges are not observed from storage areas.

## **SOURCES**

U.S. Environmental Protection Agency Materials Management at  
<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=109&minmeasure=6>

CALTRANS BMP Field Manual, January 2003 edition at  
[http://www.dot.ca.gov/hq/construc/stormwater/BMP\\_Field\\_Manual\\_Master\\_5x8\\_revision5.pdf](http://www.dot.ca.gov/hq/construc/stormwater/BMP_Field_Manual_Master_5x8_revision5.pdf)

### OBJECTIVES

- Reduce specific pollutants that can contaminate stormwater runoff or discharge into waterways:
  - Oil and grease
  - Organic chemicals/compounds
  - Inorganic chemicals/compounds
  - Non-stormwater discharges
- Implement and conduct activities to reduce the potential for polluted/illicit discharges:
  - Training
  - Spill response and prevention
  - Fuel area design
  - General practices

### DESCRIPTION

Activities associated with fueling municipal vehicles and equipment can easily contribute pollutants to stormwater discharges or directly discharge to the municipal separate storm sewer (MS4). Spills and leaks that occur during vehicle and equipment fueling can contribute hydrocarbons, oils, grease, metals, and other toxic chemicals to stormwater runoff or discharge directly into storm sewers or receiving waters. Properly designed and constructed fueling areas will reduce the potential for contaminated discharges. Training and inspections will add a further level of compliance and assurance for reducing polluted discharges into the MS4 and waterways.

### CONSIDERATIONS

Following the recommendations within this BMP Fact Sheet in conjunction with associated BMPs for Good Housekeeping, along with proper documentation practices, will reduce the potential of polluted discharges into the MS4, local waterways, and groundwater.

A Spill Prevention Control and Countermeasure Plan (SPCC) is required for facilities that are subject to the oil pollution regulations specified in Part 112 of Title 40 of the Code of Federal Regulations or if they have a storage capacity of 10,000 gallons or more of petroleum. (Health and Safety Code 6.67)

An initial Spill Prevention Response Plan (Plan) and any future updates, which address the requirements described in Chapter 9 of the act (35 P. S. § § 6021.901— 6021.904) and the corresponding chapter, shall be submitted to the DEP for aboveground storage tank facilities with an aggregate above ground storage

capacity greater than 21,000 gallons. A current copy of the Plan shall be readily available at the facility at all times.

Observe all federal, state, and local requirements and/or regulations with above ground and below ground storage tanks.

Consider using a commercial fueling center in lieu of a self-maintained facility. Commercial fueling stations tend to be better equipped to handle fuel and spills.

A top-tier municipal vehicle and equipment fueling program and facility generally entails the use of vapor recovery nozzles, dedicated and "isolated" fueling depots, spill response station, impervious surfaces, and containment devices. This program is not necessarily the best option as costs for constructing and maintaining such a facility can be a burden on municipal budgets. For implementing a program, consider the practices that reduce pollutants to the Maximum Extent Practicable (MEP) while considering budget constraints.

## **RECOMMENDATIONS AND PROTOCOLS**

For the objectives listed, the following represent further recommendations and protocols for vehicle and equipment fueling:

### **REDUCTION OF SPECIFIC POLLUTANTS**

#### *Oil & Grease and Inorganic/Organic Chemicals*

- Do not allow oil changing in fueling area.
- "Spot clean" leaks and drips regularly to remove specific pollutants.
- Design fueling area to prevent stormwater runoff and discharges from spills.
- Inspect all components (i.e. tanks, nozzles, etc.) for corrosion, leaks, damage, etc. Repair/replace as necessary.
- Keep ample spill response materials available; recommend spill response station.

#### *Other considerations*

- Place signs in fueling area indicating that fueling of vehicles and equipment is the only acceptable activity in the area.
- Report and address leaking vehicles.
- Do not wash down fueling areas; use dry cleaning methods such as rags and brooms.
- Refer to BMP Fact Sheet GH-5: Non-stormwater discharges for preventing/reducing potential polluted discharges.
- Identify and mark drains where discharges are prohibited in the immediate area.



## IMPLEMENTATION AND ACTIVITY PROTOCOLS FOR REDUCTION OF POTENTIAL DISCHARGES

### *Training*

- Provide employees with training and exercises on proper fueling techniques. Provide additional focus on containment of spills or leaks.
- Revisit and conduct "refresher" training.

### *Spill Response and Prevention*

- Place spill clean-up materials in readily available locations by the fueling area (clearly mark location of spill clean-up materials).
- Clean up spills or any wash water that may improperly discharge and contaminate
- Train employees on Spill Prevention and Control (see BMP Fact Sheet GH-10) relative to cleaning vehicles and equipment.

### *Fuel Area Design*

- Consider berms or dikes to prevent runoff and run-on with stormwater or spills.
- Consider an overhang roof structure or canopy to reduce the potential for rain to contact the fueling area.
- Consider reduction or prevention of runoff and run-on in design (such as an extruded curb "upstream" of fueling area to reduce run-on).
- Install impervious surfaces in lieu of permeable surfaces to reduce ground infiltration.
- Consider rigid inlet protection devices for nearby inlets.
- "Hold-open latches" unless prohibited by the fire department.
- Emergency shut-off switch.
- Install a spill response station in the fueling area (or adjacent).
- Consider oil/water separators.

### *General Practices*

- Place drip pans or absorbent pads under direct fueling location if fueling will occur over a permeable surface.
- Do not "top off" fuel tanks.
- Do not place used spill response materials in adjacent trash receptacles. Dispose in a proper manner.
- Do not leave active fueling operations unattended.

## OTHER RECOMMENDATIONS AND PROTOCOLS

A spill prevention plan dedicated to the fueling area can be used as a training guide and reference during a spill event.

## DOCUMENTATION

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For vehicle and equipment fueling, templates are provided within the BMP manual to assist the municipality with documentation compliance. Consider the following templates for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to vehicle and equipment fueling.
- **Training and Education Log:** Enter a completed training record for vehicle and equipment fueling into the log.
- **Event Record:** Complete an event record for a major spill/leak or a considerable discharge is observed in a fueling area.
- **Activity Record:** Complete an activity record for remediation efforts or implementation of activities that increase the effectiveness of the BMP.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP for vehicle and equipment fueling areas.
- **Inspection, Event, and Activity Log:** Enter an inspection record for vehicle and equipment fueling into the log.
- **Spill Prevention Plan:** A dedicated plan for spill response in the fueling area.
- **Municipal Yard Map:** Organize and complete a municipal yard map (including locations of interior building features). Identify the vehicle and equipment fueling area on the map along with emergency shut-off valves (if applicable). Place a copy of the map within your SWMP documentation.

## INSPECTIONS AND MEASUREMENTS

According to the EPA, it is difficult to quantify the effectiveness of vehicle and equipment fueling BMPs. However, it has been demonstrated that implementation of such practices has decreased the concentration of pollutants in stormwater runoff.

Frequency of inspections for vehicle and equipment fueling is recommended as follows:

- *Rain Event Inspection:* Conduct an inspection of the fueling area after a defined rain event (if fueling area is located outside). A defined rain event is determined in the SWMP.
- *Regular Inspection:* If a rain event does not dictate an inspection, inspect the fueling area every two weeks.
- *Operator Inspection:* Conduct an inspection periodically when the fueling area is in use by a trained employee.

Items that should be inspected and maintained in vehicle and equipment fueling areas (and recommended maintenance actions):

- *Containment berms (if applicable):* Repair and patch broken or missing berm sections.
- *Cleanliness:* Sweep and remove debris or trash.
- *Paving surface:* check for leaks or spills.
- *Tanks/Containers:* check fittings, foundations, connections, integrity of unit, or other structural component for leaks, cracks, failures, or damage. Replace as necessary.
- *Piping Systems:* Check for failures, extensive cracking, or leaks.
- *Oil/water separators, holding tanks, filters:* replace broken or leaking units; replace and/or clean debris build-up (includes drain grates).
- *Operating equipment:* Replace or repair broken hoses and nozzles.
- *Drains/inlets:* Check for discharges and integrity of units.
- *Special Equipment (i.e. oil/water separator, basin inserts, etc.):* Clean or replace as necessary.
- *Spill Prevention and Control Materials:* Replace used or defunct spill clean-up materials.
- *Signs:* Replace missing signs identifying restrictions and allowances in fuel area.

Effectiveness can be demonstrated by several means. Two specific types of measurements include:

- (1) Properly implementing and maintaining practices (and documentation of implementation and maintenance) recommended in this fact sheet
- (2) Including fueling activities as a part of an analytical monitoring program. A successful analytical monitoring program will require collecting and testing samples prior to implementation of the practices, and continually collecting and analyzing samples after implementation of the practices. The BMP would be considered effective (as a part of larger collection of BMPs listed for improvements) if reductions in particular pollutants or chemicals are observed.



## SOURCES

U.S. Environmental Protection Agency at  
[http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min\\_measure&min\\_measure\\_id=](http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=)

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

CALTRANS BMP Field Manual, January 2003 edition at  
[http://www.dot.ca.gov/hq/construc/stormwater/BMP\\_Field\\_Manual\\_Master\\_5x8\\_revision5.pdf](http://www.dot.ca.gov/hq/construc/stormwater/BMP_Field_Manual_Master_5x8_revision5.pdf)

Pennsylvania Emergency Management Agency Hazardous Material Emergency Planning and Response Act outline at  
[http://www.portal.state.pa.us/portal/server.pt/community/programs\\_and\\_services/4547/hazardous\\_material\\_preparedness/458022](http://www.portal.state.pa.us/portal/server.pt/community/programs_and_services/4547/hazardous_material_preparedness/458022)

### OBJECTIVES

- Reduce specific pollutants that can contaminate stormwater runoff or discharge into waterways:
  - Oil and grease
  - Sediment
  - Trash
  - Metals
  - Inorganic chemicals/compounds
  - Organic chemicals/compounds
- Implement and conduct activities to reduce the potential for polluted/illicit discharges:
  - Phosphate-free detergents
  - Training
  - Trash containers
  - Spill response and prevention
  - Wash area design
  - Commercial car washes

### DESCRIPTION

Activities associated with cleaning municipal vehicles and equipment can easily contribute pollutants to stormwater discharges or directly discharge to the municipal separate storm sewer (MS4) through the wash water discharges. Pollutants can vary from engine oil to chemicals within detergents such as phosphates. Properly designed and constructed wash areas will reduce the potential for contaminated discharges. Training and inspections will add a further level of compliance and assurance for reducing polluted discharges into the MS4 and waterways.

### CONSIDERATIONS

Following the recommendations within this BMP Fact Sheet in conjunction with associated BMPs for Good Housekeeping, along with proper documentation practices, will reduce the potential of polluted discharges into the MS4, local waterways, and groundwater.

Where applicable, consider using off-site commercial wash facilities in lieu of constructing or operating a facility on municipal property. Do not assume a commercial facility either collects wash water and recycles or discharges into the sanitary sewer system for treatment at a treatment plant. If commercial wash facilities are identified for use, obtain a letter from the operator regarding discharge practices to assure the facility is in compliance with planned vehicle and equipment cleaning.

A top-tier municipal vehicle and equipment cleaning program generally entails a self-sustained system on municipal property that is indoors, collects & filters wash water, and reuses wash water. This type of program is not necessarily the best option as costs for constructing and maintaining such a facility can be a burden on municipal budgets. For implementing a program, consider the practices that reduce pollutants to the Maximum Extent Practicable (MEP) while considering budget constraints.

## **RECOMMENDATIONS AND PROTOCOLS**

Depending on the size of the municipal fleet, a decision to construct and maintain a self-operated facility or use a commercial facility should be common sense.

If the fleet only has several vehicles or pieces of equipment (less than five), use of a commercial wash facility would make the most sense. A municipality with a relatively high number of vehicles should consider a self-contained system. A cost comparison with constructing and operating a facility should be compared to the costs for use of a commercial wash facility to help in the determination.

For the objectives listed, the following represent further recommendations and protocols for vehicle and equipment cleaning:

### **REDUCTION OF SPECIFIC POLLUTANTS**

#### *Trash*

- Place trash receptacles immediately near wash facilities.
- Empty trash receptacles on a regular basis.
- Sweep wash area to collect and dispose of trash and debris into receptacles on a regular basis (includes metals that may have detached from vehicle or equipment).

#### *Oil & Grease, Sediment, and Inorganic/Organic Chemicals*

- Do not allow oil changing in wash area.
- Assure wash water is contained within the wash area and collected by the proper drains or storage facility.
- Do not leave hoses running that may cause overflow in wash area and result in runoff from the contained wash area.

#### *Other considerations*

- Place signs in wash area indicating that washing of vehicles and equipment is the only acceptable activity in the area.
- Identify drains or wash water storage facilities where wash water may discharge.
- Identify and mark drains where discharges are prohibited in the immediate area.



- If the wash area is outdoors, consider covering when not in use to reduce contact with rain water.

## **IMPLEMENTATION AND ACTIVITY PROTOCOLS FOR REDUCTION OF POLLUTANTS**

### *Phosphate-free detergents*

- Whether the wash facility is indoors or outdoors; discharges to sanitary sewer or is contained in a recycling storage unit; consider using biodegradable, phosphate-free detergents.

### *Trash Receptacles*

- Place trash receptacles in the delineated wash area.
- Empty and inspect receptacles regularly.
- Replace damaged receptacles where a discharge could be contaminated by debris or trash in the receptacle.

### *Wash Area Design*

- The optimal location for a wash area is indoors where connection to the sanitary sewer is more easily achieved and exposure to rain events are essentially eliminated.
- Consider collecting, filtering, and reusing wash water. This type of system is considered a closed loop system.
- Slope wash area paving to assure collection into the determined drain line.
- Construct berms and identify delineation of wash area to assure containment of wash water.
- If draining to the sanitary sewer, obtain letter of authorization from the treatment plant.
- Consider draining to sump with a filter prior to discharge. Clean filter on a regular basis and dispose debris in the proper locations.
- First paving option should be Portland concrete cement.
- Consider an oil/water separator.

### *Training*

- Provide employees with training and exercises on proper cleaning and wash water disposal practices.
- Revisit and conduct "refresher" training.

### *Spill Response and Prevention*

- Place spill clean-up materials in readily available locations by the wash area (clearly mark location of spill clean-up materials).
- Clean up spills or any wash water that may improperly discharge and contaminate.

- Train employees on Spill Prevention and Control (see BMP Fact Sheet GH-10) relative to cleaning vehicles and equipment.

#### *Commercial wash facilities*

- In lieu of constructing and maintaining a municipal wash facility, consider a commercial wash facility that meets the guidelines outlined within this BMP Fact Sheet.
- Obtain a letter from the commercial wash facility outlining operations relative to discharging wash water or collection & recycling practices.

### **OTHER RECOMMENDATIONS AND PROTOCOLS**

If discharging to the sanitary sewer system, clarify with the treatment facility if pre-treatment is required. Posting signs that provide direction and identify restrictions are highly recommended.

### **DOCUMENTATION**

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For vehicle and equipment cleaning, templates are provided within the BMP manual to assist the municipality with documentation compliance. The following templates can be used for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to vehicle and equipment cleaning.
- **Training and Education Log:** Enter a completed training record for vehicle and equipment cleaning into the log.
- **Activity Record:** Complete a record if washing at a commercial facility or implementing improvements for new design considerations or remediation.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP for vehicle and equipment cleaning wash areas.
- **Inspection, Event, and Activity Log:** Enter an inspection record for vehicle and equipment cleaning into the log.
- **Municipal Yard Map:** Organize and complete a municipal yard map (including locations of interior building features). Identify the vehicle and equipment cleaning wash area on the map. Place a copy of the map within your SWMP documentation.

### **INSPECTIONS AND MEASUREMENTS**

According to the EPA, studies have yet to show the effectiveness of vehicle and equipment cleaning Best Management Practices with respect to reducing pollutants to stormwater. However, individual contaminants identified as potential pollutants should be reduced to the Maximum Extent Practicable (MEP).

Frequency of inspections for vehicle and equipment cleaning is recommended as follows:

- *Rain Event Inspection:* Conduct an inspection of the wash area after a defined rain event (if wash area is located outside). A defined rain event is determined in the SWMP.
- *Regular Inspection:* If a rain event does not dictate an inspection, inspect the wash area on a monthly basis (if inside) or every two weeks (if outside). This frequency is assuming regular weekly use of six or more times per week. Adjust inspection frequency based on actual use.
- *Operator Inspection:* Conduct an inspection periodically when the wash area is in use by a trained employee.

Items that should be inspected and maintained in vehicle and equipment cleaning wash areas (and recommended maintenance actions):

- *Integrity of wash area paving:* patch and repair missing or extensively cracked paving.
- *Containment berms:* Repair and patch broken or missing berm sections that delineate the wash area (and contain wash water).
- *Cleanliness:* Sweep and remove debris or trash.
- *Sumps, oil/water separators, holding tanks, filters:* replace broken or leaking units; replace and/or clean debris build-up (includes drain grates).
- *Operating equipment:* Replace or repair broken hoses, nozzles, recycling units, treatment units, etc.
- *Spill Prevention and Control Materials:* Replace used or defunct clean-up materials.
- *Signs:* Replace missing signs identifying restrictions and allowances in wash area.

Effectiveness can be demonstrated by several means. Two specific types of measurements include:

- (1) Properly implementing and maintaining practices (and documentation of implementation and maintenance) recommended in this fact sheet
- (2) Including cleaning activities as a part of an analytical monitoring program. A successful analytical monitoring program will require collecting and testing samples prior to implementation of the practices, and continually (at defined frequencies) collecting and analyzing samples after implementation of the practices. The BMP would be considered effective (as a part of larger collection of BMPs listed for improvements) if reductions in particular pollutants or chemicals are observed.

## SOURCES



U.S. Environmental Protection Agency Municipal Vehicle and Equipment Washing information at <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=132&minmeasure=6>

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

Florida Department of Environmental Protection, Guide to Best Management Practices for Closed-Loop Recycled Systems at <http://www.dep.state.fl.us/water/wastewater/docs/GuideBMPClosed-LoopRecycleSystems.pdf>

**OBJECTIVES**

- Reduce specific pollutants that can contaminate stormwater runoff or discharge into waterways:
  - Oil and grease
  - Organic chemicals/compounds
  - Inorganic chemicals/compounds
  - Non-stormwater discharges
- Implement and conduct activities to reduce the potential for polluted/illicit discharges:
  - Training
  - Spill response and prevention
  - Repair activities
  - General practices
  - Commercial repair facility

**DESCRIPTION**

Vehicles and equipment can easily contribute pollutants to stormwater runoff or discharge directly to receiving waters (or conveyances that discharge to waters). Vehicle or equipment maintenance and repair is potentially a significant source of stormwater pollution. This is primarily due to the use of materials and wastes generated that are harmful to humans and the environment. Engine repair (e.g. parts cleaning) and replacement of fluids (e.g. oil changes) can impact receiving waters through stormwater runoff. Implementation of a select group of practices will prevent or reduce the potential discharge of pollutants through stormwater, along with non-stormwater discharges. Spills and leaks can be common or occur when vehicles and equipment are parked or stored. Uncontained spills and leaks can result in polluted discharges.

**CONSIDERATIONS**

Following the recommendations within this BMP Fact Sheet in conjunction with associated BMPs for Good Housekeeping, along with proper documentation practices, will reduce the potential of polluted discharges into the MS4, local waterways, and groundwater.

Wastes that can be generated in vehicle and equipment repair and storage locations include, but are not limited to: solvents, antifreeze, brake fluid, oils, petroleum products, battery fluids, lubrication fluids, metals, and brake pad dust.

Consider using a commercial repair center in lieu of a self-maintained facility for vehicle and equipment repairs. Commercial repair stations tend to be better equipped to handle wastes and spills associated with repairing vehicles.

Individual vehicles and equipment should be consistently stored or parked in the same locations. This would allow consistent controls for specific vehicles and equipment including drip pans or "isolation" from drains.

## **RECOMMENDATIONS AND PROTOCOLS**

For the objectives listed, the following represent further recommendations and protocols for vehicle and equipment repair:

### **REDUCTION OF SPECIFIC POLLUTANTS**

#### *Oil & Grease and Inorganic/Organic Chemicals*

- Recycle used motor oil, diesel oil, and other vehicle fluids whenever possible. Use secondary containment when transferring to storage containers.
- "Spot clean" leaks and drips regularly to remove specific pollutants.
- Choose cleaning agents that can be recycled.
- Do not pour liquid waste to drains, sinks, or storm sewer inlets.
- Dry sweep and do not hose down work areas.
- Keep drip pans or other containment devices under stored vehicles or working area of vehicles and equipment.
- Parts cleaning should be conducted at a centralized station with adequate containment.
- Conduct repairs and maintenance indoors to reduce potential exposure to rain.
- Keep ample spill response materials available.

#### *Other considerations*

- Place signs in repair area in locations such as at sinks, reminding employees not to pour waste material or hazardous chemicals into drains.
- Other items such as oil filters can be recycled - recycle whenever possible.
- If steam cleaning or pressure washing is necessary, "isolate" area and collect into a containment unit or blind sump (if installed).
- Report and address leaking vehicles.
- Dispose of all waste materials according to applicable laws and regulations.
- If repairs or maintenance is conducted outdoors, use a tarp or drip pans beneath the vehicle or equipment to capture all spills and drips.
- Identify and mark drains where discharges are prohibited in the immediate area.



## IMPLEMENTATION AND ACTIVITY PROTOCOLS FOR REDUCTION OF POTENTIAL DISCHARGES

### *Training*

- Provide employees with training and exercises on proper handling and disposal of engine fluids and waste materials.
- Ensure employees are aware of locations and use of spill control and containment materials.

### *Spill Response and Prevention*

- Place spill clean-up materials in readily available locations in repair and storage areas (clearly mark location of spill clean-up materials).
- Clean spills with rags or other absorbent materials.
- Refer to BMP Fact Sheet GH-5: Non-stormwater Discharges and recommended practices for preventing/reducing polluted discharges.
- Train employees on Spill Prevention and Control (see BMP Fact Sheet GH-10) relative to vehicles and equipment.

### *Repair Activities*

- Make sure incoming vehicles and equipment are inspected for leaking fluids and oil.
- Consider drain boards or sinks to solvent or fluid holding tanks and containers for proper disposal at a later time.
- Designate specific areas for replacing motor oil, coolant, and other fluids.
- Drain all fluids from wrecked or heavily damaged vehicles and equipment.
- Consider using recycled materials.
- Consider water-based or detergent-based cleaning systems in lieu of organic solvents for parts cleaning.
- Ensure an adequate supply of absorbent materials and drip pans to reduce down time looking for materials (including spill response materials).

### *General Practices*

- Place drip pans or absorbent pads under observed leaks.
- Do not wash down areas where leaks have collected on ground surfaces; use dry cleaning methods such as rags and brooms.
- If parking areas warrant a wash down, do not hose down. Follow proper procedures for steam cleaning or pressure washing. Install containment devices to collect wash water from pressure washing. Protect adjacent inlets even with containment devices installed with temporary-type BMPs.

- Inspect ground surfaces around parked vehicles and equipment prior to use for signs of leaks.
- It is acceptable to mop a floor after dry absorbent materials have been used to clean up a spill. Do not dispose of mop water to storm sewer or other related types of drainage channels that would affect receiving waterways. Use of non-caustic detergents is recommended.
- Store collected fluids and oils in appropriate containers and place in proper material storage locations. See BMP Fact Sheet GH-13: General Material Storage and BMP Fact Sheet GH-8 Hazardous Materials for more information.
- Separate waste oils and fluids and consider disposal to recycling entities.

#### *Commercial Repair Facility*

- If a commercial facility is used for repairs, obtain a letter from the facility outlining its practices including spill prevention and response and waste disposal procedures.

## **DOCUMENTATION**

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For vehicle and equipment repair and storage, templates are provided within the BMP manual to assist the municipality with documentation compliance. Consider the following templates for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to vehicle and equipment repair or storage.
- **Training and Education Log:** Enter a completed training record for vehicle and equipment repair and storage into the log.
- **Event Record:** Complete an event record for a major spill/leak or a considerable discharge is observed.
- **Activity Record:** Complete an activity record for remediation efforts or implementation of activities that increase the effectiveness of the BMP. An activity record should be completed in conjunction with BMP Fact Sheet GH-7: Waste Handling and Disposal for disposal of collected oils and fluids.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP for vehicle and equipment repair and storage areas.
- **Inspection, Event, and Activity Log:** Enter an inspection, activity, or event record for vehicle and equipment repair and storage into the log.

- **Municipal Yard Map:** Organize and complete a municipal yard map (including locations of interior building features). Identify the vehicle and equipment repair and storage areas on the map. Locations for general parking of vehicles and equipment should also be on the map. Place a copy of the map within your SWMP documentation.

## INSPECTIONS AND MEASUREMENTS

According to the EPA, it is difficult to quantify the effectiveness of vehicle and equipment repair BMPs. However, it has been demonstrated that implementation of such practices has decreased the concentration of pollutants in stormwater runoff.

Frequency of inspections for vehicle and equipment repair and storage is recommended as follows:

- *Rain Event Inspection:* Conduct an inspection of the repair and storage areas after a defined rain event (if areas are located outside). A defined rain event is determined in the SWMP.
- *Regular Inspection:* If a rain event does not dictate an inspection, inspect the repair and storage areas once a month.

Items that should be inspected and maintained in vehicle and equipment repair and storage areas (and recommended maintenance actions):

- *Containment berms (if applicable):* Repair and patch broken or missing berm sections.
- *Cleanliness:* Sweep and remove debris or trash.
- *Paving surface:* check for leaks or spills.
- *Vehicles and Equipment:* check for leaks; address as applicable.
- *Tanks/Containers:* check fittings, connections, integrity of unit, or other structural components for leaks, cracks, failures, or damage. Replace as necessary.
- *Oil/water separators, holding tanks, filters:* replace broken or leaking units; replace and/or clean debris build-up (includes drain grates).
- *Drains/inlets:* Check for discharges and integrity of units.
- *Special Equipment (i.e. oil/water separator, basin inserts, etc.):* Clean or replace as necessary.
- *Spill Prevention and Control Materials:* Replace used or defunct spill clean-up materials. Ensure adequate quantity of materials is readily available.
- *Signs:* Replace missing signs identifying restrictions and allowances in repair area.

Effectiveness can be demonstrated by several means. Two specific types of measurements include:

- (1) Properly implementing and maintaining practices (and documentation of implementation and maintenance) recommended in this Fact Sheet



- (2) Including relative activities as a part of an analytical monitoring program. A successful analytical monitoring program will require collecting and testing samples prior to implementation of the practices, and continually (at defined frequencies) collecting and analyzing samples after implementation of the practices. The BMP would be considered effective (as a part of larger collection of BMPs listed for improvements) if reductions in particular pollutants or chemicals are observed.

## **SOURCES**

U.S. Environmental Protection Agency Municipal Vehicle and Equipment Maintenance at <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=112&minmeasure=6>

JEA Industrial at <http://www.jea.com/about/pub/downloads/ip/CleanConn-Nov08.pdf>

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

San Diego Stormwater Co-permittees Jurisdictional Urban Runoff Management Program at <http://www.projectcleanwater.org/pdf/Model%20Program%20Municipal%20Facilities.pdf>

CALTRANS BMP Field Manual, January 2003 edition at [http://www.dot.ca.gov/hq/construc/stormwater/BMP\\_Field\\_Manual\\_Master\\_5x8\\_revision5.pdf](http://www.dot.ca.gov/hq/construc/stormwater/BMP_Field_Manual_Master_5x8_revision5.pdf)

### OBJECTIVES

- Properly store materials:
  - Storage areas
  - Special considerations
  - Container units
- Maintain storage areas and handling procedures:
  - Training
  - Inspections
- Reduce or prevent polluted discharges:
  - Spill response and control
  - General practices
  - Monitoring

### DESCRIPTION

Materials such as street sweeping debris, soil, asphalt materials, rubble, crushed rock, yard and organic wastes, road salt, sand, petroleum products, solvents, pesticides, and so on (whether stored in bulk, containers, etc.) exposed to rain and runoff can pollute stormwater and receiving waterways. Implementation for certain protocols including enclosures and secondary containment, along with proper training and regular inspections, will reduce or eliminate the potential for polluted discharges. Accidental releases of materials from above ground storage tanks and containers present a high potential for contaminating stormwater runoff of discharging directly to receiving waterways.

### CONSIDERATIONS

Materials can be stored in one of three ways: On a paved surface with a roof or other covering so that no rain directly contacts the materials, on a specially constructed paved area with a dedicated drainage system, or unpaved surface with no roof-type structure but covered with tarps or sheeting secured with weights.

See other appropriate BMP fact sheets for further information regarding hazardous materials and general material storage practices.

Keep outdoor stockpile and storage areas away from waterways or drains to the Maximum Extent Practicable (MEP). Add secondary containment devices and berms/dikes/etc. to reduce the potential for run-on and runoff.

Consult local fire departments for clearance limitations of roof covers or overhangs over containers with flammable materials.

Common causes of unintentional or accidental leaks or releases related to container units include, but are not limited to: improper installation of containment devices, insufficient installation of protection measures, corrosion or failure of units, connection failures (pipes, flanges, couplings, etc.), and overfilling a container.

Storage of particular materials, such as reactive and flammable liquids should comply with the Uniform Fire Code and the National Electric Code. Consider all regulatory requirements for final outdoor storage areas.

Secondary containment systems are recommended for outdoor container storage areas—specifically for those areas with hazardous, flammable, or toxic products.

A storage area for hazardous materials should be confined to hazardous materials only. Storage procedures need to consider the manufacturer's recommendations, and an understanding of incompatible materials should be achieved when storing hazardous materials. The appendix of this BMP Manual includes an Incompatible Materials Chart along with a list of highly hazardous chemicals. Depending on specific federal and state regulations or standards, an SPCC Plan or leak detection monitoring may be required. See BMP Fact Sheet GH-8: Hazardous Materials for more information.

## **RECOMMENDATIONS AND PROTOCOLS**

Outdoor storage areas for materials and containers should be dedicated areas. These areas can be storage sheds, bunkers, "lean-to" structures, identified locations, etc.

For the objectives listed, the following represent further recommendations and protocols for outdoor storage of materials:

### **STORAGE AREAS**

#### *General*

- Ensure sufficient access for material procurement and inspections.
- Store materials away from high-traffic areas.
- Cover treated wood products with tarps or plastic sheeting.
- Do not place storage areas over or immediately adjacent to drains or waterways.
- Keep liquids and dry materials in separate areas.
- Ensure that contaminated stormwater is not discharged directly to waterways, inlets, catch basins, etc.



#### *Paved surface with overhang*

- Sweep loose materials for collection or disposal on a regular basis. Keep clean up materials (brooms, dustpans, flat shovels, etc.) readily available.
- Ensure overhang is structurally sound and reduces contact with rain.
- Consider berms or similar to channel runoff to containment or treatment devices.
- Types of materials generally stored in such a location include, but are not limited to: road salt, treated wood products, mulch, sand, and bagged materials.

#### *Special paved area*

- Consider "isolation" measures such as berms, containment devices, and similar to reduce the potential for runoff or run-on with raw materials.
- Drainage should be channeled to containment or treatment devices.
- Types of materials that may be stored in such a location include, but are not limited to: compost, mulch, dumpsters, and containers.
- Place tarps or sheeting secured with weights or anchors over materials as necessary.

#### *No overhang on unpaved surface*

- Consider "isolation" measures such as berms, containment devices, and similar to reduce the potential for runoff or run-on with raw materials.
- Place tarps or sheeting secured with weights or anchors over materials as necessary.
- Types of materials that may be stored in such a location include, but are not limited to: soil, mulch, organic debris (lawn clippings, leaves, etc.), and construction-type of raw materials.
- For large stockpiles that cannot be covered with tarps, implement containment devices and/or temporary-type BMPs such as silt fences, straw "wattles," check dams, etc.

### **CONTAINER UNITS**

- An automatic shear valve with shut-off located within a container or tank is more ideal than a simple shut-off valve in-line on a supply pipe.
- Place tight-fitting lids on all containers.
- Repair or replace leaking dumpster containers.
- Keep dumpster lids closed.
- Make sure containers are kept in designated areas.
- Replace containers that are deteriorating where leaking is a constant action.
- Drums should be stored under lean-to type structures if stored outside.
- Utilize impervious surfaces under a roof or other appropriate cover for container storage.
- Provide barriers or posts (bollards), where tanks are exposed to collisions with vehicles or equipment.

- Provide container tank piping below product level with a shut-off valve at the tank.
- Consider pre-built or structurally sound units that keep the containers off the ground; place drip pans or absorbent pads under the containers as a containment device. Pallets or similar are also acceptable keeping containers off of the ground.
- Provide berms, dikes, curbs, or similar around specific containers or the container storage area as secondary containment.
- Provide readily accessible location for spill response materials.
- Consider "spill ponds" as a collection device for spills and leaks, or collection of runoff if exposure to rainwater is inevitable.
- Storage areas should be designed to minimize or eliminate run-on, runoff, wind dispersal, and exposure to rainwater.

## **GENERAL PRACTICES**

- Check containers and tanks daily as a part of a general monitoring plan. Review containers, fittings, connections, containments devices, and signs of leaks.
- Store bagged and boxed materials on pallets.
- Keep ample supply of appropriate spill cleanup material near storage areas.
- Do not "overload" storage areas. Provide ample room for access and inspections.
- Inspect outdoor storage areas after a defined rain event.
- Keep storage areas clean and free of debris.
- Stockpiles or stored materials with nutrients and toxic chemicals should have a containment device (berms, dikes, etc.) installed to prevent runoff or discharge.
- If temporary-type erosion and control BMPs (silt fence, check dams, etc.) are used, they need to be maintained for proper operation and replaced as necessary to ensure proper operation.

## **SPILL RESPONSE AND CONTROL**

- Secondary containment should be provided for hazardous chemicals and chemicals identified as specific pollutants (i.e. sediment as outlined in the Chesapeake Bay TMDL).
- Containment devices and temporary-type BMPs (silt fence, straw "wattles," etc.) are considered spill control techniques for outdoor material storage.
- Refer to BMP Fact Sheet GH-5 for non-stormwater discharges and recommended practices for preventing/reducing polluted discharges.
- Refer to BMP Fact Sheet GH-10: Spill Prevention and Control for more information.

## **DOCUMENTATION**

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For outdoor material storage, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to outdoor material storage or use.
- **Training and Education Log:** Enter a completed training record for outdoor material storage and use into the log.
- **Event Record:** If a discharge or leak is observed in a storage area or from a container, an event record should be executed that also outlines response and remediation procedures. Exposed outdoor storage areas should be noted after major rain events requiring an event record.
- **Activity Record:** Complete when remediation is conducted or improvements are made to outdoor storage areas, such as replacement of tarps (if outlined in an inspection) and installation of containment devices and temporary-type BMPs (silt fence, straw bales, etc.).
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP.
- **Inspection, Event, and Activity Log:** Enter an inspection, activity, or event record for outdoor material storage or use into the log as outlined within this BMP. A record (and corresponding log entry) is not necessary for each and every time material is stored or used.
- **Master Material Inventory List**
- **Municipal Yard Map:** Organize and complete a municipal yard map (including locations of interior building features). Identify the outdoor material storage areas—and specifically stockpile locations with containment devices or temporary-type BMPs marked out and containers—on the map. Place a copy of the map within your SWMP documentation.

## INSPECTIONS AND MEASUREMENTS

Frequency of inspections for storage areas is recommended as follows:

- *Rain Event Inspection:* Conduct an inspection of the storage areas and containers after a defined rain event (if storage area is located outside). A defined rain event is determined in the SWMP.
- *Regular Inspection:* If a rain event does not dictate an inspection, inspect the storage area every two weeks.

Items that should be inspected and maintained in material storage areas (and recommended maintenance actions):



- *Cleanliness*: Sweep and remove debris or trash *Inventory*: assure inventory matches records and is accounted for *Isolation measures*: assure implemented measures (i.e. berms, containment devices, and so on) are sound and in working order.
- *Tarps or plastic sheets (if applicable)*: repair or replace torn or damaged tarps or plastic sheets. Ensure tarps are not "flapping" in the wind.
- *Contaminated soils/materials (if applicable)*: inspect contaminated soil stockpiles and materials until proper disposal. Assure contaminated soil stockpiles are intact and no run-on or runoff is observed.
- *Temporary-type BMPs*: Silt fences, straw "wattles, check dams, and so on should properly installed and functioning. Remove built-up debris or sediment as necessary. Replace defunct or damaged materials.
- *Integrity of storage containers*: replace leaking or cracked containers.
- *Evidence of leaks*: isolate and clean-up leaks; replace leaking containers.
- *Stockpiles*: Ensure stockpiles have proper coverage and material/debris is not "washing away."
- *Containment devices*: assure implemented measures (i.e. berms, dikes, pans, collection units, and so on) are sound and in working order. Inspections should include secondary containment devices as well.
- *Storage layout*: Ensure materials are neatly stored and as recommended by the manufacturer (if applicable). Different materials should be separated.
- *Storage area*: Ensure overhangs or structural delineation items are sound.
- Impervious ground surfaces should be free of cracks that could channel leaks.
- *Labels*: Ensure containers are fitted with proper labels.
- *Miscellaneous*: observe and correct any signs of corrosion, pest damage, or other observed item that may result in leaking containers, spills, etc. Look for corrosion and failures on pipes, connections, and so on and repair.
- *Signs*: Assure placards properly represent the hazardous materials stored.
- *Spill Prevention and Control Materials*: Replace used or defunct spill clean-up materials.

Effectiveness can be demonstrated by several means. Two specific types of measurements include:

- (1) Properly implementing and maintaining practices (and documentation of implementation and maintenance) recommended in this Fact Sheet.
- (2) Establish sample sites as part of a monitoring program. A successful monitoring program will require collecting and testing samples of stormwater runoff at or near storage locations (within containment boundaries) and simultaneously collecting and testing samples outside of the containment boundaries. If a reduction is observed or specific pollutants are not observed, the BMP controls can be considered effective.

## **SOURCES**

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

Colorado State University SOP Manual at  
[http://www.fm.colostate.edu/sustain/downloads/stormwater\\_procedures.pdf](http://www.fm.colostate.edu/sustain/downloads/stormwater_procedures.pdf)

City of Kent Public Works SWPPP at  
<http://www.ecy.wa.gov/programs/wq/stormwater/municipal/MUNIdocs/KentCOMBOfile.pdf>

CALTRANS BMP Manual, 2004 edition at  
[http://www.dot.ca.gov/hq/construc/stormwater/CSBMPPM\\_303\\_Final.pdf](http://www.dot.ca.gov/hq/construc/stormwater/CSBMPPM_303_Final.pdf)

Ohio EPA NPDES Phase 2 General Permits Pollution Prevention/General Housekeeping Manual at  
<http://www.epa.ohio.gov/LinkClick.aspx?fileticket=sl3p1%2BO%2BeuE%3D&tabid=2702>

**OBJECTIVES**

- Properly store and use materials:
  - Storage of road salt
  - Alternative materials
  - General practices

**DESCRIPTION**

Road salts are an inevitable part of municipal activities in locales which receive snow and ice precipitation. Salts are soluble in water and can contaminate receiving waters and groundwater through runoff and infiltration.

**CONSIDERATIONS**

Road salt is the least expensive material for deicing operations; however, once the full costs are taken into account, alternative products and better management and application of salts become increasingly attractive options.

The application and storage of deicing materials, most commonly salts such as sodium chloride, can lead to water quality problems for surrounding areas.

**RECOMMENDATIONS AND PROTOCOLS**

Storage areas for road salts should be dedicated areas. These areas should be enclosed areas that protect materials from the environment and runoff/run-on.

For the objectives listed, the following represent further recommendations and protocols for salt storage:

**STORAGE**

- Cover piles and store on impervious surfaces with runoff controls.
- Load salt in covered areas.
- Consider enclosed structures for storage.
- With proper controls and protection, salt can be stored in bunker type areas.
- Do not place storage areas over or immediately adjacent to drains or waterways.



- Piles should be located outside the 100-year floodplain to reduce groundwater contamination.

## ALTERNATIVE MATERIALS

- Consider alternative materials such as calcium chloride, magnesium chloride, and potassium chloride.
- Due to costs, if the use of road salt is inevitable, consider minimal amounts of alternative products (near/adjacent to environmentally sensitive areas or waterways. Sand and gravel are acceptable alternatives as well.
- Sand and gravel will aid in increasing traction on roadways.

## GENERAL PRACTICES

- Consider a road salt management plan with realistic salt reduction goals.
- Consider devices that automatically control application rates.
- Sweep loading areas after use.
- Be aware of locally sensitive areas including, but not limited to: recharge areas, shallow water tables, sources of drinking water, wetlands, and streams.
- Refer to BMP Fact Sheet GH-21 for outdoor storage of materials for more information and recommendations.

## DOCUMENTATION

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For salt storage, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to road salt storage or use.
- **Training and Education Log:** Enter a completed training record into the log.
- **Event Record:** If a discharge or leak is observed in a storage area, an event record should be executed that also outlines response and remediation procedures. Exposed outdoor storage areas should be noted after major rain events requiring an event record.
- **Activity Record:** Complete when remediation is conducted or improvements are made to outdoor storage areas, such as replacement of tarps.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP.

- **Inspection, Event, and Activity Log:** Enter an inspection, activity, or event record for salt storage or use into the log as outlined within this BMP. A record (and corresponding log entry) is not necessary for each and every time material is stored or used.
- **Municipal Yard Map:** Organize and complete a municipal yard map (including locations of interior building features). Identify the locations road salt is stored on the map. Place a copy of the map within your SWMP documentation.

## INSPECTIONS AND MEASUREMENTS

Frequency of inspections for storage areas is recommended as follows:

- *Rain Event Inspection:* Conduct an inspection of the storage after a defined rain event (if storage area is located outside). A defined rain event is determined in the SWMP.
- *Regular Inspection:* If a rain event does not dictate an inspection, inspect the storage area containing road salt once a month.

Items that should be inspected and maintained in material storage areas (and recommended

- *Cleanliness:* Sweep and remove debris or trash. Ensure loading area is free of debris and material.
- *Storage structure:* Ensure structure is sound and no run-on/runoff is observed.
- *Isolation measures:* assure implemented measures (i.e. berms, containment devices, and so on) are sound and in working order (if applicable).
- *Tarps or plastic sheets (if applicable):* repair or replace torn or damaged tarps or plastic sheets. Ensure tarps are not "flapping" in the wind.
- *Stockpiles:* Ensure stockpiles have proper coverage and material/debris is not "washing away."

## SOURCES

U.S. Environmental Protection Agency Road Salt Application and Storage information at <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=106&minmeasure=6>

Michigan Pollution Prevention/Good Housekeeping Activities Guide at [http://www.michigan.gov/documents/deq/wb-sw-ms4-PollutionPrevention\\_Housekeeping\\_321187\\_7.pdf](http://www.michigan.gov/documents/deq/wb-sw-ms4-PollutionPrevention_Housekeeping_321187_7.pdf)

Jefferson Lab ES&H Manual at <http://www.jlab.org/ehs/ehsmanual/8030R3.htm>

## **BUILDING AND GROUNDS MAINTENANCE**

## **GH-25**

## **OBJECTIVES**

- Develop a comprehensive O&M Program and pollution prevention plan:
  - Training
  - Documentation
  - Pollution prevention
  - Maintenance activities

## **DESCRIPTION**

Municipalities generally possess a number of facilities and open space (including parks and roadways) that requires maintenance activities (e.g. mowing, painting, cleaning, repairs, etc.). Maintenance activities associated with municipal buildings and grounds can contribute to polluted stormwater runoff or directly discharge as a non-stormwater discharge. A comprehensive Operation and Maintenance Program, including corresponding O&M Manuals and/or Stormwater Pollution Prevention Plans (SWPPP) can reduce the potential for polluted discharges to receiving waterways.

## **CONSIDERATIONS**

Complete an inventory list of all municipal facilities (buildings and grounds) and activities that may or may not be associated with such facilities (mowing, asphalt repairs, etc.). The appendix of this manual includes a template for completing a municipal inventory list.

From time-to-time, municipal operations may include special or infrequent activities such as fire sprinkler line flushing, pesticide applications, and HAZMAT operations. Plans should provide a note or consideration to such special activities including responsible parties and response protocols.

When developing a comprehensive pollution prevention plan, consider descriptive overviews of selected Best Management Practices (BMPs) such as outlined in this manual or developed individually.

## **RECOMMENDATIONS AND PROTOCOLS**

For the objectives listed, the following represent further recommendations and protocols for building and grounds maintenance:

## **TRAINING**



- Ensure training components have the ultimate goal of reducing or preventing polluted discharges from operational activities and facilities.
- Each BMP selected for an O&M Program should include training for municipal employees and/or contractors.
- Frequency of training should consider the complexity of particular operations and the nature/size of staff.

## **DOCUMENTATION**

### *Operation and Maintenance Program (O&M Program)*

Should include descriptions of maintenance activities and corresponding schedule of maintenance actions:

- Can be the Operational Plan within the Municipal Pollution Prevention/Good Housekeeping Plan (MS4 PPGHP)(or SWPPP).
- Identify and list responsibilities for maintenance actions including training actions
- Consider the BMPs selected for development.

### *Municipal Pollution Prevention/Good Housekeeping Plan (MS4 PPGHP)*

- Plan and organize the content of the plan along with responsible persons for the implementation of the plan.
- Assess operations and inventory facilities and activities.
- Consider and outline regulatory requirements.
- Identify BMPs for implementation including training components.
- Implement BMPs and conduct training to assure proper practices.
- Evaluate the plan periodically for improvements, along with reviews of documented activities.

### *General Documentation*

- Most regulatory requirements (such as an MS4 Permit) require extensive documentation practices. The documentation "proves" you are implementing and maintaining your goals and objectives of your plan(s).
- Documentation should be centralized.

## **POLLUTION PREVENTION**

When developing the operation and maintenance component of plans for building and grounds, establish a balance between capabilities and good practices to reduce and/or prevent pollution to the Maximum Extent Practicable (MEP).

- Ensure pollution prevention measures for municipal operations complement the goals and objectives of the entire SWMP.
- Ensure spill response and prevention measures (including plans) are up to date and accessible.
- Follow recommendations outlined in selected or developed BMPs for reducing the potential for polluted discharges.
- Ensure BMPs selected correspond to actual municipal activities and facilities.

## **MAINTENANCE ACTIVITIES**

### *Buildings*

- When pressure washing buildings or similar structures use waste water collection devices if soap or detergents are used, filter the water if soap or detergents are not used, and ensure sheet flow in lieu of a concentrated stream if washing in a grassed area.
- Use drop cloths or other collection devices for painting, sandblasting, or similar activities.
- Provide temporary-type BMPs such as filter fabric and straw wattles to control runoff from wash water.
- Refer to appropriate BMP fact sheets for guidance on specific activities such as waste management & disposal, hazardous materials, and training.
- Use common sense for protecting waterways, storm drains, or storm sewer systems during building maintenance activities especially when activities occur on or adjacent to impervious paving or inlets.

### *Grounds*

- Refer to appropriate BMP fact sheets for more specific guidance regarding landscape maintenance, street sweeping, material storage, and lawn fertilizers.
- Ensure use of mulch or other erosion control measures for exposed soils and/or Disturbed Soil Areas (DSAs).
- Develop protocols and training schedules for fertilizer and pesticide management.
- Provide temporary-type BMPs if recommended by a fact sheet or developed BMP, or as a result of a common sense approach to protecting receiving waters.

## **DOCUMENTATION**

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For building and grounds maintenance, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance. There are no

specific templates recommended for this BMP, as specific BMP Fact Sheets should be referenced for an O&M program for buildings and grounds. However, the following documents should be a part of a municipal program subject to an NPDES permit at a minimum:

- **Municipal Pollution Prevention/Good Housekeeping Plan (MS4 PPGHP)** (Sometimes referred to as a Stormwater Pollution Prevention Plan (SWPPP).
- **Operation and Maintenance Program** (O&M Program): Includes the operational plan(s) of an MS4 PPGHP.
- **Records:** Documentation of all maintenance activities should be kept centralized including training records, schedules, reports, maps, activity records, event records, MSDS, etc.

## SOURCES

U.S. Environmental Protection Agency Municipal Facilities Management at <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=130&minmeasure=6>

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

San Diego Stormwater Co-permittees Jurisdictional Urban Runoff Management Program at <http://www.projectcleanwater.org/pdf/Model%20Program%20Municipal%20Facilities.pdf>

Pennsylvania Department of Environmental Protection; final version of PAG-13 at <http://files.dep.state.pa.us/Water/Watershed%20Management/WatershedPortalFiles/StormwaterManagement/PAG-13/FinalPAG-13.pdf>



### OBJECTIVES

- Reduce the potential for specific pollutants discharging to waterways:
  - General trash
  - Metals
  - Oil and grease
  - Bacteria
  - Sediment
  - Organic/inorganic chemicals
- Reduce or prevent polluted discharges from municipal yards:
  - Design considerations
  - General Practices
  - Spill Response and Control

### DESCRIPTION

Municipal yards generally encompass a variety of individual facilities including storage areas, maintenance sheds, fueling areas, and offices. Organizing and selecting proper BMPs, along with a maintained yard, ensures both safety and the reduction/prevention of polluted discharges.

### CONSIDERATIONS

Development of a comprehensive map of the municipal yard that includes locations of stormwater devices (catch basins, oil/water separators, containment, etc.), detention/retention facilities (storage tanks, detention basins, etc.), and Low Impact Development (LID) features (vegetated swales, porous pavement, infiltration basins, etc.) will aid in organizing a municipal yard with consideration to reducing the potential of polluted discharges to waterways.

Identify specific boundaries for the municipal yard. Identify runoff and run-on locations with respect to stormwater where specific or groups of BMPs may be affected.

See other appropriate BMP fact sheets for further information regarding material storage, vehicle & equipment practices, training, and non-stormwater discharges.

An NPDES industrial permit may be required for certain facilities that at times may be located in the defined boundaries of a municipal yard. See BMP Fact Sheet GH-28: Facility Maintenance for more information.

Keep outdoor stockpile and storage areas away from waterways or drains to the Maximum Extent Practicable (MEP). Add secondary containment devices and berms/dikes/etc. to reduce the potential for run-on and runoff.

## **RECOMMENDATIONS AND PROTOCOLS**

Municipal yards tend to contain a variety of individual facilities, along with areas dedicated for certain municipal activities (vehicle & equipment cleaning, fueling, storage, and maintenance; storage areas (indoor and outdoor), salt storage, hazardous materials, and so on). Implementation of the recommendations outlined in this fact sheet, along with selection of more specific fact sheets, will reduce/prevent polluted discharges.

For the objectives listed, the following represent further recommendations and protocols for municipal yard maintenance:

### **REDUCE THE POTENTIAL FOR SPECIFIC POLLUTANTS DISCHARGING INTO WATERWAYS**

#### *General Trash and Bacteria*

- Keep cleaning devices (brooms, disposal containers, vacuums, etc.) in nearby locations.
- Do not wash down areas that may contain bacteria where runoff may be received by a waterway.
- Develop a daily cleaning regiment for removal of litter and debris in the yard.
- Follow waste handling and disposal protocols. See BMP Fact Sheet GH-7: Waste Handling and Disposal for more information.

#### *Metals*

- Metal scraps stored in the yard and contribute pollutants to stormwater if exposed to rain.
- Follow protocols established in BMP fact sheets for vehicles & equipment and non-stormwater discharges to reduce the potential of pollutants.

#### *Oil & Grease and Inorganic/Organic Chemicals*

- Facilities and activities associated with vehicles & equipment and material storage can contribute to polluted discharges and non-stormwater discharges.
- Through design considerations, reduce the potential of polluted discharges by placing items away from waterways or conveyances that may carry pollutants to waterways.
- Consider containment devices for individual facilities or locations designated for certain activities in locations in the yard that may contain items that may pollute waterways with oil, grease, or chemicals.

### *Sediment*

- For certain facilities that cannot be covered with tarps, implement containment devices and/or temporary-type BMPs such as silt fences, straw "wattles," check dams, etc. to control sediment runoff.

## **REDUCE OR PREVENT POLLUTED DISCHARGES FROM MUNICIPAL YARDS**

### *Design considerations*

- After development of a map outlining natural (trees, waterways, etc.) and artificial (storm drains, fences, etc.) features, place individual (fueling area, storage areas, etc.) facilities in locations that will reduce the potential for polluted discharges to receiving waters.
- Consider containment devices around the defined boundaries of the yard including berms, "isolated" catch basins, silt fence, straw wattles, check dams, infiltration devices, oil/water separators, etc. in locations that follow natural drainage patterns.

### *Spill Response and Control*

- Individual facilities may contain a spill response kit. However, at a minimum, a spill response station should be located within the boundaries of a municipal yard.
- Train employees on spill response procedures; see BMP Fact Sheet GH-10: Spill Prevention and Control for more information.

### *General Practices*

- Store bagged and boxed materials on pallets.
- Keep ample supply of appropriate spill cleanup material near storage areas.
- Provide general monitoring of the yard area on a daily basis.
- Do not organize yard in a compacted manner.
- Refer to BMP Fact Sheet GH-5 for non-stormwater discharges and recommended practices for preventing/reducing polluted discharges.
- If temporary-type erosion and control BMPs (silt fence, check dams, etc.) are used, they need to be maintained for proper operation and replaced as necessary to ensure proper operation.

## **DOCUMENTATION**

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.



For municipal yard maintenance, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to the municipal yard where a separate BMP Fact Sheet providing training guidance does not exist.
- **Training and Education Log:** Enter a completed training record for municipal yard maintenance into the log.
- **Event Record:** If a discharge is observed in the municipal yard area, an event record should be executed that also outlines response and remediation procedures. Exposed outdoor areas should be noted after major rain events requiring an event record.
- **Activity Record:** Complete when remediation is conducted or improvements are made the municipal yard. Specific remediation will depend on the individual facilities located in the yard.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" of BMP fact sheets of facilities or activities located within the boundaries of the yard.
- **Inspection, Event, and Activity Log:** Enter an inspection, activity, or event record into the log as outlined within this BMP.
- **Municipal Yard Map:** Organize and complete a municipal yard map (including locations of interior building features). Identify the natural and artificial features on the map. Include individual facilities or locations for certain activities on the map as recommended in other BMP fact sheets. Place a copy of the map within your SWMP documentation.

Effectiveness can be demonstrated by several means. Two specific types of measurements include:

- (1) Properly implementing and maintaining practices (and documentation of implementation and maintenance) recommended in this fact sheet and the specific BMP fact sheets for facilities located within the yard.
- (2) Establish sample sites as part of a monitoring program. A successful monitoring program will require collecting and testing samples of stormwater runoff at or near runoff/run-on locations at identified boundaries of the yard. Absence of specific pollutants in tested samples would demonstrate effectiveness of implemented BMPs.

## SOURCES

Michigan Pollution Prevention/Good Housekeeping Activities Guide at  
[http://www.michigan.gov/documents/deq/wb-sw-ms4-PollutionPrevention\\_Housekeeping\\_321187\\_7.pdf](http://www.michigan.gov/documents/deq/wb-sw-ms4-PollutionPrevention_Housekeeping_321187_7.pdf)

U.S. Environmental Protection Agency Municipal Facilities Management at  
<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=130&minmeasure=6>

CALTRANS BMP Field Manual, January 2003 edition at  
[http://www.dot.ca.gov/hq/construc/stormwater/BMP\\_Field\\_Manual\\_Master\\_5x8\\_revision5.pdf](http://www.dot.ca.gov/hq/construc/stormwater/BMP_Field_Manual_Master_5x8_revision5.pdf)

### **OBJECTIVES**

- Reduce or prevent polluted discharges:
  - Specific pollutants
  - Spill response and control
  - Standard & alternative practices

### **DESCRIPTION**

Municipal parking and storage areas outside of municipal yards generally possess the greatest potential for contributing pollutants to stormwater runoff or result in non-stormwater discharges. Specific consideration to these types of areas in maintenance programs will reduce/prevent pollutants from entering waterways.

### **CONSIDERATIONS**

In lieu of curb-enclosed islands in parking lots, consider non-curbed landscaped islands including rain gardens. Bioretention or filter devices should be designed into areas surrounding parking lots.

Add municipal parking lots to street sweeping activities if possible. See BMP Fact Sheet GH-33: Street Sweeping for more information.

### **RECOMMENDATIONS AND PROTOCOLS**

For the objectives listed, the following represent further recommendations and protocols for parking and storage area maintenance:

#### **SPECIFIC POLLUTANTS**

- Keep parking and storage areas free from litter and trash by following a general cleaning schedule.
- Maintain trash receptacles to discourage litter.
- Post "No Littering" signs and consider enforcement abilities (such as fines).
- Use absorbent materials for oily discharges or spots.
- Municipal parking lots can be added to the street sweeping schedule of work.



- Build-up of oil & grease, organic/inorganic chemicals, metals, and sediment can occur in parking and storage areas. Follow recommendations in corresponding BMP fact sheets for additional measures to reduce/prevent polluted discharges.

## **STANDARD & ALTERNATIVE PRACTICES**

- Allow sheet runoff to flow to biofilters or containment devices.
- Minimize inventory of raw materials in storage areas
- Utilize dry cleaning methods before wet methods
- For wet cleaning procedures, block off storm drain inlets/basins and contain runoff
- Train employees on material storage and pollution prevention goals and techniques.
- Consider pervious paving surfaces in the parking lot areas
- For surface repairs, utilize temporary-type BMPs (filter fabric, sand bags, etc.) to protect nearby inlets
- If dust is an issue with storage areas, use only minimal amounts of water for dust control-ensure temporary-type BMPs or containment devices are operating prior to dust control operations
- Keep ample supply of appropriate spill cleanup materials near storage areas.
- Complete a cleaning activity of storage and parking lot areas prior to projected rain events that would most likely produce stormwater runoff
- Remove sediment build-up along curbs or in/adjacent to inlets
- Repair surfaces or features in dry weather conditions.
- Monitor and remove miscellaneous debris (leaves, twigs, etc.) in a timely manner
- If temporary-type erosion and control BMPs (silt fence, check dams, etc.) are used, they need to be maintained for proper operation and replaced as necessary to ensure proper operation.

## **SPILL RESPONSE AND CONTROL**

- Containment devices and temporary-type BMPs (silt fence, straw "wattles," etc.) are considered spill control techniques for outdoor material storage.
- Train employees on spill response procedures
- Refer to BMP Fact Sheet GH-10: Spill Prevention and Control for more information

## **DOCUMENTATION**

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For parking and storage area maintenance, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to parking lot and storage area maintenance.
- **Training and Education Log:** Enter a completed training record into the log.
- **Event Record:** If a discharge is observed in a parking lot or storage area, an event record should be executed that also outlines response and remediation procedures.
- **Activity Record:** Complete when remediation is conducted or improvements are made to parking lot and storage areas, such as replacement of paving and installation of temporary-type BMPs.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP
- **Inspection, Event, and Activity Log:** Enter an inspection, activity, or event record into the log as outlined within this BMP.

## INSPECTIONS AND MEASUREMENTS

Frequency of inspections for storage areas is recommended as follows:

- *Rain Event Inspection:* Conduct an inspection of the storage after a defined rain event (if storage area is located outside). A defined rain event is determined in the SWMP. It is recommended to complete an inspection and remediation prior to a forecasted "major" rain event.
- *Regular Inspection:* If a rain event does not dictate an inspection, inspect the parking lot and storage areas every two weeks.
- Items that should be inspected and maintained in parking lot and storage areas (and recommended maintenance actions)(see corresponding BMP fact sheets outlining additional recommendations for storage areas for additional guidance):
- *Cleanliness:* Sweep and remove debris or trash *Trash Receptacles:* Empty on a regular basis. Replace damaged receptacles *Isolation measures:* assure implemented measures (i.e. berms, containment devices, and so on) are sound and in working order
- *Filters and/or containment devices:* ensure devices are in sound working order
- *Tarps or plastic sheets (if applicable):* repair or replace torn or damaged tarps or plastic sheets. Ensure tarps are not "flapping" in the wind.
- *Paving surface:* "Isolate" and clean-up oily discharges (or other types of potential pollutants)
- *Temporary-type BMPs:* Silt fences, straw "wattles, check dams, and so on should properly installed and functioning. Remove built-up debris or sediment as necessary. Replace defunct or damaged materials.
- *Stockpiles:* Ensure stockpiles have proper coverage and material/debris is not "washing away."

## **SOURCES**

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

U.S. Environmental Protection Agency Parking Lot and Street Cleaning information at <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=99&minmeasure=6>



**OBJECTIVES**

- Reduce or prevent polluted discharges associated with building and structural facility maintenance:
  - Operational protocols
  - Specific pollutants
  - Other NPDES permits
  - General practices
  - Spill response and control
  - Special maintenance considerations

**DESCRIPTION**

Materials and activities associated with the maintenance of municipal buildings and facilities can contribute pollutants to stormwater runoff or non-stormwater discharges. Certain facilities require a separate NPDES industrial permit based on functions from time-to-time. Observing proper and safe practices for reducing or preventing polluted discharges will protect receiving waterways and the environment.

**CONSIDERATIONS**

Municipalities may own and operate a variety of facilities and buildings including, but not limited to municipal offices, park offices, community facilities, wastewater treatment facilities, swimming pools, and miscellaneous structures (stadiums, play equipment, public-use equipment, and so on). Application of this BMP should consider all municipal owned and maintained buildings and facilities.

Consider Low Impact Development (LID) design and implementation which provides consideration to "green" practices that generally incorporate stormwater management BMPs for new municipal facilities or renovations to existing facilities.

Each facility and building will have a different set of pollutants of concern based on operational activities, purpose, and location.

Certain maintenance activities may be subject to an NPDES Construction Permit—specifically for earth disturbance activities.

Generally, contractors are involved with facility maintenance activities. Follow recommendations outlined in BMP Fact Sheet GH-2 for contractor training. This ensures contractors are afforded an opportunity to

understand the goals and objectives of your SWMP relative to pollution prevention and municipal operations.

Facility maintenance requires a variety of materials and activities including, but not limited to paints, pest control materials, treated lumber, roofing materials, landscape materials, HVAC fluids, and concrete. Control of materials and proper application procedures will reduce/prevent polluted discharges.

## **RECOMMENDATIONS AND PROTOCOLS**

For the objectives listed, the following represent further recommendations and protocols for facility maintenance:

### **OPERATIONAL PROTOCOLS**

- Identify material staging areas away from storm drains and waterways. Provide containment devices for sloped and paved areas.
- Do not apply paints, caulks, and so on during wet weather or immediately prior to forecasted rain events where materials would not be allowed to dry.
- Provide and maintain concrete washout areas for concrete (or similar) operations.
- Provide containment or filtering devices for pressure-washing activities.
- Remove sediment from impervious pathways during earthwork operations.
- Filter or contain by-products from saw-cutting or masonry cutting operations. Do not allow runoff into storm drains.
- Store raw materials (e.g., treated lumber, roofing materials, etc.) in contained locations (recommend off the ground and under an overhead structure).
- Store materials with greased components indoors prior to replacement.
- Secure general materials in pre-identified staging areas at the end of a work day.
- Periodically inspect building components (e.g. roof, rain barrels (if applicable), downspouts, exterior HVAC components, etc.) for leaks and damage.

### **SPECIFIC POLLUTANTS**

- Sweep areas to collect and properly dispose of litter and maintenance debris.
- Ensure spill response materials are readily available for operations where spills have an increased possibility (i.e. generator fueling, Freon changes, etc.).
- Monitor spills or leaks from maintenance material containers daily.

### **GENERAL PRACTICES**

- Properly secure and store work materials at the end of work days.
- Clean up work areas on a daily basis.

- Clean material application devices (e.g., paint brushes) in proper disposal/containment areas/sinks.
- Follow procedures for specific BMPs such as waste disposal and hazardous materials storage as it applies to facility maintenance activities.
- Do not apply pest control materials in wet weather.
- Establish maintenance procedures and protocols for specific facility components (e.g. green roofs, regular roofs, clean-outs, exterior paintable materials, etc.). Keep copies of the procedures and schedules in the O&M Plan (or SWPPP).
- Maintain temporary-type BMPs (e.g., check dams, concrete washout, silt fence, etc.) if used during maintenance or renovation operations.

### **SPILL RESPONSE AND CONTROL**

- Secondary containment should be provided for hazardous chemicals and chemicals identified as specific pollutants (i.e. sediment as outlined in the Chesapeake Bay TMDL).
- Refer to BMP Fact Sheet GH-10: Spill Prevention and Control for more information.

### **OTHER NPDES PERMITS**

- Activities outlined in 40 CFR 122.26(b)(14)(i)-(xi) require the operator to obtain an NPDES industrial stormwater permit. Such activities include, but are not limited to steam electric generating plants, salvage yards, certain transportation facilities, and certain hazardous material storage facilities.
- Conditional exclusions are sometimes provided for certain "industrial" operations, and coverage is provided under the MS4 Permit.
- Wastewater treatment facilities generally require a separate NPDES permit.

### **SPECIAL MAINTENANCE CONSIDERATIONS**

#### *Green Roof*

- Inspect and maintain the roof membrane as recommended by the installer and material manufacturer.
- Intensive systems require weeding on a regular basis.
- Limit fertilization to reduce potential of polluted discharges if runoff occurs.

#### *Swimming Pools*

- Do not discharge chlorinated swimming pool water. Stop adding chemicals, wait approximately one week (or as recommended by your chemical supplier), test for chemical levels and pH prior to emptying the pool.

#### *Rain barrels*



- Inspect for sediment or debris build-up.
- Ensure structurally sound and no leaks. Seals and spigots should be operational.
- Do not collect rainwater from "hotspots" for direct use to pervious areas or washing.

## DOCUMENTATION

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For facility maintenance, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to general facility maintenance.
- **Training and Education Log:** Enter a completed training record into the log. Include contractor training records as applicable.
- **Event Record:** If a discharge is observed during a facility maintenance activity, an event record should be executed that also outlines response and remediation procedures.
- **Activity Record:** Complete when remediation is conducted or improvements are made to facilities, such as adding rain barrels or removing debris from clean-outs.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP.
- **Inspection, Event, and Activity Log:** Enter an inspection, activity, or event record for facility maintenance into the log as outlined within this BMP.
- **Facility Maintenance Schedule:** Include an annual schedule of regular (cleaning gutters, painting, etc.) maintenance events and special (re-roofing, sidewalk replacement/addition, etc.) maintenance events for facilities and buildings.

## INSPECTIONS AND MEASUREMENTS

Frequency of inspections for storage areas is recommended as follows:

- *Regular Inspection:* Conduct a regular inspection of facilities based on an applicable frequency. An applicable frequency should be determined based on the function of the facility or building. For example: municipal offices can be inspected once a year; whereas clean-outs should be inspected bi-annually at a minimum.

Items that should be inspected and maintained (and recommended maintenance actions):

- *Cleanliness*: Sweep and remove debris or trash.
- *Structure*: Ensure components (roof, sidewalks, façade, etc.) are sound and secure and paint is not chipping off.
- *Clean-outs*: Ensure structurally sound, remove debris and sediment (if applicable) build-up. Replace cracked or leaking clean-outs.
- *Staging areas (if applicable)*: Materials should be secure and water-tight as applicable in defect-free containers.
- *Special Components*: Inspect special components such as rain barrels, downspouts, and drainage channels. Ensure structurally sound and operating as intended. Repair/replace damaged components.
- *Temporary-type BMPs*: Silt fences, straw "wattles, concrete washouts, and so on should properly installed and functioning. Remove built-up debris or sediment as necessary. Replace defunct or damaged materials.
- *Spill Prevention and Control Materials*: Replace used or defunct spill clean-up materials.

## SOURCES

U.S. Environmental Protection Agency Municipal Facilities Management at  
<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=130&minmeasure=6>

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

North Carolina Department of Transportation Stormwater Permit overview at  
[http://ncdot.org/programs/environment/stormwater/npdes\\_permit/](http://ncdot.org/programs/environment/stormwater/npdes_permit/)

Minnesota Pollution Control Agency Pollution Prevention Guide at  
<http://www.pca.state.mn.us/index.php/view-document.html?gid=11849>

### OBJECTIVES

- Reduce or prevent polluted discharges associated with roads and streets:
  - Operational protocols
  - General practices
  - Specific pollutants
  - Spill response and control
  - Non-stormwater discharges
  - Special considerations
- Make considerations for specific activities associated with roads and streets:
  - Repairs
  - Sidewalks
  - Street sweeping
  - Other considerations
  - Unpaved pathways
- Implement and conduct activities aimed at pollution prevention:
  - Training
  - Enforcement

### DESCRIPTION

Daily use of roads and streets within a municipality can generate a build-up of pollutants including sediment. Along with certain maintenance activities (e.g., asphalt repairs), an increase in the potential for polluted discharges can occur. Most pollutants associated with streets and roads include, but are not limited to hydrocarbons, sediment, debris (e.g., litter), and metals. Implementation of certain practices including street sweeping will reduce pollutants in stormwater runoff and polluted discharges.

### CONSIDERATIONS

Roads and streets generally comprise a majority portion of municipal infrastructure. Coupled with the fact a majority of a storm sewer system is located within defined boundaries of roads and streets with definitive points of entry (e.g., inlets) for stormwater, a large portion of focus should be afforded to proper road and street maintenance to reduce the potential of polluted runoff and direct polluted discharges that would be conveyed to receiving waterways.

Surrounding land use should be considered when developing site-specific road and street maintenance programs. Activities on adjacent lands can result in pollutants being conveyed by roads and streets and ultimately discharge into receiving waterways via the storm sewer or directly to waterways.

Consider incorporating pervious pavement into the roadway system through a transportation improvement plan or green infrastructure plan. Pervious pavements tend to reduce the runoff potential of polluted stormwater and runoff in general. Consider locations where relative large amounts of runoff are observed. Requirements for allocating a certain amount of pervious pavement with development or repair projects can be defined in the ordinance as well.

Toxic substances or chemicals (including metals, oils, etc.) can easily bind to sediment. Protecting inlets from sediment-rich runoff will reduce the potential of pollutant loads to receiving waterways.

Certain maintenance activities may be subject to an NPDES Construction Permit—specifically for earth disturbance activities.

## **RECOMMENDATIONS AND PROTOCOLS**

For the objectives listed, the following represent further recommendations and protocols for road and street maintenance:

### **REDUCE OR PREVENT POLLUTED DISCHARGES ASSOCIATED WITH ROADS AND STREETS**

#### *Operational Protocols*

- Install containment or temporary-type BMP devices at inlets or locations that could convey polluted water prior to any repair or maintenance activities.
- Schedule pavement marking activities for dry weather periods.
- Do not apply paints, caulks, and so on during wet weather or immediately prior to forecasted rain events where materials would not be allowed to dry.
- Do not load hot paint or thermoplastic materials near drain inlets for line painting activities.
- Schedule asphalt and concrete activities for dry weather.
- Install temporary-type BMPs (inlet covers, containment berms, etc.) prior to maintenance activities with inlets (and waterways) in the vicinity.
- Wash concrete trucks off site or in designated areas.
- Store repair materials under cover and away from inlets and waterways.
- Prevent excess materials (concrete, asphalt, stone, etc.) from entering inlets.
- Sweep, do not wash down, streets and roads with tracked dirt or sediment.



### *Specific Pollutants*

- Sweep areas to collect and properly dispose of litter and debris.
- Use filter socks, gravel bags, and other temporary-type BMPs to control the potential for sediment or debris from entering inlets and drains.
- Do not maintain repair equipment or store repair materials near inlets.

### *Non-stormwater discharges*

- Sweep areas to collect and properly dispose of litter and debris.
- Refer to BMP Fact Sheet GH-5 for non-stormwater discharges and associated considerations.

### *General Practices*

- Use the least toxic materials available for any practices associated with road and street maintenance.
- Sweep debris up from maintenance activities such as thermoplastic grindings.
- Thoroughly clean up areas of repair and maintenance at the end of the work day or the end of maintenance/repair activities.
- Do not allow water from saw cut operations (or similar) to enter inlets and drains unabated.
- Complete general observations of road and street areas (including areas where repairs are being conducted) for sediment build-up, etc.

### *Spill Response and Control*

- Have spill clean-up materials readily available.
- Refer to BMP Fact Sheet GH-10: Spill Prevention and Control for more information.

### *Special Considerations*

- Maintain repair and application equipment to reduce the potential of leaks from such equipment.
- Vegetation along roadsides should be maintained in an appropriate manner to reduce pollutant loads in stormwater runoff.
- Water is generally used for dust control activities. Use minimal amounts of water for dust control. Ensure inlets or waterways are protected from potential runoff.

## **CONSIDERATIONS FOR SPECIFIC ACTIVITIES ASSOCIATED WITH ROADS AND STREETS**

### *Repairs*

- Provide and maintain concrete washout areas for concrete (or similar) operations.

- Limit amount of fresh concrete or asphalt prepared, prepare only what is needed.
- Consider alternative patching materials than concrete or asphalt.
- For slurry seal, seal coats, and so on, cover and seal off (waterproof materials) nearby inlets or drains prior to commencing activities.
- Thoroughly clean up repair area sites when work is complete.

#### *Street Sweeping*

- Maintain a consistent street sweeping schedule.
- Refer to BMP Fact Sheet GH-33 for street sweeping for more information.
- Increase street sweeping activities (including hand sweeping) in actual maintenance areas.

#### *Unpaved pathways*

- Stabilize exposed soils or gravel pathways to reduce erosion potential.
- Maintain vegetation adjacent to unpaved pathways. If vegetation cannot be established, consider temporary-type BMPs as semi-permanent controls.

#### *Sidewalks*

- Provide and maintain concrete washouts for concrete operations.
- Ensure sidewalks are routinely swept or cleaned.
- Consider vegetated buffers between sidewalks and roadways to reduce the potential of pollutants being conveyed by roads or streets.

#### *Other Considerations*

- Refer to BMP Fact Sheet GH-32 for winter road maintenance for other considerations including road salt applications.
- See BMP Fact Sheet GH-47 for considerations regarding Bridge Maintenance.
- Schedule repair activities associated with graffiti removal, paint removal, or similar during dry weather.

### **IMPLEMENT AND CONDUCT ACTIVITIES AIMED AT POLLUTION PREVENTION**

#### *Training*

- Refer to BMP Fact Sheet GH-1 regarding training for more information.
- Train employees regarding proper maintenance activities and recommendations outlined in this BMP fact sheet and related fact sheets.

### *Enforcement*

- Ensure inlets or drains are protected near repair or construction activity sites, including activities by others.
- Consider monetary fines for illegal dumping or pollutant loads generated by others that result in conveyance of pollutants on municipal roads and streets.
- Ensure roads and streets are cleaned near repair or construction activity sites, including activities by others.

## **DOCUMENTATION**

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For road and street maintenance, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to road and street maintenance.
- **Training and Education Log:** Enter a completed training record into the log.
- **Event Record:** If a discharge or is observed during a repair or maintenance activity, an event record should be executed that also outlines response and remediation procedures. Furthermore, since the road and street system is generally one of the largest portions of infrastructure (and conveyor of stormwater), an event record should be completed for major rain events. Other events such as observed polluted discharges or illicit discharges should be recorded.
- **Activity Record:** Complete when remediation is conducted or improvements are made to roads and streets. Note protection measures of inlets, waterways, etc. that were implemented.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP.
- **Inspection, Event, and Activity Log:** Enter an inspection, activity, or event record for road and street maintenance into the log as outlined within this BMP.

## **INSPECTIONS AND MEASUREMENTS**

Frequency of inspections for roads and streets is recommended as follows:

- *Regular Inspection:* Conduct a regular inspection of roads and streets based on an applicable frequency. An applicable frequency should be determined based on the use of the road or street. Focus should be afforded to roads and streets with inlets or direct points of entry to waterways.

Items that should be inspected and maintained (and recommended maintenance actions):

- *Cleanliness:* Sweep and remove debris or trash *Inlets:* Ensure clean and free of sediment and debris *Clean-outs:* Ensure structurally sound, remove debris and sediment (if applicable) build-up. Replace cracked or leaking clean-outs.
- *Integrity of roads/streets:* Ensure structurally sound and proper drainage is achieved.
- *Operational reviews:* Ensure observed practices are in line with recommendations outlined in this fact sheet.
- *Temporary-type BMPs:* Silt fences, straw "wattles", concrete washouts, and so on should properly installed and functioning. Remove built-up debris or sediment as necessary. Replace defunct or damaged materials.

Effectiveness can be demonstrated through a combination of appropriate documentation practices and in conjunction with a monitoring program. Analytical monitoring conducted under the requirements of Minimum Control Measure (MCM) #3 can be used to measure effectiveness of this BMP. Improved analytical results can be attributed to proper implementation and maintenance of the practices recommended in this Fact Sheet.

The EPA provides numerical effectiveness values for certain practices outlined within this fact sheet including maintaining roadside vegetation and street sweeping.

## SOURCES

U.S. Environmental Protection Agency Roadway and Bridge Maintenance at  
<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=100&minmeasure=6>

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

Oregon Department of Transportation Routine Road Maintenance Manual at  
[http://www.ci.gladstone.or.us/NPDES/ODOTresearch-roadside\\_maintenance\\_manual.pdf](http://www.ci.gladstone.or.us/NPDES/ODOTresearch-roadside_maintenance_manual.pdf)

Seattle Department of Transportation BMP Reference Manual for Surface Repairs and Minor Road Maintenance at  
<http://www.ecy.wa.gov/programs/wq/stormwater/municipal/MUNIdocs/StreetMaintenanceSurfaceRepairMinorRoadMaintenance2008.pdf>



Pennsylvania Department of Environmental Protection; final version of PAG-13 at  
<http://files.dep.state.pa.us/Water/Watershed%20Management/WatershedPortalFiles/StormwaterManagement/PAG-13/FinalPAG-13.pdf>

### OBJECTIVES

- Reduce or prevent polluted discharges associated with winter activities:
  - Road salt application
  - General practices
  - Roadway repairs
  - Spill response and control
- Implement and conduct activities aimed at pollution prevention:
  - Training
  - Other considerations

### DESCRIPTION

Application of deicing materials and roadway maintenance activities during the winter season can result in increased pollutant loads in surrounding waterways. Proper planning and practices will help reduce or prevent polluted runoff from snow melt and rainwater or direct discharges.

### CONSIDERATIONS

Due to costs associated with alternative deicing materials, better management and full implementation of salt management practices can be a more attractive option.

Toxic substances or chemicals (including metals, oils, etc.) can easily bind to sediment or gravel. Protecting inlets from sediment-rich runoff will reduce the potential of pollutant loads to receiving waterways.

### RECOMMENDATIONS AND PROTOCOLS

For the objectives listed, the following represent further recommendations and protocols for winter road maintenance:

#### REDUCE OR PREVENT POLLUTED DISCHARGES ASSOCIATED WITH WINTER ACTIVITIES

##### *Road Salt Application*

- Calibrate salt spreaders to ensure proper application.
- Only apply the amount of salt needed to get the job done.

- Follow the proper application guidelines.
- Consider temperature when determining volume of salt to apply.
- Contain wash water from trucks used for salting and sanding in a holding tank for disposal or discharge into sanitary sewers.
- Consider alternative materials such as calcium chloride and magnesium chloride.

#### *Roadway Repairs*

- Follow guidelines outlined in BMP Fact Sheet GH-30: Road and Street Maintenance.
- Debris and sediment can be carried by snowmelt as well as stormwater.

#### *General Practices*

- Use the least toxic materials available for any practices associated with road and street maintenance.
- Thoroughly clean up areas of repair and maintenance at the end of the work day or the end of maintenance/repair activities.
- Complete general observations of road and street areas (including areas where repairs are being conducted) for sediment build-up, etc.

#### *Spill Response and Control*

- Have spill clean-up materials readily available.
- Refer to BMP Fact Sheet GH-10: Spill Prevention and Control for more information.

### **IMPLEMENT AND CONDUCT ACTIVITIES AIMED AT POLLUTION PREVENTION**

#### *Training*

- Refer to BMP Fact Sheet GH-1 regarding training for more information.
- Train employees regarding proper winter maintenance activities outlined in this BMP fact sheet and related fact sheets.

#### *Other Considerations*

- Ensure inlets or drains are protected near repair or construction activity sites, including activities by others.
- Alternative materials are generally more environmentally friendly.
- Refer to BMP Fact Sheet GH-23 for storing salt.

## DOCUMENTATION

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For winter road maintenance, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to winter road maintenance—specifically with road salt applications.
- **Training and Education Log:** Enter a completed training record into the log.
- **Activity Record:** Complete when road salt applications (or alternative materials) are completed.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP.
- **Inspection, Event, and Activity Log:** Enter an inspection, activity, or event record for winter road maintenance into the log as outlined within this BMP.

Road and street maintenance activities (even during winter months) can be documented through the guidelines and recommendations outlined in BMP Fact Sheet GH-30 for road and street maintenance.

## INSPECTIONS AND MEASUREMENTS

Frequency of inspections for winter road maintenance should follow recommendations outlined in BMP Fact Sheet GH-30 for roads and streets.

Items that should be inspected and maintained (and recommended maintenance actions):

- *Application Equipment:* Ensure proper function and cleanliness.

Effectiveness can be demonstrated through a combination of appropriate documentation practices and in conjunction with a monitoring program. Analytical monitoring conducted under the requirements of Minimum Control Measure (MCM) #3 can be used to measure effectiveness of this BMP. Improved analytical results can be attributed to proper implementation and maintenance of the practices recommended in this Fact Sheet.

## SOURCES



U.S. Environmental Protection Agency Road and Salt Application and Storage at  
<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=106&minmeasure=6>

Monroe County Winter Road Maintenance BMP Summary Sheet at [www.monroecounty.gov](http://www.monroecounty.gov)

**OBJECTIVES**

- Reduce polluted discharges associated with roads and streets via sweeping:
  - Operational protocols
  - General practices
  - Special considerations
- Reduce specific pollutants that may contribute to receiving waters through proper street sweeping practices:
  - Trash
  - Sediment
  - Road salt
  - Metals
  - Other considerations
- Implement and conduct activities aimed at pollution prevention:
  - Training
  - Enforcement

**DESCRIPTION**

Daily use of roads and streets (and parking lots) within a municipality can generate a build-up of pollutants including litter and sediment. Regular street sweeping can reduce the amount of pollutants, as well as improve aesthetics of streets.

**CONSIDERATIONS**

Roads and streets generally comprise a majority portion of municipal infrastructure. Coupled with the fact a majority of a storm sewer system is located within defined boundaries of roads and streets with definitive points of entry (inlets, etc.) for stormwater, a large portion of focus should be afforded to proper road and street maintenance—including street sweeping—to reduce the potential of polluted runoff and direct polluted discharges that would be conveyed to receiving waterways.

A street sweeping program can be limited due to costs associated with equipment. Street sweepers can cost between \$60,000 and \$180,000, based on type.

Consider land uses (e.g. industrial versus residential) along with proximity to waterways when developing schedules (frequency) and observed accumulation of potential pollutants.

A street sweeping program may require any of the following: operators, maintenance of equipment, administration, traffic control officers, waste disposal of hazardous materials, and cleaning route design & notifications.

The average life span of a sweeper is approximately five years. If a new sweeper is needed an array of new technology advanced sweepers are now available, including regenerative air sweepers that maximize pollutant removal. However, there is no data yet to support what is the "best" sweeping equipment or method.

Despite sweepings having the ability to contain pollutants, regulations may allow the reuse of collected sweepings for general fill, road shoulders, and other applications that may not threaten local waterways.

## **RECOMMENDATIONS AND PROTOCOLS**

For the objectives listed, the following represent further recommendations and protocols for street sweeping:

### **REDUCE POLLUTED DISCHARGES ASSOCIATED WITH ROADS AND STREETS VIA SWEEPING**

#### *Operational Protocols*

- Avoid wet cleaning or flushing (unless combined sewer), and utilize dry methods as possible.
- Conduct sweeping during dry weather.
- Consider traffic volumes when scheduling sweeping activities.
- Keep accurate logs of street sweeping activities.
- Properly dispose of collected sweepings. Refer to BMP Fact Sheet GH-7 for waste handling and disposal for more information.
- When developing a street sweeping program and schedule: plan for frequency, volume projections, timing, quality, storage of sweepings (including reuse, if applicable), routing, and disposal at a minimum.

#### *General Practices*

- Maintain sweepers or cleaning equipment; repair if leaks are observed.
- Maintain a consistent sweeping schedule.
- Institute a parking policy to restrict parking in problematic areas to allow full access.
- Publish street sweeping schedules; a plausible approach is also providing direct notice to residents or businesses in street sweeping areas.
- Do not store sweepings adjacent to waterways or storm drains.
- Do not "push" sweepings to storm drains or inlets.

### *Special Considerations*

- Increase frequency of sweeping for streets with high pollutant loads.
- Vacuum or regenerative air sweepers generally provide more effective pollutant removal in high sediment and trash areas.
- A log should be kept calculating debris load intake.
- Post permanent signs outlining street sweeping schedules.

## **REDUCE SPECIFIC POLLUTANTS**

### *Trash*

- Ensure equipment can handle debris and trash and properly remove such items.
- In heavy litter areas, follow-up crews may need to be considered to ensure all trash is removed.

### *Metals*

- Metals are effectively a part of sediment and debris. Removal of sediment and debris can effectively reduce the potential of certain pollutants such as copper, zinc, and lead from entering receiving waterways.

### *Sediment*

- Areas of observed sediment should be treated frequently to reduce the potential of polluting via sediment (including nitrogen, lead, etc.).

### *Road Salt*

- Consider additional sweeping in early spring to remove road salt accumulated through the winter months.

### *Other Considerations*

- Contain sweeping debris piles (with temporary-type BMPs if applicable) and away from drains and waterways.
- Sweepings may contain hazardous materials due to gasoline spills or similar chemicals.

## **IMPLEMENT AND CONDUCT ACTIVITIES AIMED AT POLLUTION PREVENTION**

### *Training*

- Refer to BMP Fact Sheet GH-1 regarding training for more information.
- Additional training considerations should be afforded to operators of equipment.



- Train employees regarding proper maintenance activities and recommendations outlined in this BMP fact sheet and related Fact Sheets.

#### *Enforcement*

- Consider monetary fines for parking violations in problem areas where frequent sweeping is required.

## **DOCUMENTATION**

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For street sweeping, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to street sweeping. Two plausible training activities include operator training and recognition of problem areas.
- **Training and Education Log:** Enter a completed training record in the log.
- **Street Sweeping Schedule and Program:** Keep a planned schedule of sweeping activities. Modify as necessary based on observations or load intake.
- **Activity Record:** Complete when maintenance is conducted on sweeping equipment and to note completion of a sweeping activity. When noting sweeping activities, enter a load removed value as well.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP.
- **Inspection, Event, and Activity Log:** Enter an inspection or activity record for street sweeping into the log as outlined within this BMP.

## **INSPECTIONS AND MEASUREMENTS**

Frequency of inspections for roads and streets is recommended as follows:

- *Regular Inspection:* Conduct a regular inspection of roads and streets based on an applicable frequency. An applicable frequency should be determined based on the use of the road or street. Focus should be afforded to roads and streets with inlets or direct points of entry to waterways.

Inspections will help determine problem areas or if adjustments to frequencies of sweeping is needed.

Items that should be inspected and maintained:

- *Roads and Streets*: Ensure free of "build-up" of debris, sediment, and so on.
- Schedule sweeper or adjust frequency if necessary.
- *Street Sweeper*: Ensure properly operating and free of leaks.
- *Operational reviews*: Ensure observed practices are in line with recommendations outlined in this fact sheet.
- *Temporary-type BMPs*: Silt fences, straw "wattles", covers, and so on associated with sweeping storage areas are in working order.

Effectiveness can be demonstrated in several ways. Two primary types include "ton per street mile" basis and "pounds per capita" basis. The first method may be easier to calculate, and is generally a more acceptable method to demonstrate effectiveness. A plausible method of calculation includes direct weighing of a sweeper before and after collections or simply calculating the approximate loads removed.

## SOURCES

U.S. Environmental Protection Agency Parking Lot and Street Cleaning at

<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=99&minmeasure=6>

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

Connecticut Department of Environmental Protection Guideline for Municipal Management Practices for Street Sweepings and Catch Basin Cleaning at

[http://www.ct.gov/dep/lib/dep/waste\\_management\\_and\\_disposal/solid\\_waste/street\\_sweepings.pdf](http://www.ct.gov/dep/lib/dep/waste_management_and_disposal/solid_waste/street_sweepings.pdf)

**OBJECTIVES**

- Prevent or reduce polluted discharges associated with landscape maintenance activities:
  - Operational protocols
  - General practices
  - Chemical applications
  - Waste management
  - Other considerations
- Implement and conduct activities aimed at pollution prevention:
  - Training
  - Material storage
  - Spill response and control
  - Special considerations

**DESCRIPTION**

Landscape Maintenance includes a number of activities such as vegetation removal, pesticide/fertilizer applications, pet waste removal, pruning, watering, mowing, etc. All such maintenance practices have the potential to contribute pollutants to receiving waterways or establishing a "channel" for pollutants to reach waterways or storm sewer systems.

**CONSIDERATIONS**

Consider an integrated pest management (IPM) program that is developed with a combination of biological, physical, and holistic approaches and tools.

Consider a comprehensive landscape management plan that addresses an IPM program, planning & design, plant selection, soil analysis, maintenance schedules, TMDL BMPs, and water use.

Alternative landscaping techniques such as xeriscaping may be more cost effective and allow incorporation of alternative filtering methods to reduce the potential of polluted stormwater runoff to receiving waterways or recharge areas.

## RECOMMENDATIONS AND PROTOCOLS

For the objectives listed, the following represent further recommendations and protocols for landscape maintenance:

### PREVENT OR REDUCE POLLUTED DISCHARGES ASSOCIATED WITH LANDSCAPE MAINTENANCE ACTIVITIES

#### *Operational Protocols*

- Consider native vegetation where feasible.
- Avoid placing landscape waste at or near inlets.
- Perform mowing at optimal times, which does not include prior to significant forecasted rain events.
- Consider low water-use groundcovers when planting in large areas as a cost effective solution as well.
- Promote environmentally friendly landscape practices that include all or several of the following:
  - public education
  - planning & design that recognizes regional and climatic conditions and caveats
  - soil analyses to better address proper fertilizer practices or soil retention
  - native plant selections
  - practical turf selections that can resist drought
  - proper irrigation (if applicable)
  - use of mulch, fertilizer/pesticide management (IPM), and maintenance requirements & schedules
- Protect lakes, ponds, wetlands, and/or lagoons adjacent to landscape maintenance activities.

#### *General Practices*

- Use mechanical methods for vegetation removal where possible.
- Avoid loosening soil when removing weeds or vegetation.
- Use mulch or a temporary-type binder on exposed soils until permanent landscape is installed.
- Collect and dispose lawn trimmings, clippings, vegetation, etc.
- Do not conduct landscape equipment fueling at or near inlets or waterways.
- Reduce or prevent exposed soil areas.

#### *Chemical Applications*

- See BMP Fact Sheet GH-36 for lawn fertilizers and pesticides for more information.
- Reduce the use of high nitrogen fertilizers.



- Use pesticides only if there is an actual problem or presence of pests.

#### *Waste Management*

- Consider pet waste stations or bags as necessary for problem areas or dog parks.
- Properly dispose of collected lawn/yard waste. See BMP Fact Sheet GH-7 regarding waste handling and disposal.

#### *Other Considerations*

- If irrigation systems are used, only irrigate as needed and ensure minimal runoff.
- Consider Green Infrastructure for stormwater management.
- Consider ordinances outlining effective and environmentally friendly landscape maintenance practices.
- Do not allow dumping of lawn/yard waste at unauthorized locations.

### **IMPLEMENT AND CONDUCT ACTIVITIES AIMED AT POLLUTION PREVENTION**

#### *Training*

- Refer to BMP Fact Sheet GH-1 regarding training for more information.
- Ensure contractors are trained for services provided by other entities.
- Obtain pesticide applicator licenses as necessary.
- Train employees regarding proper maintenance activities and recommendations outlined in this BMP Fact Sheet and related fact sheets.

#### *Material Storage*

- Place landscape material stockpiles away from waterways. Install temporary-type BMPs (e.g. silt fence, straw wattles, etc.) as applicable and if necessary.
- Keep liquid landscaping materials in designated areas.
- Cover wood-treated products in storage with tarps or similar plastic coverings.
- See BMP Fact Sheet GH-21 regarding Outdoor Storage of Materials for more information.

#### *Spill Response and Control*

- See BMP fact Sheet GH-10 regarding spill prevention and response for more information.
- Keep spill control materials readily available with landscape maintenance crews.

#### *Special Considerations*

- During design and planning phases, consider required maintenance practices prior to implementation or acceptance of a design to minimize excessive maintenance operations or create a potential to produce polluted discharges.
- All employees handling pesticides should be familiar with the most recent MSDS.
- Consider monetary fines for dumping violations in problem areas where frequent dumping is observed.

## DOCUMENTATION

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For landscape maintenance, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to landscape maintenance.
- **Training and Education Log:** Enter a completed training record in the log.
- **Event Record:** Complete an event record if landscape maintenance activities resulted in an observed polluted discharge.
- **Activity Record:** Complete only for significant improvements to the landscape maintenance program such as the installation of pet waste control stations in a park.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP.
- **Inspection, Event, and Activity Log:** Enter an inspection or activity record for landscape maintenance into the log as outlined within this BMP.

## INSPECTIONS AND MEASUREMENTS

Frequency of inspections for parks and open spaces is recommended as follows:

- *Regular Inspection:* Conduct a regular inspection of parks and open spaces based on an applicable frequency. An applicable frequency should be determined based on the use of the park or open space along with required maintenance activities. Focus should be afforded to parks and open spaces with inlets or direct points of entry to waterways for illegal dumping activities or exposed soils.

Items that should be inspected, observed, and maintained:

- *Parks and Open Spaces*: generally clean and free of dumping sites, remove litter.
- *Erosion and Sediment*: look for signs of erosion or sediment build-up; address with temporary-type BMPs until a permanent fix is implemented.
- *Pet Waste*: remove excessive waste, stock waste stations and ensure receptacles are structurally sound and emptied on a frequent basis *Special Maintenance Considerations*: develop an inspection checklist for special items as a result of green infrastructure or IPMs.
- *Inlets or Drains*: structurally sound, remove landscape debris if applicable.
- *Mowing/Landscape Equipment*: ensure in proper working order; repair any observed leaks.
- *Exposed soils*: immediate response should be temporary-type BMPs (especially with forecasted rain events), plan for permanent coverage.
- *Temporary-type BMPs*: Silt fences, straw "wattles, covers, and so on installed as applicable are in working order.

Effectiveness is difficult to measure with landscape maintenance. However, improved landscapes generally increase land values (as well as adjacent lands). A combination of appropriate documentation practices and in conjunction with a water quality monitoring program, effectiveness may be attributed to implemented recommendations and protocols of this Fact Sheet.

## SOURCES

U.S. Environmental Protection Agency Municipal Landscaping at  
<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=1&minmeasure=6>

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

Monroe County, New York Landscape Maintenance BMP Summary Sheet at  
<http://www.monroecounty.gov/>

Monroe County, New York Pet Waste Management BMP Summary Sheet at  
<http://www.monroecounty.gov/>

**OBJECTIVES**

- Prevent or reduce polluted discharges associated with fertilizer and pesticide activities:
  - Operational protocols
  - General practices
  - Specific pollutants
  - Other considerations
- Implement and conduct activities aimed at pollution prevention:
  - Training
  - Material storage
  - Spill response and control
  - Special considerations

**DESCRIPTION**

Fertilizers, herbicides, and pesticides possess a relatively high potential for contributing pollutants to stormwater runoff and non-stormwater discharges both through storage and application. Proper management of materials, effective training, and proper use of materials will reduce the potential of polluting receiving waterways.

**CONSIDERATIONS**

Pesticide applicators of any local government agency in the Commonwealth of Pennsylvania must be certified by the Pennsylvania Department of Agriculture. Technicians may complete applications under the supervision of a certified applicator.

Consider frequent soil analyses to ascertain the proper amount of nutrients for application in fertilizers.

Consider an Integrated Pest Management (IPM) Program to plan effective and appropriate pesticide applications.

**RECOMMENDATIONS AND PROTOCOLS**

For the objectives listed, the following represent further recommendations and protocols for landscape fertilization and pesticides:



## **PREVENT OR REDUCE POLLUTED DISCHARGES ASSOCIATED WITH FERTILIZER AND PESTICIDE ACTIVITIES**

### *Operational Protocols*

- Mulching can reduce weed growth and reduce the need for herbicides.
- Promote bats (bat houses), birds, and similar species with appropriate habitats that reduces the need for pesticides.
- Follow all applicable regulations and laws for the storage, transport, and use of fertilizers, herbicides, and pesticides.
- Fertilizers should be worked into soils rather than dumped or broadcast.
- Do not apply fertilizers, herbicides, or pesticides adjacent to waterways or inlets.

### *General Practices*

- Use pesticides only when there is an actual problem.
- Do not mix or prepare pesticides at or near drains or waterways.
- Do not apply pesticides or herbicides in windy conditions.
- Ensure fertilizer application equipment is properly calibrated to avoid excessive applications.
- Conduct soil analyses.
- Do not use pesticides if rain is forecasted.
- Post application notification signs before and after applications.
- Sweep and remove fertilizer or dry pesticides from sidewalks and similar surfaces.

### *Specific Pollutants*

- Fertilizers generally contain nitrogen and phosphorus—both are nutrients listed in the Chesapeake Bay TMDL. Careful consideration should be provided regarding need versus want when applying fertilizers.

### *Other Considerations*

- Consider alternative products (e.g., vinegar and water) for spot-treating weeds.
- Consider alternative products (e.g., soapy water) for pest control.
- Over application can "burn" turf or vegetation, thus resulting in exposed soil areas.
- Slugs can be captured in small cups filled with beer and recessed into the ground.

## **IMPLEMENT AND CONDUCT ACTIVITIES AIMED AT POLLUTION PREVENTION**

### *Training*

- Refer to BMP Fact Sheet GH-1 regarding training for more information.
- Obtain pesticide applicator licenses as necessary.

- Train employees regarding proper maintenance activities and recommendations outlined in this BMP Fact Sheet and related fact sheets.

#### *Material Storage*

- Properly store materials as directed per applicable labels or as required by applicable laws and regulations.
- See BMP Fact Sheet GH-13 and GH-21 regarding proper storage of materials for more information.

#### *Spill Response and Control*

- See BMP fact Sheet GH-10 regarding spill prevention and response for more information.
- Keep spill control materials readily available with applicator personnel.

#### *Special Considerations*

- The State of Pennsylvania requires a pesticide applicator to be certified. Technicians may complete applications, but only under the supervision of a certified applicator.
- Consider the residual effects of chosen pesticides.

## **DOCUMENTATION**

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For fertilizers and pesticides, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to pesticides and fertilizers. Note a certification as an applicator with a training record.
- **Training and Education Log:** Enter a completed training record in the log.
- **Applicator Certifications:** Keep copies of applicator certifications in the SWMP.
- **Event Record:** Complete an event record if fertilizer and pesticide application activities resulted in an observed polluted discharge and a spill or leak.
- **Activity Record:** Complete when applications are completed. Note cleanup, weather conditions, application rates, and locations.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP.

- **Inspection, Event, and Activity Log:** Enter an inspection or activity record for fertilizer and pesticide applications into the log as outlined within this BMP.

## INSPECTIONS AND MEASUREMENTS

Frequency of inspections for fertilizer and pesticide applications is recommended as follows:

- *Regular Inspection:* Conduct a regular inspection of parks and open spaces based on fertilizer and pesticide applications.

Items that should be inspected, observed, and maintained:

- *Parks and Open Spaces:* signs of burn spots, material in inlets or basins; remove or repair as necessary.
- *Application Equipment:* in sound working order, repair as required.

Effectiveness is difficult to measure with fertilizers and pesticide applications. However, documented reduced usage of fertilizers demonstrates an improvement and effective program. A combination of appropriate documentation practices and in conjunction with a water quality monitoring program, effectiveness may be attributed to implemented recommendations and protocols of this fact sheet.

## SOURCES

U.S. Environmental Protection Agency Municipal Landscaping at  
<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=1&minmeasure=6>

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

Monroe County, New York Landscape Maintenance BMP Summary Sheet at  
<http://www.monroecounty.gov/>

State of Pennsylvania Pesticide Applicator Certification Requirements at  
<http://www.ars.usda.gov/Research/docs.htm?docid=7524>

City of Chattanooga Municipal Pesticides-Herbicides-Fertilizers BMP Guidance Document at  
<http://www.hamiltontn.gov/waterquality/bmps/11.2.pdf>

**OBJECTIVES**

- Prevent or reduce polluted discharges associated with leaves and similar debris:
  - Operational protocols
  - General practices
  - Training
  - Other considerations

**DESCRIPTION**

Leaves and similar materials can not only inhibit the proper function of a drainage system, but can also contribute pollutants to stormwater or snow melt runoff. Proper collection and disposal from municipal facilities including roads and streets will reduce the potential to inhibit system function and pollutants to receiving waters.

**CONSIDERATIONS**

Leaf collection can be accomplished by several means. Mechanical collection is an efficient method to collect from municipal roads and streets in residential and commercial districts. A cost-effective approach may be to require the "bagging" of leaves in residential districts to reduce equipment costs. Collection at municipal facilities can be incorporated into a mechanical collection method or completed by municipal employees.

Particulates and similar pollution-causing chemicals—specifically metals and hydrocarbons—can attach to leaves, especially in highly travelled areas.

Consider a comprehensive street sweeping after leaf collection activities are completed.

**RECOMMENDATIONS AND PROTOCOLS**

For the objectives listed, the following represent further recommendations and protocols for leaf collection:



## PREVENT OR REDUCE POLLUTED DISCHARGES ASSOCIATED WITH LEAVES AND SIMILAR DEBRIS

### *Operational Protocols*

- Consider a leaf collection activity in the spring as well.
- Collection schedules should depend on canopy coverage (heavy canopy coverage will generally require more frequent collection activities).

### *General Practices*

- Conduct street sweeping activities after completion of all scheduled leaf collection activities; perform an inspection prior to scheduling street sweeping.
- Provide notification to residents and businesses prior to collection activities.
- Do not dump or store collected leaves at or adjacent to inlets or waterways.
- Properly dispose of collected leaf waste.
- Do not "push" leaves to inlets or waterways during collection.

### *Training*

- Refer to BMP Fact Sheet GH-1 regarding training for more information.
- For mechanical methods of collection, consider equipment operator training.
- Train employees regarding proper maintenance activities and recommendations outlined in this BMP Fact Sheet and related fact sheets.

### *Other Considerations*

- Consider recycling collected leaves for compost.
- A written leaf/debris collection and disposal program should be provided to not only municipal employees, but all residents and businesses in the municipality.

## DOCUMENTATION

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For leaf collection, templates are provided within the BMP manual to assist the municipality:

- **Training Record:** This document is used to provide record of a training event or session relative to leaf collection.
- **Training and Education Log:** Enter a completed training record in the log.

- **Leaf/Debris Collection and Disposal Program:** a written program for the municipality outlining requirements and schedules (can be a section of the waste management plan).
- **Activity Record:** Complete when mechanical leaf collection activities are conducted. Note locations of activities.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP.
- **Inspection, Event, and Activity Log:** Enter an inspection or activity record for leaf collection into the log as outlined within this BMP.

## INSPECTIONS AND MEASUREMENTS

Frequency of inspections for leaf collection is recommended as follows:

- *Regular Inspection:* Conduct inspections prior, during, and after scheduled leaf collection activities. Frequency will depend on schedule of activities.

Items that should be inspected, observed, and maintained:

- *Mechanical Equipment:* in proper working condition; repair or correct as required.
- *Roads and Streets:* Observe leaf load before and after activities. Consider additional collections if developed schedule is ineffective.
- *Parks and Open Spaces:* leaves removed.

Effectiveness is difficult to measure with leaf collection. However, removal of leaves and similar debris during the autumn months will provide a level of system functionality.

## SOURCES

Live Science Online, *Pollution Turns Leaves Magnetic*, at <http://www.livescience.com/5805-pollution-turns-leaves-magnetic.html>

Pennsylvania Department of Environmental Protection; final version of PAG-13 at <http://files.dep.state.pa.us/Water/Watershed%20Management/WatershedPortalFiles/StormwaterManagement/PAG-13/FinalPAG-13.pdf>

### OBJECTIVES

- Prevent or reduce polluted discharges associated with maintaining fountains, pools, etc.:
  - General practices
  - Other considerations
  - Specific pollutants
- Implement and conduct activities aimed at pollution prevention:
  - Training
  - Material storage
  - Spill response and control
  - Special considerations

### DESCRIPTION

Chlorine, algaecides, and other chemicals used to treat swimming pools, fountains, lakes, and so on can harm the environment and pollute waterways if discharged through the storm drain system. Proper maintenance and neutralization practices will aid in pollution prevention practices.

### CONSIDERATIONS

Prevent backflow during pool drainage operations to a sanitary sewer by maintaining an "air gap" between the discharge line and the sewer line. Confirm flow rates and special waste requirements (e.g., acid wash) with local wastewater treatment facilities. Discharge flows should be at a low rate, and actual rate limits may be determined by local ordinances.

Certain maintenance activities around water bodies (such as lake or lagoon that may be recognized as a wetland) may be subject to additional regulations and permitting.

Code requirements should be confirmed for pools and fountains located adjacent or near to environmentally sensitive areas.

### RECOMMENDATIONS AND PROTOCOLS

For the objectives listed, the following represent further recommendations and protocols for pool and fountain maintenance:

## **PREVENT OR REDUCE POLLUTED DISCHARGES ASSOCIATED WITH MAINTAINING POOLS AND FOUNTAINS**

### *General Practices*

- Reduce fertilizer use around pools, fountains, lakes, etc.
- Pick up and remove landscape waste in and around lakes (or fountains).
- Maintain waste receptacles near relevant water bodies including pools and fountains.
- Dechlorinate water prior to removal, if necessary.
- Neutralize water and chemicals prior to removal, if necessary.
- Dechlorinated water can be drained gradually to landscaped areas. If dechlorination cannot be obtained, contact the local wastewater treatment facility for approval to drain to sanitary sewer. Test dechlorinated water to ensure removal of chemical.
- Do not clean filters on streets or near inlets.
- Provide drip pans beneath pipe connections to catch leaks.
- Rinse cartridge filters onto dirt areas and spade filter residue into soil. Properly dispose of contaminated soil if build up is observed.
- Do not apply pesticides or herbicides in windy conditions near water bodies.
- Mechanically remove pond scum if necessary using a 60 micron net.
- Apply and maintain proper chemical levels for pools, fountains, ponds, lakes, etc.

### *Specific Pollutants*

- Chlorine or chloramine (used as a disinfectant) is primary pollutants of concern associated with swimming pools. Following the recommendations outlined in this fact sheet will aid in minimizing the chance of polluting waterways.
- Algaecides are primary pollutants of concern associated with fountains, ponds, and lakes.

### *Other Considerations*

- Use chlorine to control algae if necessary in lieu of copper-based algaecides, or alternative products such as sodium bromide.
- Manage pH and water hardness to minimize corrosion of copper pipes. Inspect relative areas for signs of illegal dumping.
- For lakes and fountains, introducing fish to the system can aid in reducing algae.

## **IMPLEMENT AND CONDUCT ACTIVITIES AIMED AT POLLUTION PREVENTION**

### *Training*

- Refer to BMP Fact Sheet GH-1 regarding training for more information.
- Train personnel in proper chemical applications, testing chemical levels, and neutralization of chemicals.



- Train employees regarding proper maintenance activities and recommendations outlined in this BMP Fact Sheet and related fact sheets.

#### *Material Storage*

- Properly store materials as directed per applicable labels or as required by applicable laws and regulations.
- See BMP Fact Sheet GH-13 and GH-21 regarding proper storage of materials for more information.

#### *Spill Response and Control*

- See BMP fact Sheet GH-10 regarding spill prevention and response for more information
- Neutralize spills if possible.
- Keep spill control materials readily available with applicator personnel.

#### *Special Considerations*

- Feeding of wildlife may contribute to bacteria growth.
- Erosion control can be improved with vegetative cover or rip rap along banks of lakes.
- Dredge with shovels when laying/maintaining pipes for pools, fountains, etc.
- For large lakes, dredge every ten years or as determined by regulatory authorities.
- To determine amount to dredge, determine rate of volume loss due to sediments.
- When dredging large lakes, use vacuum equipment.
- For small lakes, drain lake prior to dredging. Contact relevant entities and regulatory entities for further requirements.

## **DOCUMENTATION**

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For pool and fountain maintenance, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to pool and fountain maintenance.
- **Training and Education Log:** Enter a completed training record in the log.

- **Event Record:** Complete an event record if discharged water from pools, fountains, and so on are polluted or contain specific pollutants of concern.
- **Activity Record:** Complete an activity record for appropriate items such as dechlorination of a pool, testing chemical levels, or draining the water body.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP.
- **Inspection, Event, and Activity Log:** Enter an inspection or activity record for pool and fountain maintenance into the log as outlined within this BMP.

## INSPECTIONS AND MEASUREMENTS

Frequency of inspections for pools and fountains are recommended as follows:

- *Regular Inspection:* Conduct a regular inspection of pools, fountains, lakes, and similar structures during appropriate seasons and at a predetermined regular frequency.
- *Rain Event Inspection:* Conduct inspections after major or significant rain events for overflows or damage.

Items that should be inspected, observed, and maintained:

- *"Integrity" of water:* check for smells, color of water, and other signs of possible contamination (e.g. bacteria) of irregular chemical levels.
- *Integrity of structures:* inspect for cracks, leaking points, etc. in swimming pools, fountains, and so on. Repair as applicable.
- *Filtering equipment:* inspect connections and equipment for leaks and proper operation. Repair as applicable.
- *Sediment build-up:* inspect and measure (if applicable) sediment build-up for appropriate waterbodies such as lakes. Adjust dredging timeframes if necessary.
- *General surroundings:* ensure immediate areas are free of debris and trash, and "developed" as intended (e.g. rip rap in place).
- *Chemical levels:* ensure proper chemicals are applied and at appropriate levels, adjust levels as necessary.

Documented efforts associated with maintaining pools and fountains can adequately demonstrate an effective program. A lack of polluted discharges or a sound ecosystem demonstrated through documentation such as sample analysis and biological reviews can further aid in establishing an effective program.

## SOURCES

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

Monroe County, New York Fountain & Pool Maintenance and Lakes, Ponds, and Lagoon Maintenance BMP Summary Sheets at <http://www.monroecounty.gov/>

### OBJECTIVES

- Ensure functionality of storm drain system through maintenance and monitoring:
  - General overview
  - Operational protocols
  - General practices
  - Specific pollutants
  - Limitations
  - Spill response and control
  - Other considerations
- Implement and conduct activities aimed at pollution prevention:
  - Training
  - Special considerations

### DESCRIPTION

The stormwater conveyance system provides transport of urban/suburban stormwater runoff, snow melt runoff, and non-stormwater discharges generally to receiving waters. Most BMPs provide recommendations and protocols to reduce the potential of polluted runoff through source controls. Treatment-control BMPs are also effective in reducing pollutants prior to entry to the conveyance system or waterways. However, the conveyance system is generally the "last hurdle" prior to runoff entering receiving waterways. Proper maintenance of the system provides both functionality and the reduction of pollutants entering waterways.

### CONSIDERATIONS

The stormwater conveyance system is generally comprised of catch basins, inlet structures, channels, miscellaneous drains, pump stations (possibly), pipes, culverts, detention ponds, and outfalls. Curbs and gutters are generally associated as a part of conveyance system; however, for the purposes of this fact sheet, focus is afforded the "concealed" drainage system.

Professional plumbing contractors and specialized services contractors can be hired to flush the storm sewer system in lieu of self-flushing activities.

Consider stenciling drain inlets notifying the public the inlet is a part of conveyance system draining to waterways. This can be achieved through MCM #1 and Public Education as well.



Confined space training may be required for access to deep basins.

Protocols and recommendations outlined in this fact sheet can be implemented and maintained through the Post-Construction Stormwater Management Plan (PCSM Plan) for MCM #5 compliance including a proper and compliant PCSM O&M Program for permanent structural and non-structural BMPs for further water quality protection initiatives.

If a municipality only has a few basins, manually clean the basins. Mechanical cleaners such as vacuums should be used otherwise.

## **RECOMMENDATIONS AND PROTOCOLS**

For the objectives listed, the following represent further recommendations and protocols for road and street maintenance:

### **REDUCE OR PREVENT POLLUTED DISCHARGES ASSOCIATED WITH ROADS AND STREETS**

#### *General Overview*

As the final part of conveyance for both stormwater and non-stormwater, a number of common pollutants can be found in the system:

- Trash and similar debris
- Sediment
- Oils and greases
- Paints, antifreeze, and similar products
- Cleaners and solvents
- Fertilizers and pesticides
- Animal waste
- Other items such as leaves, vegetation, and manufactured items (e.g. car parts, etc.) can be in the conveyance system that will pollute runoff in the system itself
- Foreign objects in a system will inhibit the functionality

#### *Operational Protocols*

- Regular inspections of the complete system.
- Keep accurate records regarding the number of times a basin has been cleaned.
- Record amount of waste collected.
- Store wastes from cleaning activities in appropriate containers and store in a manner that does not allow discharge back into the system or to receiving waterways.
- Identify and monitor known problem areas.
- Develop a regular schedule for cleaning system components.

### *General Practices*

- Catch basins and inlets
  - Sumps should be cleaned prior to 40% fill.
  - Inlet covers should be free of debris and sediment build-up.
  - Dewater wastes with outflow in to the sanitary sewer if allowed (however, water should be filtered prior to discharge into the sanitary sewer).
  - If dewatering to sanitary sewers is not allowed, water should be pumped or vacuumed to a tank and properly disposed of.
  - Remove sediment, debris, litter, etc.
- Channels
  - Remove sediment, debris and trash build-up.
  - Observe for hydraulic functionality. Consider modifications to improve hydraulics or increase ability for pollutant removals.
- Pipes
  - Develop a flushing schedule for identified problem areas with repeated excessive build-up.
  - Collect flushed effluent and pump to sanitary sewer or dispose properly.
  - Refer to INSPECTIONS AND MEASUREMENTS section of this Fact Sheet regarding information for illicit connections.
- Detention Ponds/Basins
  - Remove sediment, debris and trash build-up.
  - Observe for hydraulic functionality. Consider modifications to improve hydraulics or increase ability for pollutant removals.
- Outfalls
  - Observe for non-stormwater discharges.
  - Inspect for functionality and structural integrity.
  - Focus towards outfalls and illicit discharges is provided under MCM #3 of the MS4 Permit.
- Pump Stations
  - Clean pump station storm drains regularly to remove silt and trash.
  - Clean outlet structures as necessary.

### *Specific Pollutants*

- All pollutants currently measured at USGS Station WQN0273 on the Conestoga River can be considered pollutants conveyed through the system to waterways. Such pollutants include nutrients (e.g., nitrogen and phosphorus), sediment, metals, oil and grease, organics, inorganics, bacteria, etc.

### *Limitations*

- A vactor truck for flushing can cost upwards of \$200,000.
- A water source is necessary for cleaning or flushing pipes and the system. Wastewater must be collected and treated from cleaning.
- Flushing is considered more successful with pipes with less than a 36" diameter.
- Certain components of the system may be "deeded" to residential homeowners for maintenance purposes.

### *Spill Response and Control*

- Have spill clean-up materials readily available.
- Refer to BMP Fact Sheet GH-10: Spill Prevention and Control for more information.

### *Other Considerations*

- Establish a system for tracking illegal dumping hot spots at locations within the system.
- Cleaning and maintenance activities may disturb local aquatics.
- Maintenance of components located within defined boundaries of wetlands may be subject to additional regulations and requirements.
- Private property access may be needed to track illegal discharges up a gradient.
- Methods for tracking or identifying illicit connections include dye testing, smoke testing, flow monitoring, TV inspections, and visual inspections.
- Using the outfall map required under MCM #3 and corresponding requirement for a grid on the map can aid in developing a realistic maintenance schedule.
- Flushing prevents "plug flow" discharges of concentrated pollutant loadings and sediment.

## **IMPLEMENT AND CONDUCT ACTIVITIES AIMED AT POLLUTION PREVENTION**

### *Training*

- Refer to BMP Fact Sheet GH-1 regarding training for more information.
- Train employees regarding proper maintenance activities and recommendations outlined in this and other related BMP Fact Sheets.

### *Special Considerations*

- Ensure inlets or drains are protected near repair or construction activity sites, including activities by others.
- Consider debris capture systems, especially for problem areas.

- Flow management must be compatible with stormwater quality goals in a stream corridor.
- Consider corridor reservations, corridor restorations, bank treatment, geomorphic restoration, grade control, and buffer systems when planning an entire stream corridor that may or may not include drainage system components. This will aid in reducing cleaning and maintenance frequency of drainage systems. Such systems may be a part of Green Infrastructure Plans. Plus such systems generally improve water quality and aquatics. Entities such as LandStudies can aid in design and installations.
- Treatment control BMPs in conjunctions with source control BMPs will reduce build-up in drainage systems.

## DOCUMENTATION

Proper documentation practices are essential for any municipal SWMP to show compliance with the Clean Water Act, NPDES, and generally the requirements of the permit issued to allow discharges through the defined MS4. As with all sections of an MS4 permit, all documentation should be centralized.

For drainage system maintenance, templates are provided within the BMP manual to assist the municipality with documentation compliance. The templates can be used for compliance; however, the following documents are recommended as a minimum for compliance:

- **Training Record:** This document is used to provide record of a training event or session relative to drainage system maintenance.
- **Training and Education Log:** Enter a completed training record for drainage systems into the log.
- **Drainage System Maintenance Schedule**
- **Event Record:** If a discharge is observed during a repair or maintenance activity, an event record should be executed that also outlines response and remediation procedures. Major rain events, encountered illicit discharges, observed discharges that may associated with an illicit connection, and encountered dumped materials are all items that should be recorded as an event.
- **Activity Record:** Complete when remediation is conducted or improvements are made to roads and streets. Note protection measures of inlets, waterways, etc. that have been implemented. Complete activity records for remediation or investigation of encountered events. Complete activity records for maintenance activities such as pipe flushing or basin cleaning. Note loads removed or disposal methods.
- **Inspection Record:** Complete an inspection based on the recommendations in the section titled "INSPECTIONS AND MEASUREMENTS" or as outlined in your SWMP.
- **Inspection, Event, and Activity Log:** Enter an inspection, activity, or event record for drainage system maintenance into the log as outlined within this BMP.



## INSPECTIONS AND MEASUREMENTS

Frequency of inspections for drainage systems is recommended as follows:

- *Regular Inspection:* Conduct a regular inspection of drainage systems based on an applicable frequency and ability. An applicable frequency should be determined based on the use of the drainage system and known problem areas. Frequencies (with cleaning recommendations) are recommended as follows:
  - *Basins/inlets:* inspect all inlets/basins every 1-2 years (at least 50% of system inspected and cleaned each year; inspect inlets/basins in known problem areas every 6 months - 1 year (clean as needed).
  - *Pipes/Lines:* inspect pipes at least once every year (clean as needed); inspect known problem areas twice a year (clean as needed).
  - *Detention basins/pump stations/channels/other:* inspect throughout the year (clean as needed).
  - *Special:* facilities such as Green Infrastructure or Corridor Reservations can be inspected every 2-3 years or as recommended by consultants/ architects/engineers associated with such systems. New systems should be inspected on a more frequent basis (such as quarterly) until the system is established.
- *Rain Event Inspection:* Inspect and clean as needed after major rain events and all facilities affected by emergency response activities. Initial inspections should be focused on known problem areas. Develop inspection protocol that includes at least 25% of the system after "defined" rain events.

Items that should be inspected and maintained (and recommended maintenance actions):

- *Evidence of pollutants:* observe for evidence of pollutants such as sediment, paints, trash, etc.
- *Basins/Inlets:* Structurally sound and ensure clean and free of sediment and debris.
- *Pipes:* structurally sound and free of build-up or debris.
- *Clean-outs:* Ensure structurally sound, remove debris and sediment (if applicable) build-up. Replace cracked or leaking clean-outs.
- *Other:* inspect detention basins, culverts, outfalls, pump stations, and so on for integrity; remove sediment and debris build-up.
- *Cleaning equipment:* proper operation and free of leaks; repair as required.
- *Special:* develop items for inspection for special components of systems such as filtering devices, separators, debris capture systems, and so on. A recommendation for frequency of inspections may be provided by a manufacturer in certain instances.
- *Corridor Reservations:* free of debris and litter.

Effectiveness can be measured a number of ways. Ultimate effectiveness may be dependent on analytical monitoring of surrounding waterways. Documenting effective load removals in the system against a calculated load can demonstrate effectiveness. Proper documentation practices can further provide a

level of demonstrating effectiveness (such as documentation relative to identifying and remediation of illicit connections, cleaning activities, and training).

## **SOURCES**

U.S. Environmental Protection Agency Storm Drain System Cleaning at <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=102&minmeasure=6>

California Stormwater Quality Association, Municipal Stormwater Best Management Practice Handbook (2004 edition) at <http://www.cabmphandbooks.com/Municipal.asp>

San Diego Stormwater Co-permittees Jurisdictional Urban Runoff Management Program at <http://www.projectcleanwater.org/pdf/Model%20Program%20Municipal%20Facilities.pdf>

Santa Clara Valley Urban Runoff Pollution Prevention Program at [http://www.scvurppp-w2k.com/pdfs/ps/PS\\_SDOM.PDF](http://www.scvurppp-w2k.com/pdfs/ps/PS_SDOM.PDF)

Pennsylvania Department of Environmental Protection; final version of PAG-13 at <http://files.dep.state.pa.us/Water/Watershed%20Management/WatershedPortalFiles/StormwaterManagement/PAG-13/FinalPAG-13.pdf>

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<<http://www.epa.gov/region1/npdes/history.html>>.

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Pennsylvania Department of Environmental Protection, Bureau of Watershed Management. *National Pollutant Discharge Elimination System (NPDES) Stormwater Discharges From Small Municipal Separate Storm Sewer Systems (MS4s) General Permit (PAG-13)*. September 2011.

"Stormwater FAQs." *ncstormwater.org*. North Carolina Department of Environment and Natural Resources. 18 June 2012. <[http://www.ncstormwater.org/pages/stormwater\\_faqspage.html](http://www.ncstormwater.org/pages/stormwater_faqspage.html)>.

"Stormwater Glossary of Terms and Abbreviations." *kingcounty.gov*. King County. 16 April 2010.  
<<http://www.kingcounty.gov/environment/waterandland/stormwater/glossary.aspx>>.

NOTE: Individual BMP Fact Sheets provide references for development of the fact sheet. The Works Cited and Bibliography are specific to the balance of content found within the LIMC Municipal Operations and Maintenance Good Housekeeping Guidance & BMP Manual.

## Bibliography

California Department of Transportation. *Stormwater Pollution Prevention Plan for On and Adjacent To State Highway in San Diego County in San Diego from United States and Mexico Border to Camino de la Plaza Overcrossing*. 27 January 2005.

"Municipal Handbook." *cabmphandbooks.com*. California Stormwater Quality Association. 28 March 2009. <<http://www.cabmphandbooks.com/Municipal.asp>>.

"National Pollutant Discharge Elimination System." *cfpub.epa.gov*. United States Environmental Protection Agency. 12 March 2009. <<http://cfpub.epa.gov/npdes/index.cfm>>.

Pennsylvania Department of Environmental Protection, Bureau of Watershed Management. *National Pollutant Discharge Elimination System (NPDES) Stormwater Discharges From Small Municipal Separate Storm Sewer Systems (MS4s) General Permit (PAG-13)*. September 2011.

"Title 40—Protection of the Environment." *ecfr.gpoaccess.gov*. Part 122--EPA Administered Permit Programs: The National Pollutant Discharge Elimination System. 18 June 2012. <[http://ecfr.gpoaccess.gov/cgi/t/text/textidx?c=ecfr&tpl=/ecfrbrowse/Title40/40cfr122\\_main\\_02.tpl](http://ecfr.gpoaccess.gov/cgi/t/text/textidx?c=ecfr&tpl=/ecfrbrowse/Title40/40cfr122_main_02.tpl)>.

United States Environmental Protection Agency. *Stormwater Phase II Final Rule, Pollution Prevention/*

*Good Housekeeping Minimum Control Measure*. Fact Sheet 2.8. December 2005. University of Washington. *UW Stormwater O&M Plan*. January 2010. "Water Programs." *depweb.state.pa.us*. Pennsylvania Department of Environmental Protection.

16 June 2012. <<http://www.depweb.state.pa.us/portal/server.pt/community/water/6008>>.

NOTE: Individual BMP Fact Sheets provide references for development of the fact sheet. The Works Cited and Bibliography are specific to the balance of content found within the LIMC Municipal Operations and Maintenance Good Housekeeping Guidance & BMP Manual.



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Appendix B	Municipal Facility Detail Sheets
Appendix C	Municipal Map
Appendix D	BMP Selection Matrix
Appendix E	Annual Training and Education Plan
Appendix F	Implemented BMPs
Appendix G	BMP Implementation & Maintenance Schedule
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Appendix J	Training and Education Log
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Appendix Q	Monitoring Log
Appendix R	Pollutant Guidance Table
Appendix S	Annual Reports
Appendix T	O&M Program Modifications
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## Municipal Inventory List

Municipality: Providence TownshipPermit #: PAG133618Date of Inventory: 7/18/16☐ Updated List

This list provides a centralized location of all municipal operational activities, fixed facilities, and land uses that may contribute pollution to receiving waters. The purpose of the list is to provide a starting point in BMP selection.

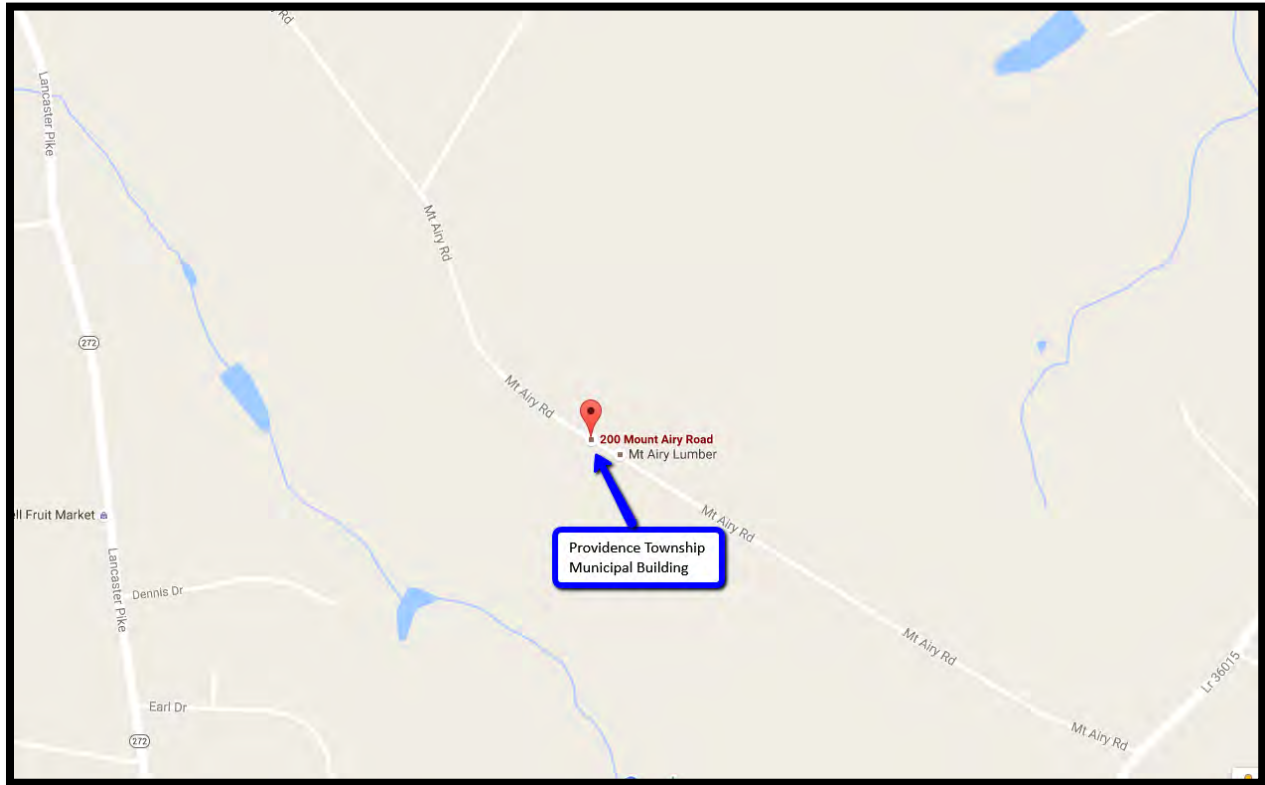
Activity, Facility, or Land Use	Self-performed or contracted	Planned or Existing	Notes
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Activity or Facility	Self-performed or contracted	Planned or Existing	Notes
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## MUNICIPAL FACILITY DETAIL SHEET

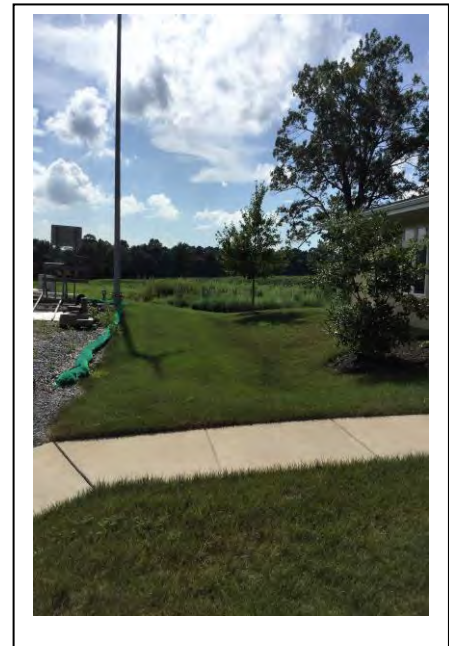
## Providence Township Campus

200 Mt Airy Road New Providence, Pa 17560

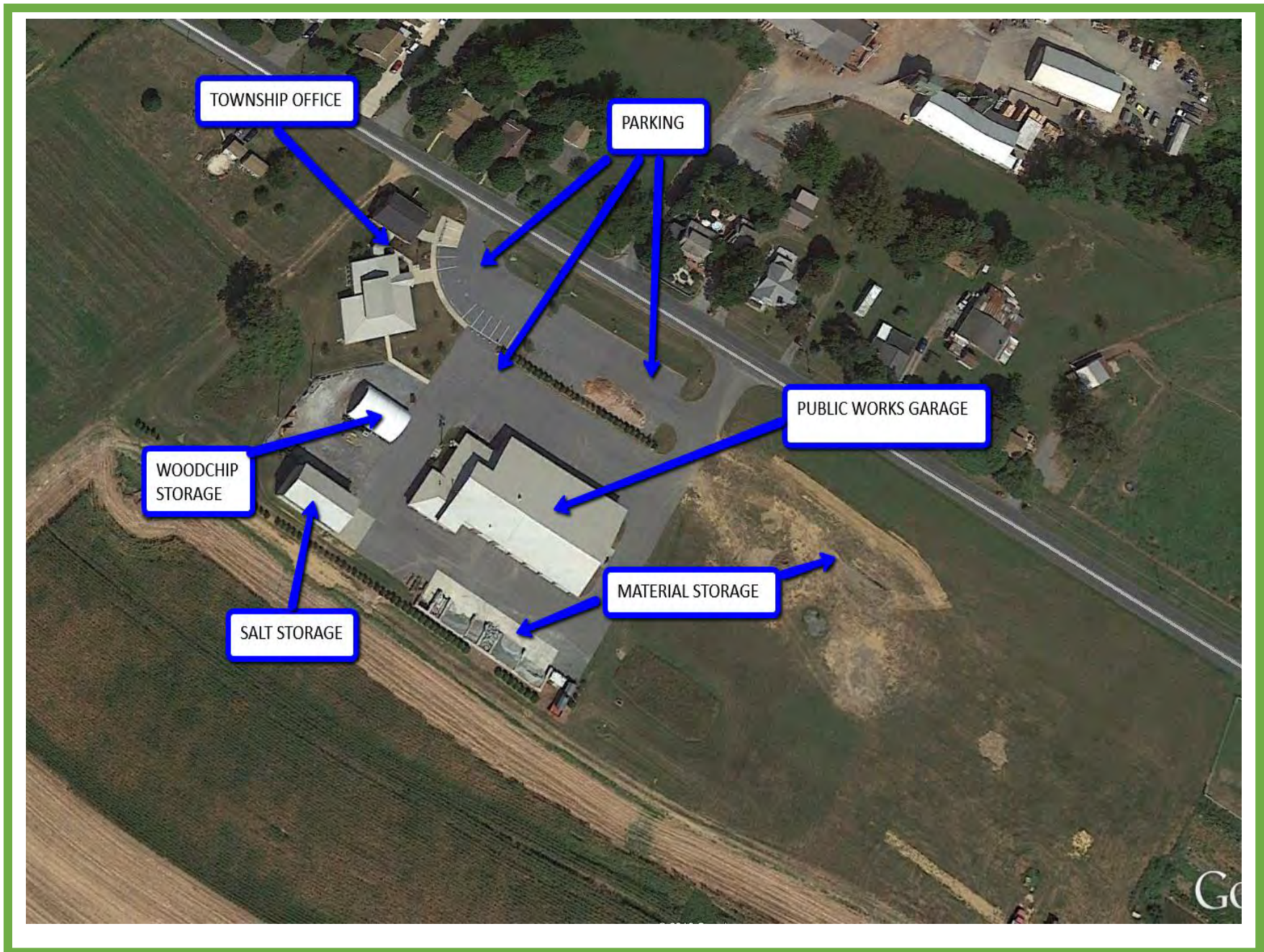


The Township Campus is a 7.15 acre property that houses the Municipal Office and Public Works Complex, which includes garages and material storage. Notable activities conducted here with potential impact upon stormwater runoff and/or water quality:

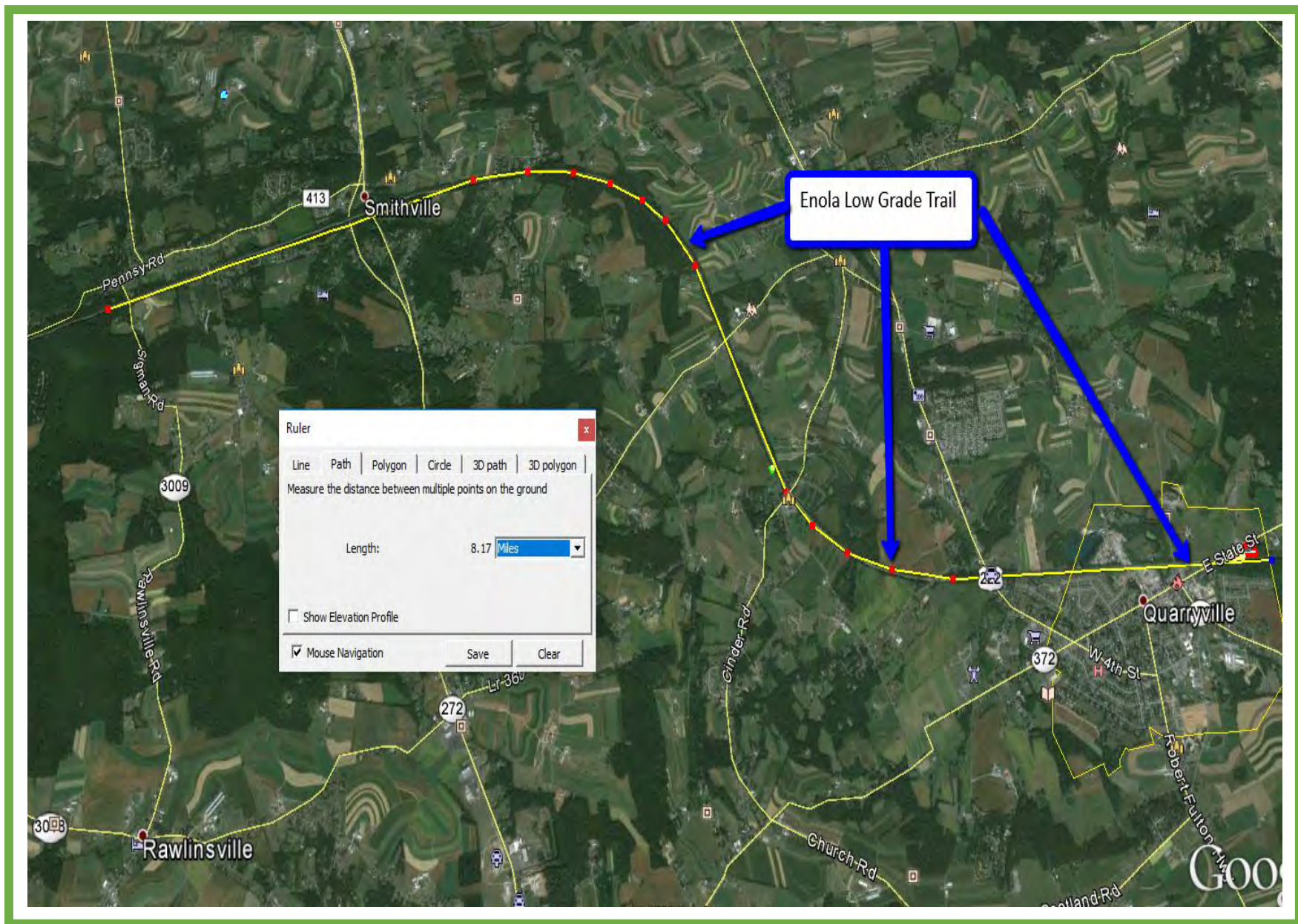
- Significant parking area which drains into exDeternal stormwater facilities.
- Multiple acres of grassed area on side of property.
- Road machinery/vehicle repair, maintenance, and washing.
- Salt storage.
- Outdoor materials storage (mulch, stone, and salt)











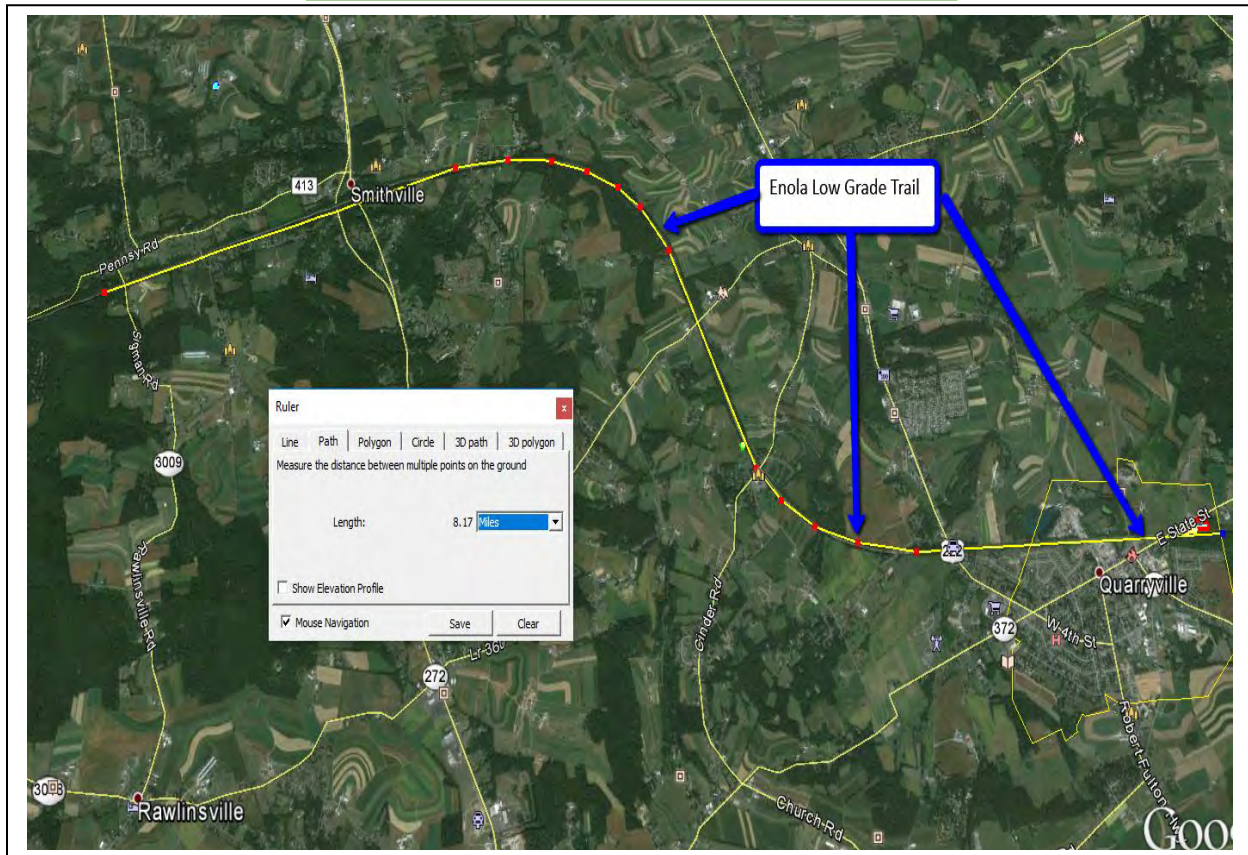
Enola Low Grade Trail



## MUNICIPAL FACILITY DETAIL SHEET

## Enola Low Grad Trail

Linear Park



The Enola Low Grade Trail is a 254.77 acre linear park with a 10 foot wide activity surface.

Notable activities conducted here with potential impact upon stormwater runoff and or water quality:

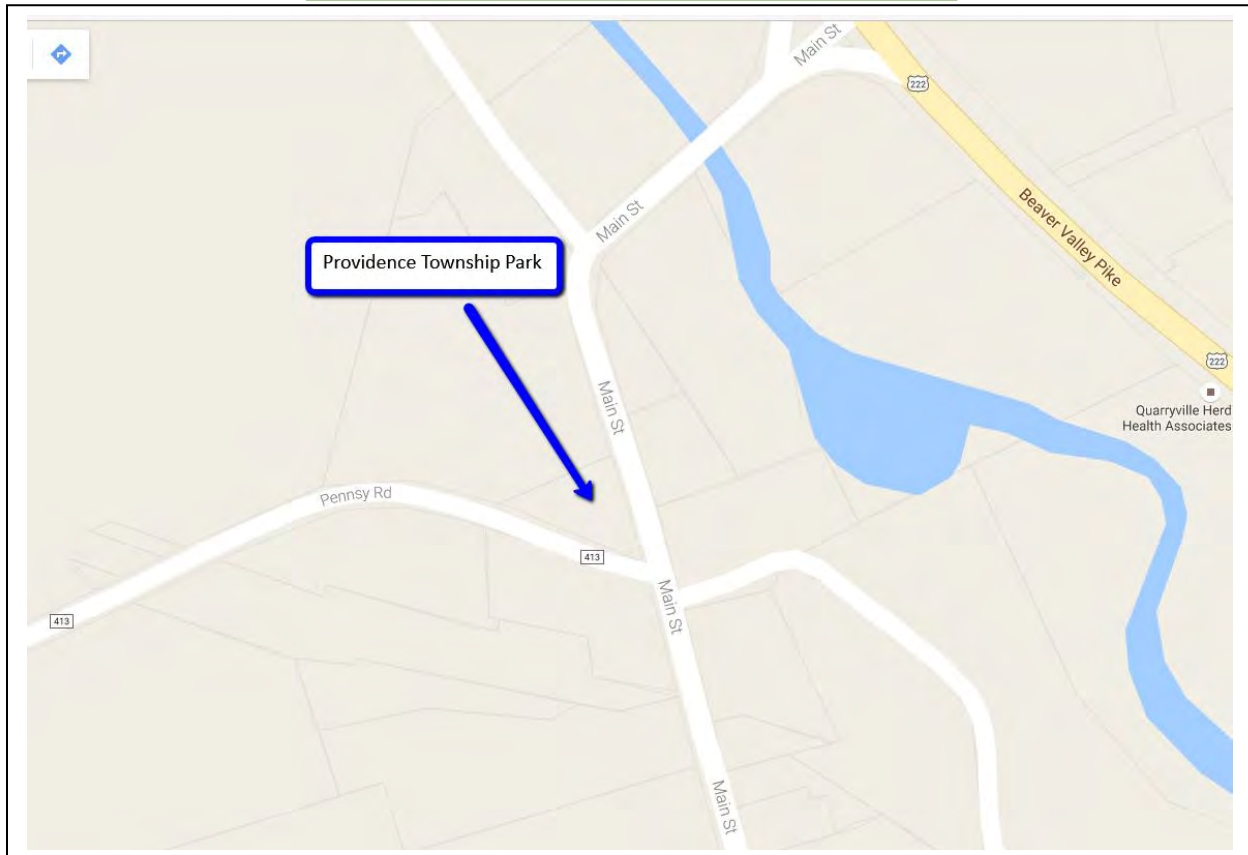
Two stoned parking areas and 8.17 miles of stoned activity surface.



## MUNICIPAL FACILITY DETAIL SHEET

**Providence Township Park**

Intersection of Pennsy Road and Main Street



The Providence Township Park is a .32 acre open area.

We have no designated area for parking. No impact on stormwater.









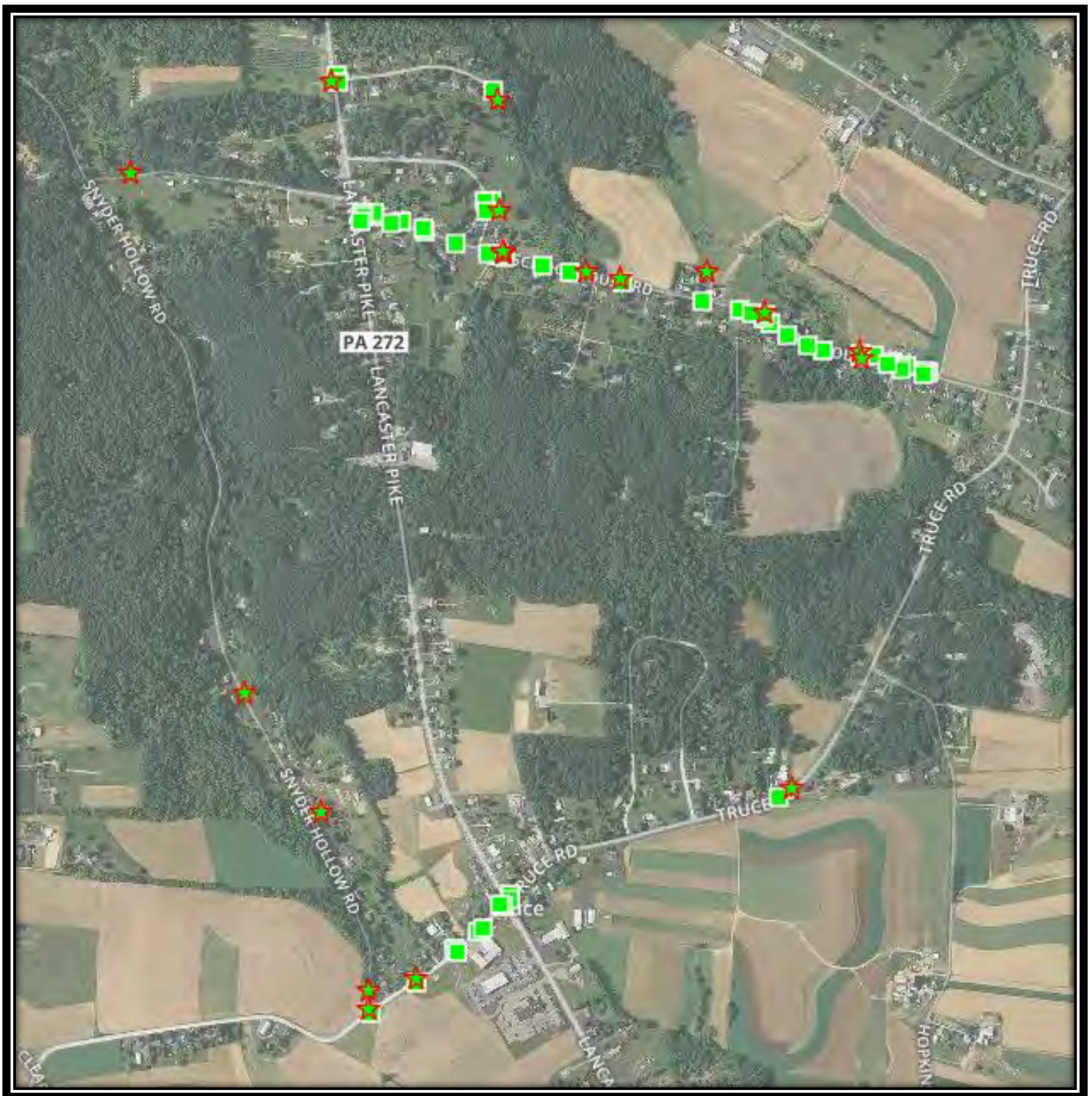


Providence Township Park

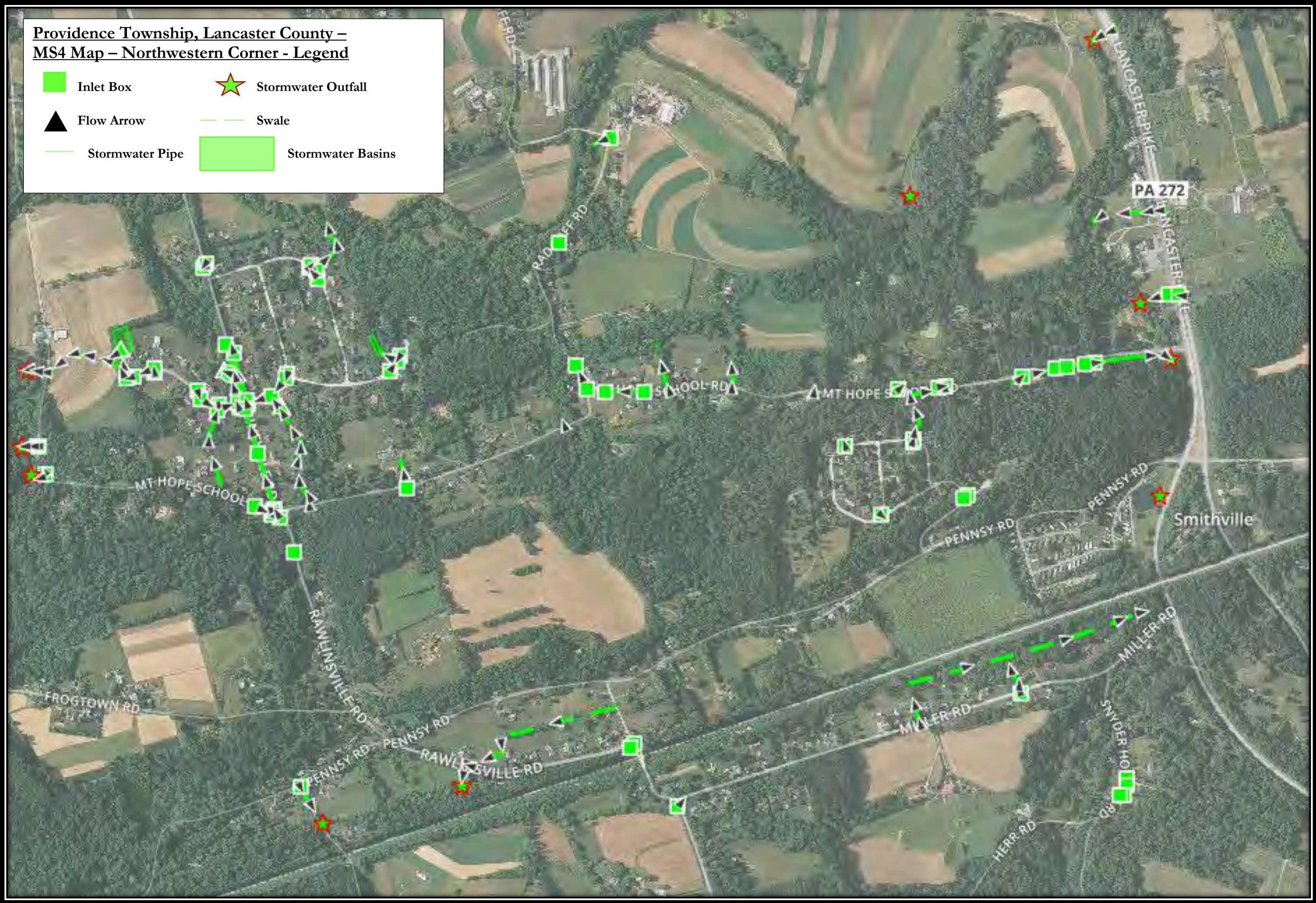


**Providence Township, Lancaster County –**  
**MS4 Map – Central Region - Legend**

 Inlet Box	 Stormwater Outfall
 Flow Arrow	 Swale
 Stormwater Pipe	 Stormwater Basins









# USGS MAP OF MS4 AREA 2000 CENSUS

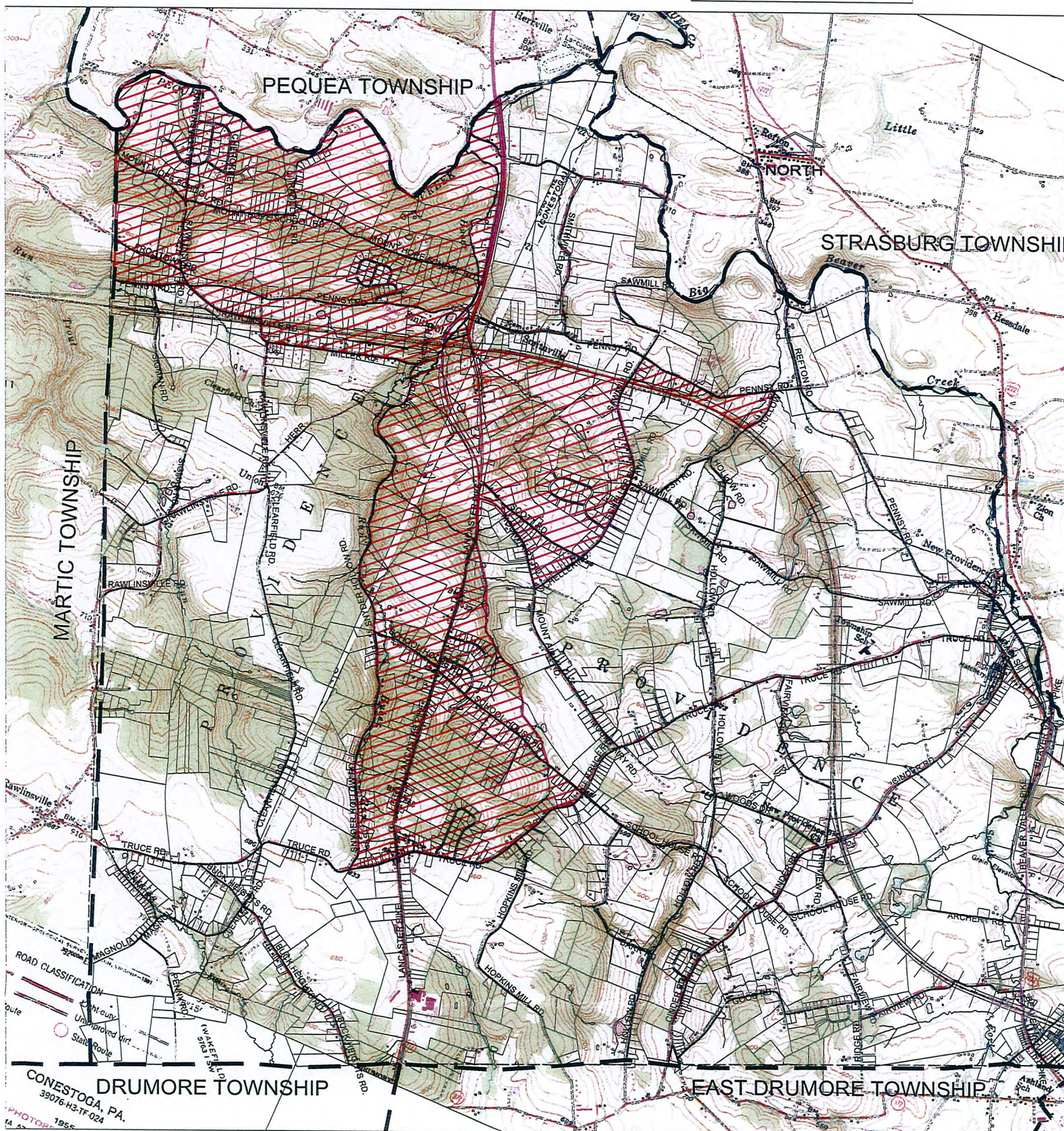
Appendix C

## LEGEND

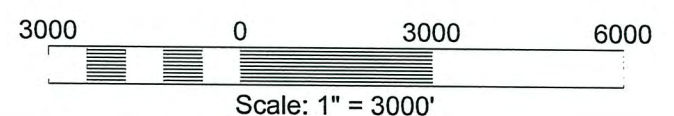


CONESTOGA QUADRANGLE  
PENNSYLVANIA—LANCASTER CO.  
7.5 MINUTE SERIES (TOPOGRAPHIC)

QUARRYVILLE QUADRANGLE  
PENNSYLVANIA—LANCASTER CO.  
7.5 MINUTE SERIES (TOPOGRAPHIC)



RAV ASSOCIATES INC.  
ENGINEERS - CONSULTANTS  
14 Main Street, Landisville, PA  
17538 (717) 898-8100






## USGS MAP OF MS4 AREA





JOB NO.	SCALE:	DATE:	SHEET:
PT-68	AS SHOWN	09/08/2012	1 OF 1

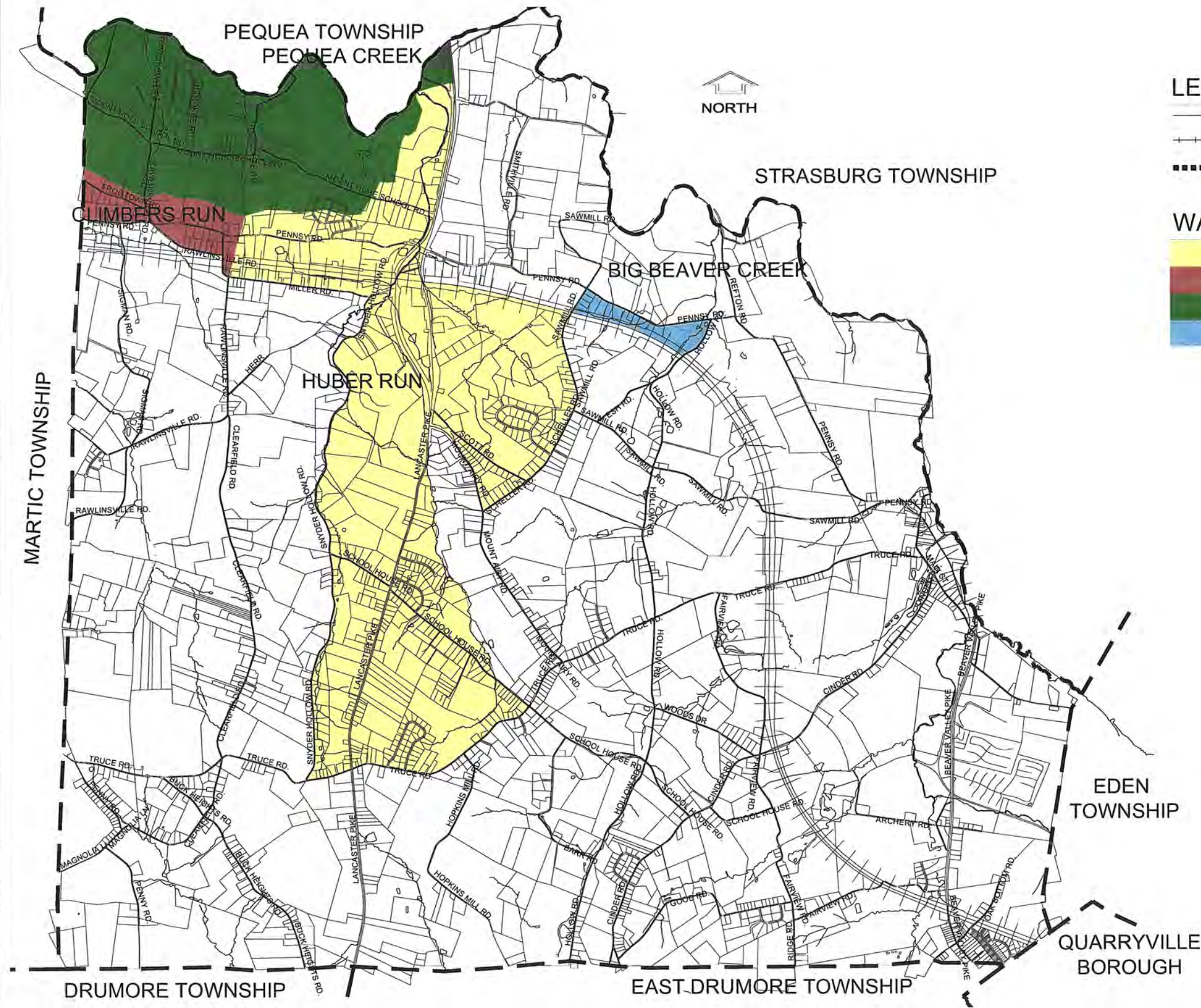


LEGEND

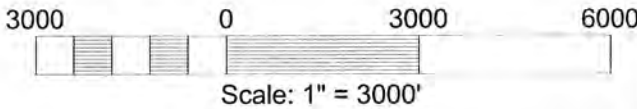
	ROAD
	RAILROAD
	MUNICIPAL BOUNDARY

WATERSHED LEGEND

	HUBER RUN
	CLIMBERS RUN
	PEQUEA CREEK
	BIG BEAVER CREEK



DRAFT



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ENGINEERS - CONSULTANTS  
14 Main Street, Landisville,  
PA 17538 (717) 898-8100

DATE:	PAGE
DATE	



**BMP SELECTION MATRIX**Municipality: Providence TownshipPermit #: PAG133618

<b>BMP</b>	<b>DATE</b> <input type="checkbox"/> Addition to original matrix	<b>Activities, Facilities, or Land Uses BMP is applied to</b>	<b>REGULAR INSPECTION FREQUENCY</b> circle one: _____ days weeks months	<b>MEASUREMENT OF EFFECTIVENESS</b>
<b>Noted Variations from Fact Sheet</b>		<b>TRAINING PLAN</b> <input type="checkbox"/> Training event added to plan	<b>Inspection Notes</b>	<b>MEASURABLE GOAL(s)</b>
<b>BMP</b>	<b>DATE</b> <input type="checkbox"/> Addition to original matrix	<b>Activities or Facilities BMP is applied to</b>	<b>REGULAR INSPECTION FREQUENCY</b> circle one: _____ days weeks months	<b>MEASUREMENT OF EFFECTIVENESS</b>
<b>Noted Variations from Fact Sheet</b>		<b>TRAINING PLAN</b> <input type="checkbox"/> Training event added to plan	<b>Inspection Notes</b>	<b>MEASURABLE GOAL(s)</b>
<b>BMP</b>	<b>DATE</b> <input type="checkbox"/> Addition to original matrix	<b>Activities or Facilities BMP is applied to</b>	<b>REGULAR INSPECTION FREQUENCY</b> circle one: _____ days weeks months	<b>MEASUREMENT OF EFFECTIVENESS</b>
<b>Noted Variations from Fact Sheet</b>		<b>TRAINING PLAN</b> <input type="checkbox"/> Training event added to plan	<b>Inspection Notes</b>	<b>MEASURABLE GOAL(s)</b>

## Annual Municipal Employee Training and Education Plan

Municipality: Providence TownshipDate of Plan: 7-18-16

Plan Dates: \_\_\_\_\_

Permit #: PAG133618Permit Cycle Year: 2015/2016

This plan provides an outline of training and education activities for the municipality's employees (and contractors as applicable) for the dates indicated. This plan does not inhibit the potential to pursue and/or conduct other training activities the municipality may deem necessary during the permit cycle year. This plan is developed to help document the municipality's compliance efforts with the selected and implemented Best Management Practice (BMP) GH-1 "Employee Training and Education."

Training Event	Target Employee Audience	Planned Frequency (if applicable)	Topic(s)/Description
SWMP Review	All Staff		
Illicit Discharge and Detection	Public Works Staff		

Training Event	Target Employee Audience	Planned Frequency (if applicable)	Topic(s)/Description

The municipality will conduct operations with the goal of completing all events listed to the Maximum Extent Practicable (MEP).

---

Signature of Authorized Municipal Representative

---

Date

---

Printed Name of Authorized Municipal Representative



Implemented MBP

RESERVED FOR FUTURE USE

## BMP Implementation and Maintenance Schedule

RESERVED FOR FUTURE USE

## Activity Record

Municipality: Providence Township**Record A-**Permit #: PAG133618

Activity Description: \_\_\_\_\_

Activity Date: \_\_\_\_\_

☐ Planned Activity

Activity Performed by: \_\_\_\_\_

☐ Result of an Inspection

Purpose of Activity:

Details of Activity:

☐ Information attached (i.e. photos, truck tickets, etc.)

Follow-up information or additional notes:

\_\_\_\_\_  
Signature of Authorized Municipal Representative\_\_\_\_\_  
Date\_\_\_\_\_  
Printed Name of Authorized Municipal Representative

## Inspection, Event, and Activity Log

Municipality: Providence TownshipPermit #: PAG133618

Page #: \_\_\_\_\_

Record #	Date	Description	Record Type			Associated Records (by Record #)	Note(s)
			Inspection	Event	Activity		



## Training and Education Log

Municipality: Providence TownshipPermit #: PAG133618

Page #: \_\_\_\_\_

Record #	Date	Description	Items Reviewed			Location			Note(s)
			BMPs	SWMP	Other	In-House	In-Field	Other	

## Training Record

Municipality: Providence Township

Record:

Permit #: PAG133618

Training Event Title/Description: \_\_\_\_\_  
 \_\_\_\_\_

Training Event Date: \_\_\_\_\_

☐ Planned Event

Training Event Location: \_\_\_\_\_

### General Topic(s) Reviewed:

☐ General Stormwater Awareness

☐ Other: \_\_\_\_\_

☐ Good Housekeeping BMPs

☐ Other: \_\_\_\_\_

☐ Illicit Discharge & Detection

☐ Other: \_\_\_\_\_

☐ Other: \_\_\_\_\_

☐ Other: \_\_\_\_\_

### Specific Topic(s) Reviewed (if applicable):

☐ Information attached

### Attendance Log:

☐ Attendance Log attached

 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

 \_\_\_\_\_  
 Signature of Authorized Municipal Representative

 \_\_\_\_\_  
 Date

 \_\_\_\_\_  
 Printed Name of Authorized Municipal Representative

## Inspection Record

Municipality: Providence TownshipRecord:                     Permit #: PAG133618Inspection Date:                                 Inspector:                                 

General Information		
<b>Weather Condition(s)</b> <input type="checkbox"/> Clear <input type="checkbox"/> Partly Cloudy <input type="checkbox"/> Cloudy	<b>Precipitation</b> <input type="checkbox"/> Misty <input type="checkbox"/> Light Rain <input type="checkbox"/> Rain <input type="checkbox"/> Heavy Rain <input type="checkbox"/> Snow <input type="checkbox"/> Hail <input type="checkbox"/> Other: <u>                    </u>	<b>Inspection Type</b> <input type="checkbox"/> Regular <input type="checkbox"/> Pre-Rain Event <input type="checkbox"/> During a Rain Event <input type="checkbox"/> Post Rain Event <input type="checkbox"/> Other: <u>                    </u>
<b>Wind Condition</b> <input type="checkbox"/> None <input type="checkbox"/> 1 to 10 mph <input type="checkbox"/> Greater than 10 mph		<b>Other of Note</b>  

Inspection of BMPs					
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Comments &amp; Notes:</b>  					<b>Spill, Leak, or Discharge observed</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Comments &amp; Notes:</b>  					<b>Spill, Leak, or Discharge observed</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Comments &amp; Notes:</b>  					<b>Spill, Leak, or Discharge observed</b> <input type="checkbox"/> Yes <input type="checkbox"/> No

BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes:					Spill, Leak, or Discharge observed
					<input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes:					Spill, Leak, or Discharge observed
					<input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes:					Spill, Leak, or Discharge observed
					<input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes:					Spill, Leak, or Discharge observed
					<input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes:					Spill, Leak, or Discharge observed
					<input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes:					Spill, Leak, or Discharge observed
					<input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes:					Spill, Leak, or Discharge observed
					<input type="checkbox"/> Yes <input type="checkbox"/> No



BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes:					Spill, Leak, or Discharge observed
					<input type="checkbox"/> Yes <input type="checkbox"/> No
BMP	Facility or Activity	Properly Functioning	Maintenance or Repairs	Photos	Follow-Up Required
	<input type="checkbox"/> Facility <input type="checkbox"/> Activity	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments & Notes:					Spill, Leak, or Discharge observed
					<input type="checkbox"/> Yes <input type="checkbox"/> No

General Comments	
Does the MS4 PPGHP reflect activities & operations <input type="checkbox"/> Yes <input type="checkbox"/> No	Does the MS4 PPGHP Need Revised <input type="checkbox"/> Yes <input type="checkbox"/> No
Clarification	
Concerns (including locations and potential action)	
Other Comments/Notes	

Planned Follow-up Action:		
<input type="checkbox"/> Follow-up Inspection	<input type="checkbox"/> Training	<input type="checkbox"/> Activity: _____

---

 Signature of Inspector

---

 Date

---

 Printed Name of Inspector

---

 Signature of Authorized Municipal Representative

---

 Date

---

 Printed Name of Authorized Municipal Representative

## Event Record

Municipality: Providence Township

Record E-

Permit #: PAG133618

Event Description: \_\_\_\_\_

Event Date: \_\_\_\_\_ Observed by: \_\_\_\_\_

Type of Event (select all applicable items):

- |   |   |
|---|---|
| <input type="checkbox"/> Rain Event               | <input type="checkbox"/> Emergency Spill Response |
| <input type="checkbox"/> Illicit Discharge        | <input type="checkbox"/> BMP Failure              |
| <input type="checkbox"/> Non-stormwater Discharge | <input type="checkbox"/> Other: _____             |

Details of Event:

☐ Information attached (i.e. photos, etc.)

Planned Follow-up Action:

- ☐ Inspection
- ☐ Activity
- ☐ Enforcement
- ☐ Remediation

Other Notes:

\_\_\_\_\_  
Signature of Authorized Municipal Representative\_\_\_\_\_  
Date\_\_\_\_\_  
Printed Name of Authorized Municipal Representative

## Waste Disposal Plan

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## Spill Response and Control Plan

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## Monitoring Report

Municipality: Providence Township

Report #: \_\_\_\_\_

Permit #: PAG133618

Monitoring Date: \_\_\_\_\_

Sample(s) collected

☐ Yes ☐ No☐ Field Monitoring☐ Analytical Monitoring (attach report)

*Only complete the general information, general observations, summary of monitoring and follow-up actions, and signatory sections*

General Information		Sample Information (if applicable)
<b>Weather Condition(s)</b>  <input type="checkbox"/> Clear  <input type="checkbox"/> Partly Cloudy  <input type="checkbox"/> Cloudy	<b>Precipitation</b>  <input type="checkbox"/> Misty  <input type="checkbox"/> Light Rain  <input type="checkbox"/> Rain  <input type="checkbox"/> Heavy Rain  <input type="checkbox"/> Snow  <input type="checkbox"/> Hail  <input type="checkbox"/> Other: _____	<b>Sample Acquisition Location</b>  <hr/> <b>Location ID (if applicable)</b>  <hr/> <b>Sample ID #</b>  <hr/> <b>Sample Collected By:</b>  <hr/>
<b>Wind Condition</b>  <input type="checkbox"/> None  <input type="checkbox"/> 1 to 10 mph  <input type="checkbox"/> Greater than 10 mph	<b>Were additional samples collected in immediate area?</b>  <input type="checkbox"/> Yes <input type="checkbox"/> No <span style="float: right;">Report#: _____</span>	

General Observations	
<input type="checkbox"/> Odor  <input type="checkbox"/> Foam  <input type="checkbox"/> Color  <input type="checkbox"/> Other: _____	<b>DESCRIPTION</b>  <div style="height: 150px;"></div>

**Analysis Summary-Sample Testing (Field Monitoring)**

Meter/Kit(s) Used: \_\_\_\_\_

Sample analyzed for (indicators): \_\_\_\_\_

Testing Results:

\_\_\_\_\_  
Indicator

\_\_\_\_\_  
Result

\_\_\_\_\_  
Indicator

\_\_\_\_\_  
Result

**Analysis Summary-Visual Observations (Field Monitoring)**

Observation Results:

\_\_\_\_\_  
Indicator

\_\_\_\_\_  
Probable Pollutant

\_\_\_\_\_  
Indicator

\_\_\_\_\_  
Probable Pollutant

\_\_\_\_\_  
Indicator

\_\_\_\_\_  
Probable Pollutant

**Summary of Monitoring and Follow-Up Actions**

\_\_\_\_\_  
Signature of Monitor

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name of Monitor

\_\_\_\_\_  
Signature of Authorized Municipal Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name of Authorized Municipal Representative

Monitoring Activity Log

Municipality: Providence Township

Permit #: PAG133618

Page #:

Sample ID #	Report #	Date of Sample Acquisition	Observations and Results	Report Type		Location	Note(s)
				Field	Analytical		

## Pollutant Guidance Table

*This table is designed to provide overview guidance of possible pollutants along with sample testing indicators and observable pollutants.*

Municipality: Providence TownshipPermit #: PAG133618

Page #: \_\_\_\_\_

CATEGORY	CHEMICAL/MATERIAL	OBSERVATIONS	ANALYSIS INDICATORS	NOTES
Asphalt	Hot Asphalt	Visually Observable: Rainbow surface and/or brown suspension	No testing required (visually observable)	
	Liquid Asphalt			
	Cold Mix			
	Asphalt Concrete			
Cleaning Products	Acids	Not Visually Observable	High pH and acidity	pH meter
	Bleaches		Chlorine	Chlorine test kit
	Solvents		VOC & SVOC	EPA methods req.
	Detergents	Foam	No testing required (visually observable)	
	Ammonia	Strong smell	Ammonia	Ammonia meter
Concrete and Masonry Products	Portland Cement (PCC)	Milky liquid	No testing required (visually observable)	
	Mortar			
	Concrete Rinse Water			
	Masonry Products	Not Visually Observable	Low pH and alkalinity	pH meter
	Concrete/Masonry Sealants	Not Visually Observable	Methyl Methacrylate, Cobalt, Zinc	EPA methods req.
Landscaping Products	Soil Amendments	Not Visually Observable	Nitrates, Phosphates, Sulfates, Other Metals	EPA methods req.
	Fertilizers		Herbicide and pesticide chemicals	Per lab
	Herbicides & Pesticides		alkalinity	pH meter
	Lime		No testing required (visually observable)	
	Soil & Sediment	Cloudiness, muddy, turbidity	No testing required (visually observable)	
Other	Petroleum, Fuels, & Oils	Rainbow Surface, Sheen, and Odor	No testing required (visually observable)	
	Chlorinated Water	Not Visually Observable	Total Chlorine	Chlorine test kit
	Adhesives		Phenols, SVOC	EPA methods req.
	Salts (Magnesium Chloride, Calcium Chloride, and Natural Brines)		Chloride, Cations, TDS	TDS Meter, EPA methods req.
	Antifreeze and similar	Colored liquid	No testing required (visually observable)	
	Batteries	Not Visually Observable	Lead, sulfuric acid, pH	pH meter & other



Paint Products	Paint	Colored liquid/paint	No testing required (visually observable)	
	Paint Strippers	Not Visually Observable	VOC, SVOC, COD	EPA methods req.
	Sealants			
	Lacquers, Varnish, etc.			
	Thinners & Solvents			
Special	Sewage	Odor (and floatables at times)	Ammonia (>1 mg/L)	Ammonia meter
	Mining Waste	Generally not observable	Contaminant Specific	Per lab
	Industrial Waste			
	Treated Wood Products	Not Visually Observable	Arsenic, Copper, Zinc	EPA methods req.
	Bacteria	Generally not observable	Bacteria Specific	Per lab

**NOTES**

1. A note of "EPA methods req." indicates an approved EPA method for testing for a specific pollutant is required (e.g. Method EPA 625 is used for testing SVOC).
2. A note of "Per lab" indicates there may a wide range of potential pollutants and may require multiple testing methods.
3. Potential pollutants to be tested may not be limited to the items in the table. Add additional sheets to this table outlining guidance for testing.
4. In a sampling report, note if pollutants tested were field tested or lab (or similar) tested. Provide proper chain-of-custody forms for analytical lab testing.
5. Primary source of information in the table provided by California Department of Transportation Construction Site Monitoring Program Guidance Manual, 2012 edition
6. Explanation of Acronyms:
  - COD: Chemical Oxygen Demand
  - EPA: United States Environmental Protection Agency
  - SVOC: Semi-volatile organic compounds
  - TDS: Total Dissolved Solids
  - VOC: Volatile Organic Compounds
7. Contact a certified laboratory or similar type entity for additional or specific guidance if necessary or applicable, including analytical guidelines for specific pollutants.
8. Hazardous or similar materials will provide specific pollutants of concern in Material Safety Data Sheets (MSDS).



## NAVOSHENVTRACEN

## Appendix 1, INCOMPATIBLE MATERIALS CHART

MATERIAL GROUP	EXAMPLES	INCOMPATIBLE MATERIALS	EXAMPLES	REACTION IF MIXED
HMUG GROUP 1	ACIDS	Battery Acids Paint Removers De-Rust Sprays	FLAMMABLE/COMBUSTIBLES ALKALIES/BASES/CAUSTICS OXIDIZERS (GROUPS 2, 3, 4, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 22)	HEAT GAS GENERATION VIOLENT REACTION
2	ADHESIVES	Epoxies Isocyanates Diethylenetriamine	ACIDS ALKALIES/BASES/CAUSTICS OXIDIZERS (HMUG GROUPS 1, 3, 18)	HEAT FIRE HAZARD
3	ALKALIES BASES/ CAUSTICS	Ammonia, Sodium Hydroxide Sodium Bicarbonate Cleaners/Detergents	ACIDS/OXIDIZERS FLAMMABLES/COMBUSTIBLES (HMUG GROUPS 1, 2, 6, 8, 9, 10, 11, 12, 14, 15, 17, 18, 19, 20, 22)	HEAT GAS GENERATION VIOLENT REACTION
4	CLEANING COMPOUNDS	Degreasers Carbon Removers Antifogging Compounds	DETERGENTS/SOAPS OXIDIZERS (HMUG GROUPS 7, 18)	HEAT FIRE HAZARD
5	COMPRESSED GASES	Acetylene, Helium Propane, Ammonia Oxygen	HEAT SOURCES CONSULT OPNAVIST 5100.19 (SERIES) AND NSTM 670 FOR SPECIFIC HANDLING AND STOWAGE GUIDANCE	FIRE HAZARD EXPLOSION HAZARD
6	CORROSION PREVENTIVE COMPOUNDS	Corrosion Inhibitors Chemical Conversion Compounds	ACIDS BASES OXIDIZERS IGNITION SOURCES (HMUG GROUPS 1, 3, 18)	FIRE HAZARD
7	DETERGENTS/ SOAPS	Detergents, Disinfectant, Scouring Powders, Sodium Hydroxide, Trisodium Phosphate, Potassium Hydroxide (Alkalies/Bases/Caustics)	ACID-CONTAINING COMPOUNDS (HMUG GROUPS 1, 4, 5)	VIOLENT REACTION HEAT
8	GREASES	Graphite Silicone Molybdenum	OXIDIZERS ALKALIES/BASES/ CAUSTICS (HMUG GROUPS 3, 18)	FIRE HAZARD
9	HYDRAULIC FLUIDS	Petroleum-Based Synthetic Fire-Resistant	CORROSIVES (HMUG GROUPS 1, 3) OXIDIZERS (HMUG GROUP 18)	HEAT VIOLENT REACTION
10	INSPECTION PENETRANTS	Petroleum-Based Dyes	CORROSIVES (HMUG GROUPS 1, 3) OXIDIZERS (HMUG GROUP 18)	Battery Acid Chlorine Laundry Bleach Calcium Hypochlorite Calcium Oxide Hydrogen Peroxide OBA Canisters Lithium Hydroxide Ammonia Paint Removers
11	LUBRICANTS/ OILS	Gen. Purpose, Turbine, Gear, Vacuum, Weapon	CORROSIVES (HMUG GROUPS 1, 3) OXIDIZERS (HMUG GROUP 18)	EXPLOSION HAZARD
12	PAINTS	Primers, Enamels, Laquers, Strippers	OXIDIZERS (HMUG GROUP 18) CORROSIVES (HMUG GROUPS 1, 3)	HEAT FIRE HAZARD
13	PHOTO CHEMICALS	Color and B/W, Toners Developers, Replenishers Bleaches/Stopbath	ACIDS HEAVY METALS (HMUG GROUPS 1, 20)	HEAT FIRE HAZARD
14	POLISH/WAX COMPOUNDS	Buffing Compound Metal Polish Gen. Purpose Wax	CORROSIVES OXIDIZERS (HMUG GROUPS 1, 3, 18)	HEAT, FIRE HAZARD VIOLENT REACTION
15	SOLVENTS (HYDROCARBONS)	Acetone, Methyl Ethyl Ketone (MEK), Toluene, Xylene, Alcohols	CORROSIVES OXIDIZERS BATTERIES (HMUG GROUPS 1, 3, 18, 21)	Battery Acid Calcium Hypochlorite Sodium Nitrate Hydrogen Peroxide Sodium Hydroxide
16	THERMAL INSULATION	Asbestos, Fibrous Glass Man-Made Vitreous Fibers	MATERIAL IS NOT REACTIVE KEEP DRY	NO REACTION
17	WATER TREATMENT CHEMICALS	Tri-Sodium Phosphate Caustic Soda Citric Acid Harness Buffer Titrating Solutions	CORROSIVES OXIDIZERS HEAVY METALS (HMUG GROUPS 1, 3, 18, 20)	HEAT VIOLENT REACTION
18	OXIDIZERS	Chlorine Laundry Bleach Calcium Hypochlorite, Calcium Oxide Hydrogen Peroxide, OBA Canisters Lithium Hydroxide	PETROLEUM BASED MATERIALS FUELS SOLVENTS, CORROSIVES, HEAT GROUPS 1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 14, 15, 17, 19, 20, 21, 22)	FIRE HAZARD TOXIC GAS GENERATION
19	FUELS	JP4, JP5, Gasoline	CORROSIVES OXIDIZERS (HMUG GROUPS 1, 3, 18)	Battery Acid Calcium Hypochlorite Sodium Nitrate Sodium Hydroxide
20	HEAVY METALS	Beryllium, Chromium, Copper, Lead, Magnesium, Mercury, Nickel, Strontium Chromate, Tin, Zinc	CORROSIVES OXIDIZERS WATER TREATMENT/ PHOTO CHEMICALS (HMUG GROUPS 1, 3, 6, 13, 17, 18, 21)	VIOLENT REACTION GENERATION OF TOXIC AND FLAMMABLE GAS
21	BATTERIES	Lead Acid, Alkaline Lithium, Dry Cell	SOLVENTS HEAVY METALS OXIDIZERS (HMUG GROUPS 15, 18, 20)	Xylene Toluene Alcohol Tin Zinc Chromium
22	PESTICIDES	Insecticides, Fungicides Rodenticides, Fumigants	CORROSIVES OXIDIZERS (HMUG GROUPS 1, 3, 18)	TOXIC GAS GENERATION



1. This Chart is to be used as a Guide Only!
2. Compare the desired HMUG Group in the left column with the Incompatible Material(s) of that Group in the Center Column, on the same row.
3. Should the Material(s) in the Center Column be mixed with the desired Group in the Left Column, the Expected Reaction(s) can be seen in the right Column.
4. For specific information on storage of Hazardous Materials, consult the MSDS, HMUG, OPNAVINST 5100.19 (Series), NSTM 670, Ships Hazardous Material List (SHML), and NAVSUP PUB 573.

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By  
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## Occupational Safety & Health Administration We Can Help

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### Regulations (Standards - 29 CFR) - Table of Contents

• Part Number:	1910
• Part Title:	Occupational Safety and Health Standards
• Subpart:	H
• Subpart Title:	Hazardous Materials
• Standard Number:	1910.119 App A
• Title:	List of Highly Hazardous Chemicals, Toxics and Reactives (Mandatory).

This Appendix contains a listing of toxic and reactive highly hazardous chemicals which present a potential for a catastrophic event at or above the threshold quantity.

CHEMICAL NAME	CAS*	TQ**
Acetaldehyde	75-07-0	2500
Acrolein (2-Popenal)	107-02-8	150
Acrylyl Chloride	814-68-6	250
Allyl Chlorid	107-05-1	1000
Allylamine	107-11-9	1000
Alkylaluminum	Varies	5000
Ammonia, Anhydrous	7664-41-7	10000
Ammonia solutions (greater than 44% ammonia by weight)	7664-41-7	15000
Ammonium Perchlorate	7790-98-9	7500
Ammonium Permanganate	7787-36-2	7500
Arsine (also called Arsenic Hydride)	7784-42-1	100
Bis(Chloromethyl) Ether	542-88-1	100
Boron Trichloride	10294-34-5	2500
Boron Trifluoride	7637-07-2	250
Bromine	7726-95-6	1500
Bromine Chloride	13863-41-7	1500
Bromine Pentafluoride	7789-30-2	2500
Bromine Trifluoride	7787-71-5	15000
3-Bromopropyne (also called Propargyl Bromide)	106-96-7	100
Butyl Hydroperoxide (Tertiary)	75-91-2	5000
Butyl Perbenzoate (Tertiary)	614-45-9	7500
Carbonyl Chloride (see Phosgene)	75-44-5	100
Carbonyl Fluoride	353-50-4	2500
Cellulose Nitrate (concentration greater than 12.6% nitrogen)	9004-70-0	2500
Chlorine	7782-50-5	1500
Chlorine Dioxide	10049-04-4	1000
Chlorine Pentafluoride	13637-63-3	1000
Chlorine Trifluoride	7790-91-2	1000
Chlorodiethylaluminum (also called Diethylaluminum Chloride)	96-10-6	5000
1-Chloro-2,4-Dinitrobenzene	97-00-7	5000
Chloromethyl Methyl Ether	107-30-2	500
Chloropicrin	76-06-2	500
Chloropicrin and Methyl Bromide mixture	None	1500
Chloropicrin and Methyl Chloride mixture	None	1500
Cumene Hydroperoxide	80-15-9	5000
Cyanogen	460-19-5	2500
Cyanogen Chloride	506-77-4	500
Cyanuric Fluoride	675-14-9	100
Diacetyl Peroxide (concentration greater than 70%)	110-22-5	5000
Diazomethane	334-88-3	500
Dibenzoyl Peroxide	94-36-0	7500
Diborane	19287-45-7	100
Dibutyl Peroxide (Tertiary)	110-05-4	5000



Dichloro Acetylene	7572-29-4	250
Dichlorosilane	4109-96-0	2500
Diethylzinc	557-20-0	10000
Diisopropyl Peroxydicarbonate	105-64-6	7500
Dilauroyl Peroxide	105-74-8	7500
Dimethyldichlorosilane	75-78-5	1000
Dimethylhydrazine, 1,1-	57-14-7	1000
Dimethylamine, Anhydrous	124-40-3	2500
2,4-Dinitroaniline	97-02-9	5000
Ethyl Methyl Ketone Peroxide (also Methyl Ethyl Ketone Peroxide; concentration greater than 60%)	1338-23-4	5000
Ethyl Nitrate	109-95-5	5000
Ethylamine	75-04-7	7500
Ethylene Fluorohydrin	371-62-0	100
Ethylene Oxide	75-21-8	5000
Ethyleneimine	151-56-4	1000
Fluorine	7782-41-4	1000
Formaldehyde (Formalin)	50-00-0	1000
Furan	110-00-9	500
Hexafluoroacetone	684-16-2	5000
Hydrochloric Acid, Anhydrous	7647-01-0	5000
Hydrofluoric Acid, Anhydrous	7664-39-3	1000
Hydrogen Bromide	10035-10-6	5000
Hydrogen Chloride	7647-01-0	5000
Hydrogen Cyanide, Anhydrous	74-90-8	1000
Hydrogen Fluoride	7664-39-3	1000
Hydrogen Peroxide (52% by weight or greater)	7722-84-1	7500
Hydrogen Selenide	7783-07-5	150
Hydrogen Sulfide	7783-06-4	1500
Hydroxylamine	7803-49-8	2500
Iron, Pentacarbonyl	13463-40-6	250
Isopropylamine	75-31-0	5000
Ketene	463-51-4	100
Methacrylaldehyde	78-85-3	1000
Methacryloyl Chloride	920-46-7	150
Methacryloyloxyethyl Isocyanate	30674-80-7	100
Methyl Acrylonitrile	126-98-7	250
Methylamine, Anhydrous	74-89-5	1000
Methyl Bromide	74-83-9	2500
Methyl Chloride	74-87-3	15000
Methyl Chloroformate	79-22-1	500
Methyl Ethyl Ketone Peroxide (concentration greater than 60%)	1338-23-4	5000
Methyl Fluoroacetate	453-18-9	100
Methyl Fluorosulfate	421-20-5	100
Methyl Hydrazine	60-34-4	100
Methyl Iodide	74-88-4	7500
Methyl Isocyanate	624-83-9	250
Methyl Mercaptan	74-93-1	5000
Methyl Vinyl Ketone	79-84-4	100
Methyltrichlorosilane	75-79-6	500
Nickel Carbonyl (Nickel Tetracarbonyl)	13463-39-3	150
Nitric Acid (94.5% by weight or greater)	7697-37-2	500
Nitric Oxide	10102-43-9	250
Nitroaniline (para Nitroaniline)	100-01-6	5000
Nitromethane	75-52-5	2500
Nitrogen Dioxide	10102-44-0	250
Nitrogen Oxides (NO; NO(2); N2O4; N2O3)	10102-44-0	250
Nitrogen Tetroxide (also called Nitrogen Peroxide)	10544-72-6	250
Nitrogen Trifluoride	7783-54-2	5000
Nitrogen Trioxide	10544-73-7	250
Oleum (65% to 80% by weight; also called Fuming Sulfuric Acid)	8014-94-7	1000
Osmium Tetroxide	20816-12-0	100
Oxygen Difluoride (Fluorine Monoxide)	7783-41-7	100
Ozone	10028-15-6	100
Pentaborane	19624-22-7	100
Peracetic Acid (concentration greater 60% Acetic Acid; also called Peroxyacetic Acid)	79-21-0	1000
Perchloric Acid (concentration greater than 60% by weight)	7601-90-3	5000
Perchloromethyl Mercaptan	594-42-3	150
Perchloryl Fluoride	7616-94-6	5000
Peroxyacetic Acid (concentration greater than 60% Acetic Acid; also called Peracetic Acid)	79-21-0	1000
Phosgene (also called Carbonyl Chloride)	75-44-5	100



Phosphine (Hydrogen Phosphide)	7803-51-2	100
Phosphorus Oxychloride (also called Phosphoryl Chloride)	10025-87-3	1000
Phosphorus Trichloride	7719-12-2	1000
Phosphoryl Chloride (also called Phosphorus Oxychloride)	10025-87-3	1000
Propargyl Bromide	106-96-7	100
Propyl Nitrate	627-3-4	2500
Sarin	107-44-8	100
Selenium Hexafluoride	7783-79-1	1000
Stibine (Antimony Hydride)	7803-52-3	500
Sulfur Dioxide (liquid)	7446-09-5	1000
Sulfur Pentafluoride	5714-22-7	250
Sulfur Tetrafluoride	7783-60-0	250
Sulfur Trioxide (also called Sulfuric Anhydride)	7446-11-9	1000
Sulfuric Anhydride (also called Sulfur Trioxide)	7446-11-9	1000
Tellurium Hexafluoride	7783-80-4	250
Tetrafluoroethylene	116-14-3	5000
Tetrafluorohydrazine	10036-47-2	5000
Tetramethyl Lead	75-74-1	1000
Thionyl Chloride	7719-09-7	250
Trichloro (chloromethyl) Silane	1558-25-4	100
Trichloro (dichlorophenyl) Silane	27137-85-5	2500
Trichlorosilane	10025-78-2	5000
Trifluorochloroethylene	79-38-9	10000
Trimethoxysilane	2487-90-3	1500

Footnote\* Chemical Abstract Service Number

Footnote\*\* Threshold Quantity in Pounds (Amount necessary to be covered by this standard.)

[57 FR 7847, Mar. 4, 1992]

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## Annual Reports

RESERVED FOR FUTURE USE

## O & M Program Modifications

RESERVED FOR FUTURE USE

**BMP Development Sheet**

Municipality: Providence Township

**ID #:**

Permit #: PAG133618

BMP Title: \_\_\_\_\_

BMP Description (Protocols, Considerations, etc.):

Measurable Goals:

Measurement of Effectiveness:

Notes

Implementation Schedule and Responsibilities