

Village of Downers Grove
Stormwater and Flood Plain Oversight Committee Meeting

Thursday, June 23, 2016
7:00 PM

Downers Grove Public Works Facility
Conference Room
5101 Walnut Avenue
Downers Grove, Illinois

AGENDA

- I. CALL TO ORDER
- II. ROLL CALL
- III. APPROVAL OF MINUTES – May 12, 2016
- IV. PUBLIC COMMENTS
- V. NEW BUSINESS
 - A. Potential Amendments to Stormwater & Zoning Regulations
- VI. STAFF REPORT
- VII. PUBLIC COMMENTS
- VIII. OLD BUSINESS
- IX. ADJOURN



VILLAGE OF DOWNERS GROVE
Stormwater and Flood Plain Oversight Committee Meeting
May 12, 7:00 p.m.

Downers Grove Public Works Facility
5101 Walnut Avenue, Downers Grove, Illinois

I. CALL to ORDER

Chair Gorman called the meeting to order at 7:10 p.m. A roll call followed and a quorum was established.

II. ROLL CALL

Members Present: Chair Gorman, Mr. Ruyle, Mr. Scacco (arrived 7:25 pm), Mr. Schoenberg, Mr. Wicklander

Members Absent: Mr. Civito, Mr. Crilly

Staff Present: Karen Daulton Lange, Village Engineer / Stormwater Administrator

Public Present: Patrick & Sharon Brogan, Robert Schlaf

III. APPROVAL of February 11, 2016 Minutes

Mr. Schoenberg made a motion, seconded by Mr. Wicklander to approve the February 11, 2016 minutes. Motion carried by voice vote of 4-0.

IV. PUBLIC COMMENTS

None.

V. NEW BUSINESS

A. Petition for Variance

The public hearing was opened and all members of the public were sworn in to tell the truth and the whole truth. Mr. Schlaf, engineer for the Brogan's, summarized the property's characteristics, including that it is almost entirely within an LPDA, lower than 63rd street, and has a portion of a wetland in the backyard. Mr. Brogan has owned the property for nearly 30 years and has never experienced flooding in the home or garage.

Mr. Schlaf summarized the proposed engineering plan. A reduced footprint of the detached garage is proposed, and that the top of block for the floodproofing elevation should read 739.2, which is 1.1 higher than the base flood elevation (BFE) of 738.1. If the garage were to be elevated above the BFE, a 'bridge' would need to be built since the driveway is sloped down from 63rd St. This would necessitate much more fill and compensatory storage. The

small amount of fill they are proposing to have the garage floor at 737.0 will be compensated for in a proposed rain garden to the rear of the garage.

The Brogan's provided pictures of the dilapidated existing garage, and stated that the new garage would add to the property value and look nicer than the existing garage. They said they would store any materials such as gas and oils above the block waterproofed wall.

Mr. Ruyle inquired as to the construction of the sealed concrete block wall, and was concerned that the sealing would not be done properly, thus minimizing the flood proofing effects. He suggested a poured concrete wall, and Mr. Brogan said his contractor already told them it would cost an additional \$2,000 for the block wall, and that poured concrete would add considerably to the cost. Mr. Ruyle said his concern was not with the Brogan's maintaining the wall, but a future owner.

Mr. Wicklander asked if flow-through vents would be appropriate, and Mr. Schlaf said he could add them to the three walls, but Chair Gorman pointed out that the wetland and LPDA fill up very slowly from the rear of the property, so the vents would not be effective.

Mr. Ruyle suggested having a hinged ramp where the lawn mower and other gas-powered equipment could be stored at a higher elevation, but after further discussion it was decided that it was a good idea if a larger garage and flashier flooding potential, but it would not be a requirement.

Several of the committee members expressed concerns with future owners of the property not being aware of the flooding potential and asked Staff if LPDAs were recorded. They are not, but information on them is available on our Village website and our codes regulate them similarly to flood plain. It was agreed that a large, permanent sign affixed to the interior back wall of the garage would be required with a horizontal line at the BFE with a statement on the sign to the effect of "storage of materials harmful to water quality, including gasoline, oils, fertilizers, etc., must be stored above this line".

The Brogan's agreed to these conditions and the committee thanked them for improving their property and being concerned that future owners be made aware of the BFE and the precautions needed to help protect the water quality, especially since there is a wetland in the rear of their property.

The committee noted the following findings as outlined in Section 26.1900.J of the Village code:

1. Granting the variance shall not alter the essential character of the area involved, including existing stream uses; and
2. Carrying out the strict letter of the provisions of this Ordinance would create an undue or particular hardship or difficulty on a specific developer or owner; and
3. The relief requested is the minimum necessary and there are no means other than the requested variance by which the alleged hardship can be avoided or remedied to a degree sufficient to permit the reasonable continuation of the development; and

4. The applicant's circumstances are unique and do not represent a general condition or problem; and
5. The subject development is exceptional as compared to other developments subject to the same provision.

Mr. Scacco made a motion, seconded by Mr. Schoenberg, to recommend to the Village Council to approve the variance to Section 26.505.B. of the Village Stormwater and Flood Plain Ordinance, allowing the garage floor elevation to be at 1.1 feet below the Base Flood Elevation of 738.1 (NAVD88), rather than one foot higher, with the following conditions:

1. The sealed concrete block floodproofing shall extend to the elevation of 739.2 or higher.
2. A note to title shall be required as part of the permit process stating that the property is within an LPDA, including the garage, and that storage of materials harmful to water quality, including gasoline, oils, fertilizers, etc., must be stored at an elevation above the concrete block wall in the garage.
3. A large, permanent sign affixed to the interior back wall of the garage would be required with a horizontal line at the BFE with a statement on the sign to the effect of “storage of materials harmful to water quality, including gasoline, oils, fertilizers, etc., must be stored above this line”.

Motion passed by roll call vote 5-0.

Due to a previous commitment, Mr. Scacco had to leave the meeting at 8:07.

B. Discussion of Detention Requirements for Single Family Lots

Chair Gorman pulled the item from the agenda.

VI. STAFF REPORT

See Attachment.

VII. PUBLIC COMMENTS

No further public comment.

VIII. OLD BUSINESS

A. Lot Coverage / Zoning Code

Staff reported that they were not ready to present findings based on guidance received from the committee regarding lot coverage discussions that began last year. Chair Gorman reported that he is Chair of an Ad Hoc committee regarding lot coverage.

Mr. Schoenberg made a motion, seconded by Mr. Wicklander to adjourn the meeting at 7:55 p.m. Motion carried by voice vote of 6-0.

Staff Report
May 12, 2016

A. High School Students Glue the Town

Students from both North & South HS will be gluing the “No Dumping! Drains to River” medallions next week on Village storm structures. They have chosen high pedestrian intersections, school bus stops, and other areas that could benefit from the medallions. Staff is meeting with the students from South HS tomorrow morning to drop off ½ of the 500 medallions and safety vests for the students. The medallions were donated by SCARCE through a grant with the DuPage Foundation.

B. NPDES AFIR & NOI

The IEPA issued a new General National Pollutant Discharge Elimination System (NPDES) Permit which became effective on March 1. Staff is preparing the Annual Facility Inspection Report (AFIR) along with a revised Notice of Intent (NOI) which is due by June 1.

C. EMI - CRS

Staff was notified in January that she had been accepted for the Emergency Management Institute course, E0278: National Flood Insurance Program/ Community Rating System. The class and transportation was paid for by FEMA for the four-day course in Emmitsburg, MD

D. Departure

Staff is ending her service at the Village of Downers Grove at the end of the month. It has been a pleasure working with you all over these past 4 ½ years. Nan Newlon will be your contact in the interim until a new Stormwater Administrator is assigned.

Staff Report to Stormwater & Floodplain Oversight Committee

**Potential Amendments to Village Regulations to Reduce the Negative
Impacts of Stormwater Runoff from Residential Construction
Activities**

June 23, 2016

Summary

Stormwater runoff generated by new home construction, additions to homes and construction of accessory structures that comply with current Village regulations sometimes negatively impact some adjacent properties. The negative impacts, primarily standing or ponding water and saturated ground conditions, are generally caused by:

- New impervious area constructed in established neighborhoods that lack adequate stormwater management systems and infrastructure
- Significant grade differences causing increased stormwater runoff from the construction site to adjacent properties
- Sump pumps that serve large, deep basements discharging substantial amounts of water
- Lack of stormwater infiltration into the ground due to high clay content in soils

To address the issue and causes summarized above, Village staff has identified the following changes to regulations for review and consideration by the Stormwater and Floodplain Oversight Committee:

- Require the following for the construction of all new homes; and additions and accessory structures that result in a net increase of 700 square feet or more of impervious area:
 - stormwater detention with an outlet that connects to an established minor drainage system in the right-of-way (storm sewer, ditch, creek, etc.) or other similar approved location
 - sump pumps to discharge into a minor drainage system, detention area, rain garden, dry well or cistern
 - additional detention capacity to manage sump pump discharge for basements with a depth of greater than nine feet
 - foundation and finished grade elevations to be aligned with the properties located on either side of the site
- Repeal the current requirement for the construction of Post Construction Best Management Practices (PCBMP's) for construction resulting in 700 square feet or more of net new impervious area (return to the 2,500 square foot threshold)
- Increase the site runoff storage variance fee and the fee in-lieu-of constructing PCBMP's
- Reduce the minimum drain tile size requirement from six-inch (6") diameter to four-inch (4") diameter
- Increase the minimum required side yard setback in the R-4 zoning district to the greater of six feet (6') or 10% of the lot width
- Include detached garages and front porches in the calculation of building coverage (eliminate the exception for these items currently included in the code)

Each of the above options is intended to reduce the amount of stormwater runoff negatively affecting adjacent properties and reduce the amount of staff time spent responding to resident

calls for service regarding stormwater runoff. Each of the options has specific likely impacts that are described in this report.

Background

In 2015, the Village Council identified *Consider Changes to the Stormwater Utility* as a Top Priority Action Item. The Council has been discussing potential changes related to the utility over the past several months. While the fundamental policy question to be addressed relates to the type and amount of revenue that should be used to pay for stormwater related expenses (utility fees or property taxes), the Village Council has directed staff to consider more stringent stormwater regulations to lessen the negative impacts of runoff generated by residential construction activity.

Over the past several years established residential neighborhoods have been redeveloping with first generation homes being demolished and replaced with new and larger homes. Since 2011, 360 new single family homes have been constructed. Over 95% of the homes were built in existing neighborhoods, meaning an existing home was demolished and a new home, or homes, was built in its place.

In most cases, the newly constructed home and related improvements have increased the amount of impervious area located on the property. In 2012, the amount of impervious area in the Village was about 102 million square feet. Since then approximately 1.2 million square feet of new impervious area has been added; an increase of about 1.2%.

Existing Stormwater Regulations

The Village has extensive stormwater regulations governing development and construction activities. The DuPage County Stormwater Ordinance has regulations for developments specifically regarding development in the floodplain, site runoff, and sediment and erosion control. The Village is required to adopt and has adopted regulations consistent with and at least as stringent as the DuPage County requirements.

<http://www.downers.us/public/docs/code/Chapter26.pdf>

The Village regulations are intended primarily to prevent flooding of building structures. The regulations have been effective and structural flooding from stormwater runoff occurs very rarely. When structures flood it is usually due to extreme rain events in excess of the 100 year event.

In 2015, the Village adopted a revision to its stormwater ordinance that requires all developments that result in new impervious area of greater than 700 square feet to install Post Construction Best Management Practices (PCBMPs) to mitigate the stormwater impacts of new development on neighboring properties. Examples of these include dry wells, rain gardens or permeable pavers. These regulations are intended to improve water quality and reduce the

amount of runoff flowing onto adjacent properties and entering the public portion of the stormwater management system.

Extensive stormwater management systems are required when a new development of more than 25,000 square feet of net new impervious area is proposed. This system requires grading and a system for on-site detention and conveyance that controls the volume and rate of discharge. Other than the existing PCBMP requirements, the Village does not have regulations that cover new developments between 700 square feet and 25,000 square feet.

Negative Impacts on Adjacent Properties

While the Village enforces stringent stormwater regulations, stormwater runoff generated by some new home construction, additions to homes and construction of accessory structures that comply with current Village regulations negatively impacts some adjacent properties. The negative impacts, primarily standing or ponding water and saturated ground conditions, are generally caused by:

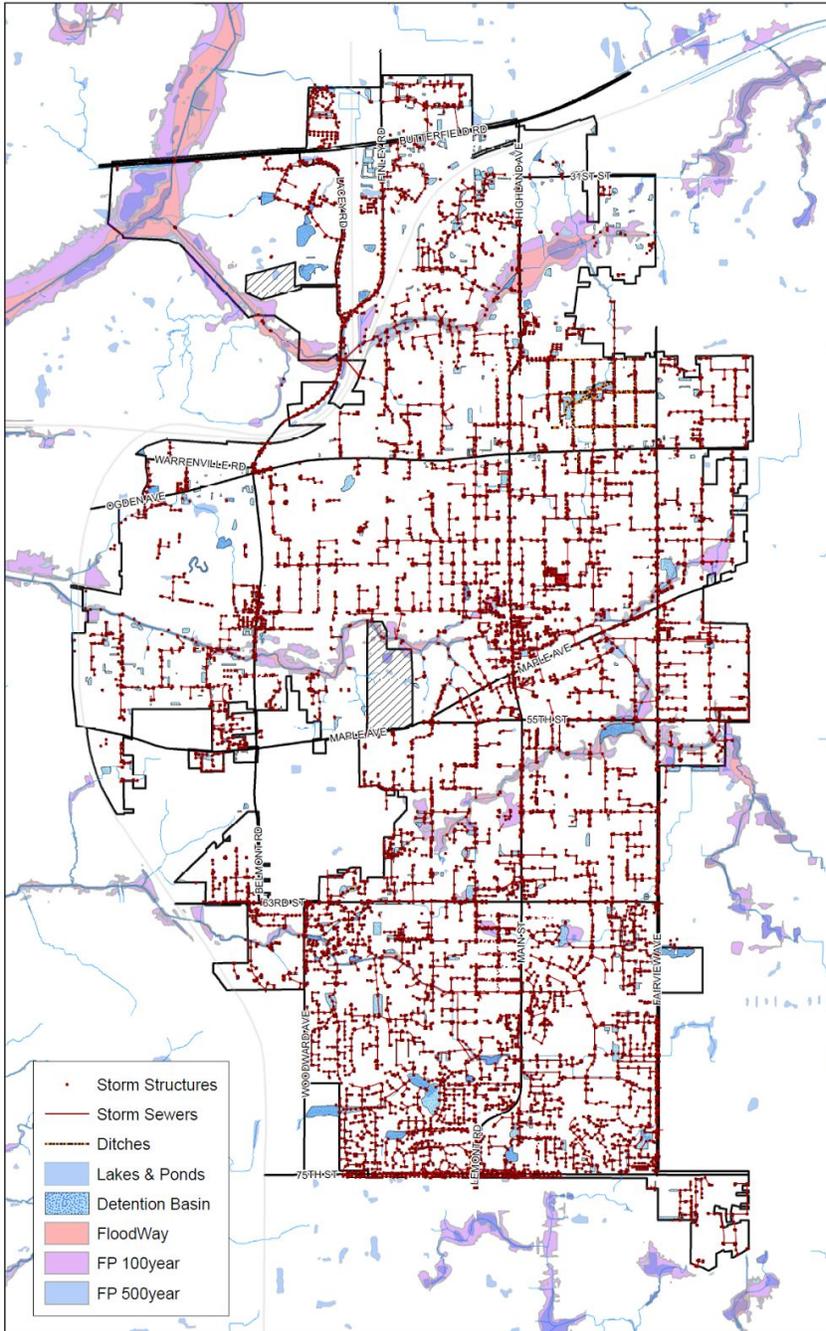
- New impervious area constructed in established neighborhoods that lack adequate stormwater management systems and infrastructure
- Significant grade differences causing increased stormwater runoff from the construction site to adjacent properties
- Sump pumps that discharge substantial amounts of water because they serve large, deep basements or the groundwater level is very high
- Lack of stormwater infiltration into the ground due to high clay content in soils

Construction in Neighborhoods Lacking Adequate Stormwater Management Infrastructure

The Village's stormwater system was built over time as the community developed. The requirements and regulations for stormwater management have become more stringent. As a result, in some portions of the Village, the stormwater system is modern and has enough capacity to effectively manage most rain events. In other areas there is no infrastructure, or, the stormwater infrastructure is undersized for the area it serves.

$\frac{2}{3}$ of the Village is served by storm sewers, pipes and other drainage systems	$\frac{1}{3}$ of the Village is served by ditches and culverts
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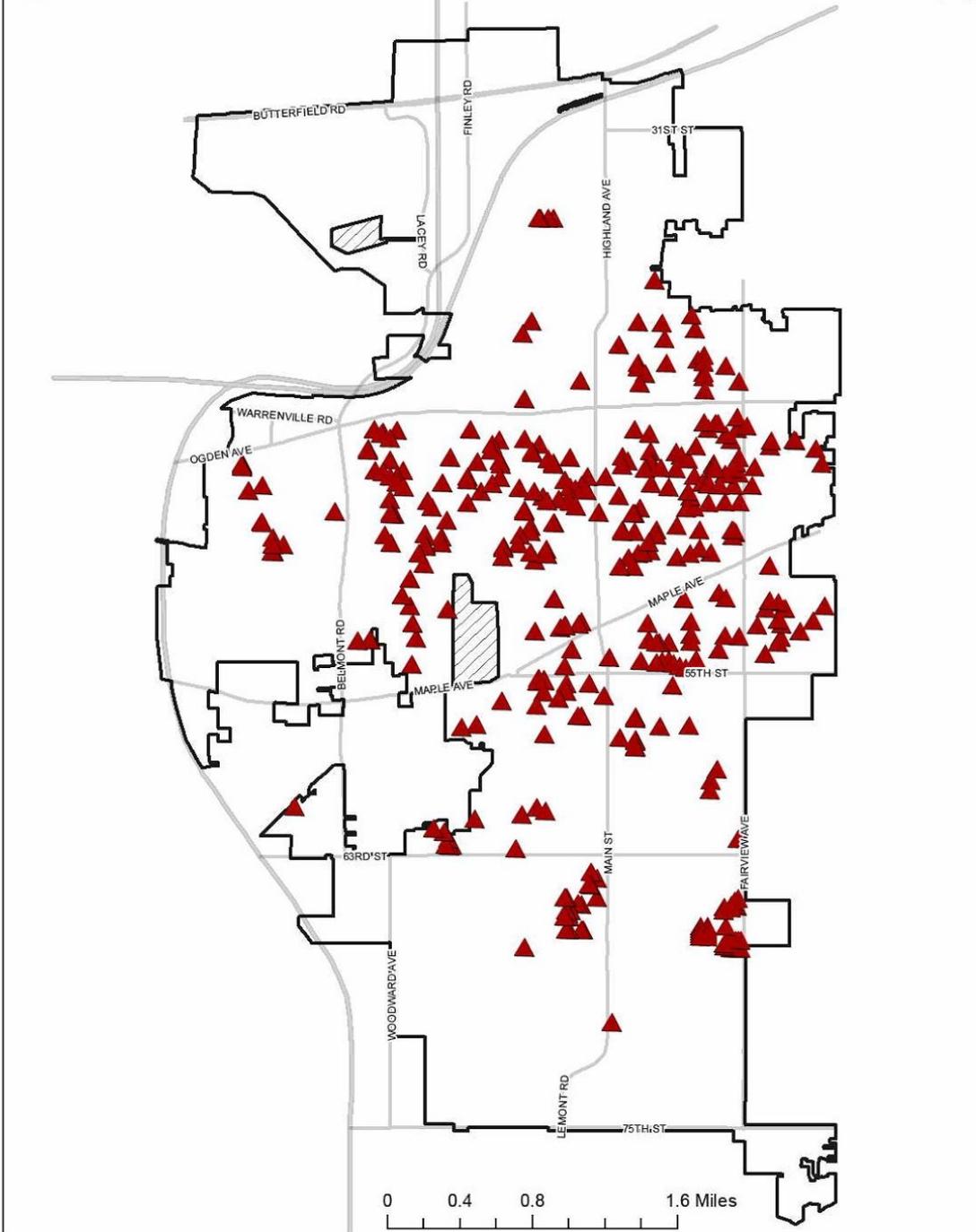
Generally speaking, the portions of the Village originally developed prior to the creation of modern development regulations (prior to World War II) lack modern, fully functioning stormwater infrastructure. Much of the residential redevelopment construction activity has been taking place in these areas. New, larger homes have been constructed in areas that do not have public storm sewers, detention basins or engineered overland flow routes. The expansion of impervious area in these portions of the Village often result in stormwater runoff flowing onto adjacent properties because there is no storm sewer available to accept the water.



Village Stormwater Management System

New Single Family Residential Permits from 2011-Present

▲ New Single Family Residential Permits (360)

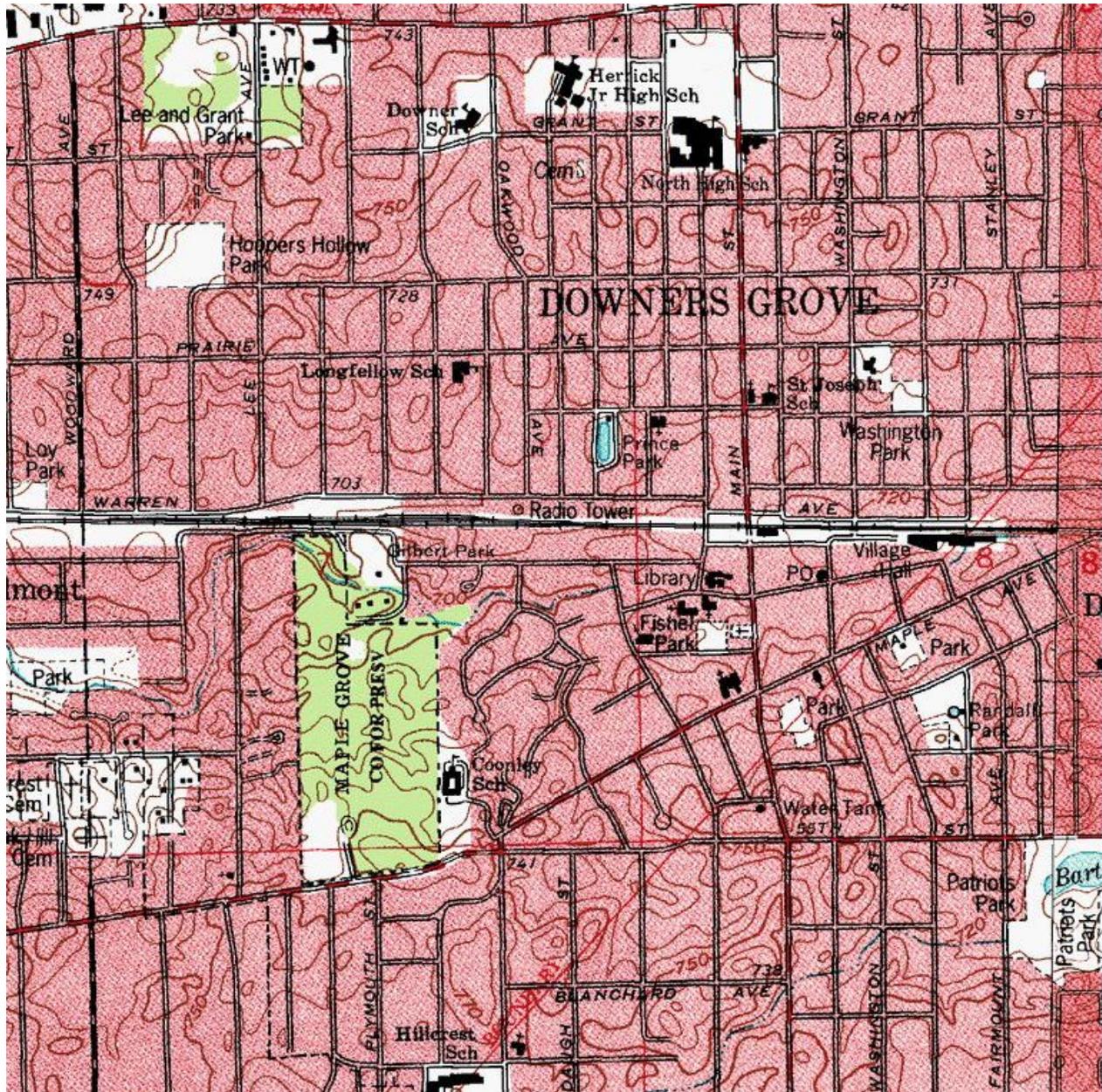


Permits issued between January 1, 2011, and June 16, 2016

New Single Family Home Construction, 2011-2016

Significant Grade Differences Causing Increased Stormwater Runoff to Adjacent Properties

Properties within the Village developed over a long period of time. For the majority of that time tracts of land were platted and homes were built individually or in small subdivisions, generally following the existing contour of the land. The contours or elevation changes within the Village were created by glaciers, that carved many small hills and valleys with differences in elevations as much as 20 feet within single blocks.



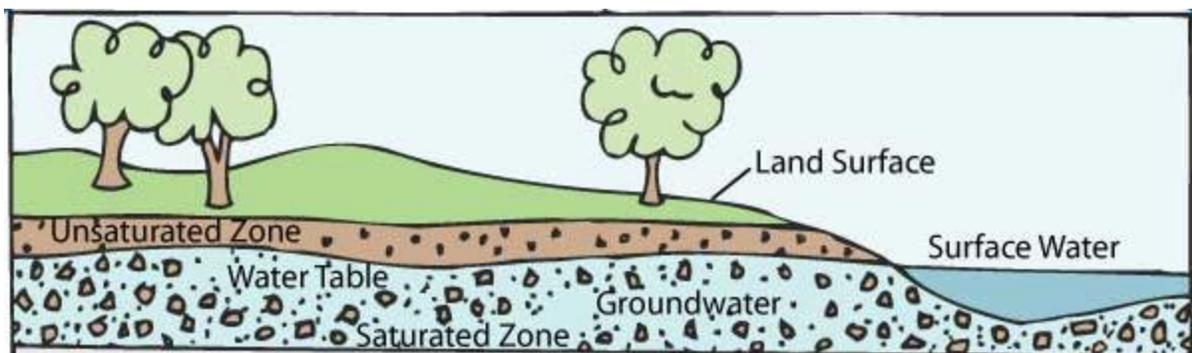
Historic Topography in Downers Grove

In the majority of cases older homes were smaller and were located on the higher side of lots, avoiding the lower areas and minimizing the impact of drainage from neighboring homes.

When new houses are constructed on individual lots, the larger footprint typically dictates that the new impervious area covers the lot to the front and side yard setbacks, often paving a large amount of the rear yard as well. This can create a significant difference in elevation between two neighboring homes, contributing to difficulty in channeling runoff away from both homes.

Sump Pumps that Discharge Substantial Amounts of Water Because they Serve Large, Deep Basements or the Groundwater Level is Very High

Groundwater is water present below the surface of the ground that flows through spaces between rocks and earth. The depth of the groundwater, or the water table, in the Village is high, meaning that it is close to the ground's surface in many areas.



The amount and elevation of groundwater is unpredictable and can increase as a result of rainfall and naturally occurring springs and seeps below the ground. Older homes were typically constructed with crawl spaces or shallow basements to minimize the amount of water seepage into the structure. The trend in newer homes is to construct deeper basements, which are finished, and to install elaborate sump pump systems to pump the water from the structure. In some cases, where the basement floor is below the elevation of the water table, the sump pumps may run continuously and the flow may increase during periods of heavy rain. In these situations the pumps will discharge water even during dry periods and may create a condition where low lying areas stay continually wet.

Lack of Stormwater Infiltration into the Ground due to High Clay Content in Soils

Infiltration is the how water on the surface is absorbed by the ground. Clay is the predominant soil type in Downers Grove and is not conducive to infiltration. Clay soil is composed of tiny particles that are hard and able to become easily compacted. This compaction makes it difficult to plant or even shovel within the soil. When clay soil is compacted, it is nearly impossible to break up and when it is wet, it can be especially difficult to work with because it tends to stick together, making it impermeable and slowing infiltration.

[PERMEABLE OR IMPERMEABLE YOUTUBE VIDEO](#)

In an ideal condition, permeable soils filter stormwater runoff, removing pollutants, while allowing the runoff to recharge the water table. When soils are impermeable, infiltration of water does not occur, resulting in more runoff to neighboring and downstream properties. The Village has implemented local PCBMP requirements, such as rain gardens and dry wells, which attempt to encourage infiltration; however, in soils with a heavy clay content, these measures can be challenging to construct and operate.

Options for Consideration

Staff identified several potential code changes that could be considered by the Stormwater and Floodplain Oversight Committee for recommendation to the Village Council. The options fall under the Stormwater and Floodplain Ordinance, Building Code and the Zoning Ordinance.

- Require the following for the construction of all new homes; and additions and accessory structures that result in a net increase of 700 square feet or more of impervious area:
 - stormwater detention with an outlet that connects to an established minor drainage system in the right-of-way (storm sewer, ditch, creek, etc.) or other similar approved location
 - sump pumps to discharge into a minor drainage system, detention area, rain garden, dry well or cistern
 - additional detention capacity to manage sump pump discharge for basements with a depth of greater than nine feet
 - foundation and finished grade elevations to be aligned with the properties located on either side of the site
- Repeal the current requirement for the construction of Post Construction Best Management Practices (PCBMP's) for construction resulting in 700 square feet or more of net new impervious area (return to the 2,500 square foot threshold)
- Increase the site runoff storage variance fee and the fee in-lieu-of constructing PCBMP's
- Reduce the minimum drain tile size requirement from six-inch (6") diameter to four-inch (4") diameter
- Increase the minimum required side yard setback in the R-4 zoning district to the greater of six feet (6') or 10% of the lot width.
- Include detached garages and front porches in the calculation of building coverage (eliminate the exception for these items currently included in the code)

Options for Code Changes & Construction of Stormwater Infrastructure Improvements

This report includes options to reduce the negative impacts of stormwater runoff due to residential construction activities on a lot by lot basis. Staff recognizes that the construction of modern, appropriately sized stormwater systems in neighborhoods that currently lack such infrastructure would in most instances better address the issues outlined in this report, however, the construction of these systems would be very disruptive to neighborhoods, costly and would require the acquisition of properties and easements from owners who may not be willing to participate. Disruptions would include the loss of landscaping, trees, accessory structures, fences and in some cases homes. Costs would likely be measured in tens of millions of dollars.

The Village has identified and prioritized 22 future capital projects that address significant flooding issues including structure flooding and maintenance needs for the existing infrastructure. These planned improvements are not intended to address localized ponding of runoff from residential construction. The estimated cost of these projects is more than \$40 million. The construction of new stormwater systems to address the issues outlined in this report would require substantial additional funding.

Require On-site Detention

Under the current Village code stormwater detention must be provided for new construction which results in 25,000 square feet or more of net new impervious area. Installation of Post Construction Best Management Practices (PCBMP) such as rain gardens and dry wells are required for construction activities that result in 700 square feet or more of net new impervious area.

The volume of storage required for detention and PCBMPs is significantly different, with detention providing approximately six times more storage.

$$\text{Detention Volume} = 7.58'' \text{ of runoff} \times \text{total new impervious area}$$

$$\text{PCBMP Volume} = 1.25'' \text{ of runoff} \times \text{total new impervious area}$$

The Village may wish to consider requiring on-site detention for all new residential construction and residential construction activity that results in 700 square feet or more of net new impervious area. The detention outlet would be required to connect directly into a minor stormwater system in the right-of-way such as a storm sewer or ditch. For each 1,000 square feet of impervious, 570 cubic feet of detention would be required. For example: the average new single family home in the R4 district would require 1,850 cubic feet of detention - 43' x 43' x 1' deep or 20' x 20' x 4.5' deep. For comparison, the PCBMPs would require 340 cubic feet of storage.

The likely impacts of this requirement include:

- Construction cost of \$10,000 to \$35,000 for the detention basin
- Construction cost of up to \$50,000 for improvements connecting the basin outlet to storm sewer, ditch, creek or other approved location
- Water Quality PCBMPs will still be required (per DuPage County Stormwater Code)
- Staging of construction must be more carefully considered
- Easements will be required for the detention and the connection/conveyance
- Homeowners need to keep inlet(s) into detention basin free and clear
- The restrictor will likely be less than one-inch (1") diameter and will clog easily. Homeowner must clean and maintain restrictor so it doesn't become clogged
- Homeowner must keep storm storm sewer lines clean between the detention and the street
- Village must inspect detention during construction
- Village must inspect detention annually for functionality and ensure restrictor remains in place
- Increased infrastructure for the Village to inspect and maintain long term
- Gravity flow will not work for many locations; pumps will be necessary to convey water to the storm sewer/ditch. Per code, pumps require two independent sources of power (e.g. electric and gas generator). Homeowner must maintain pump and generator. Pump cost not included above
- Detention will be sized for the 100-year event and will slowly release into minor drainage system (ditch, storm sewer, or creek)
- Connection to ditch may create a constant flow of water in ditch, which makes the ditch difficult to mow
- Connection to a creek may cause erosion
- Potential for constant flow in storm sewer
- Underground detention has potential to displace existing groundwater
- Potential to add flow to the stormwater system
- Potential to decrease peak flows during larger storms
- Capacity of Village infrastructure must be evaluated (flow will be increased to ditches and storm sewer)
- Potential to increase normal water levels in LPDAs

Require Sump Pumps to Connect to a Minor Stormwater System or Detention Basin

Under the current code, sump pumps are required to discharge onto yards and must be setback a minimum of 20 feet from downstream lot lines. In many cases, sump pumps meeting code requirements discharge significant amounts of water negatively affecting adjacent properties. In these cases the Village practice is to require the sump pump to discharge into a PCBMP that is then connected to a minor stormwater system, where available.

The Village may wish to consider requiring sump pumps for all new single family homes to connect directly to a detention facility or minor stormwater system. The likely impacts of this requirement include:

- Construction cost of \$500 to \$4,000
- Homeowner must ensure that the discharge pipe remains clear
- Minor stormwater system may not be readily available in all areas
- Potential to increase flow in the minor stormwater system
- Potential to increase normal water levels in LPDAs (at downstream end of storm sewer)

Remove Local PCBMP Requirements

In 2015, the Village adopted a revision to its stormwater ordinance that requires all developments that result in new impervious area of greater than 700 square feet to install PCBMPs to mitigate the stormwater impacts of new development on neighboring properties. Examples of these include dry wells, rain gardens or permeable pavers. These regulations are intended to improve water quality and reduce the amount of runoff flowing onto adjacent properties and entering the public portion of the stormwater management system.

The required PCBMPs have not been effective on many properties. Stormwater fails to properly infiltrate the ground due to high clay content in the soils. When PCBMPs overflow, the runoff flows onto adjacent properties at one concentrated point. Some property owners do not like having PCBMPs in their yards because these areas can not be used for certain recreational activities.

The Village may wish to consider repealing the PCBMP requirements and apply the County regulations which require PCBMPs with 2,500 square feet of net new impervious area. The likely impacts of this change include:

- Reduction in the cost of construction
- Increased usability of yards
- Runoff would flow unrestricted overland and downstream for properties with less than 2,500 square feet of net new impervious

Increase the Site Runoff Storage Variance Fee and the Fee in-Lieu-of Constructing PCBMPs

Under the current code the Village collects a fee for all residential construction projects that do not provide detention. Revenues from these fees are placed in the Stormwater Fund. The current fee ranges between \$0.565 per square foot to \$0.71 per square foot of impervious area depending on the watershed in the which the project is located. The typical fee for a new single family house is \$800. In 2015, a total of \$113,157.25 in fees were paid.

The purpose of this fee is to provide revenue to construct regional storage for runoff and it includes costs for engineering, land acquisition, construction and operations and maintenance. The Village may consider increasing the fee to account for increases in the cost of land acquisition and construction, as well as potential conveyance infrastructure to convey runoff from new construction to regional storage facilities. Staff has not calculated these increases,

however, anticipates this fee could increase as much as 50% to account for these additional costs.

The Village's existing cost-share program could be expanded to address needed storage and conveyance improvements. Through the cost-share program the Village offers financial assistance to residents seeking to make stormwater improvements on their private property. To qualify, the proposed improvement must mitigate existing flooding conditions such as structural flooding of a house/garage or non-structural flooding over multiple properties. Flooding conditions must be present on more than one property to receive reimbursement. Once the qualifying criteria are met, reimbursement of up to \$1,500 is available for each participating property. The maximum reimbursement per project is \$10,000. The FY16 Stormwater Fund budget includes \$50,000 for these projects. Requests for cost share program improvement projects has been increasing.

The Village may wish to consider increasing the site runoff variance fee by as much as 100% (doubling the fee). The likely impacts of this change include:

- Increase in the cost of construction of a new single family house of approximately \$800
- Increase in the amount of money available for neighborhood and regional stormwater improvements

Under the current code the Village collects a fee in-lieu-of constructing PCBMPs when the Stormwater Administrator concurs that their construction on a property is not practical. If the Village were to consider removing the local PCBMP requirement for new impervious area greater than 700 square feet, staff recommends that the fee in-lieu-of construction be assessed for this threshold. Fees collected would be used to assist with regional water quality projects.

Reduce the Requirement for the Size of the Foundation Drain Tile

Under the current code, the minimum size of the foundation drain tile is six inches. This is a local code amendment. The International Building Code requires a minimum size of four inches. The six-inch drain tile carries substantially more water than a four-inch drain tile and increases the amount of water flowing through the sump pump discharge.

The Village may wish to consider deleting the six-inch (6") drain tile requirement and adopting the four-inch (4") requirement. The likely impacts of this change include:

- Reduction in the amount of water discharged by sump pumps
- Slight reduction in the cost of construction

Increase the Required Side Yard Setback in the R-4 District

Currently, the minimum required side yard setback in the R-4 District is five feet (5') or 10% of the lot width, whichever is greater. Many new single family houses and additions to existing houses are constructed on 50-foot wide lots, resulting in a five foot (5') side yard setback. In some cases, the five foot (5') side yard does not provide ample room for stormwater drainage improvements and negatively impacts adjacent properties.

The Village may wish to consider increasing the side yard setback to a minimum of six feet (6') in the R-4 District. The likely impacts of this change include:

- Increase in the space available to construct stormwater improvements including swales
- Reduction in the slope of swales
- Increase in the space between houses
- Increase in the side yard setback of window wells from 3.5 feet to 4 feet
- Decrease in the maximum width of a house on a 50 foot wide lot from 40 feet to 38 feet
- Increase in the depth of the house to accommodate for loss in width

Eliminate the Building Coverage Exception for Detached Garages and Front Porches

The maximum building coverage in the Zoning Ordinance is 32% of the lot area. Building coverage is measured as the area of the lot that is occupied by principal and accessory buildings and by structures with a surface area of more than four (4) square feet and a height of 18 inches or more. All areas beneath a roof are counted for purposes of measuring building coverage, except on R-zoned lots with a lot width of 60 feet or less, detached garages in the rear yard and rear-loading attached garages with a building footprint of 500 square feet or less are not counted towards overall building coverage. Front porches with a total footprint of 250 square feet or less are not counted towards overall lot or building coverage.

The current code encourages construction of front porches and detached garages and is intended to enhance the aesthetic appearance of neighborhoods. This also has the effect of increasing the amount of impervious area on a lot, which increases stormwater runoff.

The Village may wish to consider eliminating the exceptions for detached garages and front porches. The likely impacts of this change include:

- Reduction in the amount of impervious area on some lots
- Reduction in the number of new houses constructed with detached garages and front porches

Require Foundation and Finished Grade Elevations to be Aligned with the Properties Located on Either Side of the Site

The current Village code does not include regulations regarding the elevation of the tops of foundations for new houses and additions. In some cases, the foundations are constructed at elevations significantly higher than those of adjacent houses. This results in stormwater runoff flowing onto adjacent properties.

The Village may wish to consider requiring the tops of foundations to be at an elevation equal to or less than the average of the tops of foundations of adjacent houses.

The likely impacts of this requirement include:

- Reduction in the amount of runoff flowing onto adjacent properties
- Reduction in the overall height of new houses compared to existing, adjacent houses

Require On-site Detention for Basements Deeper than Nine Feet (9')

The current code does not regulate the depth of basements. New houses are often constructed with deep basements and elaborate sump pump systems to pump the water from the structure. In some cases, where the basement floor is below the elevation of the water table, the sump pumps may run continuously and the flow may increase during periods of heavy rain. In these situations the pumps will discharge water even during dry periods and may create a condition where low lying areas stay continually wet.

The Village may wish to consider requiring on-site stormwater detention for basements deeper than nine (9'). The likely impacts of this requirement include:

- Reduction in the number of deep basements constructed resulting in less displaced groundwater and sump pump discharge
- Increase in the cost of constructing basements deeper than nine feet (9')
- Construction of detention basins (see impacts of requiring on-site detention above)

Staff Report
June 23, 2016

A. High School Students Glue the Town

Students from both North & South HS attached the “No Dumping! Drains to River” medallions on Village storm structures. A video about the program was produced by staff and posted on the Village’s web site.

B. NPDES AFIR & NOI

Staff submitted the Annual Facility Inspection Report (AFIR) along with a revised Notice of Intent (NOI) prior to the June 1st deadline.