



AGENDA
COMMITTEE OF THE WHOLE MEETING
Village Hall – Community Room
Monday, June 8, 2015
Immediately following Regular Village Board Meeting

Reasonable accommodations / auxiliary aids will be provided to enable persons with disabilities to effectively participate in any public meetings of the Board. Please contact the Village Administrative Office (847.883.8600) 48 hours in advance if you need special accommodations to attend.

The Committee of the Whole will not proceed past 10:30 p.m. unless there is a consensus of the majority of the Trustees to do so. Citizens wishing to address the Board on agenda items may speak when the agenda item is open, prior to Board discussion.

CALL TO ORDER

1.0 ROLL CALL

2.0 APPROVAL OF MINUTES

- 2.1 Acceptance of the May 26, 2015 Committee of the Whole Meeting Minutes

3.0 ITEMS OF GENERAL BUSINESS

3.1 Planning, Zoning and Land Use

- 3.11 Consideration and Discussion of an Ordinance Amending Chapter 2 of Title 13, Landscaping, of the Lincolnshire Village Code to update the Village's landscaping regulations (Village of Lincolnshire).

3.2 Finance and Administration

3.3 Public Works

- 3.31 Consideration and Discussion of an Ordinance Adopting the Prevailing Wage Rates to be paid to Laborers, Mechanics and Other Workers Performing Construction of Public Works for the Village of Lincolnshire (Village of Lincolnshire)
- 3.32 Consideration and Discussion of Agreement between the Village of Lincolnshire and the Des Plaines River Watershed Workgroup (Village of Lincolnshire)
- 3.33 Consideration and Discussion of a Joint Purchasing Agreement with Palatine Oil, Inc., Schaumburg, IL for Purchase of Gasoline and Diesel Fuel 2015 (Village of Lincolnshire)
- 3.34 Consideration and Discussion of Awarding Bid to Waukegan Roofing for Utility Building Roof Replacement Project (Village of Lincolnshire)
- ~~3.35 Consideration and Discussion of Draft 2015—2024 Village of Lincolnshire Capital Plan and Five Year Financial Forecast (Village of Lincolnshire)~~
- 3.36 Consideration and Discussion of Update to Lincolnshire Flood Response Manual (Village of Lincolnshire)

3.4 Public Safety

3.5 Parks and Recreation

3.6 Judiciary and Personnel

4.0 **UNFINISHED BUSINESS**

5.0 **NEW BUSINESS**

6.0 **EXECUTIVE SESSION**

7.0 **ADJOURNMENT**



**MINUTES
COMMITTEE OF THE WHOLE MEETING
Tuesday May 26, 2015**

Present:

Mayor Brandt	Trustee Feldman
Trustee Grujanac	Trustee McDonough
Trustee Servi	Trustee McAllister
Village Clerk Mastandrea	Village Attorney Simon
Village Manager Burke	Chief of Police Kinsey
Finance Director Peterson	Public Works Director Woodbury
Community & Economic Development Director McNellis	Village Planner Robles
	Engineering Supervisor Horne

ROLL CALL

Mayor Brandt called the meeting to order at 7:19 p.m., and Village Clerk Mastandrea called the Roll.

2.0 APPROVAL OF MINUTES

2.1 Acceptance of the May 11, 2015 Special Committee of the Whole – Town Meeting Minutes

The minutes of the May 11, 2015 Special Committee of the Whole Meeting were approved as submitted.

2.2 Acceptance of the May 11, 2015 Committee of the Whole Meeting Minutes

The minutes of the May 11, 2015 Committee of the Whole Meeting were approved as submitted.

3.0 ITEMS OF GENERAL BUSINESS

3.1 Planning, Zoning and Land Use

3.11 Preliminary Evaluation of a Request for Special Use Amendment to Permit Expansion and Site Modifications of a Children's Daycare Center (Bright Stars Kids University, Inc.)

Community & Economic Development Director McNellis provided a brief summary of the request from Bright Stars Kids University, Inc. to expand and modify the existing daycare center which would result in the loss of seven existing parking spaces and a drive isle in the Village Green shopping center. Community & Economic Development Director McNellis highlighted issues staff plans to bring forward to the Zoning Board including traffic impacts; the necessity of the outdoor playground expansion; opening the playground area to the public when the daycare

is closed; a stipulation to re-establish the parking area if Bright Stars Kids University, Inc. vacates.

Mr. Barry Rosenbloom, Attorney for Bright Stars Kids University, Inc. provided a presentation regarding the request to expand and modify the day care facility and grounds.

Trustee Feldman suggested moving the bus pick-up and drop-off to a different location so as to not back-up traffic in the main drive-aisle in the shopping center.

Trustee McDonough asked why staffing would not exceed 13 as listed in the proposal and if staffing levels will not exceed this amount, would such levels satisfy Department of Children and Family Services (DCFS) requirements. Mr. Rosenbloom noted the staff of 13 would be the most Bright Stars would need and would be sufficient to meet DCFS requirements. Trustee McDonough asked for clarification regarding the landscaping in the concept plan shared with the Village Board and if the drawings depicted include landscaping in existing parking areas. Mr. Rosenbloom stated the landscaping reflected in the drawings submitted is representational and changes could be made to try and meet the Zoning Board and Village Board recommendations.

Trustee Servi noted some concern regarding the mentioned stipulation related to Bright Stars re-establishing parking if the business were to fail and suggested requesting an up-front escrow. Village Attorney Simon noted the owner of the complex; Baceline would be involved in signing and accepting the Ordinance related to this stipulation as well as Bright Stars.

Mayor Brandt noted her concern was eliminating parking and asked if there was feedback from other tenants. Community & Economic Development McNellis noted at this time the other tenants have not been notified but if the expansion is referred for a Public Hearing, the property owners will be notified and tenants can be notified as well.

Trustee McDonough noted his concern regarding pick-up times for the daycare contrasting with hours of operation for the new restaurant. Mr. Rosenbloom noted the daycare hours of operation are already in place for the existing facility and will not change regardless of the proposed expansion and modifications. Trustee McDonough asked if there would be an exit from the playground to the parking lot. Mr. Rosenbloom noted the current plan does not include an exit to the parking lot. Village Attorney Simon noted as a consequence to there not being an entrance/exit from the parking lot and in response to the staff memo suggestion, the playground would not be accessible to the public when Bright Stars is not open for operation. Mr. Rosenbloom noted when the issue of the public accessing the playground came up initially; DCFS was not in favor due to safety concerns. A brief conversation regarding the play area requirements for childcare facilities followed. Mayor Brandt

asked if the Board did not approve the addition of the playground, would Bright Stars still expand the facility to accommodate more children. Mr. Dennis Lanski, Owner of Bright Stars Kids University, LLC stated Baceline came up with the plan and idea for expanding into the current Subway space.

A brief conversation regarding parking accessibility for the nearby restaurants and other possibilities for other location alternatives in the same business center followed. Trustee Feldman asked if the requirements for parking would still be met when the other businesses coming in took occupancy. Community & Economic Development Director McNellis noted Village Green is a shared parking concept, and parking requirements are expected to be met for the entire site should this expansion move forward; however, staff will continue to monitor parking needs at the center.

Mayor Brandt asked about the height of the fence noting concern of people being able to see inside. Mr. Lanski noted he would be open to other options for the fencing proposed.

Trustee McAllister asked if in fact the elimination of the playground expansion would put a stop to the facility expansion. Mr. Lanski noted this would in fact put a stop to their request to expand. Mayor Brandt asked if the facility would look to relocate outside of the Village Green to accommodate expansion. Mr. Lanski noted it would be difficult to stay in the current location with the limitations Bright Stars Kids University, LLC has on its current site and facility.

Mayor Brandt asked about timing. Mr. Lanski noted the timing would be based on Subway moving forward with their planned relocation elsewhere in the Village Green center.

Community & Economic Development McNellis asked if there was a middle ground Bright Stars Kids University, LLC could come to with expanding the facility and not expanding the play area. Mr. Lanski noted this would be difficult to come to and still be competitive with other daycare facilities.

There was a consensus of the Board to refer this item to the Zoning Board noting parking concerns; possibly exploring other alternative locations in the center in order to achieve the goal of Bright Stars Kids University, LLC; other possible play area options; and to ensure all tenants are made aware of the project if approved for a public hearing.

3.12 Continued - Preliminary Evaluation of proposed annexation of 19.71 acres, Rezoning from R1 to R4 Single-Family Residential District, and Special Use for a Planned Unit Development (PUD) for a Proposed 52-unit townhome development at 14600 Riverside Road (KZF Stack, LLC)

Village Planner Robles provided a summary of the proposed annexation, rezoning and special use for a Planned Unit Development for a townhome development at 14600 Riverside Road which originally came before the Board at the April 13, 2015 Committee of the Whole Meeting. The original proposal was for 52-units and is now down to 48-units. Original concerns raised by the Board were flooding, density, site layout, and townhome product. Village Planner Robles noted annexation of the parcel subject to this request could accelerate the timing of when the remaining unincorporated land should be annexed if the village intends to maintain control of this area.

Mr. Larry Friedman, representing KZF Stack, LLC asked for guidance related to the annexation of the proposed Planned Unit Development , noting KZF Stack, LLC would like to be annexed into Lincolnshire. Mr. Friedman provided information related to the areas of concern from the April 13, 2015 Committee of the Whole Meeting.

Trustee McDonough noted this is quite a leap from what was originally proposed in 2007 for a handful of single-family homes to a 48-unit townhome development. Trustee Servi noted Wood Creek Courts is the type of development he would like to see at the location in question. Mr. Friedman asked the Board if they would accept something other than detached single-family. A conversation followed regarding the density and comparison to the Meadow Ridge subdivision. Representative from KZF Stack, LLC provided information related to product type, parking and amenities contemplated for the site.

Mayor Brandt noted staff and the Board need to do some additional work regarding the annexation and school projections. Mayor Brandt also noted one Trustee is absent and another will be sworn in at the June 8, 2015 Regular Village Board Meeting and suggested KZF Stack, LLC revise their proposal to address Board concerns and bring the item back to the Board on or after June 8, 2015.

There was a consensus of the Board for KZF Stack, LLC to revise their proposal to address additional Board comments and bring it back to the Board on the or after June 8, 2015.

3.13 Continued Public Hearing regarding an Amendment to Ordinance No. 03-1861-38, which authorized an Annexation Agreement for the Sedgebrook Continuing Care Retirement Community, as further amended by Ord. No. 14-3321-47, to permit the development of Lot 2 for a proposed 101-unit townhome Planned Unit Development (Pulte Homes)

Mayor Brandt closed the Committee of the whole meeting and reopened the Public Hearing regarding an Amendment to Ordinance No. 03-1861-38, which authorized an Annexation Agreement for the Sedgebrook Continuing Care Retirement Community, as further amended by Ord. No. 14-3321-47, to permit the development of Lot 2

for a proposed 101-unit townhome Planned Unit Development (Pulte Homes)

Village Planner Robles provided a summary of the request from Pulte Homes to amend the Annexation Agreement for Sedgebrook Continuing Care Retirement Community to permit the development of Lot 2 for a proposed 101-unit townhome Planned Unit Development.

Mayor Brandt swore in Mark Mastrococco representing Pulte Homes. Mr. Mastrococco introduced Chuck Hanlon, Land Planner for the proposed project; Rob Eyrich, Division Project Manager, and Greg Sagen, Landscape Architect. Mr. Mastrococco provided a presentation regarding their request to amend the Annexation Agreement for a proposed 101-unit townhome Planned Unit Development addressing previous concerns made by the Board.

Trustee Feldman noted Pulte Homes is currently building in another municipality where the school district is split and asked how this is affecting the value of the units within the development. Mr. Mastrococco noted this is a marketing component they take into consideration when they figure pricing and referenced other locations where Pulte is currently building.

Mayor Brandt swore in Charles Hanlon with WBK Associates, Rob Eyrich with Pulte Homes, David Cumming with Pulte Homes, Steve Bauer with Meltzer Purtil & Stelle, Adam Rak with WBK Associates, Steve Hovany with Strategy Planning Associates, Greg Sagen with Signature Design Group, and Andy Heinen with Kimley-Horn.

Mr. Chuck Hanlon provided a presentation related to Site Plan/Land Plan for the proposed Pulte project based on recommendations from the Architectural Review Board and Village Board.

Mr. Greg Sagen provided a presentation and plans related to the landscaping and signage for the proposed Pulte project.

Mr. Rob Eyrich provided a presentation regarding the architecture of the proposed Pulte project based on recommendations from the Architectural Review Board.

Mr. Chuck Hanlon provided additional information related to project density for the proposed site.

Mr. Mark Mastrococco provided a summary and conclusion of the presentations.

Mayor Brandt asked if there was anyone in the audience who would like to comment. Mayor Brandt noted no one from the audience had comments.

Mayor Brandt asked the Board if they would like to comment on this item or hold back comments until items 3.14 and 3.15 were presented. It was the consensus of the Board to discuss items 3.13 and 3.14 after the following Public Hearing.

Mayor Brandt adjourned the Public hearing and reconvened the Committee of the Whole meeting at 9:20 p.m.

3.14 Continued Public Hearing regarding an Amendment to Ordinance No. 03-1864-41 which established a Special Use for a Planned Unit Development (PUD) for a Continuing Care Retirement Community (CCRC), as further amended by Ord. No. 04-1899-15, 04-1905-21, and 14-3322-48, to remove Lot 2 from development restrictions related to the Sedgebrook CCRC (Pulte Homes)

Mayor Brandt closed the Committee of the whole meeting and reopened the Public Hearing regarding an Amendment to Ordinance No. 03-1864-41 which established a Special Use for a Planned Unit Development (PUD) for a Continuing Care Retirement Community (CCRC), as further amended by Ord. No. 04-1899-15, 04-1905-21, and 14-3322-48, to remove Lot 2 from development restrictions related to the Sedgebrook CCRC (Pulte Homes)

Village Planner Robles provided a brief summary of the proposed Special Use for a Planned Unit Development for a continuing care retirement community to remove lot 2 from development restrictions related to Sedgebrook CCRC.

Mayor Brandt swore in Mr. Mark Mastrorocco representing Pulte Homes. Village Attorney Simon clarified the previous public hearing regarding the amendment to the existing Annexation Agreement contained evidence affecting the future development plans included as attachment to the Annexation Agreement. The relief sought by the petitioner in the annexation agreement was not addressed during the previous item's discussion. Village Attorney Simon noted the evidence put into record would be valuable to the Annexation Agreement as it would be to approve the preliminary development plan of the PUD. Village Attorney Simon noted his assumptions of the testimony put into the record from the previous public hearing can be incorporated and put into the record for the current public hearing, including the presentations made pertaining to site planning, landscape plan, and building architecture. The hearing on the annexation agreement should be entered into record for this public hearing, and any other information that has not been addressed so far, beyond the presentation that was put forth previously, should then be recorded as part of this current public hearing. Mayor Brandt summarized asking if Pulte had anything new to add to the record.

Mayor Brandt swore in Mr. Steve Bauer with Meltzer Purtil & Stelle, representing Pulte Homes. Mr. Bauer provided information related to the

proposed provisions to the Annexation Agreement. Mr. Bauer presented the staff report related to the specific proposed Annexation Agreement Amendment provisions, summarizing appropriate highlights and Village Code relief requested by the petitioner. Mr. Bauer asked that the full application, inclusive of the responses to the standards of the review PUD Special Use be incorporated into the public hearing record for this hearing.

Mayor Brandt asked if there was anyone in the audience who would like to comment. Mayor Brandt noted no one from the audience had comments.

Village Attorney Simon noted the developer has agreed to pay the school and library donations up front, upon the approval of the plat of subdivision. Village Attorney Simon noted the park donation would be paid at the completion of the project's construction due to the net donation consisting of both park/open space improvements and monetary donation. Village Attorney Simon noted, as was identified during the presentation by Mr. Bauer, the trail park improvements will be dedicated to the Village and several of the offsite improvements to be constructed will off-set a portion of the developer's park donations. At the conclusion of construction, the developer will be required to pay the Village the difference between the amount of their total park improvements made and any remaining park donation due to the Village.

Trustee Feldman noted she was not in favor of the symmetry of the proposed project and it was her desire to see more natural spaces and an organic feel to the development. Trustee Servi noted density plays into the symmetry. Trustee McDonough noted his opinion was the proposed project would be more suitable in another community and the density is still an issue. Trustee McAllister noted his opinion is the project density still needs to be addressed but feels the product type is needed in Lincolnshire.

Trustee Servi noted he was made aware of a news item related to exterior materials Pulte used for a development in another Chicago area suburb and suggested proposed materials be addressed. Mayor Brandt stated this could be addressed under item 3.15.

Mayor Brandt adjourned the Public hearing and reconvened the Committee of the Whole meeting at 9:38 p.m.

3.15 Consideration and Discussion of an Architectural Review Board recommendation regarding a Preliminary Development Plan for a Planned Unit Development (PUD) for a Proposed 101-unit Townhome Development (Pulte Homes)

Mayor Brandt noted Pulte already provided a lengthy presentation addressing this item and noted Trustee Servi's concern regarding

materials. Trustee Servi noted a report was posted regarding low-e windows and there are probably things that can be done to mitigate problems with building construction including addressing distance between units, reducing density and improving the quality of the materials used in construction. Mr. Mastrorocco stated he was familiar with the report and noted the report was based on a completely different product used on a development Pulte inherited from another builder. Mr. Mastrorocco assured the Board this would not be the case at the proposed project. Trustee McAllister asked what type of material would be used for the faces of the buildings. Mr. Mastrorocco noted the proposed face material would be brick, stone and LP smart siding which is an engineered wood product. A brief conversation regarding proposed materials followed.

Trustee Feldman asked about the price point for the project. Mr. Mastrorocco noted the price point would be from the high \$400,000 - \$600,000. Trustee McAllister asked how the price would change if the density is reduced by 10% - 15%. Mr. Mastrorocco noted a reduction of this size would not allow Pulte to move forward with the project. Trustee McAllister asked if there is a point where Pulte can reduce density and still make it work. Mr. Mastrorocco stated this will be a challenge Pulte will have to research.

Mr. Mastrorocco noted Pulte would be happy to modify the landscaping to satisfy comments related to open space, symmetry and other concerns to achieve a successful project. Mr. Hanlon noted two plans were presented to the Architectural Review Board (ARB) which had more curves and the ARB expressed concern that those plans lost programmable open space. Trustee McDonough noted he was at the ARB meeting and it was the opinion of the ARB, the other plans presented did not work. Variations and symmetry of plans were further discussed.

Trustee McDonough noted another item he suggests Pulte address is the school district and how the units are currently being split. A discussion followed regarding the amount of students projected and the school districts affected.

There was a consensus of the Board for Pulte to revise their proposal to address additional Board comments and bring it back to the Board for further consideration at a future date.

3.2 Finance and Administration

3.3 Public Works

~~3.31 — Consideration and Discussion of Update to Lincolnshire Flood Response Manual (Village of Lincolnshire)~~

Due to the lateness of the meeting, Mayor Brandt pulled this item from the agenda due to time constraints.

3.4 Public Safety

3.5 Parks and Recreation

3.51 Consideration and Discussion of Park Board Recommendation Regarding Request to Use North Park for National Night Out – August 4, 2015 (Village of Lincolnshire)

Chief of Police Kinsey provided a summary of the annual request for the use of North Park for National Night Out. Chief of Police Kinsey noted the Crusin' with Cops annual car show event is scheduled to be held at the Fresh Market parking lot the Friday before National Night out.

There was a consensus of the Board to place this item on the Consent Agenda for approval at the next Regular Village Board Meeting.

3.6 Judiciary and Personnel

4.0 UNFINISHED BUSINESS

5.0 NEW BUSINESS

Trustee Feldman noted she has received complaints regarding neighbor lights shining at night and asked if a “dark skies” restriction, that is currently enforced in surrounding municipalities be researched. Trustee Feldman noted specifically regulations in place in the Village of Bannockburn. Community & Economic Development Director noted the “dark skies” restriction has been researched in the past but staff could look into it again.

6.0 EXECUTIVE SESSION

7.0 ADJOURNMENT

Trustee McDonough moved and Trustee Servi seconded the motion to adjourn. Upon a voice vote, the motion was approved unanimously and Mayor Brandt declared the meeting adjourned at 10:16 p.m.

Respectfully submitted,

VILLAGE OF LINCOLNSHIRE

Barbara Mastandrea
Village Clerk

**REQUEST FOR BOARD ACTION
Committee of Whole
June 8, 2015**

Subject:	Text Amendments to Landscaping regulations
Action Requested:	CONTINUED Consideration and Discussion of an Architectural Review Board recommendation regarding Text Amendments to Chapter 2 of Title 13, Landscaping, of the Lincolnshire Village Code to update the Village's landscaping regulations
Originated By/Contact:	Stephen Robles, Village Planner Department of Community & Economic Development
Referred To:	Architectural Review Board

Background:

- At the May 11th Committee of the Whole meeting, Staff presented the proposed text Amendments to Chapter 2 of Title 13, Landscaping, as recommended by the Architectural Review Board.
- The Board requested this item return to include copies of the tracked edits ("redline") of the proposed revisions for further Board consideration.
- Staff's previous summary of the proposed code revisions has been reformatted in an effort to provide clarity regarding the proposed revisions.

Project Summary:

Following, is a summary of major areas of change in the Draft amendment (*for specific detail, please see attached Draft Code*):

- **Problem 1:** The current Landscaping Code does not contain any purpose statement(s) to outline the reasons for the regulations. Traditionally, zoning regulations begin with a purpose statement to identify the objectives of the given code regulations. Although not zoning regulations, objective statements should be included.

Solution 1: The first Section (Sec. 13-2-1: Purpose) has been established to include the following three statements:

- A. Promote and maintain the high quality visual appearance and environmental benefits throughout the year through landscaping and preservation of native vegetation.
 - B. Encourage and promote the implementation of best management practices to minimize erosion and stormwater runoff in a manner which provides functionality and visual appeal.
 - C. Enhance the visual and environmental character of the Village's built environment through the utilization of conscientious landscape design.
- **Problem 2:** In recent years, staff has seen an increase in requests for entire landscaping replacements of non-residential property. Unless tree removal is "*due to region wide infestation or disease*", holistic changes to commercial landscape plans are not permitted without approval by the ARB. This discourages a property owner from reinvesting in the property through landscape improvements.

Solution 2: Section 13-2-3 has been reorganized and includes five criterion to allow replacement of existing plants on non-residential zoned lots, which would not require ARB review (see Sec. 13-2-3(B)(2) for specific criteria).

- **Problem 3:** Current landscape screening regulations require planting a visual barrier to certain unattractive/monotonous elements of a site plan. This requirement does not account for the visual obstruction such plantings may create for customer visibility to signage, parking, storefronts, etc.

Solution 3: Landscape Screening has been pulled out into its own section (13-2-4) and revisions clarify those portions of a building which do not contain a primary architectural element must be screened. Standard foundation plantings requirements remain suitable for all “front of the house” areas of the building and have not changed. Parking lot screening has been significantly revised by establishing two categories: 1) residential zoning districts, and 2) non-residential zoning districts, with regulations appropriate for each type of parking lot. Landscaping for parking lot islands has also been expanded to require under story plantings.

- **Problem 4:** The existing section titled “Landscape Improvements to Private Property” is not clear on what types of land are subject to the regulations since *all non-Village property* is considered “private property”.

Solution 4: This Section has been retitled as “Single-Family Residential Requirements” (13-2-5) and relocated from the General Requirements into a stand-alone section for improved clarity. Landscape plan requirements for single-family residential subdivisions have also been located in this section for consistency.

- **Problem 5:** There are currently no regulations requiring landscaping for large parcels which may not have woodland/vegetation features. If subdivided for residential lots, there are no code requirements to provide a basic level of landscaping for new homes.

Solution 5: The ARB supported the concept that a minimum level of landscaping/plantings should be required for new single-family residential home construction. Staff developed the table below to identify the quantity, distribution, and tree type for a single-family residential lot (which would only apply to new home construction):

Yard	Minimum Number of Trees*	Size at Planting
Front Side Corner Side	2 (1 tree shall be located in Front Yard)	2.5” DBH non-evergreen tree or 8’ evergreen tree
Rear	2	2.5” DBH non-evergreen tree and 8’ evergreen tree

* Existing vegetation located within dedicated Conservancy Easements/Areas shall not be used to achieve compliance with the above requirements.

- **Problem 6:** Requirements for landscape improvement deposits (letters of credit) for new developments are located in Chapter 2. However, all other public improvement deposit requirements are located in the Subdivision and Land Development Code (Title 7). This fragmentation could lead to missing deposits for landscaping improvements.

Solution 6: The current Landscape Improvement Deposit section (*previously 13-2-2*) will be relocated to Title 7 for consistency with other improvement deposit requirements.

- **Problem 7:** Currently titled “Business/Commercial Developments”, the commercial landscaping requirements set forth in this section include a tree distribution chart, which currently requires a variety of trees totaling 34 trees per acre, as follows:

TYPE	SIZE	TREES/ACRE
Deciduous Shade Trees	2” – 2 ½”	6
	3” – 4”	5
	4 ½” and larger	5
Ornamental Trees	6’ – 8’	4
	8 ½’ and larger	4
Evergreen Trees	6’ – 8’	4
	8 ½’ – 10’	4
	10 ½’ and larger	2

Staff analyzed two commercial properties to determine if the existing tree planting requirements remain viable. In both samples, neither site achieved code compliancy with the required tree types. However, the quantity of trees inventoried was more than required for each sample site.

Solution 7: This section has been renamed as “All Other Property Requirements” (Sec. 13-2-6) to clarify the regulations apply to all non-single-family residential property.

Additionally, the minimum number of required trees has been reduced to 30 trees per acre and the balance of tree variety has been revised to create better opportunities for open view corridors to commercial properties.

Per the May 11th Village Board discussion, language has been added to allow flexibility in tree species based on site conditions, but the minimum quantity remains. The revised minimum tree requirements are as follows (Sec.13-2-6(5)):

The minimum number of trees per acre of remaining green space (parcel of land excluding parking lots, building pads, water features and other hard surfaces) shall be planted in accordance with the following table. The distribution of tree species may be altered to achieve the desired landscaping effect based on site conditions and surrounding land uses, provided that the total number of trees shall not be reduced.

TYPE	SIZE	TREES/ACRE
Deciduous Shade Trees	2” – 4” DBH	6
	4½” + DBH	6
Ornamental Trees	6’ – 8’ DBH	4
	8½” + DBH	4
Evergreen Trees	8’ height	5
	10’ + height	5

- **Problem 8:** Landscape requirements for stormwater (detention) facilities are to insure design, construction, and maintenance provides functionality and visual appeal. The existing regulations contain detailed specifications which require substantial knowledge in the
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installation, monitoring and maintenance of native vegetation suitable for stormwater facilities. These regulations require personnel with professional expertise no longer part of the Village administrative structure.

Solution 8: The Landscape Requirements for Stormwater Facilities (13-2-8) section has undergone substantial restructuring to remove Village required review/authorization of documents and plans in favor of a qualified environmental consultant. This consultant will help ensure the Village continues achieving the highest level of stormwater runoff reduction through the use of native vegetation. The proposed revision does not require creation of additional plans more than existing regulations. However, the review of an outside consultant is required to insure compliance. This changes a function once completed in-house by staff to use of an outside consultant. Many of the appendices have also been incorporated into the text for continuity.

- **Problem 9:** The current Landscaping Code contains a series of Appendices (I-VI). Included is “Appendix III Conservancy Area Restoration Requirements” outlining the minimum requirements for the restoration of damaged designated conservancy areas. While very important, there is no reference to this Appendix III within the body of the Landscaping Code creating uncertainty of the application of the requirements.

Solution 9: Appendix III will be relocated to Chapter 1, Tree Preservation, to coincide with Section 13-1-9: Special Rules for Conservancy Area Restoration as that section contains regulations for conservancy area restoration. The appendix will be added as “Appendix B” to correlate with the code regulations.

Recommendation:

Consideration and discussion of text amendments to Chapter 2 of Title 13 of the Lincolnshire Village Code to update the Village’s landscaping regulations, and placement on the June 8th Consent Agenda.

Reports and Documents Attached:

- Draft Ordinance and Code Revisions, prepared by Village Attorney Simon and Staff.
- Staff Memorandum of the May 11th Committee of the Whole.
- Redline Version of Draft Code Revisions, prepared by Staff.

Meeting History	
Preliminary Evaluation (COW)	June 23, 2014
ARB Discussion	September 16, 2014
ARB Discussion (Tabled)	January 20, 2015
ARB Discussion (Tabled)	February 17, 2015
ARB Discussion	April 21, 2015
COW Discussion	May 11, 2015
Current COW Discussion	May 26, 2015

VILLAGE OF LINCOLNSHIRE

ORDINANCE NO. _____

**AN ORDINANCE AMENDING
TITLE 13 (TREE PRESERVATION AND LANDSCAPING),
CHAPTER 2 (LANDSCAPING)
OF THE VILLAGE OF LINCOLNSHIRE MUNICIPAL CODE**

WHEREAS, the Village of Lincolnshire, an Illinois home rule municipal corporation, has the authority to adopt ordinances and promulgate rules and regulations that pertain to its government and affairs, including the coordination and operation of various activities and structures within its boundaries, and to protect the public health, safety, and welfare of its citizens; and

WHEREAS, the Corporate Authorities of the Village of Lincolnshire find it necessary for the promotion and preservation of the public health, safety and welfare of the Village that the regulation of landscaping be reviewed for functionality, enhancement of the landscape environment, and the interaction of landscape aesthetics with the economic tax base;

WHEREAS, the Board of Trustees referred to the Architectural Review Board (“ARB”) a petition to research, consider and prepare proposed text amendments to the Landscaping Code to clarify and amend the regulation of landscaping; and

WHEREAS, consideration of the draft code revisions by the ARB commenced at the September 16, 2014 meeting of ARB, continued from time to time and finally completed on April 21, 2015, with two recommended revisions that have been incorporated in the Code adopted hereby; and

WHEREAS, following deliberation and consideration on the evidence and testimony elicited during the public meeting and the recommendation of the ARB, the Village Board desires for the Village Code to be amended as proposed by Staff and the ARB to improve the Village Code regulations affecting landscaping; and

WHEREAS, the Village hereby finds that it is in the best interest of the Village and the public to amend its Village Code to promote the economic health and welfare of the Village.

NOW, THEREFORE, BE IT ORDAINED by the Mayor and Board of Trustees of the Village Of Lincolnshire, Lake County, Illinois, in exercise of its home rule powers, as follows:

SECTION ONE: The facts and statements contained in the preambles to this Ordinance are found to be true and correct and are hereby adopted as part of this Ordinance as though fully set forth herein.

SECTION TWO: Title 13 of the Village of Lincolnshire Municipal Code (“Tree Preservation & Landscaping”) is hereby amended by repealing Chapter 2 (Landscaping) in its entirety and replacing it with a new Chapter 2 in the form described in **Exhibit A**, attached hereto and incorporated as though fully set forth herein.

SECTION THREE: Section 7-1-4 of Title 7 of the Village of Lincolnshire Municipal Code (“Definitions”) is hereby amended by revising the definition of “Improvement” to as follows:

IMPROVEMENT: Any ~~facility~~ improvement for which the Village or other municipal body may ultimately accept a dedication or bill of sale and assume the responsibility for maintenance and operation, including but not limited to the following: streets, sanitary sewers, water mains, storm sewers, street lighting, or which is constructed for general public use or benefit, including the landscaping required by Title 13, Chapter 2.

SECTION FOUR: Section 13-1-9 of Chapter 1 of the Village of Lincolnshire Municipal Code (“Special Rules for Conservancy Area Restoration”) is hereby amended to reference new Appendix B in the form described in **Exhibit B**, attached hereto, as follows:

A. Restoration of designated “Conservancy Areas” damaged, whether during construction or after occupancy, shall comply with the minimum requirements outlined in Appendix B of this Chapter.

~~A. B.~~ Deposit: No further change.

~~B. C.~~ Purpose of Deposit:

The purpose of the deposit is to pay for:

1. The restoration of Conservancy Areas damaged directly or indirectly as a result of the construction process, in accordance with the “Conservancy Area Restoration Guide Requirements” contained in Appendix ~~III~~ B of this ~~Title-Chapter~~.
2. No further change.
3. No further Change.

~~C. D.~~ Refunding of Deposit: No further change.

SECTION FIVE: If any section, subsection, sentence, clause, phrase or application of this Ordinance, or any regulations adopted hereby, is for any reason held invalid or unconstitutional by any court of competent jurisdiction, either facially or as applied, such portion shall be deemed a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions hereof or any other application under which such provision is deemed permitted.

SECTION FOUR: All prior Ordinances in conflict or inconsistent herewith are hereby expressly repealed only to the extent of such conflict or inconsistency.

SECTION FIVE: This Ordinance shall be in full force and effect from and after its passage, approval and publication in pamphlet form as provided by law.

SO ORDAINED this _____th Day of _____, 2015, at Lincolnshire,
Lake County, Illinois.

AYES:

NAYS:

ABSENT:

APPROVED:

Elizabeth J. Brandt, Mayor

DATE: _____

ATTEST:

Barbara Mastandrea, Village Clerk

EXHIBIT A
TITLE 13, CHAPTER 2
LANDSCAPING

[Attached]

TITLE: 13

CHAPTER 2: Landscaping

Sections:

- 13-2-1: Purpose
- 13-2-2: General Requirements
- 13-2-3: Replacement Requirements
- 13-2-4: Landscape Screening Requirements
- 13-2-5: Single-Family Residential Requirements
- 13-2-6: All Other Property Requirements
- 13-2-7: Public Right-Of-Way Requirements
- 13-2-8: Stormwater Facilities Requirements
- 13-2-9: Penalties
- 13-2-10: Appendices

13-2-1: Purpose

This Landscaping Code is adopted for the following purposes:

- A. Promote and maintain the high quality visual appearance and environmental benefits throughout the year through landscaping and preservation of native vegetation.
- B. Encourage and promote the implementation of best management practices to minimize erosion and stormwater runoff in a manner which provides functionality and visual appeal.
- C. Enhance the visual and environmental character of the Village's built environment through the utilization of conscientious landscape design.

13-2-2: General Requirements

- A. Installation: Installation methods of landscape plantings shall conform to the specifications of the approved landscape plan and industry standard installation practices appropriate for each type of planting.
- B. Maintenance: To ensure the health and vitality of landscape plantings, maintenance of insect and disease control, mulching, pruning, fertilization, weed control, and watering consistent with good forestry practices shall be performed, as needed, by the property owner.
- C. Inspections: Landscape plantings required by this Chapter will be inspected periodically by the Village to ensure compliance. For any plantings which require replacement, the property owner shall be notified of the requirement for replacement to be completed within sixty (60) days from receipt of notice or during the next available planting season, as determined by the Village. If the property owner fails to replace required plantings within the established time frame, a fine shall be rendered in accordance with the Comprehensive Fine Schedule, Chapter 17, of Title 1 of this Code.

13-2-3: Replacement

- A. Region Wide Infestation: Landscape planting replacements due to region wide infestation or disease shall be replaced with an appropriate species in recognition of shape, form, and seasonal interest of the infested or diseased planting to which it's replacing, subject to the requirements of Chapter 1 of this Title.
- B. Non-Single-Family Residential Property: Replacement of existing landscape plantings for all non-single-family residentially zoned lots shall be subject to the following:
1. Landscape Replacement Plan: Prior to the removal of any existing landscape plantings, authorization from the Village must be obtained, which shall be subject to the requirements of Chapter 1 of this Title. A Landscape Replacement Plan shall be submitted identifying the following:
 - a. Location, species, existing condition, and size for each planting to be removed.
 - b. Location, species, quantity, and size for each replacement planting to be installed.
 2. Replacement Criteria: Landscaping replacements shall be subject to the following:
 - a. Replacement plantings shall be not less than the size specified on the approved landscape plan. If no approved landscape plan is available, single stem trees shall be not less than 2.5" DBH, clump and evergreen varieties shall be not less than 8 feet in height.
 - b. Evergreen trees shall be replaced with evergreen trees and deciduous trees shall be replaced with deciduous trees.
 - c. The replacement plan may be implemented over a period of time not to exceed three (3) years.
 - d. Any tree identified on an approved landscaping plan which existed on the property prior to development and has been preserved, as determined by the Village, may be removed to observe good forestry practices subject to Section 13-1-3(D) and 13-1-3(K) of this Title, except any tree which is dead or irreversibly declining due to natural circumstances does not require replacement.
 - e. If the plantings to be removed are considered to be a hazard to life and/or property, the specific plantings shall be flagged and verbal authorization by the Village Arborist for removal may be granted, which shall be conditioned upon the submittal of a Tree Removal Permit, if applicable, and Landscape Replacement Plan identified in 13-2-3(B)(1) submitted within thirty (30) days of the authorization for removal.

13-2-4: Landscape Screening

The intent of landscaping as screening is to provide a visual barrier to certain elements of a site which may be considered unattractive or monotonous including the following:

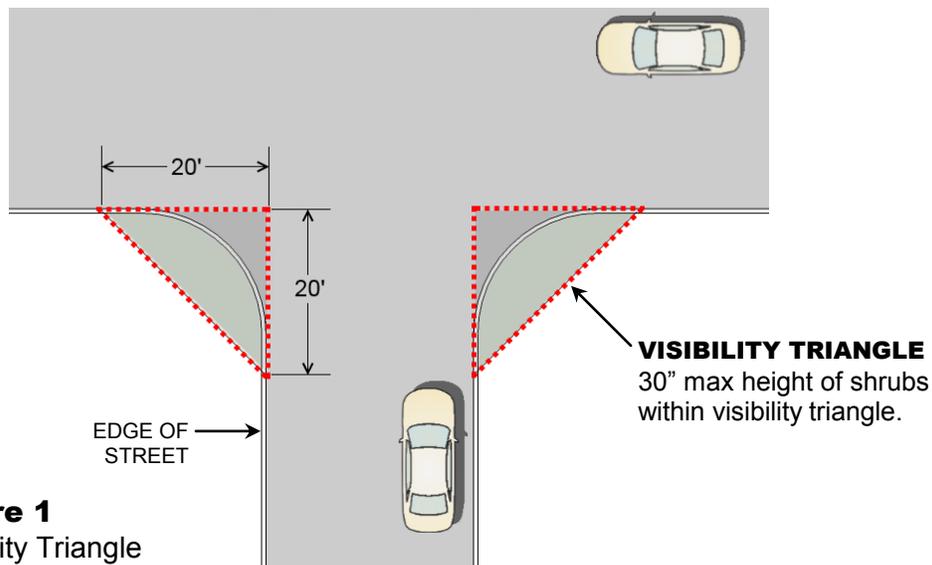
- A. Building Walls: Plantings of deciduous and evergreen species shall be planted to interrupt the view of large expanses of building walls which do not contain a primary architectural

element. A natural planting arrangement should be used whenever possible.

B. Ground-Mounted Equipment: Screening of ground-mounted equipment and utilities shall be screened in accordance with Section 6-15-3(B) of Title 6 of this Code.

C. Parking Lots:

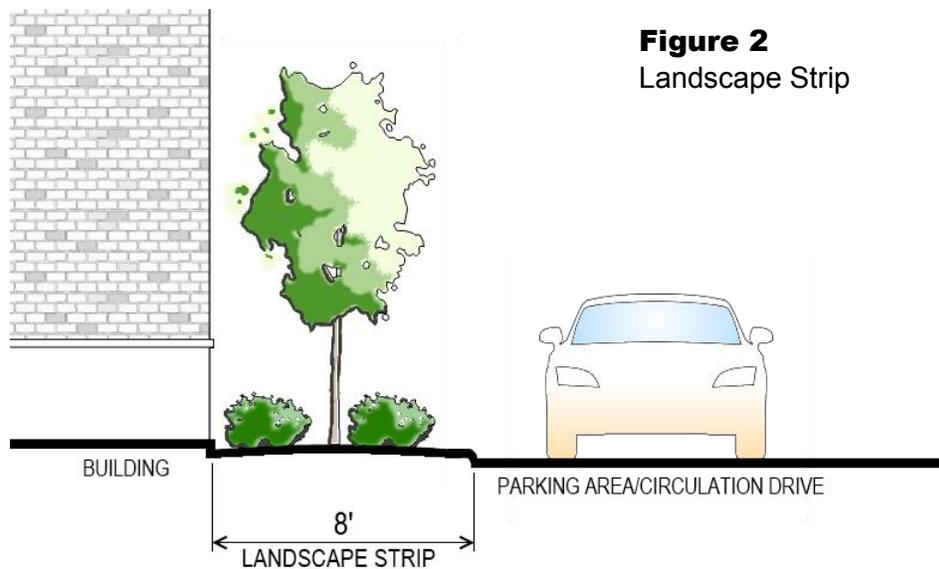
1. Landscaping installed within the visibility triangle (see Figure 1) shall maintain proper sight lines and not obstruct light fixtures. Shrubs shall not exceed a maximum mature height of thirty inches (30") above existing grade.



2. Accommodations shall be made for the storage of snow from all parking and loading facilities. Snow storage within landscaped areas should be avoided to prevent damage to plant material.
3. Hardy, salt tolerant plantings within parking lot facilities and parking lot islands should be used, see Salt Tolerant Landscape Plants in Appendix 1.
4. Residential Zoning Districts: Parking lots containing more than three (3) parking spaces shall be screened for each side visible from the public way by densely planted shrubs or small trees not less than four (4) feet in height covering at least (75%) of the linear length of the lot. Plantings shall incorporate diverse mixture of plant types, including evergreen species. No plantings shall be permitted at any street intersection which obstructs the visibility triangle.
5. Non-Residential Zoning Districts:
 - a. A minimum of 50% of linear length of parking facilities visible from the public way shall be screened by a diversity of shrubs and trees as follows:

Type	Min. Number of Species	Size at Planting
Shrubs	1 deciduous + 1 evergreen	3 ft. in height
Trees	2	2.5" DBH

- b. A minimum eight (8) foot landscape planting area shall be required between all building façades and any parking area or circulation drive (See Figure 2), which shall include a mixture of trees, shrubs and grasses (native and non-native) at a minimum of three (3) species. The screening requirement identified in 13-2-4(A) above shall be applied towards the minimum planting species requirement.



6. Parking Lot Islands (all Districts):

- a. A minimum of one (1) deciduous shade tree at two and a half (2.5) inch DBH shall be planted in every parking lot island. This requirement shall not apply if bio-retention areas are used in parking lot islands for the implementation of stormwater best management practice (BMP) techniques, which shall require native and non-native species suitable for use in bio-retention areas.
 - b. Under story shrubs, perennials, and other plant materials, including native species, shall be planted to supplement the tree plantings.
- D. Non-Residential Fencing: Fences taller than four (4) feet in height shall be screened with landscaping plant material to reduce the visual appearance from the public way with densely planted shrubs or small trees not less than four (4) feet in height and shall incorporate diverse mixture of plant types, including evergreen species..

13-2-5: Single-Family Residential Requirements

A. Required Landscaping: Single-family residential lots constructed after the adoption of this Title shall include the following plantings prior to the issuance of a Certificate of Occupancy. Single-family residential lots constructed prior to the adoption of this Title including structural additions and tear-downs shall be exempt from this requirement:

Yard	Minimum Number of Trees*	Size at Planting
Front Side Corner Side	2 (1 tree shall be located in Front Yard)	2.5" DBH non-evergreen tree or 8' evergreen tree
Rear	2	2.5" DBH non-evergreen tree and 8' evergreen tree

* Existing vegetation located within dedicated Conservancy Easements/Areas shall not be used to achieve compliance with the above requirements.

B. Permit: A Village permit must be obtained prior to the start of any landscape improvements which involve excavation, trenching, or placement of additional soil and/or hardscape materials within the rooting zone of trees, or which affect drainage patterns on the premises or adjacent properties.

C. Single-Family Residential Subdivisions

1. Tree Inventory Survey: All trees measuring six (6) inch DBH or greater existing on a property prior to construction shall be identified. The Tree Inventory Survey shall include the following information:
 - a. Existing property line boundaries of each parcel to be included in the subdivision and the boundary lines of the proposed subdivision.
 - b. All trees measuring six (6) inch DBH or greater to be removed shall be identified with an "X" or similar notation.
 - c. Tree inventory data chart containing the inventory/identification number of each existing tree measuring six (6) inch DBH or greater, common and scientific name, DBH (in inches), condition, and save/removal status of each inventoried tree.
 - d. Proposed subdivision improvements, including but not limited to, roadways, walks, building footprints, parking facilities, and driveways shall be illustrated.
 - e. Location of all proposed utility lines.
2. Landscape Plan: A landscape plan for the subdivision improvements must be submitted which contains the following information:
 - a. Parkway Trees: One (1) two and a half inch (2 ½") deciduous shade tree or ornamental tree must be planted for every 40 lineal feet of the street. Trees shall provide a minimum of twenty-five (25) feet separation. All remaining open areas

of the right-of-way shall be seeded or sodded in accordance with the Village of Lincolnshire Open Space Landscaping Standards, pursuant to Section 7-5-7 of Title 7 of this Code (Appendix 3).

- b. Ground-Mounted Equipment Screening: All ground-mounted mechanical equipment shall be screened in accordance with Section 6-15-3(B) of Title 6 of this Code.
 - c. Stormwater Facilities Landscaping: Landscaping for stormwater facilities, if required, shall be provided in accordance with Section 13-2-8 herein.
 - d. Cul-de-Sac Landscaping: Planting of trees and shrubs are permissible in cul-de-sacs, provided traffic sight lines are not obstructed. Prior to installation, a landscape plan shall be submitted and approved by the Department of Public Works and include identification and quantity of plant material, the location of the curb or edge of pavement, and any easements within the cul-de-sac.
 - e. Location of all proposed utility facilities.
3. To ensure compliance with this Section, the Landscape Improvement Deposit in accordance with Section 7-1-6 of this Code shall be held for maintaining the landscape improvements for a period of three (3) years after acceptance. At the conclusion of the three (3) year maintenance period, any items not conducted in accordance with this Section, the Village shall draw from the Deposit to employ the services of a qualified consultant to ensure compliance, and for the time and labor required to achieve compliance.

13-2-6: All Other Property Requirements:

For all property other than single-family residential, the following shall apply:

- A. Plant Material and Density: Each landscape plan shall include a mixture of evergreen and deciduous trees, shrubs (native and non-native), grasses, and perennials plantings at a minimum of two to three (2-3) species each. The proper selection and placement of plant material is important for function as well as aesthetics, including variation in plant species and size.
 1. Spacing of tree species shall not exceed fourteen (14) feet on center (O.C.).
 2. Shrubs with a mature height less than three (3) feet shall be planted four (4) feet O.C. Shrubs with a mature height greater than three (3) feet shall be planted six (6) feet O.C.
 3. All planting areas are to be mulched with organic hardwood mulch or equivalent. Colored mulches and stone shall not be permitted.
 4. Areas which abut a public right-of-way must be sodded or established as native prairie areas, exclusive of parking lots, building pads, water features, or landscape beds.
 5. The minimum number of trees per acre of remaining green space (parcel of land excluding parking lots, building pads, water features and other hard surfaces) shall be planted in accordance with the following table. The distribution of tree species may be

altered to achieve the desired landscaping effect based on site conditions and surrounding land uses, provided that the total number of trees shall not be reduced.

Type	Size (at planting)	Trees/Acre
Deciduous Shade Trees	2 ½" – 4" (DBH)	6
	4 ½" + (DBH)	6
Ornamental Trees	6' - 8' (height)	4
	8 ½' + (height)	4
Evergreen Trees	8' (height)	5
	10' + (height)	5

6. All landscape plantings installed within any easement(s) shall be the responsibility of the property owner to maintain and replace any plantings damaged or destroyed as a result of activity associated with such easement(s).

B. Landscape Plan Requirements:

1. Tree Inventory Survey: All trees measuring six (6) inch DBH or greater existing on a property prior to construction shall be identified. The Tree Inventory Survey shall include the following information:
 - a. Existing property line boundaries of each parcel to be included in the subdivision and the boundary lines of the proposed subdivision.
 - b. All trees measuring six (6) inch DBH or greater to be removed shall be identified with an "X" or similar notation.
 - c. Tree inventory data chart containing the inventory/identification number of each existing tree measuring six (6) inch DBH or greater, common and scientific name, DBH (in inches), condition, and save/removal status of each inventoried tree.
 - d. Proposed site improvements, including but not limited to, roadways, walks, building footprints, parking facilities, and driveways shall be illustrated.
 - e. Location of all proposed utility lines.
2. Landscape plans must be prepared and sealed by a licensed landscape architect in the State of Illinois. This requirement may be waived upon the demonstration the designer/landscaper has expertise equaling that of a licensed professional.
3. A site data chart must be included on every Landscape Plan submitted and shall contain the following information:
 - a. Total area (square feet) of entire site.
 - b. Total area (square feet) of impervious surfaces by category (drives, walks, buildings, water features) for the overall site.

- c. Total area (square feet) of open (pervious) space for the overall site.
 - d. A landscape planting chart containing the following information:
 - i. Common and Scientific name of each plant material.
 - ii. Size of each plant material at time of planting.
 - iii. Quantity of each plant material.
 - iv. Period of flowering for all applicable annuals, perennials and ornamental trees.
 - 4. An installation specification detail illustrating the method(s) for installation for woody plants, herbaceous plants, and seeding shall be included.
 - 5. Stormwater Facilities Landscaping: Landscaping for stormwater detention facilities, if required, shall be provided in accordance with Section 13-2-6(A) herein.
- C. Transitional Yards: Where a side and/or rear yard abuts any residential zoning district, excluding the R5 District, transitional yard landscaping or fence screening a minimum of seventy-five percent (75%) opacity shall be provided along such transitional yards.

13-2-7: Public Right-of-Ways Requirements

Landscape material planted in the right-of-way dedicated to the Village of Lincolnshire shall conform to the following standards:

- A. Shrubs must provide a maximum mature height of thirty inches (30") above existing grade.
- B. Trees must provide a minimum mature height of twenty feet (20') and located so that any branches over the street are a minimum fourteen feet (14') above the ground. Tree species used must be taken from the following list:

Scientific Name	Common Name
Acer Nigrum	Black maple
Acer rubrum	Red maple (non freemanii species)
Acer saccharum	Sugar maple
Acer triflorum	Three-flowered maple
Carpinus caroliniana	American hornbeam, Ironwood, Musclewood
Carya cordiformis	Bitternut hickory
Carya ovata	Shagbark hickory
Celtis occidentalis	Hackberry
Cladrastis lutea	Yellowwood
Corylus colurna	Turkish filbert
Ginkgo biloba	Ginkgo (male only)
Gleditsia triacanthos var. Inermis	Thornless honeylocust
Gymnocladus dioecus	Kentucky coffeetree
Liquidambar styraciflua	Sweetgum
Liriodendron tulipifera	Tulip tree
Nyssa sylvatica	Black tupelo
Ostraya virginiana	American Hophornbeam
Platanus x acerifolia	London planetree

Platanus occidentalis	Sycamore
Quercus alba	White oak
Quercus imbricaria	Shingle oak
Quercus macrocarpa	Bur oak
Quercus robur	English oak
Quercus rubra	Red oak
Tilia Americana	Linden
Tilia cordata	Littleleaf linden

- C. No tree shall be planted under or within ten lateral feet (10') of any overhead utility line at their mature size. Trees and shrubs planted over or within five lateral feet (5') of any underground water, sewer, or main transmission utility line should be avoided (see Figure 3). Prior to installation, a landscape plan shall be submitted and approved by the Department of Public Works, which shall include identification of the location and quantity of plant material and the location of all underground utilities.

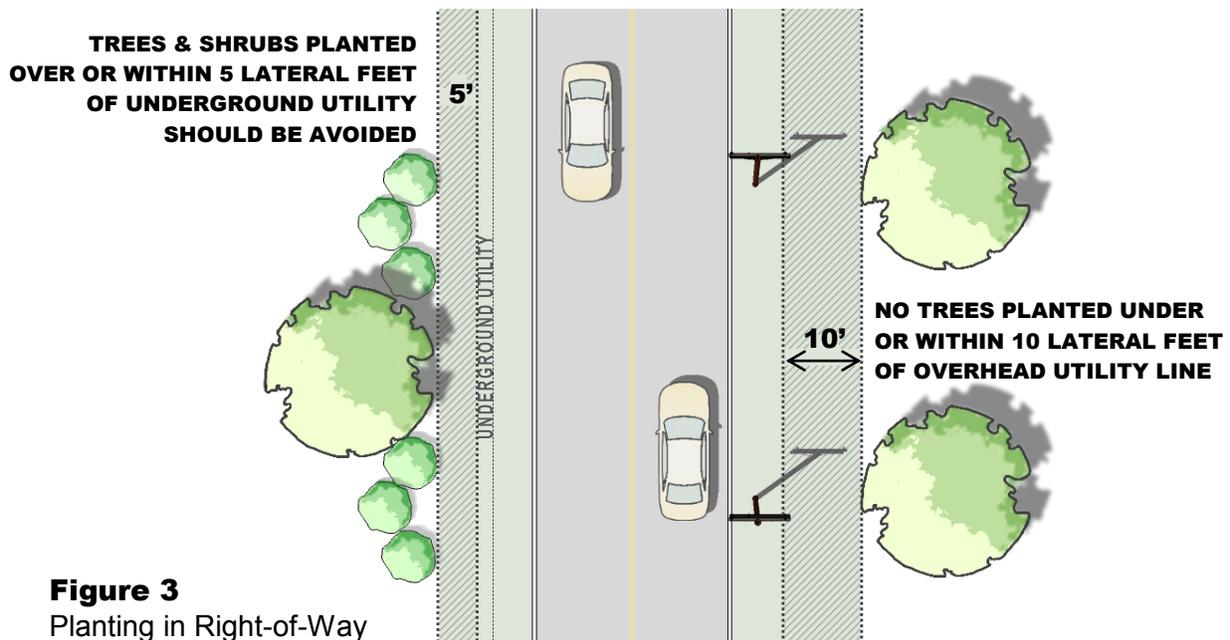


Figure 3
Planting in Right-of-Way

- D. At time of planting, all trees and shrubs shall be located a minimum of five feet (5') from the back of curb or edge of pavement to the center line of the tree/shrub.
- E. Planting of trees and shrubs are permissible in cul-de-sacs, provided traffic sight lines are not obstructed. Prior to installation, a landscape plan shall be submitted and approved by the Department of Public Works and include identification and quantity of plant material, the location of the curb or edge of pavement, easements, and utilities within the cul-de-sac.
- F. The maintenance of the trees, shrubs, and lawn planted in the right-of-way contiguous with the adjacent property is the responsibility of the property owner.
- G. To ensure compliance with this Section, the Landscape Improvement Deposit in accordance with Section 7-1-6 of this Code shall be held for maintaining the landscape improvements for a period of three (3) years after acceptance. At the conclusion of the three (3) year

maintenance period, any items not conducted in accordance with this Section, the Village shall draw from the Deposit to employ the services of a qualified consultant to ensure compliance, and for the time and labor required to achieve compliance.

13-2-8: Landscape Requirements for Stormwater Facilities

The purpose of this section is to ensure stormwater facilities within the Village are designed, constructed, and maintained in a manner which provides the highest level functionality as well as visual appeal. Any development which requires stormwater facilities, as determined by the Lake County Stormwater Management Commission (SMC), shall be subject to the following requirements:

A. General Requirements:

1. Shape: Stormwater facilities shall be designed to reflect a non-uniform, organic shape.
2. Shoreline Slopes: The shoreline banks of stormwater facilities shall be no steeper than 5:1 (from approximately 1 foot above to 1 foot below normal waterline) to prevent erosion and facilitate native plant establishment. Basins and other natural drainage facilities shall be required to have native dry-mesic and wet-mesic plants planted along the entire expanse of a detention pond's side slope.
3. Safety Shelf: For wet-bottom detention basins, a flat (or significantly flat) safety shelf must be constructed approximately eighteen (18) inches below normal water level, around the full perimeter of the basin. The safety shelf shall be a minimum of five (5) feet in width, and shall be planted with native emergent plant plugs.
4. Bank Erosion Protection: The shoreline of stormwater facilities shall be protected from erosion through establishment of deep-rooted, prairie and wetland perennial plants native to the Great Lakes region. Native prairie and wetland plants shall cover the complete shorelines, extending around the full perimeter of the stormwater facility. The native plant slope for basins shall have a minimum width from waterline of fifteen (15) feet.
5. Seed Mixes and Planting Lists: The landscape plan shall identify each species proposed, which shall consist entirely of native plants for all seed mixes and plant plugs to be used. Separate seed mixes shall be provided for planting on the upper (dry-mesic) and lower (wet-mesic) portions of the shoreline slope. The plant plug list shall be divided into three categories: dry-mesic, wet-mesic, and emergent plants. Each category shall contain a minimum of ten (10) species of native plants suited to the given environment.
6. Guarantees: All seeded and planted areas shall be guaranteed through the Maintenance Period and all performance criteria have been satisfied.

B. Plan Requirements:

1. Installation Plan: The installation plan shall provide detailed information regarding the specific locations and timing of native landscaping installation.
 - a. Installation: The installation of all native prairie and wetland plants shall be performed by a qualified natural environmental professional consultant. A site

plan shall illustrate the following elements of the native landscaping installation:

- i. Specific planting zones.
 - ii. Plant and seed lists for each planting zone including quantities, seeding rates per species, and spacing of plants.
 - iii. Location and specification of erosion control measures.
 - b. **Site Access:** Access to the site for installation of native plantings shall be identified on the Plan, which shall include necessary access for installation equipment. Additional or alternate access areas not identified must be approved by the Village prior to the start of installation.
 - c. **Installation Schedule:** The schedule shall outline the proposed start and ending for site access preparation, planting area preparation and stabilization, and planting and seeding for each planting zone. Installation shall occur in the first available growing season after the grading of the pond is substantially completed and the pond is operational. Installation shall take place between May 1 and June 15 or after October 1 until the ground is frozen. Seeding shall not be performed from June 16 through September 30, unless authorized by the Village.
 - d. **Erosion Control:** Clean, seed-free hay or threshed straw of wheat, oats or barley shall be used for slopes less than 6:1. Straw mat or other appropriate erosion control blanket shall be used on all areas seeded or plugged for slopes steeper than 6:1. Synthetic net blankets shall not be used. The mat shall be affixed to the ground surface by mechanical crimping or other method approved by the Village.
 - e. **Establishment:** The installation plan shall provide specific information regarding activities to be performed to ensure establishment of the native prairie and wetland plants, including but not limited to, cover crops/erosion blankets, watering schedule, herbicide schedule, controlled burn/mowing frequency, and seed/plant depredation (wildlife grazing) control.
 - f. **Criteria for Successful Installation and Establishment:** Prior to the Village's acceptance of any stormwater detention facility, a status report shall be prepared by a qualified natural environment professional demonstrating the criteria for establishment of native plant landscaping conforms with requirements of this Section 6-2-8 herein.
 - g. **Installation Conditions:** All grades, soils, and water levels shall be examined and observed conditions shall comply with the specifications of the Installation Plan prior to the start of any work. If unsatisfactory conditions exist, the Village shall be notified and a written report of corrective action of unsatisfactory conditions shall be submitted to the Village. Work shall not proceed until authorization is provided by the Village.
2. **Maintenance and Monitoring Plan:** A Maintenance and Monitoring Plan shall be prepared by a qualified natural environment professional to provide the timing and/or frequency of all activities necessary to maintain native plant landscapes. Elements of the Maintenance and Monitoring Plan include but not limited to, controlled burn/mowing, spot herbicide applications/invasive species control, and monthly monitoring reports during the growing season.

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- a. Responsibility: The maintenance and monitoring of native plant landscapes shall be the sole responsibility of the property owner, its successors and assigns.
 - b. Monitoring Period: Vegetation monitoring shall be conducted monthly during the first three (3) growing periods for the months of April, May, June, July, August, September, October and November using the meander search method.
 - c. Status Report: Monitoring Status Reports shall be submitted within two (2) weeks following the monthly monitoring session for each month of the Monitoring Period. The Status Reports shall include the following:
 - i. Percent of vegetation cover throughout the site.
 - ii. Inventory and estimated percent cover of the predominant species present.
 - iii. Inventory and estimated percent cover of the non-native invasive species present.
 - iv. Detailed description(s) of work undertaken during the previous month and recommended management measures for subsequent months.
 - v. Any other site conditions observed, including but not limited to, drainage problems, erosion, wildlife damage, extreme water level fluctuations, damage to the site by equipment, etc. and any remediation required.

C. Native Plant Specifications

1. Native Plants:

- a. Plants, freshly dug tubers and plants shall be provided. Materials which have been in cold storage shall not be used.
- b. All live herbaceous plants shall be potted, two year old nursery grown stock.
- c. All preparations shall be made for the planting of tubers prior to their arrival. Tubers shall be planted immediately once received. If planting is delayed more than four (4) hours after delivery, plants shall be set in shade, protected from weather and mechanical damage, and kept moist.
- d. Container grown stock shall not be removed from containers until time of planting.
- e. Plants shall be free from insects and diseases and must show appearance of normal health and vigor.
- f. Plants species shall be certified to be true to their name and originate within a 150-mile radius of the project location, with species and subspecies native to Lake County, Illinois.
- g. All plant material and collected stock shall comply with State and Federal laws for inspection of plant diseases and insect infestations.

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- h. Plants shall be packed to ensure adequate protection against damage while in transit, including being protected with wet material to ensure plants are delivered, stored, and planted in a moist and cool condition.
 - i. Planting should not be conducted when conditions are not appropriate.
 - j. All emergent herbaceous perennial plants, tubers, bulbs and dormant rootstock shall be installed at a water depth of 0" to 6".
 - k. Plants shall be planted to adequate depth to prevent against desiccation.
 - l. Plants shall be planted at a minimum density of 3,000 plants per acre. Unless an alternative Installation Plan is submitted and approved by the Village, plants shall be planted in pods or groupings to provide sections of color.
 - m. All plants shall be protected from geese and other predators on all sides by 24" high fencing with nylon lines crosshatched across the top of the planting zones. Said fencing shall be maintained at all times and removal may be permitted at least one full growing season after installation.
 - n. In areas where herbicide has been applied at least 14 days prior to planting, no planting shall occur. All herbicides shall be applied by a licensed operator under the direction of a licensed applicator.
 - o. Any plant or seed species substitutions must be approved the by the Village prior to their planting.
2. Seed Mixtures:
- a. All seed shall have the proper stratification and/or scarification to break seed dormancy other than for fall planting.
 - b. Prior to planting, all legumes shall be inoculated with the proper rhizobia at the appropriate time.
 - c. All seed shall be packed and covered in a manner to ensure adequate protection against damage and maintain dormancy while in transit, storage or during planting operations.
 - d. All seed shall be certified to be true to their name and originate within a 150 mile radius of the project location.
 - e. All seed grass species shall be supplied as pure live seed.
 - f. All seeded areas shall be protected from geese and other predators on all sides by 24" high fencing with nylon lines crosshatched across the top of the planting zones. Said fencing shall be maintained at all times and removal may be permitted at least one full growing season after installation.
 - g. Seeding in zones where water levels exist shall not occur. All seeded areas shall

be protected from water by erosion control mulch or straw mat.

- h. Any seed species substitutions must be approved the by the Village prior to their planting.
- i. The use and species of a cover crop must be approved by the Village prior to their planting, and shall not be annual rye.

D. Installation: Installation of native plantings shall be subject to the following specifications:

1. Qualifications: A qualified superintendent capable of reading and understanding approved plans and specifications, and a thorough knowledge of installation, maintenance practices and management needs shall be on-site during installation.
2. Site Preparation: Prior to installation, the planting area shall include preparing and amending existing soils; furnishing, transporting and installing all seeds plant and other materials; and protecting said materials as required for the repair and restoration of the site.
3. Soil Preparation:
 - a. Top soil shall be fertile, friable, loam surface soil without admixture of subsoil and free of stones, stumps, roots, trash, debris and other materials which might inhibit successful plant growth. Soil aggregates shall not exceed one (1) inch maximum diameter.
 - b. Subsoil should not have a compaction greater than 350 pounds per square inch based on soil penetrometer measurements.
 - c. The pH range shall be 6.5 to 8.4. Topsoil not within this pH range shall be amended through the addition of pH adjusters.
 - d. Organic content shall not be less than 3% and no greater than 10% determined by loss through ignition.
 - e. Soil nutrient content shall be as follows, as determined by appropriate laboratory analysis:

Phosphorus	Min. 75 lb./Ac
Potassium	Min. 300lb./Ac
Calcium	Min. 1,500 ppm
Magnesium	Min. 100 ppm
Cation Exchange Capacity	Min. 20 mea/100g
Soluble Salt	Max. 1,000 ppm

- f. Gradation shall meet the following specification:

Sieve Designation	Percent Passing
1" screen	100
1/4" screen	97 - 100
No. 10 U.S.S.	95 - 100

No. 140 U.S.S.	60 - 90
No. 270 U.S.S.	25 - 50

Clay content determined by Bouyoucous Hydrometer Test shall range between 5% and 20%. Percentages shall be based on dry weight of the sample.

- g. Topsoil shall be uniformly distributed to provide a minimum 8 inch depth after compaction and finishing grade. Top soil shall be spread cultivated, lightly compacted to prevent future settlement, dragged, and graded to finished grade.

4. Equipment:

- a. Equipment shall be suited for the installation of native plants and seeds. Equipment causing damage to soils or site (example: rutting, compaction, or prepared soils) shall not be used. Equipment shall be calibrated and adjusted to sow seeds at the proper seeding rate and operated in a manner to ensure complete coverage of the entire native zones.
- b. Seeding equipment shall be designed to accommodate a wide variety of seed types, sizes and shapes.
- c. If a rangeland type grass drill or no-till planter is used, rolling of the seed bed shall not be permitted.

E. Maintenance: The maintenance period shall begin immediately following planting and continue annually, subject to the following criteria:

- 1. All planted and seeded areas shall be maintained by prescribed burning (if permitted), high mow management, replanting or reseeding, and invasive control management as necessary to establish vegetation free of bare or eroded areas and areas that are infested with invasive plants.
 - a. In the first two (2) growing seasons, the planted area shall be mowed every four to six (4 – 6) weeks throughout the growing season to a height not less than eight (8) inches. Mowing is to be conducted frequently enough to cut weeds before they form seed heads. If seed heads form on weeds they shall be removed from the site.
 - b. Prescribed burning shall also be conducted at the conclusion of the third growing season. All licenses and permits required to conduct prescribed burning from state and local authorities shall be completed before initiating any burning. Prescribed burns shall continue annually.
- 2. Dead or declining plant material shall be reseeded and replaced as necessary to meet the performance standard in the year the damage is observed. All replacement plants must be of the same size as the plants thriving in the planted area.
- 3. Plant replacements shall be completed according to the installation instructions.
- 4. Native plant landscape areas shall be managed for invasive plant species as outlined on the Invasive Plant Management Schedule (Appendix 2).

5. When the Monitoring Status Report findings indicate performance of the native plant landscape has fallen below the criteria for establishment of native plant landscapes of this Section, remedial action to restore and replace dead or declining plant material shall occur. Native plant landscapes requiring remedial action shall be considered non-compliant with this Section until necessary corrective actions are completed.

F. Performance Standards

1. At the end of the first growing season, seeded and planted areas shall meet or exceed 75% plant cover, seedlings of six planted grass/sedge species found and seedlings of six planted forb species found within any given one meter transect . No invasive species shall be present.
2. At the end of the second growing season, seeded and planted areas shall meet or exceed 80% plant cover, 5% cover by planted native grass/sedge species, 15% cover by planted forb species, and 20% of planted species found within any given one meter transect.

Sites less than two acres where planting or restoration has taken place, no invasive species shall be present.

Sites greater than two acres where planting or restoration work has taken place, invasive species shall comprise no more than 10% of the plant cover.

3. At the end of the third growing season, seeded and planted areas shall meet or exceed 95% plant cover, 20% cover by planted native grass/sedge species, 40% cover by planted forb species, and 60% of planted species found within any given one meter transect.

Sites less than two acres where planting or restoration has taken place, no invasive species shall be present.

Sites greater than two acres where planting or restoration work has taken place, invasive species shall comprise no more than 5% of the plant cover.

4. At the conclusion of the three year maintenance period, if the planted areas do not meet the performance specification, the Village shall draw on the letter of credit to achieve the performance specifications.

G. Enforcement

1. In the event the property owner, its successors or assigns, do not perform the necessary actions to restore a non-compliant native plant landscape within two (2) weeks of identification of the non-conformity, provided environmental conditions permit immediate action, a fine in accordance with the Comprehensive Fine Schedule set forth in Chapter 17 of Title 1 of this Code shall be assessed. In addition the native plant landscape will be restored to a state of compliance and/or a status assessment will be conducted by a Village consultant at the expense of the responsible party.
2. To ensure compliance with this Section, the Landscape Improvement Deposit in

accordance with Section 7-1-6 of this Code shall be held for maintaining the landscape improvements for a period of three (3) years after acceptance. At the conclusion of the three (3) year maintenance period, any items not conducted in accordance with this Section, the Village shall draw from the Deposit to employ the services of a qualified consultant to ensure compliance, and for the time and labor required to achieve compliance.

13-2-9: Penalties

Any person found guilty of violating any provision of this Chapter shall be assessed at a cost as prescribed in the Comprehensive Fine Schedule set forth in Chapter 17 of Title 1 of this Code. Where a continued violation persists, after notification by the Village, the fine shall be assessed weekly until the violation is corrected. (Ord. No. 03-1840-17, eff. 4/14/03)

13-2-10: APPENDICES

Appendix 1: Salt Tolerant Landscape Plants

Appendix 2: Invasive Plant Management Schedule

Appendix 3: Open Space Landscaping Standards

Appendix 1: Salt Tolerant Landscape Plants*

T = Plants with highest degree of salt tolerance. Use in most exposed areas.

M = Plant with moderate degree of salt tolerance. Use in low salt areas.

DECIDUOUS TREES

Scientific Name	Common Name	Zone	Aerial Salt Tolerance	Soil Salt Tolerance
<i>Acer campestre</i>	Hedge maple	5-8	M	
<i>Acer ginnala</i>	Amur maple	2-8	M	
<i>Acer nigrum</i>	Black maple	4-9	M	
<i>Acer pseudoplatanus</i>	Sycamore maple	5-7	T	
<i>Aesculus hippocastanum</i>	Horse-chestnut	4-7	T	Y
<i>Aesculus octandra</i>	Yellow buckeye	4-8	M	
<i>Amelanchier x grandiflora</i>	Apple serviceberry	4-9	T	
<i>Betula nigra</i>	River birch	3-7	M	
<i>Carya cordiformis</i>	Bitternut hickory	4-9	T	Y
<i>Carya ovata</i>	Shagbark hickory	4-8	T	
<i>Catalpa speciosa</i>	Northern catalpa	4-8	T	Y
<i>Celtis occidentalis</i>	Hackberry	2-9	M	Y
<i>Diospyros virginiana</i>	Persimmon	4-9	M	
<i>Ginkgo biloba</i>	Ginkgo	3-8	M	Y
<i>Gleditsia triacanthos</i>	Honey locust	3-9	T	Y
<i>Gymnocladus dioica</i>	Kentucky coffeetree	3-8	T	Y
<i>Juglans cinerea</i>	Butternut	3-7	T	
<i>Juglans nigra</i>	Black walnut	4-9	T	Y
<i>Koelreuteria paniculata</i>	Golden rain tree	5-8	M	
<i>Larix decidua</i>	European larch	2-6	T	
<i>Larix laricina</i>	American larch	2-5	T	
<i>Liquidambar styraciflua</i>	Sweet gum	5-9	T	Y
<i>Malus</i> (some cultivars) (x <i>zumi</i> 'Calocarpa', 'Adams', 'Donald Wyman', 'Prairifire')	Crabapple	5-7	M	
<i>Nyssa sylvatica</i>	Tupelo	4-9	M	Y
<i>Ostrya virginiana</i>	Ironwood	3-9	M	
<i>Platanus occidentalis</i>	Sycamore	4-9	M	Y
<i>Quercus alba</i>	White oak	3-9	T	
<i>Quercus bicolor</i> *	Swamp white oak	4-8	M	Y
<i>Quercus ellipsoidalis</i>	Northern pin oak	4-6	M	Y
<i>Quercus imbricaria</i>	Shingle oak	4-8	M	
<i>Quercus macrocarpa</i>	Bur oak	2-8	M	Y
<i>Quercus robur</i>	English oak	4-8	T	
<i>Sassafras albidum</i>	Sassafras	4-9	M	
<i>Syringa amurensis</i>	Japanese tree lilac	3-7	T	Y
<i>Syringa pekinensis</i>	Peking lilac	4-7	T	Y
<i>Taxodium distichum</i>	Bald-cypress	4-9	T	Y
<i>Ulmus</i> 'Regal'	Regal elm	4-6		Y

EVERGREEN TREES

Scientific Name	Common Name	Zone	Aerial Salt Tolerance	Soil Salt Tolerance
<i>Juniperus chinensis</i>	Chinese juniper	2-8	T	Y
<i>Juniperus horizontalis</i>	Creeping juniper	4-9	T	Y
<i>Juniperus virginiana</i>	Eastern red-cedar	3-9	T	
<i>Picea pungens</i>	Blue spruce	2-7	T	Y
<i>Pinus mugo</i>	Mugo pine	2-7	T	Y
<i>Thuja occidentalis</i>	Eastern arborvitae	2-8	M	Y

SHRUBS

Scientific Name	Common Name	Zone	Aerial Salt Tolerance	Soil Salt Tolerance
<i>Inus rugosa</i>	Speckled alder	3-6	M	
<i>Amelanchier canadensis</i>	Serviceberry	3-7	T	
<i>Amorpha fruticosa</i>	Indigo-bush	4-9	T	Y
<i>Aronia arbutifolia</i>	Red chokeberry	4-8	M	
<i>Aronia melanocarpa</i>	Black chokeberry	3-8	M	
<i>Buxus microphylla</i> var. <i>koreana</i>	Korean boxwood	4-9	M	
<i>Caragana arborescens</i>	Siberian pea-shrub	2-7	T	Y
<i>Caragana fruticosa</i>	Russian pea-shrub	2-6	T	
<i>Clethra alnifolia</i>	Summersweet clethra	3-8	T	
<i>Comptonia peregrina</i>	Sweet-fern	2-5	T	
<i>Cotoneaster</i> species	Cotoneaster	4-8	T	Y
<i>Forsythia</i> spp.	Forsythia	6-8	T	Y
<i>Hamamelis virginiana</i>	Witch-hazel	3-8	T	
<i>Hibiscus syriacus</i>	Rose-of-Sharon	5-8	M	
<i>Hippophae rhamnoides</i>	Sea-buckthorn	3-7	T	Y
<i>Hydrangea</i> spp.	Hydrangea	3-9	T	
<i>Hypericum</i> spp.	St. John's wort	3-8	T	
<i>Ilex verticillata</i>	Winterberry	3-9	M	
<i>Lespedeza bicolor</i>	Shrub bush-clover	4-8	T	
<i>Myrica pensylvanica</i>	Bayberry	3-6	M	Y
<i>Perovskia atriplicifolia</i>	Russian-sage	5-8	T	
<i>Philadelphus coronarius</i>	Mock-orange	5-8	M	
<i>Potentilla fruticosa</i>	Shrubby cinquefoil	2-7	T	
<i>Prunus x cistena</i>	Purpleleaf sand cherry	2-8	M	
<i>Pyracantha coccinea</i>	Firethorn	6-9	T	
<i>Rhodotypos scandens</i>	Black jetbead	4-8	T	
<i>Rhus aromatica</i>	Fragrant sumac	3-9	T	Y
<i>Rhus glabra</i>	Smooth sumac	3-9	T	Y
<i>Rhus typhina</i>	Staghorn sumac	4-8	T	Y
<i>Ribes alpinum</i>	Alpine currant	2-7	M	Y
<i>Robinia hispida</i>	Bristly locust	5-8	T	Y
<i>Rosa rugosa</i>	Rugosa rose	2-7	T	Y

<i>Sambucus canadensis</i>	Elderberry	3-9	T	
<i>Shepherdia canadensis</i>	Buffaloberry	2-6	M	
<i>Spiraea</i> spp. (most)	Spirea	3-8	T	
<i>Symphoricarpos albus</i>	Snowberry	3-7	T	
<i>Syringa meyeri</i> 'Palibin'	Palibin lilac	3-7	M	Y
<i>Syringa patula</i> 'Miss Kim'	Miss Kim lilac	3-7	T	Y
<i>Viburnum dentatum</i>	Arrowwood viburnum	5-9	M	
<i>Viburnum lentago</i>	Nannyberry	2-8	M	
<i>Viburnum prunifolium</i>	Blackhaw viburnum	3-9	M	Y
<i>Viburnum trilobum</i>	American cranberry-bush	2-7	M	

* Source: The Morton Arboretum, www.mortanarb.org

Appendix 2: Invasive Plant Management Schedule

Plant Name	Specific Management	Month(s)	Comments
Common and Glossy Buckthorn (Rhamnus cathartica and fragula)	Cut and immediately wick apply herbicide.	Jan, Feb, March, June, July, Aug, Sept, Oct, Nov, Dec	Foliar application of herbicide should not be considered unless the site is to be completely reseeded with the understanding that all plants will be killed.
Honeysuckle (Lonicera tatarica, maackii, japonica)	Cut and immediately wick apply herbicide.	Jan, Feb, March, June, July, Aug, Sept, Oct, Nov, Dec	Foliar application of herbicide should not be considered.
Multiflora Rose (Rosa multiflora)	Cut and immediately wick apply herbicide.	Jan, Feb, March, June, July, Aug, Sept, Oct, Nov, Dec	Foliar application of herbicide should not be considered.
Teasel (Dipsacus sylvestris, laciniatus)	Herbicide rosettes.	Mar, April, May, June, Nov	Biennial, important to catch rosettes in first year. Care needs to be taken to remove all seed heads from site. Do not mow. Manually remove heads.
Teasel (Dipsacus sylvestris, laciniatus)	Cut seed heads, remove from site. Herbicide cut stock close to ground.	July, Aug, Sept	Biennial, important to catch rosettes in first year. Care needs to be taken to remove all seed heads from site. Do not mow. Manually remove heads.
Reed Canary Grass (Phalaris arundinacea)	Herbicide stands of grass.	April, May, June	
Reed Canary Grass (Phalaris arundinacea)	Cut seed heads, remove from site. Herbicide cut stock close to ground.	July, Aug, Sept	Reed Canary Grass (Phalaris arundinacea)
Garlic Mustard (Allaria petiolata)	Herbicide rosettes.	March, April, Oct, Nov	Biennial, important to catch rosettes in first year. Care needs to be taken to remove all seed heads from site. Do not mow. Manually remove heads.
Garlic Mustard (Allaria petiolata)	Hand pull plants. Remove from site.	May, June, July, Aug, Sept	Biennial, important to catch rosettes in first year. Care needs to be taken to remove all seed heads from site. Do not mow. Manually remove heads.
Crown Vetch (Coronilla varia)	Cut and herbicide plant close to the ground. Remove cut plants from site.	April, May, June, July, Aug, Sept, Oct	
Bird'S Foot Trefoil (Lotus corniculatus)	Cut and herbicide plant close to the ground. Remove cut plants from the site.	April, May, June, July, Aug, Sept, Oct	

Canada and Bull Thistle (Cirsium arvense, vulgare)	Herbicide small plants or rosettes.	March, April, May, June, Oct, Nov	Bull thistle is a biennial. It is important to catch rosettes in first year. Care needs to be taken to remove all seed heads from site. Do not mow. Manually remove heads. Canada thistle is a perennial. Remove all seed heads from the site.
Canada and Bull Thistle (Cirsium arvense, vulgare)	Cut seed heads and remove from site. Herbicide cut stalks close to the ground.	July, Aug, Sept, Oct	Bull thistle is a biennial. It is important to catch rosettes in first year. Care needs to be taken to remove all seed heads from site. Do not mow. Manually remove heads. Canada thistle is a perennial. Remove all seed heads from the site.
Purple Loosestrife (Lythrum salicaria)	Herbicide young plants.	May, June	This plant grows in wet conditions. An aquatic herbicide must be used if it is in the water or close to the water.
Purple Loosestrife (Lythrum salicaria)	Cut seed heads and remove from site. Herbicide cut stems close to the ground.	July, Aug, Sept, Oct	This plant grows in wet conditions. An aquatic herbicide must be used if it is in the water or close to the water.
Phragmites (Phragmites australis)	Herbicide young stands.	April, May, June, July	This plant grows in wet conditions. An aquatic herbicide must be used if it is in the water or close to the water.
Phragmites (Phragmites australis)	Cut seed heads and remove from site. Herbicide cut stems close to the ground.	June, July, Aug, Sept, Oct	This plant grows in wet conditions. An aquatic herbicide must be used if it is in the water or close to the water.
White and Yellow Sweet Clover (Melilotus alba and officinalis)	Cut and remove plant from site. Herbicide cut stems close to the ground.	May, June, July, Aug, Sept, Oct	
Willow (Salix)	Cut plant and herbicide cut stems close to the ground.	April, May, June, July, Aug, Sept, Oct	This plant grows in wet conditions. An aquatic herbicide must be used if it is in the water or close to the water.
Cattails (Typha)	Cut plant and herbicide cut stems close to the ground or water. Remove any seed heads from the site.	April, May, June, July, Aug, Sept, Oct	This plant grows in wet conditions. An aquatic herbicide must be used if it is in the water or close to the water.

NOTE: All herbicides and their application must be specific to the type of plant controlled. Manufacturers' instructions must be carefully followed. With few exceptions spot or wick applications must be utilized to protect surrounding plants.

Appendix 3:
Open Space Landscaping Standards

VILLAGE OF LINCOLNSHIRE

OPEN SPACE LANDSCAPING
STANDARDS

CONTENTS

- A. Seeding
- B. Mulch and Excelsior Blanket
- C. Sodding
- D. Planting
- E. Period of Establishment and Guarantee

A. SEEDING:

Description: This section describes the seed bed preparation and furnishing, transporting and placing the seed and other materials required in seeding operations.

CONSTRUCTION REQUIREMENTS:

Seed Bed Preparation: Seed bed preparation shall not be started until all stones, boulders, debris and similar material larger than 3 inches in diameter have been removed. The area to be seeded shall be worked to a minimum depth of 3 inches with a disk or other equipment approved by the Village Engineer, reducing all soil particles to a size not larger than 2 inches in the largest dimension. The prepared surface shall be relatively free from all weeds, clods, stones, roots, sticks, rivulets, gullies, crusting and caking. No seeds shall be sown until the seed bed has been approved by the Village Engineer.

Seed bed preparation will not be required for Erosion Control Seeding if the soil is in a loose and pliable condition. Light discing shall be done if the soil is hard or caked.

Seeding Methods: No seed shall be sown during high winds or when the ground is not in a proper condition for seeding, nor shall any seed be sown until the purity test has been completed for the seeds to be used, and shows that the seed meets the noxious weed seed requirements. The Village Engineer will examine and then approve any equipment to be used. Prior to starting work, seeders shall be calibrated and adjusted to sow seeds at the proper seeding rate. Equipment shall be operated in a manner to ensure complete coverage of the entire area to be seeded. The Village Engineer shall be notified 48 hours prior to beginning the seeding operations so that the Village Engineer may determine by trial runs that a calibration of the seeder will provide uniform distribution at the specified rate per acre. When seed or fertilizer is applied with a hydraulic seeder, the rate of application shall be not less than 1000 gallons of slurry per acre. This slurry shall contain the proper quantity of seed or fertilizer specified per acre. When using a hydraulic seeder, the fertilizer nutrients and seed shall be applied in two separate operations.

Within 12 hours, all seeded areas, including slopes 3 to 1 or flatter, shall be rolled at right angles to the run off with an approved type roller or cultipacker to compact the seed bed and place the seed in contact with the soil. Slopes steeper than 3 to 1 need not be rolled. Rolling will not be required in the following conditions:

On slopes steeper than 3 to 1.

When a mulch stabilizer is used to anchor the mulch.

When a hydraulic seeder is used to apply the seed.

When a rangeland type grass drill is used.

When the seeding equipment is equipped with a roller that achieves the desired compaction.

When Erosion Control Seeding is called for on the plans, a harrow, approved by the Village Engineer, maybe substituted for the roller.

The optimum depth for seeding shall be 1/4 inch.

All legumes (clover, vetch, birdsfoot trefoil, lespedeza and alfalfa) shall be inoculated with the proper bacteria in the amounts and manner recommended by the manufacturer of the inoculant before sowing or being mixed with other seeds for sowing. The inoculant shall be furnished by the Contractor and shall be approved by the Village Engineer. The seed shall be sown as soon as possible after inoculation and seed that has been standing more than 24 hours after inoculation shall be re-inoculated before sowing. If legumes are applied by hydro seeder, 3 times the normal amount of inoculant shall be used.

- a. Native Grass and Native Forb Seed Mixtures: Native Grass and Native Forb Seed Mixtures shall be done by hydraulic seeders or with a rangeland type grass drill meeting the approval of the Village Engineer.

If a hydraulic seeder is used, the water application rate shall be not less than 500 gallons per acre.

Seeding operations for new construction (bare earth) shall be May 15 to June 30 or October 15 to December 1. Seeding operations on existing turf shall be between October 15 and December 1. All areas of existing turf to be seeded except as listed below shall be mowed one or more times to a height of not more than three inches. The equipment used shall be capable of completely severing all growth at the cutting height and distributing it evenly over the mowed area. The cut material shall not be windrowed or left in a lumpy or bunched condition. Subsequent mowing may be required on certain areas in order to disperse the mowed material and allow penetration of the seed.

Debris encountered during the mowing and seeding operations which may hamper the operations shall be removed and disposed of. Damage to the turf, such as ruts or wheel tracks more than two inches in depth, shall be repaired to the satisfaction of the Village Engineer prior to the time of seeding.

- b. Erosion Control Mixture

This method shall be considered a temporary erosion control method and shall be used as a temporary cover when permanent seeding cannot be accomplished. All areas that are to be left bare for more than one month will be consider for Erosion Control Seeding. Any areas that cannot receive permanent seeding before winter shut down shall be seeded with Erosion Control Seeding.

Seeding Mixtures: The classes of seeding mixtures will be designated by the Village Engineer and will consist of one or more of the types listed in Table 1.

Table 1 - SEEDING MIXTURES

TYPE	SEEDS	LBS./ACRE
Park & Lawn Mixture	Ky Bluegrass	50
	Perennial Ryegrass	30
	Creeping Red Fescue	20
Salt Tolerant Lawn Mixture	Ky Bluegrass	30
	Perennial Ryegrass	10
	Dawsons Red Fescue	10
	Scaldis Hard Fescue	10
	Fulfs Salt Grass*	30
Roadside Mixture	Ky 31 or Alta Fescue	50
	Perennial Ryegrass	30
	Creeping Red Fescue	20
	Oats, Spring	48
Salt Tolerant Roadside Mixture	Ky 31 or Alta Fescue	30
	Perennial Ryegrass	10
	Dawsons Red Fescue	10
	Scaldis Hard Fescue	10
	Fulfs Salt Grass*	30
Slope Mixture	Ry 31 or Alta Fescue	40
	Perennial Ryegrass	20
	Alsike Clover**	5
	Birdsfoot Trefoil**	10
	Little Bluestem	5
	Side Oats Grama	10
Native Grass Mixture	Big Blue Stem	4
	Little Blue Stem	5
	Prairie Switchgrass	2
	Indian Grass	2
	Prairie Dropseed	1
	June Grass	1
	Side Oats Grama	5
	Perennial Ryegrass	20
	(delete when seeding over existing turf)	
Native Forb Mixture	Amorpha canescens ·Lead Plarn (6)**	
	Asclepias tuberosa – Butterfly Milkweek (1)	
	Aster laevis – Smooth Aster (2)	
	Aster novae·angliae - New England Aster (2)	
	CeanothuS americanus - New Jersey Tea (3)	
	Coreopsis paimata - Prairie Coreopsis (6)	
	Dodecatheon Meadii - Shooting Star (4)	
	Echinacea pallida - Pale Purple Coneflower (8)	
	Eryngium yuccifolium - Rattlesnake Master (8)	
	Liatis asoera - Button Blazing Star (8)	
Liatis pycostachya - Prairie Blazing Star (6)		
Monarda fistulosa - Prairie Bergamot (6)		

Parthenium integrifolium - Prairie Quinine (3)
Petalostemum candidum - White Prairie Clover (1)**
Petalostemum purpureum - Purple Prairie Clover (6)**
Rudbeckia hirta - Black-eyed Susan (9)
Ratbida pinnata - Yellow Coneflower (8)
Silphium laciniatum - Compass Plant (1)
Silphium tereointhinaceum – Prairie Dock (1)
Solidago rigida - Rigid Goldenrod (6)
Veromcastrurn virginicum - Culvert's Root (5)

(The number in the () indicates the suggested percentage by weight of each item in the mixture. The total weight of the mixture shall be 2 lbs/acre. The mixture shall contain at lease 1% and not more than 10% by weight of each variety listed.)

Variation in the Native Forb seed quantities or varieties will be allowed in the event of a crop failure or other unforeseen conditions. The contractor shall provide for the approval of the Village Engineer a written description of the changed Mixture, the reasons for the change, and the name of the seed supplier.

Conservation Mixture	Smooth Brome Grass	40
	Vernal Alfalfa**	15
	Oats. Spring	48
Detention Area Mixture	Buffalo Grass	100
Erosion Control Mixture	Perennial Ryegrass	50
	Oats, Spring	64

*Fults pucinnellia distans

**Legumes - inoculation required

Method of Measurement: The quantities and application rates of fertilizer nutrients and agricultural ground limestone are subject to adjustment and will be determined on the basis of the analysis of soil samples taken by the Developer.

Fertilizer will be measured by weight in pounds of actual nutrients. The following formula will be used to determine the pounds of fertilizer nutrients applied:

$$(\text{Total weight of mixed fertilizer in pounds}) \times (\text{Percentage of each nutrient in the fertilizer applied}) = \text{pounds of each fertilizer nutrient.}$$

B. MULCH AND EXCELSIOR BLANKET

Description: This section describes the furnishing, transporting and placing mulch or excelsior blanket.

Materials: Materials shall meet the following requirements:

Mulching Seeded or Planted Areas: Within 24 hours from the time seeding, or planting of

seedling trees, shrubs or vines has been performed, the seeded or planted area shall be given a covering of mulch by one of the following methods. On slopes steeper than 3:1 mulch shall be applied the same day as seeded or planted. Mulch shall be applied uniformly at the rate specified.

Method 1: This method shall consist of hand or machine application of straw mulch. The mulch shall be loose enough to permit air to circulate but compact enough to reduce erosion. If baled mulch material is used, care shall be taken that the material is in a loosened condition and contains no lumps or knots of compacted material.

Method 2: This method shall consist of applying a layer of asphalt-coated straw mulch on seeded areas or planted areas.

This mulch shall have a partial coating of Emulsified Asphalt.

The coated mulch shall be placed by equipment which will blow or eject, by means of a constant air stream, controlled quantities of the mulch and asphalt in a uniform pattern over the specified area. If the mulch is excessively cut or broken, the Contractor shall take measures to reduce the cutting or breakage to a limit approved by the Village Engineer.

The asphalt shall be introduced into the air stream by means of a spray arranged in such a manner that it will partially coat the mulch with a spotty asphalt tack prior to the depositing of the mulch covering. The rate of application will be determined by the Village Engineer; however, the rate of application shall be not less than 75 gallons per ton of mulch.

Method 3: The straw shall be applied in accordance with all of the requirements of Method 1, except a mulch stabilizer shall be used to anchor mulch into the soil by means of dull blades or disks. These blades or disks shall be without camber, be approximately 20 inches in diameter.

The disks shall be notched and shall be spaced at approximately 3-inch intervals and shall be equipped with scrapers. The stabilizer shall weigh approximately 1000 pounds and shall have a working width not to exceed 72 inches and shall be equipped with a ballast compartment, so that when directed, weight can be increased.

Method 4: This method shall consist of a hand or machine application of an approved shredded tree bark mulch material. The processed bark mulch shall be uniformly applied over the seeded area at a rate determined by the Village Engineer. Care shall be taken that the material is in a loosened condition and contains no lumps or knots of compacted material.

Method 5: This method shall consist of machine application of straw mulch at the specified rate using an approved mulch blower followed immediately by an overspray application of hydraulic mulch. The hydraulic mulch shall be applied as a slurry of 750 pounds of mulch and 1000 gallons of water per acre by an approved hydraulic mulch applicator. The hydraulic mulch slurry shall be agitated a minimum of 5 minutes before application and shall be agitated during application.

Method 6: This method shall consist of machine application of straw mulch at the specified rate using an approved mulch blower with chemical mulch binder applied simultaneously with the hay or straw as in Mulch Method 2 or with chemical mulch binder applied as an overspray in accordance with Mulch Method 5. Chemical mulch binder shall be applied at the rate and manner recommended by the supplier and approved by the Village Engineer.

Method 7: This method shall consist of machine application of wood or paper fiber hydraulic mulch at the specified rate using an approved hydraulic seeder. The hydraulic mulch shall be applied as a slurry of 2000 pounds of mulch and not less than 2000 gallons of water per acre. The hydraulic mulch slurry shall be agitated a minimum of 5 minutes before application and shall be in continuous agitation during application. The seeding will not be applied concurrently with this operation.

Following the mulching operation, every precaution shall be taken to prohibit foot or vehicular traffic, or the movement of mulching has been displaced by any Contractor's equipment or personnel, the seeding or other work damaged as a result of that displacement shall immediately be replaced and the mulch covering replaced, at the Contractor's expense, in a manner satisfactory to the Village Engineer.

Excelsior Blanket: The excelsior blanket shall be placed within 24 hours after seeding operations have been completed on the areas specified by the Village Engineer. Prior to placing the mat, the areas to be covered shall be relatively free of all rocks or clods over 1 1/2 inches in diameter, and all sticks or other foreign material which will prevent the close contact of the blanket with the seed bed. If as a result of a rain, the prepared seed bed becomes crusted or eroded, or if eroded places, ruts or depressions exist for any reason, the Contractor will be required to rework the soil until it is smooth and to reseed such areas which are reworked. After the area has been properly shaped, fertilized and seeded, the blanket shall be laid out flat, evenly and smoothly, without stretching the material.

Jute or paper mat used as a ditch lining shall be applied with the lengths running parallel to the flow of water. When the blanket is unrolled, the netting shall be on top and the fibers in contact with the soil.

In ditches, the blankets shall be applied in the direction of the flow of the water and butted snugly against each other. Use 4 staples across at the start of each roll and continue to staple each side and the center on 4-foot intervals. Use a common row of staples on adjoining blankets.

On slopes, the blanket shall be applied either horizontally or vertically to the contour. Staple similar to ditch applications except the space interval shall be 6 feet.

C. SODDING

Description: This section shall describe the preparation of the ground surface and furnishing, transporting and placing sod and other materials required in the sodding operations.

Ground Preparation: Immediately prior, but not in excess of 24 hours before the sod is placed, the soil surface shall be worked until it is relatively free from debris, washes,

gullies, clods and stones, and is in a satisfactory condition. The surface shall be worked to a depth of not less than 3 inches with a disk, tiller or other equipment approved by the Village Engineer. Prepared surfaces that become crusted shall be reworked to an acceptable condition for sodding.

All soil surfaces shall be moist when the sod is placed. When directed by the Village Engineer, the Contractor shall be required to apply water to dry soil surfaces at a minimum rate of one gallon per square yard immediately prior to placing the sod.

When specified, agricultural ground limestone and fertilizer nutrients shall be applied at the designated rates over the areas to be sodded.

Sodding Time: Sod shall be placed when the ground is in a workable condition and temperatures are less than 90 degrees F. Sod shall not be placed when the sod or ground surface is frozen or during and extended drought.

Transportation: All sod shall be properly covered when transported to prevent it from drying out. Adequate shading and ventilation must be provided for the sod to prevent it from decomposing while it is transported.

Sod cut for more than 48 hours shall only be used with the approval of the Village Engineer. Any sod that has dried out, has heated to over 100 degrees F. or is frozen prior to placing will be rejected and shall be immediately removed from the job site by the Contractor.

Placing Sod: The sod shall be placed on the prepared surface with the edges in close contact and alternate courses staggered.

In ditches, the sod shall be placed with the longer dimension perpendicular to the flow of water in the ditch. On slopes, starting at the bottom of the slope, the sod shall be placed with the longer dimension parallel to the contours of the ground. The exposed edges of sod shall be buried flush with the adjacent soil.

On slopes where the sod may be displaced during sodding operations, the workmen shall work from ladders or treaded planks.

Staking Sod: The sod shall be staked on all slopes of 2:1 or steeper. Sod shall be staked with not less than 4 stakes per square yard with at least one stake for each piece of sod. Stakes shall be a minimum of 6" long. Stakes shall be installed so that they hold the sod firmly in place yet present no danger to pedestrians or mowing crews. The type of stake and the method of installation shall meet the approval of the Village Engineer.

Sod Watering: Within 6 hours after the sod has been placed. 5 gallons of water per square yard shall be applied. Thereafter, on days designated by the Village Engineer, additional water shall be applied at the rate of 3 gallons per square yard. The sod must be adequately watered during the period of establishment, defined as the period of time between sod placement and when the sod becomes knitted to the soil and growing in place.

The Contractor shall have on hand enough equipment to completely water all sodded areas in 2 days at watering rates specified during the period of establishment. The Village

Engineer will make periodic checks of the Contractor's equipment to determine its adequacy and operating condition.

All watering described herein shall be done with a spray application. An open end hose will not be acceptable. The method of watering shall meet the approval of the Village Engineer.

Supplemental Watering: During periods of intense heat or subnormal rainfall, supplemental watering may be required prior to acceptance of the work. Supplemental watering shall be performed when directed by the Village Engineer. Water shall be applied at the rate specified by the Village Engineer within 24 hours of notice. Supplemental watering may be performed during the period of establishment or any time prior to final acceptance of the project.

Disposal of Surplus Material: Surplus and waste materials resulting from sodding operations shall be disposed of by the Contractor, at his/her own expense.

D. PLANTING

Description: This work shall consist of digging and preparing plant holes, and of furnishing, transporting and planting trees, shrubs, vines, seedlings and other materials.

It shall also include all incidental operations such as mulching, bracing, wrapping, care of living plants and replacements of unsatisfactory plants.

Planting Time: Except for container grown items, plants must be dormant when delivered to the storage site or project.

Bare root plant material shall be planted only when the air temperatures exceed 35 degrees F. The Contractor shall begin this work not later than September 1, following the award date of the contract.

- a. Spring Planting: This work shall be performed from the time the soil can be worked until the plant, under field conditions, is not dormant except that:
 1. Evergreen planting shall end April 30.
 2. Seedlings shall be planted only during the spring planting season.
 3. The planting time may be extended for container grown plants if the Village Engineer determines that the weather conditions are favorable.
- b. Fall Planting: This work shall be performed from the time the plant becomes dormant until the ground cannot be satisfactorily worked except that evergreen planting shall be performed between August 15 and October 15.

Digging of Plants: Plants shall not be dug until the Contractor is ready to transport them from their original locations to the site of the work or approved storage. The maximum time lapse between digging and being properly loaded for delivery to the site of the work or being placed in approved storage, shall be 4 days for balled or burlapped plants and one day for bare root plants. They shall be dug with care, avoiding injury to

the plants or loss or damage of the roots, particular attention being given to fibrous roots. Immediately after digging, roots shall be protected against drying out and freezing. Bare root plants shall be dug only when air temperatures exceed 35 degrees F.

Transportation: During transportation, the Contractor shall exercise care to prevent injury and drying out of the plants. Upon arrival at the temporary storage location of the site of the work, plants will be inspected for proper shipping procedures. Should the roots be dried out, large branches be broken, balls of earth be broken or loosened, or areas of bark be torn, the Village Engineer may reject the injured tree. When a tree has been so rejected, the Contractor shall at once remove it from the area of the work and replace it.

Temporary Storage: No plant shall remain in temporary storage over the summer. Plants delivered to the project that are not to be planted immediately shall be protected in the following manner:

- a. Bare Root Plants: Plants may remain on the site of the work only 24 hours prior to being planted or placed in storage. During this 24 hour period, the Contractor shall continue to exercise care to prevent injury and drying out of the plants. The roots of plants to be placed in storage shall first be puddled in a paste solution of the prepared backfill used in planting and water. The plants shall then be protected and kept moist by "heeling-in" the roots or by placing the plant in a cool moist storage building. The "heeling-in" procedure shall require the plants to be separated and the roots heeled in a suitable moist soil. If plants are stored in a building, the roots shall be covered with a suitable moist mulch. Winter storage of bare rooted plants will be allowed only in temperature and humidity controlled buildings. The Village Engineer shall approve the storage methods. The duration of storage, the method of storage and the materials used for mulch and "heeling-in" shall meet with the approval of the Village Engineer.
- b. Balled and Burlapped Plants and Container Grown Plants: Plants may remain on the site of the work only 72 hours prior to being planted or placed in storage.

Balled and burlapped plants shall be kept moist and their solidity carefully preserved. To prevent drying out or freezing, they shall be stored either in a cool moist storage building or placed in a compact group with a suitable mulch material placed around and between the balls so they are completely covered.

Container grown plant material shall be kept moist by watering as directed by the Village Engineer. To prevent freezing, they shall be stored either in a cool moist storage building or placed in a compact group with a suitable mulch material placed around and between the balls so they are completely covered.

The duration of storage, method of storage and mulch material for balled and burlap material and container grown plant material shall meet the approval of the Village Engineer.

Layout of Planting: The area to be planted shall be finished to line and grade before planting operations are begun. The Contractor shall furnish all marking flags for locating plants and shall mark thereon the key number and size of plants. The Village Engineer will place the marking flags and outline each area for mass or solid planting.

Excavation of Plant Holes: The sides of all plant holes shall be vertical and the bottoms horizontal. On slopes, the depth of excavation will be measured at the center of the hole. Unless otherwise specified, the excess material excavated from the holes shall be spread in the immediate area as directed by the Village Engineer. The excavated material shall not be stockpiled on turf or in ditches. The sides of holes shall not be glazed or smooth.

- a. Excavation for Trees: Holes for trees shall be dug at the location indicated by the marking flags. The diameter of the hole shall be at least 24" wider than the diameter of the ball and the depth of the hole shall be 2" less than the depth of the ball.
- b. Excavation for Shrubs, Vines and Seedlings: Holes for shrubs, vines and seedlings shall be dug within the marked outline of the planting bed. The interval of planting will be designated on the plans. Spacing shall be measured from center to center and alternate rows shall be staggered.

Prior to digging shrub and vine holes, existing vegetation on the area shall be mowed or treated with a non-selective, post emergent non-residual herbicide approved by the Village Engineer. The area shall then be tilled to a minimum depth of 2 inches until free of debris, gullies, clods, weeds, stones and roots.

Holes for shrubs shall be dug to a minimum diameter of 18 inches greater than the diameter of the ball or container. Holes for vines shall be dug to a minimum diameter and depth of 8 inches.

Immediately prior to planting seedlings, the existing grass and weed growth within the planting area shall be cut to a maximum height of 2 inches. On slopes flatter than 3:1, the soil adjacent to the plant row parallel to the contour shall be prepared by cultivating or scalping to remove all grass and weed growth, in a continuous strip not less than 18 inches wide. The seedlings shall be planted in the center of this strip.

Holes for seedlings shall be made large enough to accommodate the root system with a spade, planting bar or an approved mechanical tree planting machine.

Individual holes for container grown plants shall be excavated to the same dimensions for comparable size balled and burlapped maternal.

Pruning: Pruning shall be done in such a manner as to preserve the natural growth habit or each plant. The method and location of pruning and the percentage of growth to be removed shall be the approval of the Village Engineer, all pruning shall be done with sharp tools in accordance with the best horticultural practices.

The ends of all broken and damaged roots of 1/4 inch or larger shall be pruned with a clean cut, removing only the injured portion. All broken branches, stubs and improper cuts of former pruning shall be removed.

- a. Deciduous Trees: Pruning shall consist of thinning the twigs or branches as dictated by the habit of growth of the various types of the trees to be pruned, and as directed by the Village Engineer. The leader and terminal buds shall not be cut unless directed by the Village Engineer.

- b. Deciduous Shrubs: In general, shrubs shall be cut back to 1/2 of their height.

Shrubs that are slow growing or do not sucker readily shall be pruned in the same manner as deciduous shade trees.

- c. Evergreens: Evergreens shall not be pruned except to remove broken branches.

Planting Procedures: The prepared backfill shall consist of a mixture of topsoil, peat moss and fertilizer. To each cubic yard of topsoil, add 3 cubic feet of loose peat moss, 3 pounds of phosphorus nutrients and 1 pound of potassium nutrients. The method of mixing the components of the prepared backfill shall meet the approval of the Village Engineer. The compressed ratio of the baled peat moss will determine the number of loose cubic feet contained therein. Topsoil shall be stockpiled at locations approved by the Village Engineer.

At the end of the establishment period, nitrogen nutrients shall be uniformly applied to the surface of all backfilled areas where trees, shrubs and vines were planted at the rate of 6 pounds of nutrients per 1000 square feet on inorganic mulch, and 10 pounds of nutrients per 1000 square feet on organic mulch.

The prepared backfill soil shall, at the time of planting, be in a loose, friable condition. At no time shall the prepared backfill or other topsoil used on the job be stockpiled on turf or in ditches.

All plants shall be placed in a plumb position and set 2 inches higher than the depth they grew in the nursery. Prepared backfill shall be placed around the root system. Tamping or watering shall accompany the backfilling operation to eliminate air pockets.

Thorough watering of trees, shrubs and vines, with a method approved by the Village Engineer, shall follow the backfilling operation. This watering shall completely saturate the backfill and be performed during the same day of planting. After the ground settles, as a result of the watering, additional backfill shall be placed to match the level of the finished grade. Approved watering equipment shall be at the site of the work and in operational condition prior to starting the planting operation.

- a. Balled and Burlapped Plants: After the plant is placed in the hole, all cords and burlap shall be cur away from the trunk.
- b. Container Grown Plants: Prior to placing the plant in the hole, the container shall be removed with care so as not to disturb the ball of soil that contains the root system. During the planting operation, care shall be taken not to destroy the solidity of the ball of soil. Pots of material that will decompose in one growing season need not be removed.
- c. Bare Root Plants: The roots shall be carefully spread in a natural position and prepared backfill shall be worked in around the roots so each root is individually packed to eliminate air pockets. The plant shall be gently raised and lowered to assure contact of the roots with the soil.

- d. Seedling Plants: When seedlings are removed from storage for planting, they shall be transported to the planting site in containers of water and the roots shall be continuously immersed until planted. The roots shall be placed in the center of the hole and prepared backfill shall be compacted around the roots to eliminate air pockets. The prepared backfill shall be saturated with water after the plant is placed. Any unplanted seedlings left at the end of each day shall be removed from the water, the roots wrapped in moist materials and the seedlings placed in storage.

Mulch Cover: A mulch cover shall be provided for all plants except seedlings. A 4-inch deep circular water saucer of soil shall be constructed around single plants and shall be filled with mulch material to a depth of not less than three inches (3"). When the plant is in a bed in which spacing is less than 6 feet on centers, the entire bed shall be mulched to a depth of not less than three inches (3") and with a mulch material. The mulch shall extend 3 feet beyond the peripheral plants of the bed.

Wrapping: Within 7 days after planting, all shade trees of 2 1/2 inches diameter or larger shall be wrapped from the ground to the lowest major branch. Unless otherwise specified, a double layer of commercial screen wire mesh shall be wrapped around the trunk of the tree. The screen wire shall be secured to itself with staples or single wire strand tied to the mesh.

E. PERIOD OF ESTABLISHMENT AND GUARANTEE

Final inspection of all work will be made during the month of September each year. To be acceptable, the plant must be in a live healthy condition, representative of its species, and shall have been growing in place for not less than one year prior to inspection. No portion of this work will be inspected until all items of work are completed.

Plants that do not meet the requirements for acceptance shall be replaced by the Contractor at his/her own expense following the date of inspection and prior to November 15 or in the case of items specified for spring planting only, prior to the following May 15, at which time another final inspection will be made for replacements only. Should replacements include both spring and fall items, the Contractor may elect to plant all replacements in the spring, prior to May 15.

The Contractor shall remove immediately from the site of the work any dead plant material. During spring or fall planting, the Contractor will not be permitted to terminate the operation until all plant material is in a live, healthy condition. All plant material which dies within 15 days after being planted shall be replaced at the time and shall be considered as part of the original planting and be subject to the requirement of the period of establishment.

Plant Care: During the period of establishment, the Contractor shall properly care for all plants doing such weeding, watering, adjusting of braces, repair of water saucers or other work which is necessary to maintain the health and satisfactory appearance of the plantings. All requirements for proper care during the period of establishment shall be considered as incidental to the cost of the contract and shall be performed within 5 days following notification by the Village Engineer.

- a. During the period of establishment, additional watering shall be performed at least once within every 30 days during the months of May through December.

The schedule for watering within the 30 day increment will be determined by the Village Engineer. Should excessive moisture conditions prevail, the Village Engineer may delete any of all of the additional watering cycles or any part of said cycles.

The water shall be applied to individual plants in such a manner that the plant hole will be saturated without allowing the water to overflow beyond the earthen saucer. Watering of plants in beds shall be applied in such a manner that all plant holes are uniformly saturated without allowing the water to flow beyond the periphery of the bed. The plants to be watered and the method of application shall be approved by the Village Engineer. The Contractor shall not be relieved in any way from the responsibility for unsatisfactory plants due to the amount of supplemental watering.

- b. During the period of establishment, weeds and grass growth shall be removed from within the earthen saucer of individual trees and from the area within the periphery of the mulched plant beds. This weeding shall be performed at least twice during the months of May through September. The weeding schedule will be determined by the Village Engineer.

The weeding may be performed in any manner approved by the Village Engineer provided the weed and grass growth, including their roots and stems, are removed from the area specified therein. Mulch disturbed by the weeding operation shall be replaced to its original condition. All debris that results from this operation must be removed from the right of way at the end of each day.

The plants weeded will be determined by the Village Engineer. The Contractor shall not be relieved in any way from the responsibility for unsatisfactory plants due to the extent of weeding.

EXHIBIT B

APPENDIX B – CONSERVANCY AREA RESTORATION REQUIREMENTS

[Attached]

APPENDIX B

CONSERVANCY AREA RESTORATION REQUIREMENTS

The following are the minimum requirements for the restoration of designated "Conservancy Areas" that are damaged, whether during construction or after occupancy. Prior to restoration, the Village will review the damaged site and approve the proposed restoration plan.

The entire disturbed area shall be cleared of all debris and unsuitable soil, and graded if necessary. The distributed area shall be covered with two inches (2") of approved topsoil, if necessary, and two inches (2") of leaf compost. This action shall be taken immediately and protective fencing replaced if construction is in progress. Plantings on the approved restoration plan shall be planted in accordance with the approved plan specifications during the first appropriate planting season. All plant material shall be guaranteed for a minimum of one year.

The listed material is per 150 Sq. Ft. of damaged area.

CANOPY TREES – DRY SITES: One 2 ½ inch caliper and four (4) seedlings

Scientific Name	Common Name
<i>Quercus alba</i>	White Oak
<i>Quercus rubra</i>	Red Oak
<i>Acer rubrum</i>	Red Maple
<i>Acer saccharum</i>	Sugar Maple
<i>Gymnocladus dioica</i> <i>caroliniana</i>	Kentucky Coffee Tree
<i>Celtis occidentalis</i>	Hackberry
<i>Carya Ovata</i>	Shagbark Hickory

CANOPY TREES – WET SITES: One 2 ½ inch caliper and four (4) seedlings

Scientific Name	Common Name
<i>Quercus bicolor</i>	Swamp White Oak
<i>Quercus macrocarpa</i>	Bur Oak
<i>Liriodendron tulipifera</i>	Tulip Tree
<i>Carpinus</i>	American Hornbeam
<i>Celtis occidentalis</i>	Hackberry
<i>Gleditsia triacanthos</i>	Honey Locust
<i>Acer saccharum</i>	Sugar Maple

INTERMEDIATE TREES – DRY SITES: One 4 ft. – 5 ft. and Three 2 ft. – 3 ft.

Scientific Name	Common Name
<i>Ostrya virginiana</i>	American Hophornbeam
<i>Crataegus spp.</i>	Hawthorn
<i>Cornus florida</i>	Flowering Dogwood
<i>Cercis Canadensis</i>	Redbud
<i>Viburnum prunifolium</i>	Blackhaw Viburnum
<i>Amelanchier laevis</i>	Allegheny Serviceberry
<i>Carpinus caroliniana</i>	American Hornbeam
<i>Rhus typhina</i>	Staghorn sumac

INTERMEDIATE TREES – WET SITES: One 4 ft. – 5 ft. and Three 2 ft. – 3 ft.

Scientific Name	Common Name
<i>Alnus glutinosa</i>	Alder
<i>Betula nigra</i>	River Birch
<i>Mamamelis virginiana</i>	Witch hazel
<i>Crataegus spp.</i>	Hawthorn

SHRUBS – DRY SITES: Five 2 ft. – 3 ft.

Scientific Name	Common Name
<i>Viburnum trilobum</i>	High-Bush Cranberry
<i>Corylus Americana</i>	American Hazelnut
<i>Locinera spp.</i>	Honeysuckle
<i>Rhus glabra</i>	Smooth Sumac

SHRUBS – WET SITES: Five 2 ft. – 3 ft.

Scientific Name	Common Name
<i>Aronia arbutifolia</i>	Red Chokeberry
<i>Cornus sericea</i>	Redtwig Dogwood
<i>Cornus racemosa</i>	Grey Dogwood
<i>Viburnum lentago</i>	Nannyberry

GROUNDCOVER/WILDFLOWERS: Twenty (20)

Care shall be taken to select plants which are site specific, i.e. soils and moisture requirements, sun and shade requirements.

May Apple	Virginia Blue Bells
False Solomon Seal	Hepatica
Solomon Seal	Monarda
Wild Columbine	Woodland Sunflower
Blood Root	Native Iris
Trillium Sp.	Woodland Phlox
Twin Leaf	Wild Ginger (<i>Asarum caudatum</i>)
Wild Geranium	Goldenrod
Yellow Trout-Lily	Jack in the Pulpit
Jacobs Ladder	Alum Root
Butter Cup	Rue
Aster spp.	Turtlehead
Penstemon	Golden Alexander
Agastache	Milkweed
Butterfly Weed	Coreopsis
Eupatorium	Gentian
Liatris	Monkey Flower
Prairie Clover	Echinacea
Sneezeweed	Heliopsis
Obedient Plant	Ratibida
Silphium	Verbena
Culver's Root	Rudbeckia
Native Violets	Native Ferns

**REQUEST FOR BOARD ACTION
Committee of Whole
May 11, 2015**

Subject:	Text Amendments to Landscaping regulations
Action Requested:	Consideration and Discussion of an Architectural Review Board recommendation regarding Text Amendments to Chapter 2 of Title 13, Landscaping, of the Lincolnshire Village Code to update the Village's landscaping regulations
Originated By/Contact:	Stephen Robles, Village Planner Department of Community & Economic Development
Referred To:	Architectural Review Board

Background:

- At the June 23, 2014 Committee of the Whole meeting, Staff approached the Board regarding challenges Lincolnshire's commercial sector faces in maintaining and growing a steady commercial tenant mix throughout the Village, which also touched on the unintended negative consequences of the current landscaping regulations.
- As a result of that meeting, Staff was authorized to review the current landscaping requirements to balance the Village's aesthetic expectations with commercial developments' desire for openness and visibility.
- On April 21, 2015, the Architectural Review Board unanimously recommended approval of text Amendments to Chapter 2 of Title 13, Landscaping, of the Lincolnshire Village Code, regarding updates to the Village's landscaping regulations, subject to the following:
 1. Revise purpose statement "C" (Sec. 13-2-1) to clarify the intended purpose.
 2. Revise the minimum number of trees required for new single-family residential lots (13-2-5(A)) to combine the planting requirements of the front, side, and rear yards, with at least one tree required in the front yard.

Project Summary:

Following, is a summary of major areas incorporated into the attached Draft Code Language (*for specific detail, please see attached Draft Code Sections*):

- **Purpose (Sec. 13-2-1):** Traditionally, zoning regulations begin with a purpose statement to identify the objectives of the given code regulations, which are absent from the current Landscaping Code. Although not zoning regulations, such objective statements should also be included. The following three statements have been produced and revised based on the recommendation of the ARB:
 - A. Promote and maintain the high quality visual appearance and environmental benefits throughout the year through landscaping and preservation of native vegetation.
 - B. Encourage and promote the implementation of best management practices to minimize erosion and stormwater runoff in a manner which provides functionality and visual appeal.
 - C. Enhance the visual and environmental character of the Village's built environment through the utilization of conscientious landscape design.

Replacement Requirements (Sec. 13-2-3): Staff has observed an increase in requests for entire landscaping replacements of non-residential zoned property. As most properties have an approved landscape plan, holistic changes are not permitted without approval by the ARB. The existing regulations permit replacements of 20% or more *due to region wide infestation or disease*. This discourages a property owner from reinvesting in the property through landscape improvements. This Section has been revised to add criteria for the replacement of existing plantings for non-residential zoned lots, which would no longer require ARB review (see Sec. 13-2-3(B)(2) for criteria).

- **Landscape Screening (13-2-4):** This section currently includes regulations requiring a visual barrier to certain unattractive/monotonous elements of a site plan, which does not account for the visual obstruction of customer areas such as building signage, parking areas, storefronts, etc. Revisions clarify those portions of building which do not contain a primary architectural element must be screened. Ground-mounted equipment screening requirements cross-reference requirements outlined in the Zoning Code (Sec. 6-15-3(B)) Parking lot screening has been significantly revised by establishing two categories: 1) residential zoning districts, and 2) non-residential zoning districts, with regulations appropriate for each type of parking lot. Landscaping for parking lot islands has also been added to align with the Off-Street Parking and Loading zoning requirements.
- **Single-Family Residential Requirements (13-2-5):** Previously titled “Landscape Improvements to Private Property”, Staff interprets this section to apply to all residentially zoned property since *all non-Village property* is considered “private property”. This Section has been relocated from the General Landscape Requirements Section into a stand-alone Section for improved function. Landscape plan requirements for single-family residential subdivisions have also been located in this Section for consistency.

The ARB supported the concept that a minimum level of landscaping/plantings should be required for new single-family residential home construction. Staff developed the table below to identify the quantity, distribution, and tree type for a single-family residential lot. The ARB recommended combining the tree distribution for the front, side, and rear yards to allow flexibility in installing trees in the front and side yards, as long as a minimum of one tree is required in the front yard. As a result the table has been revised as follows:

Yard	Minimum Number of Trees*	Size at Planting
Front Side Corner Side	2 (1 tree shall be located in Front Yard)	2.5” DBH non-evergreen tree or 8’ evergreen tree
Rear	2	2.5” DBH non-evergreen tree and 8’ evergreen tree

* Existing vegetation located within dedicated Conservancy Easements/Areas shall not be used to achieve compliance with the above requirements.

- **Landscape Improvement Deposit (previously 13-2-2):** The deposit requirements contained in this prior section are identical to the requirements of the Subdivision and Land Development Code (Title 7) and will be relocated to Title 7 for consistency with other improvement deposit requirements.

- **All Other Property Requirements (Sec. 13-2-6):** Previously titled “Business/Commercial Developments”, the commercial landscaping requirements are set forth in this section and include a tree distribution chart, which currently requires a variety of trees totaling 34 trees per acre, as follows:

TYPE	SIZE	TREES/ACRE
Deciduous Shade Trees	2" – 2 ½"	6
	3" – 4"	5
	4 ½" and larger	5
Ornamental Trees	6' – 8'	4
	8 ½" and larger	4
Evergreen Trees	6' – 8'	4
	8 ½' – 10'	4
	10 ½' and larger	2

For ARB review, Staff analyzed two commercial properties to determine if the existing tree planting requirements remain viable. In both samples, neither site achieved code compliancy. However, the number of trees was more than abundant for each sample site. As a result, the minimum number of trees to be planted has been reduced to 30 trees per acre and the balance of tree variety has been revised, as follows:

TYPE	SIZE	TREES/ACRE
Deciduous Shade Trees	2" – 4" DBH	6
	4 ½" + DBH	6
Ornamental Trees	6' – 8' DBH	4
	8 ½" + DBH	4
Evergreen Trees	8' height	5
	10' + height	5

- **Public Right-of-Ways Requirements (13-2-7):** The regulations for right-of-way plantings are relatively straight-forward and only minor updating to reflect current practices have occurred. The approved parkway tree species chart (formerly Appendix IV) has also been incorporated within this Section, along with graphic illustrations for improved use.
- **Landscape Requirements for Stormwater Facilities (13-2-8):** The purpose of this section is to insure detention facilities are designed, constructed, and maintained in a manner which provides functionality as well as visual appeal. The included subsections contain detailed regulations requiring substantial knowledge in the installation, monitoring and maintenance of native vegetation suitable for stormwater facilities, which requires specific personnel with professional expertise no longer part of the Village administrative structure. This section has undergone substantial restructuring to remove Village required review/authorization of documents and plans in favor of a qualified environmental consultant to continue achieving the highest level of stormwater runoff reduction through the use of native vegetation. Many of the appendices have also been incorporated into the text for continuity.

Recommendation:

Consideration and discussion of text amendments to Chapter 2 of Title 13 of the Lincolnshire Village Code to update the Village’s landscaping regulations, and placement on the May 26th Consent Agenda.

Reports and Documents Attached:

- Draft Ordinance and Code Revisions, prepared by Village Attorney Simon and Staff.
- Staff Memorandum and Minutes of the September 16, 2014 and April 21, 2015 ARB.

Meeting History	
Preliminary Evaluation (COW)	June 23, 2014
ARB Discussion	September 16, 2014
ARB Discussion (Tabled)	January 20, 2015
ARB Discussion (Tabled)	February 17, 2015
ARB Discussion	April 21, 2015
Current COW Discussion	May 11, 2015

TITLE: 13

CHAPTER 2: Landscaping

Sections:

- 13-2-1: Purpose
- 13-2-2: General Requirements
- 13-2-3: Replacement Requirements
- 13-2-4: Landscape Screening Requirements
- 13-2-5: Single-Family Residential Requirements
- 13-2-6: All Other Property Requirements
- 13-2-7: Public Right-Of-Way Requirements
- 13-2-8: Stormwater Facilities Requirements
- 13-2-9: Penalties
- 13-2-10: Appendices

13-2-1: Purpose

This Landscaping Code is adopted for the following purposes:

- A. Promote and maintain the high quality visual appearance and environmental benefits throughout the year through landscaping and preservation of native vegetation.
- B. Encourage and promote the implementation of best management practices to minimize erosion and stormwater runoff in a manner which provides functionality and visual appeal.
- C. Enhance the visual and environmental character of the Village's built environment through the utilization of conscientious landscape design.

13-2-12: GENERAL LANDSCAPE REQUIREMENTS

- A. ~~Installation and Maintenance: Plant i~~Installation and maintenance methods of landscape plantings must shall conform to the specifications ~~outlined in the Village of Lincolnshire Open Space Landscaping Standards~~of the approved landscape plan and industry standard installation practices appropriate for each type of planting. ~~When designing a landscape plan, consideration must also be given to snow plowing and de-icing operations, access for utilities, and safety issues such as maintaining proper sight lines and not obscuring light fixtures.~~
- B. Maintenance: To ensure the health and vitality of landscape plantings, ~~a comprehensive maintenance program must be developed and implemented. The plan should include, as a minimum, of~~ insect and disease control, mulching, pruning, fertilization, weed control, and watering consistent with good forestry practices shall be performed, as needed, by the property owner.
- C. ~~Replacements and~~Inspections: Landscape plantings required by this Chapter All required landscaping will be inspected periodically by the Village to ensure compliance. ~~Any discrepancy between the approved landscape plans and the existing conditions will be noted and the~~For any planting which require replacement, the property owner/~~developer will~~ shall be notified ~~by the Village~~ of the required requirement for replacements, which shall be

~~completed. With the exception of large scale tree replacements, all plants that die shall be replaced within forty five (45) sixty (60) days from receipt of notice or during the next available planting season to ensure the plan is continuously adhered to as determined by the Village. Non-compliance with this established time frame will result in the assessment of fines, set forth in~~ If the owner fails to replace required plantings within the established time frame, a fine shall be rendered in accordance with the Comprehensive Fine Schedule, Chapter 17, of Title 1 of this Code.

13-2-3: Replacement

- A. ~~Region Wide Infestation: Large scale tree replacements are tree replacements that will impact more than 20% of the total tree population located on the property. These large scale tree replacements will be reviewed by the Village on a case per case basis. Most properties have an approved landscape plan. These plans were approved by Village staff, the Architectural Review Board and/or the Village Board with specific landscaping criteria. If tree Landscape planting replacements are due to a region wide infestation or disease, as determined by the U.S. Department of Agriculture, alternate replacement species will be selected. Village staff shall work with the property owner to select appropriate replacements for species impacted by the infestation or disease. This would include, but not be limited to, shall be replaced in~~ recognition of shape, form, and seasonal interest of the infested or diseased planting to which its replacing, subject to the requirements of Chapter 1 of this Title. ~~, and the need for diversity to prevent future devastation due to infestation or disease.~~
- B. ~~Non-Single-Family Residential Property: If large scale r~~ Replacements are required, it may be necessary for the property owner to establish a replacement plan. This plan outlines of existing landscape plantings for all non-single-family zoned lots shall be subject to the following:
1. Landscape Replacement Plan: Prior to the removal of any existing landscape plantings, authorization from the Village must be obtained, which for trees shall be subject to the requirements of Chapter 1 of this Title. A Landscape Replacement Plan shall be submitted identifying the following:
 - a. Location, ~~tree~~ species, existing condition, and size ~~in DBH and date of removal~~ for each ~~tree planting~~ to be removed.
 - b. Location, ~~tree~~ species, quantity, and size ~~in DBH and date~~ for each replacement of ~~each tree planting~~ to be installed. ~~Gare shall be taken to replace trees with the most visual significance first. For example trees serving a functional purpose, i.e. screening or those located at the front of the property should be replaced before trees at the back of the property or in low visibility areas.~~
 2. Replacement Criteria: Landscaping replacements shall be subject to the following:
 - a. ~~If tree replacements for an entire species are required, and the total number is more than 20% of the entire site tree inventory, replacements are not required to be the same size as other existing species or previously planted at the same time as those being removed. However, they shall~~ Replacement plantings shall not be less than the size specified in the approved landscape plan. ~~If there is~~ no approved

landscape plan is available, single stem trees shall not be less than 2.5" DBH, clump and evergreen varieties shall not be less than 8 feet in height.

- b. Evergreen trees shall be replaced with evergreen trees and deciduous trees shall be replaced with deciduous trees.
- c. The replacement plan ~~shall be for a specified~~ may be implemented over a period of time ~~and shall not to~~ exceed five three (3) years.
- d. Any tree identified on an approved landscaping plans which existed on the property prior to development and has been preserved, as determined by the Village, may be removed to observe good forestry practices subject to Section 13-1-3(D) and 13-1-3(K) of this Title, except any tree which is dead or irreversibly declining due to natural circumstances does not require replacement.
- e. ~~A tree replacement plan shall be provided before any removals are to take place, unless the tree(s)If the plantings~~ to be removed are considered to be a hazard to life and/or a life and safety issue ~~property, the specific plantings shall be flagged and verbal authorization by the Village Arborist for removal may be granted, which shall be conditioned upon the submittal of a Tree Removal Permit, if applicable, and Landscape Replacement Plan identified in 13-2-(B)(1) .~~ ~~In this instance the plan shall be provided~~ within thirty (30) days of the removals.

~~1. To insure continuity with surrounding plant material, with the exception of 2-b-iii above, required landscape replacements must be increased in size from the original plan as follows:~~

- ~~—a. Deciduous shade trees: one half inch (1/2") DBH per year.~~
- ~~—b. Ornamental trees: one foot (1') in height per year.~~
- ~~—c. Evergreen trees: one foot (1') in height per year.~~

~~Annual increases in the size of required replacements shall serve to maintain continuity of the landscape design.~~

13-2-4: Landscape Screening

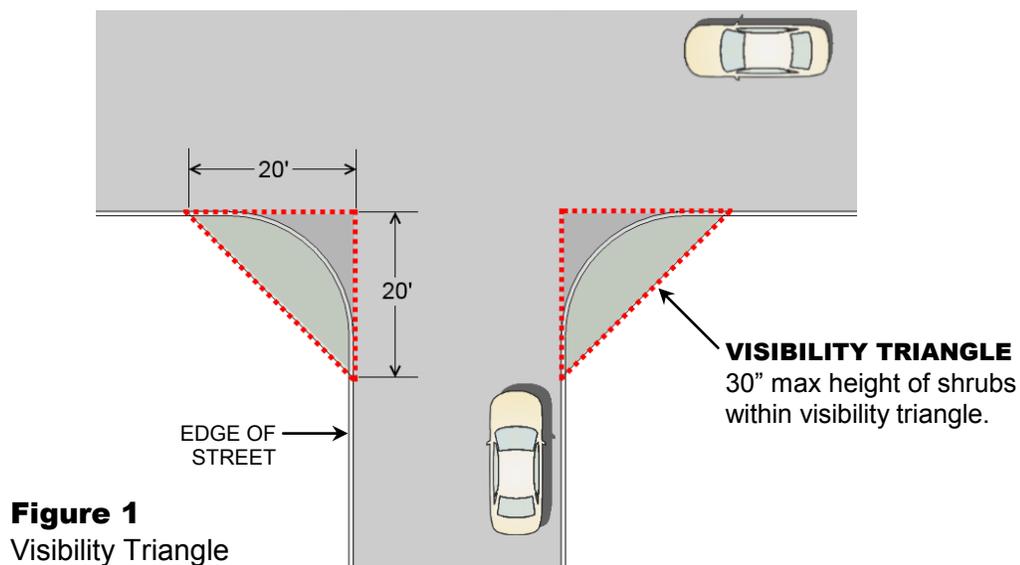
~~The visual screening of structures and certain facilities is an important factor in maintaining the character of the community.~~ The intent of landscaping as screening is to provide a visual barrier to certain elements of a site plan which may be considered unattractive or monotonous including the following:

- A. Building Walls: Plantings of deciduous and evergreen species shall be ~~used~~ planted to interrupt the view of large expanses of building walls which do not contain a primary architectural element. A natural plating arrangement should be used whenever possible.
- B. ~~Above-Ground Appurtenances/Ground-Installed Equipment~~ Ground-Mounted Equipment: ~~Trees or shrubs will be planted to fully and continuously obscure all above-ground appurtenances throughout the entire year and in conformance with Title 7-6-5 of the~~

~~Lincolnshire Municipal Code as it pertains to public utilities. Height of this type of screening shall be a minimum of six inches (6") above the highest point of the equipment to be screened at the time of planting. In no instance shall such screening be required when it conflicts with the provisions of Section 13-2-5 of this Code.~~ Screening of ground-mounted equipment and utilities shall be screened in accordance with Section 6-15-3(B) of Title 6 of this Code.

C. Parking Lots:

1. Landscaping installed within the visibility triangle (see Figure 1) shall maintain proper sight lines and not obstruct light fixtures. Shrubs shall not exceed a maximum mature height of thirty inches (30") above existing grade.



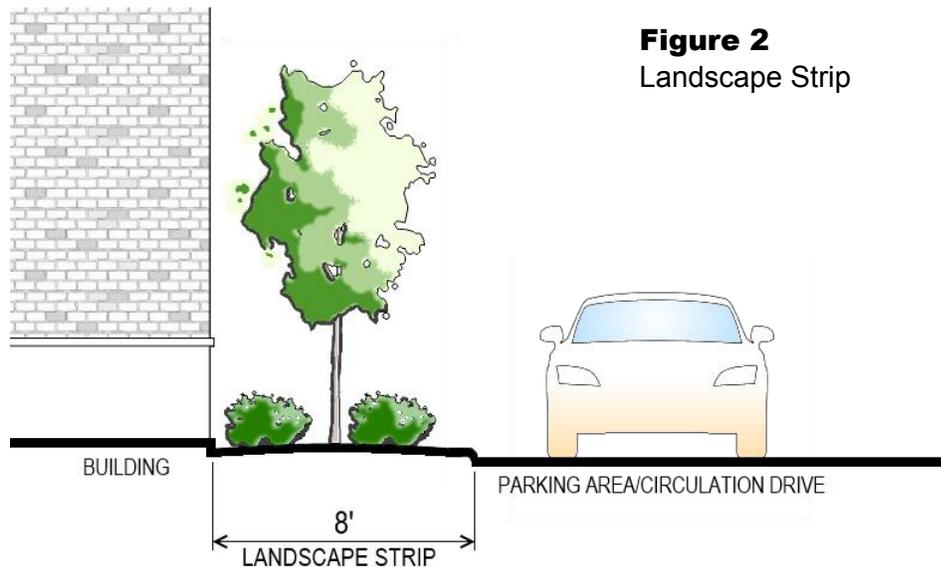
- ~~1.2.~~ Accommodations shall be made for the storage of snow from all parking and loading facilities. Snow storage within landscaped areas should be avoided to prevent damage to plant material.
- ~~2.3.~~ Hardy, salt tolerant plantings within parking lot facilities and parking lot islands should be used, see Salt Tolerant Landscape Plants in Appendix 1.
- ~~3.4.~~ Residential Zoning Districts: Parking lots containing more than three (3) parking spaces shall be screened for each side visible from the public way by densely planted shrubs or small trees not less than four feet (4') in height ~~will be densely planted in groups of ten (10) plants minimum~~ covering at least ~~fifty percent (50%)~~ 75% of the linear length of the parking lot. ~~The spacing of groups should allow for plowing and snow storage. All landscape islands shall be planted with a minimum of one (1) two and a half inch (2.5") DBH deciduous tree.~~ Plantings shall incorporate diverse mixture of plant types, including evergreen species. No plantings shall be permitted in any street intersection which obstructs the visibility triangle.

5. Non-Residential Zoning Districts:

a. A minimum of 50% of linear length of parking facilities visible from the public way shall be screened by a diversity of shrubs and trees as follows:

Type	Min. Number of Species	Size at Planting
Shrubs	1 deciduous + 1 evergreen	3 ft. in height
Trees	2	2.5" DBH

b. A minimum eight (8) foot landscape planting area shall be required between all building façades and any parking area or circulation drive (See Figure 2), which shall include a mixture of trees, shrubs and grasses (native and non-native) at a minimum of three (3) species. The screening requirement identified in 13-2-4(A) above shall be applied towards the minimum planting species requirement.



6. Parking Lot Islands (all Districts):

a. A minimum of one (1) deciduous shade tree at two and a half (2.5) inch DBH shall be planted in every parking lot island. This requirement shall not apply if bio-retention areas are used in parking lot islands for the implementation of stormwater best management practice (BMP) techniques, which shall require native and non-native species suitable for use in bio-retention areas.

b. Under story shrubs, perennials, and other plant materials, including native species, shall be planted to supplement the tree plantings.

D. Non-Residential Fencing: Fences taller than four (4) feet in height shall be screened with landscaping plant material to reduce the visual appearance from the public way with densely

planted shrubs or small trees not less than four (4) feet in height and shall incorporate diverse mixture of plant types, including evergreen species.

~~1. Special Fencing: In accordance with Section 6-15-4, a landscape plan must be submitted for review and approval with all applications for a fence or screen except for yard fences which are four feet (4') or less in height. The landscape plan shall indicate:-~~

~~a. The location, size, and type of any existing and proposed plant material that will obscure said fence or screen from neighbor's view, adjacent properties and public way(s) and,~~

~~b. That the plant material will provide visual relief throughout the year.~~

13-2-5: Single-Family Residential Requirements

~~D. Landscape Improvements to Private Property~~

~~A Village Site Work Permit must be obtained prior to the start of any landscape improvements which may involve excavation, trenching, or placement of additional soil and/or hardscape materials within the rooting zone of trees, or which may affect drainage patterns on adjacent properties.—~~

A. Required Landscaping: Single-family residential lots constructed after the adoption of this Title shall include the following plantings prior to the issuance of a Certificate of Occupancy. Single-family residential lots constructed prior to the adoption of this Title including structural additions and tear-downs shall be exempt from this requirement:

Yard	Minimum Number of Trees*	Size at Planting
Front Side Corner Side	2 (1 tree shall be located in Front Yard)	2.5" DBH non-evergreen tree or 8' evergreen tree
Rear	2	2.5" DBH non-evergreen tree and 8' evergreen tree

* Existing vegetation located within dedicated Conservancy Easements/Areas shall not be used to achieve compliance with the above requirements.

B. Permit: A Village permit must be obtained prior to the start of any landscape improvements which involve excavation, trenching, or placement of additional soil and/or hardscape materials within the rooting zone of trees, or which affect drainage patterns on the premises or adjacent properties.

C. Single-Family Residential Subdivisions

1. Tree Inventory Survey: All trees measuring six (6) inch DBH or greater existing on a property prior to construction shall be identified. The Tree Inventory Survey shall include the following information:

a. Existing property line boundaries of each parcel to be included in the subdivision

- and the boundary lines of the proposed subdivision.
- b. All trees measuring six (6) inch DBH or greater to be removed shall be identified with an "X" or similar notation.
 - c. Tree inventory data chart containing the inventory/identification number of each existing tree measuring six (6) inch DBH or greater, common and scientific name, DBH (in inches), condition, and save/removal status of each inventoried tree.
 - d. Proposed subdivision improvements, including but not limited to, roadways, walks, building footprints, parking facilities, and driveways shall be illustrated.
 - e. Location of all proposed utility lines.
2. Landscape Plan: A landscape plan for the subdivision improvements must be submitted which contains the following information:
- a. Parkway Trees: One (1) two and a half inch (2 ½") deciduous shade tree or ornamental tree must be planted for every 40 lineal feet of the street. Trees shall provide a minimum of twenty-five (25) feet separation. All remaining open areas of the right-of-way shall be seeded or sodded in accordance with the Village of Lincolnshire Open Space Landscaping Standards, pursuant to Section 7-5-7 of Title 7 of this Code (Appendix 3).
 - b. Ground-Mounted Equipment Screening: All ground-mounted mechanical equipment shall be screened in accordance with Section 6-15-3(B) of Title 6 of this Code.
 - c. Stormwater Facilities Landscaping: Landscaping for stormwater facilities, if required, shall be provided in accordance with Section 13-2-8 herein.
 - d. Cul-de-Sac Landscaping: Planting of trees and shrubs are permissible in cul-de-sacs, provided traffic sight lines are not obstructed. Prior to installation, a landscape plan shall be submitted and approved by the Department of Public Works and include identification and quantity of plant material, the location of the curb or edge of pavement, and any easements within the cul-de-sac.
 - e. Location of all proposed utility facilities.
3. To ensure compliance with this Section, the Landscape Improvement Deposit in accordance with Section 7-1-6 of this Code shall be held for maintaining the landscape improvements for a period of three (3) years after acceptance. At the conclusion of the three (3) year maintenance period, any items not conducted in accordance with this Section, the Village shall draw from the Deposit to employ the services of a qualified consultant to ensure compliance, and for the time and labor required to achieve compliance.

~~13-2-2: LANDSCAPE IMPROVEMENT DEPOSIT~~

~~A. Amount of Deposit: The landscape improvement deposit in an amount equal to one hundred twenty five percent (125%) of the estimated cost of the landscape improvements required under this Code or by the Village Board shall be placed in escrow in accordance with the terms of the escrow agreement (See Appendix I). For new buildings and structures, the landscape improvement deposit must be posted for all unfinished work prior to the issuance of a Certificate of Occupancy.~~

~~B. Purpose of Deposit:~~

- ~~1. To pay the actual costs of construction of the landscape improvements, should the owner/developer fail to complete the required work in a timely fashion.~~
- ~~2. To pay the inspection fees of the Village relating to the landscape improvements.~~
- ~~3. To pay the cost of maintaining the landscape improvements for a period of three (3) years after final acceptance by the village.~~
- ~~4. To pay and discharge all claims made by any third party arising out of the installation and construction of the landscape improvements. All such claims must be paid prior to the Village's acceptance of the landscape improvements; provided, however, that if the owner/developer has insurance coverage in sufficient amounts to pay such claims and the owner/developer files with the Village the insurance company's letter indicating that they acknowledge coverage and accept defense of the claim and that the limits of the policy are satisfactory to pay the claim if judgment is entered in favor of said third party, the Village Board may, in its discretion, accept the landscape improvements and reduce the amount of the landscape improvement deposit for the required three (3) year maintenance period.~~
- ~~5. Any other customary expenses of the owner/developer in meeting any requirements of the Village ordinances pertaining to the landscape improvements, including but not limited to, reasonable fees incurred by the Village in drafting, administering and enforcing the landscape improvement deposit agreement.~~

~~C. Alternative Action; Distribution of Funds: An owner/developer may elect to deposit an amount equal to one hundred twenty five percent (125%) of the estimated cost of landscape improvements directly with the Village. The Village, upon the certification of the Village Manager or his designate that the improvements have been completed or partially completed, will pay to the contractor, the amount due under the contract. The Village will also make the distribution of funds from the deposit for the fees and cost of:~~

- ~~1. Inspection fees of the Village relating to the landscape improvements.~~
- ~~2. Maintaining the landscape improvements for a period of three (3) years after acceptance.~~
- ~~3. To pay and discharge all claims made by any third party arising out of the installation and construction of the landscape improvements. All such claims must be paid prior to the Village Board's acceptance of the public improvements or issuance of a certificate of occupancy; provided, however, if the~~

~~owner/developer has insurance coverage in sufficient amounts to pay such claims and the owner/developer files with the Village the insurance company's letter indicating that they acknowledge coverage and accept defense of the claim and that the limits of the policy are satisfactory to pay the claim if judgment is entered in favor of said third party, the Village Board may, in its discretion, accept the landscape improvements and reduce the amount of the landscape improvement deposit for the required three (3) year maintenance period.~~

- ~~4. Any other costs or expenses in meeting the requirements of the Village, including but not limited to, reasonable attorneys' fees incurred by the Village in drafting, administering and enforcing the landscape improvement deposit agreement.~~

~~D. Refunding Deposit: After completion and acceptance of the landscape improvements, the Village will authorize the refund of any residue remaining except for twenty percent (20%) of the original deposit or the amount stipulated in the escrow agreement. The retained amount shall be used for maintenance of the landscape improvements for a period of two (2) years after the date of acceptance and then any balance remaining will be refunded.~~

~~E. Form of Deposit: The landscape improvement deposit shall be posted by such owner or subdivider with the Village Clerk prior to approval of the final plat. Such deposit shall be in the form of an irrevocable letter of credit in favor of the Village and shall be in a penal sum in an amount equal to one hundred twenty five percent (125%) of the estimated cost of the subdivision improvements required under this Code or, in lieu of a letter of credit, a deposit of cash must be acceptable to the Mayor and Board of Trustees, including a completion bond or its equivalent. The irrevocable letter of credit must be from a sound and reputable banking or financial institution (selected by the owner or subdivider and approved in writing by the Village) authorized to issue such irrevocable letter of credit which shall be substantially in the form contained in Appendix II of Chapter 6 of Title 7 of this Code. The landscape improvement deposit shall be established for a period of not less than three (3) years and may be reduced from time to time by the Village as the landscape improvements are accepted by the Village. Any such deposit in lieu of a letter of credit or cash, or other security or guarantee must be acceptable to the Mayor and Board of Trustees in their sole discretion. In the event such deposit in lieu of a letter of credit or cash is accepted, the owner or subdivider shall reimburse the Village, prior to and as a condition of the Village Clerk's execution of the subdivision plat, for all of Village's expenses, legal and otherwise, directly or indirectly resulting from such deposit in lieu of a letter of credit, including but not limited to, any agreements relating thereto. Such cost for the completion of the required subdivision improvements shall be in accordance with cost estimates prepared by the Village and approved by the Mayor and Board of Trustees. If a completion bond or other security or other guarantee is posted, there shall be good and sufficient surety thereon, as approved by the Mayor and Board of Trustees and be in such form as approved by the Village Attorney and conditioned upon the installation and acceptance of said improvements. (amd. Ord. 95-1381-11, eff. 3/13/95)~~

13-2-6: All Other Property Requirements:

~~13-2-3: LANDSCAPE REQUIREMENTS FOR BUSINESS/COMMERCIAL DEVELOPMENTS:~~

[For all property other than single-family residential, the following shall apply:](#)

~~The manner in which business/commercial buildings are landscaped reflects strongly on a community's image and commitment to a high quality of life. The intent of the Village's landscaping requirements for business/commercial developments is to achieve and maintain sustainable, functional landscapes, which emphasize the use of plants native to this area to provide year-round color and interest.~~

A. Plant Material and Density: ~~The proper selection and placement of plant material is important for function as well as aesthetics. One key to aesthetic landscaping is providing variation in plant species and size. On most sites, five to seven (5-7) species each of shade trees, ornamental trees, and shrubs should be provided as a minimum requirement. Each plan must~~ Each landscape plan shall include a mixture of evergreen and deciduous trees, as well as, native shrubs (native and non-native), grasses, and perennials plantings at a minimum of two to three (2-3) species each. If screening requirements of a specific site dictate, then the quantity of evergreen trees may be higher. The proper selection and placement of plant material is important for function as well as aesthetics, including variation in plant species and size.

1. ~~Evergreen and ornamental trees may be used as individual specimens or in groups of three (3) minimum at a spacing~~ Spacing of tree species shall not to exceed fourteen feet (14') on center (O.C.).

2. Shrubs with a mature height under three feet (3') will be planted four feet (4') O.C. Shrubs with a mature height over three feet (3') will be planted six feet (6') O.C.

3. ~~When applicable, trees and shrubs~~ All plantings areas are to be mulched with organic hardwood mulch or equivalent. ~~and perennial planting beds are to be mulched with organic leaf mulch.~~ Colored mulches and stone are not acceptable.

4. ~~All a~~ Areas not designated as parking lots, building pads, water features, or landscape beds, which abut a ~~Village road~~ public right-of-way, must be sodded or established as native prairie ~~areas,~~ from the building to the road, exclusive of parking lots, building pads, water features, or landscape beds.

5. ~~For those areas proposed as native prairie, a detailed "Natural Areas Establishment and Maintenance Plan" must be submitted for review in addition to the landscape plan.~~

6.5. ~~A~~ The minimum of ~~32~~ per acre of remaining green space (~~lot size minus building foot print and hard surfaces~~ parcel of land excluding parking lots, building pads, water features and other hard surfaces) ~~must~~ shall be planted ~~according in accordance with~~ to the following ~~distribution table.~~ The distribution of tree species may be altered to achieve the desired landscaping effect based on site conditions and surrounding land uses, provided that the total number of trees shall not be reduced.

Type	Size (at planting)	Trees/Acre
Deciduous Shade Trees	2 1/2" – 4" (DBH)	6
	4 1/2" + (DBH)	6

Ornamental Trees	6' - 8' (height)	4
	8 ½' + (height)	4
Evergreen Trees	8' (height)	5
	10' + (height)	5

~~7.6. In the event that landscape material is placed~~All landscape plantings installed within any utility easement(s) shall be ~~it is~~ the responsibility of the property owner of such parcel to maintain and replace, ~~where needed,~~ any ~~materials~~ plantings damaged or destroyed as a result of ~~work in the utility easement~~ any activity associated with such easement(s).

B. Landscape Plan Requirements:

1. ~~Tree Inventory Survey: If there are existing trees on the site, a Tree Preservation Plan must be submitted in conjunction with the Landscape Plan as outlined in Section 13-1-4.~~ All trees measuring six (6) inch DBH or greater existing on a property prior to construction shall be identified. The Tree Inventory Survey shall include the following information:
 - a. Existing property line boundaries of each parcel to be included in the subdivision and the boundary lines of the proposed subdivision.
 - b. All trees measuring six (6) inch DBH or greater to be removed shall be identified with an "X" or similar notation.
 - c. Tree inventory data chart containing the inventory/identification number of each existing tree measuring six (6) inch DBH or greater, common and scientific name, DBH (in inches), condition, and save/removal status of each inventoried tree.
 - d. Proposed site improvements, including but not limited to, roadways, walks, building footprints, parking facilities, and driveways shall be illustrated.
 - e. Location of all proposed utility lines.
2. ~~All~~ Landscape plans submitted to the Village for review must be prepared and sealed by a licensed landscape architect in the State of Illinois. ~~The Village~~ This requirement may be waived ~~this requirement for projects of a relatively small scope when the applicant has upon the demonstrated~~ on the designer/landscaper has expertise skill equaling that of a licensed professional.
3. ~~To coordinate plan review, the landscape plan should be drawn at the same scale as the site engineering plans.~~
4. ~~3. A site data chart, which contains the following information, must be shown included on every~~ Landscape pPlan submitted for review and contain the following information:

- a. Total area (square feet) of ~~overall entire~~ site
- b. Total area (square feet) of impervious surfaces by category (drives, walks, buildings, water features) ~~including the percentage of impervious surfaces for the overall site~~
- c. Total area (square feet) ~~and percentage~~ of open (pervious) space for the overall site, ~~with a listing of categories included in open space figure.~~
- ~~c.d.~~ A species data landscape planting chart ~~which contains~~ ing the following information, ~~must be on every landscape plan submitted for review:~~
 - i. Common and Scientific name of each plant material.
 - ii. Size of ~~all proposed~~ each plant material at time of planting.
 - iii. Quantity of ~~all proposed~~ each plant material.
 - iv. Period of flowering for all applicable annuals, perennials and ornamental trees.

5.4. An installation specification must be provided for review showing the means and methods for installation for woody plants, herbaceous plants, and seeding

5. Stormwater Facilities Landscaping: Landscaping for stormwater detention facilities, if required, shall be provided in accordance with Section 13-2-6(A) herein.

~~C. Sign Landscaping: An effective monument sign not only draws the public's attention to the business located at that site, but also adds to the aesthetic appeal of the site. Because monument signs attract a significant amount of attention, the use of strong landscape design principles in the immediate vicinity of a sign serves to project distinctive character of the community. To this end, a sign landscaping plan shall incorporate a variety of plant materials which provide visual interest throughout the year.~~

~~A sign landscaping plan, which includes the following requirements, must be submitted as part of a sign permit application for identification signs:~~

~~1. For every one (1) square foot of gross sign area, there shall be provided a minimum of two (2) square foot of landscape area.—~~

~~2. The sign landscape plan must be drawn to scale, and shall show the dimensions of the proposed landscape area.—~~

~~—3. The sign landscape plan will utilize a variety of plant types including, but not limited to: deciduous and evergreen shrubs, annual and perennial forbs, and ground covers, to achieve both height variation and color interest throughout the four seasons.— The sign landscape plan shall provide a species list which includes the common and scientific name, size, quantity, and period of flowering (annuals and perennials), for all proposed plant material.~~

~~4. To provide diversity, at least three (3) different types of plant material must be installed.—~~

~~5. In addition to the plantings described above, the sign landscape plan shall also include soil protection such as, but not limited to, ground cover plants or organic hardwood mulch. However, no more than 25% of the total landscape bed may be void of plants at any one time.~~

~~6. It shall be the duty of the owner of such parcel to maintain all such landscaped areas in a neat and proper manner.~~

~~13-2-4: LANDSCAPE REQUIREMENTS FOR SUBDIVISIONS~~

~~A. Landscape Plan~~

~~A landscape plan for the subdivision improvements must be submitted which contains the following information:~~

- ~~a. Tree Preservation Plan: If there are existing trees on the site, a tree preservation plan must be submitted as outlined in Section 13-1-4.~~
- ~~b. Parkway Trees: One (1) two and a half inch (2 1/2") tree must be planted in the Village right-of-way for every 40 lineal feet of curb. Trees do not have to be uniformly spaced, but no tree will be planted closer than 25' from another parkway tree. Landscaping in the public right-of-way must be consistent with the provisions of Section 13-2-5. Species selection must be taken from the Village of Lincolnshire Parkway Tree Species List, (Appendix IV). Trees must be installed prior to final acceptance of the public improvements by the Mayor and Board of Trustees.~~
- ~~c. Above-ground Appurtenances: Must be screened as outlined in Section 13-2-1-D.~~
- ~~d. Seeding/Sodding of right-of-way: The right-of-way must be landscaped in accordance with the Village of Lincolnshire Open Space Landscaping Standards, prior to acceptance of the public improvements.~~
- ~~e. Maintenance of right-of-way adjacent to unoccupied properties: The maintenance of the trees, shrubs, and lawn planted in the right-of-way is the responsibility of the property owner. Trees must be maintained as outlined in Section 13-2-1-A of this Code. Areas shown to be seeded or sodded on the approved landscape plan must be maintained as lawn. Grass must be regularly mowed and maintained at a maximum height of four inches (4").~~

13-2-7: Public Right-of-Ways Requirements

~~13-2-5: LANDSCAPE REQUIREMENTS IN PUBLIC RIGHT-OF-WAYS:~~

Landscape material planted in the ~~public~~ right-of-way dedicated to the Village of Lincolnshire ~~shall~~**must** conform to the following standards:

- ~~A. Shrubs must **have provide** a mature height of thirty inches (30") above ~~the ground or less~~existing grade. Shrubs that require maintenance to keep them at or below thirty inches (30") are not acceptable.~~
- ~~B. Trees must ~~be single-stemmed and have~~provide a mature height of twenty feet (20') ~~or~~~~

~~more. Trees must be~~ and located ~~and have a shape~~ so that, ~~at their mature size,~~ any branches over the street are ~~at least~~ at least a minimum fourteen feet (14') above the ground. Tree species ~~selection used~~ must be taken from ~~the Village of Lincolnshire Parkway Tree Species List~~ following list.

Scientific Name	Common Name
Acer Nigrum	Black maple
Acer rubrum	Red maple (non freemanii species)
Acer saccharum	Sugar maple
Acer triflorum	Three-flowered maple
Carpinus caroliniana	American hornbeam, Ironwood, Musclewood
Carya cordiformis	Bitternut hickory
Carya ovata	Shagbark hickory
Celtis occidentalis	Hackberry
Cladrastis lutea	Yellowwood
Corylus colurna	Turkish filbert
Ginkgo biloba	Ginkgo (male only)
Gleditsia triacanthos var. Inermis	Thornless honeylocust
Gymnocladus dioecus	Kentucky coffeetree
Liquidambar styraciflua	Sweetgum
Liriodendron tulipifera	Tulip tree
Nyssa sylvatica	Black tupelo
Ostrya virginiana	American Hophornbeam
Platanus x acerifolia	London planetree
Platanus occidentalis	Sycamore
Quercus alba	White oak
Quercus imbricaria	Shingle oak
Quercus macrocarpa	Bur oak
Quercus robur	English oak
Quercus rubra	Red oak
Tilia Americana	Linden
Tilia cordata	Littleleaf linden

- C. No trees ~~may shall~~ be planted ~~so that at their mature size, they are~~ under or within ten lateral feet (10') of any overhead utility ~~wireline at mature size~~. ~~No t~~ Trees ~~or and~~ shrubs ~~may be~~ planted over or within five lateral feet (5') of any underground water ~~line~~, sewer, or main transmission utility line, transmission line, or other utility should be avoided (see Figure 3). Prior to installation, a landscape plan shall be submitted and approved by the Department of Public Works, which shall include identification of the location and quantity of plant material and the location of all underground utilities.

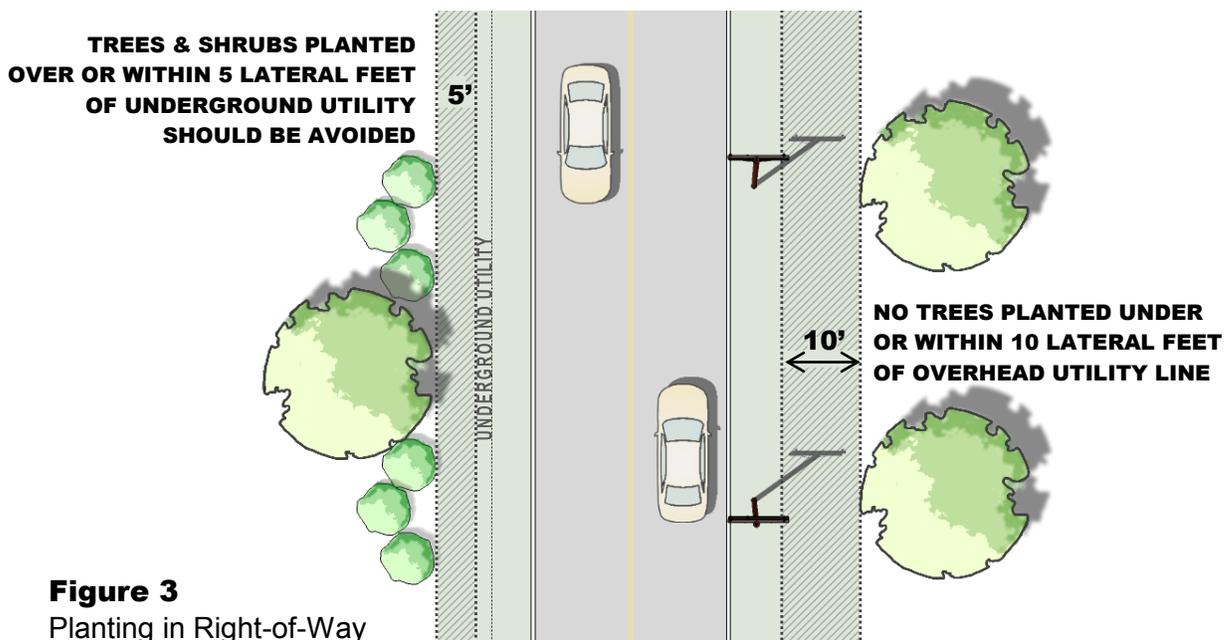


Figure 3
Planting in Right-of-Way

- D. ~~At time of planting, All trees and shrubs planted in the right-of-way must~~ shall be located ~~at the time of planting at least a minimum of~~ five feet (5') ~~behind from~~ the back of curb or edge of pavement to the center line of the tree/shrub.
- ~~E. All shrubs planted in the right-of-way must be located at the time of planting at least three feet (3') behind the back of curb or edge of pavement.~~
- ~~F. E. Planting of ornamental trees and shrubs may be allowed~~ are permissible in cul-de-sacs, ~~if primary provided~~ traffic sight lines are not ~~impeded~~ obstructed. ~~Each cul-de-sac bulb will be evaluated on an individual basis. To enhance cul-de-sac bulb landscaping, a plan must be submitted to and approved by the Village prior to implementation. In addition to the plant material, the plan must show~~ Prior to installation, a landscape plan shall be submitted and approved by the Department of Public Works and include identification and quantity of plant materials, the location of the curb or edge of pavement, and any above or below ground easements, and utilities in within the cul-de-sac.
- ~~G. F. The maintenance of the trees, shrubs, and lawn planted in the right-of-way~~ contiguous with the adjacent property is the responsibility of the property owner.
- ~~G. To ensure compliance with this Section, the Landscape Improvement Deposit in accordance with Section 7-1-6 of this Code shall be held for maintaining the landscape improvements for a period of three (3) years after acceptance. At the conclusion of the three (3) year maintenance period, any items not conducted in accordance with this Section, the Village shall draw from the Deposit to employ the services of a qualified consultant to ensure compliance, and for the time and labor required to achieve compliance.~~

13-2-6: LANDSCAPE REQUIREMENTS FOR STORMWATER DETENTION FACILITIES:
~~Development proposals in the Village of Lincolnshire should demonstrate that the highest level-~~

~~of runoff reduction, as referenced in the Lake County Watershed Development Ordinance, has been achieved. When site conditions allow, best management practices, as described in the Stormwater Management Commission's Technical Reference Manual shall be utilized.~~

~~Since stormwater detention basins and other naturalized drainage facilities often occupy a significant amount of a given site's open space, and can be located in high-profile areas of a site, it is important that they are visually appealing.~~ The purpose of this section is to ensure that stormwater detention facilities within the Village are designed, constructed, and maintained in a manner which provides functionality as well as visual appeal. Any development which requires stormwater facilities, as determined by the Lake County Stormwater Management Commission (SMC), shall be subject to the following requirements:

~~All developments which necessitate naturalized detention facilities are required to submit plans specific to their design, construction/ establishment, and maintenance. The plans shall be approved based on compliance with the following criteria:~~

A. DESIGN PLAN General Requirements:

1. ~~Basin Shape: Detention basins~~ Stormwater facilities shall be designed to ~~be reflect a~~ non-uniform, organic in-shape. ~~Expanses of linear shoreline should be reduced in favor of a gradually undulating perimeter, which is more natural in appearance, rather than engineered.~~
2. ~~Side-Shoreline Slopes: The side slopes at shoreline banks of stormwater basins-facilities (from approximately 1 foot above to 1 foot below normal waterline)~~ shall be no steeper than 5:1 (from approximately 1 foot above to 1 foot below normal waterline), ~~as~~ to prevent erosion and facilitate native plant establishment. Basins and other natural drainage facilities shall be required to have native dry-mesic and wet-mesic plants planted along the entire expanse of a detention pond's side slope.
3. ~~Basin Safety Shelf: For wet-bottom detention basins, A~~ flat (or significantly flat) safety shelf must be constructed approximately eighteen (18) inches below normal water level, around the full perimeter of the ~~pond~~ basin. The safety shelf shall be a minimum of five (5) feet in width, and shall be planted with native emergent plant plugs.
4. Bank Erosion Protection: The shoreline of ~~the basin or naturalized drainage~~ stormwater ~~facility~~ ies shall be protected from erosion through establishment of deep-rooted, prairie and wetland perennial plants ~~that are~~ native to the Great Lakes region. ~~The basin's design shall incorporate a n~~ Native prairie and wetland plants ~~that shall~~ cover the complete ~~slope~~ shorelines, extending around the full perimeter of the ~~pond~~ stormwater facility. The native plant slope for basins shall have a minimum width from waterline of fifteen (15) feet.
5. Seed Mixes and Planting Lists: The ~~design-landscape~~ plan shall ~~show-identify~~ each complete species ~~lists proposed, which shall~~ consist ~~ing solely~~ entirely of native plants, for all seed mixes and plant plugs to be used. Separate seed mixes shall be provided for planting on the upper (dry-mesic) and lower (wet-mesic) portions of the shoreline slope. The plant plug list shall be divided into three categories: dry-mesic, wet-mesic, and emergent plants. Each category shall contain a minimum of ten (10)

species of native plants suited to the given environment.

6. Guarantees: All seeded and planted areas shall be guaranteed through the Maintenance Period and all performance criteria have been satisfied.

B. ~~CONSTRUCTION/ESTABLISHMENT PLAN~~ Plan Requirements

1. Installation Plan: The ~~construction/establishment~~installation plan shall provide detailed information regarding the specific locations and timing of native landscaping installation. ~~All native landscaping shall be installed in the first possible growing season after the grading of the pond is substantially completed and the pond is operational. The purchase, installation and establishment of all native seed and plants is the sole responsibility of the developer. The plan shall note that installation and establishment of all native prairie and wetland plants will be performed by a natural environment professional firm who meets the Village's "Qualifications for Installing, Monitoring, and Maintaining Native Landscapes." See Appendix V Village of Lincolnshire Native Plant Planting and Maintenance Specification.~~

a. Installation: The installation of all native prairie and wetland plants shall be performed by a qualified natural environmental professional consultant. A site plan shall illustrate the following elements of the native landscaping installation:

- i. Specific planting zones.
- ii. Plant and seed lists for each planting zone including quantities, seeding rates per species, and spacing of plants.
- iii. Location and specification of erosion control measures.

b. Site Access: Access to the site for installation of native plantings shall be identified on the Plan, which shall include necessary access for installation equipment. Additional or alternate access areas not identified must be approved by the Village prior to the start of installation.

c. Installation Schedule: The schedule shall outline the proposed start and ending for site access preparation, planting area preparation and stabilization, and planting and seeding for each planting zone. Installation shall occur in the first available growing season after the grading of the pond is substantially completed and the pond is operational. Installation shall take place between May 1 and June 15 or after October 1 until the ground is frozen. Seeding shall not be performed from June 16 through September 30, unless authorized by the Village.

d. Erosion Control: Clean, seed-free hay or threshed straw of wheat, oats or barley shall be used for slopes less than 6:1. Straw mat or other appropriate erosion control blanket shall be used on all areas seeded or plugged for slopes steeper than 6:1. Synthetic net blankets shall not be used. The mat shall be affixed to the ground surface by mechanical crimping or other method approved by the Village.

a.e. Establishment: The ~~construction/establishment~~installation plan shall provide specific information regarding activities ~~which will~~to be performed to ensure

establishment of the native prairie and wetland plants, including but not limited to, ~~Important establishment activities that must be addressed in the plan include:~~ cover crops/erosion blankets, watering schedule, herbicide schedule, controlled burn/mowing frequency, and seed/plant depredation (wildlife grazing) control.

~~b.f.~~ Criteria for Successful Installation and Establishment: Prior to the Village's acceptance of any stormwater detention facility, Establishment of native prairie and wetland landscapes will not receive Village approval until a status report, shall be prepared by a qualified natural environment professional, consultation firm, demonstrating that the Village's the criteria for establishment of native plant landscaping" have been met as outlined in Village of Lincolnshire Native Plant Planting and Maintenance Specification, Appendix V conforms with requirements of this Section 6-2-8 herein.

g. Installation Conditions: All grades, soils, and water levels shall be examined and observed conditions shall comply with the specifications of the Installation Plan prior to the start of any work. If unsatisfactory conditions exist, the Village shall be notified and a written report of corrective action of unsatisfactory conditions shall be submitted to the Village. Work shall not proceed until authorization is provided by the Village.

2. Maintenance and Monitoring Plan: ~~An acceptable~~ Maintenance and Monitoring Plan shall be prepared by a qualified natural environment professional ~~consulting firm, and shall address~~ to provide the timing and/or frequency of all activities necessary to maintain native plant landscapes ~~at the Village required level of establishment. Typical e~~ Elements of a m Maintenance m Monitoring p Plan include but not limited to, ÷ controlled burn/mowing, spot herbicide applications/invasive species control, and monthly monitoring reports during the growing season. ~~Additional information may be found in the Village of Lincolnshire Native Plant Planting and Maintenance Specification, Appendix V.~~

a. Responsibility: The Maintenance and Monitoring of native plant landscapes ~~is shall be~~ the sole responsibility of the property owner. Its successor and assigns.

b. ~~Status Report~~ Monitoring Period: Native Landscape Reports Vegetation monitoring shall be ~~filled with the Village conducted monthly during the first three (3) growing periods~~ for the months of April, May, June, July, August, September, October and November using the meander and search method. ~~The reports shall include copies of all invoices for work done to the native landscape, all monitoring reports, and a detailed account of the landscapes performance relative to the Village's criteria for establishment of native plant landscapes. See Appendix VI, Native Landscape Report Form.~~

~~In instances where the Native Landscape Report findings indicate that performance of the native plant landscape has fallen below the Village's criteria for establishment of native plant landscapes, a remedial action plan shall be required. The remedial action plan shall outline restoration activities that will take place to achieve compliance. Native plant landscapes that require remedial action will be considered to be non-compliant with Village approvals until the necessary corrective actions are completed.~~

c. Status Report: Monitoring Status Reports shall be submitted within two (2) weeks following the monthly monitoring session for each month of the Monitoring Period. The Status Reports shall include the following:

- i. Percent of vegetation cover throughout the site.
- ii. Inventory and estimated percent cover of the predominant species present.
- iii. Inventory and estimated percent cover of the non-native invasive species present.
- iv. Detailed description(s) of work undertaken during the previous month and recommended management measures for subsequent months.
- v. Any other site conditions observed, including but not limited to, drainage problems, erosion, wildlife damage, extreme water level fluctuations, damage to the site by equipment, etc. and any remediation required.

C. Native Plant Specifications

1. Native Plants:

- a. Plants, freshly dug tubers and plants shall be provided. Materials which have been in cold storage shall not be used.
- b. All live herbaceous plants shall be potted, two year old nursery grown stock.
- c. All preparations shall be made for the planting of tubers prior to their arrival. Tubers shall be planted immediately once received. If planting is delayed more than four (4) hours after delivery, plants shall be set in shade, protected from weather and mechanical damage, and kept moist.
- d. Container grown stock shall not be removed from containers until time of planting.
- e. Plants shall be free from insects and diseases and must show appearance of normal health and vigor.
- f. Plants species shall be certified to be true to their name and originate within a 150-mile radius of the project location, with species and subspecies native to Lake County, Illinois.
- g. All plant material and collected stock shall comply with State and Federal laws for inspection of plant diseases and insect infestations.
- h. Plants shall be packed to ensure adequate protection against damage while in transit, including being protected with wet material to ensure plants are delivered, stored, and planted in a moist and cool condition.
- i. Planting should not be conducted when conditions are not appropriate.

- j. All emergent herbaceous perennial plants, tubers, bulbs and dormant rootstock shall be installed at a water depth of 0" to 6".
- k. Plants shall be planted to adequate depth to prevent against desiccation.
- l. Plants shall be planted at a minimum density of 3,000 plants per acre. Unless an alternative Installation Plan is submitted and approved by the Village, plants shall be planted in pods or groupings to provide sections of color.
- m. All plants shall be protected from geese and other predators on all sides by 24" high fencing with nylon lines crosshatched across the top of the planting zones. Said fencing shall be maintained at all times and removal may be permitted at least one full growing season after installation.
- n. In areas where herbicide has been applied at least 14 days prior to planting, no planting shall occur. All herbicides shall be applied by a licensed operator under the direction of a licensed applicator.
- o. Any plant or seed species substitutions must be approved the by the Village prior to their planting.

2. Seed Mixtures:

- a. All seed shall have the proper stratification and/or scarification to break seed dormancy other than for fall planting.
- b. Prior to planting, all legumes shall be inoculated with the proper rhizobia at the appropriate time.
- c. All seed shall be packed and covered in a manner to ensure adequate protection against damage and maintain dormancy while in transit, storage or during planting operations.
- d. All seed shall be certified to be true to their name and originate within a 150 mile radius of the project location.
- e. All seed grass species shall be supplied as pure live seed.
- f. All seeded areas shall be protected from geese and other predators on all sides by 24" high fencing with nylon lines crosshatched across the top of the planting zones. Said fencing shall be maintained at all times and removal may be permitted at least one full growing season after installation.
- g. Seeding in zones where water levels exist shall not occur. All seeded areas shall be protected from water by erosion control mulch or straw mat.
- h. Any seed species substitutions must be approved the by the Village prior to their planting.

- i. The use and species of a cover crop must be approved by the Village prior to their planting, and shall not be annual rye.

D. Installation: Installation of native plantings shall be subject to the following specifications:

1. Qualifications: A qualified superintendent capable of reading and understanding approved plans and specifications, and a thorough knowledge of installation, maintenance practices and management needs shall be on-site during installation.

2. Site Preparation: Prior to installation, the planting area shall include preparing and amending existing soils; furnishing, transporting and installing all seeds plant and other materials; and protecting said materials as required for the repair and restoration of the site.

3. Soil Preparation:

a. Top soil shall be fertile, friable, loam surface soil without admixture of subsoil and free of stones, stumps, roots, trash, debris and other materials which might inhibit successful plant growth. Soil aggregates shall not exceed one (1) inch maximum diameter.

b. Subsoil should not have a compaction greater than 350 pounds per square inch based on soil penetrometer measurements.

c. The pH range shall be 6.5 to 8.4. Topsoil not within this pH range shall be amended through the addition of pH adjusters.

d. Organic content shall not be less than 3% and no greater than 10% determined by loss through ignition.

e. Soil nutrient content shall be as follows, as determined by appropriate laboratory analysis:

<u>Phosphorus</u>	<u>Min. 75 lb./Ac</u>
<u>Potassium</u>	<u>Min. 300lb./Ac</u>
<u>Calcium</u>	<u>Min. 1,500 ppm</u>
<u>Magnesium</u>	<u>Min. 100 ppm</u>
<u>Cation Exchange Capacity</u>	<u>Min. 20 meq/100g</u>
<u>Soluble Salt</u>	<u>Max. 1,000 ppm</u>

f. Gradation shall meet the following specification:

<u>Sieve Designation</u>	<u>Percent Passing</u>
<u>1" screen</u>	<u>100</u>
<u>1/4" screen</u>	<u>97 - 100</u>
<u>No. 10 U.S.S.</u>	<u>95 - 100</u>
<u>No. 140 U.S.S.</u>	<u>60 - 90</u>
<u>No. 270 U.S.S.</u>	<u>25 - 50</u>

Clay content determined by Bouyoucous Hydrometer Test shall range between 5% and 20%. Percentages shall be based on dry weight of the sample.

- g. Topsoil shall be uniformly distributed to provide a minimum 8 inch depth after compaction and finishing grade. Top soil shall be spread cultivated, lightly compacted to prevent future settlement, dragged, and graded to finished grade.

4. Equipment:

- a. Equipment shall be suited for the installation of native plants and seeds. Equipment causing damage to soils or site (example: rutting, compaction, or prepared soils) shall not be used. Equipment shall be calibrated and adjusted to sow seeds at the proper seeding rate and operated in a manner to ensure complete coverage of the entire native zones.
- b. Seeding equipment shall be designed to accommodate a wide variety of seed types, sizes and shapes.
- c. If a rangeland type grass drill or no-till planter is used, rolling of the seed bed shall not be permitted.

E. Maintenance: The maintenance period shall begin immediately following planting and continue annually, subject to the following criteria:

1. All planted and seeded areas shall be maintained by prescribed burning (if permitted), high mow management, replanting or reseeding, and invasive control management as necessary to establish vegetation free of bare or eroded areas and areas that are infested with invasive plants.
- a. In the first two (2) growing seasons, the planted area shall be mowed every four to six (4 – 6) weeks throughout the growing season to a height not less than eight (8) inches. Mowing is to be conducted frequently enough to cut weeds before they form seed heads. If seed heads form on weeds they shall be removed from the site.
- b. Prescribed burning shall also be conducted at the conclusion of the third growing season. All licenses and permits required to conduct prescribed burning from state and local authorities shall be completed before initiating any burning. Prescribed burns shall continue annually.
2. Dead or declining plant material shall be reseeded and replaced as necessary to meet the performance standard in the year the damage is observed. All replacement plants must be of the same size as the plants thriving in the planted area.
3. Plant replacements shall be completed according to the installation instructions.
4. Native plant landscape areas shall be managed for invasive plant species as outlined on the Invasive Plant Management Schedule (Appendix 2).

5. When the Monitoring Status Report findings indicate performance of the native plant landscape has fallen below the criteria for establishment of native plant landscapes of this Section, remedial action to restore and replace dead or declining plant material shall occur. Native plant landscapes requiring remedial action shall be considered non-compliant with this Section until necessary corrective actions are completed.

F. Performance Standards

1. At the end of the first growing season, seeded and planted areas shall meet or exceed 75% plant cover, seedlings of six planted grass/sedge species found and seedlings of six planted forb species found within any given one meter transect . No invasive species shall be present.

2. At the end of the second growing season, seeded and planted areas shall meet or exceed 80% plant cover, 5% cover by planted native grass/sedge species, 15% cover by planted forb species, and 20% of planted species found within any given one meter transect.

Sites less than two acres where planting or restoration has taken place, no invasive species shall be present.

Sites greater than two acres where planting or restoration work has taken place, invasive species shall comprise no more than 10% of the plant cover.

3. At the end of the third growing season, seeded and planted areas shall meet or exceed 95% plant cover, 20% cover by planted native grass/sedge species, 40% cover by planted forb species, and 60% of planted species found within any given one meter transect.

Sites less than two acres where planting or restoration has taken place, no invasive species shall be present.

Sites greater than two acres where planting or restoration work has taken place, invasive species shall comprise no more than 5% of the plant cover.

4. At the conclusion of the three year maintenance period, if the planted areas do not meet the performance specification, the Village shall draw on the letter of credit to achieve the performance specifications.

C. Enforcement

- In the event the ~~responsible parties~~ property owner, its successors or assigns, do not ~~take perform~~ the necessary actions to restore a non-compliant native plant landscape within two (2) weeks of ~~when the problem is identified~~ identification of non-conformity, ~~as long as provided~~ environmental conditions ~~allow permit~~ immediate action, ~~(See Appendix V, Village of Lincolnshire Native Plant Planting and Maintenance Specification)~~ a fine ~~shall be assessed~~ in accordance with ~~section 13-2-7 of this code~~ the Comprehensive Fine Schedule set forth in Chapter 17 of Title 1 of this Code shall be assessed. In

addition the native plant landscape will be restored to a state of compliance and/or a status assessment will be conducted by a Village consultant at the expense of the responsible party. ~~(Ord. No. 03-1840-17, eff. 4/14/03)~~

2. To ensure compliance with ~~the required status reports~~this Section, a the Landscape Improvement dDeposit ~~equal to 10% of the total cost of the landscape materials and installation in accordance with Section 7-1-6 of this Code~~ shall be held ~~until the for maintaining the~~ landscape ~~has met or exceeded all landscape performance criteria and all status reports are received. If the natural environmental professional consulting firm does not submit the required status reports in the time frame requested, the Village shall conduct the site inspection and complete the status report and draw from the deposit for the time and labor required to complete each report.~~ improvements for a period of three (3) years after acceptance. At the conclusion of the three (3) year maintenance period, any items not conducted in accordance with this Section, the Village shall draw from the Deposit to employ the services of a qualified consultant to ensure compliance, and for the time and labor required to achieve compliance.

13-2-7: PENALTIES:

Any person found guilty of violating any provision of this Chapter shall be assessed at a cost as prescribed in the Comprehensive Fine Schedule set forth in Chapter 17 of Title 1 of this Code. Where a continued violation persists, after notification by the Village, the fine shall be assessed weekly until the violation is corrected. (Ord. No. 03-1840-17, eff. 4/14/03)

TITLE: 13
CHAPTER 2: Landscaping

13-2-8: APPENDICES

[Appendix 1: Salt Tolerant Landscape Plants](#)

[Appendix 2: Invasive Plant Management Schedule](#)

[Appendix 3: Open Space Landscaping Standards](#)

~~_____ NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained, and other good and valuable consideration, the parties hereto do covenant and agree with each other as follows:~~

~~_____ Section 1: That in lieu of the completion bond required by Village ordinance, Owner shall cause to be deposited with the Village Clerk as security for the landscape improvements an irrevocable letter of credit (hereinafter referred to as the "security") issued by the _____ in a form acceptable to Village, in the amount of _____. The security shall be drawn upon from time to time as hereinafter provided for payment of the following, which shall hereinafter be referred to as "landscape improvement costs":~~

- ~~_____ a. installation of the landscape improvements described in the plans and specifications;~~
- ~~_____ b. all inspection fees of the Village in relation to the landscape improvements;~~
- ~~c. maintenance and repair of the landscape improvements for a period of three (3) years after the date of acceptance of the landscape improvements by village, sometimes hereinafter referred to as the "three-year maintenance period";~~
- ~~d. expenses of the Village, including but not limited to reasonable attorneys' fees in drafting, administering and enforcing this Agreement.~~

~~_____ Village or Escrowee shall not be required to investigate the propriety of any payout orders other than they deem necessary in their own interest. However, for accounting purposes, the Village shall send to Owner a copy of the estimates for payment. Each payout order shall be accompanied by all appropriate sworn statements, affidavits and supporting waivers of lien required by Escrowee.~~

~~_____ Section 2: The security shall be drawn upon from time to time upon payout orders issued in writing by the Village and presented to Escrowee. The payout orders shall be issued upon request of the Owner in writing to the Village, provided that the portion of the landscape improvements for which the payout orders are requested has been completed in conformance with the plans and specifications as reasonably determined by the Village, and provided further that the amount of the security remaining is sufficient to pay for the remaining landscape improvement costs as reasonably determined by the Village. Payout orders may also be issued in writing by the Village in the circumstances hereinafter provided in Sections 3, 4 and 6 of this Agreement without the request or consent of Owner; provided, however, that the Owner shall first be notified of any such payout order and the general purpose thereof. The amount of the security deposited hereunder shall be reduced by the amount of any payout order and may be reduced by the mutual agreement of Village and Owner.~~

~~_____ Section 3: Owner shall complete the landscape improvements in accordance with the plans and specifications prior to the issuance of a Certificate of Occupancy. In the event Owner fails to so complete the landscape improvements, Village shall have one (1) year to complete the landscape improvements in a manner acceptable to Village. At the close of said one (1) year period, any portion of the security deposited hereunder remaining undisbursed shall be~~

~~disbursed to Owner, except such amount as is hereinafter provided to be retained by the Escrowee upon acceptance of the landscape improvements by Village. Village may pay for such completion out of the security deposited hereunder with the Escrowee in the manner provided in Section 2 of this Agreement without the request or consent of Owner.~~

~~Section 4: Upon acceptance of the landscape improvements by the Village, whether completed by Owner or by Village, the Escrowee shall disburse to Owner any of the security deposited hereunder remaining after payment in full of the landscape improvement costs provided for in Subsections a, b and d of Section 1 of this Agreement, except the amount of which shall be retained to pay the landscape improvement costs provided for in Subsection c of said Section 1 with respect to said three-year maintenance period and the landscape improvement costs provided for in Subsections b and d of said Section 1. Any of such retained security not expended by Village and remaining at the expiration of said three-year maintenance period shall be disbursed by Escrowee to Owner, Village may pay for such Subsections b and d landscape improvement costs out of the security deposited hereunder with the Escrowee in the manner provided in Section 2 of this Agreement without the request or consent of Owner.~~

~~Section 5: If at any time prior to the acceptance of the landscape improvements by the Village the amount of the security deposited hereunder is deemed, in the sole judgment of Village, insufficient to cover the landscape improvement costs, or if for any reason the security deposited hereunder shall be withheld or otherwise become unpayable or unavailable to Village, Owner shall, upon notice from Village, cause to be deposited with the Escrowee such additional security in a form and an amount reasonably deemed by Village to be sufficient to pay the landscape improvement costs. Such additional security shall be deposited within ten (10) days of said notice.~~

~~Section 6: If at any time during the installation by Owner of the landscape improvements the Village determines, in its sole judgment, that Owner has failed to install the landscape improvements in accordance with the plans and specifications, or if, in the sole judgment of Village, Owner fails to properly maintain or replace said improvements, Village may take such action as it deems necessary to correct such failure; provided that Village shall first notify Owner of such failure and the general nature thereof and permit Owner forty five (45) days to correct such failure, provided further that Owner's right to forty five (45) days to correct any such failure shall terminate, with respect to completion of the landscape improvements, three years after approval by the Village and, with respect to the maintenance and replacement period, forty-five (45) days prior to expiration thereof. Provided further, however, that in the event any such failure occurs within forty-five (45) days of the expiration of the security, Village shall only be required to give notice of such failure before Village may take corrective action, Village may pay for any corrective action out of the security deposited hereunder with the Escrowee in the manner provided in Section 2 of this Agreement without the request or consent of Owner.~~

~~Section 7: Any notice required to be given in this Agreement shall be in writing and given or served personally, or deposited in the United States mail, addressed to the party to be notified, postage prepaid, registered or certified, with return receipt requested. Notice deposited in the mail in the manner hereinabove provided shall be deemed given or served upon deposit in the mail. For the purposes of this notice, the addresses of the parties shall, until changed by appropriate notice hereunder, be as follows:~~

Village Manager

One Olde Half Day Road

Lincolnshire, IL 60069

~~Section 8:~~ This Agreement shall terminate at the close of three (3) years after acceptance of the landscape improvements as provided in Section 4 of this Agreement. Otherwise, if the landscape improvements have not been accepted by the Village, this Agreement shall terminate at the close of the one (1) year period provided for in Section 3 of this Agreement. If Owner is required by Village to deposit additional security pursuant to Section 5 of this Agreement, notwithstanding the applicability of either of the foregoing termination dates, this Agreement shall terminate no earlier than five (5) days after the date of deposit of such additional security.

~~Section 9:~~ This Agreement shall be binding upon and shall inure to the benefit of each of the respective parties hereto and their respective successors, assigns, heirs and executors.

~~IN WITNESS WHEREOF,~~ the parties have executed this Agreement the Day and year first above written.

OWNER: _____, a _____ banking association,
_____ as-

_____ Trustee under Trust Agreement dated _____ and
known as Trust Number _____

By: _____

President
ATTEST:

Secretary

_____ an Illinois Corporation, as sole
beneficiary of the aforesaid Trust Number _____ and as such corporation

By: _____

President
ATTEST:

VILLAGE:
Village of Lincolnshire, a municipal corporation in Lake County, Illinois

By: _____

Village Mayor

ATTEST:

Village Clerk
ESCROWEE:

_____ a _____ banking
_____ Association

By: _____
_____ ATTEST:

_____ Secretary

STATE OF ILLINOIS)
_____) SS
COUNTY OF)

~~I, _____, a Notary Public in and for said County, in the State aforesaid, do hereby certify that _____ President of the _____, as Trustee under Trust Agreement dated and known as Trust Number _____, and Secretary of said Bank, personally known to me to be the same persons whose names are subscribed to the foregoing instrument as such _____ President and Secretary respectively, appeared before me this day in person and acknowledged that they signed and delivered the said instrument as their free and voluntary act, and as the free and voluntary act of said Bank, for the uses and purposes therein set forth; and the said Secretary did also then and there acknowledge that he, as custodian of the corporate seal of said Bank, did affix the said corporate seal of said Bank to said instrument as his own free and voluntary act and as the free and voluntary act of said Bank for the uses and purposes therein set forth.~~

~~Given under my hand and notarial seal this _____ day of _____, 20_____~~

~~_____
Notary Public~~

~~My commission expires:~~

STATE OF ILLINOIS)
_____) SS)
COUNTY OF)

~~I, _____, a Notary Public in and for said County, in the State aforesaid, do hereby certify that _____, President of _____, and _____ Secretary of said corporation, personally known to me to be the same persons whose names are subscribed to the foregoing instrument as such President and Secretary respectively, appeared before me this day in person and acknowledged that they signed and delivered the said instrument as their free and voluntary act, and as the free and voluntary act of said corporation, for the uses and purposes therein set forth; and the said Secretary did also then and there acknowledge that he, as custodian of the corporate seal of said corporation, did affix the said corporate seal of said corporation to said instrument as his own free and voluntary act and as the free and voluntary act of said corporation, for the uses and purposes therein set forth.~~

~~Given under my hand and notarial seal this _____ day of _____, 20_____.~~

~~Notary Public~~
~~My commission expires:~~

Appendix 1: Salt Tolerant Landscape Plants*

T = Plans with highest degree of salt tolerance. Use in most exposed areas.

M = Plant with moderate degree of salt tolerance. Use in low salt areas.

DECIDUOUS TREES

Scientific Name	Common Name	Zone	Aerial Salt Tolerance	Soil Salt Tolerance
<i>Acer campestre</i>	Hedge maple	5-8	M	
<i>Acer ginnala</i>	Amur maple	2-8	M	
<i>Acer nigrum</i>	Black maple	4-9	M	
<i>Acer pseudoplatanus</i>	Sycamore maple	5-7	T	
<i>Aesculus hippocastanum</i>	Horse-chestnut	4-7	T	Y
<i>Aesculus octandra</i>	Yellow buckeye	4-8	M	
<i>Amelanchier x grandiflora</i>	Apple serviceberry	4-9	T	
<i>Betula nigra</i>	River birch	3-7	M	
<i>Carya cordiformis</i>	Bitternut hickory	4-9	T	Y
<i>Carya ovata</i>	Shagbark hickory	4-8	T	
<i>Catalpa speciosa</i>	Northern catalpa	4-8	T	Y
<i>Celtis occidentalis</i>	Hackberry	2-9	M	Y
<i>Diospyros virginiana</i>	Persimmon	4-9	M	
<i>Ginkgo biloba</i>	Ginkgo	3-8	M	Y
<i>Gleditsia triacanthos</i>	Honey locust	3-9	T	Y
<i>Gymnocladus dioicus</i>	Kentucky coffeetree	3-8	T	Y
<i>Juglans cinerea</i>	Butternut	3-7	T	
<i>Juglans nigra</i>	Black walnut	4-9	T	Y
<i>Koelreuteria paniculata</i>	Golden rain tree	5-8	M	
<i>Larix decidua</i>	European larch	2-6	T	
<i>Larix laricina</i>	American larch	2-5	T	
<i>Liquidambar styraciflua</i>	Sweet gum	5-9	T	Y
<i>Malus</i> (some cultivars) (x <i>zumi</i> 'Calocarpa', 'Adams', 'Donald Wyman', 'Prairifire')	Crabapple	5-7	M	
<i>Nyssa sylvatica</i>	Tupelo	4-9	M	Y
<i>Ostrya virginiana</i>	Ironwood	3-9	M	
<i>Platanus occidentalis</i>	Sycamore	4-9	M	Y
<i>Quercus alba</i>	White oak	3-9	T	
<i>Quercus bicolor</i> *	Swamp white oak	4-8	M	Y
<i>Quercus ellipsoidalis</i>	Northern pin oak	4-6	M	Y
<i>Quercus imbricaria</i>	Shingle oak	4-8	M	
<i>Quercus macrocarpa</i>	Bur oak	2-8	M	Y
<i>Quercus robur</i>	English oak	4-8	T	
<i>Sassafras albidum</i>	Sassafras	4-9	M	
<i>Syringa amurensis</i>	Japanese tree lilac	3-7	T	Y
<i>Syringa pekinensis</i>	Peking lilac	4-7	T	Y
<i>Taxodium distichum</i>	Bald-cypress	4-9	T	Y

<i>Ulmus</i> 'Regal'	Regal elm	4-6	Y
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EVERGREEN TREES

Scientific Name	Common Name	Zone	Aerial Salt Tolerance	Soil Salt Tolerance
<i>Juniperus chinensis</i>	Chinese juniper	2-8	T	Y
<i>Juniperus horizontalis</i>	Creeping juniper	4-9	T	Y
<i>Juniperus virginiana</i>	Eastern red-cedar	3-9	T	
<i>Picea pungens</i>	Blue spruce	2-7	T	Y
<i>Pinus mugo</i>	Mugo pine	2-7	T	Y
<i>Thuja occidentalis</i>	Eastern arborvitae	2-8	M	Y

SHRUBS

Scientific Name	Common Name	Zone	Aerial Salt Tolerance	Soil Salt Tolerance
<i>Inus rugosa</i>	Speckled alder	3-6	M	
<i>Amelanchier canadensis</i>	Serviceberry	3-7	T	
<i>Amorpha fruticosa</i>	Indigo-bush	4-9	T	Y
<i>Aronia arbutifolia</i>	Red chokeberry	4-8	M	
<i>Aronia melanocarpa</i>	Black chokeberry	3-8	M	
<i>Buxus microphylla</i> var. <i>koreana</i>	Korean boxwood	4-9	M	
<i>Caragana arborescens</i>	Siberian pea-shrub	2-7	T	Y
<i>Caragana fruticosa</i>	Russian pea-shrub	2-6	T	
<i>Clethra alnifolia</i>	Summersweet clethra	3-8	T	
<i>Comptonia peregrina</i>	Sweet-fern	2-5	T	
<i>Cotoneaster</i> species	Cotoneaster	4-8	T	Y
<i>Forsythia</i> spp.	Forsythia	6-8	T	Y
<i>Hamamelis virginiana</i>	Witch-hazel	3-8	T	
<i>Hibiscus syriacus</i>	Rose-of-Sharon	5-8	M	
<i>Hippophae rhamnoides</i>	Sea-buckthorn	3-7	T	Y
<i>Hydrangea</i> spp.	Hydrangea	3-9	T	
<i>Hypericum</i> spp.	St. John's wort	3-8	T	
<i>Ilex verticillata</i>	Winterberry	3-9	M	
<i>Lespedeza bicolor</i>	Shrub bush-clover	4-8	T	
<i>Myrica pensylvanica</i>	Bayberry	3-6	M	Y
<i>Perovskia atriplicifolia</i>	Russian-sage	5-8	T	
<i>Philadelphus coronarius</i>	Mock-orange	5-8	M	
<i>Potentilla fruticosa</i>	Shrubby cinquefoil	2-7	T	
<i>Prunus x cistena</i>	Purpleleaf sand cherry	2-8	M	
<i>Pyracantha coccinea</i>	Firethorn	6-9	T	
<i>Rhodotypos scandens</i>	Black jetbead	4-8	T	
<i>Rhus aromatica</i>	Fragrant sumac	3-9	T	Y
<i>Rhus glabra</i>	Smooth sumac	3-9	T	Y
<i>Rhus typhina</i>	Staghorn sumac	4-8	T	Y
<i>Ribes alpinum</i>	Alpine currant	2-7	M	Y

<i>Robinia hispida</i>	Bristly locust	5-8	T	Y
<i>Rosa rugosa</i>	Rugosa rose	2-7	T	Y
<i>Sambucus canadensis</i>	Elderberry	3-9	T	
<i>Shepherdia canadensis</i>	Buffaloberry	2-6	M	
<i>Spiraea</i> spp. (most)	Spirea	3-8	T	
<i>Symphoricarpos albus</i>	Snowberry	3-7	T	
<i>Syringa meyeri</i> 'Palibin'	Palibin lilac	3-7	M	Y
<i>Syringa patula</i> 'Miss Kim'	Miss Kim lilac	3-7	T	Y
<i>Viburnum dentatum</i>	Arrowwood viburnum	5-9	M	
<i>Viburnum lentago</i>	Nannyberry	2-8	M	
<i>Viburnum prunifolium</i>	Blackhaw viburnum	3-9	M	Y
<i>Viburnum trilobum</i>	American cranberry-bush	2-7	M	

* Source: The Morton Arboretum, www.mortanarb.org

APPENDIX II

IRREVOCABLE LETTER OF CREDIT

No. _____

ISSUER: _____ DATE OF ISSUANCE: _____

BENEFICIARY: _____ DATE OF EXPIRATION: _____

Village of Lincolnshire
One Olde Half Day Road
Lincolnshire, IL 60069

Re: (Name of Improvement) _____

Gentlemen:

_____ We hereby establish in your favor our IRREVOCABLE LETTER OF CREDIT NO. _____ in the amount of \$ _____, which is available for negotiation of your drafts at site, signed by the Village of Lincolnshire, drawn on _____ (Bank), bearing the clause "Drawn under (Bank)", Letter of Credit No. _____ in accordance with the Escrow Agreement made and entered into on the ____ day of _____ 20__ between and the Village of Lincolnshire, Illinois, in regard to the above captioned improvement. The draft must be accompanied by the original of this Letter of Credit.

(REFER TO APPENDIX II OF 7-6)

_____ (Bank) hereby undertakes to Beneficiary that drafts drawn in conformity with this Letter of Credit and accompanied by all other requisite documents described herein will be honored upon presentation. Partial drawings are permitted under this Letter of Credit, and amounts available under this Letter of Credit shall be reduced by the amount(s) of draft(s) previously presented and paid by (Bank). In addition, this Letter of Credit may be reduced to such amount specified in writing from time to time by the Village of Lincolnshire pursuant to the terms of said escrow agreement. Non-conforming drafts and documents will be returned to Beneficiary in accordance with applicable law, as described below.

_____ This Letter of Credit shall be governed by Illinois law, without reference to the choice of law provisions of the state, and is subjected to all provisions of the 1983 revision of the Uniform Customs and Practice for Documentary Credits, International Chamber of Commerce, Publication 400, in both instances to the extent not inconsistent with the specific terms of this Letter of Credit.

_____ Very truly yours,

_____ (Bank) _____

_____ By: _____

Appendix 2: **Invasive Plant Management Schedule**

Plant Name	Specific Management	Month(s)	Comments
Common and Glossy Buckthorn (<i>Rhamnus cathartica</i> and <i>fragula</i>)	Cut and immediately wick apply herbicide.	Jan, Feb, March, June, July, Aug, Sept, Oct, Nov, Dec	Foliar application of herbicide should not be considered unless the site is to be completely reseeded with the understanding that all plants will be killed.
Honeysuckle (<i>Lonicera tatarica</i> , <i>maackii</i> , <i>japonica</i>)	Cut and immediately wick apply herbicide.	Jan, Feb, March, June, July, Aug, Sept, Oct, Nov, Dec	Foliar application of herbicide should not be considered.
Multiflora Rose (<i>Rosa multiflora</i>)	Cut and immediately wick apply herbicide.	Jan, Feb, March, June, July, Aug, Sept, Oct, Nov, Dec	Foliar application of herbicide should not be considered.
Teasel (<i>Dipsacus sylvestris</i> , <i>laciniatus</i>)	Herbicide rosettes.	Mar, April, May, June, Nov	Biennial, important to catch rosettes in first year. Care needs to be taken to remove all seed heads from site. Do not mow. Manually remove heads.
Teasel (<i>Dipsacus sylvestris</i> , <i>laciniatus</i>)	Cut seed heads, remove from site. Herbicide cut stock close to ground.	July, Aug, Sept	Biennial, important to catch rosettes in first year. Care needs to be taken to remove all seed heads from site. Do not mow. Manually remove heads.
Reed Canary Grass (<i>Phalaris arundinacea</i>)	Herbicide stands of grass.	April, May, June	
Reed Canary Grass (<i>Phalaris arundinacea</i>)	Cut seed heads, remove from site. Herbicide cut stock close to ground.	July, Aug, Sept	Reed Canary Grass (<i>Phalaris arundinacea</i>)
Garlic Mustard (<i>Allaria petiolata</i>)	Herbicide rosettes.	March, April, Oct, Nov	Biennial, important to catch rosettes in first year. Care needs to be taken to remove all seed heads from site. Do not mow. Manually remove heads.
Garlic Mustard (<i>Allaria petiolata</i>)	Hand pull plants. Remove from site.	May, June, July, Aug, Sept	Biennial, important to catch rosettes in first year. Care needs to be taken to remove all seed heads from site. Do not mow. Manually remove heads.
Crown Vetch (<i>Coronilla varia</i>)	Cut and herbicide plant close to the ground. Remove cut plants from site.	April, May, June, July, Aug, Sept, Oct	
Bird'S Foot Trefoil (<i>Lotus corniculatus</i>)	Cut and herbicide plant close to the ground. Remove cut plants from the site.	April, May, June, July, Aug, Sept, Oct	

Canada and Bull Thistle (Cirsium arvense, vulgare)	Herbicide small plants or rosettes.	March, April, May, June, Oct, Nov	Bull thistle is a biennial. It is important to catch rosettes in first year. Care needs to be taken to remove all seed heads from site. Do not mow. Manually remove heads. Canada thistle is a perennial. Remove all seed heads from the site.
Canada and Bull Thistle (Cirsium arvense, vulgare)	Cut seed heads and remove from site. Herbicide cut stalks close to the ground.	July, Aug, Sept, Oct	Bull thistle is a biennial. It is important to catch rosettes in first year. Care needs to be taken to remove all seed heads from site. Do not mow. Manually remove heads. Canada thistle is a perennial. Remove all seed heads from the site.
Purple Loosestrife (Lythrum salicaria)	Herbicide young plants.	May, June	This plant grows in wet conditions. An aquatic herbicide must be used if it is in the water or close to the water.
Purple Loosestrife (Lythrum salicaria)	Cut seed heads and remove from site. Herbicide cut stems close to the ground.	July, Aug, Sept, Oct	This plant grows in wet conditions. An aquatic herbicide must be used if it is in the water or close to the water.
Phragmites (Phragmites australis)	Herbicide young stands.	April, May, June, July	This plant grows in wet conditions. An aquatic herbicide must be used if it is in the water or close to the water.
Phragmites (Phragmites australis)	Cut seed heads and remove from site. Herbicide cut stems close to the ground.	June, July, Aug, Sept, Oct	This plant grows in wet conditions. An aquatic herbicide must be used if it is in the water or close to the water.
White and Yellow Sweet Clover (Melilotus alba and officinalis)	Cut and remove plant from site. Herbicide cut stems close to the ground.	May, June, July, Aug, Sept, Oct	
Willow (Salix)	Cut plant and herbicide cut stems close to the ground.	April, May, June, July, Aug, Sept, Oct	This plant grows in wet conditions. An aquatic herbicide must be used if it is in the water or close to the water.
Cattails (Typha)	Cut plant and herbicide cut stems close to the ground or water. Remove any seed heads from the site.	April, May, June, July, Aug, Sept, Oct	This plant grows in wet conditions. An aquatic herbicide must be used if it is in the water or close to the water.

NOTE: All herbicides and their application must be specific to the type of plant controlled. Manufacturers' instructions must be carefully followed. With few exceptions spot or wick applications must be utilized to protect surrounding plants.

APPENDIX III

CONSERVANCY AREA RESTORATION REQUIREMENTS

THE FOLLOWING ARE THE MINIMUM REQUIREMENTS FOR THE RESTORATION OF DESIGNATED "CONSERVANCY AREAS" THAT ARE DAMAGED, WHETHER DURING CONSTRUCTION OR AFTER OCCUPANCY. PRIOR TO RESTORATION, THE VILLAGE WILL REVIEW THE DAMAGED SITE, AND APPROVE THE PROPOSED RESTORATION PLAN.

THE LISTED MATERIAL IS PER 150 SQ. FT. OF DAMAGED AREA.

CANOPY TREES: One 2 1/2" caliper and four (4) seedlings.

DRY SITES

WET SITES

Oak, *Quercus bicolor*

Quercus macrocarpa

Liriodendron tulipifera

Locust, *Gleditsia triacanthos*

White Oak, *Quercus alba* Swamp White-

Red Oak, *Quercus rubra* Bur Oak,

Red Maple, *Acer rubrum* Tulip Tree,

Sugar Maple, *Acer saccharum*

American Hornbeam, *Carpinus*

Kentucky Coffee Tree, *Gymnocladus dioicus caroliniana*

Hackberry, *Celtis occidentalis**

Hackberry, *Celtis occidentalis*

Shagbark Hickory, *Carya Ovata* Honey-

Sugar Maple, *Acer saccharum*

INTERMEDIATE TREES: One 4' to 5' and three (3) 2' to 3'

DRY SITES

WET SITES

American Hophornbeam, *Ostrya virginiana*

Hawthorn, *Crataegus spp.**

Flowering Dogwood, *Cornus florida*

Redbud, *Cercis Canadensis*

Blackhaw Viburnum, *Viburnum prunifolium*

Allegheny Serviceberry, *Amelanchier laevis*

American Hornbeam, *Carpinus caroliniana*

Staghorn sumac, *Rhus typhina*

Alder, *Alnus glutinosa*

River Birch, *Betula nigra*

Witch hazel, *Mamamelis virginiana*

Hawthorn, *Crataegus spp.*

SHRUBS: Five (5) 2' to 3'

DRY SITES

WET SITES

High-Bush Cranberry, *Viburnum trilobum*

American Hazelnut, *Corylus Americana*

Honeysuckle, *Lonicera spp.*

Smooth Sumac, *Rhus glabra*

Red Chokeberry, *Aronia arbutifolia*

Redtwig Dogwood, *Cornus sericea*

Grey Dogwood, *Cornus racemosa**

Nannyberry, *Viburnum lentago**

GROUND COVER/WILDFLOWERS: Twenty (20)

~~Gare shall be taken to select plants which are site specific, i.e. soils and moisture requirements, sun and shade requirements.~~

- ~~May Apple Virginia Blue Bells~~
- ~~False Solomon Seal Hepatica~~
- ~~Solomon Seal Monarda~~
- ~~Wild Columbine Woodland Sunflower~~
- ~~Blood Root Native Iris~~
- ~~Trillium Sp. Woodland Phlox~~
- ~~Twin Leaf Wild Ginger (*Asarum caudatum*)~~
- ~~Wild Geranium Goldenrod~~
- ~~Yellow Trout-Lily Jack in the Pulpit~~
- ~~Jacobs Ladder Alum Root~~
- ~~Butter Cup Rue~~
- ~~Aster spp. Turtlehead~~
- ~~Penstemon Golden Alexander~~
- ~~Agastache Milkweed~~
- ~~Butterfly Weed Coreopsis~~
- ~~Eupatorium Gentian~~
- ~~Liatris Monkey Flower~~
- ~~Prairie Clover Echinacea~~
- ~~Sneezeweed Heliopsis~~
- ~~Obedient Plant Ratibida~~
- ~~Silphium Verbena~~
- ~~Culver's Root Rudbeckia~~
- ~~Native Violets 0Native Ferns~~

~~The entire disturbed area will be cleared of all debris and unsuitable soil, and then graded if necessary. The area will be covered with two inches (2") of approved topsoil, if necessary, and two inches (2") of leaf compost. This action will be taken immediately and protective fencing replaced if construction is in progress. Plantings on the approved restoration plan will be planted in accordance with the approved plan specifications during the first appropriate planting season. All plant material will be guaranteed for a minimum of one year.~~

Appendix 3:
Open Space Landscaping Standards

VILLAGE OF LINCOLNSHIRE

OPEN SPACE LANDSCAPING
STANDARDS

CONTENTS

- A. Seeding**
- B. Mulch and Excelsior Blanket**
- C. Sodding**
- D. Planting**
- E. Period of Establishment and Guarantee**

A. SEEDING:

Description: This section describes the seed bed preparation and furnishing, transporting and placing the seed and other materials required in seeding operations.

CONSTRUCTION REQUIREMENTS:

Seed Bed Preparation: Seed bed preparation shall not be started until all stones, boulders debris and similar material larger than 3 inches in diameter have been removed. The area to be seeded shall be worked to a minimum depth of 3 inches with a disk or other equipment approved by the Village Engineer, reducing all soil particles to a size not larger than 2 inches in the largest dimension. The prepared surface shall be relatively free from all weeds, clods, stones, roots, sticks, rivulets, gullies, crusting and caking. No seeds shall be sown until the seed bed has been approved by the Village Engineer.

Seed bed preparation will not be required for Erosion Control Seeding if the soil is in a loose and pliable condition. Light discing shall be done if the soil is hard or caked.

Seeding Methods: No seed shall be sown during high winds or when the ground is not in a proper condition for seeding, nor shall any seed be sown until the purity test has been completed for the seeds to be used, and shows that the seed meets the noxious weed seed requirements. The Village Engineer will examine and then approve any equipment to be used. Prior to starting work, seeders shall be calibrated and adjusted to sow seeds at the proper seeding rate. Equipment shall be operated in a manner to ensure complete coverage of the entire area to be seeded. The Village Engineer shall be notified 48 hours prior to beginning the seeding operations so that the Village Engineer may determine by trial runs that a calibration of the seeder will provide uniform distribution at the specified rate per acre. When seed or fertilizer is applied with a hydraulic seeder, the rate of application shall be not less than 1000 gallons of slurry per acre. This slurry shall contain the proper quantity of seed or fertilizer specified per acre. When using a hydraulic seeder, the fertilizer nutrients and seed shall be applied in two separate operations.

Within 12 hours, all seeded areas, including slopes 3 to 1 or flatter, shall be rolled at right angles to the run off with an approved type roller or cultipacker to compact the seed bed and place the seed in contact with the soil. Slopes steeper than 3 to 1 need not be rolled. Rolling will not be required in the following conditions:

On slopes steeper than 3 to 1.

When a mulch stabilizer is used to anchor the mulch.

When a hydraulic seeder is used to apply the seed.

When a rangeland type grass drill is used.

When the seeding equipment is equipped with a roller that achieves the desired compaction.

When Erosion Control Seeding is called for on the plans, a harrow, approved by the Village Engineer, maybe substituted for the roller.

The optimum depth for seeding shall be 1/4 inch.

All legumes (clover, vetch, birdsfoot trefoil, lespedeza and alfalfa) shall be inoculated with the proper bacteria in the amounts and manner recommended by the manufacturer of the inoculant before sowing or being mixed with other seeds for sowing. The inoculant shall be furnished by the Contractor and shall be approved by the Village Engineer. The seed shall be sown as soon as possible after inoculation and seed that has been standing more than 24 hours after inoculation shall be re-inoculated before sowing. If legumes are applied by hydro seeder, 3 times the normal amount of inoculant shall be used.

- a. Native Grass and Native Forb Seed Mixtures: Native Grass and Native Forb Seed Mixtures shall be done by hydraulic seeders or with a rangeland type grass drill meeting the approval of the Village Engineer.

If a hydraulic seeder is used, the water application rate shall be not less than 500 gallons per acre.

Seeding operations for new construction (bare earth) shall be May 15 to June 30 or October 15 to December 1. Seeding operations on existing turf shall be between October 15 and December 1. All areas of existing turf to be seeded except as listed below shall be mowed one or more times to a height of not more than three inches. The equipment used shall be capable of completely severing all growth at the cutting height and distributing it evenly over the mowed area. The cut material shall not be windrowed or left in a lumpy or bunched condition. Subsequent mowing may be required on certain areas in order to disperse the mowed material and allow penetration of the seed.

Debris encountered during the mowing and seeding operations which may hamper the operations shall be removed and disposed of. Damage to the turf, such as ruts or wheel tracks more than two inches in depth, shall be repaired to the satisfaction of the Village Engineer prior to the time of seeding.

- b. Erosion Control Mixture

This method shall be considered a temporary erosion control method and shall be used as a temporary cover when permanent seeding cannot be accomplished. All areas that are to be left bare for more than one month will be consider for Erosion Control Seeding. Any areas that cannot receive permanent seeding before winter shut down shall be seeded with Erosion Control Seeding.

Seeding Mixtures: The classes of seeding mixtures will be designated by the Village Engineer and will consist of one or more of the types listed in Table 1.

Table 1 - SEEDING MIXTURES

<u>TYPE</u>	<u>SEEDS</u>	<u>LBS./ACRE</u>
<u>Park & Lawn Mixture</u>	<u>Ky Bluegrass</u>	<u>50</u>
	<u>Perennial Ryegrass</u>	<u>30</u>
	<u>Creeping Red Fescue</u>	<u>20</u>
<u>Salt Tolerant Lawn Mixture</u>	<u>Ky Bluegrass</u>	<u>30</u>
	<u>Perennial Ryegrass</u>	<u>10</u>
	<u>Dawsons Red Fescue</u>	<u>10</u>
	<u>Scaldis Hard Fescue</u>	<u>10</u>
	<u>Fults Salt Grass*</u>	<u>30</u>
<u>Roadside Mixture</u>	<u>Ky 31 or Alta Fescue</u>	<u>50</u>
	<u>Perennial Ryegrass</u>	<u>30</u>
	<u>Creeping Red Fescue</u>	<u>20</u>
	<u>Oats, Spring</u>	<u>48</u>
<u>Salt Tolerant Roadside Mixture</u>	<u>Ky 31 or Alta Fescue</u>	<u>30</u>
	<u>Perennial Ryegrass</u>	<u>10</u>
	<u>Dawsons Red Fescue</u>	<u>10</u>
	<u>Scaldis Hard Fescue</u>	<u>10</u>
	<u>Fults Salt Grass*</u>	<u>30</u>
<u>Slope Mixture</u>	<u>Ry 31 or Alta Fescue</u>	<u>40</u>
	<u>Perennial Ryegrass</u>	<u>20</u>
	<u>Alsike Clover**</u>	<u>5</u>
	<u>Birdsfoot Trefoil**</u>	<u>10</u>
	<u>Little Bluestem</u>	<u>5</u>
	<u>Side Oats Grama</u>	<u>10</u>
<u>Native Grass Mixture</u>	<u>Big Blue Stem</u>	<u>4</u>
	<u>Little Blue Stem</u>	<u>5</u>
	<u>Prairie Switchgrass</u>	<u>2</u>
	<u>Indian Grass</u>	<u>2</u>
	<u>Prairie Dropseed</u>	<u>2</u>
	<u>June Grass</u>	<u>1</u>
	<u>Side Oats Grama</u>	<u>1</u>
	<u>Perennial Ryegrass</u>	<u>5</u>
	<u>(delete when seeding over existing turf)</u>	<u>20</u>
<u>Native Forb Mixture</u>	<u>Amorpha canescens -Lead Plarn (6)**</u>	
	<u>Asciepias tuberosa – Butterfly Milkweek (1)</u>	
	<u>Aster laevis – Smooth Aster (2)</u>	
	<u>Aster novae-angliae - New England Aster (2)</u>	
	<u>CeanothuS americanus - New Jersey Tea (3)</u>	
	<u>Coreopsis paimata - Prairie Coreopsis (6)</u>	
	<u>Dodecatheon Meadii - Shooting Star (4)</u>	
	<u>Echinacea pallida - Pale Purple Coneflower (8)</u>	
	<u>Eryngium yuccifolium - Rattlesnake Master (8)</u>	
	<u>Liatrix asoera - Buton Blazing Star (8)</u>	
<u>Liatrix pycostachya - Prairie Blazing Star (6)</u>		

Monarda fistulosa - Prairie Bergamot (6)
Parthenium integrifolium - Prairie Quinine (3)
Petalostemum candidum - White Prairie Clover (1)**
Petalostemum purpureum - Purple Prairie Clover (6)**
Rudbeckia hirta - Black-eyed Susan (9)
Ratbida pinnata - Yellow Coneflower (8)
Silphium laciniatum - Compass Plant (1)
Silphium tereointhinaceum – Prairie Dock (1)
Solidago rigida - Rigid Goldenrod (6)
Veromcastrum virginicum - Culvert's Root (5)

(The number in the () indicates the suggested percentage by weight of each item in the mixture. The total weight of the mixture shall be 2 lbs/acre. The mixture shall contain at lease 1% and not more than 10% by weight of each variety listed.)

Variation in the Native Forb seed quantities or varieties will be allowed in the event of a crop failure or other unforeseen conditions. The contractor shall provide for the approval of the Village Engineer a written description of the changed Mixture, the reasons for the change, and the name of the seed supplier.

<u>Conservation Mixture</u>	<u>Smooth Brome Grass</u>	<u>40</u>
	<u>Vernal Alfalfa**</u>	<u>15</u>
	<u>Oats. Spring</u>	<u>48</u>

<u>Detention Area Mixture</u>	<u>Buffalo Grass</u>	<u>100</u>
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<u>Erosion Control Mixture</u>	<u>Perennial Ryegrass</u>	<u>50</u>
	<u>Oats. Spring</u>	<u>64</u>

*Fults pucinnellia distans

**Legumes - inoculation required

Method of Measurement: The quantities and application rates of fertilizer nutrients and agricultural ground limestone are subject to adjustment and will be determined on the basis of the analysis of soil samples taken by the Developer.

Fertilizer will be measured by weight in pounds of actual nutrients. The following formula will be used to determine the pounds of fertilizer nutrients applied:

$$\text{(Total weight of mixed fertilizer in pounds) X (Percentage of each nutrient in the fertilizer applied) = pounds of each fertilizer nutrient.}$$

B. MULCH AND EXCELSIOR BLANKET

Description: This section describes the furnishing, transporting and placing mulch or excelsior blanket.

Materials: Materials shall meet the following requirements:

Mulching Seeded or Planted Areas: Within 24 hours from the time seeding, or planting of seedling trees, shrubs or vines has been performed, the seeded or planted area shall be given a covering of mulch by one of the following methods. On slopes steeper than 3:1 mulch shall be applied the same day as seeded or planted. Mulch shall be applied uniformly at the rate specified.

Method 1: This method shall consist of hand or machine application of straw mulch. The mulch shall be loose enough to permit air to circulate but compact enough to reduce erosion. If baled mulch material is used, care shall be taken that the material is in a loosened condition and contains no lumps or knots of compacted material.

Method 2: This method shall consist of applying a layer of asphalt-coated straw mulch on seeded areas or planted areas.

This mulch shall have a partial coating of Emulsified Asphalt.

The coated mulch shall be placed by equipment which will blow or eject, by means of a constant air stream, controlled quantities of the mulch and asphalt in a uniform pattern over the specified area. If the mulch is excessively cut or broken, the Contractor shall take measures to reduce the cutting or breakage to a limit approved by the Village Engineer.

The asphalt shall be introduced into the air stream by means of a spray arranged in such a manner that it will partially coat the mulch with a spotty asphalt tack prior to the depositing of the mulch covering. The rate of application will be determined by the Village Engineer; however, the rate of application shall be not less than 75 gallons per ton of mulch.

Method 3: The straw shall be applied in accordance with all of the requirements of Method 1, except a mulch stabilizer shall be used to anchor mulch into the soil by means of dull blades or disks. These blades or disks shall be without camber, be approximately 20 inches in diameter.

The disks shall be notched and shall be spaced at approximately 3-inch intervals and shall be equipped with scrapers. The stabilizer shall weigh approximately 1000 pounds and shall have a working width not to exceed 72 inches and shall be equipped with a ballast compartment, so that when directed, weight can be increased.

Method 4: This method shall consist of a hand or machine application of an approved shredded tree bark mulch material. The processed bark mulch shall be uniformly applied over the seeded area at a rate determined by the Village Engineer. Care shall be taken that the material is in a loosened condition and contains no lumps or knots of compacted material.

Method 5: This method shall consist of machine application of straw mulch at the specified rate using an approved mulch blower followed immediately by an overspray application of hydraulic mulch. The hydraulic mulch shall be applied as a slurry of 750 pounds of mulch and 1000 gallons of water per acre by an approved hydraulic mulch

applicator. The hydraulic mulch slurry shall be agitated a minimum of 5 minutes before application and shall be agitated during application.

Method 6: This method shall consist of machine application of straw mulch at the specified rate using an approved mulch blower with chemical mulch binder applied simultaneously with the hay or straw as in Mulch Method 2 or with chemical mulch binder applied as an overspray in accordance with Mulch Method 5. Chemical mulch binder shall be applied at the rate and manner recommended by the supplier and approved by the Village Engineer.

Method 7: This method shall consist of machine application of wood or paper fiber hydraulic mulch at the specified rate using an approved hydraulic seeder. The hydraulic mulch shall be applied as a slurry of 2000 pounds of mulch and not less than 2000 gallons of water per acre. The hydraulic mulch slurry shall be agitated a minimum of 5 minutes before application and shall be in continuous agitation during application. The seeding will not be applied concurrently with this operation.

Following the mulching operation, every precaution shall be taken to prohibit foot or vehicular traffic, or the movement of mulching has been displaced by any Contractor's equipment or personnel, the seeding or other work damaged as a result of that displacement shall immediately be replaced and the mulch covering replaced, at the Contractor's expense, in a manner satisfactory to the Village Engineer.

Excelsior Blanket: The excelsior blanket shall be placed within 24 hours after seeding operations have been completed on the areas specified by the Village Engineer. Prior to placing the mat, the areas to be covered shall be relatively free of all rocks or clods over 1 1/2 inches in diameter, and all sticks or other foreign material which will prevent the close contact of the blanket with the seed bed. If as a result of a rain, the prepared seed bed becomes crusted or eroded, or if eroded places, ruts or depressions exist for any reason, the Contractor will be required to rework the soil until it is smooth and to reseed such areas which are reworked. After the area has been properly shaped, fertilized and seeded, the blanket shall be laid out flat, evenly and smoothly, without stretching the material.

Jute or paper mat used as a ditch lining shall be applied with the lengths running parallel to the flow of water. When the blanket is unrolled, the netting shall be on top and the fibers in contact with the soil.

In ditches, the blankets shall be applied in the direction of the flow of the water and butted snugly against each other. Use 4 staples across at the start of each roll and continue to staple each side and the center on 4-foot intervals. Use a common row of staples on adjoining blankets.

On slopes, the blanket shall be applied either horizontally or vertically to the contour. Staple similar to ditch applications except the space interval shall be 6 feet.

C. SODDING

Description: This section shall describe the preparation of the ground surface and furnishing, transporting and placing sod and other materials required in the sodding

operations.

Ground Preparation: Immediately prior, but not in excess of 24 hours before the sod is placed, the soil surface shall be worked until it is relatively free from debris, washes, gullies, clods and stones, and is in a satisfactory condition. The surface shall be worked to a depth of not less than 3 inches with a disk, tiller or other equipment approved by the Village Engineer. Prepared surfaces that become crusted shall be reworked to an acceptable condition for sodding.

All soil surfaces shall be moist when the sod is placed. When directed by the Village Engineer, the Contractor shall be required to apply water to dry soil surfaces at a minimum rate of one gallon per square yard immediately prior to placing the sod.

When specified, agricultural ground limestone and fertilizer nutrients shall be applied at the designated rates over the areas to be sodded.

Sodding Time: Sod shall be placed when the ground is in a workable condition and temperatures are less than 90 degrees F. Sod shall not be placed when the sod or ground surface is frozen or during and extended drought.

Transportation: All sod shall be properly covered when transported to prevent it from drying out. Adequate shading and ventilation must be provided for the sod to prevent it from decomposing while it is transported.

Sod cut for more than 48 hours shall only be used with the approval of the Village Engineer. Any sod that has dried out, has heated to over 100 degrees F. or is frozen prior to placing will be rejected and shall be immediately removed from the job site by the Contractor.

Placing Sod: The sod shall be placed on the prepared surface with the edges in close contact and alternate courses staggered.

In ditches, the sod shall be placed with the longer dimension perpendicular to the flow of water in the ditch. On slopes, starting at the bottom of the slope, the sod shall be placed with the longer dimension parallel to the contours of the ground. The exposed edges of sod shall be buried flush with the adjacent soil.

On slopes where the sod may be displaced during sodding operations, the workmen shall work from ladders or treaded planks.

Staking Sod: The sod shall be staked on all slopes of 2:1 or steeper. Sod shall be staked with not less than 4 stakes per square yard with at least one stake for each piece of sod. Stakes shall be a minimum of 6" long. Stakes shall be installed so that they hold the sod firmly in place yet present no danger to pedestrians or mowing crews. The type of stake and the method of installation shall meet the approval of the Village Engineer.

Sod Watering: Within 6 hours after the sod has been placed. 5 gallons of water per square yard shall be applied. Thereafter, on days designated by the Village Engineer, additional water shall be applied at the rate of 3 gallons per square yard. The sod must be adequately watered during the period of establishment, defined as the period of time

between sod placement and when the sod becomes knitted to the soil and growing in place.

The Contractor shall have on hand enough equipment to completely water all sodded areas in 2 days at watering rates specified during the period of establishment. The Village Engineer will make periodic checks of the Contractor's equipment to determine its adequacy and operating condition.

All watering described herein shall be done with a spray application. An open end hose will not be acceptable. The method of watering shall meet the approval of the Village Engineer.

Supplemental Watering: During periods of intense heat or subnormal rainfall, supplemental watering may be required prior to acceptance of the work. Supplemental watering shall be performed when directed by the Village Engineer. Water shall be applied at the rate specified by the Village Engineer within 24 hours of notice. Supplemental watering may be performed during the period of establishment or any time prior to final acceptance of the project.

Disposal of Surplus Material: Surplus and waste materials resulting from sodding operations shall be disposed of by the Contractor, at his/her own expense.

D. PLANTING

Description: This work shall consist of digging and preparing plant holes, and of furnishing, transporting and planting trees, shrubs, vines, seedlings and other materials.

It shall also include all incidental operations such as mulching, bracing, wrapping, care of living plants and replacements of unsatisfactory plants.

Planting Time: Except for container grown items, plants must be dormant when delivered to the storage site or project.

Bare root plant material shall be planted only when the air temperatures exceed 35 degrees F. The Contractor shall begin this work not later than September 1, following the award date of the contract.

a. Spring Planting: This work shall be performed from the time the soil can be worked until the plant, under field conditions, is not dormant except that:

1. Evergreen planting shall end April 30.
2. Seedlings shall be planted only during the spring planting season.
3. The planting time may be extended for container grown plants if the Village Engineer determines that the weather conditions are favorable.

b. Fall Planting: This work shall be performed from the time the plant becomes dormant until the ground cannot be satisfactorily worked except that evergreen planting shall be performed between August 15 and October 15.

Digging of Plants: Plants shall not be dug until the Contractor is ready to transport them from their original locations to the site of the work or approved storage. The maximum time lapse between digging and being properly loaded for delivery to the site of the work or being placed in approved storage, shall be 4 days for balled or burlapped plants and one day for bare root plants. They shall be dug with care, avoiding injury to the plants or loss or damage of the roots, particular attention being given to fibrous roots. Immediately after digging, roots shall be protected against drying out and freezing. Bare root plants shall be dug only when air temperatures exceed 35 degrees F.

Transportation: During transportation, the Contractor shall exercise care to prevent injury and drying out of the plants. Upon arrival at the temporary storage location of the site of the work, plants will be inspected for proper shipping procedures. Should the roots be dried out, large branches be broken, balls of earth be broken or loosened, or areas of bark be torn, the Village Engineer may reject the injured tree. When a tree has been so rejected, the Contractor shall at once remove it from the area of the work and replace it.

Temporary Storage: No plant shall remain in temporary storage over the summer. Plants delivered to the project that are not to be planted immediately shall be protected in the following manner:

a. Bare Root Plants: Plants may remain on the site of the work only 24 hours prior to being planted or placed in storage. During this 24 hour period, the Contractor shall continue to exercise care to prevent injury and drying out of the plants. The roots of plants to be placed in storage shall first be puddled in a paste solution of the prepared backfill used in planting and water. The plants shall then be protected and kept moist by "heeling-in" the roots or by placing the plant in a cool moist storage building. The "heeling-in" procedure shall require the plants to be separated and the roots heeled in a suitable moist soil. If plants are stored in a building, the roots shall be covered with a suitable moist mulch. Winter storage of bare rooted plants will be allowed only in temperature and humidity controlled buildings. The Village Engineer shall approve the storage methods. The duration of storage, the method of storage and the materials used for mulch and "heeling-in" shall meet with the approval of the Village Engineer.

b. Balled and Burlapped Plants and Container Grown Plants: Plants may remain on the site of the work only 72 hours prior to being planted or placed in storage.

Balled and burlapped plants shall be kept moist and their solidity carefully preserved. To prevent drying out or freezing, they shall be stored either in a cool moist storage building or placed in a compact group with a suitable mulch material placed around and between the balls so they are completely covered.

Container grown plant material shall be kept moist by watering as directed by the Village Engineer. To prevent freezing, they shall be stored either in a cool moist storage building or placed in a compact group with a suitable mulch material placed around and between the balls so they are completely covered.

The duration of storage, method of storage and mulch material for balled and

burlap material and container grown plant material shall meet the approval of the Village Engineer.

Layout of Planting: The area to be planted shall be finished to line and grade before planting operations are begun. The Contractor shall furnish all marking flags for locating plants and shall mark thereon the key number and size of plants. The Village Engineer will place the marking flags and outline each area for mass or solid planting.

Excavation of Plant Holes: The sides of all plant holes shall be vertical and the bottoms horizontal. On slopes, the depth of excavation will be measured at the center of the hole. Unless otherwise specified, the excess material excavated from the holes shall be spread in the immediate area as directed by the Village Engineer. The excavated material shall not be stockpiled on turf or in ditches. The sides of holes shall not be glazed or smooth.

- a. Excavation for Trees: Holes for trees shall be dug at the location indicated by the marking flags. The diameter of the hole shall be at least 24" wider than the diameter of the ball and the depth of the hole shall be 2" less than the depth of the ball.
- b. Excavation for Shrubs, Vines and Seedlings: Holes for shrubs, vines and seedlings shall be dug within the marked outline of the planting bed. The interval of planting will be designated on the plans. Spacing shall be measured from center to center and alternate rows shall be staggered.

Prior to digging shrub and vine holes, existing vegetation on the area shall be mowed or treated with a non-selective, post emergent non-residual herbicide approved by the Village Engineer. The area shall then be tilled to a minimum depth of 2 inches until free of debris, gullies, clods, weeds, stones and roots.

Holes for shrubs shall be dug to a minimum diameter of 18 inches greater than the diameter of the ball or container. Holes for vines shall be dug to a minimum diameter and depth of 8 inches.

Immediately prior to planting seedlings, the existing grass and weed growth within the planting area shall be cut to a maximum height of 2 inches. On slopes flatter than 3:1, the soil adjacent to the plant row parallel to the contour shall be prepared by cultivating or scalping to remove all grass and weed growth, in a continuous strip not less than 18 inches wide. The seedlings shall be planted in the center of this strip.

Holes for seedlings shall be made large enough to accommodate the root system with a spade, planting bar or an approved mechanical tree planting machine.

Individual holes for container grown plants shall be excavated to the same dimensions for comparable size balled and burlapped material.

Pruning: Pruning shall be done in such a manner as to preserve the natural growth habit or each plant. The method and location of pruning and the percentage of growth to be removed shall be the approval of the Village Engineer, all pruning shall be done with sharp tools in accordance with the best horticultural practices.

The ends of all broken and damaged roots of 1/4 inch or larger shall be pruned with a clean cut, removing only the injured portion. All broken branches, stubs and improper cuts of former pruning shall be removed.

a. Deciduous Trees: Pruning shall consist of thinning the twigs or branches as dictated by the habit of growth of the various types of the trees to be pruned, and as directed by the Village Engineer. The leader and terminal buds shall not be cut unless directed by the Village Engineer.

b. Deciduous Shrubs: In general, shrubs shall be cut back to 1/2 of their height.

Shrubs that are slow growing or do not sucker readily shall be pruned in the same manner as deciduous shade trees.

c. Evergreens: Evergreens shall not be pruned except to remove broken branches.

Planting Procedures: The prepared backfill shall consist of a mixture of topsoil, peat moss and fertilizer. To each cubic yard of topsoil, add 3 cubic feet of loose peat moss, 3 pounds of phosphorus nutrients and 1 pound of potassium nutrients. The method of mixing the components of the prepared backfill shall meet the approval of the Village Engineer. The compressed ratio of the baled peat moss will determine the number of loose cubic feet contained therein. Topsoil shall be stockpiled at locations approved by the Village Engineer.

At the end of the establishment period, nitrogen nutrients shall be uniformly applied to the surface of all backfilled areas where trees, shrubs and vines were planted at the rate of 6 pounds of nutrients per 1000 square feet on inorganic mulch, and 10 pounds of nutrients per 1000 square feet on organic mulch.

The prepared backfill soil shall, at the time of planting, be in a loose, friable condition. At no time shall the prepared backfill or other topsoil used on the job be stockpiled on turf or in ditches.

All plants shall be placed in a plumb position and set 2 inches higher than the depth they grew in the nursery. Prepared backfill shall be placed around the root system. Tamping or watering shall accompany the backfilling operation to eliminate air pockets.

Thorough watering of trees, shrubs and vines, with a method approved by the Village Engineer, shall follow the backfilling operation. This watering shall completely saturate the backfill and be performed during the same day of planting. After the ground settles, as a result of the watering, additional backfill shall be placed to match the level of the finished grade. Approved watering equipment shall be at the site of the work and in operational condition prior to starting the planting operation.

a. Balled and Burlapped Plants: After the plant is placed in the hole, all cords and burlap shall be cut away from the trunk.

b. Container Grown Plants: Prior to placing the plant in the hole, the container shall be removed with care so as not to disturb the ball of soil that contains the root system.

During the planting operation, care shall be taken not to destroy the solidity of the ball of soil. Pots of material that will decompose in one growing season need not be removed.

c. Bare Root Plants: The roots shall be carefully spread in a natural position and prepared backfill shall be worked in around the roots so each root is individually packed to eliminate air pockets. The plant shall be gently raised and lowered to assure contact of the roots with the soil.

d. Seedling Plants: When seedlings are removed from storage for planting, they shall be transported to the planting site in containers of water and the roots shall be continuously immersed until planted. The roots shall be placed in the center of the hole and prepared backfill shall be compacted around the roots to eliminate air pockets. The prepared backfill shall be saturated with water after the plant is placed. Any unplanted seedlings left at the end of each day shall be removed from the water, the roots wrapped in moist materials and the seedlings placed in storage.

Mulch Cover: A mulch cover shall be provided for all plants except seedlings. A 4-inch deep circular water saucer of soil shall be constructed around single plants and shall be filled with mulch material to a depth of not less than three inches (3"). When the plant is in a bed in which spacing is less than 6 feet on centers, the entire bed shall be mulched to a depth of not less than three inches (3") and with a mulch material. The mulch shall extend 3 feet beyond the peripheral plants of the bed.

Wrapping: Within 7 days after planting, all shade trees of 2 1/2 inches diameter or larger shall be wrapped from the ground to the lowest major branch. Unless otherwise specified, a double layer of commercial screen wire mesh shall be wrapped around the trunk of the tree. The screen wire shall be secured to itself with staples or single wire strand tied to the mesh.

E. PERIOD OF ESTABLISHMENT AND GUARANTEE

Final inspection of all work will be made during the month of September each year. To be acceptable, the plant must be in a live healthy condition, representative of its species, and shall have been growing in place for not less than one year prior to inspection. No portion of this work will be inspected until all items of work are completed.

Plants that do not meet the requirements for acceptance shall be replaced by the Contractor at his/her own expense following the date of inspection and prior to November 15 or in the case of items specified for spring planting only, prior to the following May 15, at which time another final inspection will be made for replacements only. Should replacements include both spring and fall items, the Contractor may elect to plant all replacements in the spring, prior to May 15.

The Contractor shall remove immediately from the site of the work any dead plant material. During spring or fall planting, the Contractor will not be permitted to terminate the operation until all plant material is in a live, healthy condition. All plant material which dies within 15 days after being planted shall be replaced at the time and shall be considered as part of the original planting and be subject to the requirement of the period

of establishment.

Plant Care: During the period of establishment, the Contractor shall properly care for all plants doing such weeding, watering, adjusting of braces, repair of water saucers or other work which is necessary to maintain the health and satisfactory appearance of the plantings. All requirements for proper care during the period of establishment shall be considered as incidental to the cost of the contract and shall be performed within 5 days following notification by the Village Engineer.

- a. During the period of establishment, additional watering shall be performed at least once within every 30 days during the months of May through December. The schedule for watering within the 30 day increment will be determined by the Village Engineer. Should excessive moisture conditions prevail, the Village Engineer may delete any of all of the additional watering cycles or any part of said cycles.

The water shall be applied to individual plants in such a manner that the plant hole will be saturated without allowing the water to overflow beyond the earthen saucer. Watering of plants in beds shall be applied in such a manner that all plant holes are uniformly saturated without allowing the water to flow beyond the periphery of the bed. The plants to be watered and the method of application shall be approved by the Village Engineer. The Contractor shall not be relieved in any way from the responsibility for unsatisfactory plants due to the amount of supplemental watering.

- b. During the period of establishment, weeds and grass growth shall be removed from within the earthen saucer of individual trees and from the area within the periphery of the mulched plant beds. This weeding shall be performed at least twice during the months of May through September. The weeding schedule will be determined by the Village Engineer.

The weeding may be performed in any manner approved by the Village Engineer provided the weed and grass growth, including their roots and stems, are removed from the area specified therein. Mulch disturbed by the weeding operation shall be replaced to its original condition. All debris that results from this operation must be removed from the right of way at the end of each day.

The plants weeded will be determined by the Village Engineer. The Contractor shall not be relieved in any way from the responsibility for unsatisfactory plants due to the extent of weeding.

APPENDIX IV**SUITABLE TREES FOR PLANTING IN THE RIGHT-OF-WAY**

The following list of trees are compiled from the Chicago Horticultural Society—Chicago Botanical Garden, Best Deciduous Trees for Chicago and Selecting & Planting Trees by the Morton Arboretum:

~~Acer Nigrum—Black maple
Acer rubrum—Red maple
Acer saccharum—Sugar maple
Acer triflorum—Three flowered maple
Carpinus caroliniana—American hornbeam, Ironwood, Musclewood
Carya cordiformis—Bitternut hickory
Carya ovata—Shagbark hickory
Celtis occidentalis—Hackberry
Cladrastis lutea—Yellowwood
Corylus colurna—Turkish filbert
Ginkgo biloba—Ginkgo (male only)
Gleditsia triacanthos var. Inermis—Thornless honeylocust
Gymnocladus dioecus—Kentucky coffeetree
Liquidambar styraciflua—Sweetgum
Liriodendron tulipifera—Tulip tree
Nyssa sylvatica—Black tupelo
Ostrya virginiana—American Hophornbeam
Platanus x acerifolia—London planetree
Platanus occidentalis—Sycamore
Pyrus calleryana—Callery pear
Quercus alba—White oak
Quercus imbricaria—Shingle oak
Quercus macrocarpa—Bur oak
Quercus robur—English oak
Quercus rubra—Red oak
Tilia americana—Linden
Tilia cordata—Littleleaf linden
Ulmus parvifolia—Chinese elm (disease resistant)~~

**APPENDIX V
VILLAGE OF LINCOLNSHIRE**

LANDSCAPING SPECIFICATIONS FOR NATIVE PLANTINGS

A. GENERAL

1.1 Description of Work:

~~A. The work shall consist of preparing and amending existing soils, furnishing, transporting and installing all seeds, plant and other materials and protecting said materials as required for the repair and restoration of the specified site.~~

~~1. Prepare soils for installation of seed and plant materials.~~

~~2. Installation of emergent, wet mesic and/or mesic native plants and seed in any location.~~

~~3. Protecting seed and plant materials pre and post installation.~~

~~4. Post-planting monitoring and management.~~

~~5. Additional work as necessary to meet the specified performance standard.~~

1.2 Qualifications:

~~A. On the work site at all times when work is being conducted, shall be a qualified superintendent, capable of reading and thoroughly understanding the plans and Specifications. This agent and/or the contracted company shall have at least ten years experience in installing, maintaining and managing native landscaping and shall have a thorough knowledge of their installation, maintenance practices and management needs.~~

~~This agent and/or the contracted company shall demonstrate that they have adequate and appropriate equipment and labor resources. Demonstration of company qualifications shall be submitted with the bid.~~

1.3 Equipment

~~A. All equipment and materials shall meet or exceed federal, stated, county and Village regulations.~~

~~B. A list of all equipment to be used shall be provided to the Village prior to the initiation of any work. Equipment which is inappropriate for this type of work shall be rejected. The Village shall have the right to reject or approve any piece of equipment.~~

~~C. Equipment shall be suited for the installation of native landscaping. Equipment shall not be used when damage to the soils or site may occur, i.e. rutting or compaction or~~

~~prepared soils.~~

~~D. Seeding equipment shall be designed to accommodate a wide variety of seed types, sizes and shapes. Information shall be provided to the Village as to the ability of the seeding equipment selected to adequately plant native seed.~~

~~1.4 Site Access~~

~~A. All weight and vehicle restrictions shall be observed as imposed by the federal, state, county and Village regulations for access to the site.~~

~~B. Access to the site shall be solely as shown on the approved plans. When necessary, additional or alternative access areas must be approved by written order of the Village.~~

~~1.5 Submittals~~

~~A. A schedule shall be provided to the Village outlining the proposed start and end dates for site access preparation, site preparation and stabilization, planting and seeding for each planting zone.~~

~~B. A site plan shall be submitted to the Village identifying:~~

~~1. Specific zones for planting.~~

~~2. Plant and seed lists for specific planting zones including quantities seeding rates per species and spacing of plants.~~

~~3. Location and specification of erosion control measures.~~

~~1.6 Conditions~~

~~A. All grades, soils and water levels, shall be examined and observed conditions shall meet specifications prior to the initiation of any work. If unsatisfactory conditions exist the Village shall be notified. Work shall not proceed until unsatisfactory conditions have been corrected in an acceptable manner.~~

~~1.7 Guarantees~~

~~A. All seeded and planted areas shall be guaranteed through the specified maintenance period and until all performance criteria have been met.~~

~~B. METHOD~~

~~All work shall be in accordance to the specifications, including soil preparation, plant and/or seed installation, plant and/or seed protection and maintenance to meet performance~~

requirements.

1.2 — Plant Materials

A. Native Planting

- ~~1.Plants, freshly dug tubers and plants shall be provided. No materials which have been in cold storage shall be used.~~
- ~~2.All live herbaceous plants shall be potted, two year old nursery grown stock.~~
- ~~3.All preparations shall be made for the planting of tubers prior to their arrival. Once received tubers shall be planted immediately. If planting is delayed more than four hours after delivery, plants shall be set in shade, protected from weather and mechanical damage, and kept moist.~~
- ~~4.Container grown stock shall not be removed from containers until planting time.~~
- ~~5.Plants shall be free from insects and diseases and must show appearance of normal health and vigor.~~
- ~~6.Plants species and origin shall be certified to be true to their name and local within a 150 mile radius of the project location with species and subspecies native to Lake County, Illinois.~~
- ~~7.All plant material, including collected stock, shall comply with the state and federal laws with respect to inspection for plant diseases and insect infestations.~~
- ~~8.Plants shall be packed in such a manner as to insure adequate protection against damage while in transit. The plants shall be carefully protected with wet material to ensure that the plants are delivered, stored and planted in a moist and cool condition.~~
- ~~9.Water levels fluctuate and planting conditions will vary. Planting should not be conducted when conditions are not appropriate.~~
- ~~10.All emergent herbaceous perennial plants, tubers, bulbs and dormant rootstock shall be installed in 0-6" of water.~~
- ~~11.Plants shall be planted to adequate depth to ensure against desiccation.~~
- ~~12.Plants shall be planted at a minimum density of 3,000 plants/acre. Unless an alternative planting plan is approved in writing by the village, plants shall be planted in pods, or groupings to provide blocks of color.~~

~~13. All plants shall be protected from geese and other predators on all sides by 24" high fencing attached to wooden stakes with nylon lines crosshatched across the top to prohibit geese from landing in the area. Said fencing shall be maintained by the contractor and removed by the contractor one full growing season after installation or as otherwise directed.~~

~~14. No planting shall take place in areas where herbicide has been applied for a minimum period of 14 days following application. Instructions on the pesticide label shall be followed. All herbicides must be applied by a licensed operator under the direction of a licensed applicator.~~

~~15. Final plant and seed lists and any plant or seed species substitutions must be approved by the Village. Prior to the start of work, the contractor will provide the village with the proposed plant and seed lists and the name(s) of the proposed plant and seed supplier(s). The final plants/seed mix are subject to the approval of the Village.~~

~~B. Seed Mixtures~~

~~1. All seed shall have the proper stratification and/or scarification to break seed dormancy for other than fall planting.~~

~~2. All legumes shall be inoculated with the proper rhizobia and at the appropriate time prior to planting.~~

~~3. All seed shall be packed and covered in such a manner as to ensure adequate protection against damage and maintain dormancy while in transit, storage or during planting operations.~~

~~4. All seed shall be certified to be true to their name and their origin shall be certified to be local within a 150 mile radius of the project. Certification shall be provided to the Village prior to installation.~~

~~5. All seed grass species shall be supplied as pure live seed. Lab germination test results shall be provided to the Village prior to installation.~~

~~6. All seeded areas shall be protected from geese and other predators on all sides by 24" high fencing attached to wooden stakes with nylon lines crosshatched across the top to prohibit geese from landing in the area. Said fencing shall be removed by the contractor one full growing season after installation or as otherwise directed.~~

~~7. The Contractor shall be aware that water levels fluctuate and planting conditions vary. Contractor shall not seed in zones where water levels exist and protect seeded areas from water by using erosion control mulch or straw mat.~~

~~8. Seed lists and any seed substitutions must be approved by the Village.~~

~~9. The use and species of a cover crop must be approved by the Village and shall not be annual rye.~~

~~1.3 Erosion Control~~

~~A. Clean, seed-free hay or threshed straw of wheat, oats or barley shall be provided for use in areas where there are slopes flatter than 6:1.~~

~~B. Straw mat, or other erosion control blanket shall be provided, as is appropriate for use in erosion control on all areas seeded or plugged with slopes steeper than 6:1. Blanket with synthetic net shall not be used. The mat shall be affixed to the ground surface by mechanical crimping or other method approved by the Village.~~

~~C. EXECUTION~~

~~1.1 Preparation~~

~~A. Soil Preparation~~

~~1. Top soil shall be fertile, friable, loam surface soil without admixture of subsoil and free of stones, stumps, roots, trash, debris and other materials which might inhibit good plant growth. Soil aggregates shall not exceed one (1) inch in the largest diameter.~~

~~2. Check compaction of subsoil and adjust as necessary. Subsoil should not have a compaction greater than 350 pounds per square inch based on soil penetrometer measurements.~~

~~3. The pH range shall be 6.5 to 8.4. Topsoil that does not meet this pH range will be amended by the addition of pH adjusters.~~

~~4. Organic content shall not be less than 3% and not greater than 10% determined by loss through ignition.~~

~~5. Soil nutrient content shall be as follows, as determined by appropriate laboratory analysis:~~

_____	Phosphorus	Min. 75 lb./Ac
_____	Potassium	Min. 300lb./Ac
_____	Calcium	Min. 1,500 ppm
_____	Magnesium	Min. 100 ppm
_____	Cation Exchange Capacity	Min. 20 meq/100g
_____	Soluble Salt	Max. 1,000 ppm

6. Gradation shall meet the following specification:

<u>Sieve Designation</u>	<u>Percent Passing</u>
1" screen	100
1/4" screen	97 - 100
No. 10 U.S.S.	95 - 100
No. 140 U.S.S.	60 - 90
No. 270 U.S.S.	25 - 50

Clay content determined by Bouyoucous Hydrometer Test shall range between 5% and 20%. Percentages shall be based on dry weight of the sample.

7. Topsoil shall be uniformly distributed to provide a minimum 8 inch depth after compaction and finishing grade. Top soil shall be spread cultivated, lightly compacted to prevent future settlement, dragged, and graded to finished grade.

8. The prepared seedbed must be approved by the Village prior to any seeds being sowed.

1.4 Plant Installation

A. Native seed varies widely in size and shape. Prior to starting work, all seeding equipment shall be calibrated and adjusted to sow seeds at the proper seeding rate. Equipment shall be operated in a manner to insure complete coverage of the entire areas to be seeded.

B. If a rangeland type grass drill or no till planter is used, rolling of the seed bed will not be required.

C. Seeding and planting shall take place between May 1 and June 15 or after October 1 until the ground is frozen. Seeding shall not be performed from June 16 through September 30th unless prior written approval is received from the Village.

1.5 Monitoring

A. Vegetation monitoring, during the first three growing seasons shall be conducted monthly for the months of April, May, June, July, August, September, October and November using the meander search method. Reports shall be submitted monthly and shall begin the first month following installation. Monitoring in years four forward shall be conducted in May and September. Reports shall be submitted within two weeks of the conclusion of each monitoring session and not later than the 15th of the month. All report shall outline the following:

1. Percent of vegetation cover throughout the site.

- ~~2. A list and estimated percent cover of the predominant species present.~~
- ~~3. A list and estimated percent cover of the non-native invasive species present.~~
- ~~4. A detailed description of management undertaken during the previous month and recommended management measures for subsequent months.~~
- ~~5. Any other site conditions that should be noted, i.e. drainage problems, erosion, wildlife damage, extreme water level fluctuations, damage to the site by equipment and any remediation required.~~

1.6 Maintenance

~~A. Maintenance shall begin immediately after planting.~~

~~B. All planted and seeded areas shall be maintained by prescribed burning (if allowed), high mow management, replanting or reseeding, and invasives control management as is required to establish vegetation free of bare or eroded areas or areas that are infested with invasive plants.~~

~~C. Plants and seed shall be watered as necessary to support healthy growth and stable consistent plant development.~~

~~D. Reseed and replace dead or declining plant material as necessary to meet the performance standard in the year the damage is observed. All replacement plants must be of the same size as the plants that are thriving in the planted area. Plant replacements shall be completed according to the installation instructions.~~

~~If at the conclusion of the three year maintenance period, the planted areas do not meet the performance specification, the Village shall draw on the letter of credit to have the work done to meet the performance specification. Any costs associated with this work, maintenance and monitoring, during this period, shall be taken from the letter of credit.~~

~~Any substitutions must be approved by the Village.~~

~~E. The site shall be managed for invasive plant species as listed on the Invasive Plant Management Schedule (as provided by the Village). Prior to the initiation of any herbicide treatments, the operator or applicator shall provide to the Village for approval:~~

- ~~1. A list of all herbicides to be used.~~
- ~~2. Method for applying the herbicide.~~
- ~~3. Specific plants the herbicides are to be used for.~~

~~4. The formulation for those herbicides (including any additives, i.e. surfactants, dyes, carriers, etc.)—Site or dye is required for all herbicide applications.~~

~~5. Names and copies of licenses for all herbicide applicators who will be working at the site.~~

~~6. Dates and weather restrictions for when all herbicides are to be applied.~~

~~F. Copies of licenses for all herbicide operators who will be working at the site.~~

~~1. Dates and weather restrictions for when all herbicides are to be applied.~~

~~G. For the first two growing seasons, the planted area shall be mowed every four to six weeks throughout the growing season to a height not less than 8". This mowing is to be conducted frequently enough to cut weeds before they form seed heads. If seed heads form on weeds they must be cut by hand and removed from the site. (Weeds are any non-native plants growing in the seeded and planted areas.)~~

~~H. Manual removal of invasive plants and seed heads for invasive plants, as specified on the Invasive Plant Management Schedule, must be completed by hand with all seed heads removed from the site.~~

~~I. Prescribed burns shall be conducted at the conclusion of the third growing season. All licenses and permits required to conduct a prescribed burn from state and local authorities shall be completed and all requirements met before initiating a prescribed burn. Prescribed burns shall be conducted annually for years four through six and every other year thereafter if the performance criteria have been met.~~

~~1. Obtain a permit from the Illinois Environmental Protection Agency.~~

~~2. Obtain a permit from the Village of Lincolnshire.~~

~~3. Provide a burn plan to the Village of Lincolnshire and the Lincolnshire Riverwoods Fire Protection District that includes the following:~~

~~a. Location of burn.~~

~~b. Licenses and experience levels for fire personnel.~~

~~c. Site plan for implementation of burn.~~

~~d. Equipment to be used.~~

~~e. Water sources.~~

~~f. Restrictions based on weather conditions and site conditions.~~

~~g. Emergency plan.~~

~~h. Other resources.~~

- ~~4. Notify all occupied buildings as required by the Village of Lincolnshire permit.~~
- ~~5. Request permission to burn from the Lincolnshire Riverwoods Fire Protection District prior to each day burning is conducted and notify them at the conclusion of each prescribed burn session.~~
- ~~6. Notify Red Center, Lincolnshire Police Department and the Village Forester prior to each day burning is conducted and at the conclusion of each prescribed burn.~~
- ~~7. Provide to the Village a post burn report that outlines the percentage of the site burned and any problems encountered.~~

~~1.7 Performance Standard~~

~~A. At the end of the first growing season, seeded and planted areas shall meet or exceed 75% plant cover, seedlings of six planted grass/sedge species found and seedlings of six planted forb species found within any given one meter transect as selected by the Village. No invasive species shall be present.~~

~~B. At the end of the second growing season, seeded and planted areas shall meet or exceed 80% plant cover, 5% cover by planted native grass/sedge species, 15% cover by planted forb species and 20% of planted species found within any given one meter transect as selected by the Village.~~

~~On sites that are less than two acres in size, where planting or restoration has taken place, no invasive species shall be present.~~

~~On sites that are more than two acres in size, where planting or restoration work has taken place, invasive species shall comprise no more than 10% of the plant cover.~~

~~C. At the end of the third growing season, seeded and planted areas will meet or exceed the following performance criteria with 95% plant cover, 20% cover by planted native grass/sedge species, 40% cover by planted forb species and 60% of planted species found within any given one meter transect as selected by the Village.~~

~~On sites that are less than two acres in size, where planting or restoration has taken place, no invasive species shall be present.~~

~~On sites that are more than two acres in size, where planting or restoration work has taken place, invasive species shall comprise no more than 5% of the plant cover.~~

~~D. If at the conclusion of the three year maintenance period, the planted areas do not meet the performance specification, the Village shall draw on the letter of credit to have the work done to meet the performance specification. Any costs associated with this work, maintenance and monitoring, during this period, shall be taken from the letter of credit.~~

Invasive Plant Management Schedule

Plant Name	Specific Management	J a n	F e b	M a r	A p r	M a y	J u n e	J u l y	A u g	S e p t	O c t	N o v	D e c	Comments
Common and Glossy-Buckthorn (Rhamnus-cathartica and fragula)	Cut and immediately wick-apply herbicide.	X	X	X			X	X	X	X	X	X	X	Foliar application of herbicide should not be considered unless the site is to be completely reseeded with the understanding that all plants will be killed.
Honeysuckle (Lonicera-tatarica, maackii, japonica)	Cut and immediately wick-apply herbicide.	X	X	X			X	X	X	X	X	X	X	Foliar application of herbicide should not be considered.
Multiflora-Rose (Rosa-multiflora)	Cut and immediately wick-apply herbicide.	X	X	X			X	X	X	X	X	X	X	Foliar application of herbicide should not be considered.
Teasel (Dipsacus-sylvestris, laciniatus)	Herbicide rosettes. Cut seed heads, remove from site. Herbicide cut stock close to ground.			X	X	X	X					X		Biennial, important to catch rosettes in first year. Care needs to be taken to remove all seed heads from site. Do not mow. Manually remove heads.
Reed Canary-Grass (Phalaris-arundinacea)	Herbicide stands of grass. Cut seed heads, remove from site. Herbicide cut stock close to ground.				X	X	X							

Garlic-Mustard (Allaria-petiolata)	Herbicide-rosettes. Hand-pull plants.— Remove from site.			X	X							X	X		Biennial, important to catch rosettes in first year. Care needs to be taken to remove all seed heads from site. Do not mow. Manually remove heads.
Crown-Vetch (Coronilla-varia)	Cut and herbicide-plant close to the ground. Remove-cut plants from-site.				X	X	X	X	X	X	X				
Bird'S-Foot-Trefoil (Lotus-corniculatus)	Cut and herbicide-plant close to the ground. Remove-cut plants from-the site.				X	X	X	X	X	X	X				
Canada-and-Bull-Thistle (Cirsium-arvense, vulgare)	Herbicide-small-plants or rosettes. Cut seed heads-and remove from-site. Herbicide-cut stalks close to the ground.			X	X	X	X					X	X		Bull thistle is a biennial. It is important to catch rosettes in first year. Care needs to be taken to remove all seed heads from site. Do not mow. Manually remove heads. Canada thistle is a perennial. Remove all seed heads from the site.
Plant Name	Specific-Management	J	F	M	A	M	J	J	A	S	O	N	D	Comments	
		a	e	a	p	a	u	u	u	e	e	e	e		
		n	b	r.	r.	y	n	l	g	t.	t.	v.	e.		
		r.	r.				e	y	r.	r.	r.	r.	r.		
Purple-Loosestrife (Lythrum-salicaria)	Herbicide-young-plants. Cut seed heads-and remove from-site. Herbicide-cut stems close to the ground.					X	X								This plant grows in wet conditions.— An aquatic herbicide must be used if it is in the water or close to the water.
								X	X	X	X				

Oct. _____ Nov. _____

Development

Name: _____

Address: _____

Person Completing the Form: _____ **Phone**
Number: _____

Company: _____

Email Address: _____

ATTACH A COPY OF THE VILLAGE OF LINCOLNSHIRE-
INVASIVE PLANT MANAGEMENT SCHEDULE TO THIS REPORT.

Work completed since last report:

1. Plant and/or Seed Installations: Yes _____ No _____ (Attach lists of plants and seed to form. Include sources, name, address and certifications.)

Dates work completed: _____

Locations: Emergent: _____ Wet Mesic _____ Mesic _____

Other: _____

Comments: (If not first installation list reason for replacement plantings and seeding) _____

2. **Watering:** Yes _____ No _____ Dates work completed:-

Locations: Emergent: _____ Wet Mesic _____ Mesic _____

Other: _____

Comments:-

3. **Mowing:** Yes _____ No _____ Date work completed:-

Mower Ht. _____

Locations: Emergent: _____ Wet Mesic _____ Mesic _____

Other: _____

List plants by percentage: Native Plants _____ Non Native Plants _____

Total Plant Cover _____

Comments: _____

4. **Manual Invasives Management:** Yes _____ No _____ Date: _____

Plant Species Controlled: _____

Method Used: _____

Locations: Emergent: _____ Wet Mesic _____ Mesic _____

Other: _____

Plant Species Controlled: _____ Method Used: _____

Locations: Emergent: _____ Wet Mesic _____ Mesic _____
Other: _____

Plant Species Controlled: _____
Method Used: _____

Locations: Emergent: _____ Wet Mesic _____ Mesic _____
Other: _____

Plant Species Controlled: _____
Method Used: _____

Locations: Emergent: _____ Wet Mesic _____ Mesic _____
Other: _____

Recommended Remediation: _____

5. Proposed Burn Management: Prior to the initiation of any burns, you must submit a copy of your awarded IEPA burn permit and apply for a Village of Lincolnshire Burn Permit.

_____ Date Proposed: _____ Date Completed: _____

Occupied buildings, as required by the VOL permit were notified. Yes _____ No _____

Approval was received from: VOL Police Department Yes _____ No _____

Lincolnshire Riverwoods Fire Protection Dist. Yes _____ No _____

VOL Forester Yes _____ No _____

Red Center Yes _____ No _____

Percentage of the Site Burned: _____

Comments: _____

6. Herbicide Applications: Yes _____ No _____ (List each date, herbicide used, location and method.)

Date: _____ Herbicide Used: _____

Formulation: _____

Additives if any: _____

Type of Application: _____

Weather Conditions: Temperature _____ Wind Speed _____

Plant(s) Species Controlled: _____

~~Recommended~~

Remediation: _____

Locations: Emergent: _____ Wet Mesic _____ Mesic _____

Other: _____

Date: _____ Herbicide Used: _____

Formulation: _____

Additives if any: _____ Type of Application: _____

Weather Conditions: Temperature _____ Wind Speed _____

~~Plant(s) Species~~

~~Controlled:~~ _____

~~Recommended~~

Remediation: _____

Locations: Emergent: _____ Wet Mesic _____ Mesic _____

Other: _____

Date: _____ Herbicide Used: _____

Formulation: _____

Additives if any: _____

Type of Application: _____

Weather Conditions: Temperature _____ Wind Speed _____

~~Plant(s) Species~~

Controlled: _____

~~Recommended~~

Remediation: _____

Locations: Emergent: _____ Wet Mesic _____ Mesic _____

Other: _____

Date: _____ Herbicide Used: _____

Formulation: _____

Additives if any: _____

Type of Application: _____

Weather Conditions: Temperature _____ Wind Speed _____

~~Plant(s) Species~~

Controlled: _____

~~Recommended~~

Remediation: _____

Locations: Emergent: _____ Wet Mesic _____ Mesic _____

Other: _____

**7. Percentage of Native Plant Cover: _____ Percentage of Invasive Plant Cover: _____
Percentage of Non-Native Plant Cover: _____**

8. Additional Comments or Recommendations: _____

9. Site Drawing: Please draw the site managed or attach a site map and identify locations where activities took place.

Submit Native Landscape Report Form to:

The Village of Lincolnshire, One Olde Half Day Road, Lincolnshire, IL 60069

~~Questions can be directed to the Village of Lincolnshire, 847-883-8600.~~

REQUEST FOR BOARD ACTION
COMMITTEE OF THE WHOLE
June 8, 2015

Subject: Prevailing Wage Rates

Action Requested: Consideration and Discussion of an Ordinance Adopting the Prevailing Wage Rates to be Paid to Laborers, Mechanics and Other Workers Performing Construction of Public Works for the Village of Lincolnshire (Village of Lincolnshire)

Originated By/Contact: Robert Horne, Engineering Supervisor

Referred To: Village Board

Summary / Background:

The Village of Lincolnshire is required by the State of Illinois "Prevailing Wage Act" to establish wage rates annually for construction projects under our control. Lincolnshire must investigate and ascertain the prevailing rate of wages to be paid for laborers, mechanics and workers performing construction of Public Works projects in Lake County.

The attached ordinance, *An Ordinance Adopting the Prevailing Wage Rates to be paid to Laborers, Mechanics and other Workers Performing Construction of Public Works for the Village of Lincolnshire*, includes the Illinois Department of Labor listing for prevailing wages for construction projects in Lake County. The June 2015 list is attached for Village Board reference.

Any contractor performing Public Works for the Village of Lincolnshire must pay at least the prevailing wage rate for workers in each category.

820 ILCS 130/2 defines "Public Works" as "all fixed works constructed or demolished by any public body, or paid wholly or in part out of public funds." Construction is defined as "all work on public works involving laborers, workers or mechanics. This includes any maintenance, repair, assembly, or disassembly work performed on equipment whether owned, leased, or rented."

Budget Impact:

N/A

Service Delivery Impact:

N/A

Recommendation:

Consideration and direct placement on the June 22, 2015, Consent Agenda.

Reports and Documents Attached:

Draft Ordinance
Illinois Dept. of Labor Lake County Listing (June 2015)

Meeting History	
Initial Referral to Village Board (COW):	June 8, 2015
Regular Village Board Meeting:	June 22, 2015

ORDINANCE - _____ -

**AN ORDINANCE ADOPTING THE PREVAILING WAGE RATES TO BE PAID TO
LABORERS, MECHANICS AND OTHER WORKERS PERFORMING
CONSTRUCTION OF PUBLIC WORKS FOR THE VILLAGE OF LINCOLNSHIRE**

WHEREAS, the State of Illinois has enacted the Prevailing Wage Act, approved June 26, 1941, as amended, being 820 ILCS 130/0.01 through 130/12 (the “Act”); and

WHEREAS, the Act requires that during the month of June each calendar year the Village of Lincolnshire investigate and ascertain the prevailing rate of wages, as defined in said Act, in the “Locality” of the Village for laborers, mechanics and other workers performing construction of public works for the Village.

NOW THEREFORE, BE IT ORDAINED by the Mayor and Board of Trustees of the Village of Lincolnshire, Lake County, Illinois, as follows:

Section 1: To the extent and as required by the Act, the general prevailing rate of wages in this locality for laborers, mechanics or other workers engaged in the construction of public works coming under the jurisdiction of this Village is hereby ascertained to be the same as the prevailing rate of wages for construction work in Lake County as determined by the Department of Labor of the State of Illinois (the “Department”), as of June 1, 2015, a copy of that determination being attached hereto and incorporated herein by reference. As required by said Act, any and all revisions of the prevailing rate of wages by the Department shall supersede the Department’s June determination and apply to all public works construction undertaken by the

Village. The definition of any terms appearing in this Ordinance which are also used in the Act shall be the same as the definition specified in the Act.

Section 2: Nothing herein is intended to apply or shall be construed to apply said general prevailing rate of wage as herein ascertained to any work or employment performed on behalf of the Village except public works to the extent required by the Act.

Section 3: The Village Clerk shall publicly post or keep available for inspection by any interested party in the Village Hall this determination of prevailing rate of wages. A copy of this determination or of the current revised determination of prevailing rate of wages then in effect shall be attached to all contract specifications, purchase orders, invoices or other procurement documents related to the performance of public works. The Village shall discharge its duty to notify contractors of any revised rates by inserting a written stipulation in all contracts or other written procurement instruments that states the prevailing rate of wages are revised by the Department of Labor and are available on the Department's official website.

Section 4: The Village Clerk shall promptly file a certified copy of this Ordinance with the Department of Labor of the State of Illinois, but in no event later than July 15, 2015.

Section 5: Within thirty (30) days after filing a certified copy of this Ordinance with the Department of Labor, the Village Clerk shall cause to be published in a newspaper of general circulation within the Village a notice that this determination is effective and constitutes the determination of this public body.

Section 6: The Village Clerk shall mail a copy of this Ordinance to any employer, to any association of employers, and to any person or association of employees, who have filed their names and addresses requesting copies of any determination stating the particular rates and the particular class of workers whose wages will be affected by such rates.

Section 7: If any section, paragraph, clause, or provision of this Ordinance shall be held invalid, the invalidity thereof shall not affect any of the other provisions of this Ordinance.

Section 8: All Ordinances in conflict herewith are hereby repealed to the extent of such conflict.

Section 9: All Ordinances in conflict herewith are hereby repealed to the extent of such conflict.

PASSED this 22nd day of June, 2015, by the Corporate Authorities of the Village of Lincolnshire on a roll call vote as follows:

AYES:

NAYS:

ABSENT:

APPROVED this 22nd day of June, 2015.

Elisabeth Brandt, Village Mayor

ATTEST:

Barbara Mastandrea, Village Clerk

Lake County Prevailing Wage for June 2015

(See explanation of column headings at bottom of wages)

Trade Name	RG	TYP	C	Base	FRMAN	M-F>8	OSA	OSH	H/W	Pensn	Vac	Trng
=====	==	===	=	=====	=====	=====	===	===	=====	=====	=====	=====
ASBESTOS ABT-GEN		ALL		38.200	38.700	1.5	1.5	2.0	13.78	10.12	0.000	0.500
ASBESTOS ABT-MEC		BLD		35.100	37.600	1.5	1.5	2.0	11.17	10.76	0.000	0.720
BOILERMAKER		BLD		45.650	49.760	2.0	2.0	2.0	6.970	17.81	0.000	0.400
BRICK MASON		BLD		42.580	46.840	1.5	1.5	2.0	9.850	13.60	0.000	1.030
CARPENTER		ALL		43.350	45.350	1.5	1.5	2.0	13.29	13.75	0.000	0.630
CEMENT MASON		ALL		42.000	44.000	2.0	1.5	2.0	9.900	17.24	0.000	0.500
CERAMIC TILE FNSHER		BLD		35.810	0.000	1.5	1.5	2.0	10.55	8.440	0.000	0.710
COMMUNICATION TECH		BLD		35.130	37.230	1.5	1.5	2.0	11.07	11.77	0.000	0.530
ELECTRIC PWR EQMT OP		ALL		0.000	0.000	0.0	0.0	0.0	0.000	0.000	0.000	0.000
ELECTRIC PWR EQMT OP		HWY		39.220	53.290	1.5	1.5	2.0	5.000	12.17	0.000	0.390
ELECTRIC PWR GRNDMAN		ALL		30.330	53.290	1.5	1.5	2.0	5.000	9.400	0.000	0.300
ELECTRIC PWR GRNDMAN		HWY		0.000	0.000	0.0	0.0	0.0	0.000	0.000	0.000	0.000
ELECTRIC PWR LINEMAN		ALL		45.360	51.480	1.5	1.5	2.0	5.000	14.06	0.000	0.450
ELECTRIC PWR LINEMAN		HWY		46.950	53.290	1.5	1.5	2.0	5.000	14.56	0.000	0.470
ELECTRIC PWR TRK DRV		ALL		30.340	51.480	1.5	1.5	2.0	5.000	9.400	0.000	0.300
ELECTRIC PWR TRK DRV		HWY		31.400	53.290	1.5	1.5	2.0	5.000	9.730	0.000	0.310
ELECTRICIAN		BLD		39.400	43.340	1.5	1.5	2.0	13.59	15.71	0.000	0.640
ELEVATOR CONSTRUCTOR		BLD		50.800	57.150	2.0	2.0	2.0	13.57	14.21	4.060	0.600
FENCE ERECTOR		ALL		35.840	37.840	1.5	1.5	2.0	13.01	11.51	0.000	0.300
GLAZIER		BLD		40.000	41.500	1.5	2.0	2.0	12.49	15.99	0.000	0.940
HT/FROST INSULATOR		BLD		48.450	50.950	1.5	1.5	2.0	11.47	12.16	0.000	0.720
IRON WORKER		ALL		43.000	45.000	2.0	2.0	2.0	13.45	20.65	0.000	0.350
LABORER		ALL		38.000	38.750	1.5	1.5	2.0	13.78	10.12	0.000	0.500
LATHER		ALL		43.350	45.350	1.5	1.5	2.0	13.29	13.75	0.000	0.630
MACHINIST		BLD		44.350	46.850	1.5	1.5	2.0	6.760	8.950	1.850	0.000
MARBLE FINISHERS		ALL		31.400	32.970	1.5	1.5	2.0	9.850	13.10	0.000	0.600
MARBLE MASON		BLD		41.780	45.960	1.5	1.5	2.0	9.850	13.42	0.000	0.760
MATERIAL TESTER I		ALL		28.000	0.000	1.5	1.5	2.0	13.78	10.12	0.000	0.500
MATERIALS TESTER II		ALL		33.000	0.000	1.5	1.5	2.0	13.78	10.12	0.000	0.500
MILLWRIGHT		ALL		43.350	45.350	1.5	1.5	2.0	13.29	13.75	0.000	0.630
OPERATING ENGINEER		BLD	1	47.100	51.100	2.0	2.0	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		BLD	2	45.800	51.100	2.0	2.0	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		BLD	3	43.250	51.100	2.0	2.0	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		BLD	4	41.500	51.100	2.0	2.0	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		BLD	5	50.850	51.100	2.0	2.0	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		BLD	6	48.100	51.100	2.0	2.0	2.0	17.10	11.80	1.900	1.250
OPERATING ENGINEER		BLD	7	50.100	51.100	2.0	2.0	2.0	17.10	11.80	1.900	1.250

OPERATING ENGINEER	FLT 1	52.450	52.450	1.5	1.5	2.0	16.60	11.05	1.900	1.250			
OPERATING ENGINEER	FLT 2	50.950	52.450	1.5	1.5	2.0	16.60	11.05	1.900	1.250			
OPERATING ENGINEER	FLT 3	45.350	52.450	1.5	1.5	2.0	16.60	11.05	1.900	1.250			
OPERATING ENGINEER	FLT 4	37.700	52.450	1.5	1.5	2.0	16.60	11.05	1.900	1.250			
OPERATING ENGINEER	FLT 5	53.950	52.450	1.5	1.5	2.0	16.60	11.05	1.900	1.250			
OPERATING ENGINEER	FLT 6	35.000	35.000	1.5	1.5	2.0	16.60	11.05	1.900	1.250			
OPERATING ENGINEER	HWY 1	45.300	49.300	1.5	1.5	2.0	17.10	11.80	1.900	1.250			
OPERATING ENGINEER	HWY 2	44.750	49.300	1.5	1.5	2.0	17.10	11.80	1.900	1.250			
OPERATING ENGINEER	HWY 3	42.700	49.300	1.5	1.5	2.0	17.10	11.80	1.900	1.250			
OPERATING ENGINEER	HWY 4	41.300	49.300	1.5	1.5	2.0	17.10	11.80	1.900	1.250			
OPERATING ENGINEER	HWY 5	40.100	49.300	1.5	1.5	2.0	17.10	11.80	1.900	1.250			
OPERATING ENGINEER	HWY 6	48.300	49.300	1.5	1.5	2.0	17.10	11.80	1.900	1.250			
OPERATING ENGINEER	HWY 7	46.300	49.300	1.5	1.5	2.0	17.10	11.80	1.900	1.250			
ORNAMNTL IRON WORKER	ALL	43.900	46.400	2.0	2.0	2.0	13.36	17.24	0.000	0.650			
PAINTER	ALL	33.920	38.090	1.5	1.5	1.5	10.75	11.10	0.000	0.770			
PAINTER SIGNS	BLD	33.920	38.090	1.5	1.5	1.5	2.600	2.710	0.000	0.000			
PILEDRIVER	ALL	43.350	45.350	1.5	1.5	2.0	13.29	13.75	0.000	0.630			
PIPEFITTER	BLD	46.000	49.000	1.5	1.5	2.0	9.000	15.85	0.000	1.780			
PLASTERER	BLD	40.340	42.340	2.0	1.5	2.0	9.900	19.04	0.000	0.500			
PLUMBER	BLD	46.650	48.650	1.5	1.5	2.0	13.18	11.46	0.000	0.880			
ROOFER	BLD	40.100	43.100	1.5	1.5	2.0	8.280	10.54	0.000	0.530			
SHEETMETAL WORKER	BLD	41.530	44.850	1.5	1.5	2.0	10.48	20.06	0.000	0.690			
SIGN HANGER	BLD	31.310	33.810	1.5	1.5	2.0	4.850	3.280	0.000	0.000			
SPRINKLER FITTER	BLD	49.200	51.200	1.5	1.5	2.0	11.75	9.650	0.000	0.550			
STEEL ERECTOR	ALL	42.070	44.070	2.0	2.0	2.0	13.45	19.59	0.000	0.350			
STONE MASON	BLD	42.580	46.840	1.5	1.5	2.0	9.850	13.60	0.000	1.030			
SURVEY WORKER	-> NOT IN EFFECT			ALL	37.000	37.750	1.5	1.5	2.0	12.97	9.930	0.000	0.500
TERRAZZO FINISHER	BLD	37.040	0.000	1.5	1.5	2.0	10.55	10.32	0.000	0.620			
TERRAZZO MASON	BLD	40.880	43.880	1.5	1.5	2.0	10.55	11.63	0.000	0.820			
TILE MASON	BLD	42.840	46.840	1.5	1.5	2.0	10.55	10.42	0.000	0.920			
TRAFFIC SAFETY WRKR	HWY	32.750	34.350	1.5	1.5	2.0	6.550	6.450	0.000	0.500			
TRUCK DRIVER	ALL 1	35.850	36.400	1.5	1.5	2.0	7.200	6.000	0.000	0.150			
TRUCK DRIVER	ALL 2	36.000	36.400	1.5	1.5	2.0	7.200	6.000	0.000	0.150			
TRUCK DRIVER	ALL 3	36.200	36.400	1.5	1.5	2.0	7.200	6.000	0.000	0.150			
TRUCK DRIVER	ALL 4	36.400	36.400	1.5	1.5	2.0	7.200	6.000	0.000	0.150			
TUCK POINTER	BLD	41.950	42.950	1.5	1.5	2.0	8.180	11.78	0.000	0.630			

Legend: RG (Region)

TYP (Trade Type - All,Highway,Building,Floating,Oil & Chip,Rivers)

C (Class)

Base (Base Wage Rate)

FRMAN (Foreman Rate)

M-F>8 (OT required for any hour greater than 8 worked each day, Mon through Fri.)

OSA (Overtime (OT) is required for every hour worked on Saturday)

OSH (Overtime is required for every hour worked on Sunday and Holidays)

H/W (Health & Welfare Insurance)

Pensn (Pension)

Vac (Vacation)

Trng (Training)

Explanations

LAKE COUNTY

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile,

fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATION TECHNICIAN

Low voltage construction, installation, maintenance and removal of telecommunication facilities (voice, sound, data and video) including outside plant, telephone, security systems and data inside wire, interconnect, terminal equipment, central offices, PABX, fiber optic cable and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area network), LAN (local area networks), and ISDN (integrated system digital network), pulling of wire in raceways, but not the installation of raceways.

MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all

marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEER - BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft; Concrete Paver 27E cu. ft. and Under; Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors,

All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welders.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines: ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dredges; Elevators, Outside type Rack & Pinion and Similar Machines; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes; Backhoes with shear attachments up to 40' of boom reach; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine; Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole

Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Dowell Machine with Air Compressor; Gradall and machines of

like nature.

OPERATING ENGINEER - FLOATING

Class 1. Craft Foreman; Master Mechanic; Diver/Wet Tender; Engineer; Engineer (Hydraulic Dredge).

Class 2. Crane/Backhoe Operator; Boat Operator with towing endorsement; Mechanic/Welder; Assistant Engineer (Hydraulic Dredge); Leverman (Hydraulic Dredge); Diver Tender.

Class 3. Deck Equipment Operator, Machineryman, Maintenance of Crane (over 50 ton capacity) or Backhoe (115,000 lbs. or more); Tug/Launch Operator; Loader/Dozer and like equipment on Barge, Breakwater Wall, Slip/Dock, or Scow, Deck Machinery, etc.

Class 4. Deck Equipment Operator, Machineryman/Fireman (4 Equipment Units or More); Off Road Trucks; Deck Hand, Tug Engineer, Crane Maintenance (50 Ton Capacity and Under) or Backhoe Weighing (115,000 pounds or less); Assistant Tug Operator.

Class 5. Friction or Lattice Boom Cranes.

Class 6. ROV Pilot, ROV Tender

SURVEY WORKER - Operated survey equipment including data collectors, G.P.S. and robotic instruments, as well as conventional levels and transits.

TRAFFIC SAFETY - work associated with barricades, horses and drums used to reduce lane usage on highway work, the installation and removal of temporary lane markings, and the installation and removal of temporary road signs.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights,

barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnatrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

MATERIAL TESTER & MATERIAL TESTER/INSPECTOR I AND II

Notwithstanding the difference in the classification title, the classification entitled "Material Tester I" involves the same job duties as the classification entitled "Material Tester/Inspector I". Likewise, the classification entitled "Material Tester II" involves the same job duties as the classification entitled "Material Tester/Inspector II".

**REQUEST FOR BOARD ACTION
June 8, 2015 Committee of the Whole**

Subject: Consideration and Discussion of an Agreement between the Village of Lincolnshire and the Des Plaines River Watershed Workgroup

Action Requested: Consideration and Discussion

Originated By/Contact: Robert Horne, Engineering Supervisor

Referred To: Village Board

Summary:

As a follow-up to recent actions taken by the Des Plaines River Watershed Workgroup (DRWW), the workgroup determined that a formal agreement (attached) needed to be established with all participating communities. The agreement establishes the DRWW Fund within the Lake County financial system, which allows Lake County Stormwater Management Commission to serve as the DRWW's financial agent.

Budget Impact:

As has been previously discussed with the Village Board, the Village of Lincolnshire will be invoiced an annual due of \$1,862.00. The required funding has been included in the 2015 budget year.

Service Delivery Impact:

As explained previously, participation will limit the need to increase sanitary treatment rates to Village residents and the Village will be able to take advantage of water pollutant monitoring results to utilize in National Pollutant Discharge Elimination System (NPDES) Phase II reporting.

Recommendation:

Staff recommends the Village Board place this agreement on the June 22nd Consent Agenda for approval.

Reports and Documents Attached:

- Des Plaines River Watershed Workgroup Draft Agreement and By-Laws
- Staff Report and Cover Memorandum from June 6, 2014 Committee of the Whole meeting Regarding the Creation of the DRWW
- Letter of Membership Support

Meeting History	
Initial Referral to Village Board (COW):	June 8, 2015
Regular Village Board Meeting:	June 22, 2015

DES PLAINES RIVER WATERSHED WORKGROUP AGREEMENT

This "Agreement" is made by and among the North Shore Water Reclamation District, various Illinois Municipal Corporations, the County of Lake, Illinois, other Units of Local Government, Not-for-Profit Corporations, and Private Parties (collectively, the "Parties").

Recitals

The Parties have individually and collectively determined that the Des Plaines River Watershed "Watershed", generally described in the map attached as Exhibit B, which is made a part of this Agreement by this reference, may be in need of water quality improvements, and they have further determined that it would be beneficial to enter into a cooperative agreement by forming the Des Plaines River Watershed Workgroup "DRWW" through this Agreement to provide for the collection of data that would assist in identifying issues that impact local and regional water quality within the Watershed

The scope of the work the Parties intend to perform under this Agreement is limited in nature as to provide for the collection of water quality data. The Parties, through the DRWW, intend to jointly perform (or to contract with others for the performance of) the following type of work, which shall be referred to as the "Intended Work": collecting water quality data and assisting in identifying potential water quality impairments based on the collected water quality data.

The Parties have determined that the DRWW would consolidate the limited resources of the Parties and limit duplication of work. After consideration of planning, fiscal, and other issues involving water quality and affecting this matter, each of the Parties has determined that it is in the interests of its citizens, representative groups, and of the general public welfare that this Agreement be executed and implemented.

To achieve the aforementioned goals and objectives, the Parties may rely upon the powers and authority granted to them, individually and collectively, pursuant to the Intergovernmental Cooperation Act, 5 ILCS 220/1 et seq.; Article VII, Section 10 of the 1970 Constitution of the State of Illinois; the Local Land Resource Management Planning Act, 50 ILCS 805/1 et seq.; the Illinois Drainage Act, 70 ILCS 605/1 et seq.; and other statutory authority, including without limitation 55 ILCS 5/5-1062 et seq., providing authority to the Stormwater Management Commission; the Environmental Protection Act, 415 ILCS 5 et seq.; The Green Infrastructure for Clean Water Act, 415 ILCS 56/1 et seq.; and other applicable law.

In light of the foregoing, the Parties now agree as follows:

1. Incorporation of Recitals.
 - A. The recitals to this Agreement are incorporated by this reference.
2. Bylaws; Membership; Officers and Executive Board.
 - A. Membership in the DRWW shall be governed by the DRWW bylaws, which are attached to and made a part of this Agreement as Exhibit D.
 - B. Officers of the DRWW shall be governed by the DRWW bylaws, and chosen through the process set forth in the bylaws.
 - C. The Executive Board shall be constituted as set forth in the DRWW bylaws.
3. Funding.
 - A. To provide a source of funds to commence the Intended Work each Party agrees to contribute its proportionate share of the costs associated with the Intended Work, in accordance with the schedule of dues shown on Exhibit C, which is attached to and made a part of this Agreement by this reference and as described further in Paragraph 4.C. below. No party shall be required to provide any funds in excess of the dues that have been approved for any given fiscal year of that party and shall not be deemed to be obligated or legally required to appropriate and/or pay any dues for future fiscal years. The DRWW shall have no power or authority to incur any debt or obligation on behalf of a Party beyond the dues actually paid by the Party.
 - B. To make substantive progress on the Intended Work, the Parties must proceed expeditiously and

accordingly deem it advisable to authorize their officers, employees and representatives to cooperate with each other.

- C. Where not otherwise provided by in-kind contributions of a Party (i.e. services that a Party provides by using its own staff and equipment without reimbursement from the DRWW), the DRWW may, after approval by its Executive Board, engage the professional or other related services deemed necessary to accomplish the Intended Work.
- D. The DRWW may obtain, by and through its Executive Board, services to perform the Intended Work by engaging the services of professional (herein referred to collectively as "Watershed-Related Services") as are necessary to make substantive progress on the collection of data and identification of impairments to water quality. The Intended Work may be adjusted by mutual agreement of the Parties from time to time.
- E. The DRWW shall have no authority to hire employees or create a paid staff to manage the affairs of the DRWW. The DRWW shall have no authority to use funds of the DRWW to pay any per diem, food, lodging, entertainment, travel or educational expenses of the employees or officers of the members of the DRWW including the members of the DRWW Executive Board. Each Party shall be solely responsible for all employee benefits, wage and disability payments, pension and workers' compensation claims of the personnel who participate in the DRWW.

4. Cost Sharing for the Intended Work.

- A. Professional Related Services. The Parties agree that: (i) the DRWW, through its Executive Board, may engage professional services and other services to perform various aspects of the Intended Work and, with consultation and advice from the DRWW Committees, may engage water quality monitoring, planning, engineering, management, and financial service professionals or others to perform the Intended Work; (ii) the results of the Intended Work will be of common and mutual interest among the Parties, and such Intended Work, to the greatest measure reasonably achievable, shall be undertaken to advance the common interest of the Parties and not in a manner adverse to any of the Parties; and (iii) the DRWW shall share with, and seek input from, the Parties, per the DRWW Bylaws, in connection with the Intended Work.
- B. Payment. Subject to the terms of this Agreement, the DRWW will pay all costs relating to the Intended Work.
- C. Sharing of Cost Responsibilities; Dues, Revenues and Expenses. The Parties agree that they shall share the costs associated with the Intended Work based upon the dues collected per the DRWW bylaws. To that end, each Party shall deliver the dues shown on Exhibit C as its share of the costs of Intended Work to the DRWW annually (on or about June 1 for existing members, per the terms of the DRWW annual invoice sent prior to that date; or, for new members, the current dues amount adopted under the process set forth in the DRWW bylaws). The dues shall be held in a dedicated financial fund (the "DRWW Fund," described below) for dues, revenues and expenses related to the Intended Work. The amount of dues from each respective Party shall be as originally determined and shown on Exhibit C, which shall be annually reviewed and may be adjusted in accordance with the DRWW bylaws, through which the dues amounts shall be approved by a simple majority of the votes cast.
- D. DRWW Fund. A fund (known as an "agency fund") shall be established and maintained within the County of Lake's financial system as a separate, special fund for the exclusive use and purposes of the DRWW. This fund shall include the necessary expense and revenue accounts matching the type of goods and services paid for, and the revenue sources received.

All contracts for the Intended Work shall be let by using the procedures set forth in the County of Lake's Purchasing Ordinance, as that ordinance is amended from time to time. The Administrative Agent, described below, shall manage the process under the Purchasing Ordinance for the DRWW.

- E. Accounting. The DRWW shall provide to the Parties: (i) a quarterly report of revenues and expenditures from all DRWW financial accounts for all activities related to the Intended Work; (ii) a

year-end statement of revenues and expenditures; and (iii) an annual audit. The Intended Work shall be financially executed per DRWW bylaws.

- F. No Liability of the DRWW. The Parties agree that the DRWW shall not be liable to the other Parties, or to any individual Party, for any claim or damage of any kind whatsoever relating to the Intended Work. Each Party agrees to assume liability for its respective personnel assigned to the DRWW, as well as for vehicles and equipment provided by the Party. The Party shall be solely liable for any employee or officer of the Party which participates in the activities of the DRWW. If an injury is caused, in whole or in part, by a Party's personnel the Party shall bear the liability or obligation to indemnify and hold harmless all other members of the DRWW. "Personnel" shall include any officer or elected official of a Party.
 - G. Coordination of the Intended Work. To effectively coordinate the various elements of the Intended Work, the Parties agree that certain aspects should be allocated to various Committees, which will consist of officials or personnel of various Parties. Committee representation shall be by appointment in accordance with the DRWW bylaws, and will include at least the following:
 - i. Monitoring Committee: The Monitoring Committee shall oversee the monitoring program of the Workgroup and make appropriate recommendations for program revisions to the Executive Board.
 - ii. Lakes Committee: The Lakes Committee shall assist in identifying lakes tributary to the Des Plaines River that impact the water quality of the Des Plaines River and make appropriate recommendations for program revisions to the Executive Board.
 - iii. Impairments Committee: The Impairments Committee shall oversee the identification of impairments to water quality for the Workgroup and make appropriate recommendations for program revisions to the Executive Board.
 - H. Administrative Agent. The DRWW shall utilize the Lake County Stormwater Management Commission as its administrative agent for entering into contracts, making payments, as directed by the Executive Board, receiving dues or other grants or revenue, and for providing the financial accounting and reports required by this Agreement, or as directed by the Executive Board.
 - I. Freedom of Information; Open Meetings. The Parties agree that the DRWW shall be deemed to be governed by the requirements of the Illinois Open Meetings Act and the Illinois Freedom of Information Act and will conduct the affairs of the DRWW accord to said Acts.
 - J. Receipt of Other Funds. The DRWW is authorized to accept or receive any contributions, donations, and gifts from private individuals or entities, to carry out the purposes of this Agreement.
- 5. Representation and Cooperation. Each of the Parties represents that the persons executing this agreement on behalf of such Party is duly authorized to do so. The Parties agree that no Party shall have the right to compel any other Party to enter into any agreement that is not mutually acceptable. The Parties agree to meet and confer to discuss any disputes over the terms of this Agreement.
 - 6. Entire Understanding; Amendment. This Agreement contains the entire understanding of the Parties and the DRWW regarding cost-sharing obligations with respect to the Intended Work, Watershed-Related Services, and all other agreements, understandings, representations, and statements, if any, whether oral or written, are merged herein. The Parties agree that this Agreement, including the attached bylaws, may be amended only by a super majority of the DRWW Executive Board, and any such amendment will be deemed accepted by the signatories to this Agreement unless they submit a notice of termination, as set forth below, within 30 days of the amendment's effective date. (Unless otherwise specified, an amendment's effective date will ordinarily occur on the date the Executive Board approves the amendment).
 - 7. DRWW Formation Date, Execution by Parties, Agreement Effective Date and Renewal. The DRWW was officially formed as of the initial adoption of the DRWW bylaws, August 26, 2014, and this Agreement shall

be considered effective as of that date. This Agreement shall be executed by authorized representatives of the Parties, and each Party's membership shall become effective upon completion of the following three actions: (i) the Party signs this Agreement; (ii) the Party transmits a copy to the address listed under "Notices," below; (iii) the Party pays the dues contained in Exhibit C, as those dues may be amended from year to year. This Agreement may be executed in counterparts. This Agreement shall be in full force and effect as of August 26, 2014, and as to each Party shall automatically renew annually upon payment of the Party's annual dues and may continue for an indefinite time until dissolution of the DRWW occurs, in accordance with Paragraph 9 and the DRWW bylaws. This Agreement may be amended by a resolution approved by a super-majority of the DRWW Executive Board.

8. Termination by Individual Parties. A Party to this Agreement may give notice of termination and officially end its membership through 45 days' prior written notice to the addresses specified below under the section for Notices. Any terminating Party shall be responsible for its proportionate share of the costs of Intended Work that has been approved by the Executive Board prior to the date the termination notice is received. A Party shall have no financial liability beyond the current year for which dues have been paid.
9. Dissolution and Return of Remaining Funds. Upon dissolution of the DRWW pursuant to the DRWW bylaws, and only to the extent that any funds remain after payment of all costs related to completion of the Intended Work, the remaining Parties shall be reimbursed from the remaining funds in the same proportion as their respective contributions. The DRWW shall deliver such remaining funds to the Parties within 90 days after the dissolution of the DRWW, unless otherwise agreed by the Parties.
10. Notices. All notices to the DRWW under this Agreement shall be sent to:

Des Plaines River Watershed Workgroup
Attn: President
500 W. Winchester Road, Suite 201
Libertyville, IL 60048

With a copy to:
North Shore Water Reclamation District
Attn: Executive Director
14770 W. Wm. Koepsel Drive
Gurnee, IL 60031

[SIGNATURES ON THE FOLLOWING PAGE - EXHIBIT A]

Exhibit A

Des Plaines River Watershed Workgroup Agreement

— SIGNATURE PAGE —

IN WITNESS WHEREOF, pursuant to proper authority duly granted, the Party signing below agrees to join the Des Plaines River Watershed Workgroup and be bound by the terms of this Agreement.

<p>_____</p> <p>Member Organization (or Self)</p> <p>_____</p> <p>Authorized Signature</p> <p>_____</p> <p>Print Name</p> <p>_____</p> <p>Date</p>	<p>ATTEST:</p> <p>_____</p> <p>Signature</p> <p>_____</p> <p>Print Name</p> <p>_____</p> <p>Date</p>
<p>Contact Information:</p> <p>Address: _____</p> <p>_____</p> <p>Telephone: _____</p> <p>Facsimile: _____</p> <p>Email: _____</p>	

EXHIBIT C

**Des Plaines River Watershed Workgroup
Executive Board Approved Dues
August 26, 2014**

Name	Area within the Des Plaines River Watershed (acres)	Design Average Flow (MGD)	Entity Dues
Antloch	1742		\$ 1,559
Beach Park	1221		\$ 1,152
Buffalo Grove	4515		\$ 3,722
Deer Park	1188		\$ 1,127
Deerfield	40		\$ 231
Grayslake	6520		\$ 5,286
Green Oaks	746		\$ 782
Gurnee	8379		\$ 6,736
Hainesville	1		\$ 201
Hawthorn Woods	3469		\$ 2,906
Indian Creek	171		\$ 333
Kildeer	2689		\$ 2,297
Lake County	29560	24.1	\$ 83,621
Lake County Forest Preserve District	16334		\$ 12,941
Lake Forest	107		\$ 283
Lake Villa	191		\$ 349
Lake Zurich	1812		\$ 1,613
Libertyville	5601	4	\$ 14,488
Lincolnshire	2111		\$ 1,847
Lindenhurst	2865	2	\$ 7,595
Long Grove	7759		\$ 6,252
Mettawa	1599		\$ 1,447
Mundelein	5848	4.95	\$ 17,037
North Shore Sanitary District	0	45.6	\$ 83,126
Northbrook	2		\$ 202
Old Mill Creek	6298		\$ 5,112
Park City	253		\$ 397
Riverwoods	1395		\$ 1,288
Round Lake Beach	400		\$ 512
Round Lake Park	36		\$ 228
Third Lake	516		\$ 602
Vernon Hills	5025		\$ 4,120
Wadsworth	5182		\$ 4,242
Waukegan	3215		\$ 2,708
Zion	1273		\$ 1,193
Associate Members			\$200
Individual Members			\$100

Updated annually according to the DRWW bylaws.

EXHIBIT D

BYLAWS OF THE DES PLAINES RIVER WATERSHED WORKGROUP (Revised - 05/15/15)

ARTICLE I - Name

The name of this organization is the Des Plaines River Watershed Workgroup of Lake County, hereinafter referred to as "DRWW" or the "Workgroup."

ARTICLE II - Mission, Goal and Objectives

Section 1. Mission. The mission of the Workgroup is to bring together a diverse coalition of stakeholders to work together to preserve and enhance water quality in the Des Plaines River and its tributaries within Lake County, Illinois.

Section 2. Goal. The goal of the Workgroup is to improve water quality in the Des Plaines River and its tributaries through monitoring, project and best practices implementation, and education and outreach that will achieve attainment of water quality standards and designated uses for the watershed.

Section 3. Objectives. The objectives of the Workgroup are:

- a. Develop and implement a watershed-based plan.
- b. Develop and implement a comprehensive monitoring program that will include chemical, physical and biological components to accurately identify the quality of the river ecosystems as well as stressors associated with non-attainment of water quality standards and designated uses.
- c. Identify point and nonpoint source pollution issues and develop and implement short-term and long-term strategies to address these issues.
- d. Develop and implement long-term viable management strategies that accurately address water quality problems identified by the monitoring program.
- e. Develop and maintain appropriate water quality models of the watersheds to assess attainment of these objectives.

ARTICLE III - Membership

Section 1. Membership in the Workgroup shall be classified as an Agency Member, an Associate Member, or an Individual Member.

Section 2. Agency Member – Any public agency holding an NPDES permit for a discharge into the Des Plaines River and its tributaries, either from a publicly owned treatment works or from a public separate storm sewer system, and the Lake County Forest Preserve District. An Agency Member shall be entitled to between four and eighteen votes at Workgroup meetings, based on dues paid according to the following tiers:

Dues Range	Number of Votes
\$100-9,999	4 votes
\$10,000-19,999	6 votes
\$20,000-29,999	8 votes
\$30,000-39,999	10 votes
\$40,000-49,999	12 votes
\$50,000-59,999	14 votes
\$60,000-69,999	16 votes
\$70,000-79,999	18 votes plus 2 votes for each additional \$9,999

Section 3. Associate Member – An agency, organization or company interested in the mission and objectives of the Workgroup that is not eligible for membership as an Agency member. An Associate Member shall be entitled to two votes at Workgroup meetings.

Section 4. Individual Member - An individual interested in the mission, goals, and objectives of the Workgroup who is not eligible for membership as an Agency Member or Associate Member. An Individual Member is entitled to one vote at Workgroup meetings.

Section 5. Admission to any membership category will be determined by the Executive Board. Upon receipt of a written request for admission, the Executive Board may approve said membership which will become effective upon payment of the appropriate dues and will remain in effect as long as the member remains in good standing with the Workgroup.

Section 6. Each Agency and Associate Member shall designate one or more Authorized Delegate(s) to cast its votes at Workgroup meetings. The Authorized Delegate(s) may be any designated employee of the Agency or representative of an Associate Member.

ARTICLE IV - Dues and Fiscal Year

Section 1. Annual dues are due on or before June 1 of each year. If a member fails to pay dues by August 1 or reach an agreement regarding the terms of dues with the Executive Board, the member's voting rights will be suspended.

Section 2. The annual dues for all members shall be set each year by recommendation of the Executive Board to the membership and approval by the membership at the Annual Meeting. Annual dues may consist of fees or approved in-kind services such as the provision of stream monitoring or other services by members to the Workgroup or a combination of fees and services, as determined by the Executive Board.

Section 3. Any member may withdraw from membership in the Workgroup by advising the President of its intent to do so.

Section 4. The fiscal year of the Workgroup shall commence on May 1 and conclude on the last day of April of the following calendar year.

ARTICLE V - Officers and Executive Board

Section 1. Officers. Workgroup officers shall include a President, Vice President, Treasurer, and Secretary. All officers must be the Authorized Delegate of an Agency Member.

Section 2. Executive Board. The Workgroup shall be governed by an Executive Board comprised of the four officers and the chairpersons of the three standing committees – Monitoring Committee, Impairments Committee, and Lakes Committee. Each member of the Executive Board shall be entitled to discuss and vote on matters coming before the Board. The immediate past president of the Workgroup shall be an ex-officio, nonvoting member of the Executive Board. A meeting of the Executive Board may be called upon a minimum ten days written notice by either the President or three members of the Executive Board. Four members of the Executive Board present at any meeting thereof shall constitute a quorum. A simple majority vote of a quorum shall control the policies and actions of the Executive Board.

Section 3. The President shall have general supervision of the affairs of the Workgroup and the Executive Board, shall preside at their respective meetings, and have the responsibility of overseeing contracts.

Section 4. The Vice President shall act in the absence of the President.

Section 5. The Treasurer, or his designee, shall receive and deposit all Workgroup monies, pay all bills approved by the Executive Board, and be responsible for all banking and reporting requirements to state and federal agencies.

Section 6. The Secretary, or his designee, shall maintain the records of the Workgroup, keep and distribute minutes and records of attendance of all meetings, and distribute all Workgroup notices and make a report to the membership of all such activities at the Annual Meeting.

Section 7. The President shall serve as the principal spokesperson for the Workgroup and shall represent DRWW in discussions of mutual concern with governmental agencies or associations.

Section 8. The Executive Board shall have the authority to enter into contracts and make payments for products and services reflected in the annual budget and to enter into agreements for grant funding for Workgroup purposes.

Section 9. Together the President and the Treasurer shall have the authority to make payments up to \$5,000 for goods and services that have been approved by the Executive Board.

Section 10. Workgroup actions shall be decided by consensus at Workgroup meetings whenever feasible. The Executive Board may authorize expenditures less than \$10,000 which are an emergency and cannot be delayed for review at a Workgroup meeting.

ARTICLE VI - Elections and Terms of Office

Section 1. The Executive Board shall nominate individuals for the offices of President, Vice President, Treasurer, and Secretary positions. The Executive Board shall attempt to nominate individuals as officers who represent a cross section of Workgroup members. Prior to January 1 of each year, the President shall send to the membership a complete list of officer nominees and a copy of the proposed budget and proposed dues for the next fiscal year.

Section 2. Petition(s) presenting additional nominees for Workgroup officers may be submitted to the Executive Board by Workgroup members no later than December 1 of each year. A petition must contain the signatures of Workgroup members representing a minimum of three Agency Members and each nominee's signature.

Section 3. Election of Workgroup officers shall occur during the Annual Meeting each year. Only the names of the individuals who have been nominated according to the procedures described herein will be considered, and no nominations shall be permitted from the floor.

Section 4. The President, Vice President, Treasurer, and Secretary shall be elected to two year terms, beginning at the close of each Annual Meeting.

Section 5. No one shall be eligible to serve as President until he or she has been a member of the Executive Board for one year, except the first year of the Workgroup.

Section 6. Board members may resign by submitting a letter to the President. If a Board Member's employment or group representation changes, their representation on the Board shall be reviewed by the Executive Committee. Vacancies shall be filled by appointment of the Executive Board until a successor is duly elected at the next Annual Meeting.

Section 7. The first election of the Executive Board shall take place at the next meeting after the bylaws have been adopted. Nominations for positions on the Executive Board shall be submitted to the Leadership Committee as described in Section 2.

ARTICLE VII - Workgroup Meetings

Section 1. Workgroup meetings shall be held as needed but at least quarterly. Notice of Workgroup meetings and proposed meeting agendas will be provided to all Workgroup members at least seven days prior to the meeting.

Section 2. An Annual Meeting of DRWW shall be held each February at a time and location to be determined by the Executive Board.

Section 3. Special Meetings of Workgroup members may be called by the President or the Executive Board or upon the written request of Workgroup members representing 25% addressed to the President or Executive Board.

Section 4. All meetings of the Workgroup shall be held within the watershed.

Section 5. Each Authorized Delegate and Individual member of the Workgroup shall be entitled to vote at Workgroup meetings.

Section 6. In the event an Authorized Delegate or Individual Member is unable to attend any Workgroup meeting, said member may designate, in writing, a proxy to cast the Member's vote(s) at a Workgroup meeting.

Section 7. At any Workgroup meeting, the presence of Workgroup members representing 25%, either in person or by proxy, shall constitute a quorum. A simple majority vote of a quorum of the Workgroup shall control the policies and actions of the Workgroup.

Section 8. The Workgroup shall maintain an informal atmosphere to ensure maximum participation of all members. However, to insure orderly procedure, Robert's Rules of Order may be invoked at any DRWW meetings.

ARTICLE VIII - Committees

Section 1. The Workgroup shall have three standing committees – Monitoring Committee, Impairments Committee, Lakes Committee. The Executive Board may appoint such other committees as are necessary.

Section 2. The Monitoring Committee shall oversee the monitoring program of the Workgroup and make appropriate recommendations for program revisions to the Executive Board.

Section 3. The Impairments Committee shall oversee the impairments program of the Workgroup and make appropriate recommendations for program revisions to the Executive Board.

Section 4. The Lakes Committee shall assist in identifying lakes tributary to the Des Plaines River that impact the water quality of the Des Plaines River and make appropriate recommendations for program revisions to the Executive Board.

Section 5. The President shall appoint the chairperson for all DRWW committees. The President shall attempt to appoint individuals as committee chairpersons who represent a cross section of Workgroup members. Each committee chairperson shall submit to the President a list of committee members. DRWW committee members may include any Workgroup member.

Section 6. The term of office of the chairperson of any DRWW committee shall be one year.

ARTICLE IX - Amendments

Any revision to the Bylaws shall be submitted to the Executive Board for their review. After the review by the Executive Board, it shall be submitted to the membership for a 30 day review and comment period. Any revision is effective after the comment and review period and with approval of a super-majority at a following Executive Board meeting.

Article X - DISSOLUTION

A motion to dissolve the Workgroup may be made by any Authorized Delegate at a regularly scheduled meeting at which a quorum is present. Upon receiving a proper second to the motion, the President shall defer action on the motion until the next regularly scheduled meeting of the Workgroup. All members shall be notified by mail of the pending motion to dissolve. At the next regularly scheduled meeting, the President shall, after discussion, call for a roll call vote on the motion to dissolve, which shall require the affirmative vote of 2/3 of all Workgroup member votes.

REQUEST FOR BOARD ACTION
COMMITTEE OF THE WHOLE
JUNE 9, 2014

Subject: **Des Plaines River Watershed Workgroup Membership**

Action Requested: **Consideration and Discussion of Membership in Workgroup**

Originated By/Contact: **Robert Horne, Asst. Dir. Public Works/Engineering Supervisor**

Referred To: **Mayor and Board of Trustees**

Summary / Background:

In an effort to reduce pollutants from the State's waterbodies (including Des Plaines River), the Federal Environmental Protection Agency (EPA) charged the Illinois Environmental Protection Agency (IEPA) and other agencies throughout the United States with reducing a variety of pollutants from State waters directly impacting National waters. As a result, the IEPA will be enforcing more stringent contamination levels required of Publically Owned Treatment Works (POTW) and Municipal Separate Storm Sewer Systems (MS-4's) as part of their annual NPDES permits. The levels being considered, while significant, do not require major capital improvements to the POTW sites at this time. Representatives of Lake County Treatment (and others) have been regularly meeting with the IEPA over the last year to determine how best to proceed with the impending requirements. As a result of these discussions, the IEPA encouraged the POTW's to work with all the communities within the watershed to develop the Des Plaines River Watershed Workgroup (DRWW).

Staff attended two DRWW meetings since early April, along with representatives from the other communities within the watershed (see attached dues list). The goal of the workgroup is to garner 100% participation of communities and POTW's within the watershed primarily for two reasons. First, greater participation will minimize dues impacts to each member, but more importantly, full participation will send a clear message to the IEPA that the workgroup is committed to good environmental stewardship within the Des Plaines River Watershed. This commitment will have a positive impact in the establishment of contamination levels for POTW's and MS-4's. The Village of Lincolnshire and its service users will benefit greatly by the Village's participation, as more stringent level requirements will result in higher rates for all users and increased costs for NPDES monitoring within the Village.

The IEPA believes water quality monitoring and improvement strategies will provide better insight to addressing the actual contamination problems, as opposed to blanket contaminant level requirements, that may or may not address the pollutants affecting the Des Plaines River. (Tie water quality monitoring and improvement strategies to the creation of workgroup.) Membership in the workgroup is important to the Village of Lincolnshire's residents for the following:

- First, the Village of Lincolnshire is required to maintain a MS-4 NPDES permit. More stringent monitoring requirements will increase costs to the Village. These costs have not been determined, as the actual increased monitoring requirements are not known at this time. However, combined resources will allow the Village to take advantage of shared monitoring results when available.

- Secondly, the formation of this type of workgroup has been strongly supported by the IEPA in other watersheds, such as the DuPage River, Fox River, and Lower DuPage River. These efforts have provided the IEPA with the information necessary to minimize blanket environmental requirements. These requirements would result in major capital improvements to many, if not all, of the POTW's within the Des Plaines River Watershed. These costs (initial estimates start at \$15 million), would ultimately be passed on to both residential and business customers.
- Lastly, the workgroup would be able to better identify pollutant sources and address the sources at a local level and from a unified approach.

Points of interest:

- While the IEPA has been very supportive of the workgroup approach, there are no guarantees future regulations may not be implemented which would force communities to lower pollutant levels that could result in the required capital improvements. This fact was discussed at the initial meeting with the IEPA present. The sense from the discussion was that this was a caveat as opposed to imminent.
- There are no plans to increase the dues in the near future. However, the workgroup is investigating the history of due increases in the DuPage River Watershed Workgroup. It is believed that there were no increases in the dues for the first 5-7 years of their 10 year existence. (*Staff is investigating*)
- Workgroup monitoring may not be able to be utilized in lieu of the required monitoring for the MS-4 NPDES permit. Staff is still investigating this issue with the IEPA and the DRWW. It is possible alternate year monitoring results may be utilized. However, the workgroup already sees potential savings by utilizing shared services to do the required MS-4 monitoring.
- Lastly, the dues will not be utilized for phase II and III engineering or construction of identified projects. Rather the community (or communities) would have to add the project cost into their capital plan. However, the funding can be utilized to do phase-I engineering and grant applications in favor of the project community (communities).

The goal of the committee is to garner 100% support by all communities within the watershed. This will keep membership fees to a minimum. The current fee structure proposed, advocates that 66% of the membership fees will be paid by the POTW's. The remaining fees will be paid by MS-4 permit holders (the communities in the watershed), which will be based on the membership fee, plus the acreage within the watershed, and finally, fees assessed to private organizations and/or individuals established as a base fee.

Budget Impact:

The Village of Lincolnshire's proposed fee is \$1,847.00. This is a \$200 membership fee, plus \$1,647 based on acreage within the watershed. (2,111 Acres * \$.78/Acre). However, there will be no budget impact this year.

Service Delivery Impact:

No service impacts.

Recommendation:

Should the Village Board choose to participate, staff will provide the commitment letter (attached) and ensure that the appropriate funds are accounted for in the 2015 budget.

Reports and Documents Attached:

- DRWW Support Request Letter
- DRWW Factsheet
- Des Plaines Watershed Map
- Potential Dues Calculation List
- DRWW Support Confirmation Letter

Meeting History	
Initial Referral to Village Board (COW):	June 9, 2014
Regular Village Board Meeting:	June 23, 2014

RECEIVED

MAY 1 2014

VILLAGE OF LINCOLNSHIRE
PUBLIC WORKS DEPT.



Des Plaines River Watershed Workgroup

Rob Horne
Engineering Supervisor
Village of Lincolnshire
One Olde Half Day Rd.
Lincolnshire, IL 60069-3035

April 28, 2014

Dear Rob:

Lakes and streams within the Des Plaines River watershed have been identified by the Illinois Environmental Protection Agency (Illinois EPA) as impaired for phosphorus, fecal coliform, chloride, and other pollutants. These pollutants are a result of point and nonpoint source pollution entering rivers and streams from discharge pipes and from the drainage of stormwater. The waterbodies do not meet Illinois EPA's designated uses of aquatic life, primary contact recreation, and fish consumption. Illinois EPA's goal is to improve water quality so that waterbodies, such as the Des Plaines River, can be removed from the impaired list.

In lieu of imposing more stringent permit limits to communities' National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4s) permits and costly upgrades to publically owned treatment works' (POTWs), Illinois EPA has expressed strong support and recommended the formation of a workgroup to take on these issues of water quality impairment at the local level. This model has been successfully implemented within the region (the DuPage River Salt Creek Workgroup, Fox River Study Group, and Lower DuPage River Watershed Coalition, for example).

In response, MS4s and POTWs within the Des Plaines River watershed in Lake County have initiated efforts to form a workgroup: a voluntary, dues paying, membership organization that would monitor and strategize to improve water quality based on scientific data, making decisions at the local level. Membership would consist of NPDES permit holders (MS4 permittees and POTWs), environmental groups, consultants, and concerned citizens. The Des Plaines River Watershed Workgroup, would meet quarterly, be governed by a set of bylaws and an elected executive board, and provide many benefits to the general membership including:

- ◆ Water quality improvements
- ◆ Local decision making
- ◆ Cost savings
- ◆ NPDES permit compliance: shared monitoring effort, education and outreach materials
- ◆ Continuing education credits to maintain professional certifications

Your participation and support are necessary in order to make the Des Plaines River Watershed Workgroup a success. Annual dues will be needed to sustain the work effort. These proposed dues are based on NPDES permits: total drainage area within MS4 communities and design average flow for

POTWs (see attached list of membership dues). We request that you indicate your participation through a letter of commitment by July 1, 2014. Membership dues will be submitted annually beginning June 1, 2015.

Annual dues will be used to implement a comprehensive, watershed wide monitoring program, which will be the basis for implementing water quality improvements, and to cover technical and administrative support. The annual dues will also be used as match for completing the watershed planning effort, including an action plan outlining implementation projects, within the Des Plaines River watershed. We are in the process of submitting a Section 319 grant application to Illinois EPA and your indication of participation and financial support in the Workgroup will help support our application.

We've enclosed a factsheet, map, list of membership dues, and template letter of support for your use. Please provide us with a response to our request that we can use to support our 319 grant application and for budgeting purposes. We're available to discuss this further if needed. Please feel free to contact me with questions jheinz@libertyville.com, (847) 918-2100 or Andrea Cline acline@lakecountyil.gov (847)377-7710.

Sincerely,

A handwritten signature in black ink, appearing to read "John Heinz". The signature is stylized with a large initial "J" and a long horizontal stroke extending to the right.

John Heinz
Director of Public Works, Village of Libertyville
on behalf of the Des Plaines River Watershed Workgroup

Des Plaines River Watershed Workgroup Factsheet

Des Plaines River Watershed Workgroup



Watershed Facts

- The Des Plaines River watershed covers over 130,000 acres or just over 200 square miles in Lake County Illinois.
- The Des Plaines River starts just west of Kenosha, Wisconsin and flows south through Racine and Kenosha Counties in Wisconsin, and then through Lake, Cook, and Will Counties in Illinois. The river then joins the Sanitary and Ship Canal in Lockport, flows west through Joliet, before converging with the Kankakee River to form the Illinois River. The Illinois River then flows into the Mississippi River, which flows south to the Gulf of Mexico.
- In Lake County, there are nine subwatersheds that make up the larger Des Plaines River watershed: North Mill Creek, Mill Creek, Newport Drainage Ditch, Bull Creek, Indian Creek, Buffalo Creek, Aptakisic Creek, Upper Des Plaines mainstem and Lower Des Plaines mainstem.
- The Des Plaines River watershed includes 33 Lake County municipalities, 12 townships, and two drainage districts. There are eight wastewater treatment plants that discharge approximately 80 million gallons a day of treated wastewater to the Des Plaines River in Lake County.
- The majority of the mainstem of the river is bordered by forest preserves and open space in Lake County.

Water Quality

- Within Lake County, portions of the Des Plaines River and its tributaries are impaired and are not meeting their designated uses under the federal Clean Water Act. Sections of the Des Plaines or its tributaries are listed as impaired for the following pollutants:
 - Arsenic
 - Chloride
 - Dissolved oxygen
 - Fecal coliform
 - Iron
 - Manganese
 - Methoxychlor
 - Mercury
 - Phosphorus
 - Polychlorinated biphenyls
 - Total Suspended Solids
- The Illinois Environmental Protection Agency (Illinois EPA) is in the process of creating Total Maximum Daily Loads (TMDLs), or “pollution diets”, for several stream segments and lakes, in the Des Plaines River watershed. A TMDL has been completed for part of the Des Plaines River and includes the Indian, Buffalo, Aptakisic subwatersheds and the lower Des Plaines mainstem in Lake County.
- Water pollution in the watershed is caused by a combination of point sources, a single source such as an outfall pipe conveying wastewater from an industrial plant or wastewater treatment facility, and non-point sources, runoff from the land, impervious surfaces, the drainage system, and deposition of air pollutants.



What is the Des Plaines River Watershed Workgroup?

- The Des Plaines River Watershed Workgroup (DRWW) is a voluntary, dues paying organization with a mission to bring together a diverse coalition of stakeholders to work together to improve water quality in the Des Plaines River and its tributaries in a cost effective manner to meet Illinois EPA requirements.
- Membership of the DRWW consists of communities, Publically Owned Treatment Works (POTWs), and other interested parties. The Workgroup consists of Agency members represented by NPDES permit holders, Associate members which are non-permit holding organizations, and individual members. Agency members will be represented by four votes, Associates members by two votes, and individual members by one vote.
- The DRWW will monitor water quality in the river and tributaries, prioritize and implement water quality improvement projects, and secure grant funding to offset the cost. Monitoring data will allow for a greater understanding of the water quality impairments, identify priority restoration activities, and track water quality improvements.
- The Workgroup is committed to an approach for attaining water quality standards that focuses on stakeholder involvement, monitoring, and locally led decision-making based on sound science.
- Both point and non-point sources are permitted by the Illinois EPA under the National Pollutant Discharge Elimination System (NPDES). Illinois EPA has been calling for more stringent limits of phosphorus discharge from POTWs that would necessitate costly plant upgrades. DRWW's method for improving water quality through prioritized project implementation based on monitoring will be more cost effective and efficient.
- The DRWW will be governed by bylaws, an elected Executive Board, and a voting, dues paying membership.
- Dues are based on Design Average Flow for POTWs and area within the watershed for MS4s. Dues are weighted so that POTWs will be responsible for two thirds of the annual budget and MS4s will be responsible for 1/3 of the annual budget.

Des Plaines River Watershed Workgroup

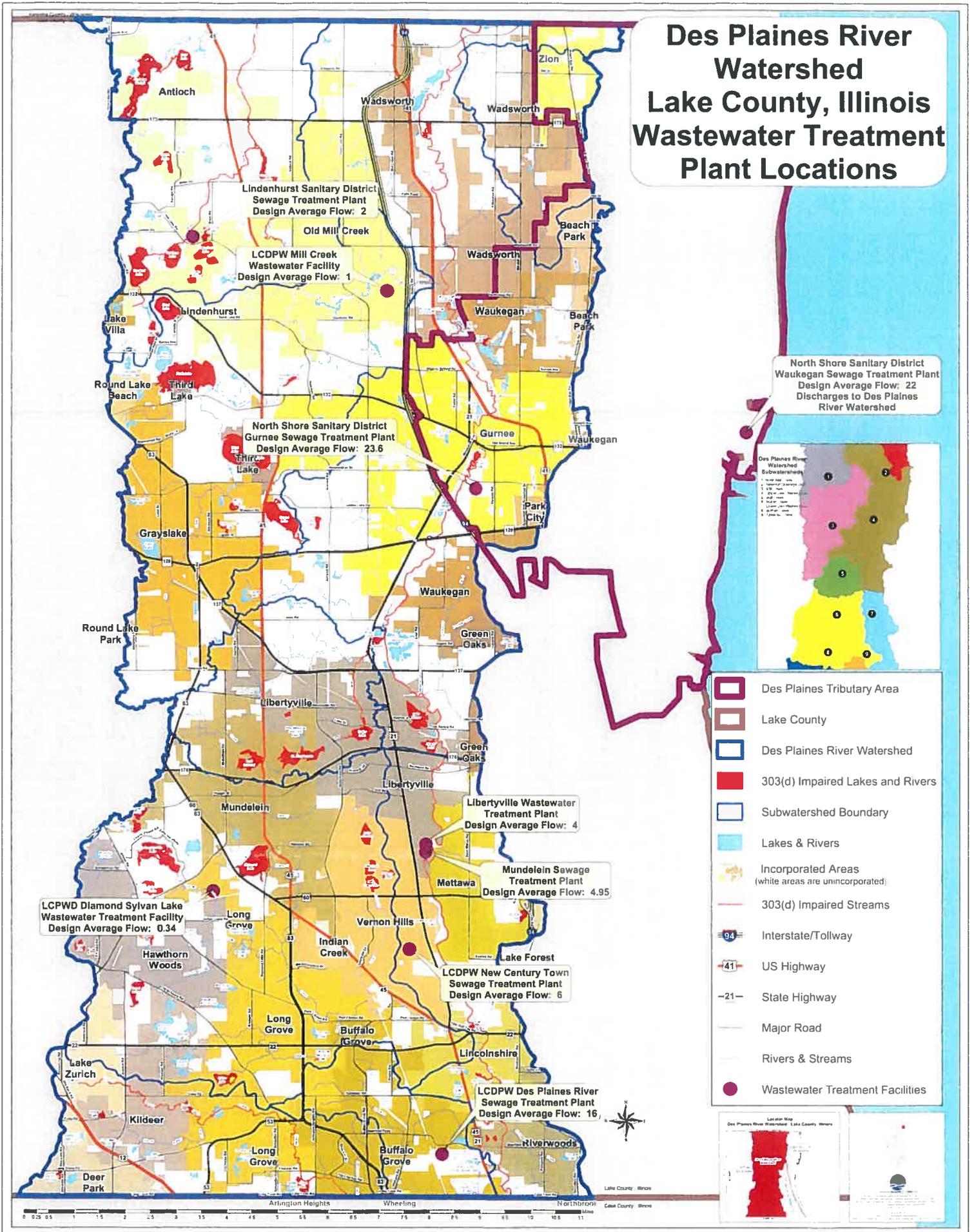


Benefits of DRWW membership - the bottom line

- Improved water quality is the end goal. Through local decision making, members will decide based on data collected how to best make water quality improvements.
- NPDES permit compliance: monitoring is required.
- Cost savings: through collaboration and combining efforts, DRWW can prevent duplication and accomplish more with less. The DRWW will address water quality issues in a cost effective manner.
- The initial work plan includes funds for a coordinated monitoring effort to accurately assess current conditions, and for administrative coordination including grant funding development. The annual dues supported budget is proposed to be \$200,000.



Des Plaines River Watershed Lake County, Illinois Wastewater Treatment Plant Locations



North Shore Sanitary District
Waukegan Sewage Treatment Plant
Design Average Flow: 22
Discharges to Des Plaines River Watershed



- Des Plaines Tributary Area
- Lake County
- Des Plaines River Watershed
- 303(d) Impaired Lakes and Rivers
- Subwatershed Boundary
- Lakes & Rivers
- Incorporated Areas (white areas are unincorporated)
- 303(d) Impaired Streams
- Interstate/Tollway
- US Highway
- State Highway
- Major Road
- Rivers & Streams
- Wastewater Treatment Facilities

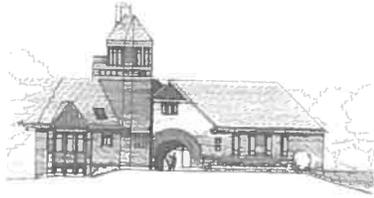


Des Plaines River Watershed Workgroup

Potential Dues Calculations

April 14, 2014

Name	Area within the Des Plaines River Watershed (acres)	Design Average Flow (MGD)	Fixed Component	WTP Contribution		Acreage Contribution		Total
				66%	33%	33%		
Antioch	1742		\$200	\$0	\$1,359		\$1,559	
Beach Park	1221		\$200	\$0	\$952		\$1,152	
Buffalo Grove	4515		\$200	\$0	\$3,522		\$3,722	
Deer Park	1188		\$200	\$0	\$927		\$1,127	
Deerfield	40		\$200	\$0	\$31		\$231	
Grayslake	6520		\$200	\$0	\$5,086		\$5,286	
Green Oaks	746		\$200	\$0	\$582		\$782	
Gurnee	8379		\$200	\$0	\$6,536		\$6,736	
Hainesville	1		\$200	\$0	\$1		\$201	
Hawthorn Woods	3469		\$200	\$0	\$2,706		\$2,906	
Indian Creek	171		\$200	\$0	\$133		\$333	
Kildeer	2689		\$200	\$0	\$2,097		\$2,297	
Lake County - Unincorporated	29560		\$200	\$0	\$23,057		\$23,257	
Lake County Forest Preserve District	16334		\$200	\$0	\$12,741		\$12,941	
Lake Forest	107		\$200	\$0	\$83		\$283	
Lake Villa	191		\$200	\$0	\$149		\$349	
Lake Zurich	1812		\$200	\$0	\$1,413		\$1,613	
LCDPW Mill Creek WRF	0	2.1	\$200	\$5,208	\$0		\$5,408	
LCDPW New Century Town STP	0	6	\$200	\$14,879	\$0		\$15,079	
LCPWD Des Plaines River STP	0	16	\$200	\$39,678	\$0		\$39,878	
Libertyville	5601	4	\$200	\$9,919	\$4,369		\$14,488	
Lincolnshire	2111		\$200	\$0	\$1,647		\$1,847	
Lindenhurst	2865		\$200	\$0	\$2,235		\$2,435	
Lindenhurst Sanitary District STP	0	2	\$200	\$4,960	\$0		\$5,160	
Long Grove	7759		\$200	\$0	\$6,052		\$6,252	
Mettawa	1599		\$200	\$0	\$1,247		\$1,447	



One Olde Half Day Road
Lincolnshire, IL 60069-3035
847•883•8600
847•883•8608 (FAX)



June 11, 2014

To whom it may concern:

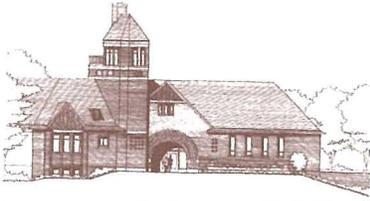
The Village of Lincolnshire's Mayor and Board of Trustees have agreed to support the Des Plaines River Watershed Workgroup's application for the "Des Plaines River Watershed Workgroup and Plan". Lincolnshire is concerned about the impairments identified within this watershed, and recognizes the benefits of collaborating with other jurisdictions in the watershed to address these impairments and improve water quality. We believe a workgroup and watershed-based plan completion for all sub-watersheds in the Des Plaines River basin will bring together a watershed group that will allow for collaboration on projects and activities and provide us with specific implementation measures to reduce pollutant loads and improve water quality.

This project will benefit the Village of Lincolnshire by taking a watershed-wide approach, making solutions more effective because all watershed stakeholders will participate, reducing individual expenditures, and will be an avenue for networking leading to collaboration on future projects or issues. We are able to commit to the full annual due amount of \$1,847, due June 1, 2015.

Please feel free to call me if you would like to discuss the Village of Lincolnshire's support of this application at 847-913-2366.

Sincerely,

Robert Horne
Assistant Director of Public Works /
Engineering Supervisor



One Olde Half Day Road
Lincolnshire, IL 60069-3035
847•883•8600
847•883•8608 (FAX)



June 16, 2014

To whom it may concern:

The Village of Lincolnshire's Mayor and Board of Trustees have agreed to support the Des Plaines River Watershed Workgroup's application for the "Des Plaines River Watershed Workgroup and Plan". Lincolnshire is concerned about the impairments identified within this watershed, and recognizes the benefits of collaborating with other jurisdictions in the watershed to address these impairments and improve water quality. We believe a workgroup and watershed-based plan completion for all sub-watersheds in the Des Plaines River basin will bring together a watershed group that will allow for collaboration on projects and activities and provide us with specific implementation measures to reduce pollutant loads and improve water quality.

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Please feel free to call me if you would like to discuss the Village of Lincolnshire's support of this application at 847-913-2366.

Sincerely,

Robert Horne
Assistant Director of Public Works /
Engineering Supervisor

REQUEST FOR BOARD ACTION
Committee of the Whole Meeting
June 8, 2015

Subject: Consideration and Discussion of a Joint Purchasing Agreement with Palatine Oil Inc., Schaumburg, IL for the Purchase of Gasoline and Diesel Fuel 2015

Action Requested: Consideration, Discussion and Placement on the June 22, 2015 Consent Agenda for Approval

Originated By/Contact: Bradford H. Woodbury, Public Works Director

Referred To: Mayor and Board of Trustees

Summary / Background:

The Public Works Department seeks approval to enter into a fuel purchase agreement with Palatine Oil Company, Schaumburg, IL through the Suburban Purchasing Cooperative (SPC) Joint Purchasing Contract for fuel purchase in 2015. The Suburban Purchasing Cooperative is a cooperative joint purchasing organization of 134 municipalities in the six county area of Northern Illinois. As a member of the Northwest Municipal Conference (NWMC), the Village is able to purchase through this cooperative.

There are three methods Municipalities traditionally use to procure fuel for their fleet which are as follows:

1. **Spot Market** – Contact vendors when your supply is low and purchase from the vendor offering the lowest price.
2. **Fixed Pricing** – Enter into a contract with a vendor to procure fuel at a fixed price for a period of time (usually one month to a year).
3. **Contract with pricing linked to Index** – Palatine Oil was awarded the Suburban Purchasing Cooperative contract for this type of procurement. The contract allows participating municipalities to procure fuel on an as-needed basis, with pricing linked to the Oil Price Information Service (OPIS) low rack price for the day of delivery, plus or minus the suppliers profit/overhead. Lake County's existing contract with Mansfield Oil is structured the same way as the Suburban Purchasing Cooperative contract.

The Village has traditionally chosen to purchase fuel under the Spot Market purchasing method. The Village's current fuel suppliers are Conserve F/S for Diesel Fuel and Avalon Petroleum of Antioch, IL for gasoline. Recently, the Village has found the time taken to manage multiple vendors to solicit multiple quotes is becoming burdensome and time consuming. Participating in this contract would allow the Village to procure fuel on an as-needed basis, with pricing linked to the Oil Price Information Service (OPIS) low rack price for the day of delivery, plus or minus the supplier's profit/overhead.

Savings vary depending on the performance of the OPIS index. The current contract extension through the Northwest Municipal Conference runs through June 5, 2016.

Budget Impact:

The 2015 Operating Budget includes \$50,000.00 for purchase of fuel.

Service Delivery Impact:

Allocating this amount ensures the Village an adequate supply of fuel at the best possible price.

Recommendation:

The Public Works Department recommends the Village of Lincolnshire enter into an agreement for fuel purchasing with Palatine Oil Company Inc., Schaumburg, IL as part of a Suburban Purchasing Cooperative Agreement for fuel purchasing through the Northwest Municipal Conference.

Reports and Documents Attached:

- SPC Letter of Agreement
- SPC Contract

Meeting History	
Initial Referral to Village Board (COW):	June 8, 2015



A Joint Purchasing Program For Local Government Agencies

May 5, 2015

Mr. Dave Newlin
Palatine Oil Co., Inc.
900 National Parkway, Suite 260
Schaumburg, IL 60173

Dear Mr. Newlin,

The Suburban Purchasing Cooperative (SPC) Governing Board has approved the third of three (3) possible one-year contract extensions with Palatine Oil Co., Inc., Schaumburg, IL for the provision of Diesel, Bio-Diesel, Gasoline and Ethanol fuels from June 6, 2015 through June 5, 2016.

All terms and conditions of this agreement have been specified in the original Request for Proposal which your firm was awarded from June 6, 2012 through June 5, 2013. The Suburban Purchasing Cooperative (SPC) reserves the right to extend the contract for one additional one-year term under the same terms and conditions of the original contract.

To confirm this agreement, please sign and date this document below, retaining a copy for your files and return the original to my attention. I can be contacted directly at 847-296-9200 x132 if you have any questions or concerns.

Sincerely,

Ellen Dayan, CPPB
Program Manager for Purchasing

Ellen Dayan

5/05/2015

Dave Newlin

5/7/2015
Date

DuPage Mayors & Managers Conference
1220 Oak Brook Road
Oak Brook, IL 60523
Suzette Quintell
Phone: (630) 571-0480
Fax: (630) 571-0484

Northwest Municipal Conference
1600 East Golf Rd., Suite 0700
Des Plaines, IL 60016
Ellen Dayan
Phone: (847) 296-9200
Fax: (847) 296-9207

South Suburban Mayors And Managers Association
1904 West 174th Street
East Hazel Crest, IL 60429
Ed Paesel
Phone: (708) 206-1155
Fax: (708) 206-1133

Will County Governmental League
3180 Theodore Street, Suite 101
Joliet, IL 60435
Cherie Belom
Phone: (815) 729-3535
Fax: (815) 729-3536



A Joint Purchasing Program For Local Government Agencies

Suburban Purchasing Cooperative Awards Fuel Contract #126 to Palatine Oil

The Suburban Purchasing Cooperative, a cooperative of 134 municipalities in the six county area of Northern Illinois, is pleased to announce the award of a one-year contract to Palatine Oil Co., Inc., Schaumburg, IL to provide Gasoline (87, 89 & 92 Octane), Diesel Fuel, Ethanol 75 & 85 and B2 Bio Diesel Fuel. Every municipality and government agency in the State of Illinois is authorized to participate in this program.

The SPC Contract #126 to provide Gasoline (87, 89 & 92 Octane), Diesel Fuel, Ethanol 75 & 85 and B2 Bio Diesel Fuel is effective from June 6, 2012 through June 5, 2013. The SPC reserves the right to extend these contracts for up to three (3) additional one-year terms upon mutual agreement of both the vendor and the SPC on a negotiated basis.

Please review the attached price list, which is based on OIL PRICE INFORMATION SERVICE (OPIS) LOW published price per gallon dated May 14, 2012, plus or minus the bidder's profit/overhead ("contractor mark-up"). The OPIS newsletter is published on Monday of each week and shall be the reference price for deliveries made from Monday through Sunday of each week. The price per gallon will be based on the low posted for the day of delivery. The mark-up amount will remain firm throughout the term of the contract.

Palatine Oil requires new customers to complete the attached Credit Applications. For additional information, or to set up your agency as a Palatine Oil customer, please contact Bob Johnson, Senior Petroleum Consultant at 847-358-3600, 815-355-7012 (cell), or bjohnson@palatineoil.com.

Thank you for considering the Suburban Purchasing Cooperative for your fuel needs. Please feel free to contact your designated SPC Representative with any questions or comments you may have regarding this program.

***Palatine Oil Co., Inc.
900 National Parkway, Suite 260
Schaumburg, IL 601173
PHONE: (847) 358-3600 CELL: (815) 355-7012 FAX: (847) 358-5904
Contact Person: Bob Johnson, Senior Petroleum Consultant
bjohnson@palatineoil.com***

***DuPage Mayors &
Managers Conference
1220 Oak Brook Road
Oak Brook, IL 60523
Suzette Quintell
Phone: (630) 571-0480
Fax: (630) 571-0484***

***Northwest Municipal
Conference
1616 East Golf Road
Des Plaines, IL 60016
Ellen Dayan
Phone: (847) 296-9200
Fax: (847) 296-9207***

***South Suburban Mayors
And Managers Association
1904 West 174th Street
East Hazel Crest, IL 60429
Ed Paesel
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***Will County
Governmental League
3180 Theodore Street, Suite 101
Joliet, IL 60435
Cherie Belom
Phone: (815) 729-3535
Fax: (815) 729-3536***

**SPC CONTRACT #126 for GASOLINE (87, 89 & 92 OCTANE), DIESEL FUEL,
ETHANOL 75 & 85 AND B2 BIO DIESEL FUEL
PALATINE OIL
EFFECTIVE JUNE 6, 2012 - JUNE 5, 2013**

Item	Est. Quantity Unit	\$	UOM	Unit Price	Extended Price
01 87 Octane-Deliveries <6,000 gallons					
Opis Index Low Rack		3.1365	Gallon		
Profit/Overhead		0.099	Gallon		
Total Cost/gallon	100,000	3.2355	Gallon	3.2355	\$ 323,550
02 87 Octane-Deliveries >6,000 gallons					
Opis Index Low Rack		3.1365	Gallon		
Profit/Overhead		0.0475	Gallon		
Total Cost/gallon	100,000	3.184	Gallon	3.184	\$ 318,400
03 89 Octane-Deliveries <6,000 gallons					
Opis Index Low Rack		3.256	Gallon		
Profit/Overhead		0.099	Gallon		
Total Cost/gallon	100,000	3.355	Gallon	3.355	\$ 335,500
04 89 Octane-Deliveries >6,000					
Opis Index Low Rack		3.256	Gallon		
Profit/Overhead		0.0475	Gallon		
Total Cost/gallon	100,000	3.3035	Gallon	3.3035	\$ 330,350
Total Cost/gallon (Net Taxes)					
05 92 Octane-Deliveries <6,000 gallons					
Opis Index Low Rack		3.35	Gallon		
Profit/Overhead		0.099	Gallon		
Total Cost/gallon	100,000	3.449	Gallon	3.449	\$ 344,900
06 92 Octane-Deliveries >6,000 gallons					
Opis Index Low Rack		3.35	Gallon		
Profit/Overhead		0.0475	Gallon		
Total Cost/gallon	100,000	3.3975	Gallon	3.3975	\$ 339,750
07 Grade #2 Diesel Fuel-Deliveries <6,000 gallons					
Opis Index Low Rack		3.03	Gallon		
Profit/Overhead		0.099	Gallon		
Total Cost/gallon	100,000	3.129	Gallon	3.129	\$ 312,900
08 Grade #2 Diesel Fuel-Deliveries >6,000 gallons					
Opis Index Low Rack		3.03	Gallon		
Profit/Overhead		0.0475	Gallon		
Total Cost/gallon	100,000	3.0775	Gallon	3.0775	\$ 307,750

**SPC CONTRACT #126 for GASOLINE (87, 89 & 92 OCTANE), DIESEL FUEL,
ETHANOL 75 & 85 AND B2 BIO DIESEL FUEL
PALATINE OIL
EFFECTIVE JUNE 6, 2012 - JUNE 5, 2013**

Item	Est. Quantity Unit	\$	UOM	Unit Price	Extended Price
09 Winter Mixture, 30% & 70% Grad Deliveries <6,000 gallons					
Opis Index Low Rack		3.101	Gallon		
Profit/Overhead		0.099	Gallon		
Total Cost/gallon	100,000	3.2	Gallon	3.2	\$ 320,000
10 Winter Mixture, 30% & 70% Grad Deliveries >6,000 gallons					
Opis Index Low Rack		3.101	Gallon		
Profit/Overhead		0.0475	Gallon		
Total Cost/gallon	100,000	3.1485	Gallon	3.1485	\$ 314,850
11 Grade #1 Diesel Fuel-Deliveries <6,000 gallons					
Opis Index Low Rack		3.2695	Gallon		
Profit/Overhead		0.099	Gallon		
Total Cost/gallon	100,000	3.3685	Gallon	3.3685	\$ 336,850
12 Grade #1 Diesel Fuel-Deliveries >6,000 gallons					
Opis Index Low Rack		3.2695	Gallon		
Profit/Overhead		0.0475	Gallon		
Total Cost/gallon	100,000	3.317	Gallon	3.317	\$ 331,700
13 E75 Ethanol-Deliveries <6,000 gallons Quote as needed					
Opis Index Low Rack			Gallon		
Profit/Overhead			Gallon		
Total Cost/gallon	100,000		Gallon		
14 E75 Ethanol-Deliveries >6,000 gallons Quote as needed					
Opis Index Low Rack			Gallon		
Profit/Overhead			Gallon		
Total Cost/gallon (Net Taxes)			Gallon		
15 E85 Ethanol-Deliveries <6,000 gallons Quote as needed					
Opis Index Low Rack			Gallon		
Profit/Overhead			Gallon		
Total Cost/gallon	100,000		Gallon		
16 E85 Ethanol-Deliveries >6,000 gallons Quote as needed					
Opis Index Low Rack			Gallon		
Profit/Overhead			Gallon		
Total Cost/gallon	100,000		Gallon		
17 B20 Bio Diesel Fuel Deliveries <6,000 gallons					
Opis Index Low Rack		3.1055	Gallon		
Profit/Overhead		0.109	Gallon		
Total Cost/gallon	100,000	3.2145	Gallon	3.2145	\$ 321,450

SPC CONTRACT #126 for GASOLINE (87, 89 & 92 OCTANE), DIESEL FUEL,
 ETHANOL 75 & 85 AND B2 BIO DIESEL FUEL
 PALATINE OIL
 EFFECTIVE JUNE 6, 2012 - JUNE 5, 2013

Item	Est. Quantity Unit	\$	UOM	Unit Price	Extended Price
18 B20 Bio Diesel Fuel Deliveries >6,000 gallons					
Opis Index Low Rack		3.1055	Gallon		
Profit/Overhead		0.0575	Gallon		
Total Cost/gallon	100,000	3.163	Gallon	3.163	\$ 316,300
TOTAL PRICE					\$ 4,554,250

Unit and/or extended prices will include freight, shipping,
 handling charge

**REQUEST FOR BOARD ACTION
June 8, 2015 Committee of the Whole**

Subject: Consideration and Discussion of Awarding Bid to Waukegan Roofing for Utility Buildings Roof Replacement Project

Action Requested: Consideration, Discussion, and Placement on the June 22, 2015 Consent Agenda

Originated By/Contact: Scott Pippen, Operations Superintendent

Referred To: Village Board

Summary / Background:

Last year, staff worked with Illinois Roof Consulting Associates to evaluate the Public Works Facility, Village Hall, West Side Reservoir, Well House, 45 Londonderry Lane Lift Station, and the East Side Reservoir roofs. The consultant provided a detailed report and created bid documents for all of the roofs except for the Public Works Facility. The project was bid in September and only one proposal was received. The single bid in the amount of \$777,200.00 exceeded the budgeted amount, and at that time, staff recommended the Village Board reject the proposal. Staff recommended rebidding the project early in 2015 with the hopes of receiving better pricing and an increased number of bidders due to timing of contractors scheduling work for the upcoming season.

Subsequently, the request for bids was advertised on January 15, 2015, and eight roofing companies picked up bid documents at the mandatory pre-bid meeting. The Village opened sealed bids on February 12, 2015. Bids were received from two vendors with the low bid still significantly over the 2015 Budget. Staff recommended the Village Board reject the bid and for staff to split the roof projects into two separate projects; one for steep slope roof work and another for flat roofs due to contractor feedback from the earlier two bid attempts.

Staff directed the consultant to separate the bid documents into two separate projects. Notification was published in the Pioneer Press on March 26, 2015. A mandatory pre-bid meeting was held on April 8, 2015, with 7 contractors in attendance. Bids were opened on April 22, 2015 and the Village received four bids. All bidders submitted bids on both style of roofs. The low bidder for steep slope roofs was the Glenbrook Group of Northbrook, IL at \$481,000.00. The low bidder for the low sloped roofs was Waukegan Roofing, Inc. of Waukegan, IL at \$141,690.00. Accepting these bids will result in a \$261,690.00 overage in the 2015 budget. Due to this overage, it is not Staff's recommendation the Board accept these bids. The bids received were as follows:

COMPANY	LOW SLOPED	STEEP SLOPED	TOTAL
All American Roofing	\$240,300.00	\$541,100.00	\$781,400.00
L. Marshall Roofing	\$152,000.00	\$561,600.00	\$713,600.00
Glenbrook Group	\$206,500.00	\$481,000.00	\$687,500.00
Waukegan Roofing	\$141,690.00	\$695,740.00	\$837,430.00

The following table shows the different facilities' cost per the low bid, and the roof condition based on the attached 2014 roof condition report.

FACILITY	STEEP SLOPE	LOW SLOPE	OVERALL CONDITION	PERFORMANCE
Village Hall	\$412,000.00	\$61,920.00	Unsatisfactory - Poor	Marginal
West Side Reservoir	N/A	\$31,500.00*	Unsatisfactory	Unsatisfactory
West Side Well House	\$27,000.00	\$17,000.00	Unsatisfactory	Marginal
Londonderry Lift Station	\$14,000.00	N/A	Unsatisfactory	Poor
East Side Reservoir	\$28,000.00	\$31,270.00	Marginal	Fair
Total Roof Type	\$481,000.00	\$141,690.00		
Total Project Cost	\$622,690.00			

Recommendation:

Illinois Roof Consulting Associates bid report (attached) recommends the Village accept the low bids and proceed with the project as specified. They believe the bids are in accordance with the current market, and the contractors are qualified. The number of bid submittals doubled over the February 12 opening, and the total submitted price was \$22,310.00 less than the last low bid.

Staff recommends repairing the West Side Reservoir, West Side Well House, and Londonderry Lift Station roofs this year. The West Side Reservoir roof has experienced leaks in the past which led to damage of utility supply equipment. The longer the roof remains unrepaired, the higher the likelihood of further damage to equipment. The West Side Well House is also in poor condition, and would be the second utility building in terms of priority. The Londonderry Lift Station is the third priority roof followed by the East Side Reservoir. Based upon a review of the most recent bids received, the low bidder to complete these roofs is Waukegan Roofing at \$85,700.00. This expenditure would result in a \$4,700.00 overage in the Water and Sewer Improvement-Expenses line item for roof replacement. The only funds expended from the Public Works Buildings Capital line item for roof replacement in 2015 would be approximately \$3,000.00 for consultant fees. Staff's recommendation is to accept the bid from Waukegan Roofing in the amount of \$85,740.00 for repair of the West Side Reservoir, West Side Well House, and Londonderry Lift Station roofs.

Staff further recommends including the Village Hall roof replacement in the budget for FY2016. The East Side Reservoir can be delayed as repairs are not immediately warranted. These projects, along with the Public Works Facility and North Park roofs will be incorporated into the Capital Improvement Program in coming years as necessary.

Reports and Documents Attached:

- Consultant's Bid Report
- 2014 Consultant's Roof Evaluations

Meeting History	
Initial Referral to Village Board (COW):	June 8, 2015
Regular Village Board Meeting:	June 22, 2015



Certified Consultants and Specifiers

Roof Condition Evaluations

Moisture Testing

Quality Compliance Inspection
during roof construction

May 5, 2015

Mr. Scott Pippen
Village of Lincolnshire
One Olde Half Day Road
Lincolnshire, IL 60069

**RE: Roof Rehabilitation Bids for
2015 Roof Replacement**

Dear Mr. Pippen:

Illinois Roof Consulting Associates, Inc. (IRCA) was authorized by you to re-bid the project for a 3rd time.

The bids received this time are separated out into the low sloped portion and the steep sloped portions of the work.

The contractors who responded to the Advertisement were A-1 Roofing of Elk Grove Village, All American Roofing of Lake Zurich, Amsterdam Enterprises of Arlington Heights, Cuevas Roofing of Chicago, Glenbrook Group of Northbrook and Waukegan Roofing of Waukegan.

A mandatory pre-bid meeting was held at the site on April 8, 2015 at 10:00 A.M. All initially responding bidders were present. The project's requirements, specifications, and details were reviewed and the roofs were examined by the participants.

As originally announced, the Bids were opened at a public meeting on April 22, 2015 at 10:00 A.M. after the Bid Due time had passed. Attached is a spreadsheet listing the Bid prices and attachments received. A-1 Roofing, Amsterdam International and Cuevas Roofing chose not to bid the project.

After carefully reviewing the bids and verbally confirming both price and scope of work with the low Bidder of Record, we are pleased to recommend that the project proceed as specified using the low Bidder of Record, Glenbrook Group.

Once a decision has been reached by your Board and your company, we can initiate the Owner-Contractor Agreement with required Exhibits and facilitate the beginning of the work as planned.

Illinois Roof Consulting Assoc., Inc.

4302-G Crystal Lake Road

McHenry, Illinois 60050

(815) 385-6560

FAX (815) 385-3581

www.irca.com

We have been pleased to assist you with these phases of this project and are looking forward to continuing to work with you.

Sincerely,

ILLINOIS ROOF CONSULTING ASSOCIATES, INC.



James C. Gruebnaue, RRC
Project Manager

CR/in
14254.ltr

Enclosure

cc: Mr. Brad Woodbury
Mr. Terry Hawkins
Mr. Mike Jesse
Mr. Scott Malicki

Low Sloped Roofing

**ILLINOIS ROOF CONSULTING ASSOCIATES, INC.
SUMMARY SHEET FOR BID OPENING**

PROJECT: Lincolnshire Village Hall

BID OPENING DATE: April 22, 2015 / 10:00 AM

	All American Roofing	L. Marshall, Inc.	Glenbrook Group	Waukegan Roofing
BID SECURITY	X	X	X	X
BASE BID Village Hall Mod. Bit.	\$126,000	\$104,000	\$58,000	\$61,920
ALTERNATE 1 60 mil TPO	\$116,000	\$100,000	\$56,600	\$58,000
BASE BID West Side Reservoir	\$42,300	\$38,000	\$30,000	\$27,000
ADDITIVE 1 New Skylight Domes	\$3,600	\$3,500	\$4,000	\$4,500
ALTERNATE 1 60 mil TPO	\$40,300	\$37,000	\$29,000	\$25,700
BASE BID West Side Well House	\$28,400	\$27,000	\$30,000	\$17,000
ALTERNATE 1 60 mil TPO	\$26,700	\$26,500	\$28,000	\$15,970
BASE BID East Side Reservoir	\$40,000	\$34,000	\$30,000	\$31,270
ALTERNATE 1 East Side Reservoir 60 mil TPO	\$34,000	\$32,500	\$28,000	\$29,300
UNIT PRICES				
Replace wood deck Per square foot	\$8.00	\$8.00	\$5.00	\$6.50
Repair concrete decking Per square foot	\$30.00	\$40.00	\$30.00	\$75.00
Replace wood blocking & nailer Per linear foot	\$7.00	\$6.50	\$5.00	\$4.50
NUMBER OF DAYS TO REACH SUBSTANTIAL COMPLETION				
Village Hall	45	30	30	14
West Side Reservoir	14	15	7	10
West Side Well House	10	15	7	5
East Side Reservoir	14	15	7	10

Steep Sloped Roofing

ILLINOIS ROOF CONSULTING ASSOCIATES, INC. SUMMARY SHEET FOR BID OPENING				
PROJECT: Lincolnshire Village Hall		BID OPENING DATE: April 22, 2015 / 10:00 AM		
	All American Roofing	L. Marshall, Inc.	Glenbrook Group	Waukegan Roofing
BID SECURITY	X	X	X	X
BASE BID Village Hall cedar shakes	\$509,000	\$527,000	\$420,000	\$670,000
ALTERNATE I Village Hall DaVinci synthetic shakes	\$500,000	\$517,000	\$412,000	\$595,000
BASE BID West Side Well House cedar shakes	\$10,000	\$9,000	\$29,000	\$29,500
ALTERNATE I West Side Well DaVinci synthetic shakes	\$9,900	\$8,900	\$27,000	\$27,700
BASE BID Londonderry Lift Station	\$6,400	\$6,500	\$15,000	\$10,600
ALTERNATE I Londonderry Lift synthetic shakes	\$6,200	\$6,200	\$14,000	\$9,540
BASE BID East Side Reservoir cedar shakes	\$25,500	\$30,000	\$30,000	\$67,700
ALTERNATE I East Side Reservoir synthetic shakes	\$25,000	\$29,500	\$28,000	\$63,500
UNIT PRICES				
Replace wood decking not specified Per square foot	\$8.00	\$8.00	\$6.00	\$6.50
Replace wood blocking & nailer Per linear foot	\$7.00	\$6.50	\$5.00	\$4.50
NUMBER OF DAYS TO REACH SUBSTANTIAL COMPLETION				
Village Hall	60	90	60	90
West Side Well House	4	15	8	10
Londonderry Lift	3	15	8	5
East Side Reservoir	10	15	8	10

Roof Condition Evaluation

Project

Village of Lincolnshire

Village Hall

Public Works Facility

West Side Reservoir

West Side Well House

Londonderry Lift Station

East Side Reservoir

Lincolnshire, IL

Report For

Mr. Scott Pippen

Village of Lincolnshire

One Olde Half Day Road

Lincolnshire, IL 60069

IRCA Project Number

14187

Report Date

July 21, 2014

ROOF CONDITION EVALUATION

Illinois Roof Consulting Associates, Inc.
 4302-G Crystal Lake Road
 McHenry, IL 60050
 (815) 385-6560
 (Fax) 385-3581

PROJECT: Village Hall – Flat Roof Sections		JOB NO.: 14187
ROOF ID: North Section	AREA: 2,000 square feet	STORIES: 1
EVALUATION BY: Thomas J. Gruebnaue and Robert Heideman June 30, 2014		

HISTORICAL INFORMATION		
BLDG. AGE: 1993	INSTALLER: Unknown	CURRENT ROOFER: Unknown
ROOF AGE: 1993	GUARANTOR: Unknown	ROOFER'S PHONE NO.: Unknown
RECOVER AGE: N/A	GUAR. TERM: Expired	LAST REPAIRS: Unknown

CONDITION SUMMARY	
OVERALL PHYSICAL CONDITION OF SYSTEM: Unsatisfactory	OVERALL PERFORMANCE OF SYSTEM: Marginal
IMPACT OF ANOMALIES: Substantial	REPORTED LEAKAGE: None

EXISTING ROOF SYSTEM	OBSERVATIONS	EVALUATION
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SURFACE: Smooth – modified bitumen		ADHESION: Fair CONDITION: Unsatisfactory
BITUMEN: Asphalt	Alligatoring / deteriorating	CONDITION: Unsatisfactory
MEMBRANE: Fiberglass	Fishmouth / open seam	CONDITION: Unsatisfactory
INSULATION: Undetermined		CONDITION: Unknown
INSULATION ATTACHMENT: Adhered		CONDITION: Fair
VAPOR RETARDER: Unknown		
FLASHINGS: Modified bitumen – granule	Open laps	CONDITION: Marginal
DRAINAGE: Direction, to drains Saddles - No	Substantial ponding	CONDITION: Unsatisfactory
DRAINS: 5 internal drains	Organic / inorganic debris	CONDITION: Unsatisfactory
OVERFLOW SCUPPERS: Metal sleeve	Excessively elevated	CONDITION: Fair CONSTRUCTION: Inadvisable
EXISTING LEAKS: No leaks reported		
EXISTING REPAIRS/PATCHES: Numerous patches at base of flashings		

DETAILS -- PERIMETER & TERMINATION	OBSERVATIONS	EVALUATION
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INTERIOR PARAPET WALLS: Construction - Masonry		CONDITION: Fair
Coping - Stone	Through wall flashing	CONDITION: Fair CONSTRUCTION: Acceptable
Flashing termination - Counterflashing - type, receiver		CONDITION: Fair CONSTRUCTION: Acceptable

DETAILS -- ROOF FIELD	OBSERVATIONS	EVALUATION
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JOINTS: Expansion Elevation - 8" Cover - Steel		CONDITION: Fair CONSTRUCTION: Acceptable
SOIL STACKS: Material - Iron Flashings - Lead		CONDITION: Fair CONSTRUCTION: Acceptable
FLUE STACKS: Material - Steel Flashings - Metal Storm collars - Yes Sealant - Mastic	Open sealant	CONDITION: Fair CONSTRUCTION: Acceptable
PIPE PENETRATIONS: Roof Jack - Lightning protection	Open sealant	CONDITION: Fair CONSTRUCTION: Acceptable

GENERAL INFORMATION	OBSERVATIONS	EVALUATION
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EXTERIOR BUILDING FACES: Masonry

DECK SUPPORT CONSTRUCTION
Joist - material undetermined

Beams - Undetermined

DECK TYPE: Undetermined

continued...

Illinois Roof Consulting Associates, Inc.
 4302-G Crystal Lake Road
 McHenry, IL 60050
 (815) 385-6560
 (Fax) 385-3581

PROJECT: Village Hall—Steep Sloped Sections			JOB NO.: 14187
ROOF AREA: 18,735 sq. ft.	ROOF AGE: 1993	BLDG TYPE: Masonry	ROOF SLOPE: 1/8":12" 12":12"
EVALUATION BY: Thomas J. Gruebnaue and Robert Heideman on June 30, 2014			

CONDITION SUMMARY	
OVERALL PHYSICAL CONDITION OF SYSTEM: Poor	OVERALL APPEARANCE: Marginal
REPLACEMENT YEAR: 2015	

SYSTEM/DETAILS:

Shingles: Cedar shingles Attachment: Stapled Underlayment: organic felt	3/8" inches thick at butt edge	MATERIALS: Marginal WORKMANSHIP: Fair CONSTRUCTION: Acceptable
Ridges: Shingled, not vented		MATERIALS: Poor WORKMANSHIP: Fair CONSTRUCTION: Acceptable
Valleys: Open, galvanized (metal)		MATERIALS: Fair WORKMANSHIP: Fair CONSTRUCTION: Acceptable
Flashings: Baby tins at dormers / walls / chimney		MATERIALS: Marginal WORKMANSHIP: Fair CONSTRUCTION: Acceptable
Counterflashings: Terne coated stainless steel		MATERIALS: Poor WORKMANSHIP: Fair CONSTRUCTION: Acceptable
Drip edge: Shingle overhang, 1/2"		MATERIALS: Marginal WORKMANSHIP: Fair CONSTRUCTION: Acceptable
Rake edge: Shingle overhang, 1/2"		MATERIALS: Marginal WORKMANSHIP: Fair CONSTRUCTION: Acceptable
Gutters: Inlaid, Terne coated stainless steel		MATERIALS: Unsatisfactory WORKMANSHIP: Fair CONSTRUCTION: Acceptable

continued...

ROOF CONDITION EVALUATION

Illinois Roof Consulting Associates, Inc.
 4302-G Crystal Lake Road
 McHenry, IL 60050
 (815) 385-6560
 (Fax) 385-3581

PROJECT: Public Works Facility		JOB NO.: 14187
ROOF ID: Area A	AREA: 1,742 square feet	STORIES: 1
Area B	3,766 square feet	1.5
Area C	15,753 square feet	3
Area D	4,800 square feet	2
EVALUATION BY: Thomas J. Gruebnaue and Robert Heideman on June 30, 2014		

HISTORICAL INFORMATION

BLDG. AGE: 1992 – 1996	INSTALLER: Unknown	CURRENT ROOFER: Unknown
ROOF AGE: 1992-1996	GUARANTOR: Unknown	ROOFER'S PHONE NO.: Unknown
RECOVER AGE: N/A	GUAR. TERM: Expired	LAST REPAIRS: Unknown

CONDITION SUMMARY

OVERALL PHYSICAL CONDITION OF SYSTEM: Marginal – Unsatisfactory	OVERALL PERFORMANCE OF SYSTEM: Fair
IMPACT OF ANOMALIES: Notable	REPORTED LEAKAGE: Nuisance

EXISTING ROOF SYSTEM	OBSERVATIONS	EVALUATION
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SURFACE: Gravel – size, 1½” Area C Smooth Surface Areas A,B and D	Wind erosion, organic debris, inorganic debris	CONDITION: Marginal
MEMBRANE: EPDM 45 mil sheets	Deteriorated repairs, open seam	CONDITION: Marginal
MEMBRANE ATTACHMENT: Fully adhered Ballasted Mechanically Fastened	Areas A and B Area C Area D	CONDITION: Fair
INSULATION: Undetermined (None at Area D)		CONDITION: Unknown
INSULATION ATTACHMENT: Mechanically fastened		CONDITION: Marginal
VAPOR RETARDER: Unknown		
FLASHINGS: Elastomeric (single ply)	Open laps, deteriorated material, top edge openings, holes in flashings	CONDITION: Marginal
DRAINAGE: Direction, to drains Saddles - No	Some ponding	CONDITION: Fair
DRAINS: 11 internal drains	Organic / inorganic debris	CONDITION: Marginal

EXISTING LEAKS: Leaks reported at Area D. These are due to holes in the flashings and deteriorated repairs.

EXISTING REPAIRS/PATCHES: Numerous deteriorated repairs throughout.

DETAILS -- PERIMETER & TERMINATION	OBSERVATIONS	EVALUATION
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INTERIOR PARAPET WALLS:
Construction – Masonry

CONDITION: Marginal

Flashing termination -
Counterflashing - type, receiver

Sections falling

CONDITION: Marginal
CONSTRUCTION: Acceptable

EDGE DETAIL: It metal detail
Elevation – Raised
Fascia height – 0.5”
Fascia cleats – No

Open flashing

CONDITION: Marginal
CONSTRUCTION: Inadvisable

DETAILS -- ROOF FIELD	OBSERVATIONS	EVALUATION
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BOX CURBS:
Types – Vent, flue, RTU, scuttle
Elevation – 6 – 8”

CONDITION:
CONSTRUCTION: Acceptable

SOIL STACKS:
Material – Iron, PVC
Flashings – Membrane

CONDITION: Fair
CONSTRUCTION: Acceptable

FLUE STACKS:
Material – Steel
Flashings – Membrane
Storm collars – Yes
Sealant – Caulk

Metal corrosion

CONDITION: Fair
CONSTRUCTION: Acceptable

SCUTTLE: Prefabricated

CONDITION: Fair
CONSTRUCTION: Acceptable

SURFACE MOUNTED SATELLITE DISH:
Base Frame – Metal
Ballast – Concrete block
Cover – No

CONDITION: Fair
CONSTRUCTION: Inadvisable

VENTILATORS (Static – non motorized):
Type – Gooseneck
Flashings – Membrane

CONDITION: Fair
CONSTRUCTION: Acceptable

DETAILS -- MECHANICAL	OBSERVATIONS	EVALUATION
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HVAC & A/C & CABINetry:
Mounting – Boxes

CONDITION: Fair
CONSTRUCTION: Acceptable

GENERAL INFORMATION	OBSERVATIONS	EVALUATION
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EXTERIOR BUILDING FACES: Masonry

DECK SUPPORT CONSTRUCTION
Joist – material steel

DECK TYPE: Concrete Area D / Steel Area C
continued...

Deck Slope: 2”: 12” Area C

ROOF CONDITION EVALUATION

Illinois Roof Consulting Associates, Inc.
 4302-G Crystal Lake Road
 McHenry, IL 60050
 (815) 385-6560
 (Fax) 385-3581

PROJECT: West Side Reservoir		JOB NO.: 14187
ROOF ID:	AREA: 1,145 square feet	STORIES: 1
EVALUATION BY: Robert Heideman on June 30, 2014		

HISTORICAL INFORMATION

BLDG. AGE: 1985	INSTALLER: Unknown	CURRENT ROOFER: Unknown
ROOF AGE: 1985	GUARANTOR: Unknown	ROOFER'S PHONE NO.: Unknown
RECOVER AGE: N/A	GUAR. TERM: Expired	LAST REPAIRS: Unknown

CONDITION SUMMARY

OVERALL PHYSICAL CONDITION OF SYSTEM: Unsatisfactory	OVERALL PERFORMANCE OF SYSTEM: Unsatisfactory
IMPACT OF ANOMALIES: Notable	REPORTED LEAKAGE: None

EXISTING ROOF SYSTEM	OBSERVATIONS	EVALUATION
SURFACE: Gravel – size, 1/8"	Organic debris	ADHESION: Fair CONDITION: Marginal
BITUMEN: Asphalt	Alligating	CONDITION: Unsatisfactory
MEMBRANE: Fiberglass		CONDITION: Marginal
INSULATION: Undetermined		CONDITION: Unknown
VAPOR RETARDER: Unknown		
FLASHINGS: 90# organic – smooth surface	Holes, open laps, deteriorated material, top edge openings, moisture behind base flashing	CONDITION: Unsatisfactory
DRAINAGE: Direction, to drains Saddles - No		CONDITION: Marginal
DRAINS: 4 internal drains	Organic debris	CONDITION: Fair
EXISTING LEAKS: None reported		
EXISTING REPAIRS/PATCHES: None noted		

DETAILS – PERIMETER & TERMINATION	OBSERVATIONS	EVALUATION
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INTERIOR PARAPET WALLS:

Construction – Masonry

CONDITION: Fair

Coping – Cementitious

Open sealant

CONDITION: Marginal
CONSTRUCTION: Acceptable

Flashing termination -
T-bar – flashing, 18” on center

Top edge openings

CONDITION: Marginal
CONSTRUCTION: Acceptable

DETAILS – ROOF FIELD	OBSERVATIONS	EVALUATION
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BOX CURBS:

Types – Skylight
Elevation – 6”

Low elevation, open flashing

CONDITION: Fair – Marginal
CONSTRUCTION: Acceptable

SKYLIGHTS:

Mounting Type – Curb

Open corner

CONDITION: Marginal
CONSTRUCTION: Acceptable

GENERAL INFORMATION	OBSERVATIONS	EVALUATION
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EXTERIOR BUILDING FACES: Masonry

DECK SUPPORT CONSTRUCTION

Joist – material undetermined

Beams – material undetermined

DECK TYPE: Undetermined

continued...

ROOF CONDITION EVALUATION

Illinois Roof Consulting Associates, Inc.
 4302-G Crystal Lake Road
 McHenry, IL 60050
 (815) 385-6560
 (Fax) 385-3581

PROJECT: West Side Well House		JOB NO.: 14187
ROOF ID:	AREA: 513 square feet	STORIES: 1
EVALUATION BY: Robert Heideman on June 30, 2014		

HISTORICAL INFORMATION

BLDG. AGE: 1985	INSTALLER: Unknown	CURRENT ROOFER: Unknown
ROOF AGE: 1985	GUARANTOR: Unknown	ROOFER'S PHONE NO.: Unknown
RECOVER AGE: N/A	GUAR. TERM: Expired	LAST REPAIRS: Unknown

CONDITION SUMMARY

OVERALL PHYSICAL CONDITION OF SYSTEM: Unsatisfactory	OVERALL PERFORMANCE OF SYSTEM: Marginal
IMPACT OF ANOMALIES: Substantial	REPORTED LEAKAGE: None

EXISTING ROOF SYSTEM	OBSERVATIONS	EVALUATION
SURFACE: Gravel – size, 1/8"	Organic debris / growth, inorganic debris	ADHESION: Fair CONDITION: Unsatisfactory
BITUMEN: Asphalt		CONDITION: Unsatisfactory
MEMBRANE: Organic		CONDITION: Unsatisfactory
INSULATION: Undetermined		CONDITION: Unknown
VAPOR RETARDER: Unknown		
FLASHINGS: 90# organic – granule surface	Falling, splits, holes, open laps, deteriorated material, top edge openings, top edge nailed, moisture behind base flashing, asbestos testing not performed	CONDITION: Unsatisfactory
DRAINAGE: None		CONDITION: Unsatisfactory
DRAINS: Zero internal drains		CONSTRUCTION: Inadvisable
EXISTING LEAKS: None reported		
EXISTING REPAIRS/PATCHES: None Noted		

DETAILS -- PERIMETER & TERMINATION	OBSERVATIONS	EVALUATION
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INTERIOR PARAPET WALLS: Construction – Masonry	Deteriorated masonry	CONDITION: Unsatisfactory
Coping – Metal without cleats	Splices unsealed, corroded, rotating	CONDITION: Unsatisfactory CONSTRUCTION: Acceptable
Flashing termination – None	Top edge openings	CONDITION: Unsatisfactory CONSTRUCTION: Inadvisable

DETAILS -- ROOF FIELD	OBSERVATIONS	EVALUATION
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BOX CURBS: Types – Vent, abandoned Elevation – 6"	Low elevation	CONDITION: Marginal CONSTRUCTION: Acceptable
FLUE STACKS: Material – Steel Flashings – Metal Storm collars – Yes Sealant – Mastic		CONDITION: Fair CONSTRUCTION: Acceptable

DETAILS -- MECHANICAL	OBSERVATIONS	EVALUATION
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POWERED VENTILATORS: Type - Motor in-board	Low elevation	CONDITION: Marginal CONSTRUCTION: Acceptable
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GENERAL INFORMATION	OBSERVATIONS	EVALUATION
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EXTERIOR BUILDING FACES: Masonry

DECK SUPPORT CONSTRUCTION

Joist – material undetermined

Beams – material undetermined

DECK TYPE: Undetermined

continued...

Illinois Roof Consulting Associates, Inc.
 4302-G Crystal Lake Road
 McHenry, IL 60050
 (815) 385-6560
 (Fax) 385-3581

PROJECT: Londonderry Lift Station			JOB NO.: 14187
Building Age: 1985	ROOF AGE: 1985	Roof Area: 469 SF	ROOF SLOPE: 5 : 12
EVALUATION BY: William Richardson and Robert Heideman on July 8, 2014			

CONDITION SUMMARY

OVERALL PHYSICAL CONDITION OF SYSTEM: Unsatisfactory OVERALL APPEARANCE: Poor
 REPLACEMENT YEAR: 2014

SYSTEM/DETAILS:

<p>Shingles: Cedar shake heavy butt (greater than ¼" thick) Attachment: Stapled</p> <p>Ridges: Shingled, vented</p> <p>Drip edge: Shingle overhang, ½"</p> <p>Rake edge: Shingle overhang, ½"</p> <p>Venting: Soffit to field vents</p>	<p>Deteriorated shakes (typical)</p>	<p>MATERIALS: Marginal WORKMANSHIP: Fair CONSTRUCTION: Acceptable</p>
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continued....

ROOF CONDITION EVALUATION

Illinois Roof Consulting Associates, Inc.
 4302-G Crystal Lake Road
 McHenry, IL 60050
 (815) 385-6560
 (Fax) 385-3581

PROJECT: Village of Lincolnshire, East Side Reservoir		JOB NO.: 14187
ROOF ID:	AREA: 1,491 square feet	STORIES: 1
EVALUATION BY: William Richardson and Robert Heideman on July 8, 2014		

HISTORICAL INFORMATION

BLDG. AGE: Unknown	INSTALLER: Unknown	CURRENT ROOFER: Unknown
ROOF AGE: 2000	GUARANTOR: Unknown	ROOFER'S PHONE NO.: Unknown
RECOVER AGE: N/A	GUAR. TERM: Expired	LAST REPAIRS: Unknown

CONDITION SUMMARY

OVERALL PHYSICAL CONDITION OF SYSTEM: Marginal	OVERALL PERFORMANCE OF SYSTEM: Fair
IMPACT OF ANOMALIES: Notable	REPORTED LEAKAGE: None

EXISTING ROOF SYSTEM

OBSERVATIONS

EVALUATION

SURFACE: Gravel – size, ¼"		CONDITION: Fair
MEMBRANE: EPDM		CONDITION: Marginal
MEMBRANE ATTACHMENT: Ballasted		CONDITION: Fair
INSULATION: Undetermined		CONDITION: Unknown
VAPOR RETARDER: Unknown		CONDITION: Unknown
FLASHINGS: Elastomeric (single ply)	Open repair	CONDITION: Marginal
DRAINAGE: Direction, to drains Saddles - No		CONDITION: Satisfactory
DRAINS: 4 internal drains		CONDITION: Fair
EXISTING LEAKS: None reported		
EXISTING REPAIRS/PATCHES: Several throughout north section		

DETAILS – PERIMETER & TERMINATION

OBSERVATIONS

EVALUATION

INTERIOR PARAPET WALLS: Construction – Masonry		CONDITION: Fair
Coping – Metal without cleats	Damaged coping, open seam	CONDITION: Marginal CONSTRUCTION: Acceptable

DETAILS – PERIMETER & TERMINATION	OBSERVATIONS	EVALUATION
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Flashing termination -
Counterflashing - type, receiver

Section falling

CONDITION: Fair
CONSTRUCTION: Acceptable

DETAILS – ROOF FIELD	OBSERVATIONS	EVALUATION
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BOX CURBS:
Types – Flue
Elevation – 8"

CONDITION: Fair
CONSTRUCTION: Acceptable

FLUE STACKS:
Material – Steel
Flashings – Box
Storm collars – Yes
Sealant – Caulk

Open sealant

CONDITION: Fair
CONSTRUCTION: Acceptable

GENERAL INFORMATION	OBSERVATIONS	EVALUATION
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EXTERIOR BUILDING FACES: Masonry

DECK SUPPORT CONSTRUCTION
Joist – material undetermined

Beams – material undetermined

DECK TYPE: Undetermined

RECOMMENDATIONS – NARRATIVE

The **Village Hall** was built in 1993. There are two types of roof systems on this building, the low sloped sections have a modified bitumen system and the steep slope areas have a cedar shingle system. Cedar shingles are approximately 3/8 inch thick at the butt end. The life expectancy of both systems is approximately 20 years. Both the flat and sloped areas require replacement as the budget will allow. There are several areas that have shown leakage in the past, especially during periods of snow melting. This is associated with your dormers and the underlying waterproofing system that runs up the walls of these dormers. When the roof is replaced this can easily be corrected with a new flashing system. There is a drain clogged over the garage doors that should be corrected as a general maintenance item. The cost per square foot for cedar shingles is \$10.00. There is a 30% up charge for steep roofs and yours qualifies for this. You have 16,473 square feet of cedar shingle roofing and 3,000 square feet of flat roofing. Flat roofing with the insulation is approximately \$18.00 per square foot. Your cost therefore is \$214,149 for the sloped roofs and \$54,000 for the flat roofing or a total of \$268,149.

The **Public Works Facility** was reported to have been built in 1992 with sections being added in 1996. The original building, we call Area C, has a ballasted EPDM roof assembly. Areas A and B has a fully adhered EPDM roof assembly while area D has a mechanically fastened EPDM membrane. There are reported leaks in several areas and we found numerous defects in the system. EPDM roof assemblies have a Service Life of approximately 20 years. We are reaching or exceeding this time frame with this building. I believe that the roof should be replaced as soon as budgetary constraints will allow.

The **West Side Reservoir** building was reported to have been built in 1985. It has a conventional built up roof assembly that was popular in that era. The roof appears to be the same age as the building making it 29 years of age. The life expectancy of a built up roof is approximately 20 years and this roof has exceeded that timeframe substantially and is in the failure mode. There is only 1,145 Square feet of roof area and the cost per square foot should be approximately \$25.00 per square foot. The roof should be replaced as soon as possible.

The **West Side Well House** building was reported to have been built in 1985. The same conditions exist that existed at the West Side Reservoir building and should be replaced as soon as possible.

The **Londonderry Lift Station** was built in 1985 and has cedar shake roof system. It appears to be original to the building and approaching 30 years of age. The life expectancy for this type of roof is 20 to 22 years and needless to say we have exceeded this life expectancy and as a result it is in the failure mode. This is a very small roof and as a result the cost per square foot escalates.

The **East Side Reservoir** has a roof that was installed in 2000. It has a ballasted EPDM roof system. The flashings and metal appear to be worn and aged. The Service Life for this type of roof is 18 to 20 years and with that in mind I have recommended the replacement two years hence. It is not a very large roof and if it were combined with other work it would be economical to do the replacement now.

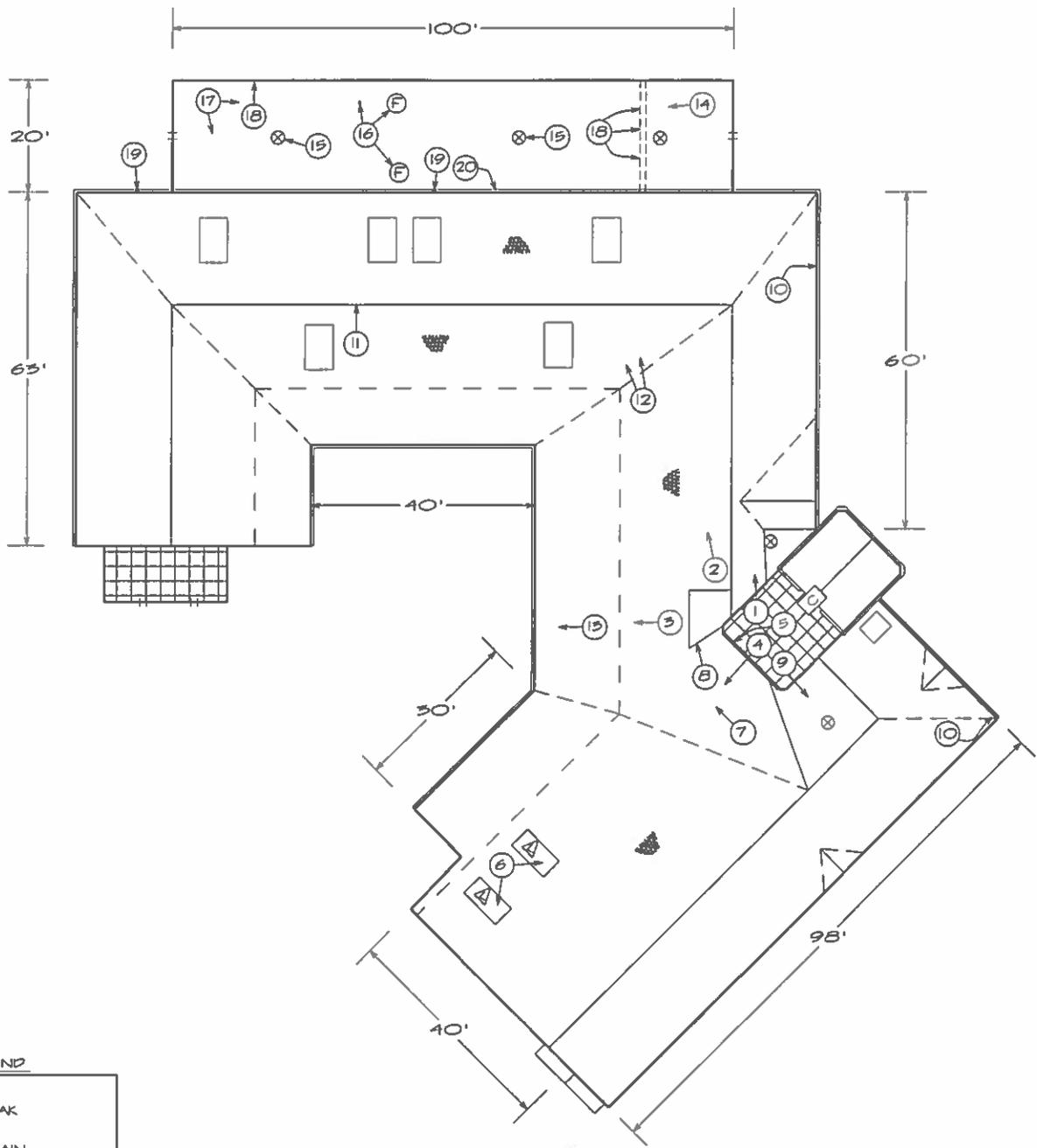
It is my recommendation to prepare replacement specifications and bid out the entire package in order to receive competitive pricing.

PROJECTED BUDGETS		
DESCRIPTION	YEAR	ESTIMATE IN CURRENT DOLLARS
PREVENTIVE MAINTENANCE: As described above	2014	\$ 0
REPLACEMENT: Village Hall	2014	\$268,149
REPLACEMENT: Public Works Facility	2014	\$473,796
REPLACEMENT: West Side Reservoir	2014	\$ 28,625
REPLACEMENT: West Side Well House	2014	\$ 12,825
REPLACEMENT: Londonderry Lift Station	2014	\$ 9,380
REPLACEMENT: East Side Reservoir	2016	\$ 26,838



Thomas J. Grubman, RRC, Project Manager
 Illinois Roof Consulting Associates, Inc.
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14187.vis



LEGEND

- LEAK
- DRAIN
- FLUE STACK
- PAVERS
- WINDOW
- CHIMNEY
- SCUPPER

(n) DENOTES PHOTO NUMBER

21,225 SQ. FT.



14187 RS 1

IRCA

PROJECT: VILLAGE HALL
 ONE OLD HALF DAY ROAD
 LINCOLNSHIRE, ILLINOIS

DRAWING TITLE:
 ROOF SKETCH

PROJECT #:
 14187

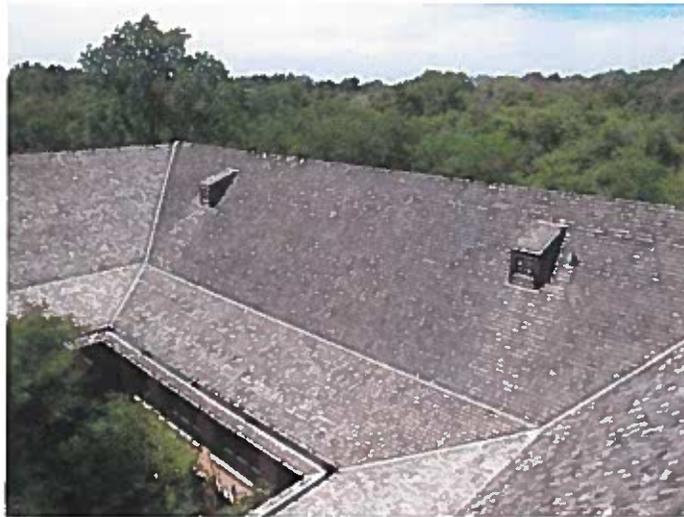
DATE:
 07/14

SCALE: 1" = 30'-0"
 0 5' 10' 20' 30'

DETAIL #:
 RS - 1



1. OVERVIEW



2. OVERVIEW



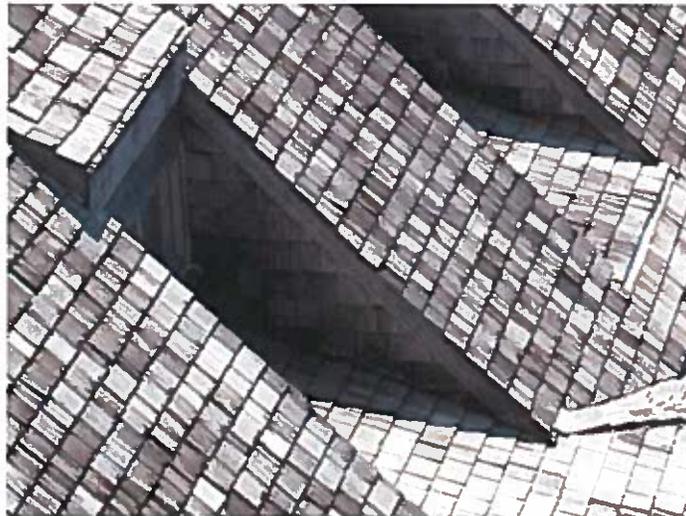
3. OVERVIEW



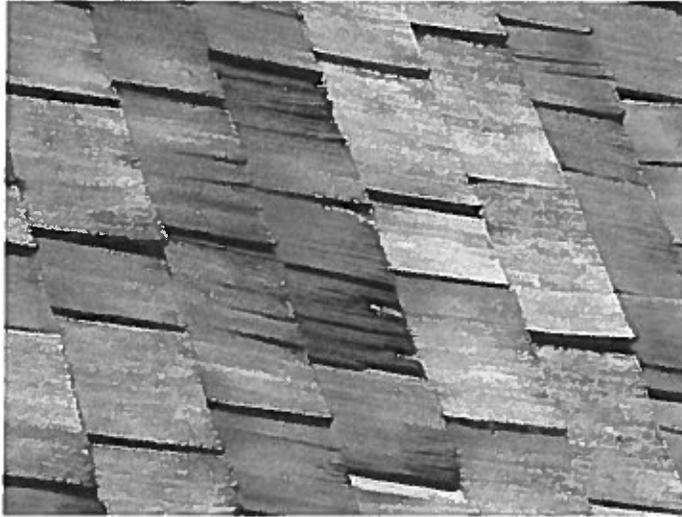
4. OVERVIEW



5. OPEN COPING JOINT



6. CONFINED CONDITIONS



7. DETERIORATED SHINGLES, TYPICAL



8. MISSING / DETERIORATED SHINGLES, TYPICAL



9. OVERVIEW



10. CLOGGED GUTTER



11. DETERIORATED / MISSING RIDGE SHINGLES



12. MISSING SHINGLE



13. REPAIRS AT INLAID GUTTER SEAMS, TYPICAL



14. OVERVIEW



15. CLOGGED DRAIN / PONDING



16. OPEN SEALANT



17. OPEN REPAIR



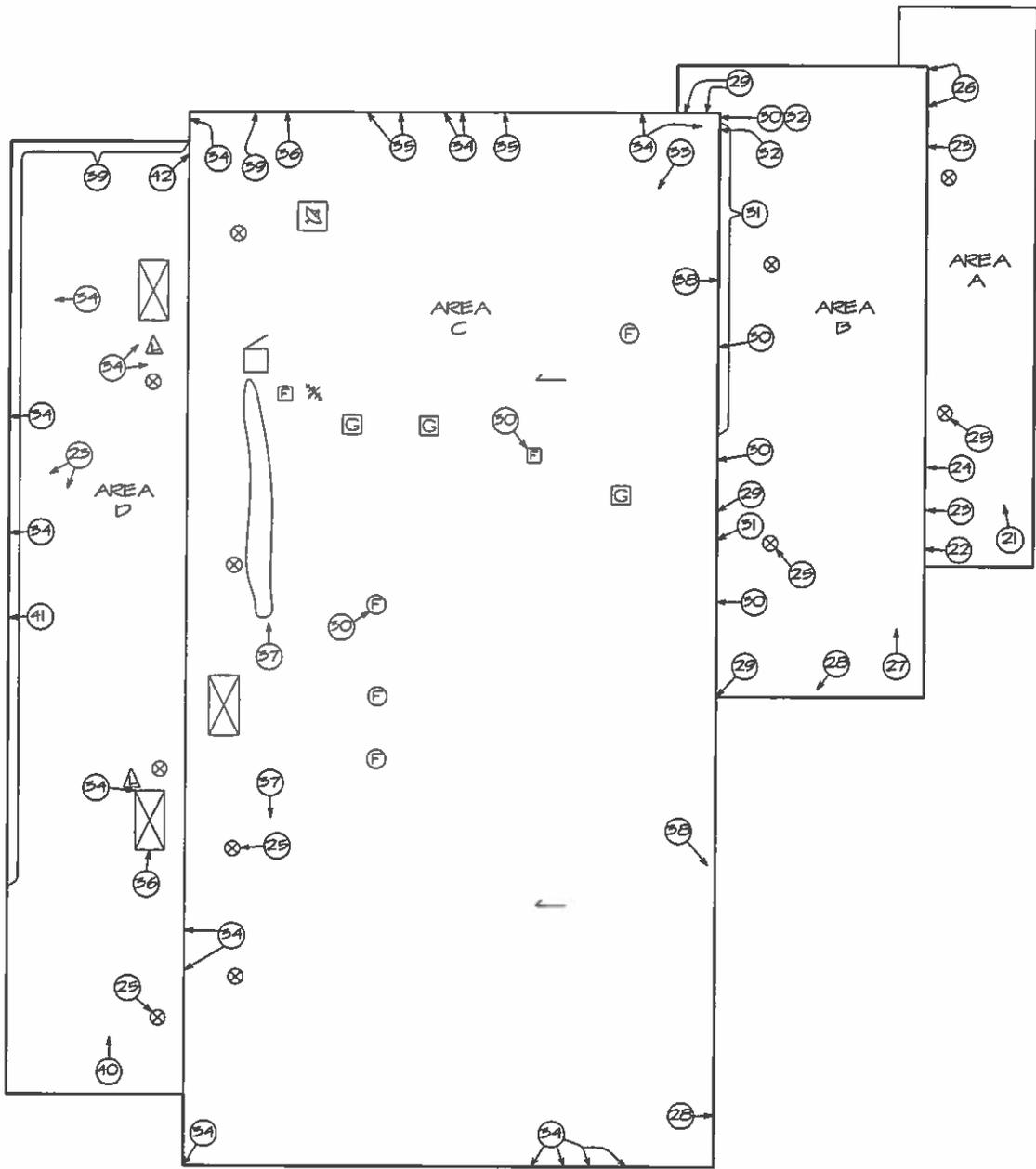
18. OPEN FLASHING



19. DAMAGED SOFFIT



20. OPEN SEAM



LEGEND

⊗ DRAIN	⊞ SATELLITE ON PAD
⊞ VENT	⊞ ANTENNA
⊞ HATCH	⊞ GOOSENECK VENT
⊞ CHIMNEY	⊞ LEAK
⊞ ROOFTOP UNIT	

(n) DENOTES PHOTO NUMBER

AREA A: 1,742 SQ. FT.
 AREA B: 3,766 SQ. FT.
 AREA C: 15,910 SQ. FT.
 AREA D: 4,800 SQ. FT.
 26,218 SQ. FT.



14187 RS 2

IRCA

PROJECT: PUBLIC WORKS
 205 SCHELTER ROAD
 LINCOLNSHIRE, ILLINOIS

DRAWING TITLE:
 ROOF SKETCH

PROJECT #:
 14187

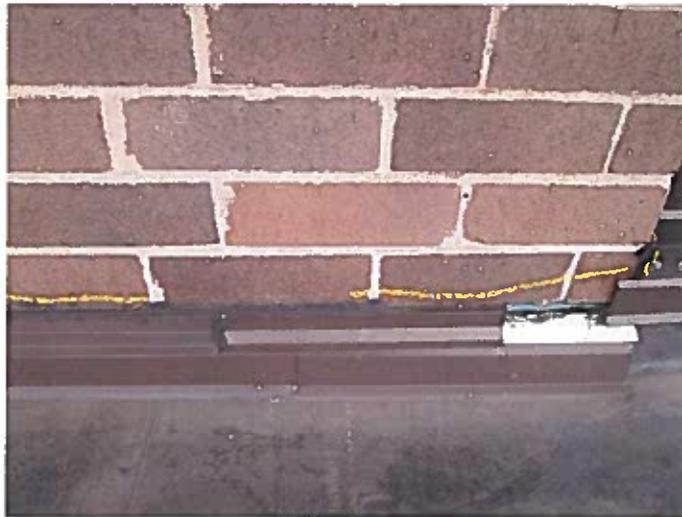
DATE:
 07/14

SCALE: 1" = 30'-0"
 0 5' 10' 20' 30'

DETAIL #:
 RS - 2



21. OVERVIEW



22. OPEN SEALANT / MISSING COUNTERFLASHING



23. BACKED OUT FASTENER



24. OVERDRIVEN FASTENER



25. ORGANIC DEBRIS IN DRAIN



26. OPEN SEALANT



27. OVERVIEW



28. OVERGROWN TREE



29. OPEN SEALANT



30. OPEN FLASHING



31. OPEN SEALANT AT WINDOW CASEMENT



32. OPEN MASONRY



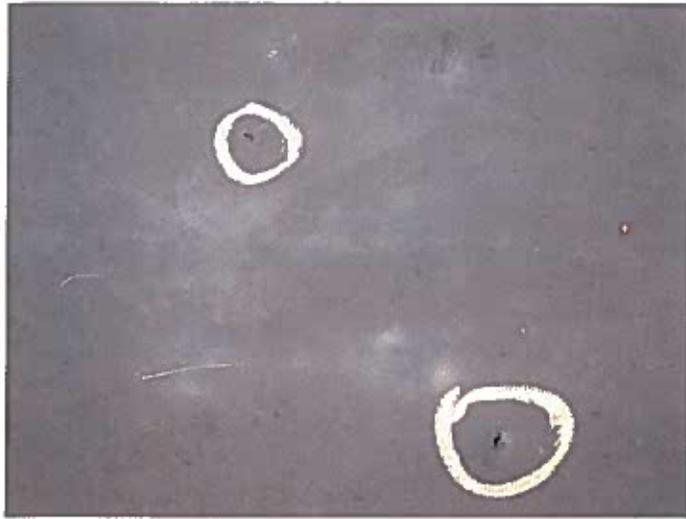
33. OVERVIEW



34. DETERIORATED REPAIRS



35. OPEN SEAM



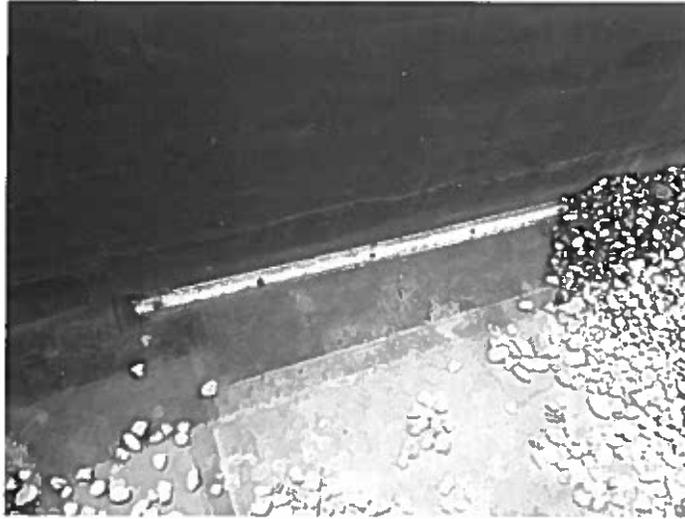
36. HOLES IN FLASHING



37. DISPLACED BALLAST



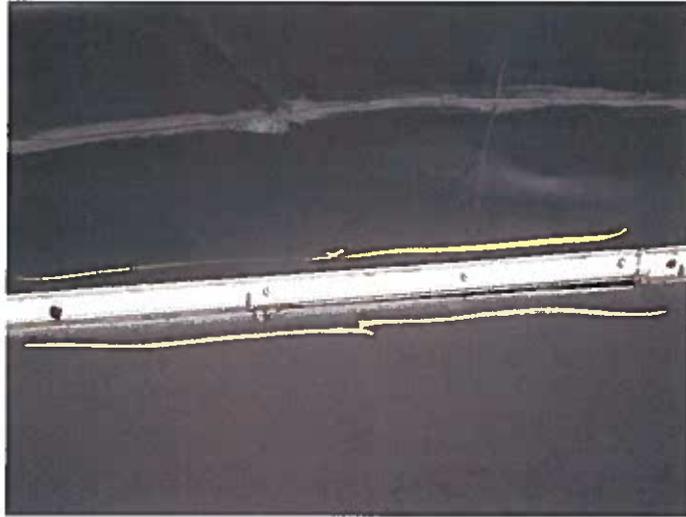
38. OPEN FLASHING



39. INADVISABLE REPAIR



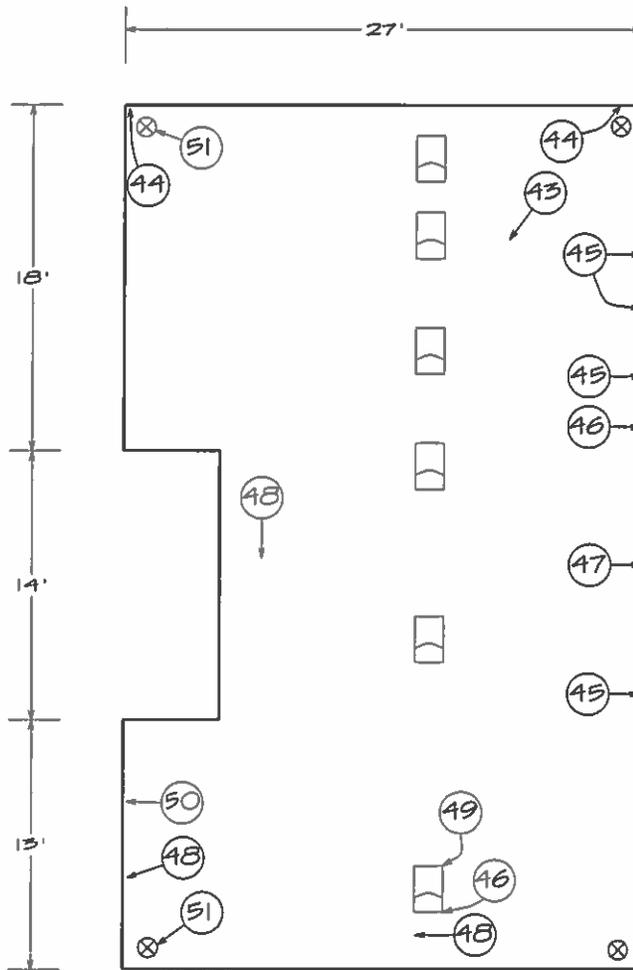
40. OVERVIEW



41. INADVISABLE REPAIR / HOLES IN MEMBRANE



42. ORGANIC GROWTH



LEGEND

-  DRAIN
-  SKYLIGHT

 DENOTES PHOTO NUMBER

1,145 SQ. FT.



14187 RS 3

IRCA

PROJECT: WEST SIDE RESERVOIR
205 SCHELTER ROAD
LINCOLNSHIRE, ILLINOIS

DRAWING TITLE:
ROOF SKETCH

PROJECT #:
14187

DATE:
07/14

SCALE: 1" = 10'-0"


DETAIL #:
RS - 3



43. OVERVIEW



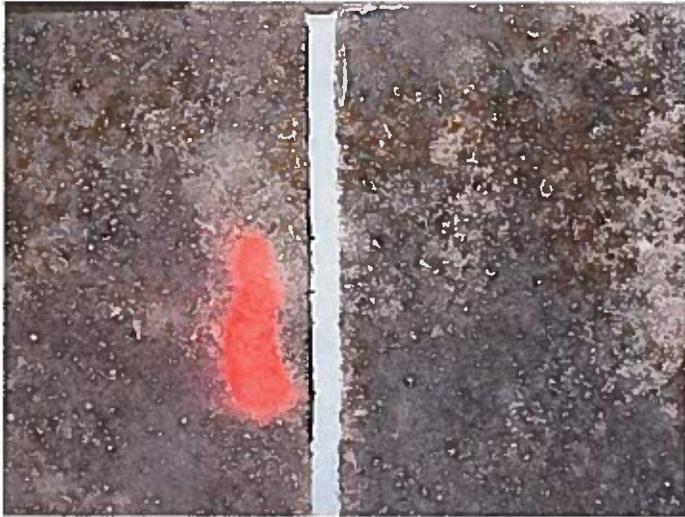
44. TERMINATION BAR PULLING OUT, TYPICAL



45. HOLE IN FLASHING



46. OPEN FLASHING



47. OPEN COPING JOINT, TYPICAL



48. ORGANIC DEBRIS



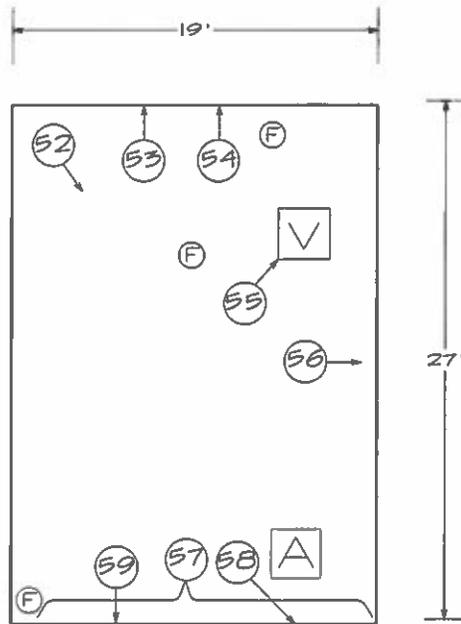
49. DAMAGED SKYLIGHT CAP CORNER



50. OVERGROWN TREE



51. CLOGGED DRAIN STRAINER



LEGEND

- F FLUE STACK
- V VENT
- A ABANDONED

n DENOTES PHOTO NUMBER

513 SQ. FT.



14187 RS 4



PROJECT: WEST SIDE WELL HOUSE 205 SCHELTER ROAD LINCOLNSHIRE, ILLINOIS		DRAWING TITLE: ROOF SKETCH	
PROJECT #: 14187	DATE: 07/14	SCALE: 1" = 10'-0" 	DETAIL #: RS - 4



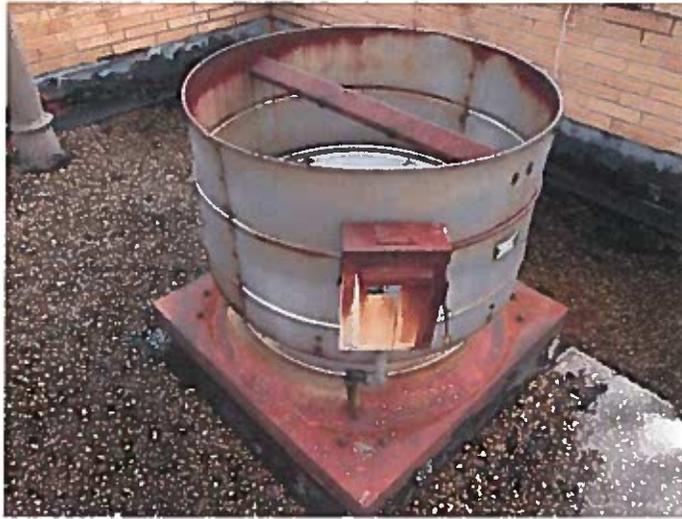
52. OVERVIEW



53. OPEN COPING JOINT, TYPICAL



54. DETERIORATED / OPEN FLASHING, TYPICAL



55. CORRODED ROOFTOP EQUIPMENT



56. DETERIORATED / OPEN COPING



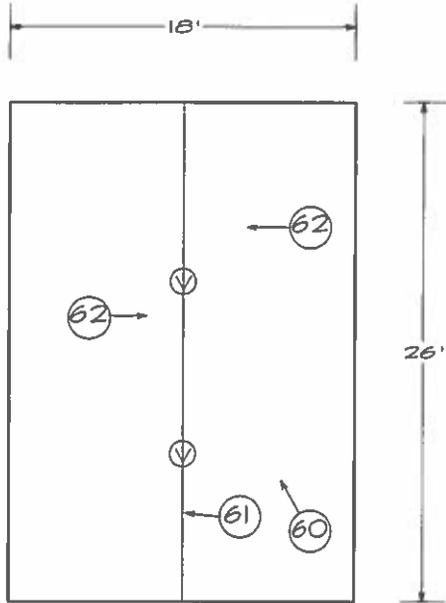
57. ORGANIC GROWTH



58. MISSING MASONRY UNITS



59. DETERIORATED MASONRY



LEGEND

⊕ VENT

Ⓜ DENOTES PHOTO NUMBER

469 SQ. FT.



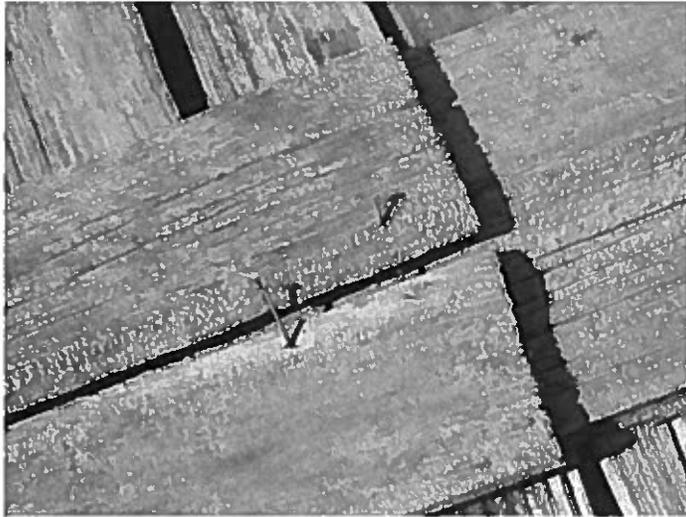
14187 RS 5



PROJECT: WEST SIDE WELL HOUSE 45 LONDONDERRY LANE LINCOLNSHIRE, ILLINOIS		DRAWING TITLE: ROOF SKETCH	
PROJECT #: 14187	DATE: 07/14	SCALE: 1" = 10'-0" 	DETAIL #: RS - 5



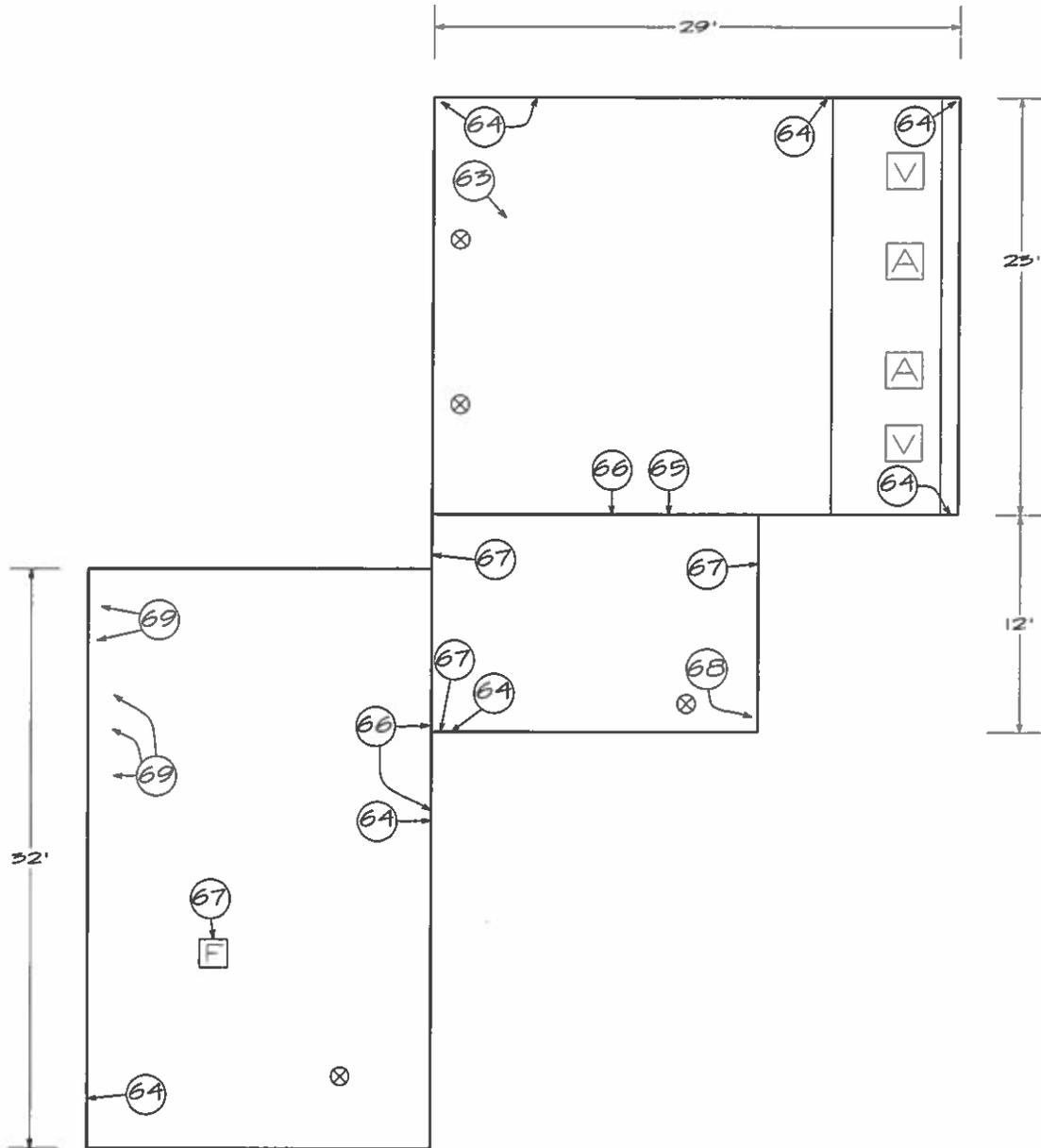
60. OVERVIEW



61. BACKED OUT FASTENERS AT RIDGE CAP



62. LOOSE / ROTTEN SHAKES, TYPICAL



LEGEND

- ⊗ DRAIN
- ☑ VENT
- ⊠ ABANDONED
- ☐ SKYLIGHT

Ⓝ DENOTES PHOTO NUMBER

1,491 SQ. FT.



14187 RS 6

IRCA

PROJECT: EAST SIDE RESERVOIR
101 WESTMINSTER WAY
LINCOLNSHIRE, ILLINOIS

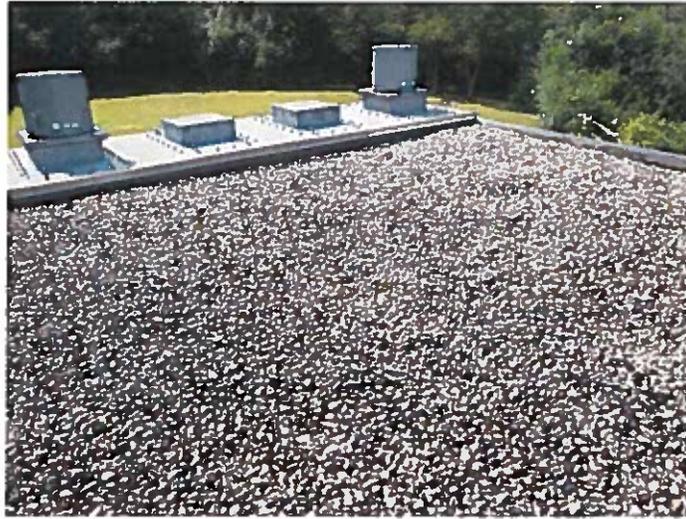
DRAWING TITLE:
ROOF SKETCH

PROJECT #
14187

DATE:
07/14

SCALE: 1" = 10'-0"
0 5' 10'

DETAIL #:
RS - 6



63. OVERVIEW



64. MISSING / BACKED OUT FASTENER



65. DAMAGED COPING



66. OPEN SOLDER AT COPING



67. OPEN SEALANT



68. FALLEN COUNTERFLASHING



69. OPEN REPAIR

REQUEST FOR BOARD ACTION
June 8, 2015 Committee of the Whole

Subject: Lincolnshire Flood Response Manual Updates (Village of Lincolnshire)

Action Requested: Consideration, Discussion, and Approval

Originated
By/Contact: Bradford H. Woodbury, Public Works Director

Referred To: Village Board

Summary / Background:

Attached is the Public Works Department's "Flood Response Manual" for your review. This document is intended to supplement the Village's Disaster Plan and is specific to Public Works Department flood response and mitigation procedures. Many items incorporated into this update are a result of lessons learned during the April 2013 floods. This manual is intended to be a working document requiring constant updates as needed.

Staff has collected direct input from the Police Department, Finance and Administration, Department of Community and Economic Development and all Public Works Staff in the update of the plan and included these items within the new document.

The following are additions and changes to the current manual:

- Updated manpower definitions including a clear description of defined roles
- Updated historical information including data from the April 2013 flood
- Updated flood alert stages including two additional stages (1) observation stage and (2) evacuation stage in order to better prepare for possible flood events
- A new section directing residents to the Village Blackboard Connect website to allow residents to sign up and receive up to date information on flooding and other disasters
- A new conversion chart differentiating the Des Plaines River Flood Gauge elevations to the FEMA defined elevation levels (Feet Above Sea Level)
- A more detailed and user friendly section on sandbagging information, techniques and procedures
- A flood response equipment, gear and tools checklist
- A volunteer release form – waiver of liability
- A volunteer management sign-up sheet to better prepare and plan for volunteers
- A situation report to provide for easier reporting to FEMA in the event of disaster declaration

The Public Works Department conducted training based upon the manual on May 15, 2015. Village Board review and feedback on the draft document is requested. Should you have any questions in the meantime, please feel free to contact me at your convenience.

Budget Impact: None

Recommendation: Approval of attached Flood Response Manual.

Reports and Documents Attached:

- 2015 Flood Response Manual

Meeting History	
Regular Village Board Meeting:	June 8, 2015



EMERGENCY FLOOD RESPONSE PLAN

Adopted February 12, 2007
(last revised May 11, 2015)

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Introduction & Background

May 14, 2015

This manual is a guidebook or F.O.G. (Field Operating Guide) for flood response operations within the Village of Lincolnshire.

Based on lessons learned from past operations, we have compiled a variety of informational and response steps that could help ease the burden of our residents and response personnel.

No flooding event is identical. Watershed impacts vary due to current weather, location, duration, and amount of precipitation and snow melt.

This document is prepared to provide current and future Village staff and residents with a guide to fighting floods in our community. Additionally, this manual was created to detail a procedure to be followed in the event of a threat or occurrence of a flood.

Sincerely,

Bradford H. Woodbury,
Public Works Director
847-883-8600 x2381
bwoodbury@lincolnshireil.gov

Important Phone Numbers

Village of Lincolnshire	847-883-8600
Lincolnshire Police	847-913-2350
Lincolnshire-Riverwoods Fire Protection	847-634-2512
Lake County Sheriff	847-549-5200
Lake County Health Department	847-377-8020
Lake County Storm Water Mgt.	847-377-7700
Lake Forest Hospital	847-234-5600
FEMA	800-621-3362
IDNR	847-608-3100
IEMA	800-782-7860
IEPA	847-294-4000
IPWMAN (Mutual Aid Network)	217-819-3155
North Shore Gas	866-556-6005
ComEd	800-334-7661
Comcast	866-594-1234
AT&T	800-244-4444
J.U.L.I.E.	800-892-0213
American Red Cross	800-733-2767
Solid Waste Agency of Lake County	847-336-9340
U.S. Army Corp of Engineers	847-205-4540

Great Lakes Naval Base (volunteers)	847-688-3500
Traffic Control and Protection (barricades)	630-293-0026
School District #103 (buses)	847-295-4030
Ernie's Wrecker Service (fuel)	847-634-3737
Metropolitan Emergency Support (food)	800-438-6377
Meyer Material (sand)	815-385-4920
Lester's Materials Inc. (sandbags)	847-223-7000
Winthrop Harbor P.D. (helicopter)	847-872-2131
Best Sanitation (toilets)	847-364-7345
Davey Tree Expert Co. (tree removal)	847-537-4340
Waste Management	800-796-9696
Courtyard by Marriott	800-230-4134
Marriott Resort	847-634-0100
Springhill Suites	847-793-7500
Staybridge Suites	847-821-0002
Hampton Inn	847-478-1400
Homewood Suites	847-945-9300
Buffalo Grove Public Works	847-459-2500
Highland Park Public Works	847-432-0807
Libertyville Public Works	847-362-2430

Objective

The objective of the Village of Lincolnshire **Flood Response Manual** is to provide information for early flood recognition and warning dissemination, establish response and emergency response actions, establish post-flood recovery actions, and develop community awareness. Through the implementation of this manual, the Village of Lincolnshire's main goal is to minimize public and private property losses, while protecting the public safety in an efficient and cost-effective manner. It is the long-standing policy of the Village of Lincolnshire not to actively protect private property.

The purpose of the Village's Flood Response is to protect public infrastructure including streets, water and sanitary systems, and public utilities. Village officials will provide advisory assistance to residents desiring to protect their own private property.

When deemed necessary, the Village may order evacuation of structures. The Village assumes residents will make arrangements for temporary lodging with relatives, friends, or hotels. Please refer to the list of important phones at the front of this document for additional lodging information.

Finally, the Village of Lincolnshire does not prevent flood disasters, but enables public response actions to be timely and workable.

Manpower

Village Officials:

1. Incident Commander - Village Manager

Job Description: to remain at the Emergency Operations Center (typically the Village Hall) as the overall command in flood operations. He/she is also responsible for the decision to evacuate.

2. Site Manager – Public Works Director

Job Description: to oversee his/her assigned site (either Spring Lake Park or the bagging operation near the river). He/she will not participate in any sand bagging activities. He/she will make sure all operations are running smoothly as well as direct food, water, and shelter providers. He/she is the go to person at his/her specified site where questions are concerned. The Public Works Director will communicate with other base stations set up around the village to be fully informed of the entire procedure.

3. Operations Chief – Utilities Superintendent

Job Description: to make sure the Village's water supply is not contaminated, clear debris from the streets, as well as oversees the Public Works personnel.

4. Planning Chief – Operations Superintendent

Job Description: to decide where sand bags should be placed. He/she should be on site by the river and in constant communication with the other base stations.

5. Liaison Officer - Chief of Police

Job Description: to serve as the Emergency Services Coordinator and as such is responsible to direct all Village departments and to keep the Mayor and Village Manager apprised of the current disaster or emergency status

6. Law Enforcement Branch- Police

Job Description: to serve as the main source of security for residents as well as maintain the security of the Village.

7. Information Officer – Mayor/Village Manager

Job Description: to relay information as it comes to the media as well as work with the media to inform all Village residents of precautions needed as well as requests for volunteers, food, water, or shelter. This job may be completed by the mayor or a Village trustee as designated.

8. Volunteer Coordinator – Engineering Supervisor

Job Description: to organize the volunteer force so as to use all manpower in the most efficient way. Considerations should be given to parking, sign-in, food/water/shelter for volunteers, and distribution of information packets on how to sand bag. Additionally, background checks may be required of volunteers if requested.

9. Public Works Branch - Public Works Personnel

Job Description: to report to the Public Works Director and contribute in any ways requested.

10. Other Village Employees

Job Description: to complete the job assigned to their designated department as well as contribute in any other ways requested.

11. Volunteers

Job Description: Volunteers must be 16 years or older and will report to a base station and await further instruction. Volunteers younger than 16 should be discouraged from assisting directly in flood operations such as sandbagging.

Flood Response Equipment, Gear and Tools Checklist:

Personal Items & Gear:

- Rubber boots, sturdy shoes, and waterproof gloves, Safety Glasses
- Proper clothing for weather and conditions & extra rain gear
- First aid kit
- Drinking water
- Hand sanitizers, insect repellent, suntan lotion
- Extra Gloves
- Floatation devices for working near water
- Flashlight and extra batteries
- Fire extinguisher
- Multi-Purpose “Leatherman type” tool

Flood Response Tools & Equipment:

- Shovels, wheel barrels
- Polyethylene: Commonly called “Poly.” or Visqene. Poly provides a water barrier for sandbag barriers. Use the heaviest and longest polyethylene sheeting available. I.e.. 20'x100' 6mil
Have extra/more than you think you need.
- Lumber and planking: Lumber may be needed for field construction projects. Planking is valuable to make paths over muddy ground. Caution: Can be slippery!
- Sump, trash, or skimmer pumps to remove water that permeates through the dike.
Extra hoses and fittings, etc.
- Road Closed Signs
- Generators
- Type I and Type II Barricades
- Duct tape, various hand tools, Utility knives
- Fuel
- Chairs

Additional Response and Recovery Items:

Item	Quantity	Notes
Barricades - Type 1, 2 with lights.	20	In stock
Cones	20	In stock
Caution Tape:	10 Rolls	In stock
Port-A-John's	1-2	Order as needed
Water (bottled)	10 cases	Order as needed
Food (employees/volunteers)	TBD	Order as needed
Sand	4 tons	Order as needed
Sandbags	10,000	In stock
Plastic (polysheeting) 6 mils	5 rolls	Order as needed
Light towers (balloon light)	1-2	In stock
Dumpsters	3-4	Order as needed
Clean Up Kits	TBD	Coordinate w/Red Cross

Other Misc. Items:

- Row boat or canoe for sandbag placement or evacuations
- Pop-Up Canopy, 10'x10' for rain/sun shelter
- Ropes, Bungee Cords, Zip Ties, etc.
- Additional lighting, in case there is a need to work at night
- Tarps
- Buckets
- Paper, Pens and Pencils
- Additional Cell Phone Chargers
- Flip Charts

DES PLAINES RIVER - FLOOD ALERT STAGES

10.5 feet - Observation Stage (640.48)

The observation stage is when Village Staff begins monitoring weather forecasts and the river gauge on a daily basis. Staff will begin assessing equipment and inventory needs at this time.

11.5 feet - Action Stage (641.48)

The Action Stage is a "heads-up" stage at which the National Weather Service begins to issue river flood advisories and river forecasts. Village will begin servicing pumps and generators. Staff will order skids and sandbags as needed. Staff will also check all intake and discharge hoses are functional and order additional hose as needed.

12.5 feet - Minor Flood Stage (642.48)

Water begins to overflow onto Londonderry Lane. If the river is forecasted to increase above 13.0, the Village will monitor Londonderry Lane to determine if closure of the road is warranted. Village officials will decide whether or not to close Londonderry Lane. Village will order 2-3 semi-loads of sand to be deployed at Spring Lake Park. Public Works Staff will begin making sandbags and placing them onto skids to be placed in designated locations.

14.0 feet - Moderate Flood Stage (643.98)

Water begins to pond on Lincolnshire Drive at Wiltshire Lane. Londonderry Lane is closed between Lincolnshire Drive and 45 Londonderry Lane. At this point, the Village may deploy pumps along Lincolnshire Drive to assist in the removal of water from the pavement. Village Officials will close Londonderry Lane and close the flood control valves along Lincolnshire Drive. Pumping will begin at Wiltshire Drive and Londonderry Lane. Village will need to begin gathering volunteer information. At this stage the EOC (Emergency Operations Center) is now activated and in full effect out of Village Hall.

15.5 feet - Major Flood Stage (645.48)

Water approaches the top of the river bank on the east side of the Des Plaines River. The Village may initiate sand bag operations to protect Village facilities. Public Works will need to make a decision on whether or not to sandbag. The decision to sand bag or not sand bag will be based upon many factors, including but not limited to: forecasted crest elevation, forecasted time to crest, available resources, weather conditions, and safety of workers and volunteers.

16.5 feet – Evacuation Stage (646.48)

At this stage the Village would require a mandatory evacuation of the residents on Lincolnshire Drive from Oxford Drive to Londonderry Lane. All residents would be advised to shut off any power sources.

17.5 feet – 100 Year Flood Stage (647.48)

Lincolnshire Drive is closed from Cambridge Lane to Oxford Drive; Wiltshire Drive closed from Lincolnshire Drive to Cumberland; Cumberland Drive impacted; Oxford Drive between Half Day Rd and Essex Lane impacted; Stonegate Circle impacted; Half Day Rd between Village Hall and Oxford Drive (including Route 22 bridge over Des Plaines River) potentially impacted.

Stream Gauge – Flood Elevation Conversion Chart

FASL – (Feet Above Sea Level)

0 feet = 629.98 (FASL)

1 foot = 630.98 (FASL)

2 feet = 631.98 (FASL)

3 feet = 632.98 (FASL)

4 feet = 633.98 (FASL)

5 feet = 634.98 (FASL)

6 feet = 635.98 (FASL)

7 feet = 636.98 (FASL)

8 feet = 637.98 (FASL)

9 feet = 638.98 (FASL)

10 feet = 639.98 (FASL)

11 feet = 640.98 (FASL)

12 feet = 641.98 (FASL)

13 feet = 642.98 (FASL)

14 feet = 643.98 (FASL)

15 feet = 644.98 (FASL)

16 feet = 645.98 (FASL)

17 feet = 646.98 (FASL)

Flood Forecasting

Forecasting a flood is the first step in developing event specific objectives for fighting flooding. Data must be obtained from weather reports and forecasts, stream gauges, field observations, maps and studies, outside agencies, and other sources. In general, the Public Works Department will monitor flood forecasts and warnings.

Real-Time Flood Stage Information

The National Weather Service provides predictions as to how high the water will go based upon antecedent ground conditions, forecasted precipitation, and river hydraulics and hydrology.

Real-time information is now available for the Des Plaines River to help determine actions to take in the event of a flood along the Des Plaines River.

The Village, in partnership with the Lake County Stormwater Management Commission, U.S. Geological Survey, United States Department of the Interior, and NOAA National Weather Service Chicago, maintains a river gauge to measure the height of the water along the Des Plaines River.

Information on this website is the same information the Village uses to assess its response to flooding along the Des Plaines River.

The real-time data may be found on the [National Weather Service website](http://www.crh.noaa.gov/lot/) located at:
<http://www.crh.noaa.gov/lot/>

Stream Gauge



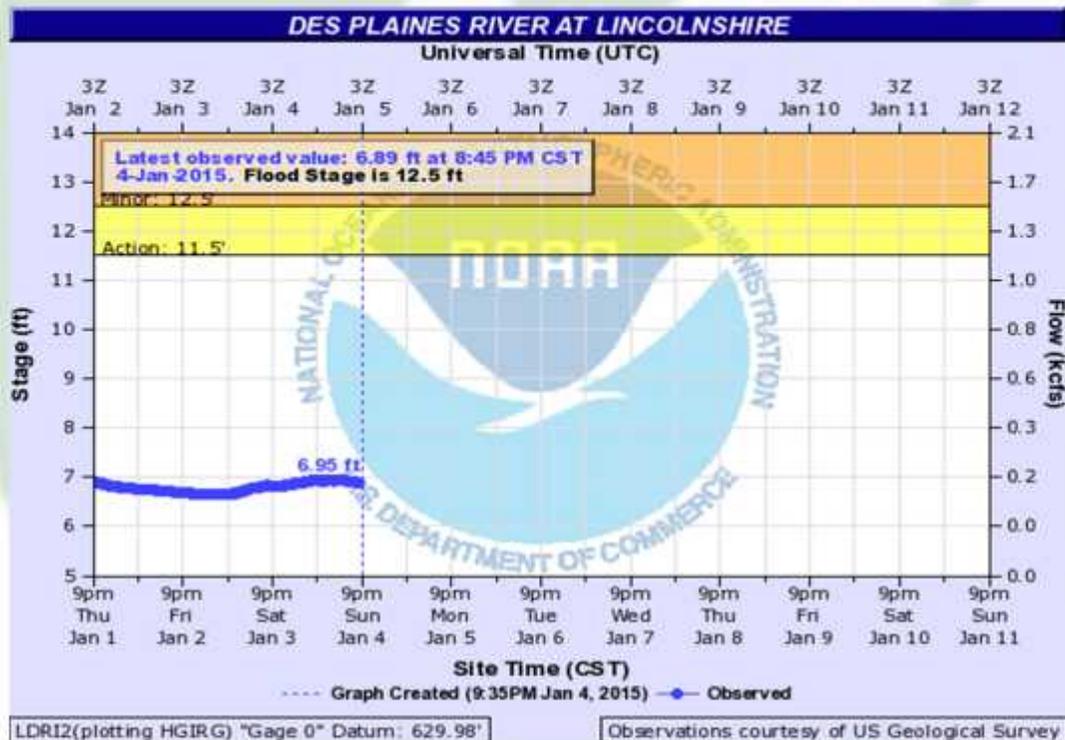
Figure 1. Des Plaines River Stream
Gage @ Route 22

Hydrograph

In 2004, the Department of the Interior, United States Geological Survey, Water Resources Discipline installed Gage Model 85CC on the south face of the Half Day Road/Route 22 Bridge. This gauge measures the water depth of the Des Plaines River. These gauges provide information to determine the type of flood at each point along the river. By measuring the flood elevation at points upstream from Lincolnshire and monitoring upstream rainfall events, we may be able to predict the type of flood expected in Lincolnshire. These gauges will also assist in predicting the time flooding may occur in Lincolnshire.

The main source of information during a flood event is a website with real-time data for USGS 05528000 Des Plaines River near Gurnee, IL which can be found at the Village of Lincolnshire River Gauge Site:

<http://water.weather.gov/ahps2/hydrograph.php?wfo=lot&gage=LDRI2>



Based upon previous floods and response times, the Village has identified what will likely be observed at various stages. Responses are triggered when the National Weather Service predicts a certain stage will be reached.

Pre-Flood Communication Plan

As the potential impact to health, safety, and welfare is significant during a flood, public notification is a very important component of the Village's flood response. The public notification campaign to Lincolnshire residents must begin well before the start of a flood event and continues well beyond the recession of the water.

1. Pre-Flood Notification

The Village conducts yearly outreach activities to alert residents to the existence of flood hazards. The importance of flood insurance is stressed. Direct mailings are sent to real estate agents and lenders advising them of the Village's flood program. The details of these outreach activities are not detailed in this manual.

2. Flood Event Notification

As soon as it is evident a significant flood will occur, a concerted effort must be made to alert the public about the potential for the flood and advise them of the actions they should take to protect themselves and their property. It is assumed major television and radio stations will report flood watches and warnings.

Messages to the public should be clear, concise, and consistent. The messages must be coordinated between the Mayor and the Village Manager.

The Village has established a series of pre-formatted messages for various media types including:

1. Signs
2. Cable-TV
3. Village website
4. Door-to-door communications
5. Front Desk Information
6. Message Board
7. Social Media
8. Blackboard Connect
9. E-News

Blackboard Connect



In order to provide residents with the quickest and most effective and up-to-date information regarding flooding, Village staff shall direct residents to sign up for the Village's Blackboard Connect notification service located at:

<http://www.lincolnshireil.gov/news-updates/connect-cty>

Automated Telephone Dialing System

The Village of Lincolnshire maintains access to an automated telephone dialing system. During significant storm events, this system will be used to phone residents and businesses within the floodplain and provide recorded messages containing important information. The message to be played will depend upon the flood threat to the area. Please refer to page 54 of the Lincolnshire Flood Response manual for detailed examples of the automated messages.

Village Flood Response Procedures

Upon receipt of a flash flood watch or flood watch, the Public Works Director shall execute the following:

- A. Immediately notify the Chief of Police.
- B. Assign personnel to monitor the affected area every thirty minutes until the threat of flooding has ceased.
- C. The Village Manager should be made aware of flooding conditions throughout the Village and its effect on the property and residents of the Village.
- D. If appropriate make all necessary notifications to all remaining Village personnel and Village officials.
- E. Begin execution of the Village's Flood Response Plan or any portion of the plan which applies if appropriate.
- F. Stay abreast of all weather forecasts
- G. Continually assess the situation including determination of potential flood hazards and estimate rise of water based on flood warning notifications.
- H. Change work schedules to fit needs.
- I. Secure emergency or temporary housing for evacuees if needed.
- J. Set up patrols of evacuated areas for protection of property and prevention of fires.
- K. Contact all public utilities to make electrical, gas and water inspections as necessary to prevent accidents.
- L. Request local, state and county authorities to assist as needed.

During all flood events, the following priorities are established for the Department:

1. Ensure that an adequate supply of potable water to the affected area is maintained, and that the water system is not contaminated.
2. Ensure safe access to the affected area is maintained by removing any debris from the streets.
3. Place barricades and provide manual traffic control as necessary to isolate the affected area.
4. Determine the locations for placing sandbags.
5. Provide equipment and manpower to assist in sandbagging operations as requested.
6. Provide updates to the Village Manager as requested.
7. Provide equipment and manpower to assist in sandbagging operations as requested
8. Identify and locate emergency shelter for evacuated residents as necessary.

Additionally, in the event of a flood event, the Village will take the following actions:

- The Village Emergency Preparedness Plan will be implemented
- Residents will be notified of the pre-flood state of alert
 - Information will be broadcast on Cable Channel 10
 - Residents in a hazard area will be notified by phone or in person.
- The Village will begin to place sandbags as necessary to protect public infrastructure.

Property owners are responsible for protective measures for individual homes and property, including sandbagging, pumping, turning electricity off, etc. Action taken by Village staff, such as sandbagging, is intended to protect public property and benefit the entire area.

It may appear the Village is sandbagging individual homes; however, any Village sandbagging efforts are part of a strategic plan designed to provide protection to the entire neighborhood.

Incident Command

The Village follows the National Incident Management Systems (NIMS). The Department and its personnel are NIMS certified at various levels. Flood response follows the NIMS model as it is likely the response will need to be coordinated not only among departments within the Village but also with state, federal and other local officials.

Mobilization

Once river levels are anticipated to reach the observation stage (10.5 feet), the Public Works Department will begin to monitor the Des Plaines River gage at Route 22. These readings will be utilized to predict when to initiate an emergency response.

Based upon the initial assessment of the potential for flooding, the Village Manager will prepare incident objectives for the first 12 hours of the flood response. In preparation of commencing sandbagging operations, the Public Works Administrative Assistant should be directed to order sand and additional sandbags.

Materials

In general, the flood mitigation will consist of installing sand bags at strategic locations to protect public infrastructure. A brief discussion of the materials, their source, and procedures for obtaining the materials is described below:

1. Sandbags

Before a rain event with flooding potential reaches the Village, the Public Works Director shall decide if and when sandbags will be provided to Village residents and business owners. Sand bags shall be provided at the Village's distribution point, located at Spring Lake Park (49 Oxford Drive). The Village shall advise residents and business owners of the availability of sand bags through the outreach channels. Sandbags shall be burlap or plastic bags. The Village maintains a supply of approximately 10,000 bags. When it is clear that the Village will need additional bags, the Public Works Director shall obtain the required number of bags.

2. Sand

Material for sand bags shall consist of fine sand. ***Sand from the Spring Lake Park beach shall not be used for sand bags.*** In anticipation of a flood, the Public Works Director or his designee shall order sand from one of the suppliers listed in Appendix B. The sand shall be delivered to the parking lot located at Spring Lake Park for incorporation into the bags.

3. Polyethylene

A layer of polyethylene should be placed beneath the sand bags. The Village does not maintain a supply of polyethylene. Sources for this material are listed in Appendix B. The polyethylene is to be delivered to the staging area.

4. Equipment

All Public Works equipment is available to fight floods. Below is a brief description of the main pieces utilized for fighting floods. Not all pieces are described herein. For a complete listing of public works equipment, see Appendix C.

Front End Loader: John Deere 544-D. It is located at the Public Works Facility. It can be used in water up to about 4 feet.

JCB Loadall: JCB 520. It is located at 45 Londonderry Lane in the storage garage. It is mainly used to load sand and transport sandbags.

Sandbag Machine: The Village owns a Kanzler sandbag machine capable of filling up to 4 sand bags at a time. The machine has the capacity to fill 700 bags per hour. The machine is stored at the Public Works Facility and can be delivered anywhere in the Village on a flatbed trailer and can be seen below in figure 5.



Figure 2. Kanzler Sandbag Machine

Pumps: The Village has the following pumps available for flood mitigation:

Table 6. Pumps		
Pump Description	Capacity	Storage Location
1 each - 4" Godwin Dri-Prime pump mounted on a trailer with quick disconnect suction and discharge hoses - Diesel powered - 30 gal tank.	500 gal/min. or 30,000 gal./hr.	Public Works Facility
1 each - 6" Godwin Dri-Prime pump mounted on a trailer with quick disconnect suction and discharge hoses - Diesel powered - 60 gal tank.	600 gal/min. or 36,000 gal./hr.	Public Works Facility

Work Smart - Flood Response Personal Safety Tips:

Please use the following safety tips in order to keep yourself and other co-workers safe while participating in the Village flood response procedures:

Take Care of Yourself:

- Drink plenty of fluids and eat regularly. Avoid Caffeine & Alcohol
- Pace yourself. Take Frequent Rest Breaks. Dress appropriately.
- Know your personal limitations and never engage in any response activity that feels uncomfortable

Stay Healthy & Maintain Personal Safety:

- Wash your hands before eating, and follow basic sanitary procedures.
- Always lift with your legs, not your back.
- Properly care for all wounds and injuries, no matter how minor.
- Stop immediately if you feel dizzy, have chest pain, shortness of breath, or pain down your left arm. Seek immediate medical attention if you experience any of these symptoms!
- Use the buddy system

Typical Flood Response Injuries Include:

- Heat and cold-related injuries, Infections from open wounds from the water.
- Sprains, Strains, Cuts & Lacerations, Blisters

Realities of Flood Response:

- Be aware that flood response is a mentally and physically demanding process.
- Speak up if you are uncomfortable working in any situation.
- You know your limitations better than anyone
- Maintain a safe working environment throughout operations.
- Be aware of potential lift, trip, fall, pinch, electrical, puncture, chemical and environmental hazards associated with operations
- Be aware of potential waterborne, foodborne, and other hazards associated with flooding and potential environmental conditions
- When working near waterways, rivers, and/or levees/dams will wear assigned personal flotation devices (PFD) during operations.

- Do not walk through moving water. Six inches of moving water can make you fall. If you have to walk in water, walk where the water is not moving. Use a stick to check the firmness of the ground in front of you.

Your Personal safety is always the top priority!

Weather Conditions:

- Weather conditions, such as rain and wind, can affect the flood response by making the tasks associated with constructing a sandbag barrier more difficult and increasing the likelihood of injury.
- It is important to **dress appropriately** for the weather and to wear layers.

Mental Preparation & Fatigue:

- Responding to a flood is a long, arduous process. The work involved, including filling sandbags, is often repetitive, and there are few immediate signs that progress is being made. This can result in a frustrating experience for responders who aren't mentally prepared.
- The mental stress, as well as the physical stress, is another reason that taking breaks is important during flood response to stay alert.
- Participating in a flood response is physically demanding. It is important to listen to your body and take breaks as needed, especially when working extended hours under stressful circumstances.

Additional Flood Response Activities

Sand Bagging : Sand bags will be placed at the locations directed by the Operations Chief based upon input from the Planning Chief. The procedures for placing sand bags are outlined in Appendix D.

Pumping : Pumps will be utilized along Lincolnshire Drive to minimize water on the pavement. Typically, pumps will be placed near Wiltshire Drive and near Londonderry Lane. Pumps may be placed at other locations as directed by the Operations Chief.

Evacuation : In the event that structures are evacuated, the Village should attempt to obtain contact information for those people who are leaving the area. This contact information is to be maintained so that Village officials can notify the residents and/or family members of significant changes in the status of their structures. The list is also to be utilized to ensure that all persons are accounted for during the flood.

Des Plaines River Earth Berm

History

Overbank flooding is partially mitigated along Lincolnshire Drive between Londonderry Lane and Spring Lake Park by the existence of a non-engineered earthen embankment. According to minutes of the September 9, 1963 Village Board meeting, a contractor constructing a sewer line was “directed to dump the dirt on the bank” to create a “berm on the river.” The intent of this work was to establish a “reasonably effective dike on the Des Plaines river in case of future flooding.” Minutes of the November 26, 1963, meeting of the Village Board of Trustees indicates that the placement of dirt was complete that the Village would hire a contractor to “shape the dyke and prepare for flood control.”

- It shall be noted that this berm is not to be considered a true levee and may weaken over time.

Inspections

It is advised that residents along the West side of Lincolnshire Drive between Londonderry Lane and Spring Lake Park shall conduct bi-annual inspections of the berm that borders their individual property. These inspections should be conducted in early Spring and late Fall. During these inspections, residents are advised to evaluate the berm, identify weak point areas to focus on and address those areas as needed.



Figure 3. Des Plaines River Earth Berm

Additional information on flood berm maintenance and care can be found on the FEMA website located at: http://www.fema.gov/media-library-data/20130726-1608-20490-6445/fema551_ch_05.pdf

Base Station Set-Up

Base Locations

1. Spring Lake Park : When the anticipated flood event is less than a 100-year event, Spring Lake Park may be utilized as a base station. In events greater than or equal to a 100-year event, Spring Lake Park will be inundated and its use as a base station will be compromised. The base station should be set up as shown in "Spring Lake Park Base Station Diagram" Figure 3. The following key components must be considered when setting up the base station.



Figure 3. Spring Lake Park Base Station

- A. Restricted access to the station is to be provided at the park entrance. The Police Department should supply a sentry, most likely an Explorer, to ensure that only Village authorized vehicles enter the driveway. All other vehicles are prohibited from utilizing the driveway, including residents picking up sandbags, unless otherwise authorized by the Public Works Director.
 - B. The base station may also include a baby-sitting tent for children less than 16 years of age who cannot volunteer with their parents. The tent shall be run by of age volunteers who are physically incapable of filling sandbags and may be manned with older children 12 to 15. In extreme weather conditions, this station may be moved to the Public Works Facility.
 - C. Food and Water stations may also be added at the direction of the Village Manager.
2. Village Hall: The Village Hall is the primary location of the Emergency Operations Center. For more information on setting up the Village Hall as the Emergency Operations Center, see the Village of Lincolnshire Preparedness Plan Annex A "Emergency Operations Center Annex."
3. Public Works Facility: In the event that Spring Lake Park is not available for use as a Base Station, operations should be moved to the Public Works Facility. The Public Works facility is the site where equipment is stored and maintained. In the event that the Village Hall is unavailable, the Public Works Facility may also become the site of the Emergency Operations Center.



Figure 4. Public Works Facility Base Station

Health Issues

Food : Food may be obtained from a variety of sources including local grocery stores and restaurants. Often these businesses will donate food for responders. The Chamber of Commerce or other groups may assist in obtaining these supplies.

Water: During the flood event, one of the primary goals of the flood response is to secure the potable water system. Workers will need approximately one (1) gallon per day per person to remain properly hydrated. A water station is to be set up at the main staging facility. Cups or bottled water are to be provided by the Public Works Director.

Shelter: For extended flood response, tents should be set up near the river site to store food, water, and blankets and to provide an escape from the weather. The Spring Lake Park Pavilion may be used, as well as Village Hall and the Public Works Facility. Cots are available at the Public Works Facility.

Rest: During a flood response, flood fighters will spend long hours in the field. Each worker must take a minimum of 6 hours off after working a maximum of 18 consecutive hours. Adequate provision must be made to provide food, water, and shelter to the workers.

Flood Water Contamination: The contamination is a result of flood waters coming in contact with chemicals from sewage treatment plants, chemical storage facilities, and other areas.

The Public Works Director should inform all persons entering the flood area that they should wash the hands before touching food or beverages. They should wash their hands upon leaving the flood area.

The Village should make available tetanus shots to all employees who come into contact with flood water and who have not been vaccinated within the prescribed time as determined by medical practitioners. The Village may arrange for a nurse from the Occupational Health services to provide the shots at a location convenient to employees such as the Spring Lake Park Pavilion, Village Hall, or the Public Works Facility.

The Village should recommend that all volunteers contact their physician to determine whether they should receive tetanus shots.

Sand Bag Information

Sandbagging can be used to create a temporary protective barrier at unprotected low points or to protect isolated critical facilities. Sandbagging also can add a few feet to the height of existing berms for additional temporary protection.

Sandbagging takes a lot of time and manpower, and high sandbag berms are not stable. Therefore, sandbagging should only be used to protect against flood depths of up to three feet.

Sandbags, sand, and plastic sheeting must be purchased. Burlap sandbags are considered more durable and reliable than plastic sandbags when temperatures are below freezing.

Sandbags can be obtained from the U.S. Army Corps of Engineers by calling 847.688.4431, which now charges about \$0.35 per bag. If the flood is declared a major disaster and your community is eligible for disaster assistance, the Village can reclaim 75% of the cost for sandbags provided they were purchased from a private (non-governmental) supplier.

Sand is usually purchased from suppliers because it is easier to deliver and use than getting fill by digging up the ground. Figure one ton of sand for every 60 bags needed.

Below is a chart to estimate the number of sandbags and tons of sand needed for a 100 foot wall. The length of the plastic sheeting is based on the length of the wall, allowing for overlapping between sheets.

Table 7. Sandbag Wall Materials Quantities vs. Height			
Height	Number of sandbags	Tons of sand	Width of plastic sheeting
1'	800	13	4'
2'	2,000	33	5'
3'	3,400	57	6'
4'*	5,300	88	7'
5'*	7,600	127	8'
*Sandbag walls over three feet high are not recommended			

Sandbagging is more than simply filling bags with sand and throwing them on top of each other. Considerable time is required to construct a sandbag wall. Plan on hours rather than minutes.

You may want to experiment with labor saving devices to fill sandbags (trenching machines and salt spreaders can work). Some communities have built frames to put on the tailgate of a dump truck and fill sandbags in an assembly-line fashion..

Sandbag or other emergency barriers should be located as far back from the river as possible to take advantage of higher ground and provide more area for flood flows. Sharp bends in the wall should be avoided. Keep trees and brush between the levee and the river to protect against current and debris.

Other barriers can be built if you can afford them. Temporary levees can be put up quickly if you have the equipment. The ground should be stripped, the first (preferably clay) should be compacted, and the levee protected from scour by plastic sheeting. The sides should have a 3:1 slope. Because these quickly built levees can be very unstable, the Corps of Engineers should be consulted for technical advice before the flood.

Sandbagging Procedures

1. Strip the ground of sod. When the grass gets wet it is slippery, and your wall could be pushed back by the force of the flood waters.
2. Dig a trench about 1 foot wide by 6 inches deep. This is called a bonding trench and helps keep the wall in place.
3. Lay a plastic sheet in the bonding trench and on the ground toward the flood.
4. Fill bags about 1/2 to 3/4 full with sand or gravelly material. Don't overfill bags.
5. Starting in the bonding trench, lay the bags down with each bag placed on top of the previous one's flap. Stomp and/or tamp the bags tightly in place.
6. Each layer should have the bags laid at right angles to the previous one.
7. When your protection height is reached, pull the plastic sheet up in front of the wall and hold it down on the top with more bags.
8. If current and debris are expected, you may want to place the plastic sheet behind the outside layer of sandbags to protect it from being snagged or ripped.

A sandbag dike must be built properly to prevent or reduce flood damage.

■ Managing Volunteers

Since a dike will fail if not built correctly, training people on proper procedures for placing sandbags is very important. In the rush, volunteers will do something, but the result frequently is a dike that performs poorly or fails. Put a high priority on planning and organization. Identifying a supervisor for the project is recommended.

■ Sandbag Materials

Bags are made from various materials, but the most common is woven polypropylene. They usually measure about 14 inches wide and 24 to 26 inches long. Other sizes of bags also are available, but bags are easier to handle if their weight with filling in them is limited to 35 to 40 pounds. Sand is the easiest material for filling and shaping sandbags. Silt and clay in bags will form a good dike, but working with those materials is more difficult. Fill sandbags slightly more than one-half full.

Contact your county emergency management office for information on where to obtain sandbags.

■ Site Selection

When selecting the location for the dike, take advantage of natural land features that keep the dike as short and low as possible. Avoid obstructions that would weaken the dike. Do not build the dike against a building wall due to the forces the dike may place on the building. Leave at least 8 feet to maneuver between the dike and buildings for observation, pumping seepage water and other activities.

Since friction holds a dike from sliding, create a good bond between the ground and the dike. Remove ice and snow since it will melt permitting water to flow under the dike. Remove anything else that is “slippery.” If the dike is to be more than about 3 feet high, dig a bonding trench where the dike will be placed if possible. The trench should be about 4 to 6 inches deep and 18 to 24 inches wide.

■ Estimate Sandbags Needed

Build the dike at least 1 foot higher than the projected crest level to allow for fluctuations in the water level. Local experience will assist in determining the amount of freeboard to provide.

The U.S. Army Corps of Engineers recommends building a dike with a width at the base that is three times the dike height. For example, a 4-foot-high dike would have a base width of 12 feet. The corps indicates that each foot of finished dike length requires one bag, each foot of height requires three bags, and each 2.5 feet of width requires three bags. This results in each bag having placed dimensions of about 4 inches high by 10 inches wide by 14 inches long.

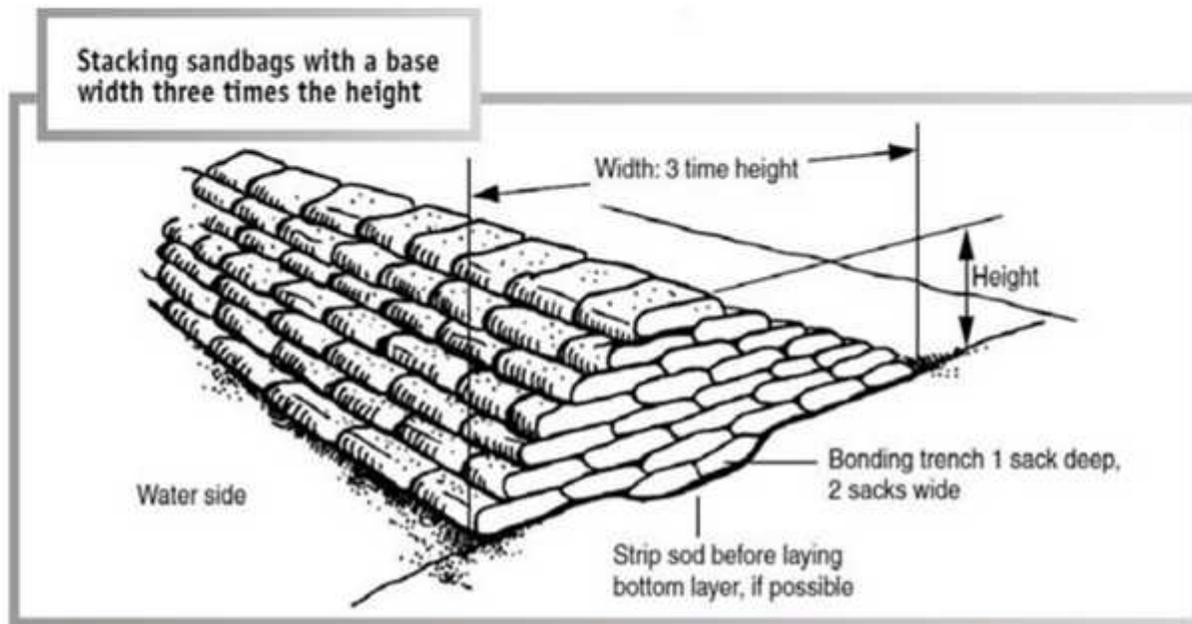


Figure 4. Stacking Sandbags Diagram

Use the following equation to estimate the number of bags required per linear foot of dike for a dike with a **base width that is three times the height**.

$$N = (3 \times H) + (9 \times H \times H) / 2$$

N – Number of bags required per linear foot of dike

H – Dike height (feet)

Example: Estimate the number of bags required per linear foot for a dike 3 feet tall.

$$N = (3 \times 3) + (9 \times 3 \times 3) / 2 = 45 \text{ bags}$$

The estimated number of bags needed for 100 linear feet of dike is:

1-foot-high dike: 600

2-foot-high dike: 2,100

3-foot-high dike: 4,500

4-foot-high dike: 7,800

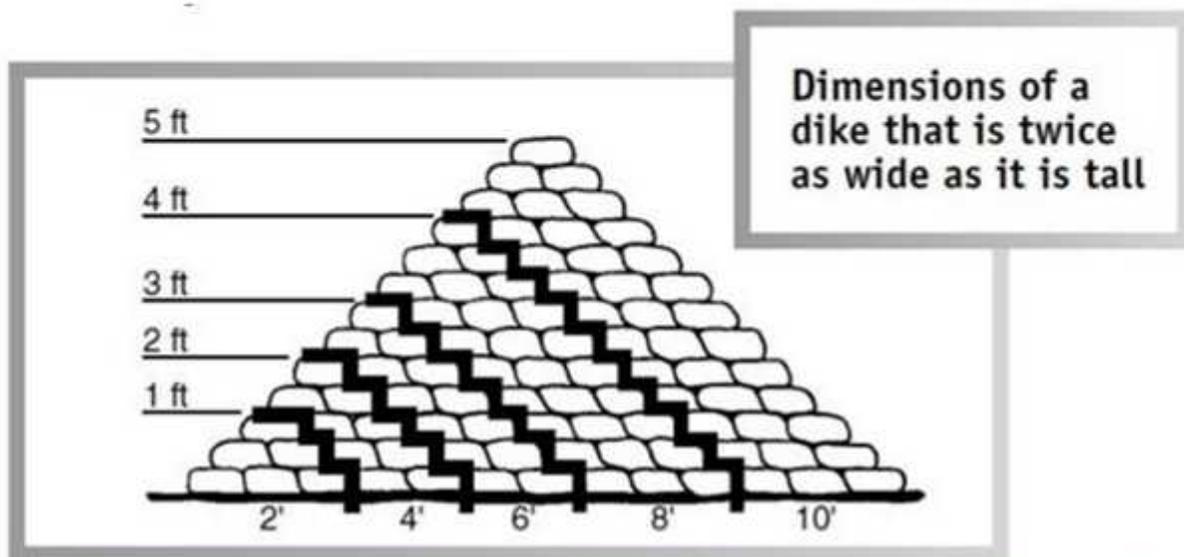


Figure 5. Dike Dimensions Diagram

A common recommendation is to make the dike twice as wide as its height. This is a minimum width-to-height ratio that should be used. The estimated number of bags needed for this ratio is in the following table. This is based on each bag having placed dimensions of about 4 to 5 inches high by 9 to 10 inches wide by 14 inches long.

The **estimated** number of bags needed for 100 linear feet of dike that is **twice as wide as its height** is:

1-foot-high dike: 600

2-foot-high dike: 1,700

3-foot-high dike: 3,000

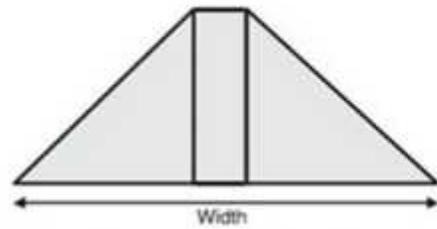
4-foot-high dike: 5,500

5-foot-high dike: 9,000

A cubic yard will fill about 100 30-pound sandbags or about 75 40-pound bags, assuming the sand weighs 110 pounds per cubic foot. Sand weighs 100 to 130 pounds per cubic foot, depending on moisture content and packing. A cubic yard is 27 cubic feet. Each 14-inch by 24-inch bag will hold about 0.4 cubic feet if filled about one-half full. Based on volume, each yard will fill about 67 bags one-half full.

Estimated cubic yards of sand needed per 100 feet of dike length for various dike heights and ratios of height to width. An additional 2 cubic yards will be needed for bags to hold the plastic.

		Dike Height (ft.)								
		1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
Cubic Yards of Sand	Width 3 x H	7	15	25	38	54	73	95	119	145
	Width 2 x H	6	11	18	27	38	50	65	82	100



This volume is calculated based on a center section that is 9 inches wide and the remainder is in a triangular shape.

Figure 6. Dike Height Diagram

■ Filling Sandbags

Fill the bags about one-half full and tie the bag near the top, if it is tied, which permits the sand to move easily in the bag to create a good dike. Overfilled bags and bags tied too low leave gaps in the dike, which allows water to seep through. Sandbags do not need to be tied unless they are transported. Filling sandbags usually is a two person operation. One member of the team holds the bag on the ground slightly in front of his or her spread feet and the second shovels the sand into the bag. Use gloves to protect the bag holder's hands. The use of safety goggles is desirable, especially during dry and windy days. For large-scale operations, filling sandbags can be expedited by using bag-holding racks, funnels on the back of dump trucks used for sanding operations and various power loading equipment. However, the special equipment required is not always available during an emergency.

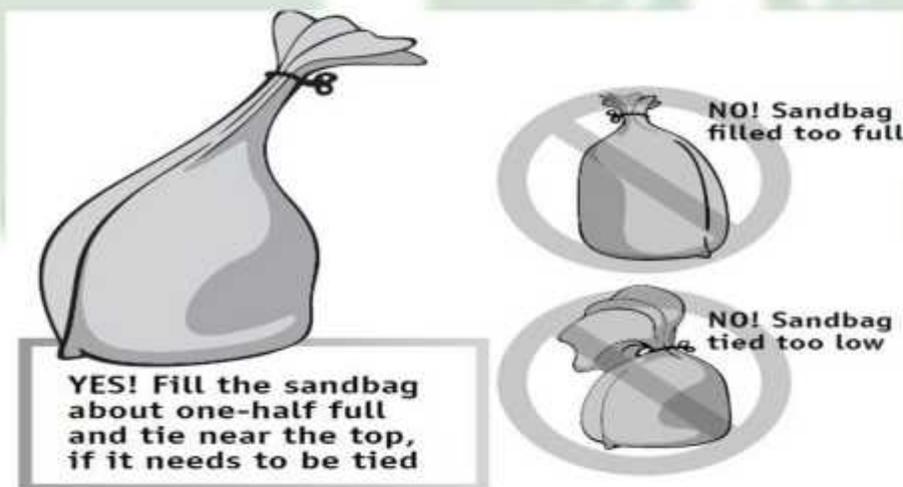


Figure 7. Filling Sandbags Diagram

■ Stacking Sandbags

Lift bags using your legs and limit twisting of your back. Gently hand the sandbag to the next person in a sandbag brigade or line. A triangular or pyramid shape for the dike is not necessary if the height will be 1 foot or less. Support the wall of sandbags with “clusters” of bags every 5 feet to stabilize the sandbag wall so it does not tip over from the force exerted by the floodwater.

Place the first layer of bags lengthwise on the dike (parallel to the flow), lapping the bags so the filled portion of one bag lies on the unfilled portion of the next, with the tied or open end of the bag facing downstream. Offset adjacent rows or layers by one-half bag length to eliminate continuous joints, similar to what is done laying bricks. Compact and shape each bag by walking on it to develop dike strength and create a tight seal.

Continue to walk on the bags as succeeding layers are placed. The base of the dike should be about two to three times as wide as the dike is high to provide adequate strength and friction surface area. Water exerts a tremendous force against the dike. Estimate the pressure on the dike base by multiplying the water depth by 62 pounds. For example, the pressure that 5 feet of water exerts on the base of a dike is about 310 pounds per square foot. The force of 5 feet of water on a vertical wall is about 775 pounds per linear foot of wall. Flowing water striking the dike exerts even more force on the dike. A triangular shaped dike permits the weight of the water to push down on the dike to help hold it in place.

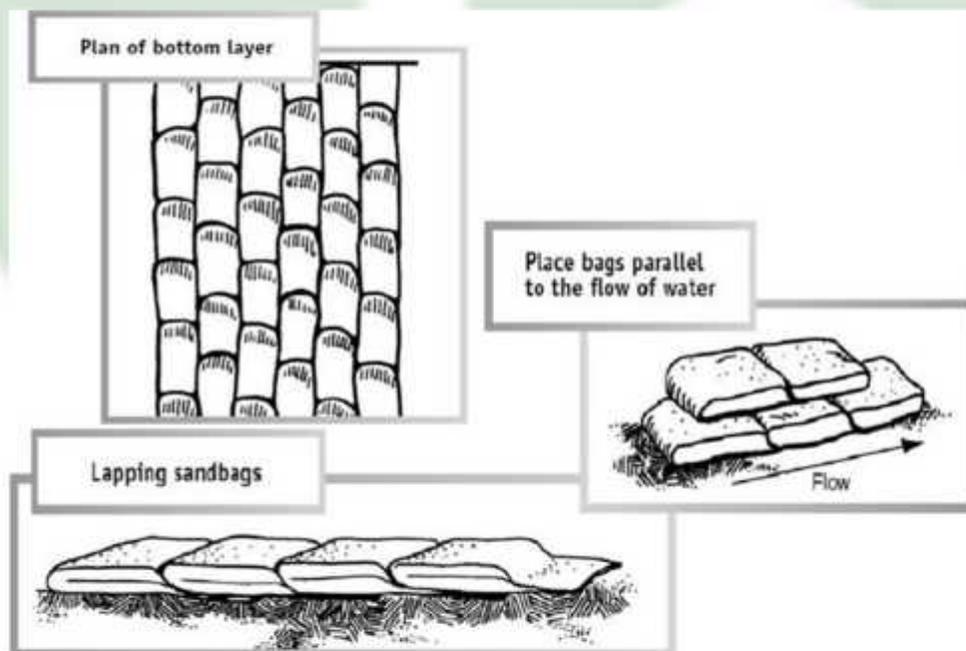


Figure 8. Stacking Sandbags Diagram

■ Sealing the Dike Wall

The finished dike should be sealed with a sheet of plastic to improve water tightness. Spread a layer of soil or sand 1 inch deep and about 1 foot wide along the bottom of the dike on the water side. Lay polyethylene plastic sheeting so the bottom extends 1 foot beyond the bottom edge of the dike over the loose soil or sand. The upper edge should extend over the top of the dike. Poly sheeting at least 6 mils thick is preferred. It generally is available in 100-foot rolls from construction supply firms, lumberyards and farm stores. Do not put plastic sheeting under the bags since that will increase the potential for the dike to slide. If more than one sheet of plastic is used, the poly sheeting should be placed from downstream to upstream and the next sheet upstream overlapped by at least 3 feet. Overlapping in this direction prevents the current from flowing under the overlap and tearing the poly loose.

Lay the plastic sheeting down very loosely. The pressure of the water will make the plastic conform easily to the sandbag surface. If the plastic is stretched too tightly, the water force could puncture it. Place a row of sandbags on the bottom edge of the plastic to form a watertight seal along the water side. Place sandbags to hold down the top edge of the plastic. Avoid puncturing the plastic with sharp objects or by walking on it.

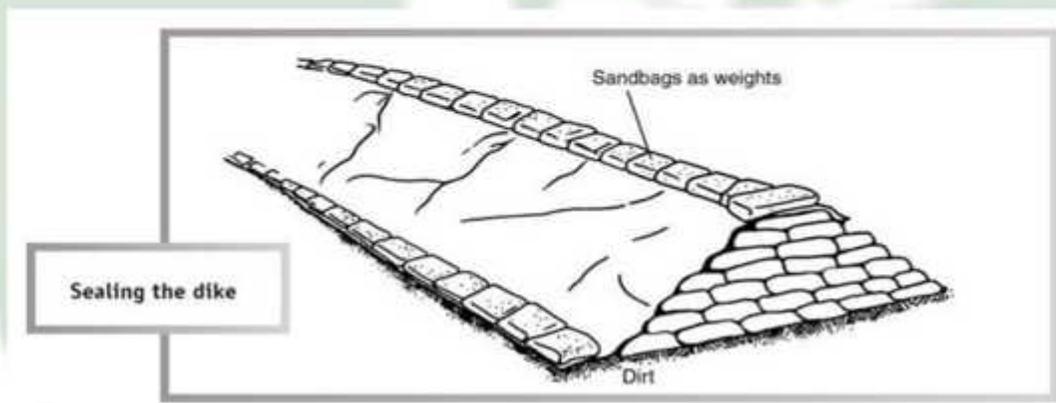


Figure 9. Sealing the Dike Diagram

■ Controlling Seepage

Use a sump or skimmer pump to remove water that permeates through the dike. Use ground fault circuit interrupters on circuits or extension cords to reduce the risk of electrocution.

■ Disposing of Used Sand

Floodwater is generally considered polluted, so sand from bags exposed to flood water should not be used for children's sand boxes. It can be used for typical construction application

DIY Sandbag Tubes: The Easy Way to fill Sandbags



Figure 10. Sandbag Tubes Picture

Sandbags are still the best way to put up a quick dike in times of need. They are useful for many things, but the main focus of this is for those fighting floods. It's easy to get a lot of sand delivered quickly, sandbags themselves are cheap, and with a little labor, anyone can protect their home.

Filling the sandbags is the bulk of the work; holding the bags while someone shovels is time consuming, back breaking and tedious. There are many inventions that can help with the process, but most of the ones that work well are expensive.

The Sandbag Tubes are a cheap, simple to make, tool that will reduce the amount of effort required to fill bags and speed up the process. Anyone can use them and they can be used over and over. Because they are so cheap and easy, many sets can be made and used simultaneously.



Figure 11. Sandbag Tubes Overhead View



Figure 12. Sandbag Tubes Bag Use



Figure 13. Sandbag Tubes Pre-Fill

Advantages include- No one stuck bent over holding bags - All participants can shovel - Does not require lifting the shovel any higher than necessary - All bags filled correctly and consistently (no heavy/light bags). - Faster than many machines

Younger Volunteers can become more effective when utilizing Sandbag Tubes



Parts needed: - One 6" x 10' thin walled sewer pipe - Two 8 foot 2x4s - 1-5/8" construction screws (for attaching tubes) - 3" construction screws or nails (for frame assembly) - 2' 5" x 1'5" 1/4" or thicker plywood (optional but recommended)

Tools Needed: - Saw to cut the tubing and 2x4 - Drill bit to pre-drill the holes for screws (right angle drill is easier) - Powered screwdriver - handheld jigsaw or router for cutting plywood (for optional top)

Fabrication Steps:

First, get out the saw

-Cut the sewer pipe into 6 sections (each 19-7/8" long)

-Cut the lumber into the following sections

(3) 2' 2"

(2) 1' 5-1/16"

(4) 6- 5/16"

Sandbag Tubes

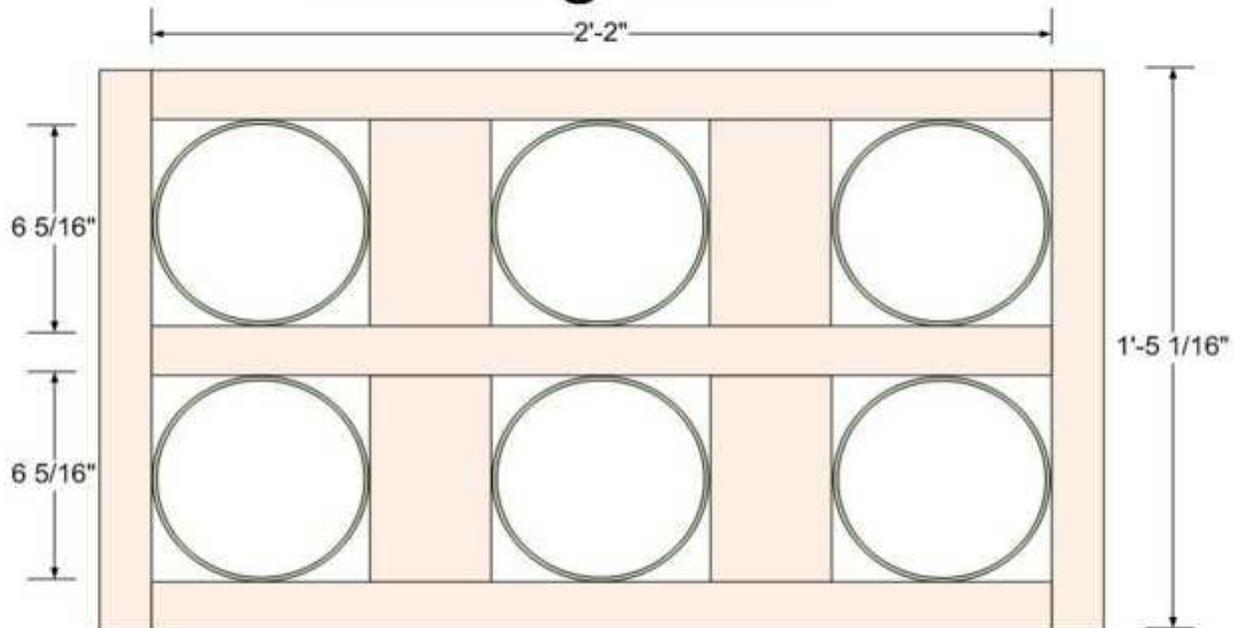


Figure 14. Sandbag Tube Dimensions

Assembly:

Now, assemble the wood as shown in the diagram below, using the 3" screws (or nails) to hold the boards together. Once you have your frame, you can see how you will slide the tubes into each hole. You will need to put the 1-5/8 screws through the tube and into the sides where it touches the boards on all four sides. There should be two screws at each spot. First, take your drill and pre-drill the 8 holes on each tube; one at 1" from the top and one at 2.5" from the top every 90 degrees. Now put the tube in the frame and put screws in each hole. The easiest way is with a right angle drill.

When all 6 tubes are screwed on, the tubes are usable. At this point, you can put on the optional top. The advantage of putting on the top is that it will prevent sand from falling down next to the tubes and pushing the bags down. If you are going to put the top on, cut the top to fit over the frame. Screw the top onto the frame boards. Now drill a hole and then using either a router or a hand jigsaw, cut the holes out for each tube.

To use the tubes, you just need to flip it over and slide a bag on each tube. Roll it back upright and start shoveling to fill the bags. By design it will fill each bag to about 35lbs. Once you have filled all 6 tubes, pick it straight up and the sand will slide out of the tubes into the bags. Then you will have 6 perfectly filled sandbags.

Post-Flood Response

Post-Flood Recovery Operations involve:

1. The Community and Economic Development Department conducting inspections and estimates of damages to structures.
2. Public Works providing equipment and manpower to remove portions of damaged buildings that are a clear and present danger to the public safety and to clear public roadways of debris.
3. Public Works removing sandbags and clean up flood debris.
4. Public Works removing barricades and signs.
5. Finance and Administration assisting residents with miscellaneous issues.

Debris and sandbags touched by flood waters must be considered to be contaminated. Therefore, debris may need to be treated as special waste and delivered to a landfill. Although sand may be buried at local construction sites, it may not be used at playgrounds or other areas where it can come into contact with humans. Once the sand is removed, the bags may be disposed of in the regular garbage. Unless a suitable site is found, sandbags must also be disposed of at the landfill.

Contaminated sand may not be placed at Spring Lake Park. Spring Lake Park should not be used as a staging area for debris removal.

The Village is responsible for removing debris from the right-of-way and from Village-owned properties. Public Works manpower and vehicles will be utilized for this work. In the event of a significant flood, the Public Works Department may utilize the mutual aid system, volunteers, and private contractors to supplement its staff.

Debris removal from the right-of-way may occur in stages, depending upon the amount of debris. The first priority is to open the roads for emergency vehicles. The secondary priority is to open the roads to the general public. The final priority is to remove debris from the right-of-way.

It is anticipated that the Public Works Department will be asked to assist residents in removing debris from their homes. The role of the PWD will be to facilitate pick-ups from the Village's waste hauler. The Public Works Department may contract for the positioning of roll-off style dumpsters at the 45 Londonderry Lane site.

In general Village Staff will not remove debris from private homes or yards. However, at the discretion of the Mayor and Board of Trustees, or the Village Manager, the Department may haul away any items placed at the curb side that were damaged as a result of the flood. The Village will dispose of sandbags brought to staging yards by residents. Residents are responsible for disposing of their own sandbags. Upon removal of sandbags, particularly along the Lincolnshire Drive berm, the Public Works Department shall inspect the areas. Damage shall be noted and appropriate restoration measures scheduled.

A. Utilities: The Village will notify the public utilities in the event that their lines are down or compromised. Commonwealth Edison may need to pull the residential electric meters and North Shore Gas Company may need to close and seal the gas valves to the home. The restoration time for utilities will depend upon the height of the water and the pervasiveness of the flood event. The Village will coordinate response with the public utility companies. At all times, safety of people is the number one priority.

B. Damage Assessment

The Department of Community and Economic Development prepares damage assessments for structures affected by flood events. The general outline of how the Village will conduct damage assessments is contained in the *Village of Lincolnshire Disaster Preparedness Plan - Annex J "Damage Assessment Annex"* and "Damage Assessment Guide".

Procedures for Dealing with Substantial Damaged Structures are included in the "Flood Emergency and Residential Repair Handbook" found in the Vernon Area Public Library reference section.

C. Post-Flood Assistance

1. Disaster Declaration: Records must be kept of all hours worked by Village employees and volunteers as well as equipment used. If the numbers are high enough and a disaster is declared, the Village may receive reimbursement for its expenses.

2. Financial Assistance: If a flood event is declared a State or Federal Disaster, financial assistance may be available to residents. Information regarding federal financial assistance can be found online at <http://www.fema.gov/about/process/index.shtm#guide>

Post Flood Debriefing

Within 30 days of the completion of a flood event, the Village Manager, Chief of Police, Public Works Director, Mayor, and Village Trustees shall meet to discuss the efficiency and effectiveness of the flood response. This Flood Response Manual shall also be reviewed and updated, as necessary, based upon experiences with each event. Items to be discussed shall include what methods worked and what methods need to be revised to better suit the needs of each specific emergency. Problems will be addressed and noted for the next flood emergency to run more efficiently. Clean-up methods shall be discussed as well as total damage.

If requested, Village officials should meet with outside agencies to review the flood response. Such agencies may include the Lake County Office of Emergency Services, the State of Illinois Emergency Management Agency (IEMA), and the Federal Emergency Management Agency (FEMA).

Types of Floods that Occur in Lincolnshire

- a. **Riverine** – periodic overbank flow of rivers and streams
- b. **Flash** - a flood that reaches its peak flow in a short period of time after the storm or other event. This type of flood is often characterized by high velocity water flows. These floods rise quickly in small streams after heavy rain or rapid snow melt
- c. **Urban** - temporary inundation of normally dry land areas from the overflow of inland waters and/or from the unusual or rapid accumulation or runoff of surface waters from any source such as the overflow of storm sewer systems, poor drainage systems, or following heavy rain or rapid snow melt

The Flood Response Manual primarily deals with riverine flooding. The assumption is that flash flooding will occur so rapidly Public Works personnel will not be able to respond quickly enough to protect property. Response to urban flooding will typically involve removal of obstructions in the drainage system and long-term improvements such as grading or installation of storm structures to improve drainage.

History of Flooding in Lincolnshire

The Village of Lincolnshire cannot prevent flooding, however does take several steps to reduce its impact. The Village of Lincolnshire was established along the banks of the Des Plaines River. The Village incorporated in 1957. Historical records indicate that the Des Plaines River has flooded approximately every 10 years. Table 2 shows the recurrence intervals and river elevations at feet above sea level (FASL) for various time periods.

Table 1. Des Plaines River Historical Floods		
Date	Recurrence Interval	River Elevation at Half Day Road
August 1987		Not available
May 17, 1996		643.56 (FASL)
May 21, 1996	8 year	645.15 (FASL)
June 17, 2000		644.41 (FASL)
May 24, 2004	15 year	646.17 (FASL)
April 19, 2013	10 year	646.34 (FASL)
Sources: 1987-1996 floods: Federal Emergency Management Agency, "Flood Insurance Study," (September 7, 2000): 22. 1996-Present floods: Village of Lincolnshire Files		

Village of Lincolnshire Floodplains

A. Des Plaines River

1. Description

The Des Plaines River is the main riverine source of flooding in Lincolnshire. The Des Plaines River begins near Kenosha, WI, and ends at its confluence with the Kankakee River where it becomes the Illinois River. The Des Plaines River bisects the Village separating the Village's residential area from its commercial area and townhomes/Sedgebrook.

2. Location

The river enters the Village at Stream Mile 80.96 at the north Village limits near Route 22 and exits the Village at Stream Mile 76.26 at the south Village limits at the south end of the Sedgebrook campus.

3. Flood Hazard Description

The flood hazard along the Des Plaines River is primarily from overbank flooding due to a significant rain event in the Des Plaines River watershed to the north of Lincolnshire. However, flash flooding may occur along the Des Plaines if a significant rainfall occurs in the Indian Creek watershed. Rain events which occur in the Indian Creek watershed after the Des Plaines watershed pose the greatest potential threat due to backwaters from Indian Creek and its potential impact on the existing Des Plaines River main stem.

4. Flood Elevation

The Army Corps of Engineers, acting under contract to the Federal Emergency Management Agency, has established flood elevation profiles for the Des Plaines River. The elevations are defined as the number of feet above sea level (FASL) at selected points along the river are shown in Table 2.

	10-year Frequency	100-Year Frequency
IL Route 22	645.5 (FASL)	647.8 (FASL)
Lincolnshire Dr/Londonderry	644.3 (FASL)	646.6 (FASL)
45 Londonderry Lane	644.1 (FASL)	646.5 (FASL)

B. Indian Creek

1. Description

Indian Creek runs from the Northwest corner of the Village and feeds into the Des Plaines River at the Marriott Golf Course. Indian Creek Along with the West Fork of the North Branch of the Chicago River and the Des Plaines River, Indian Creek is one of the main flood hazards in the Village.

2. Location

Indian Creek enters the Village east of Indian Creek Road near Port Clinton Road. It crosses Milwaukee Avenue 0.31 miles north of Route 22 and continues through the Village's downtown. It crosses Half Day Road (IL 22) 0.45 miles north of the Creek's confluence with the Des Plaines River. Between Half Day Road and the confluence, Indian Creek and meanders through Marriott's Lincolnshire Resort golf course. The confluence is located on the Des Plaines River at River Mile 80.72 which is 0.23 river miles south of the existing river gauge at Route 22.

3. Flood Hazard

The flood hazard along Indian Creek is related to overbank flooding. The flow in Indian Creek is flashy and will typically peak prior to the Des Plaines River. Flooding along Indian Creek may affect the condominiums in the Lincolnshire downtown. Overbank flooding may also require the closure of Lincolnshire Marriott's golf course. The following public infrastructure may be affected by Indian Creek flooding: streets, storm sewer system, sanitary system, IDOT's Milwaukee Avenue (US 45/IL 21) and Half Day Road (IL 22) bridges, the structure at One Olde Half Day Road (Village Hall), and the sanitary lift station in the Lincolnshire Downtown. Public utility systems such as electric, gas, cable-tv may also be affected, particularly near any risers.

4. Flood Elevations

The hydrographic and hydrologic study of Indian Creek to establish the Base Flood Elevation of Indian Creek was conducted in the 1970's. A substantial amount of development has occurred in the watershed since then. In addition, construction of the Route 22 by-pass in 1982 and the construction of embankment and a bridge are not accounted for in the Flood Insurance Rate Map. Therefore, the regulatory Base Flood Elevation is suspect and should be used with caution.

Table 3. Indian Creek Elevations by Recurrence Frequency		
	10-year Frequency	100-Year Frequency
Village Limits (Port Clinton Road Bridge)	656.0 (FASL)	657.8 (FASL)
Upstream at Milwaukee Avenue Bridge (US 45/IL 21)	651.4 (FASL)	654.2 (FASL)
Upstream at Milwaukee Avenue Bridge (US 45/IL 21)	651.3 (FASL)	653.2 (FASL)
@ Half Day Road Bridge (IL 22)	648.5 (FASL)	649.8 (FASL)
~ 900' upstream of confluence of Des Plaines River	646.6 (FASL)	648.9 (FASL)

5. Flood Response for Indian Creek: North of Milwaukee Avenue (U.S. 45/IL 21), Indian Creek is located adjacent to two residential properties (Indian Creek Road) and one commercial property (220 Olde Half Day Road.) Between Milwaukee Avenue and Route 22, Indian Creek passes several commercial building and residential condominium buildings. South of Route 22, Indian Creek passes through open space. Therefore, no response is anticipated other than to monitor the Creek.

Response to 10-Year Frequency Flood: A 10 year frequency flood on this river is anticipated to have minimal to no effect on areas in the Village and therefore is not considered in this study.

Response to 100-Year Frequency Flood: Development occurring since 1992 has had to comply with the Watershed Development Ordinance. Although the development accounted for the Base Flood Elevations along Indian Creek, significant development occurred within the drainage basin which may have increased the BFE. Therefore, the Village will need to monitor the river elevations and adjust its response plan accordingly.

C. West Fork of North Branch of Chicago River

1. Description

The headwaters of the Chicago River are located just north of Everett Road near North Park in the northeast corner of the Village. North of Half Day Road, the Chicago River flows through restored woodlands. A portion of the river was relocated in the 1950's to make way for the construction of the Illinois Tollway.

South of Half Day Road, developer's constructed on-stream detention to form lakes for the Tri-State International office complex. These lakes have significant distance between the normal water level and the commercial buildings which in turn reduce the potential for flooding. Upon leaving the Tri-State ponds, the river returns to a narrow, deep cut channel which has significant bank erosion. The river is maintained by the Union Drainage district south of the Tri-State lakes.

2. Location

The West Fork of the North Branch of the Chicago River is located at the east side of the Village, west of Interstate 94. The river enters the Village at the northern border at North Park and meanders southward while passing through North Park, Florsheim Park, and the Medline office campus located at the northwest corner of I-94 and Route 22. It then passes beneath Half Day Road (IL 22) in a box culvert between Hewitt Drive/Westminster Way and the Tollway. The river then passes beneath Westminster Way in a box culvert. South of the box culvert, the river separates the Tri-State International campus from the Sutton Place residential subdivision.

Table 4. West Branch of the North Fork of the Chicago River Elevations by Recurrence Frequency		
	10-year Frequency Flood	100-Year Frequency Flood
Village Limits (Everett Road Bridge)	670.1 (FASL)	671.5 (FASL)
~ 3,350' downstream of Everett Road	669.3 (FASL)	670.5 (FASL)
@ Half Day Road (IL 22) Bridge - Upstream of Bridge	664.3 (FASL)	666.2 (FASL)
@ Half Day Road (IL 22) Bridge - Downstream of Bridge	665.5 (FASL)	667.3 (FASL)
@ Duffy Lane	663.4 (FASL)	665.5 (FASL)

3. Flood Response for Chicago River: Since the Village is located at the headwaters of the West Branch of the North Fork of the Chicago River; the anticipated response under any frequency event is to monitor the elevation of the water and upstream rainfall to aid in determining the maximum water level anticipated.

Response to 10-Year Frequency Flood

A 10 year frequency flood on this river is anticipated to have minimal to no effect on areas in the Village and therefore is not considered in this study.

Response to 100-Year Frequency Flood

The developer of the Tri-State Office Park on Westminster Way constructed on-stream detention along the West Fork of the North Branch of the Chicago River. As a result, the river has significant capacity to store flood water in the two lakes of the development. The area around the river is generally built at or above the 100-year Base Flood Elevation. Record drawings for various improvements indicate the following:

The first floor of the town homes on lots 8 through 15 of the Sutton Place subdivision are at least one foot above the referenced flood elevation. However, these units have basements below the 100 year flood elevation and may become filled with water during such an event. Sump pump failure may occur due to backwater pressure and groundwater inflow into those homes in the area with basements. Most of Westminster Way is constructed within one foot of the Base Flood Elevation. Therefore, the road may have a minimal amount of surface waters to pond on it to a depth of not more than one foot. Windsor Drive between Kent Ct. and Whitby Ct. may receive approximately one foot of backwater from the river.

D. Lincolnshire Creek

1. Description

Lincolnshire Creek is a local stream that drains areas of the Villages of Lincolnshire and Riverwoods. The total drainage area is approximately 180 acres at the entrance to the culvert east of 10 Coventry Lane.¹ The creek is primarily subject to flash flooding related to locally intense storms. Near the Des Plaines River, the creek is also subject to backwater flooding.

2. Location

Lincolnshire Creek enters the Village at Riverwoods Road south of Londonderry Lane and north of Victoria Lane. It passes south of 1970 Riverwoods Road (Community Christian Church) and then makes a 90 degree bend east of the 10/11 Coventry Lane. The creek continues north for approximately 300 feet before making a 90 degree turn to the west. The creek crosses Londonderry Lane between 14/16

¹ STS Consultants, Ltd., "Lincolnshire Creek Phase II Flood Control Evaluation and Preliminary Engineering" (February 21, 2004): 2.

Londonderry Lane and then again between 23/25 Londonderry Lane. The creek continues westward into Rivershire Park where it joins the Des Plaines River.

3. Flood Hazard

The flood hazard near the Des Plaines River is primarily attributable to backwater flooding from the Des Plaines River. However, the further away from the Des Plaines, the greater the impact of local flash flooding is on the creek. In 2004, the Village of Lincolnshire conducted a study of Lincolnshire Creek to determine the condition of the creek. The study revealed that the culvert in the rear yards of 11/13 Coventry Lane is undersized. The study mapped a potential floodplain in the area.

4. Flood Elevations

The 2004 STS study determined the following floodplain elevations for Lincolnshire Creek:

Cross-Section		Flood Elevation (feet)	
Designation	Location*	10-year	100-year
2634	55' downstream of Londonderry Lane	651.59	653.56
2736	20' upstream of Londonderry Lane	651.63	655.27
2919	Downstream face of 584' culvert	653.59	655.47
3319	Coventry Lane cul-de-sac	659.17	659.79
3529	Upstream face of 584' culvert	661.78	661.71
3571	55' upstream of 584' culvert	661.78	661.71
3598	Downstream face of small 42" culvert road crossing (80' upstream of 584' culvert)	661.78	661.71
3663	Uppermost cross-section (150' upstream of 584' culvert)	661.78	661.69

5. Flood Response for Lincolnshire Creek: Flows along Lincolnshire Creek tend to be flashy. As a result, unless there is a prolonged rainfall, there is little the Department can do to protect infrastructure. The 584' culvert east of 10-11 Coventry Lane is on the Department's critical inspection list. When significant rainfall is expected, Public Works personnel inspect the structures to ensure they are not obstructed.

Response to 10-Year Frequency Flood

The 584' culvert east of 10-11 Coventry Lane has the capacity to convey less than a 2-year flood event.² The STS Study states: "Flooding during a 10-year flood event would cause flooding that would inundate several residential properties, and would extend to Coventry Lane. This event would have the potential to cause basement flooding at several residences."³

Response to 100-Year Frequency Flood

During the 100-year frequency event, Lincolnshire Creek will rise above its banks. Flow will occur between 10 and 11 Coventry Lane, and will continue west along the Coventry Lane pavement. The flow will then turn north between 2 and 4 Coventry Lane and between 4 and 6 Coventry Lane where it will rejoin the Creek.

The STS Study states: "It appears that first floor flooding (not including basements) during a 100-year flood is only a remote possibility because water diverts through side yards to Coventry Lane before this degree of flooding occurs. Flood water does appear to have direct access to building foundation walls and basements at several locations."⁴

The Public Works Department response will consist of inspecting and clearing of debris from all inlets along Coventry Lane as well as the 584' culvert.

Flooding along the Des Plaines River has significant potential to impact numerous residential properties. Overbank flooding may also require the closure of Lincolnshire Marriott's golf course. The following public infrastructure may be effected by Des Plaines River flooding: streets, storm sewer system, IDOT's Route 22 bridge, the Village's pedestrian bridge at Route 22, the structures at One Olde Half Day Road (Village Hall) and 45 Londonderry (Rivershire Nature Center), chlorination facility and sanitary lift stations at 45 Londonderry Lane and the sanitary lift station in the Lincolnshire Downtown. Utility systems such as electric, gas, cable-tv may also be affected, particularly near any risers.

² STS Consultants, Ltd., "Lincolnshire Creek Phase II Flood Control Evaluation and Preliminary Engineering" (February 21, 2004): 5.

NOTICE TO RESIDENTS/VOLUNTEERS

Tetanus/Diphtheria Immunization

Any persons who have come in contact with flood waters should be immunized against tetanus and diphtheria. Flood waters are typically contaminated in some areas, and could cause illness and infection of even the smallest wound of those not properly immunized. If you or any member of your family who had ANY contact with recent flood water has not been immunized within the last five (5) years, you should contact your family doctor for immunization information.

It is also important to watch any minor injury, including cuts, scratches, and skin irritation, for possible infection. Please seek medical attention immediately for any injury that is not healing properly or for any signs of illness.

If you were helping with the sand-bagging in Lincolnshire, and were exposed to river water, it is highly recommended to call the Lake County Health Department to schedule a tetanus vaccination.

Tetanus shots are normally good for ten years, but if it has been longer than five years since you had one, and you have a cut, it is recommended that you get one.

To schedule a Tetanus shot, please call the Lake County Health Department at 847-377-8470.

Automated Telephone Dialing System – (Example Messages)

The Village of Lincolnshire maintains access to an automated telephone dialing system. This system will be utilized during significant storm events used to phone residents/businesses within the floodplain and provide recorded messages containing important information. Shown below are examples of the automated messages the Village sends out during these types of events:

MINOR FLOOD STAGE:

This is the Village of Lincolnshire with a recorded message regarding water levels along the Des Plaines River, Chicago River, Lincolnshire Creek and Indian Creek. Village staff is in alert phase that means staff is continuously monitoring water levels and weather conditions. Check cable channel 10 or the Village's website at www.lincolnshireil.gov for important storm information. If conditions worsen, a warning phone message will be attempted. To hear this message again, press **1_**.

MAJOR FLOOD STAGE:

This is the Village of Lincolnshire with a recorded message regarding flood water levels along the Des Plaines River, Chicago River, Lincolnshire Creek and Indian Creek. Conditions are now in the warning phase as there may be a possibility of flooding in your area. Take necessary precautions to secure your property and personal safety. Check cable channel 10 or the Village's website at www.lincolnshireil.gov for important storm information. If conditions worsen, an evacuation message will be attempted. To hear this message again, press **1_**.

EVACUATION FLOOD STAGE:

This is the Village of Lincolnshire with a recorded message regarding flood water levels along the Des Plaines River, Chicago River, Lincolnshire Creek and Indian Creek. Conditions are now in the critical phase as flooding appears imminent in your area. You should evacuate your home immediately. This may be your only evacuation warning. To hear this message again, press **1_**.

Village of Lincolnshire, Lincolnshire IL
Situation Report (SITREP)

Prepared By: Bradford H. Woodbury – PWD

Date/Time: 00/00/15 8:30a

SITREP#: 14-017

Incident #: 1

Incident: Flood

IEMA Region: 4

County: Lake

CURRENT SITUATION / FLOOD STAGE/CURRENT FLOOD FORECAST:

INJURIES/FATALITIES/EVACUEES:

ROAD STATUS/CLOSURES:

CURRENT OPERATIONAL STATUS: SANDBAGS USED, AMOUNT REQUESTED:

OF RESIDENTS / VOLUNTEERS:

WEATHER CONDITIONS/FORECAST:

STATUS OF UTILITIES:

DISASTER DECLARATIONS:

WORK COMPLETED (LAST 12 HOURS)

WORK TO BE COMPLETED (NEXT 12 HOURS)

Signature

Date

Lincolnshire Volunteer Management Sign-Up Sheet

Date: _____ **Time:** _____ **Location:** _____

Tasks Performed: _____ **Prepared By:** _____

Signature

Please record your name and contact information so that we can get back to you with more information.

	PRINT NAME	ADDRESS	PHONE #	TIME IN	TIME OUT
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Volunteer Release Form - Waiver of Liability

I UNDERSTAND AND CONFIRM THAT BY SIGNING THIS WAIVER AND RELEASE I HAVE GIVEN UP CONSIDERABLE FUTURE LEGAL RIGHTS. I HAVE SIGNED THIS WAIVER FREELY, VOLUNTARILY, UNDER NO DURESS OR THREAT OF DURESS, WITHOUT INDUCEMENT, PROMISE OR GUARANTEE BEING COMMUNICATED TO ME. MY SIGNATURE IS PROOF OF MY INTENTION TO EXECUTE A COMPLETE AND UNCONDITIONAL WAIVER OF RELEASE OF ALL LIABILITY TO THE FULL EXTENT OF THE LAW. I AM 18 YEARS OF AGE OR OLDER AND MENTALLY COMPETENT TO ENTER GRANT THIS WAIVER.

I declare that the foregoing is true and correct. Signed on this ____ day of _____, _____, in the County of Lake, State of Illinois.

Signature

Definitions and Acronyms

AREA OF SPECIAL FLOOD HAZARD	The land which is subject to a one percent (1%) chance of flooding annually. This area may also be identified as that which is subject to the 100- year flood. The area is designated as Zone A, A1-99, AH, or AO on the maps provided by the Federal Insurance Administration.
BASE FLOOD	The flood having a one percent (1%) chance of being equaled or exceeded in any given year. The base flood is also known as the 100-year flood. If the 100-year flood information is not available, the base flood shall be the flood of record.
BASE FLOOD AREA	The land area subject to inundation by waters of the base flood.
BASE FLOOD ELEVATION	The highest water surface elevation of the base flood.
COMPENSATORY STORAGE	An artificially excavated volume of storage within the base flood area used to balance the loss of natural flood storage capacity when artificial fill or structures are placed within the floodplain. The uncompensated loss of natural floodplain storage can increase offsite floodwater elevations and flows.
DEVELOPMENT	Any manmade change to improved or unimproved real estate, including but not limited to construction of or substantial improvements to buildings or other structures, the placement of mobile homes, mining, dredging, filling, grading, paving, excavation or drilling operations.
FLASH FLOOD WARNING	Flash flooding is actually occurring or imminent in the warning area. It can be issued as a result of torrential rains, a dam failure, or ice jam.
FLASH FLOOD WATCH	Flash flooding is possible in or close to the watch area. Flash flood watches are generally issued for flooding that is expected to occur within 6 hours after heavy rains have ended.
FLOOD WARNING	Indicates flooding conditions are actually occurring or are imminent in the warning area.
FLOOD WATCH	Indicates high flow or overflow of water from a river is possible in the given time period. It can also apply to heavy runoff or drainage of water into low-lying areas. These watches are generally issued for flooding that is expected to occur at least 6 hours after heavy rains have ended.
FLOOD	The condition existing when the waters of any watercourse, pond, or depression temporarily rise to a height above their normal levels and overflow the boundaries within which they are ordinarily contained. It also includes the unusual rapid accumulation or runoff of surface waters.

FLOOD FREQUENCY	A period of years, based on a statistical analysis, during which a flood of a stated magnitude may be expected to be equaled or exceeded.
FLOOD FRINGE	The higher portion of the floodplain, immediately adjacent to and on either side of the floodway, occupied by quiescent or slow-moving waters during floods.
FLOOD HAZARD BOUNDARY MAP (FHBM)	An official map of the Village, issued or approved by the Administrator of the Federal Insurance Administration, on which the areas having special flood hazards have been drawn and designated as Zone A.
FLOOD INSURANCE STUDY (FIS)	An examination and evaluation of hydro-logic and hydraulic data sponsored by the Federal Insurance Administration to determine base flood flows, elevations, areas and floodways. The FIS also determines flows, elevations and areas of floods having lesser and greater frequencies of occurrence.
FLOOD OF RECORD	An actual historical flood event for which sufficient records are available to establish its extent. No uniform probability of occurrence is associated with floods of record. However, the probability of occurrence may be determined for the event at specific locations.
FLOOD PROFILE	Graphical representations of the elevations of the water surface of the 100-year flood along the watercourses of the Village.
FLOOD PROTECTION ELEVATION	The elevation to which uses regulated by this Chapter are required to be elevated or flood proofed.
FLOOD RETURN PERIOD	Same as Flood Frequency.
FLOODPLAIN	The special flood hazard lands adjoining a water course, whose surface elevation is lower than the base flood elevation, that are subject to periodic inundation during floods.
FLOODPROOFING	Modifications to structures made to reduce flood damages. These changes may be made to existing structures or incorporated in the design of new structures. In all instances, flood-proofing must be watertight and must be adequate without the need for human intervention.
FLOODWAY	The channel of a watercourse and those portions of the adjoining floodplains which are required to carry and discharge the 100-year flood with no significant increase in the base flood elevation.
FLOODWAY ENCROACHMENT LINES	The lateral boundaries of the floodway which separate it from the flood fringes.

FREEBOARD	An increment of elevation added to the base flood elevation to provide a factor of safety for uncertainties in calculations, unknown localized conditions, wave actions and unpredictable effects such as may be caused by ice or debris jams.
HYDROSTATIC PRESSURE	The upward pressure exerted on flood slabs or an entire structure by standing water or groundwater, which tends to float a structure or crack the floor. It is based on the difference in elevation between the surface level of the water. Hydrostatic pressure may also be horizontal, imposing forces on walls causing them to crack or fail.
MAJOR FLOODING	Indicates extensive inundation and property damage, usually characterized by the evacuation of people and livestock, and the closure of both primary and secondary roads as determined by the National Weather Service.
MINOR FLOODING	Indicates minimal or no property damage, but some public inconvenience is possible as determined by the National Weather Service.
MODERATE FLOODING	Indicates the inundation of secondary roads as determined by the National Weather Service. Transfer to higher elevation may be necessary to save property. Some evacuation may be required.
NWS	National Weather Service – Romeoville (Chicago Office)
ONE HUNDRED YEAR FLOOD	A flood magnitude with a one percent (1%) statistical of being equaled or exceeded during any year. A flood this large would be reached once during a 100-year period, on the average. However, the occurrence of such an event does not diminish the chance of its recurring again at any time.
RISK PREMIUM RATE ZONE	<p>Flood hazard areas designated according to the degree of flooding they would experience during the base flood. The symbols used to designate these zones are as follows:</p> <p>A Area of special flood hazard without water surface elevations determined.</p> <p>AI-99 Area of special flood hazard with water surface elevations determined.</p> <p>AH Area of special flood hazards having a level water surface (ponding) with water depths between 1 and 3 feet.</p> <p>AO Area of special flood hazards having a sloping water surface (sheet runoff) with water depths between 1 and 3 feet.</p> <p>VO Area of special flood hazards having shallow water depths and/or unpredictable flow paths between 1 and 3 feet and with velocity.</p> <p>B Area of moderate flood hazards.</p> <p>C Area of minimal hazards.</p>

RIVERINE	Relating to, formed by, or resembling a river (including tributaries), stream, creek or brook.
SEVERE THUNDERSTORM WATCH	Conditions are conducive to the development of severe thunderstorms in and close to the watch area.
SEVERE THUNDERSTORM WARNING	A severe thunderstorm has actually been observed by spotters or indicated on radar, and is occurring or imminent in the warning area.
STRUCTURE	A walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a mobile home.
SUBSTANTIAL IMPROVEMENT	<p>Any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds fifty percent (50%) of the market value of the structure either before the improvement or repair is started, or if the structure has been damaged, and is being restored, before the damage occurred. The term does not, however, include either:</p> <p>A. Any project for improvement of a structure to comply with existing State or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions, or</p> <p>B. Any alteration of a structure or site documented as deserving preservation by the Illinois Department of Conservation or listed on the National Register of Historic Places.</p>
WATERCOURSE	Any river, stream, creek, brook, branch or other drainage way in or into which stormwater runoff and floodwaters flow either regularly or intermittently.

Sources: *Village Code (January 2007)* and *SMC Flood Response Manual April 2006*

ACRONYMS: Not all of these terms are used in this Annex however they are terms typically used in an event response mode.

ARC	American Red Cross
CRS	Community Rating System
DHS	Department of Homeland Security
DRC	Disaster Recovery Center
EAS	Emergency Alert System
EMAC	Emergency Management Assistance Compact
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
ESF	Emergency Support Function
FASL	Feet Above Sea Level
FEMA	Federal Emergency Management Agency
FWA	Fox Waterway Agency
HAZMAT	Hazardous Material
HMPG	Hazard Mitigation Grant Program
IA	Individual Assistance
IC	Incident Commander
ICC	Increased Cost of Compliance
ICP	Incident Command Post
ICS	Incident Command System
IEMA	Illinois Emergency Management Agency
JIC	Joint Information Center
JFO	Joint Field Office
LEPC	Local Emergency Planning Committee
IDNR-OWR	Illinois Department of Natural Resources – Office of Water Resources
IDOT	Illinois Department of Transportation
LAN	Local Area Network
LCEMA	Lake County Emergency Management Agency
LCHD	Lake County Health Department
LCPW	Lake County Department of Public Works
LCSMC	Lake County Stormwater Management Agency
MCI	Mass Casualty Incident
MOA	Memorandum of Agreement
MWRD	Metropolitan Water Reclamation District of Great Chicago
NGO	Nongovernmental Organizations (volunteer organizations)

NIMS	National Incident Management System
NOAA	National Oceanographic & Atmospheric Association
NWS	National Weather Service
PA	Public Assistance
PB&D	Lake County Department of Planning, Building & Development
PDA	Preliminary Damage Assessment
PIO	Public Information Officer
PFO	Principal Federal Officer
PW	Public Works
SBA	Small Business Administration
RACES	Radio Amateur Civil Emergency Service
SEOC	State Emergency Operations Center
SEWRPC	Southeastern Wisconsin Regional Planning Commission
SMC	Stormwater Management Commission
SOP	Standard Operating Procedure
Sub Dam	FEMA's Substantial Damage Requirement
USACE	U.S. Army Corps of Engineers, also called the Corps
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
US&R	Urban Search and Rescue
UC	Unified Command
WAN	Wide Area Network