Stormwater Commission Page -

This page will be utilized by the Stormwater Commission to update the public on Commission activities, stormwater progress, and stormwater issues. 2009 Stormwater Commission Report *HERE*. 2012 Stormwater Relief Program *HERE*.

Stormwater Commission Meeting Summaries - at bottom of page.

Updated 7/10/2013

"Village Accelerating Stormwater Relief Plan"

MAYOR ANDREW PRZYBYLO ANNOUNCES

ACCELERATION OF STORMWATER RELIEF PLAN

Since the devastating 2008 flood that hit the Village of Niles and the region with over 9.5 inches of water, there have been four record rainfalls – two of which were declared disasters by the Federal Emergency Management Agency (FEMA).

"The frequency and severity of heavy rainfall events in Niles has noticeably increased in recent years." States stormwater engineer Jeff Wickenkamp of Hey and Associates. "When comparing the last 5 years to the previous 19, rainfall events greater than 3 inches have occurred 3 times more often and have produced an average of 33% more rain per event."

As a result of the first 2008 flood, the Village of Niles embarked on a study that ultimately resulted in a $32M Stormwater Relief Program that includes new sewer infrastructure, reservoirs, and a flood assistance program. The first tier of this program was approved June of 2012 and is funded by a .25% sales tax increase.

The Village of Niles immediately hired Hey and Associates to complete preliminary design and engineering of the three Tier-1 Stormwater Relief Program projects. The three projects being engineered include:

- Cleveland Relief Sewer – a new stormwater relief sewer to provide flood relief to properties near Cleveland Avenue, east of Osceola.
- Main Street Relief Sewer and Storage – Provide storage facility and storm sewer improvements near Milwaukee / Main. Sewer improvements along Lee Street and Main Street combined sewers.
- West Side Storage Basins: Construction of detention basins at one or two locations and associated connecting sewers.

Mayor Andrew Przybylo is announcing efforts to accelerate the engineering for these projects, so that construction begins the Spring of 2014. “We want to break this cycle of fear residents feel every time it storms and replace that fear with knowledge and promise.” Mayor Przybylo stated, “The residents of Niles will get through the travesty of this harsh weather together.”

Updated 4/29/2013

"Tier-1 Flood Relief Project Design Continues"

Following the adoption of the stormwater relief program in June 2012, the Village of Niles hired Hey and Associates to complete preliminary design for the three Tier-1 Stormwater Management projects. The three projects under design include:

- Cleveland Relief Sewer – a new stormwater relief sewer to provide flood relief to properties near Cleveland Avenue, east of Osceola.
- Main Street Relief Sewer and Storage – Provide storage facility and storm sewer improvements near Milwaukee / Main. Sewer improvements along Lee Street and Main Street combined sewers.
- West Side Storage Basins: Construction of detention basins at one or two locations and associated connecting sewers.

More information on these projects is available in the Niles Stormwater Relief program document on this website.

The preliminary design process includes survey, concept design verification and refinement, coordination with affected property owners, permitting coordination, preparation of preliminary engineering plans, and preparation of opinion of probable cost. The preliminary engineering for all Tier-1 projects will be substantially completed by August 2013. It is anticipated that one or more of these projects (or phases of the projects) will begin construction in 2014.

The Neva Avenue Bioinfiltration Basin project is a separate project that is **funded by the Illinois Environmental Protection Agency**. This project design has been completed and is anticipated to be constructed later in 2013. This project will help capture, store and infiltrate stormwater at the south end of Neva Ave. where it dead ends at the village’s water tank.

Updated 8/1/2012

"Flood Control Assistance"

FLOOD CONTROL ASSISTANCE PROGRAM RELEASE DATE: SEPTEMBER 1, 2012

Release of the *Flood Control Assistance Program packet* and pre-application will be announced in the Fall issue of the "Focus on Niles" quarterly newsletter due to residents by September 1, 2012. At that time, the program packet and pre-application will be available by request at Village Hall.

The Flood Control Assistance Program consists of two options: 1) *Sewer Backflow Protection* and 2) *Overland Flood Protection*. Those homeowners who qualify for the financial assistance and meet all established requirements qualify for a grant totaling 50% of the improvement costs, up to a maximum of $4,000. **Previous and/or unapproved installations of flood protection do not qualify for reimbursement.**

What are the basic eligibility requirements?

1. Complete Flood Control Assistance Application form (available 9/1/2012);
2. Proof of home ownership and occupancy (single family home or multi-family);
3. Evidence lateral is functioning properly (for sewer backflow protection);
4. Proof of previous sewer backup or overland flooding;
5. On-site inspection confirmation by Village of no interior/exterior plumbing or site code violations; and
6. Three detailed proposals/quotes from licensed/bonded contractors (not recommended until after on-site inspection by Village).

Updated 7/6/2012

"Press Release from Mayor Robert Callero"

STORMWATER RELIEF AND FLOOD ASSISTANCE PROGRAM APPROVED

On June 26, 2012, the Village of Niles Board of Trustees approved one of the most significant public works projects in the history of the Village – the Stormwater Commission recommended Stormwater Relief Program, consisting of a much needed capital projects program and flood control assistance totaling nearly $15,000,000.

The Stormwater Commission was created in October of 2008 shortly after flood disaster recovery operations were winding down from the regions worst flood in recorded history. This commission, created by me in direct response to strong resident demand, was given the task of determining not only why the September 2008 flood was so disastrous, but more importantly why so many residents continually suffer from flooding in much lesser rains. The commission was to return the Board of Trustees with their findings and recommendations.

Under the leadership of Trustee Joe Lo Verde, who was appointed as Chair due to his extensive knowledge of sewer systems, the commission presented their initial findings and recommendations on September 22, 2009. During that year while preparing their findings, the commission was conducting extensive data collection, meeting with hundreds of residents,

conducting surveys, workshops and plotting flooding data never before recorded. All in an effort to get the most accurate findings possible to serve as the basis for established recommendations of which 94% have been completed to date.

During the commission's initial year, twelve key stormwater ordinances were adopted, a homeowner education program was developed, the paper sewer atlases were digitized for GIS, and eight "out-of-the-box" drainage projects were implemented in cooperation with property owners of large properties adjacent to properties suffering from runoff flooding.

The most significant recommendation provided by the Stormwater Commission in 2009 was to employ a professional stormwater engineering firm to conduct sewer modeling, analysis and recommend capital improvements to help stop the most persistent and damaging flooding identified. In 2010, after an extensive RFQ process with 19 engineering firms, the commission chose the very professional and capable firm of Hey and Associates to take the Village of Niles to the next level toward a final plan.

Using state-of-the-art modeling software, Hey and Associates conducted a detailed technical study of the commission's report, the Village's sewer system, and local topography to identify flood risks and diagnose stormwater problems. This allowed them to prepare and recommend the Stormwater Relief Program just approved by the Board of Trustees.

It is important to note that Hey and Associates is also responsible for the Village's first Stormwater Management Ordinance adopted last year and that they were instrumental in the Village's award of a $202,000 IEPA grant for a "green" stormwater project near Neva and Touhy.

As stated earlier, the Village of Niles Board of Trustees approved one of the most significant public works projects in the history of the Village that will reduce reported basement backups, reduce residential property loss, improve public health, improve property values, and simply improve the quality of life of all our residents.

So what is next? The Village Board of Trustees has approved two significant resolutions on Tuesday: 1. $14,560,000 in Tier One Capital Improvement Projects that target the most frequent and concentrated flooding, thereby also benefiting the greatest number of properties; and 2. $300,000 in Flood Control Assistance to help residents currently suffering from sewage backup and overland flooding.

The funding for these programs was approved by the Board of Trustees in January of this year through a .25% sales tax increase.

Our next step for the Tier One Capital Improvement Projects is to secure an engineering contract to conduct preliminary engineering. We expect to return to the Board of Trustees in July with a recommendation.

Our next step for the Flood Control Assistance Program is to finalize the implementation and application process for publication in the Fall *Focus on Niles* newsletter. We anticipate an open

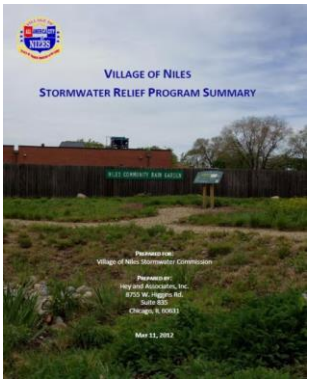
two month application period. A few of the requirements for those who would like to pursue this program are:

- A completed Flood Control Assistance Program Application *(not available yet)*
- Proof of Ownership and Occupancy
- Evidence the lateral is functioning properly
- Proof of previous sewer backup or overland flooding
- Three detailed proposals/quotes from a contractor

Click here for the Stormwater Relief Program document.

Updated 5/22/2012

"Niles Stormwater Relief Program Final Presentation and Summary"



Updated 4/25/2012

"Niles Stormwater Relief Program - Recommended Capital Improvements"

Updated 2/29/2012

"Niles Stormwater Relief Program - Summary of March Open House & Proposed Cost Share Program"

Updated 2/23/2012

STORMWATER COMMISSION OPEN HOUSE

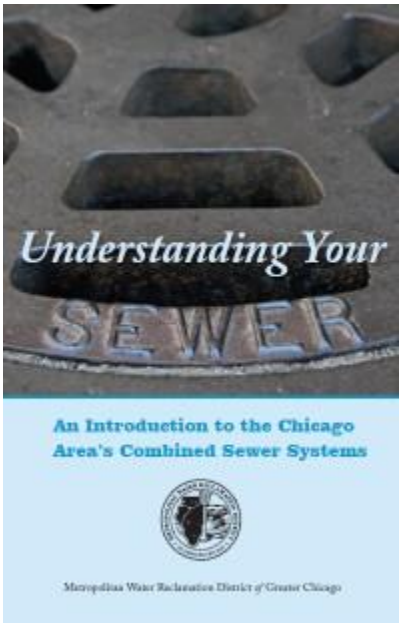
A Stormwater Commission open house is scheduled for Thursday, March 22, 2012 at the Niles Senior Center from 3:30 p.m. to 7:30 p.m. The purpose of the event with homeowners is to educate them about why there is chronic flooding in their neighborhoods and **to give them an opportunity to respond to recommended engineering solutions before the solutions are finalized** with the Village Board of Trustees.

There will also be public education tables stationed by the Federal Emergency Management Administration (FEMA), the Illinois Department of Natural Resources (IDNR), the Metropolitan Water Reclamation District of Greater Chicago (MWRD), and Village staff. The education subjects will range from the importance of sump pump maintenance to the regional importance of the Deep Tunnel.

The Village Board of Trustees have passed a ¼ cent sales tax increase to fund a future approved Stormwater Relief Program, which is planned for consideration on May 22, 2012. Mayor Callero stated, "This open house is designed to give the public one last look at the short- and long-term solutions before they are finalized." He continued, "Stormwater Commission Chair Joe LoVerde and his commission have come a long way in three years. The funding has been approved and by May we will have a stormwater relief program. All that remains is implementation to begin this year."

Updated 12/15/2011

"*Understanding Your Sewer - An Introduction to the Chicago Area's Combined Sewer Systems*"



Updated 10/27/2011

"Niles Stormwater Plan Phase I Recommendations" Presentation & "Financing Options" Presentation

On Tuesday, October 25, the Stormwater Commission and the engineering firm of Hey and Associates presented findings and recommendations for Phase I of the Stormwater Master Plan to the Village Board of Trustees. This was followed by a presentation on financing options by Finance Director Scot Neukirch.

Jeff Wickenkamp of Hey and Associates began by showing the Phase I and Phase II analysis areas and the first modeling overview. This was followed by an explanation of historical rainfall depths and the types of rains (by frequency and duration) that most negatively impact the Village's sewer system. Since 1987, there were three 100-year storms (storms with 1% chance of occurring in any year). The 1987 and 2008 storms were similar (a lot of rainfall over a longer period of time), but the 2011 storm had only an inch less of rainfall in only two hours time.

The topography found on the west and east side of the Phase I study area was discussed.

On the west side, stormwater flows from east to west toward Park Ridge and unincorporated Cook County. This main issue with this flooding is due to downstream flow. No matter how big the pipes are to carry away stormwater toward the west, the system it is going into is limited in capacity from the Niles border to the Des Plaines River. The water essentially hits a wall and collects along the border on Western, Sunset, Bruce, Carol, etc. It was explained that when the sewer system to the west is at capacity, stormwater from Niles begins to overwhelm the sewers becoming overland flow impacting streets, yards and homes. It was explained that the only option for this area is developing a storage system to hold excess stormwater until it can slowly be released into the sewer system to the west.

On the east side of the Phase I study area, it is a different story. On the east side it is a matter of developing sewers that can convey more capacity away to the North Branch of the Chicago River or the Metropolitan Water Reclamation District (MWRD) system. Both the west and east side recommendations have obstacles to include areas to create stormwater storage and funding.

The recommended comprehensive stormwater program includes four parts: a) Cost Share Programs; b) Maintenance and Monitoring; c) Regulatory Program; and d) Capital Improvements.

a) The Stormwater Commission is recommending an annual $450,000 Cost Share Program which includes:

- Flood control systems -
    - 50/50 cost share with a maximum benefit of $5,000 for an overhead sewer or backflow prevention valve installation.
- Green infrastructure –
    - Rain barrels at a reduced $25 price.
    - 50/50 cost share with a maximum benefit of $2,000 for the construction of a rain garden.
- Floodproofing –
    - 50/50 cost share with a maximum benefit of $10,000 for wet or dry floodproofing of buildings.
- Local drainage improvements –
    - Engineering and/or construction of street or lot level drainage improvements.
- Program management –
    - Funds for the work associated with stormwater program management, cost share implementation, and resident assistance programs.

b) The Stormwater Commission is recommending maintenance and monitoring that includes:

- Slip lining sewers –
    - Continue the sanitary slip lining program.
- Sewer inspection –
    - Continue the sewer identification and inspection program.
- Sewer monitoring –
    - Conduct sewer monitoring for key subareas experiencing the highest sanitary sewer backups to determine the amount of stormwater infiltration and inflow.

c) The Stormwater Commission has already successfully developed a stormwater management ordinance and regulatory program. The ordinance applies to new development and redevelopment, prevents new problems, and is consistent with current and future County/MWRD ordinances.

d) The Stormwater Commission has identified nine preliminary conveyance and storage capital projects for Phase I that are projected to cost between $20 million to $36 million. Once Phase II of the study is completed, this will likely result in five to eight more projects totaling $5 million to $10 million for a total cost of between $25 million to $46 million.

So what is next? Beginning in November 2011, the Stormwater Commission will begin to identify small projects, while Hey and Associates begins their Phase II analysis of the sewer system. The goal is to conduct a public open house by the end of February 2012 and to finish a draft Master Plan for approval and implementation in May 2012.

Updated 07/22/2011

Stormwater Commission Awarded IEPA Green Infrastructure Grant for Bio-Infiltration Facility

Niles – July 21, 2011. Through the efforts of the Stormwater Commission, the Illinois Environmental Protection Agency (IEPA) announced that the Village of Niles will be awarded $202,224 for a proposed Green Infrastructure and Stormwater Infiltration Project.

The proposed project was developed during a cursory review of potential project sites that met the goals and objectives of the IEPA grant of reducing **nonpoint source pollution**. The Stormwater Commission's goal was to identify a project and site that met the following characteristics: 1) It could be constructed on Village-owned property; 2) It met the needs of the IEPA; and 3) It provided some level of stormwater relief.

Stormwater Commission Chair Joe LoVerde stated, "We are excited to be the recipients of such a competitive grant. This grant will allow us to implement a stormwater project that will not only reduce water pollution in Niles, but will improve a vacant property in such a way that it will help reduce area flooding and beautify it as well."

The location of the proposed project is north of the Niles police station and water reservoir on vacant property owned by the Village. This location is east of the south end of Neva Avenue, north of Touhy Avenue and west of Milwaukee Avenue. It is anticipated a project such as this would take six to eight months to complete.

Nonpoint source pollution occurs when runoff from rain and snowmelt carries pollutants into waterways such as rivers, streams, lakes, wetlands, and even groundwater. When rain hits the ground and flows across streets, parking lots, yards construction sites, farm fields and golf courses, it picks up litter, oil, grease, metals, rubber, dirt, fertilizers, pesticides, animal waste, road salt, and other things left behind by people, automobiles and animals depositing them into waterways and even underground sources of drinking water.

Updated 04/03/2011

Sandbags and Sand Available for Residents.

There are very few locations in the Village of Niles where sandbags are necessary. However, the Stormwater Commission wanted to ensure residents had access to sand and sandbags if they required them. The Village has a supply of sand and sand bags at its Public Services Facility at 6849 W. Touhy Avenue. Contact Public Services at 847-588-7900 to setup a time to fill the bags. The property owner is responsible for filling and transporting the sand bags for their own use. Sufficient time should be allotted for this activity.

To wait until a flood is happening is not the best time to begin protecting your home. There are several ways to protect your home in advance from flood damage. The Engineering Department 847-588-7920 can assist you in identifying methods that might be appropriate for your

property. The following websites are excellent guides in assisting you in identifying your specific flooding problem and what methods are available for protection.

Repairing Your Flooded Home

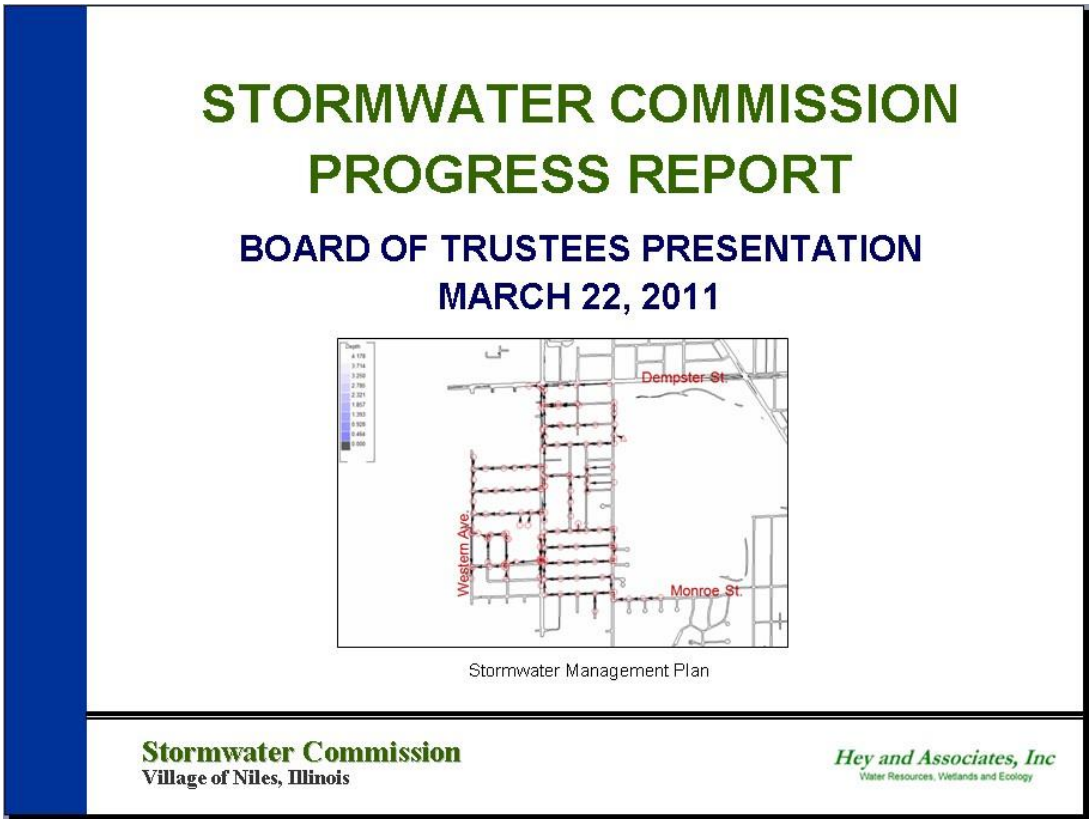
Above the Flood: Elevating Your Floodprone House

Guide to Floodproofing

Homeowner's Guide to Retrofitting

Updated 03/30/2011

Stormwater Commission Progress Report



View the Stormwater Commission Progress Report PowerPoint *HERE*.

Updated 03/30/2011

Recent Legislation Recommended by the Stormwater Commission and Approved by Village Board of Trustees

The Stormwater Commission recommended the following ordinances to the Village Board of Trustees that were approved on Tuesday, March 22, 2011:

1. **Added Definition for Impervious Area -** Appendix B, Zoning Ordinance, Section III, Rules and Definitions was amended by adding the definition for Impervious Area.
2. **Amended Chapter 50 -** Chapter 50, Floods, Article II Flood Damage Prevention, Division 3, Provisions for Flood Hazard Reduction, Section 50-56 Base Flood Elevation was amended due to the elimination of the "floodplain information repository."
3. **Amended Chapter 102 -** Chapter 102 Utilities, Article II, Sewer Use, Division 2, Connections and Construction, Section 102-60 Foundation Drainage was amended due to language conflicting with current codes that do not allow direct connections for inflow from homes to sewers.
4. **Amended Chapter 102 -** Chapter 102 Utilities, Article II, Sewer Use, Division 2, Connections and Construction, Section 102-65, Same Connection of Footing Drains: Discharge was amended due to language conflicting with current codes that do not allow direct connections for inflow from homes to combined sewers.
5. **Added Stormwater Management Ordinance -** Chapter 102 Utilities, Article II, Sewer Use, Division 4, Stormwater Management, Section 102-86 through 102-101 was added and applies to new development or redevelopment to prevent development from worsening or creating stormwater-related problems.

Updated 01/06/2011

Prevent Sump Pump Failure

Many of us take for granted that we have a sump pump and that it works effectively. Some of us don't even know what a sump pump looks like, but when a water problem arises in our home, we soon realize its importance. Although sump pumps have an average lifespan of 10 years, they may fail unexpectedly for various reasons.

COMMON CAUSES OF SUMP PUMP FAILURE:

- **Age of Pump.** The U.S. Department of Housing and Development estimates the life expectancy of sump pumps at 10 years. The pump's life expectancy will vary due to how much the pump has run in its lifetime. Write down the pump installation date on something on or near they pump so it is easier to keep tabs on the age of the pump. As the pump approaches the anticipated life expectancy, consider replacing it. During the life of the pump, some service may be necessary. Certain parts like the impeller, o-rings and

switch wear out. The average life on an automatic pump is four to seven years. Consider having the pump serviced every few years at a minimum.

- **Electrical Power Outage.** It is not uncommon to have the electrical power go out during a storm. This is not good when a home is prone to water in the basement during rainstorms. Back-up pumps that do not need house power or an emergency battery back-up are the answers to overcome power outages.
- **Incorrectly Sized Pump.** Selecting the right size pump is very important. Bigger is not necessarily better. If a pump is too large, the pump will cycle on and off more than it needs to, which can result in a shorter pump life. If the pump is too small, it may not be able to pump the water out or it will run too long and too hot, shortening the pump life. Underground water hydrology does change, so what may have been the right size pump the first time, may not be now.
- **Lack of Maintenance.** Some pump manufacturers recommend the pump be run every two to three months. Some recommend a yearly program completed just before the rainy season hits. Follow the pump manufacturer's recommendations.
- **Lightning or Power Surge Damage.** Some components of the pump may be vulnerable to damage from power surges. To help prevent this, protect the entire electrical system from power surges with a whole house surge protection device.
- **Switch Problems.** Perhaps the leading mechanical cause of sump pump failure is a switch problem. This occurs when the pump shifts from its position inside the basin, rendering the float ineffective. This is a serious problem because the float is responsible for the smooth operation of the on/off switch. Your sump pump relies on both the switch and the float arm mechanisms to operate effectively. Attentive care should be taken to ensure that they are in good working order.

Updated 01/05/2011

Basement Flooding

That mature tree in your front or backyard may be the cause of your basement flooding. Roots from trees located near the sewer line often grow through small cracks in the mortar around the tile joint. Once inside the tile, the roots continue to grow and form large masses which create an obstruction in the pipe.

As long as the sewer line is used regularly, the roots usually stop growing at a point which will still permit ordinary usage. Trouble occurs when a large object is flushed down the sewer and lodges against the roots or when there is an exceptionally heavy amount of rainfall and the roots prevent the water from flowing through the sewer as quickly as needed in order to prevent a backup.

This problem may be corrected by the following solutions:

Sewer Cleaning

In many cases, periodic rodding is all that is needed to control root growth and reduce the likelihood of sewer backup. Rodding may be needed as often as every six months or as infrequently as every few years, depending upon how fast the tree roots grow.

Copper Sulfate Treatment

Many homeowners have had good results by flushing a small quantity of copper sulfate crystals down the sewer at regular intervals. The copper sulfate reduces the rate of growth without harming the tree. Although this treatment may not eliminate root growth, it often increases the interval between roddings.

Sewer Pipe Replacement

The most effective (and most expensive) method of eliminating tree roots is to dig up old sewer pipe where the obstruction is located and replace it with new pipe. The good news is the sewer pipe has joints with an extremely tight seal which virtually eliminates the possibility of tree roots growing into the sewer line in the future.

Tile Replacement

In a small number of cases, improper installation of sewer pipe or the settling of soil under the pipe may cause the tiles to break or separate. In cases where broken or separated tiles are the cause of basement flooding, the only choice is to dig up the affected section of pipe and make the necessary repairs.

When a heavy rainfall causes the quantity of storm water to exceed the capacity of the Village's sewer system, pressure builds up in the system and water can back up into unprotected basements. If your basement is affected by backups caused by surcharging in the system, there are several courses of action available to you.

Install a Floor Drain Standpipe

A standpipe installed in the floor drain will raise the overflow level. The standpipe is designed to hold back the water only if it would have flooded several inches deep. If the pressure builds to a higher point, it is better to let some of the water flow onto the floor in order to equalize the pressure, rather than take a chance on having the sewer and floor break. The standpipe may be left in place at all times if the floor drain is not needed.

It is NOT a good idea to plug the floor drain when the sewer surcharges and the flow begins to back up through the drain. If the drain is plugged, pressure in the piping under the floor may build up sufficiently to break the tiles and heave the basement floor.

Install A Backwater Valve

A mechanical valve or a check valve will help prevent basement flooding. A check valve that closes automatically when flow through the sewer line reverses may be installed either outside the house or inside the basement, depending on your specific situation. A mechanical valve is normally located outside the basement and must be opened or closed manually.

A Word of Caution:

Check valves installed in sewer lines sometimes become clogged with debris and fail to close completely. When this happens, the valve will slow down the flow of sewage but will not stop it completely. For this reason, a valve should not be depended upon completely, and the valve should always remain accessible for service and repair. Remember that when a valve is installed in a house sewer, the house plumbing cannot be used during a storm when the valve is closed to prevent basement flooding.

Install an Overhead Sewer System

An overhead sewer is a system in which all sewage from above-ground level flows by gravity to the Village sewer, but all sewage and storm water collected below grade in the basement must be pumped up to the house sewer at a connection near the basement ceiling. There are no direct connections between the main sewer system and the basement, so there is no way for the sewage to backup into the basement area.

Although an overhead system is very effective in eliminating basement backups, the plumbing changes required make it a costly solution. However, it is still a good choice for homeowners who have a substantial investment in finished basements or who have valuable equipment or storage items housed in the basement.

One disadvantage of an overhead system is that the pumps used to force the water up from the basement level will not operate during a power outage, so overflow could occur if the power is out for an extended time. Even so, the overhead system in most cases is the most effective way to prevent basement flooding.

When excessive ground water is allowed to accumulate around the foundation of the house, water may seep into the basement through the basement floor and walls. There are three common problems which may cause water to build up around the foundation.

Footing Drains

Most basements have a footing drain around the outside wall which is designed to collect ground water in the soil and keep it from seeping through cracks in the basement floor and walls. In older homes, the footing drain is connected directly to the house sanitary sewer. When a basement develops leaks in the floor or walls, it is often due to blockage or breakage of the footing drains. When the footing drains are not functioning properly, the ground water collects around the foundation of the house instead of draining into the sewer system.

If your basement is flooding due to problems with the footing drains, there are three possible solutions:

1. Disconnect the footing drains from the sanitary sewer and install a sump pump

2. Eliminate deep roots

3. Clean the footing drains

Exterior Grading

Basement floor and wall leaks can also be caused by excessive amounts of ground water collecting around the basement walls due to improper grading. It is extremely important that the ground around the foundation be sloped away from the house for several feet in order to prevent excessive amounts of water from accumulating in the soil next to the house. Grade changes require approval from the Engineering Department.

Downspout Drainage

If the downspouts connect with the house drain or sewer, basement flooding can occur when the underground connections become broken, causing the water to seep through the foundation in the vicinity of the break. Or if the downspout is emptying into a sewer which is clogged by tree roots or other obstruction, the sewer may back up into the basement.

Downspouts connected to the sewer system are illegal and must be disconnected. It is advisable to disconnect the downspouts and let the rain be absorbed into the ground instead of entering the house sewer. If rainwater from downspouts is being discharged onto the ground, be sure to use splash blocks or other means to direct the flow of water well away from the house foundation.

Updated 01/05/2011

Flood Safety

Floods are the most common and widespread of all natural disasters-except fire. Most communities in the United States can experience some kind of flooding after spring rain, heavy thunderstorms, or winter snow melts. Flash floods usually result from intense storms dropping large amounts of rain within a brief period. Flash floods occur with little or no warning and can reach full peak in only a few minutes. If you live in a flood-prone area, monitor the potential for weather conditions that could result in flooding. With enough advance warning you can take steps to protect your home, move possessions or, in the worse case, plan for an evacuation.

There are some simple rules to remember to keep you and your family safe if a flood should affect you.

- Do not walk through flowing water: Drowning is the number one cause of flood deaths, mostly during flash floods. Currents can be deceptive; six inches of moving water can knock you off your feet. If you walk in standing water, use a pole or stick to ensure that the ground is still there. It may seem like a lot of fun, but it is not a good idea to let your children play in flooded areas. Besides the danger of drowning or injury, a person can become very sick if the water is ingested.
- Do not drive through a flooded area: More people drown in cars than anywhere else. Don't drive around road barriers; the road or bridge may be washed out or the water may be deep. A car can float in only two feet of water. Barriers are also placed to prevent "WAKES" from damaging homes and parked cars.
- Look before you step: After a flood, the ground and floors are covered with debris that may include broken glass. Wear study shoes that have a thick non-slip sole. Floors and stairs that have been covered with mud or slime can be very slippery.
- Stay away from power lines and electrical wires: The number two flood killer after drowning is electrocution. Electrical currents can travel through water. Report downed power lines to Commonwealth Edison.
- Have your electricity turned off by Com-Ed: Some appliances, such as television sets and computers, keep electrical charges even after they have been unplugged. Don't use appliances or motors such as in your washer or dryer that have gotten wet unless they have been taken apart, cleaned and dried. And never enter a flooded basement unless you

know the power has been turned off. The water level may be above the electrical outlets or there may be a submerged electrical cord.
- Be alert for gas leaks: Use a flashlight to inspect for damage. Don't smoke or use candles, lanterns or open flames unless you know the gas has been turned off and the area ventilated.
- Throw away food: This includes any canned goods that have come in contact with floodwater.
- Remember to help your neighbors: Especially those that are elderly, have disabilities, or those with infants.

Additional information is available at the FEMA website

Floods

www.fema.gov/hazard/flood/index.shtm

Updated 01/05/2011

Flood Protection

The village subscribes to a local weather forecasting service and closely monitors upcoming weather conditions. Preparation for any significant rain event begins long before the first raindrops fall. Storm sewer inlets and low-lying streets in neighborhoods where flooding results in property damage are checked and the inlets cleared and/or the streets cleaned. Barricades for street closures where major flooding has occurred in the past are locally staged for erection in case they are needed. Public Works vehicles also carry barricades on-board so they can be quickly erected where needed. Public Works staff is either kept on duty or placed on emergency call so they are available before the rains start.

However, you, the property owner, are responsible for protective measures for your individual home and property, including sandbagging, pumping, turning electricity off, etc. To wait until a flood is happening is not the best time to begin protecting your home. There are several ways to protect your home in advance from flood damage. The Engineering Department 847-588-7924 can assist you in identifying methods that might be appropriate for your property. The following websites are excellent guides in assisting you in identifying your specific flooding problem and what methods are available for protection.

Protecting Your Property from Flooding

Repairing Your Flooded Home

Above the Flood: Elevating Your Floodprone House

Guide to Floodproofing

Homeowner's Guide to Retrofitting

Updated 10/25/2010

Addressing Home & Lot Drainage Issues

In most cases, the private property owner is responsible for maintaining the portion of the drainage system that is located on their property and solving localized drainage problems on their private property. There are many ways you can improve drainage on your property. Some approaches are simple and inexpensive while others are more complex and costly. If you plan to contract out the work, be sure to get more than one estimate and carefully evaluate different alternatives. A permit for this type of work is required.

A Brief Overview of Illinois Drainage Law

The basic principle of the law of natural drainage is that landowners must take whatever advantages or inconveniences of drainage nature places upon their land. One of the most important principles of Illinois drainage law is that **owners of lower ground must receive surface water that naturally flows onto it from higher ground**.

Where the natural flow is from one tract across another tract, the higher land is the *dominant tenement,* and the lower land is the *servient tenement.* **Owners of dominant tenements have legal rights to have water drain off their lands. Owners of servient tenements have the duty of not obstructing the natural flow**.

A landowner has no right to obstruct the flow of surface water. Under Illinois law, the owner of lower land ordinarily has no right to build a dam, levee, or other artificial structure that will interfere with the drainage of higher land. In fact, the willful and intentional interference by an owner of lower land is considered a petty offense and is punishable by a fine. **This is in addition to private lawsuits that the owners of affected properties may file.**

Under Illinois law, private landowners have certain rights to improve the drainage on their land. They may:

- **Widen, deepen**, and **clean** natural depressions that carry surface water.
- **Straighten out channels** on their own property and accelerate the movement of surface water so long as they do not change the natural point of entry or unreasonably increase the flow of water onto lower land.
- **Drain** standing or ponding water in the direction of overflow.
- **Tile** their property to expedite the flow of water so long as they do not unreasonably increase the flow, change the point of entry on lower land, bring water from another watershed, or connect their tile to the tile of other owners without their consent.

- Expedite the flow of surface waters through natural lines of drainage into a watercourse or stream.

Because of the effect on surrounding lands, landowners must **not**:

- **Dam or obstruct** a natural drainage channel so that the escape of surface water from higher land is retarded or the channel is shifted.
- **Divert** water to lands that do not naturally receive this drainage.
- **Change the point of entry** of surface water on lower land.
- **Bring in water** from another watershed that would not have flowed across lower land naturally.
- **Pollute** any waters that pass from their land through the property of others - whether surface or underground water, streams, or diffused waters.
- **Connect their own tile** with another owner's tile lines or with roadway/municipal tile lines without consent.
- **Accelerate the flow of water unreasonably**, or with malicious intent, to the material damage of lower land owned by others, even though the flow is accelerated through natural channels.

The Village of Niles and other public agencies have constructed storm water facilities that are designed to expedite the drainage of storm water, but not to eliminate all flooding. ***All of the above proposals require plan review and approval by the Engineering Department*****.**

What can I do to eliminate or minimize flooding on my lot in addition to the above?

There are instances where yards are "designed" to carry storm water runoff overland towards a nearby structure, stream, or creek. Also, if your home is in a floodplain, it is at risk for flooding if the stream overflows during prolonged rainfall or rapid snowmelt. A **high water table** may also contribute to wet basements.

To deal with wet basements, we recommend checking your **gutters** and **downspouts**. Downspout water should be directed away from the house-preferably towards the front and rear of the lot or towards the nearest storm sewer structure if one is available.

We also recommend consulting a professional drainage consultant about **regrading** around the foundation of your home so as to direct water away from your foundation. Your consultant may also propose swales along the property lines to convey water to the desired location.

You may also consider installing a catch basin or yard drain at the low point on your lot and conveying storm water out towards the right-of-way, drainage easement, or storm sewer.

Your consultant must submit an engineered proposal to the Engineering Department for approval before this work can be done. The proposal should include sufficient grading information to *clearly and accurately show drainage on the lot before and after the proposed work is done*. If any drains or conveyance pipes are to be installed, the consultant should *include the sizes and materials of such items as well as rim and invert elevations for any and all*

structures to be installed. All work of this manner must conform to Village of Niles requirements for materials, sizes, and slopes.

Finally, remember that regrading and/or landscaping within a drainage easement is typically not allowed. All exceptions to this must be approved by the Engineering Department. Permanent structures (i.e. sheds) are also not allowed within drainage easements, nor any structure (i.e. wall, fence) that will disrupt or otherwise block the natural or designed flow of water through the easement.

Updated 10/25/2010

New Sewer Being Installed at Maryhill Cemetery

Maryhill Cemetery, after conferring with the Village of Niles and the Water Reclamation District of Chicago, is proceeding with a stormwater project to benefit the homeowners along Monroe Street and the homeowners in the cul-de-sacs off the south end of Cumberland Avenue. *Click here* for Catholic Cemeteries letter to homeowners.

Updated 07/02/2010

Field Work for Sewer System Analysis

Village staff is assisting stormwater engineering firm of Hey and Associates as they obtain field measurements of key pipe inverts which will be entered in the modeling and GIS databases for the development of a Hydrologic Model.

The modeling results will be used to identify flood risk associated with the existing drainage system performance. Problems such as basement flooding and surface ponding will be mapped according to the expected frequency of occurence (5-year, 10-year, etc.). Areas of surface flooding will be analyzed not only for depth of flooding, but also for duration of flooding. The duration of flooding is an important attribute of urban sewer modeling that helps to characterize the severity of a problem.

Once the problems have been diagnosed, Hey will identify feasible solutions. These solutions will typically be either increases in capacity, increases in storage, or volume control. The Village's Stormwater Commission Report has already identified a list of possible solutions to be considered. Hey will analyze the effectiveness of these solutions and add additional ones as appropriate. Hey will also determine capital and operation/maintenance costs for each solution.

Updated 06/15/2010

Stormwater Commission to be Conducting Field Work for Sewer System Analysis

The Stormwater Commission held a kickoff meeting with Hey and Associates on Tuesday, June 15, 2010. The goal of this meeting was to review project goals, tasks and the timeline. In addition, field work coordination with Village staff was finalized and will begin immediately.

This field work will consist of collecting sewer system data throughout the Village over the next several months. The collection of this data may require temporary lane detours to protect personnel as they lift manhole covers and measure inverts within the sewers. This work may also require some personnel to enter rear yards to investigate existing drainage systems.

The data collected will then be used to conduct sewer system analysis and modeling. Modeling will allow Hey to identify flood risk associated with the existing drainage system performance. Once problems have been diagnosed, Hey and the Stormwater Commission will work to identify feasible solutions and a long-term capital plan.

“There is plenty of work that must be completed between now and the final engineering report planned for November,” stated Assistant Village Manager Steven Vinezeano. “As we work in

the field to collect hard sewer data for analysis, we must also tackle and wrap up a number of technically challenging issues."

Updated 06/14/2010

Sewer Rodding Reimbursement Program

Click *HERE* to see program flyer.

Updated 06/11/2010

Cook County to begin storm sewer improvements on Greenwood Avenue

This summer the Cook County Highway Department will complete pavement patching and storm sewer improvements on Greenwood Avenue from Oakton Street to Dempster Street, and from Church Street to Golf Road. These improvements are part of an ongoing Cook County Highway Department capital improvement program and are scheduled to begin on June21, 2010 with a target completion date of October 29, 2010.

Updated 05/26/2010

Village approves stormwater firm agreement with Hey & Associates

On May 25, 2010, the Village Board approved an engineering services agreement for stormwater analysis and planning with Hey & Associates. Hey & Associates was recommended by the Stormwater Commission after a thorough selection process that began with 19 engineering firms responding to a request for proposal.

"A prime goal established by the 2009 Stormwater Commission Report was to employ an engineering services consulting firm to provide stormwater systems modeling, analysis, operation enhancements and a recommended capital improvement program," stated Commission Chair, Trustee Joe LoVerde. "This is a big leap forward for the community."

The Stormwater Commission has successfully moved forward with other established goals within the Stormwater Commission Report, such as the approval of six ordinance amendments designed to reduce the likelihood of a number of flooding issues in the future, the development of stormwater education for homeowners, the continuation of the sewer rodding program, reestablishment of the slip-lining program, and a notable number of capital projects completed and/or identified for implementation to reduce stormwater runoff by the Niles Park District, Saint Adalbert Cemetery, Maryhill Cemetery, Park Ridge, and Cook County.

Hey and Associates will work directly with the Stormwater Commission over the next ten months to fulfill the following Scope of Services:

1. Review Data and Identify Data Needs

2. Conduct Sewer System Analysis and Modeling

3. Develop Prioritized Capital Improvement Plan

4. Prepare Stormwater Master Plan

5. Project Management and Meetings

As in the past, homeowners will be contacted throughout the process and invited to an open house to review engineering findings before a final Stormwater Master Plan is presented to the Village Board of Trustees.

View Hey and Associates *Engineering Services Agreement*

Updated 01/19/2010

Managing Stormwater at Home - A How-to Guide This document was developed in-house and provides some very useful information on how to manage stormwater on your property.

Guide to Flood Protection in Northeastern Illinois This document was developed by the Illinois Association for Floodplain and Stormwater Management.

Updated 12/01/2009

Village of Niles Sewer Rodding Program

What causes sewer backups?

Some of the more common causes of backups are described and shown below:

Common household waste
A partial or complete blockage of the sewer service line by debris or foreign objects.

Root invasion
A partial or complete blockage of the sewer service line by tree roots.

Pipe collapse
A sewer service line collapse caused by a settling of the sanitary sewer line or settling of ground over the sewer service line.

Inflow & infiltration
Severe rain events result in large amounts of surface water inflow and infiltration into the sanitary sewer system.

Excess water from illegal connections
Entrance of large amounts of extraneous water to the sanitary sewer system from the illegal connection of sources other than sanitary fixtures and floor drains. Such extraneous water generally will be present during periods of heavy precipitation.

Some of the more common causes of backups in homes are: blockage by common household waste, root invasion, pipe collapse, inflow and infiltration, and excess water from illegal connections.

Through the Sewer Rodding Program, the Village will reimburse homeowners the cost of rodding the sewer lateral from their home to the main sanitary sewer line (up to a maximum of $100 once every three years).

Homeowners are encouraged to take advantage of this program. To read more about it, go *HERE*.

Updated 11/25/2009

Legislation Approved by the Village Board of Trustees on November 24, 2009

Increase Permeable Requirements in Residential Districts -Section VII, (B), (14) of Village Code allows as much as 65% of a lot to be covered with impermeable surfaces. On November 2, 2009, the Planning Commission reviewed this proposal to have it amended to a maximum of 60%.

Updated 11/02/2009

Legislation Under Consideration by the Stormwater Commission

The September Stormwater Report stated that there is a need for the Village of Niles to update a number of ordinances and create new ordinances in an effort to meet the changing needs and challenges of stormwater management. The following ordinances are currently under review by the Stormwater Commission for consideration by the Village Board of Trustees at the January 2010 Board Meeting:

1. **Add a Fee Schedule for all Zoning Districts -** The Village of Niles is one of the only municipalities without these fees, which are adopted to help support local sewer system maintenance, repair, and improvements.
2. **Establish a Stormwater Management for Developments Ordinance -** The purpose for this comprehensive ordinance is to mitigate the negative impacts of stormwater for the development of residential and commercial lots.

Updated 10/19/2009

The National Flood Insurance Program

Just a few inches of water from a flood can cause tens of thousands of dollars in damage. Over the past 10 years, the average flood claim has amounted to over $33,000. Flood insurance is the best way to protect yourself from devastating financial loss.

Flood insurance is available to homeowners, renters, condo owners/renters, and commercial owners/renters. Costs vary depending on how much insurance is purchased, what it covers, and the property's flood risk.

All policy forms provide coverage for buildings and contents. However, you might want to discuss insuring personal property with your agent, since contents coverage is optional. Typically, there's a 30-day waiting period - from date of purchase - before your policy goes into effect. That means now is the best time to buy flood insurance.

For more on National Flood Insurance for visit *www.floodsmart.gov*

FEMA Flood Maps can be found at: *http://msc.fema.gov/webapp/wcs/stores/servlet/CategoryDisplay?catalogId=10001&storeId=10001&categoryId=12001&langId=-1&userType=G&type=1*

Updated 10/16/2009

Stormwater Commission Posts Request for Qualifications

The Village Niles is seeking to retain the services of a qualified and experienced engineering firm to review the Village "*Stormwater Commission Report*" and to collaborate with the Village's seven member Stormwater Commission to develop a phased approach to address identified and unidentified "persistent" stormwater issues within the Village of Niles.

RFQs from engineering firms are due Thursday, November 12, 2009.

Updated 10/02/2009

Notre Dame High School "Site Work and Stormwater" Informational Meeting on 9/29/2009

POWER POINT PRESENTATION HERE

The Village of Niles and Notre Dame High School conducted an informational meeting with area residents regarding the engineering and design for the new artificial turf football field under construction.

Updated 9/23/2009

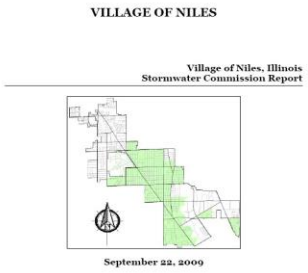
Stormwater Commission Report to Board of Trustees on 9/22/2009

POWER POINT PRESENTATION HERE

Action Requested at Meeting and Approved:

1. **Ordinance amendment** ***(2009-43)*** to reduce the likelihood of rear yard flooding and the negative impact to adjoining properties caused by fences that impede or divert the natural flow of stormwater runoff.
2. **Ordinance amendment** ***(2009-44)*** to prohibit below grade openings to attached garages unless approved by Engineering Department.

3. **Ordinance amendment** *(2009-45)* to reduce incidents of lateral failure and the resulting backups and infiltration into the combined sewer system by requiring drainage work of new construction and major reconstruction to utilize SDR-26 pipe or equal.
4. **Ordinance amendment** *(2009-46)* regarding the connection and discharge of footing drains. This amendment will help to reduce the negative impacts of sewer backup by reducing stormwater inflow into the Village's combined sewer system.
5. **Ordinance amendment** *(2009-47)* to require examination and testing of old building sewers to be used in connection with new or major remodeling to ensure the old sewer will meet requirements.
6. Stormwater Commission will begin the process of identifying and interviewing engineering consulting firms for the purpose of establishing a scope of work based on study findings and an estimated cost.



Stormwater Commission Report

(September 22, 2009)

The "100-year" storm and flood of September 2008 was devastating for an untold number of homeowners in the Village of Niles and surrounding municipalities. Not since August of 1987 was there a comparable rainfall on record. It is estimated that the 2008 flood impacted ten to fifteen percent of "ground level" homes in the Village and cost nearly $2.0 million in damages and cleanup, not to mention the untold loss of irreplaceable family heirlooms, memories, and general peace of mind.

The purpose of this report, however, is not simply to recount the flood event of 2008, but more importantly to provide a comprehensive look at more "persistent" stormwater conditions within the Village of Niles that occur during intense two- and five-year storm events, such as those experienced in March 2009 when we had nearly two inches of rain on frozen ground and June of 2009 when a record breaking three inches caused flash flooding in streets. To accomplish this, the Stormwater Commission worked and continues to work with homeowners to identify where and how stormwater is persistently impacting their homes and property.

Within the Analysis and Findings section of this report, persistent stormwater issues and contributing factors are identified. This section continues by illustrating, with maps developed by the Commission through resident surveys, a public workshop, and site investigations, where stormwater events most often impact homes and properties. Though the Stormwater Commission has been actively tackling stormwater runoff issues when practicable, a number of recommendations are included at the end of the report for consideration by the Village of Niles Board of Trustees. These recommendations are meant to help the Village and homeowners reduce the impact of future stormwater events.

This Report provides the first comprehensive look at regional, local, and home stormwater systems within the Village of Niles. It was completed through a cooperative effort of agencies, community stakeholders, and homeowners. The result is a thorough review of stormwater issues within the Village of Niles along with ways homeowners and the Village can reduce the future impact of stormwater runoff caused from intense rainfall events. The Board of Trustees will be able to utilize this report to consider the amendment of dated stormwater legislation, the evaluation of current municipal operations and the consideration of future long- and short-term capital programs.

Storm Water - Appendix A September Flood Map North
Storm Water - Appendix A September Flood Map Central
Storm Water - Appendix A September Flood Map South
Storm Water - Appendix B Public Flood Recovery Meeting Flyer

Storm Water - Appendix C MWRDGC Outfalls Map
Storm Water - Appendix D Winter Newsletter
** Storm Water - Appendix E Persistent Home/Street/Yard Flooding Map North*
** Storm Water - Appendix E Persistent Home/Street/Yard Flooding Map Central*
** Storm Water - Appendix E Persistent Home/Street/Yard Flooding Map South*
Storm Water - Appendix F Resident Stormwater Survey Comments
Storm Water - Appendix G Stormwater Workshop Summary
Storm Water - Appendix G Workshop Layout
Storm Water - Appendix H Stormwater Commission Update
Storm Water - Appendix I Stormwater at Home Guide
Storm Water - Appendix J Rain Garden Guide
Storm Water - Appendix K After the Rain Guide
Storm Water - Appendix L Partial List of Site Visits and Outcomes
Storm Water - Appendix M Persistent Street/Yard Flooding Map North
Storm Water - Appendix M Persistent Street/Yard Flooding Map Central
Storm Water - Appendix M Persistent Street/Yard Flooding Map South
Storm Water - Appendix N Typical Residential Storm and Sanitary Systems
Stormwater Commission Final Report - September 22, 2009

* Map available upon request.