AGENDA
December 9, 2010

I. Approval of Minutes from November (attachment)

II. Citizen Comment
   a. General Citizen Comment (Please sign in)

III. News
   a. Backyard Hens
      i. Council Vote
      ii. Applications
   b. Wind RFI Update
      i. Rules Committee Update
   c. New Sustainability Coordinator
   d. Disposable Bag Tax
   e. ICLEI Webinar
   f. Highland Park Styrofoam Ban
   g. Sustainable Cities Institute

IV. Stormwater Management – Update from Susan and Likwan

V. Multi-Modal Plan Roundtable – Update from Carl/Board

VI. Strategic Plan Discussion

VII. Roundtable
   a. Board
      i. Vacancies
      ii. Quorum
      iii. 2011 Meeting Dates
         1. January 13th
         2. February 10th
         3. March 3rd
         4. April 14th
         5. May 12th
         6. June 9th
         7. July 14th
         8. September 8th
         9. October 13th
        10. November 10th
        11. December 8th

NEXT MEETING – January 13, 2011
Please remember that Board members are expected to attend all meetings. Please contact Carl Caneva, 847-859-7831 or ccaneva@cityofevanston.org if you are unable to attend this meeting.

All meetings of the Evanston Environment Board are open to the Public. The City of Evanston is committed to making all public meetings accessible to persons with disabilities. Persons needing mobility or communication assistance should contact Brian Barnes, Inclusion Specialist, Parks, Recreation, and Community Services at (847) 448-2054 (Voice), bbarnes@cityofevanston.org or 847-448-8052 (TDD).
Evanston Environment Board
7:00 p.m. Room 2200
Lorraine H. Morton Center
2100 Ridge Ave.

Thursday, November 11, 2010

Board Attendance:

<table>
<thead>
<tr>
<th>Name</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartling, Hugh</td>
<td>X</td>
</tr>
<tr>
<td>Besson, Susan (Chair)</td>
<td>X</td>
</tr>
<tr>
<td>Cheng, Likwan</td>
<td>X</td>
</tr>
<tr>
<td>Cox, Dan</td>
<td></td>
</tr>
<tr>
<td>Finnegan, Paige (Chair)</td>
<td>X</td>
</tr>
<tr>
<td>Glynn, Kevin</td>
<td>X</td>
</tr>
<tr>
<td>Kaplan, Susan</td>
<td></td>
</tr>
<tr>
<td>King, Ellen</td>
<td>X</td>
</tr>
<tr>
<td>Port, Eli</td>
<td>X</td>
</tr>
<tr>
<td>Viner, Anne</td>
<td>X</td>
</tr>
<tr>
<td>Waller, Suzanne</td>
<td></td>
</tr>
</tbody>
</table>

Community Members Present:

Patrick Conway, Evanston Resident (Topic: Veolia Waste Transfer Station)
Hal Sprague, Evanston Resident, CGE (Topic: Storm Water Management)
Tom McMahon, Evanston Resident, CGE (Topic: EB/CGE Collaboration)

Staff Present:

Carl Caneva, Health Department

There being a quorum, the meeting was called to order at 7:08 p.m. by Chair Besson

I. Approval of Minutes from September and October

K. Glynn moved to approve the minutes. A. Viner noted a date change for the October minutes. Chair Besson requested that the September minutes be amended as follows: scratch reference to IV, G – Strike “S Besson looked into funding opportunities in the City of Evanston.” Additionally, Chair Besson requested October minutes be amended as follows: IV, C, iii, “…in addition to City staff, City Council requested…”’. C Caneva indicated the changes will be made, motion seconded by H. Bartling.

Motion passed with 5 Y 0 N 2 Abstentions
II. Citizen Comment

a. Veolia/Onyx Waste Transfer Station

Patrick Conway (1633 Church Street) spoke to the board regarding the Veolia Transfer Station. He reported on a nuisance odor complaint from Sept. 27, 2010. There was a hearing held in the City of Evanston’s Administrative Adjudication Process. Mr. Conway indicated he worked with City Staff to file a complaint, a continuance was granted. Mr. Anger, City Staff Attorney, represented the City of Evanston and referenced Section 8.1.4.a. Mr. Conway quoted the City Code addressing Nuisance Odors. The Hearing Officer heard the case and Mr. Conway described his testimony regarding the complaint. The attorney for Veolia called the manager, Mark Moxon, of the site to testify on Veolia’s behalf. Veolia presented its case. According to Mr. Conway, the Hearing Officer stated there was insufficient evidence to find Veolia liable. If there had been more than one citizen complaint, then Veolia would have been fined. Mr. Conway was grateful that Ald. Holmes and Baptiste were also at the hearing.

K. Glynn asked if there were others that have filed complaints since. Mr. Conway indicated that there were no other complaints issued. However, fellow resident, Cindy Levitt, has noted several early start times. He cited the weather conditions as a deterrent to further complaints. Mr. Conway stated future complaints will include more residents. Chair Besson asked how one incident is listed as the complaint rather than a slew of incidences. Mr. Conway indicated that he previously contacted IEPA and Veolia and no response was received. This was the first time the City of Evanston became involved. A. Viner requested Mr. Conway consider contacting the Illinois Pollution Control Board (IPCB). Mr. Conway indicated the neighbors are collecting a log of information. A. Viner stated the IPCB complaint form is available online. She also directed Mr. Conway to contact Community Relations at IEPA; specifically Tammy Nibergal or Kurt Mitchell. Mr. Conway stated that he is developing a log to record all incidences E. Port asked if Mr. Conway has attempted to contact other neighboring areas as the noise ordinance does not require neighborhood disturbance – just that one person be disturbed. Mr. Conway indicated has contacted other neighbors and will continue to log offenses.

b. Environment Board/CGE Collaboration

Tom McMahon with Citizens’ Greener Evanston spoke and hopes to work more collaboratively with the board.
III. News

a. Backyard Hens

i. **C. Caneva** gave an update about Coop Licenses. To date, 1 permit has been issued, with 1 pending, and 18 permit forms requested. A 3 Coop per ward amendment to the existing Ordinance (proposed by Alderman Rainey) will be discussed at the next Council meeting, and due to the changes a moratorium on issuing new permits has been issued.

ii. **E. Port** – what if you go out and find chickens without an application? **C. Caneva** – we’re trying to get them into compliance. **E. Port** – coming into compliance shouldn’t be discouraged.

iii. **H. Bartling** – A memo was sent to Council from the legal department regarding some changes in language regarding the slaughter/butchering of chickens. What was changed re butchering in Evanston? Who addressed that?

b. Wind RFI Update

i. **K. Glynn** stated there were no updates. The next big event will be the Rules Committee – December 6th, 6pm. CGE will be issuing a new Wind Farm FAQ, v. 4 soon. He requested the board suggest individuals with expertise to be part of the committee. Members of the board expressed a need for an individual with a financial background be on the board. Board members asked if a requirement to be on the board was to be an Evanston Resident. **K. Glynn** stated the states of Michigan and Ohio are well underway in the process. The Army Corps of Engineers are the lead agencies involved. Leaders in this effort are Cleveland (jobs), Ontario and the state of Michigan. **E. Port** asked why Evanston was not being considered for constructing portions of the turbines. **K. Glynn** indicated a lack of industrial base and ability to ship the large, heavy materials in and out of the city.

IV. Stormwater Management

a. **Chair Besson** stated that she **L. Cheng** and community activist, Hal Sprague met to speak about how the City of Evanston and the EB could cooperate to improve stormwater management within the city.

b. **Mr. Sprague** indicated he would like to review ordinances addressing stormwater and amend as needed to add more sustainable provisions. He indicated the process of reviewing projects involves a number of different departments. He has contacted the City of Evanston and will work with the new Sustainability Coordinator. **A. Viner** indicated this effort fit with the CAP and asked how the EB can help.

c. **Mr. Sprague** indicated he is also a member of Citizens’ Greener Evanston (CGE).

d. **K. Glynn** indicated this may require a business process change.
e. **Chair Besson** stated the issue at hand may involve the education of City of Evanston staff. The goal is to educate staff on best practices regarding stormwater.

f. **Mr. Sprague** indicated that many cities have Climate Action Plans (CAP) and Climate Adaptation Plans. These address the need for communities to adapt as the impacts of climate change are realized. He indicated the goal is to change and update applicable ordinances.

g. **Mr. Sprague** referred to a document (see attachment), provided by Carolyn Collopy, former Sustainable Programs Manager, outlining Evanston’s Storm Water Related Ordinance.

h. **Chair Besson** indicated Stormwater Management is addressed by the IEPA MS4 permit. **Mr. Sprague** asked how the ordinances could be changed so the City of Evanston will be compliant with the MS4 permit. According to **K. Glynn**, the area of the code with greatest impact is 4-24-1 covering Stormwater Control; City Sewer systems, Flood plains, impervious paving, plumbing; SPARC, etc.

i. **H. Sprague, L. Cheng and Chair Besson** will continue to meet and review the document from Carolyn to identify areas of the code where we can act or make suggestions to the Mayor for staff collaboration.

V. **Multi-Modal Transportation Plan (MMTP) Update**

a. **H. Bartling** presented his review of the MMTP (see attached slide presentation). He was looking at issues like: what is happening with the recommendations made, are the current racks appropriately placed, how is winter maintenance handled, etc.

b. **Chair Besson** indicated the downtown plan contained provisions relating to the number of bike parking spaces required per car parking space. She requested information regarding how to add more specific provisions to the plan.

c. **H. Bartling** asked questions about MMTP plan updates. **C. Caneva** will follow-up with City of Evanston staff.

d. **A. Viner** stated she had recently traveled to London where bike rental is prolific. She asked if there were private companies that could take on this effort rather than relying on the City of Evanston to fund.

e. **H. Bartling** indicated the companies in Paris and London are subsidized by advertising companies, or other means of private investment.

f. **P. Finnegan** stated she received an email from **www.sustainableaction.org** looking for a location to store 40-50 bikes for a bike library.

g. **E. Port** stated a pilot project began at NU and within a year the program lost all of the bikes.

h. **H. Bartling** asked if it would be useful to look into an Ad Hoc Committee to look at bike parking. He indicated a want to talk to Public Works to move forward.

i. **C. Besson** attended a meeting regarding bike parking and she indicated a demonstration street would be a good means to educate the public.

j. **E. Port** asked the population of bikers in Evanston. **H. Bartling** indicated there are approximately 2-3% of the individuals use bicycles for their commute.
k. H. Bartling indicated some of the issues with parking included parking deficiencies.
l. An ad-hoc committee, made up of E. King and H. Bartling, will meet to discuss these issues and suggestions for Board action.

VI. Code Review Update
a. K. Glynn presented information about his review of Municipal Code (see attached). It was reviewed for compliance with the CAP. K. Glynn recommends that the terms below be revised for more applicable definitions within the code.
   i. Solar Collector
   ii. Definition for Geothermal
   iii. Coin Operated
   iv. Coal Burning
   v. Refuse Disposal By Burning
   vi. Definition of reconstruction vs. demolition
   vii. Weeds
b. K. Glynn also addressed several other items that will need to be revised. However, it is anticipated that these will be more difficult.
   i. Junk
   ii. Alcohol
   iii. Automatic dry cleaning machines
   iv. Graywater handling
   v. Electrical Code—smart grid
   vi. Wind turbines
   vii. Impervious surface
c. K. Glynn will send all ordinances for review to C. Caneva to pass to the City of Evanston’s Legal Staff.
d. The board will address concerns in a memo to the Legal Department.

VII. Environment Board size, attendance
a. Chair Finnegan stated D. Biss has been elected as a State Representative, and, as such has resigned his position. The Board recognized D. Biss’s contributions to the Board and wished him luck in Springfield. E. Port is attending his last meeting and will not renew his membership. P. Finnegan conducted an informal survey of the other City Boards and Committees and discovered that the average Board/Committee size is 8 while the EB is 13 members. The board currently has 10 active members with 3 vacancies. P. Finnegan discussed reducing the board to 9. A Viner asked if there were individuals in line for the board. P. Finnegan indicated she is unaware.
b. E. Port indicated that since he became a board member it has become more homogenous than diverse.
c. K. Glynn indicated if we/the City wants diversity the Board should be bigger.
d. P. Finnegan asked for alternative quorum suggestions. A Viner will review the bylaws. E. Port indicated the state has a requirement, he indicated the requirement is a meeting has a majority of a quorum.
e. Meeting dates for 2011 all fall on the second Thursday of each month. C Caneva will reserve a room for the dates. E. Port asked the board to not have meetings during parent/teacher conferences.

i. 2011 Meeting Dates
   1. January 13th
   2. February 10th
   3. March 3rd
   4. April 14th
   5. May 12th
   6. June 9th
   7. July 14th
   8. No August meeting
   9. September 8th
   10. October 13th
   11. November 10th
   12. December 8th

VIII. Roundtable
   a. District 65 contacted C. Caneva for assistance with school lunch tray waste management concerns. According to communications from D65, 15,000 styrofoam trays are used each week and the green team is seeking an alternative. However, they currently pay just $0.03/tray and do not have budget to pay any more. Chair Finnegan indicated that several Board members provided resources and references and that there is little opportunity to improve the system given current budget restrictions. Many alternatives do exist, but would require money.
      i. E. Port indicated the issue was the structure rather than the actual tray.
      ii. A. Viner indicated that even if schools had reusable trays they lack the appropriate facilities to wash them.
      iii. E. Port suggested a cold meal one day a week.
      iv. A. Viner indicated Whole Foods will be running a salad bar in Willard School.
   b. C. Finnegan indicated the Plastic Bag ordinance will again be considered. More news on that to follow.

K. Glynn motioned to adjourn, motion seconded by E. King, meeting adjourned at 9:15pm.

NEXT MEETING – December 9, 2010
Evanston’s Storm Water Related Ordinances

Table of Contents

Storm Water Control ..................................................Page 2
City Sewer System .....................................................Page 11
Flood Plain Regulations..............................................Page 12
Impervious Surfaces..................................................Page 47
General Zoning & Land Use ........................................Page 49
Public Ways: Sidewalks, Sidewalk Construction........Page 51
Plumbing Code..........................................................Page 54
Site Plan and Appearance Review.........................Page 58
CHAPTER 24
STORM WATER CONTROL

4-24-1: DEFINITIONS:

The following terms are defined for the use of this chapter as follows:

ALLOWABLE RELEASE RATE: The rate of storm water runoff that is allowed to be discharged from a development site into the city sewer system by means of the control system.

APPLICANT: Person(s) or agent(s) representing a property owner who desires to develop property in the city.

BULLETIN 70: A publication entitled "Frequency Distributions And Hydroclimatic Characteristics Of Heavy Rainstorms In Illinois", by Floyd A. Huff and James R. Angel, as published by the Illinois State Water Survey, Champaign, Illinois, 1989. The magnitudes of rainfall events having storm durations of twenty four (24) hours and frequencies from two (2) to one hundred (100) years are found in table 13 of said publication and are adopted by the city to be used by applicants for calculations necessary for compliance with this chapter.

CITY SEWER SYSTEM: The networks of closed pipes, conduits, and drainage structures within the city which consists of three (3) operational parts: the storm sewer system, which conveys storm water only; the combined sewer system, which conveys a combination of storm water and wastewater; and the relief combined sewer system, which conveys storm water during most ordinary rainfall events, until the combined sewer system capacity is reached, at which point the combined sewer system discharges into the relief combined sewer system.

CONTROL SYSTEM: Structures that contain restriction, backflow prevention, storage and conveyance features that are necessary for the safe, efficient control and discharge of detained storm water runoff from the development into the city sewer system at a rate no greater than the allowable release rate, up to the occurrence of the 100-year frequency rainfall (24 hour duration) event. This system should be located on the development property, must meet the city’s current construction standards, and must be fully accessible to the city for inspection purposes and to the applicant for maintenance purposes.

DETAINED STORM WATER VOLUME: The volume of storm water that is tributary to the development site that exceeds the volume that is allowed to be discharged into the city sewer system at the allowable release rate. This volume is calculated by the applicant and submitted to the director for his review and approval. This volume accounts for rainfall that is infiltrated into the soil by virtue of the permeability of the surface and subsurface materials. Also called the "storm water detention volume".
DETENTION: The temporary storage of storm water runoff, typically in a closed or open detention basin or retention basin, or in oversized storm sewer pipes, followed by releasing the runoff gradually into an outlet waterway or the city sewer system. The discharge flow rate of storm water exiting the detention area is typically controlled by a control structure. Also called "storm water detention". For purposes of this chapter, the terminology "detention" shall mean either detention or retention, as appropriate.

DETENTION BASIN: A facility located within the development site that is designed to store storm water runoff temporarily on, below, or above the ground surface, accompanied by the controlled release of the stored storm water runoff. The limits of the detention basin are to be depicted on the final development plans and designated thereon as the "detention basin" (or "retention basin", whichever is appropriate). Detention basins may be closed type (concrete vaults or oversized storm sewer pipes) or open type (having grassed, landscaped, bioengineered, or, when necessary to drain, paved bottoms). All detained storm water must be drained from the detention basin by gravity, by pumping, or by infiltration into the ground water, effectively draining the storage facility completely between rainfall events. For purposes of this chapter, the terminology "detention basin" shall mean either detention basin or retention basin or a combination of these, as appropriate.

DEVELOPMENT: Any activity, excavation or fill, alteration, subdivision or resubdivision, change in land use, or practice including, without limitation, redevelopment or rehabilitation. Development may be undertaken by private or public entities or a combination thereof. Development does not include maintenance of storm water control facilities; the maintenance of existing buildings; gardening or plowing that does not involve filling, grading, or the construction of levees; or the resurfacing of existing paved roads, drives, or parking lots.

DIRECTOR: Refers to the director of the public works department or his or her designee.

DISCHARGE: The rate at which storm water moves through an open channel or closed pipe, usually measured in cubic feet per second.

DRAINAGE AREA: The surface area from which storm water runoff originates at a given point or location on a stream, waterway, or within pipes or channels, usually measured in acres. Also called, "tributary drainage area" or "tributary area".

FLOOD FRINGE: That portion of the regulatory floodplain that is outside of the regulatory floodway.

IMPERVIOUS SURFACE: Natural or manmade materials through which water, roots, or air cannot penetrate. This type of material prevents the movement of surface water down to the water table.
INFILTRATION: The movement or passage of water into the soil from a surface that is permeable. Infiltration may be used as an alternative to the detention or retention of storm water runoff as a means to provide all or part of the required detained storm water volume. This is possible under natural or manmade conditions in which deep, permeable layers of sandy soils or other materials with voids are present.

100-YEAR FREQUENCY RAINFALL: A rainfall event that has a one percent (1%) probability of being equaled or exceeded in any given year. On average, an event of this size or larger will occur once every one hundred (100) years. It is also called the "design storm". The magnitude of this rainfall amount for a variety of frequencies and storm durations is found in table 13 of bulletin 70.

OUTFALL/OUTLET: The point, location, or structure where storm water runoff discharges from a storm water facility to a receiving body of water or into the city sewer system.

PERMEABLE: Having voids, pores, or openings through which liquids may pass.

PUBLIC WORKS STORM WATER CONTROL REGULATIONS: A document published by the Evanston public works department which outlines the methodology for calculating the detained storm water volume.

RECHARGE: Replenishment of ground water reservoirs by infiltration through permeable soils or other granular materials.

REGULATORY FLOODPLAIN: Lands that are adjacent to bodies of water (Lake Michigan or the North Shore Channel in the city) and that may be inundated by water up to the base flood elevation, as regulated by the federal emergency management agency ("FEMA"). The floodplain is mapped by FEMA as part of the national flood insurance program. The floodplains within the city are identified as special flood hazard areas ("SFHAs") on map numbers 17031C0253F, 17031C0255F, 17031C0260F, 17031C0265F, and 17031C0270, which are part of the series of flood insurance rate maps ("FIRMs") for Cook County, Illinois, having an effective date of November 6, 2000. Floodplains consist of two (2) parts: the floodway and the flood fringe.

REGULATORY FLOODWAY: That portion of the regulatory floodplain that is necessary for the conveyance of the base flood. The regulatory floodway is depicted on the FEMA FIRM maps (see definition of Regulatory Floodplain herein).

RELEASE RATE: A rate of storm water runoff that is being discharged from a development site into the city sewer system by means of the control structure, measured in cubic feet per second.

RUNOFF/STORM WATER RUNOFF: Water which moves through the landscape either as surface or subsurface flows. It originates from atmospheric precipitation in the form of rain or snow and does not recharge the ground water reservoirs.
**WETLAND**: An area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The determination that an area is a wetland follows a procedure that is outlined by the U.S. army corps of engineers ("USACE"). No activity or development that will adversely impact a wetland is allowed by the USACE unless a permit from that agency is granted. (Ord. 65-0-07)

**4-24-2: PURPOSES:**

The purposes for this chapter are to: a) reduce the damaging effects caused by the uncontrolled release of storm water runoff from developments that include impervious areas, b) preserve the capacity and useful life of the city sewer system, c) enhance the separation of storm water runoff from wastewater, d) reduce the frequency and severity of the discharge of pollutant laden combined storm water runoff and wastewater into waterways, e) recharge ground water, f) enhance and help protect the public health and safety, and g) be consistent with the Cook County storm water management plan, as approved and the latest revision thereof. (Ord. 65-0-07)

**4-24-3: OTHER AGENCY REQUIREMENTS:**

All work related to this chapter shall be done in accordance with all other federal, state, county, or regional agencies having jurisdiction, including, but not limited to, the U.S. army corps of engineers ("USACE"), U.S. environmental protection agency ("USEPA"), Illinois department of natural resources ("IDNR"), Illinois environmental protection agency ("IEPA"), and metropolitan water reclamation district of greater Chicago ("MWRD"). (Ord. 65-0-07)

**4-24-4-1: DEVELOPMENTS REQUIRING STORM WATER CONTROL:**

All new developments shall provide storm water control for the entire property. Additionally, any development: a) where the final building footprint is greater than five thousand (5,000) square feet, and b) having construction costs greater than one hundred percent (100%) of the latest property value as published by the Cook County assessor's office for the existing tax parcel(s) affected by the development as of the effective date hereof shall provide storm water control for the entire property. This provision shall also apply to staged developments or multiple independent developments for which the aggregate construction costs exceed one hundred percent (100%) of the property value for the tax parcel(s) existing at the time of the initial development after the effective date hereof. Storm water control includes both: a) the need to detain a certain storm water volume, and b) the need to control the release rate of storm water as it is discharged from the development site and enters the city sewer system. (Ord. 65-0-07)
4-24-4-2: EXEMPT DEVELOPMENTS:

The following developments are exempt from the provisions of this chapter:

(A) Developments Prior To Ordinance: All developments that have been submitted to the city's plan commission or planning & development committee, approved and permitted for construction, or are under construction as of the effective date hereof. Such exempt developments must be in compliance with the city's department of public works "Administrative Policy 201, January 2000, Private And Public Development, Detention Requirements".

(B) Residential Structures: Development of one-, two-, or three-family residential structures on one or two (2) adjacent parcels, provided that neither parcel is larger than one acre in area.

(C) Paved Parking Lots: Existing paved parking lots that are resurfaced, or milled and resurfaced, where there is no change to existing drainage that increases runoff to the city sewer system. A paved parking lot is not exempt whenever parts or all of the lot is redeveloped for a different use or a parking structure is constructed, at which point storm water control is required for the entire development, including the parking lot.

(D) New Development: Any new development for which the storm water control requirements under this chapter have been fully satisfied for the existing and proposed development conditions based on installation of all required storm water control during a prior development, and the storm water control facilities have been maintained and are fully functional and operating. The applicant shall demonstrate compliance with this chapter by submitting to the city's department of public works all calculations and documents in support of a finding that no additional storm water control facilities are required. (Ord. 65-0-07)

4-24-5: STORM WATER CONTROL FACILITIES:

4-24-5-1: GENERAL:

Control of the detained storm water volume must be provided by facilities that are entirely within the development property and are fully accessible for inspection by the city. These facilities shall be designed to store the required detained storm water volume temporarily on, below, or above the ground surface in a detention or retention basin, and to subsequently release the stored detained storm water volume at a rate no greater than the allowable release rate by means of a restrictor within the control structure for final discharge into the city sewer system. The storm water control system shall be located such that: a) adjacent properties are not impacted by storm water from the development and b) facilities are accessible to the city for inspection and accessible to the applicant for maintenance.
The storm water control system must meet the city’s current construction standards for storm water control structures having restriction, overflow, backflow prevention, and inspection/maintenance capabilities. (Ord. 65-0-07)

4-24-5-2: CALCULATIONS:

The storm water detention volume and the allowable release rate shall be calculated using the methodology described in the public works storm water control regulations available from the public works department. (Ord. 65-0-07)

4-24-5-3: MEANS FOR STORING RUNOFF:

The storage of detained storm water volume must be accomplished by any of the following means:

(A) Open detention basin. The basin may be of any shape. The active storage depth of the detention basin is a maximum of two feet (2'), with an additional one foot (1') freeboard. The basin must be landscaped, or have a bioengineered surface. Side slopes must be no steeper than a four to one ratio (4:1) (4 horizontal to 1 vertical), and the bottom slope must be one percent (1%) to two percent (2%) to facilitate the complete drainage of all storm water runoff into the control structure by gravity, or by the use of pumps if a retention basin is proposed. Inflow pipes to the open detention basin must carry only storm water runoff, and a backflow preventing device, such as a flap gate, must be installed within a structure and must be provided on each inflow pipe to prevent basin storm water from flooding any development structures.

(B) Reinforced concrete pipe or ductile iron pipe storage, constructed to the city's current construction standards.

(C) Reinforced concrete vaults, constructed in accordance with the design by an Illinois licensed structural engineer.

(D) Parking lot surface storage, with the depth of storm water storage limited to six inches (6") or less.

(E) Rooftop storage, with the depth of storm water limited to six inches (6") or less, based on a determination by an Illinois licensed structural engineer that the roof is structurally adequate to resist all loading, including the additional water load (considered to be live load).

(F) Infiltration of the detained storm water volume, provided that the applicant submits an engineered infiltration field design by an Illinois licensed professional engineer. The design must include the calculations and supporting documents necessary to demonstrate that the proposed infiltrated detained storm water volume meets the storage requirement.
(G) Other means or combination of means which the applicant may use, subject to the approval by the director prior to the issuance of all necessary construction permits. (Ord. 65-0-07)

**4-24-5-4: CONTROL SYSTEM:**

(A) The control system must contain those restriction, backflow prevention, storage and conveyance features that are necessary for the safe, efficient control and discharge of detained storm water volume from the development into the city sewer system at a rate no greater than the allowable release rate, up to the occurrence of the 100-year frequency rainfall (24 hour) event. This system must be located on the development property unless waived by the director, must meet the city's current construction standards, and must be fully accessible to the city for inspection purposes and to the applicant for maintenance purposes. The system shall contain adequate provisions for the emergency release of storm water in excess of the required storage volume or runoff rate that may be associated with more extreme rainfall events or unforeseen debris or ice buildup within the structure. The emergency release shall commence only after the required detained storm water volume has been stored on the development site. The emergency release must discharge onto the development property. A backflow preventing feature, such as a flap gate, shall also be provided such that no storm water or wastewater from the city sewer system can flow back onto the development site. The backflow preventing device shall be installed in a structure located immediately outside of the structure containing the restrictor.

(B) Storm water control systems shall not be located within any part of a regulated floodplain, either the floodway or flood fringe, within the city, as depicted on the FEMA FIRM map panels for Cook County, Illinois. Any work in the floodplain or in wetlands requires the applicant to obtain all permits that may be required from the USACE, USEPA, IDNR, IEPA, MWRD, and any other federal, state, or regional agency as may be required. The applicant shall not begin construction until the applicant has applied for and obtained these permits. In the event that any of these permits include conditions that are more or less stringent than the provisions of this chapter, the more stringent of the permit conditions or ordinance provisions shall apply. (Ord. 65-0-07)

**4-24-5-5: CONNECTION TO CITY SEWER SYSTEM:**

The applicant is responsible for all construction and restoration work that is needed within the public right of way to achieve the connection to the city sewer system. This work shall be performed in accordance with the city's current construction standards.

Whenever more than one of the city's sewer system components is adjacent to, or in close proximity to the development, the applicant's storm water control system shall discharge detained storm water into that component which is both feasible and most advantageous to the city. Generally, but not always, the storm sewer system is the most
advantageous outlet, followed by the relief combined sewer system, followed by the least advantageous combined sewer system. The use of a particular outlet city sewer system component may not be possible due to circumstances such as the presence of other conflicting utilities or if the component is buried deep below the surface. Applicants shall work with the city's department of public works to ascertain which one of the city sewer system components shall be used as the outlet from the development. (Ord. 65-0-07)

4-24-6: FEE IN LIEU OF STORM WATER CONTROL:

In the event that an applicant cannot physically provide all the necessary control of the required detained storm water volume on the development property, the applicant shall:

(A) Provide proof that is satisfactory to the director that the development site conditions limit his capacity to fully meet the detained storm water volume, and

(B) Provide storm water control for that volume of detained storm water which the applicant is able to provide in accordance with the requirements of this chapter, and

(C) Pay a fee in lieu of providing the balance of the excess storm water control volume that the applicant cannot provide on site. The fee in lieu of providing storm water volume shall be initially set at twelve dollars ($12.00) per cubic foot of required detained storm water volume; however the total fee shall not exceed five percent (5%) of the construction costs of the development. The fee in lieu shall increase each January thereafter by the percent increase indicated for the year ending in January by the United States department of labor bureau of labor statistics consumer price index ("CPI") for the Chicago metropolitan area (Chicago-Gary-Kenosha). The city will use this fee for any of the purposes served by this chapter that the director deems suitable in furthering the city's interest in providing for storm water control. (Ord. 65-0-07)

4-24-7: CITY REVIEW AND INSPECTION:

4-24-7-1: REVIEWS:

The director shall review all elements of the storm water control facilities, drawing plans, sketches, details, calculations and any other evidence and supporting documents that are submitted by the applicant for the proposed development. The director must review all developments, regardless of whether physical storm water control facilities or fees in lieu of storm water control facilities are being requested by the applicant. The director may meet with the applicant to discuss the proposed storm water facilities and/or prepare written review comments regarding the applicant's submittal when the submittal has not satisfied all appropriate provisions of this chapter. The applicant shall respond to the director's review comments and perform the necessary design changes, then submit the revised submittal documents for further review by the director. This process
of submittals, review, and revisions shall continue until all provisions of this chapter are met to the satisfaction of the director. The applicant shall not receive a building permit for the proposed development until all provisions of this chapter are met. (Ord. 65-0-07)

**4-24-7-2: INSPECTION DURING CONSTRUCTION:**

The director may inspect the applicant’s storm water control system during the construction to ascertain whether the applicant is constructing or has constructed the system in accordance with the approved plan. Any deficiencies in the construction shall be corrected by the applicant at his expense, regardless of when the director determines that such deficiencies exist. (Ord. 65-0-07)

**4-24-7-3: CERTIFICATE OF OCCUPANCY:**

The storm water control system must be installed and functioning before the certificate of occupancy for the development will be issued. (Ord. 65-0-07)

**4-24-7-4: MAINTENANCE:**

The storm water control system shall be maintained by the applicant or current owner in a fully functioning and operating condition. (Ord. 65-0-07)

**4-24-8: INSPECTION FEE:**

All developments that are required to provide storm water control shall pay to the city an initial inspection fee of one hundred fifty dollars ($150.00) and thereafter, an annual inspection fee of one hundred fifty dollars ($150.00). (Ord. 65-0-07)

**4-24-9: PENALTY:**

If the director determines that any storm water control system required by this chapter does not comply with the provisions of this chapter, the director shall notify the applicant or current owner in writing of such noncompliance. The applicant or current owner shall have thirty (30) calendar days from the date of receipt of such notice to comply with the provisions of this chapter. If at the end of the thirty (30) calendar days the applicant or current owner is not in compliance with the provisions of this chapter, a two hundred fifty dollar ($250.00) fine shall be imposed and the applicant or current owner shall have an additional thirty (30) calendar days to comply. If at the end of the thirty (30) additional days for compliance, the applicant or current owner is not in compliance with the provisions of this chapter, a fine of not less than two hundred fifty dollars ($250.00) shall be imposed for each day thereafter in which the applicant or current owner is not in compliance. (Ord. 65-0-07)
CHAPTER 13
CITY SEWER SYSTEM

7-13-2: SEWER ENTERPRISE FUND ESTABLISHED:

There is hereby established a separate fund designated the sewer enterprise fund, which fund shall be supported by sewer usage fees established, from time to time, by the city council. Said fund shall be reserved and utilized exclusively for operation, maintenance, rehabilitation or reconstruction of the sewer system of the city. (Ord. 33-0-91)

7-13-8: USE OF THE PUBLIC SEWERS:

(A) No unauthorized person shall break, damage, destroy or tamper with any structure, appurtenance or equipment which is a part of the sewage and storm collection system.

(B) No person shall connect, or cause to be connected, any sanitary sewerage outlet or industrial wastewater outlet into any storm water sewer or storm water sewer catch basin now existing or hereafter to be constructed.

(C) Storm water and all other unpolluted drainage shall be discharged to such sewers as are specifically designated as combined sewers or storm sewers, or to a natural outlet approved by the director of building and zoning. Industrial cooling water or unpolluted process waters may be discharged on prior written approval of the director of building and zoning, to a storm sewer, combined sewer or natural outlet.

(D) It shall be unlawful for any person to cause or allow a discharge not meeting the standards of article III, prohibited wastes of the sewage and waste control ordinance, latest edition of the MWRDGC.

(E) Any new building connecting to the combined sewer shall have the sanitary drain be distinct from the property’s storm water drain within the property lines to facilitate disconnection of the storm water drain should a storm sewer become available.

(F) Any storm water drain connection to the combined sewer shall be removed from the combined sewer and connected to the storm sewer within one year of a separate storm sewer becoming available within one hundred feet (100’) of the building.

(G) New connections to the combined sewer shall be designated to minimize and/or delay storm water contributions to the combined sewer systems. (Ord. 51-0-04)
CHAPTER 16
FLOODPLAIN REGULATIONS

4-16-1: GENERAL PROVISIONS:

(A) Purpose: This chapter is enacted pursuant to the police powers granted to the city of Evanston by 65 Illinois Compiled Statutes 5/1-2-1, 5/11-12-12, 5/11-30-2, 5/11-30-8, and 5/11-31-2. The purpose of this chapter is to maintain this city’s eligibility in the national flood insurance program; to minimize potential losses due to periodic flooding including loss of life, loss of property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare; and to preserve and enhance the quality of surface waters, conserve economic and natural values and provide for the wise utilization of water and related land resources. This chapter is adopted in order to meet the requirements of 615 Illinois Compiled Statutes 5/18, rivers, lakes and streams act and accomplish the following specific purposes:

1. To assure that new development does not increase the flood or drainage hazards to others, or create unstable conditions susceptible to erosion;

2. To protect new buildings and major improvements to buildings from flood damage;

3. To protect human life and health from the hazards of flooding;

4. To lessen the burden on the taxpayer for flood control projects, repairs to flood damaged public facilities and utilities, and flood rescue and relief operations; and

5. To make federally subsidized flood insurance available for property in the city of Evanston by fulfilling the requirements of the national flood insurance program;

6. To comply with the rules and regulations of the national flood insurance program codified as 44 CFR 59-79, as amended.

7. To protect, conserve, and promote the orderly development of land and water resources; and

8. To preserve the natural characteristics and functions of watercourses and floodplains in order to moderate flood and storm water impacts, improve water quality, reduce soil erosion, protect aquatic and riparian habitat, provide recreational opportunities, provide aesthetic benefits and enhance community and economic development.

(B) Scope: This chapter is intended to supplement the city of Evanston zoning ordinance, development ordinance, building code and stormwater management
ordinance and further regulate and restrict the development, layout and improvement of land, including drainage, underground utilities and service facilities; excavating, filling and grading lots and other parcels and special flood hazard areas (SFHA), and storing of certain materials thereon, stream and other floodwater runoff channels, and detention ponds and basins; and the location, construction and elevation of buildings and other structures and parts and appurtenances thereof, and the drainage of parking and other paved lots and areas. In the event there is any conflict between the provisions of this chapter and any other city ordinance, the more restrictive provision or provisions shall be applicable.

(C) Compliance With Other Applicable Regulations Required: Before starting any of the works or uses regulated by this chapter, an applicant shall comply with requirements set forth in all other applicable ordinances and regulations with respect to submission and approval of preliminary and final subdivision plats, improvement plans, building and zoning permits, inspections, appeals and similar matters, along with those set forth in this chapter as required by federal and state statutes and regulations of any departments of the state. (Ord. 85-0-08)

4-16-3: HOW TO USE THIS CHAPTER:

(A) The city engineer and the community development director shall be responsible for fulfilling all of the duties listed in section 4-16-4 of this chapter. To fulfill those duties, the city engineer should first use the criteria listed in section 4-16-5, "Base Flood Elevation", of this chapter, to determine whether the development site is located within a floodplain. Once it has been determined that a site is located within a floodplain, the city engineer must determine whether the development site is within a flood fringe, a regulatory floodway, or within an SFHA or floodplain for which no floodway has been identified.

1. If the site is within a flood fringe, the city engineer shall require that the minimum requirements of section 4-16-6 of this chapter be met.

2. If the site is within a floodway, the city engineer shall require that the minimum requirements of section 4-16-7 of this chapter be met.

3. If the site is located within an SFHA or floodplain for which no detailed study has been completed and approved, the city engineer shall require that the minimum requirements of section 4-16-8 of this chapter be met.

(B) In addition, the general requirements of section 4-16-9 of this chapter shall be met for all developments meeting the requirements of section 4-16-6, 4-16-7 or 4-16-8 of this chapter.

(C) The city engineer and the community development director shall assure that all subdivision proposals shall meet the requirements of section 4-16-10 of this chapter.
If a variance is to be granted for a proposal, the community development director and the city engineer shall review the requirements of section 4-16-11 of this chapter to make sure they are met. In addition, the community development director shall complete all notification requirements.

In order to assure that property owners obtain permits as required in this chapter, the community development director may take any and all actions as outlined in section 4-16-13 of this chapter. (Ord. 85-0-08)

**4-16-4: DUTIES OF THE ENFORCEMENT OFFICIALS:**

(A) Duties Of The City Engineer:

1. **Determining The Floodplain Designation:** Check all new development sites to determine whether they are in a special flood hazard area (SFHA). If they are in an SFHA, determine whether they are in a floodway, flood fringe or in a floodplain for which a detailed study has not been conducted and which drains more than one square mile. Check whether the development is potentially within an extended SFHA (with a drainage area less than 1 square mile), indicating that the development would have adverse impacts regarding storage, conveyance, or inundation which would be the basis for the applicant being required to delineate the floodplain and floodway and be subject to the remaining sections of this chapter.

2. **Professional Engineer Review:** If the development site is within a floodway or in a floodplain for which a detailed study has not been conducted and which drains more than one square mile, the permit and any required engineering reports shall be referred to the city engineer for review to ensure that the development meets the requirements of section 4-16-7 or 4-16-8 of this chapter. In the case of an appropriate use, a licensed engineer in the state of Illinois shall state in writing to the satisfaction of the city engineer that the development meets the requirements of section 4-16-7 of this chapter.

3. **Dam Safety Requirements:** Dams are classified as to their size and their hazard/damage potential in the event of failure. The construction or major modification of all class I (high hazard) and class II (moderate hazard) dams require an IDNR/OWR dam safety permit. Some class III (low hazard) dams require an IDNR/OWR dam safety permit, depending on the drainage area to the dam, the height of the dam and the impounding capacity behind the dam. Most off-channel detention basins that have an embankment are nonjurisdictional class III dams. It is not required that IDNR/OWR "sign off" on all nonjurisdictional class III dams. A consulting engineer with dam safety knowledge can estimate a hazard classification and determine if an IDNR/OWR dam safety permit is required. A permit application submittal must be made to IDNR/OWR for the construction or major modification of jurisdictional dams. Regulated dams may include weirs, restrictive culverts or impoundment structures.
4. Other Permit Requirements: Ensure any and all required federal, state and local permits are received prior to the issuance of a floodplain development permit.

5. Plan Review And Permit Issuance: Ensure that all development activities within the SFHAs of the jurisdiction of the city of Evanston meet the requirements of this chapter, and issue a floodplain development permit in accordance with the provisions of this chapter and other regulations of this community when the development meets the conditions of this chapter.

6. Inspection Review: Provide engineering assistance to the community development director in their inspection of all development projects before, during and after construction to assure proper elevation of the structure and to ensure compliance with the provisions of this chapter.

7. Records For Public Inspection: Maintain for public inspection and furnish upon request base flood data, SFHA and designated floodway maps, copies of federal or state permit documents, variance documentation, conditional letter of map revision, letter of map revision and letter of map amendments.

8. State Permits: Ensure that construction authorization has been granted by IDNR/OWR, for all development projects subject to sections 4-16-7 and 4-16-8 of this chapter, unless enforcement responsibility has been delegated to the city of Evanston. However, the following review approvals are not delegated to the city of Evanston and shall require review or permits from IDNR/OWR:

   a. Organizations which are exempt from this chapter, as per the Illinois Compiled Statutes;

   b. IDNR/OWR projects, dams or impoundment structures as defined in section 4-16-2 of this chapter and all other state, federal or local unit of government projects, including projects of the city of Evanston and county, except for those projects meeting the requirements of subsection 4-16-7(C) of this chapter;

   c. An engineer's determination that an existing bridge or culvert crossing is not a source of flood damage and the analysis indicating the proposed flood profile, per subsection 4-16-7(E) of this chapter;

   d. An engineer's analysis of the flood profile due to subsection 4-16-7(E) of this chapter;

   e. Alternative transition sections and hydraulically equivalent compensatory storage as indicated in subsection 4-16-7(E) of this chapter;

   f. Permit issuance of structures within, under, or over publicly navigable rivers, lakes and streams;
g. Any changes in the mapped floodway or published flood profiles.

9. Cooperation With Other Agencies: Cooperate with state and federal floodplain management agencies to improve base flood or 100-year frequency flood and floodway data and to improve the administration of this chapter. Submit data to IDNR/OWR and FEMA for proposed revisions of a regulatory map within six (6) months whenever a modification of the floodplain may change the base flood elevation or result in a change to the floodplain map. Submit reports as required for the national flood insurance program and notify FEMA of any proposed amendments to this chapter.

10. Promulgate Regulations: Promulgate rules and regulations as necessary to administer and enforce the provisions of this chapter, subject however to the review and approval of IDNR/OWR and FEMA for any ordinance changes.

(B) Duties Of The Community Development Director:

1. Elevation And Floodproofing Certificates: Maintain permit files including: An elevation certificate certifying the elevation of the lowest floor (including basement) of a residential or nonresidential building subject to section 4-16-9 of this chapter, and/or the elevation to which a nonresidential building has been floodproofed, using a floodproofing certificate, for all buildings subject to section 4-16-9 of this chapter.

2. Records For Public Inspection: Maintain for public inspection and furnish upon request "as built" elevation and floodproofing or elevation and floodproofing certificates for all buildings constructed subject to this chapter.

3. Inspection Review: Inspect all development projects before, during and after construction to assure proper elevation of the structure and to ensure compliance with the provisions of this chapter; and, schedule on an annual basis an inspection of the floodplain and document the results of the inspection.

4. Damage Determinations: Make damage determinations of all damaged buildings in the SFHA after a flood to determine substantially damaged structures which must comply with subsection 4-16-9(D) of this chapter.

5. Issue Violations And Penalties: Working with the city attorney's and city engineer's offices, issue violations and penalties as required under the provisions of section 4-16-13 of this chapter.

6. Promulgate Regulations: Promulgate rules and regulations as necessary to administer and enforce the provisions of this chapter, subject however to the review and approval of IDNR/OWR and FEMA for any ordinance changes.

7. Variances: Administer requests for variances per requirements of section 4-16-11 of this chapter. (Ord. 85-0-08)
4-16-5: BASE FLOOD ELEVATION:

(A) General: This chapter's protection standard is based on the flood insurance study for the city of Evanston. If a base flood elevation or 100-year frequency flood elevation is not available for a particular site, then the protection standard shall be according to the best existing data available from federal, state or other sources. When a party disagrees with the best available data, they shall submit a detailed engineering study needed to replace existing data with better data and submit it to IDNR/OWR and FEMA for review and consideration prior to any development of the site.

(B) Base Flood: The base flood or 100-year frequency flood elevation for the SFHAs of the North Shore Channel and Lake Michigan shall be as delineated on the 100-year flood profiles in the flood insurance study of Cook County prepared by FEMA, and dated August 19, 2008, and such amendments to such study and maps as may be prepared from time to time.

(C) Delineation (AH/AO): The base flood or 100-year frequency flood elevation for each SFHA delineated as an "AH zone" or "AO zone" shall be that elevation (or depth) delineated on the countywide flood insurance rate map of Cook County.

(D) Delineation (Other): The base flood or 100-year frequency flood elevation for each of the remaining SFHAs delineated as an "A zone" on the countywide flood insurance rate map of Cook County shall be according to the best existing data available from federal, state or other sources. Should no other data exist, an engineering study must be financed by the applicant to determine base flood elevations. When no base flood or 100-year frequency flood elevation exists, the base flood or 100-year frequency flood elevation for a riverine SFHA shall be determined from a backwater model, such as HEC-II, HEC-RAS, or a dynamic model such as HIP. The flood flows used in the hydraulic models shall be obtained from a hydrologic model, such as HEC-HMS, HEC-1, TR-20, or HIP, or by techniques presented in various publications prepared by the United States geological survey for estimating peak flood discharges. For a nonriverine SFHA, the base flood elevation shall be the historic flood of record plus three feet (3'), unless calculated by a detailed engineering study. For an unmapped extended SFHA (with a drainage area less than 1 square mile) which has been identified by the city engineer pursuant to subsection 4-16-4(A) of this chapter, the base flood elevation shall be determined by the applicant utilizing a method as approved in this section. (Ord. 85-0-08)

4-16-6: OCCUPATION AND USE OF FLOOD FRINGE AREAS:

Development in and/or filling of the flood fringe will be permitted if protection is provided against the base flood or 100-year frequency flood by proper elevation, and compensatory storage, and other applicable provisions of this chapter. No use will be permitted which adversely affects the capacity of drainage facilities or systems. Developments located within the flood fringe shall meet the requirements of this section, along with the requirements of section 4-16-9 of this chapter.
(A) Development Permit: No person, firm, corporation, or governmental body not exempted by law shall commence any development in the SFHA without first obtaining a development permit from the city engineer.

1. Application: Application for a development permit shall be made on a form provided by the city engineer. The application shall be accompanied by drawings of the site, drawn to scale, showing property line dimensions and legal description for the property and sealed by a licensed engineer, architect or land surveyor; existing grade elevations, using the North American vertical datum of 1988, and all changes in grade resulting from excavation or filling; the location and dimensions of all buildings and additions to buildings. For all proposed buildings, the elevation of the lowest floor (including basement) and lowest adjacent grade shall be shown on the submitted plans and the development will be subject to the requirements of section 4-16-9 of this chapter.

(B) SFHA Determination: Upon receipt of a development permit application, the city engineer shall compare the elevation of the site to the base flood or 100-year frequency flood elevation. Any development located on land that can be shown to be higher than the base flood elevation of the current flood insurance rate map and which has not been filled after the date of the site's first flood insurance rate map without a permit as required by this chapter is not in the SFHA and, therefore, not subject to the requirements of this chapter. Conversely, any development located on land shown to be below the base flood elevation and hydraulically connected, but shown on the current flood insurance rate map is subject to the provisions of this chapter. The city engineer shall maintain documentation of the existing ground elevation at the development site and certification that this ground elevation existed prior to the date of the site's first flood insurance rate map identification.

(C) Soil Erosion And Sediment Control: A soil erosion and sediment control plan for disturbed areas shall be submitted. This plan shall include a description of the sequence of grading activities and the temporary sediment and erosion control measures to be implemented to mitigate their effects. This plan shall also include a description of final stabilization and revegetation measures, and the identification of a responsible party to ensure postconstruction maintenance.

(D) Other Agency Permits: The city engineer shall be responsible for obtaining from the applicant copies of all other federal, state, and local permits, approvals or waivers that may be required for this type of activity. The city engineer shall not issue a permit unless all other federal, state, and local permits have been obtained.

(E) Preventing Increased Damages: No development in the flood fringe shall create a threat to public health and safety.

(F) LOMR: If fill is being used to elevate the site above the base flood or 100-year frequency flood elevation, the applicant shall submit sufficient data and obtain a
letter of map revision (LOMR) from FEMA for the purpose of removing the site from
the floodplain.

(G)Compensatory Storage: Whenever any portion of a floodplain is authorized for use,
the volume of space which will be occupied by the authorized fill or structure below
the base flood or 100-year frequency flood elevation shall be compensated for and
balanced by a hydraulically equivalent volume of excavation taken from below the
base flood or 100-year frequency flood elevation. The excavation volume shall be at
least equal to 1.5 times the volume of storage lost due to the fill or structure. In the
case of streams and watercourses, such excavation shall be made opposite or
adjacent to the areas so filled or occupied. All floodplain storage lost below the
existing 10-year flood elevation shall be replaced below the proposed 10-year flood
elevation. All floodplain storage lost above the existing 10-year flood elevation shall
be replaced above the proposed 10-year flood elevation. All such excavations shall
be constructed to drain freely and openly to the watercourse.

(H)Construction Of The Lowest Floor Below The Base Flood Elevation (BFE): A person
who has obtained a letter of map revision (LOMR) based on fill that removes a site in
the flood fringe from the floodplain due to the use of fill to elevate the site above the
BFE, may apply for a permit from the city to construct the lowest floor of a residential
building below the BFE in the flood fringe. Such a permit shall not be issued unless
the applicant has complied with all the criteria set forth in the following subsections:

1. Compensatory storage shall be provided per subsection (G) of this section.

2. The elevation of the lowest opening in the basement wall (i.e., window wells,
accessways) shall be at or above the flood protection elevation (FPE).

3. The lowest adjacent grade to the foundation shall be at or above the FPE, for a
minimum distance of ten feet (10') beyond the outside face of the structure.
However, if site conditions are such that this requirement cannot be met, the city
engineer may waive the ten foot (10') minimum setback if an Illinois licensed
professional engineer certifies that an alternative method to protect the building from
damage due to hydrostatic pressures has been met. The certifications shall be in the
form of a detailed soils and structural design analysis, which shall be submitted to
the city engineer for review. The city engineer may require such additional
documentation as necessary to prove that the proposed shorter setback distance will
keep the structure reasonably safe. In no case shall the setback distance be less
than four feet (4').

4. The grade around the perimeter of the structure, measured at a distance of twenty
feet (20') from the structure, shall be above the BFE. However, if site conditions are
such that this requirement cannot be obtained, the city engineer may waive the
twenty foot (20') minimum setback distance if an Illinois licensed professional
engineer certifies that an alternative method to protect the building from damages
due to hydrostatic pressures have been met. A detailed soils analysis and structural
design proving that a shorter setback distance will keep the structure reasonably safe from flooding, shall be submitted to the city of Evanston for review. In no case shall the setback distance be less than four feet (4').

5. The ground around the building shall be compacted fill that meets all requirements of this subsection and is at least five feet (5') thick under the basement floor slab. Nothing in this subsection shall be interpreted to require the removal or replacement of fill that was placed as part of an LOMR-F, if such fill consists of material, including soils of similar classification and degree permeability, such as those classified as CH, CL, SC or ML according to ASTM standard D-2487, classification of soils for engineering purposes.

6. The fill material must be homogeneous and isotropic; that is, the soil must be all of one material, and the engineering priorities must be in the same direction.

7. All fill material and compaction shall be designed, certified and inspected by an Illinois licensed professional engineer, as warranted by the site conditions.

8. The basement floor shall be at an elevation that is no more than five feet (5') below the BFE.

9. There shall be a granular drainage layer beneath the floor slab, and minimum of one-fourth (1/4) horsepower sump pump with a backup power supply shall be provided to remove seepage flow. The pump shall be rated at four (4) times the estimated seepage rate and shall discharge above the BFE and away from the building in order to prevent flooding of the basement or uplift of the floor under the effect of the seepage pressure.

10. The drainage system shall be equipped with a positive means of preventing backflow.

11. All foundation elements shall be designed to withstand hydrostatic pressure in accordance with accepted engineering practices.

12. If the applicant is unable to meet all of the requirements set forth in the preceding paragraphs of this subsection, the city engineer may allow the construction of a basement below the BFE only if the applicant demonstrates that the proposed fill and structure meet the guidelines and requirements set forth in FEMA technical bulletin 10-01 and are reasonably safe from flooding. In order to demonstrate that the proposed structure is reasonably safe from flooding, the applicant shall submit a detailed engineering analysis of the proposed fill and foundation wall. The engineered basement study shall be completed in accordance with the latest edition of FEMA technical bulletin 10-01, with the analysis of the fill being prepared by an Illinois licensed professional engineer.
13. In order to provide the required compensatory storage on site, in no case shall the depth of excavation in the front and side yards of the lot exceed eighteen inches (18”), as measured from the previously existing natural grade. The rear yard shall be permitted to have a greater depth of excavation, if necessary. All such excavation shall be constructed to drain freely and openly to the watercourse or storm sewer system. The use of mechanical means to drain the compensatory storage area will not be permitted. (Ord. 85-0-08)

4-16-7: OCCUPATION AND USE OF DESIGNATED FLOODWAYS:

This section applies to proposed development, redevelopment, site modification or building modification within a designated floodway. The designated floodway for North Shore Channel and Lake Michigan shall be as delineated on the countywide flood insurance rate map of Cook County and referenced in section 4-16-2 of this chapter. Only those uses and structures will be permitted which meet the criteria in this section. All floodway modifications shall be the minimum necessary to accomplish the purpose of the project. The development shall also meet the requirements of section 4-16-9 of this chapter.

(A) Development Permit: No person, firm, corporation or governmental body not exempted by state law shall commence any development in a floodway without first obtaining a development permit from the city engineer and IDNR/OWR.

1. Application: Application for a development permit shall be made on a form provided by the city engineer. The application shall include the following information:

   a. Name and address of applicant;

   b. Site location (including legal description) of the property, drawn to scale, on the designated floodway map, indicating whether it is proposed to be in an incorporated or unincorporated area;

   c. Name of stream or body of water affected;

   d. Description of proposed activity;

   e. Statement of purpose of proposed activity;

   f. Anticipated dates of initiation and completion of activity;

   g. Name and mailing address of the owner of the subject property if different from the applicant;

   h. Signature of the applicant or the applicant’s agent;
i. If the applicant is a corporation, the president or other authorized officer shall sign the application form;

j. If the applicant is a partnership, each partner shall sign the application form; and

k. If the applicant is a land trust, the trust officer shall sign the name of the trustee by him(her) as trust officer. A disclosure affidavit shall be filed with the application, identifying each beneficiary of the trust by name and address and defining the respective interests therein.

l. Plans of the proposed activity shall be provided which include as a minimum:

   (1) A vicinity map showing the site of the activity, name of the waterway, boundary lines, names of roads in the vicinity of the site, graphic or numerical scale, and north arrow;

   (2) A plan view of the project and engineering study reach showing existing and proposed conditions including principal dimensions of the structure or work, elevations, using the North American vertical datum of 1988, adjacent property lines and ownership, drainage and flood control easements, location of any channels and any existing or future access roads, distance between proposed activity and navigation channel (when the proposed construction is near a commercially navigable body of water), designated floodway limit, floodplain limit, specifications and dimensions of any proposed channel modifications, location and orientation of cross sections, north arrow, and a graphic or numerical scale;

   (3) Cross section views of the project and engineering study reach showing existing and proposed conditions including principal dimensions of the work as shown in plan view, existing and proposed elevations, normal water elevation, 10-year frequency flood elevation, 100-year frequency flood elevation, and graphic or numerical scales (horizontal and vertical);

   (4) A soil erosion and sediment control plan for disturbed areas. This plan shall include a description of the sequence of grading activities and the temporary sediment and erosion control measures to be implemented to mitigate their effects. This plan shall also include a description of final stabilization and revegetation measures, and the identification of a responsible party to ensure postconstruction maintenance;

   (5) A copy of the designated floodway map, marked to reflect any proposed change in the designated floodway location.

m. Any and all other federal, state, and local permits or approval letters that may be required for this type of development.
n. Engineering calculations and supporting data shall be submitted showing that the proposed work will meet the permit criteria of subsection (C) of this section.

o. If the designated floodway delineation, base flood or 100-year frequency flood elevation will change due to the proposed project, the application will not be considered complete until IDNR/OWR has indicated conditional approval of the designated floodway map change. No structures may be built until a letter of map revision has been approved by FEMA.

p. The application for a structure shall be accompanied by drawings of the site, drawn to scale showing property line dimensions and existing ground elevations and all changes in grade resulting from any proposed excavation or filling, and floodplain and floodway limits; sealed by a licensed professional engineer, licensed architect or licensed land surveyor; the location and dimensions of all buildings and additions to buildings; and the elevation of the lowest floor (including basement) of all proposed buildings subject to the requirements of section 4-16-9 of this chapter.

q. If the proposed project involves a channel modification, the applicant shall submit the following information:

1. A discussion of the purpose of and need for the proposed work;

2. A discussion of the feasibility of using alternative locations or methods (see subsection (E)9 of this section) to accomplish the purpose of the proposed work;

3. An analysis of the extent and permanence of the impacts each feasible alternative identified in subsection (E)9 of this section would have on the physical and biological conditions of the body of water affected; and

4. An analysis of the impacts of the proposed project, considering cumulative effects on the physical and biological conditions of the body of water affected.

(B) Other Agency Permits: The city engineer shall be responsible for obtaining from the applicant copies of all other federal, state, and local permits and approvals that may be required for this type of activity. The city engineer shall not issue the development permit unless all required federal and state permits have been obtained. The city engineer or a licensed professional engineer, under the employ or contract of the city of Evanston shall review and approve applications reviewed under this section.

(C) Preventing Increased Damages And A List Of Appropriate Uses: The only development in a floodway which will be allowed are appropriate uses, which will not cause a rise in the base flood elevation, and which will not create a damaging or potentially damaging increase in flood heights or velocity or be a threat to public health and safety and welfare or impair the natural hydrologic and hydraulic
functions of the floodway or channel, or permanently impair existing water quality or aquatic habitat. Construction impacts shall be minimized by appropriate mitigation methods as called for in this chapter. Only those appropriate uses listed in 17 Illinois administrative code part 3708 will be allowed. The approved appropriate uses are as follows:

1. Flood control structures, dikes, dams and other public works or private improvements relating to the control of drainage, flooding, erosion, or water quality or habitat for fish and wildlife;

2. Structures or facilities relating to the use of, or requiring access to, the water or shoreline, such as pumping and treatment facilities, and facilities and improvements related to recreational boating, commercial shipping and other functionally water dependent uses;

3. Storm and sanitary sewer relief outfalls;

4. Underground and overhead utilities;

5. Recreational facilities such as playing fields and trail systems, including any related fencing (at least 50 percent open when viewed from any one direction) built parallel to the direction of flood flows, and including open air pavilions and toilet facilities (4 stall maximum) that will not block flood flows nor reduce floodway storage;

6. Detached garages, storage sheds, or other nonhabitable accessory structures that will not block flood flows nor reduce floodway storage;

7. Bridges, culverts, roadways, sidewalks, railways, runways and taxiways and any modification thereto;

8. Parking lots built at or below existing grade where either the depth of flooding at the 100-year frequency flood event will not exceed 1.0 foot; or the applicant of a short term recreational use facility parking lot formally agrees to restrict access during overbank flooding events and accepts liability for all damage caused by vehicular access during all overbank flooding events;

9. Designated floodway regrading, without fill, to create a positive nonerosive slope toward a watercourse;

10. Floodproofing activities to protect previously existing lawful structures including the construction of watertight window wells, elevating structures, or construction of floodwalls around residential, commercial or industrial principal structures where the outside toe of the floodwall shall be no more than ten feet (10') away from the exterior wall of the existing structure, and, which are not considered substantial improvements to the structure;
11. The replacement, reconstruction, or repair of a damaged building, provided that the outside dimensions are not increased, and if the building was damaged to fifty percent (50%) or more of the market value before the damage occurred, the building will be protected from flooding to the flood protection elevation; and

12. Modifications to an existing building that would not increase the enclosed floor area of the building below the 100-year frequency flood elevation, and which will not block flood flows including, but not limited to, fireplaces, bay windows, decks, patios, and second story additions. If the building is improved to fifty percent (50%) or more of the market value before the modification occurred (i.e., a substantial improvement), the building will be protected from flooding to the flood protection elevation.

(D) Nonappropriate Uses In The Floodway: Appropriate uses do not include the construction or placement of any new structures, fill, building additions, buildings on stilts, excavation or channel modifications done to accommodate otherwise nonappropriate uses in the floodway, fencing (including landscaping or planting designed to act as a fence) and storage of materials except as specifically defined above as an appropriate use.

(E) Floodway Characteristics: Within the designated floodway, the construction of an appropriate use, will be considered permissible provided that the proposed project meets the following engineering and mitigation criteria and is so stated in writing with supporting plans, calculations and data by a licensed professional engineer and provided that any structure meets the protection requirements of section 4-16-9 of this chapter.

1. Preservation Of Flood Conveyance So As Not To Increase Flood Stages Upstream: For appropriate uses other than bridge or culvert crossings, on stream structures or dams, all effective designated floodway conveyance lost due to the project will be replaced for all flood events up to and including the 100-year frequency flood. In calculating effective designated floodway conveyance, the following factors shall be taken into consideration:

   a. Designated floodway conveyance, \( K = \frac{1.486}{n} \left( \frac{A}{R^{2/3}} \right) \) where \( n \) is Manning's roughness factor, \( A \) is the effective flow area of the cross section, and \( R \) is the ratio of the area to the wetted perimeter. (See Ven Te Chow, "Open Channel Hydraulics", McGraw-Hill, New York 1959.)

   b. The same Manning's \( n \) value shall be used for both existing and proposed conditions unless a recorded maintenance agreement with a federal, state, or local unit of government can assure the proposed conditions will be maintained or the land cover is changing from a vegetative to a nonvegetative land cover.

   c. Transition sections shall be provided and used in calculations of effective designated floodway conveyance. The following expansion and contraction ratios
shall be used unless an applicant's engineer can prove to IDNR/OWR through engineering calculations or model tests that more abrupt transitions may be used with the same efficiency:

(1) When water is flowing from a narrow section to a wider section, the water should be assumed to expand no faster than at a rate of one foot (1') horizontal for every four feet (4') of the flooded stream's length.

(2) When water is flowing from a wide section to a narrow section, the water should be assumed to contract no faster than at a rate of one foot (1') horizontal for every one foot (1') of the flooded stream's length.

(3) When expanding or contracting flows in a vertical direction, a minimum of one foot (1') vertical transition for every ten feet (10') of stream length shall be used.

(4) Transition sections shall be provided between cross sections with rapid expansions and contractions and when meeting the designated floodway delineation on adjacent properties.

(5) All cross sections used in the calculations shall be located perpendicular to flood flows.

2. Preservation Of Floodway Storage So As Not To Increase Downstream Flooding: Compensatory storage shall be provided for any designated floodway storage lost due to the proposed work from the volume of fill or structures placed and the impact of any related flood control projects. Compensatory storage for fill or structures shall be equal to at least 1.5 times the volume of floodplain storage lost. Artificially created storage lost due to a reduction in head loss behind a bridge shall not be required to be replaced. The compensatory designated floodway storage shall be placed between the proposed normal water elevation and the proposed 100-year flood elevation. All designated floodway storage lost below the existing 10-year flood elevation shall be replaced below the proposed 10-year flood elevation. All designated floodway storage lost above the existing 10-year flood elevation shall be replaced above the proposed 10-year flood elevation. All such excavations shall be constructed to drain freely and openly to the watercourse. If the compensatory storage will not be placed at the location of the proposed construction, the applicant's engineer shall demonstrate through a determination of flood discharges and water surface elevations that the compensatory storage is hydraulically equivalent. There shall be no reduction in floodway surface area as a result of a floodway modification, unless such modification is necessary to reduce flooding at existing structure.

3. Preservation Of Floodway Velocities So As Not To Increase Stream Erosion Or Flood Heights: For all appropriate uses, except bridges or culverts or on stream structures, the proposed work will not result in an increase in the average channel or
designated floodway velocities or stage for all flood events up to and including the 100-year frequency event. In the case of bridges or culverts or on stream structures built for the purpose of backing up water in the stream during normal or flood flows, velocities may be increased at the structure site if scour, erosion and sedimentation will be avoided by the use of riprap or other design measures.

4. Construction Of New Bridges Or Culvert Crossings And Roadway Approaches: The proposed structure shall not result in an increase of upstream flood stages greater than 0.1 foot when compared to the existing conditions for all flood events up to and including the 100-year frequency event; or the upstream flood stage increases will be contained within the channel banks (or within existing vertical extensions of the channel banks) such as within the design protection grade of existing levees or floodwalls or within recorded flood easements. If the proposed construction will increase upstream flood stages greater than 0.1 foot, the developer must contact IDNR/OWR to obtain a permit for a dam or waiver.

a. The engineering analysis of upstream flood stages must be calculated using the flood study flows, and corresponding flood elevations for tail water conditions for the flood study specified in section 4-16-5 of this chapter. Bridges and culverts must be analyzed using any commonly accepted FEMA approved hydraulic models.

b. Lost floodway storage must be compensated for per subsection (E)2 of this section.

c. Velocity increases must be mitigated per subsection (E)3 of this section.

d. If the crossing is proposed over public water that is used for recreational or commercial navigation, an IDNR/OWR permit must be received.

e. The hydraulic analysis for the backwater caused by the bridge showing the existing condition and proposed regulatory profile must be submitted to IDNR/OWR for concurrence that a CLOMR is not required by subsection (C) of this section.

f. All excavations for the construction of the crossing shall be designed per the requirements of this section.

5. Reconstruction Or Modification Of Existing Bridges, Culverts, And Approach Roads:

a. The bridge or culvert and roadway approach reconstruction or modification shall be constructed with no more than 0.1 foot increase in backwater over the existing flood profile for all flood frequencies up to and including the 100-year event, if the existing structure is not a source of flood damage.
b. If the existing bridge or culvert and roadway approach is a source of flood
damage to buildings or structures in the upstream floodplain, the applicant's
engineer shall evaluate the feasibility of redesigning the structure to reduce the
existing backwater, taking into consideration the effects on flood stages on
upstream and downstream properties.

c. The determination as to whether or not the existing crossing is a source of flood
damage and should be redesigned must be prepared in accordance with 17
Illinois administrative code part 3708 (floodway construction in northeastern
Illinois) and submitted to IDNR/OWR for review and concurrence before a permit
is issued.

6. On Stream Structures Built For The Purpose Of Backing Up Water: Any increase
in upstream flood stages greater than 0.0 foot when compared to the existing
conditions, for all flood events up to and including the 100-year frequency event shall
be contained within the channel banks (or within existing vertical extensions of the
channel banks) such as within the design protection grade of existing levees or
floodwalls or within recorded flood easements. A permit or letter indicating a permit
is not required must be obtained from IDNR/OWR for any structure built for the
purpose of backing up water in the stream during normal or flood flow. All dams and
impoundment structures as previously defined shall meet the permitting
requirements of 17 Illinois administrative code part 3702 (construction and
maintenance of dams). If the proposed activity involves a modification of the channel
or floodway to accommodate an impoundment, it shall be demonstrated that:

   a. The impoundment is determined to be in the public interest by providing flood
control, public recreation, or regional stormwater detention;

   b. The impoundment will not prevent the migration of indigenous fish species,
which require access to upstream areas as part of their life cycle, such as for
spawning;

   c. The impoundment will not cause or contribute to degraded water quality or
habitat conditions. Impoundment design should include gradual bank slopes,
appropriate bank stabilization measures and a presedimentation basin;

   d. A nonpoint source control plan has been implemented in the upstream
watershed to control the effects of sediment runoff as well as minimize the input of
nutrients, oil and grease, metals, and other pollutants. If there is more than one
municipality in the upstream watershed, the municipality in which the
impoundment is constructed should coordinate with upstream municipalities to
ensure comprehensive watershed control;

   e. The project otherwise complies with the requirements of this section.
7. Floodproofing Of Existing Habitable, Residential And Commercial Structures: If construction is required beyond the outside dimensions of the existing building, the outside perimeter of the floodproofing construction shall be placed no farther than ten feet (10') from the outside of the building. Compensation of lost storage and conveyance will not be required for floodproofing activities.

8. Excavation In The Floodway: When excavation is proposed in the design of bridges and culvert openings, including the modifications to and replacement of existing bridge and culvert structures, or to compensate for lost conveyance or other appropriate uses, transition sections shall be provided for the excavation. The following expansion and contraction ratios shall be used unless an applicant's engineer can prove to IDNR/OWR through engineering calculations or model tests that more abrupt transitions may be used with the same efficiency:

a. When water is flowing from a narrow section to a wider section, the water should be assumed to expand no faster than at a rate of one foot (1') horizontal for every four feet (4') of the flooded stream's length; and

b. When water is flowing from a wide section to a narrow section, the water should be assumed to contract no faster than at a rate of one foot (1') horizontal for every one foot (1') of the flooded stream's length; and

c. When expanding or contracting flows in a vertical direction, a minimum of one foot (1') vertical transition for every ten feet (10') of stream length shall be used; and

d. Erosion/scour protection shall be provided inland upstream and downstream of the transition sections.

9. Channel Modifications: If the proposed activity involves a channel modification, it shall be demonstrated that there are no practicable alternatives to the activity which would accomplish its purpose with less impact to the natural conditions of the body of water affected. Possible alternatives include levees, bank stabilization, floodproofing of existing structures, removal of structures from the floodplain, clearing the channel, high flow channel, or the establishment of a stream side buffer strip or greenbelt. Channel modification is acceptable if the purpose is to restore natural conditions and improve water quality and fish and wildlife habitat. Water quality, habitat, and other natural functions would be significantly improved by the modification and no significant habitat area may be destroyed, or the impacts are offset by the replacement of an equivalent degree of natural resource values. The activity has been planned and designed and will be constructed in a way which will minimize its adverse impacts on the natural conditions of the body of water affected, consistent with the following criteria:

a. The physical characteristics of the modified channel shall match as closely as possible those of the existing channel in length, cross section, slope and sinuosity.
If the existing channel has been previously modified, restoration of more natural physical conditions should be incorporated into channel modification design, where practical.

b. Hydraulically effective transitions shall be provided at both the upstream and downstream ends of the project, designed such that they will prevent erosion.

c. One sided construction of a channel shall be used when feasible. Removal of streamside (riparian) vegetation should be limited to one side of the channel, where possible, to preserve the shading and stabilization effects of the vegetation.

d. Clearing of stabilizing vegetation shall be limited to that which is essential for construction of the channel.

e. Channel banks shall be constructed with a side slope no steeper than three to one (3:1) horizontal to vertical, wherever practicable. Native vegetation and gradual side slopes are the preferred methods for bank stabilization. Where high velocities or sharp bends necessitate the use of alternative stabilization measures, soil bioengineering techniques, natural rock or riprap are preferred approaches. Artificial materials such as concrete, gabions, or construction rubble should be avoided unless there are no practicable alternatives.

f. All disturbed areas associated with the modification shall be seeded or otherwise stabilized as soon as possible upon completion of construction. Erosion blanket or an equivalent material shall be required to stabilize disturbed channel banks prior to establishment of the vegetative cover.

g. If the existing channel contains considerable bottom diversity such as deep pools, riffles, and other similar features, such features shall be provided in the new channel. Spawning and nesting areas and flow characteristics compatible with fish habitat shall also be established, where appropriate.

h. A sediment basin shall be installed at the downstream end of the modification to reduce sedimentation and degradation of downstream water quality.

i. New or relocated channels should be built in the dry and all items of construction, including vegetation, should be completed prior to diversion of water into the new channel.

j. There shall be no increases in stage or velocity as the channel enters or leaves the project site for any frequency flood unless necessitated by a public flood control project or unless such an increase is justified as part of a habitat improvement or erosion control project.
k. Unless the modification is for a public flood control project, there shall be no reduction in the volume of floodwater storage outside the floodway as a result of the modification; and

l. The project otherwise complies with the requirements of this section.

10. Seeding And Stabilization Plan: For all activities located in a floodway, a seeding and stabilization plan shall be submitted by the applicant.

11. Soil Erosion And Sedimentation Measures: For all activities in the floodway, including grading, filling, and excavation, in which there is potential for erosion of exposed soil, soil erosion and sedimentation control measures shall be employed consistent with the following criteria:

   a. The construction area shall be minimized to preserve the maximum vegetation possible. Construction shall be scheduled to minimize the time soil is exposed and unprotected. In no case shall the existing natural vegetation be destroyed, removed, or disturbed more than fifteen (15) days prior to the initiation of improvements.

   b. Temporary and/or permanent soil stabilization shall be applied to denuded areas as soon as possible. As a minimum, soil stabilization shall be provided within fifteen (15) days after final grade is reached on any portion of the site, and within fifteen (15) days to denuded areas which may not be at final grade but will remain undisturbed for longer than sixty (60) days.

   c. Sedimentation control measures shall be installed before any significant grading or filling is initiated on the site to prevent the movement of eroded sediments off site or into the channel. Potential sediment control devices include filter fences, straw bale fences, check dams, diversion ditches, and sediment traps and basins.

   d. A vegetated buffer strip of at least twenty five feet (25') in width shall be preserved and/or reestablished, where possible, along existing channels (see subsection (E)15 of this section). Construction vehicle use of channels shall be minimized. Temporary stream crossings shall be constructed, where necessary, to minimize erosion. Necessary construction in or along channels shall be restabilized immediately.

   e. Soil erosion and sedimentation control measures shall be designed and implemented consistent with "Procedures And Standards For Urban Soil Erosion And Sedimentation Control In Illinois" (1988) also known as the "Green Book" and the "Illinois Urban Manual" (NRCS, 1995).

12. Public Flood Control Projects: For public flood control projects, the permitting requirements of this section will be considered met if the applicant can demonstrate to IDNR/OWR through hydraulic and hydrologic calculations that the proposed
project will not singularly or cumulatively result in increased flood heights outside the project right of way or easements for all flood events up to and including the 100-year frequency event.

13. General Criteria For Analysis Of Flood Elevations:

a. The flood profiles, flows and floodway data in the designated floodway study, referenced in section 4-16-5 of this chapter, must be used for analysis of the base conditions. If the study data appears to be in error or conditions have changed, IDNR/OWR shall be contacted for approval and concurrence on the appropriate base conditions data to use.

b. If the 100-year designated floodway elevation at the site of the proposed construction is affected by backwater from a downstream receiving stream with a larger drainage area, the proposed construction shall be shown to meet the requirements of this section for the 100-year frequency flood elevations of the designated floodway conditions and conditions with the receiving stream at normal water elevations.

c. If the applicant learns from IDNR/OWR, local governments, or a private owner that a downstream restrictive bridge or culvert is scheduled to be removed, reconstructed, modified, or a regional flood control project is scheduled to be built, removed, constructed or modified within the next five (5) years, the proposed construction shall be analyzed and shown to meet the requirements of this section for both the existing conditions and the expected flood profile conditions when the bridge, culvert or flood control project is built.

14. Conditional Letter Of Map Revision: If the appropriate use would result in a change in the designated floodway location or the 100-year frequency flood elevation, the applicant shall submit to IDNR/OWR and FEMA all information, calculations and documents necessary to be issued a conditional designated floodway map revision and receive from IDNR/OWR a conditional concurrence of the designated floodway change before a permit is issued. The final designated floodway map will not be changed by FEMA until as built plans or record drawings of initial filling, grading, dredging, or excavating activities are submitted and accepted by FEMA and IDNR/OWR. In the case of nongovernment projects, the municipality in incorporated areas and the county in unincorporated areas shall concur with the proposed conditional designated floodway map revision before IDNR/OWR approval can be given. No filling, grading, dredging or excavating shall take place until a conditional approval is issued. After initial filling, grading, dredging or excavating, no activities shall take place until a final letter of map revision (LOMR) is issued by FEMA with concurrence from IDNR/OWR.

15. Professional Engineer's Supervision: All engineering analyses shall be performed by or under the supervision of a licensed professional engineer. For all activities in the floodway involving construction within twenty five feet (25') of the
channel, a natural vegetation buffer strip shall be preserved within at least twenty
five feet (25’) of the ordinary high water mark of the channel. Where it is impossible
to protect this buffer strip during the construction of an appropriate use, a vegetated
buffer strip shall be established upon completion of construction.

16. Floodway Designation Change May Proceed: After receipt of conditional
approval of the designated floodway change and issuance of a permit and a
conditional letter of map revision, construction as necessary to change the floodway
designation may proceed but no buildings or structures or other construction that is
not an appropriate use may be placed in that area until the designated floodway map
is changed and a final letter of map revision is received. The designated floodway
map will be revised upon acceptance and concurrence by IDNR/OWR and FEMA of
the "as built" plans.

(F)Development Activities In Delegated Communities Requiring State Review: For those
projects listed below located in a designated floodway, the following criteria shall be
submitted to IDNR/OWR for their review and concurrence and/or permit prior to the
issuance of a permit by a community or county delegated state permitting authority
in the floodway:

1. An engineer's analysis of the flood profile due to a proposed bridge pursuant to
subsection (E)4 of this section.

2. An engineer's determination that an existing bridge or culvert crossing is not a
source of flood damage and the analysis indicating the proposed flood profile,
pursuant to this section.

3. Alternative transition sections and hydraulically equivalent storage pursuant to this
section.

4. Project type 1: The construction of any IDNR/OWR projects, dams and all other
federal, state, or local units of government projects, including projects of the
municipality or county.

5. Project type 2: An engineer's determination that a proposed bridge affected by
backwater from a downstream receiving stream may be built with a smaller opening.

6. Project type 3: Projects which revise or establish the floodway and/or flood
profiles.

7. Project type 4: Projects in public bodies of water.

(G)Other Permits: In addition to the other requirements of this chapter, a development
permit for a site located in a floodway shall not be issued unless the applicant first
obtains a permit or written documentation that a permit is not required from
IDNR/OWR, issued pursuant to 615 Illinois Compiled Statutes 5/5 et seq.
correspondence from IDNR/OWR shall be required if the project meets the requirements of regional permit 3. No permit from IDNR/OWR shall be required if IDNR/OWR has delegated this responsibility to the city of Evanston.

(H) Permits For Dams: Any work involving the construction, modification or removal of a dam as previously defined and per 17 Illinois administrative code part 3702 (rules for construction of dams) shall obtain an IDNR/OWR permit prior to the start of construction of a dam. If the city engineer finds a dam that does not have an IDNR/OWR permit, the city engineer shall immediately notify IDNR/OWR. If the city engineer finds a dam which is believed to be in unsafe condition, the city engineer shall immediately notify the owner of the dam, the IDNR/OWR Bartlett office, and the Illinois emergency management agency (IEMA).

(I) Activities That Do Not Require A Licensed Professional Engineer's Review: The following activities may be permitted without a licensed professional engineer’s review. Such activities shall still meet the other requirements of this chapter, including the mitigation requirements. Regional permit 3 which authorizes, for example, underground and overhead utilities, storm and sanitary sewer outfalls, sidewalks, patios, athletic fields, playground equipment and stream bank protection activities.

4-16-8: OCCUPATION AND USE OF SPECIAL FLOOD HAZARD AREAS WHERE FLOODWAYS ARE NOT IDENTIFIED:

In SFHA or floodplains (including AE, AH, AO and unnumbered A zones) where no floodways have been identified and no base flood or 100-year frequency flood elevations have been established by FEMA, and draining more than a square mile, no development shall be permitted unless the cumulative effect of the proposals, when combined with all other existing and anticipated uses and structures, shall not significantly impede or increase the flow and passage of the floodwaters nor significantly increase the base flood or 100-year frequency flood elevation.

(A) Development Permit: No person, firm, corporation, or governmental body, not exempted by state law, shall commence any development in an SFHA or floodplain without first obtaining a development permit from the city engineer.

1. Application: Application for a development permit shall be made on a form provided by the city engineer. The application shall be accompanied by drawings of the site, drawn to scale showing property line dimensions; and existing grade elevations and all changes in grade resulting from excavation or filling, sealed by a licensed engineer, architect or surveyor; the location and dimensions of all buildings and additions to buildings; and the elevations of the lowest floor (including basement) of all proposed buildings subject to the requirements of section 4-16-9 of this chapter. The application for a development permit shall also include the following information:
a. A detailed description of the proposed activity, its purpose, and intended use;

b. Site location (including legal description) of the property, drawn to scale, on the designated floodway maps, indicating whether it is proposed to be in an incorporated or unincorporated area;

c. Anticipated dates of initiation and completion of activity;

d. Plans of the proposed activity shall be provided which include as a minimum:

1. A vicinity map showing the site of the activity, name of the waterway, boundary lines, names of roads in the vicinity of the site, graphic or numerical scale, and north arrow;

2. A plan view of the project and engineering study reach showing existing and proposed conditions including principal dimensions of the structure or work, elevations, using the North American vertical datum of 1988, adjacent property lines and ownership, drainage and flood control easements, distance between proposed activity and navigation channel (when the proposed construction is in or near a commercially navigable body of water), floodplain limit, location and orientation of cross sections, north arrow, and a graphical or numerical scale;

3. Cross section views of the project perpendicular to the flow of floodwater and engineering study reach showing existing and proposed conditions including principal dimensions of the work as shown in plan view, existing and proposed elevations, normal water elevation, 10-year frequency flood elevation, 100-year frequency flood elevation, and graphical or numerical scales (horizontal and vertical); and

4. A soil erosion and sedimentation control plan for disturbed areas. This plan shall include a description of the sequence of grading activities and the temporary sediment and erosion control measures to be implemented to mitigate their effects. This plan shall also include a description of final stabilization and revegetation measures, and the identification of a responsible party to ensure postconstruction maintenance;

e. Engineering calculations and supporting data shall be submitted showing that the proposed work will meet the criteria of subsection (C) of this section;

f. Any and all other federal, state, and local permits or approvals that may be required for this type of development.

(B) Base Flood Elevation: Based on the best available existing data according to federal, state or other sources, the city engineer shall compare the elevation of the site to the base flood or 100-year frequency flood elevation. Should no elevation information exist for the site, the developer’s engineer shall calculate the elevation according to
subsection 4-16-5(D) of this chapter. Any development located on land that can be shown to have been higher than the base flood elevation of the current flood insurance rate map identification is not in the SFHA and, therefore, not subject to the requirements of this chapter. The city engineer shall maintain documentation of the existing ground elevation at the development site and certification that this ground elevation existed prior to the date of the site's first flood insurance rate map identification. The city engineer shall be responsible for obtaining from the applicant copies of all other federal, state, and local permits, approvals or waivers that may be required for this type of activity. The city engineer shall not issue the development permit unless all required federal, state, and local permits have been obtained.

(C) Preventing Increased Damages: No development in the SFHA where a floodway has not been determined shall create a damaging or potentially damaging increase in flood heights or velocity or threat to public health, safety and welfare or impair the natural hydrologic and hydraulic functions of the floodway or channel, or impair existing water quality or aquatic habitat. Construction impacts shall be minimized by appropriate mitigation methods as called for in this chapter.

(D) Determination Of Floodway: Within all riverine SFHAs where the floodway has not been determined, the following standards shall apply:

1. The developer shall have a licensed professional engineer state in writing and show through supporting plans, calculations, and data that the project meets the engineering requirements of subsection 4-16-7(E) of this chapter for the entire floodplain as calculated under the provisions of subsection 4-16-5(D) of this chapter. As an alternative, the developer should have an engineering study performed to determine a floodway and submit that engineering study to IDNR/OWR and FEMA for acceptance as a designated floodway. Upon acceptance of the floodway by IDNR/OWR and FEMA, the developer shall then demonstrate that the project meets the requirements of section 4-16-7 of this chapter for the designated floodway. The "floodway" shall be defined according to the definition in subsection 4-16-2 of this chapter.

2. A development permit shall not be issued unless the applicant first obtains an IDNR/OWR permit or a determination has been made that an IDNR/OWR permit is not required.

3. Any work involving the construction, modification or removal of a "dam" as defined in section 4-16-2 of this chapter per 17 Illinois administrative code part 3702 (rules for construction of dams) shall obtain an IDNR/OWR permit prior to the start of construction of a dam. If the city engineer finds a dam that does not have an IDNR/OWR permit, the city engineer shall immediately notify the IDNR/OWR office. If the city engineer finds a dam which is believed to be in unsafe condition, the city engineer shall immediately notify the owner of the dam, the IDNR/OWR office, and the Illinois emergency management agency (IEMA).
4. The following activities may be permitted without a licensed professional engineer's review or calculation of base flood elevation and designated floodway. Such activities shall still meet the other requirements of this chapter.

   a. Bridge and culvert crossings of streams in rural areas meeting conditions of IDNR/OWR statewide permit number 2;

   b. Barge fleeting facilities meeting conditions of IDNR/OWR statewide permit no. 3;

   c. Aerial utility crossings meeting conditions of IDNR/OWR statewide permit no. 4;

   d. Minor boat docks meeting conditions of IDNR/OWR statewide permit no. 5;

   e. Minor, nonobstructive activities meeting conditions of IDNR/OWR statewide permit no. 6; activities (not involving fill or positive change in grade) are covered by this permit;

   f. Outfall structures and drainage ditch outlets meeting conditions of IDNR/OWR statewide permit no. 7;

   g. Underground pipeline and utility crossings meeting the conditions of IDNR/OWR statewide permit no. 8;

   h. Bank stabilization projects meeting the conditions of IDNR/OWR statewide permit no. 9;

   i. Accessory structures and additions to existing residential buildings meeting the conditions of IDNR/OWR statewide permit no. 10;

   j. Minor maintenance dredging activities meeting conditions of IDNR/OWR statewide permit no. 11;

   k. Bridge and culvert replacement structures and bridge widening meeting conditions of IDNR/OWR statewide permit no. 12;

   l. Temporary construction activities meeting conditions of IDNR/OWR statewide permit no. 13;

   m. Special uses of public waters meeting conditions of IDNR/OWR statewide permit no. 14; and

   n. Any development determined by IDNR/OWR to be located entirely within a flood fringe area shall be exempt from state floodway permit requirements.
5. The flood carrying capacity of any altered or relocated watercourse shall be maintained.

(E) Compensatory Storage: Whenever any portion of a floodplain is authorized for use, the volume of space which will be occupied by the authorized fill or structure below the base flood or 100-year frequency flood elevation shall be compensated for and balanced by a hydraulically equivalent volume of excavation taken from below the base flood or 100-year frequency flood elevation. The excavation volume shall be at least equal to 1.5 times the volume of storage lost due to the fill or structure. In the case of streams and watercourses, such excavation shall be made opposite or adjacent to the areas so filled or occupied. All floodplain storage lost below the existing 10-year flood elevation shall be replaced below the proposed 10-year flood elevation. All floodplain storage lost above the existing 10-year flood elevation shall be replaced above the proposed 10-year flood elevation. All such excavations shall be constructed to drain freely and openly to the watercourse. (Ord. 85-0-08)

4-16-9: PERMITTING REQUIREMENTS APPLICABLE TO ALL FLOODPLAIN AREAS:

(A) General: In addition to the requirements found in sections 4-16-6, 4-16-7 and 4-16-8 of this chapter for development in flood fringes, designated floodways, and SFHA or floodplains where no floodways have been identified, the following requirements shall be met:

1. Public health standards.

2. No developments in the SFHA shall include locating or storing chemicals, explosives, buoyant materials, animal wastes, fertilizers, flammable liquids, pollutants, or other hazardous or toxic materials below the flood protection elevation (FPE) unless such materials are stored in a floodproofed and anchored storage tank and certified by a professional engineer or floodproofed building constructed according to the requirements of subsection (C) of this section.

3. Public utilities and facilities such as sewer, gas and electric shall be located and constructed to minimize or eliminate flood damage.

4. Public sanitary sewer systems and water supply systems shall be located and constructed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters.

5. New and replacement water supply systems, wells, sanitary sewer lines and on site waste disposal systems may be permitted providing all manholes or other aboveground openings located below the FPE are watertight.

6. All other activities defined as "development" shall be designed so as not to alter flood flows or increase potential flood damages.
(B) Carrying Capacity And Notification: For all projects involving channel modification, fill, or stream maintenance (including levees), the flood carrying capacity of the watercourse shall be maintained. In addition, the city of Evanston shall notify adjacent communities in writing thirty (30) days prior to the issuance of a permit for the alteration or relocation of the watercourse.

(C) Protecting Buildings: All buildings located within a 100-year floodplain, also known as an SFHA, shall be protected from flood damage below the flood protection elevation. This building protection criteria applies to the following situations:

1. Construction or placement of a new building or alteration or addition to an existing building valued at more than one thousand dollars ($1,000.00) or seventy (70) square feet.

2. Substantial improvements or structural alterations made to an existing building that increase the floor area by more than twenty percent (20%) or equal or exceed the market value by fifty percent (50%). Alteration shall be figured cumulatively subsequent to the adoption date hereof. If substantially improved, the existing structure and the addition must meet the flood protection standards of this section.

3. Repairs made to a substantially damaged building. These repairs shall be figured cumulatively subsequent to the adoption date hereof. If substantially damaged the entire structure must meet the flood protection standards of this section.

4. Installing a manufactured home on a new site or a new manufactured home on an existing site (the building protection requirements do not apply to returning a manufactured home to the same site it lawfully occupied before it was removed to avoid flood damage).

5. Installing a travel trailer or recreational vehicle on a site for more than one hundred eighty (180) days per year; and

6. "Repetitive loss" to an existing "building" (see definitions). This building protection requirement may be met by one of the methods described in subsection (D) of this section.

(D) Methods Of Building Protection: The building protection requirement may be met by one of the following methods:

1. A residential or nonresidential building, when allowed, may be constructed on permanent landfill in accordance with the following:

   a. The lowest floor (including basement) shall be at or above the flood protection elevation; and
b. The fill shall be placed in layers no greater than six inches (6") deep before compaction and should extend at least twenty five feet (25') beyond the foundation of the building before sloping below the flood protection elevation. The top of the fill shall be above the flood protection elevation. However, the twenty five foot (25') minimum may be waived if a structural engineer certifies an alternative method to protect the building from damages due to hydrostatic pressures. The fill shall be protected against erosion and scour during flooding by vegetative cover, riprap or other structural measure. The fill shall be composed of rock or soil and not incorporate debris or refuse materials. The fill shall not adversely affect the flow or surface drainage from or onto neighboring properties, and when necessary, stormwater management techniques such as swales or basins shall be incorporated.

2. A residential or nonresidential building may be elevated in accordance with the following:

a. The building or improvements shall be elevated on crawl space, stilts, piles, walls, or other foundation that is permanently open to floodwaters and not subject to damage by hydrostatic pressures of the base flood or 100-year frequency flood. Designs must either be certified by a licensed professional engineer or architect or the permanent openings, one on each wall, shall be no more than one foot (1') above existing grade, and consist of a minimum of two (2) openings. The openings must have a total net area of not less than one square inch for every one square foot of enclosed area subject to flooding below the base flood elevation; and

b. The foundation and supporting members shall be anchored and aligned in relation to flood flows and adjoining structures so as to minimize exposure to known hydrodynamic forces such as current, waves, ice and floating debris; and

c. All areas below the flood protection elevation shall be constructed of materials resistant to flood damage. The lowest floor (including basement) and all electrical, heating, ventilating, plumbing, and air conditioning equipment and utility meters shall be located at or above the flood protection elevation. Water and sewer pipes, electrical and telephone lines, submersible pumps, and other waterproofed service facilities may be located below the flood protection elevation provided they are waterproofed; and

d. The areas below the flood protection elevation may only be used for the parking of vehicles, building access or storage in an area other than a basement and not later modified or occupied as habitable space; and

e. In lieu of the above criteria, the design methods to comply with these requirements may be certified by a licensed professional engineer or architect; and
f. Manufactured homes, and travel trailers to be installed on a site for more than one hundred eighty (180) days, shall be elevated to or above the flood protection elevation; and, shall be anchored to resist flotation, collapse, or lateral movement by being tied down in accordance with the rules and regulations for the Illinois mobile home tie-down act issued pursuant to 77 Illinois administrative code part 870. In addition, all manufactured homes shall meet the following elevation requirements:

(1) In the case of manufactured homes placed or substantially improved: a) outside of a manufactured home park or subdivision, b) in a new manufactured home park or subdivision, c) in an expansion to an existing manufactured home park or subdivision, or d) in an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage from a flood, the top of the lowest floor shall be elevated to or above the flood protection elevation.

(2) In the case of manufactured homes placed or substantially improved in an existing manufactured home park or subdivision, the manufactured home shall be elevated so that either the top of the lowest floor is above the base flood elevation or the chassis is at least thirty six inches (36") in height above grade and supported by reinforced piers or other foundations of equivalent strength, whichever is less.

g. Recreational vehicles or travel trailers shall be required to meet the elevation and anchoring requirements of the subsection above unless:

(1) They are on site for fewer than one hundred eighty (180) consecutive days; and

(2) They are fully licensed, ready for highway use, and used only for recreation, camping, travel or seasonal use rather than as a permanent dwelling. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utility and service devices, and has no permanently attached additions.

3. Only a nonresidential building may be structurally dry floodproofed (in lieu of elevation) provided that a licensed professional engineer or architect shall certify that the building has been structurally dry floodproofed below the flood protection elevation, the structure and attendant utility facilities are watertight and capable of resisting the effects of the base flood or 100-year frequency flood. The building design shall take into account flood velocities, duration, rate of rise, hydrostatic and hydrodynamic forces, the effects of buoyancy, and impacts from debris or ice. Floodproofing measures shall be operable without human intervention and without an outside source of electricity (levees, berms, floodwalls and similar works are not considered floodproofing for the purpose of this subsection).
4. A building may be constructed with a crawl space located below the flood protection elevation provided that the building must be designed and adequately anchored to resist flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy. Any enclosed area below the flood protection elevation shall have openings that equalize hydrostatic pressures by allowing for the automatic entry and exit of floodwaters. A minimum of one opening on each wall having a total net area of not less than one square inch per one square foot of enclosed area. The openings shall be no more than one foot (1') above grade. The interior grade of the crawl space below the flood protection elevation must not be more than two feet (2') below the lowest adjacent exterior grade. The interior height of the crawl space measured from the interior grade of the crawl space to the top of the foundation wall must not exceed four feet (4') at any point. An adequate drainage system must be installed to remove floodwaters from the interior area of the crawl space within a reasonable period of time after a flood event. Portions of the building below the flood protection elevation must be constructed with materials resistant to flood damage. Utility systems within the crawl space must be elevated above the flood protection elevation.

5. Construction of new or substantially improved critical facilities shall be located outside the limits of the floodplain. Construction of new critical facilities shall be permissible within the floodplain if no feasible alternative site is available. Critical facilities constructed within the SFHA shall have the lowest floor (including basement) elevated or structurally dry floodproofed to the 500-year flood frequency elevation or three feet (3') above the level of the 100-year flood frequency elevation whichever is greater. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base flood elevation shall be provided to all critical facilities.

6. Toolsheds, detached garages, and other minor accessory structures on an existing single-family platted lot, may be constructed with the lowest floor below the flood protection elevation in accordance with the following:

   a. The building is not used for human habitation; and

   b. All areas below the base flood or 100-year frequency flood elevation shall be constructed with waterproof material. Structures located in a designated floodway shall be constructed and placed on a building site so as not to block the flow of floodwaters and shall also meet the appropriate use criteria of section 4-16-7 of this chapter. In addition, all other requirements of sections 4-16-6, 4-16-7 and 4-16-8 of this chapter must be met; and

   c. The structure shall be anchored to prevent flotation; and

   d. Service facilities such as electrical and heating equipment shall be elevated or floodproofed to the flood protection elevation; and
e. The building shall be valued at less than ten thousand dollars ($10,000.00) and be less than five hundred (500) square feet in floor size; and

f. The building shall be used only for the storage of vehicles or tools and may not contain other rooms, workshops, greenhouses or similar uses and cannot be modified later into another use; and

g. The building shall meet the permanent opening criteria of this section;

h. All flammable or toxic materials (gasoline, paint, insecticides, fertilizers, etc.) shall be stored above the flood protection elevation; and

i. The lowest floor elevation should be documented and the owner advised of the flood insurance implications.

7. Existing buildings located within a designated floodway shall also meet the more restrictive appropriate use standards included in section 4-16-7 of this chapter. Nonconforming structures located in a designated floodway may remain in use and may only be enlarged, replaced or structurally altered in accordance with subsection 4-16-7(C) of this chapter. A nonconforming structure damaged by flood, fire, wind or other natural or manmade disaster may be restored unless the damage exceeds fifty percent (50%) of its market value before it was damaged, in which case it shall conform to this chapter. (Ord. 85-0-08)

4-16-10: OTHER DEVELOPMENT REQUIREMENTS:

The city council shall take into account flood hazards, to the extent that they are known in all official actions related to land management, use and development.

(A) New subdivisions, manufactured home parks, annexation agreements, and planned unit developments (PUDs) within the SFHA shall be reviewed to assure that the proposed developments are consistent with sections 4-16-6, 4-16-7, 4-16-8 and 4-16-9 of this chapter and the need to minimize flood damage. Plats or plans for new subdivisions, mobile home parks and planned unit developments (PUDs) shall include a signed statement by a licensed professional engineer that the plat or plans account for changes in the drainage of surface waters in accordance with the plat act 3.

(B) Proposals for new subdivisions, manufactured home parks, travel trailer parks, planned unit developments (PUDs) and additions to manufactured home parks and additions to subdivisions shall include base flood or 100-year frequency flood elevation data and floodway delineations. Where this information is not available from an existing adopted study, the applicant's engineer shall be responsible for calculating the base flood or 100-year frequency flood elevation per subsection 4-16-5(D) of this chapter and the floodway delineation per the definition of "designated floodway".
(C) Streets, blocks, lots, parks and other public grounds shall be located and laid out in such a manner as to preserve and utilize natural streams and channels. Wherever possible, the floodplains shall be included within parks or other public grounds.

(D) The city council shall not approve any planned unit development (PUD) or plat of subdivision located outside the corporate limits unless such agreement or plat is in accordance with the provisions of this chapter.

(E) All development shall be set back from the centerline of any stream or channel or at least the distance required to prevent encroachment of the floodway widths. Floodway easements shall be provided which will permit necessary channel maintenance and improvement work.

(F) All other activities defined as "development" shall be designed so as not to alter flood flows or increase potential flood damages.

(G) The elevation of the crown of any new street or the low point of any new exterior parking areas constructed within or adjacent to the SFHA shall be not less than one foot (1') above the base flood elevation for the area. The design of such facilities shall be such that the normal direction of course of drainage or runoff throughout the area is not altered.

(H) All new developments shall have:

1. The proposed site of the structure filled so that the elevation of the top of the foundation or lowest point of water entry for the structure is at the FPE.

2. Basements, cellars or crawl spaces made of concrete, structurally adequate, poured in place with no openings below FPE except for openings for utilities which shall be sealed, floodproofed and made watertight in a manner acceptable to the community development director.

3. A door sill, window sill or the base of any other opening in the outer walls of a structure or any gravity connected sewer opening constructed at an elevation not lower than the FPE, except at the point of access for an interior truck dock which must be at least one and one-half feet (1 1/2') above the base flood elevation.

4. All structures floodproofed, watertight and designed to prevent sewer backup and ground water seepage according to standards approved by the community development director.

5. The elevation of the ground for a minimum distance of twenty five feet (25') immediately surrounding any building or structure erected or moved within or adjacent to an SFHA at an elevation which is not less than one foot (1') above the base flood elevation and no portion of the lot or parcel below the base flood elevation. (Ord. 85-0-08)
4-16-11: VARIANCES:

(A) General: No variances shall be granted to any development located in a "designated floodway" as defined in section 4-16-2 of this chapter. However, when a development proposal is located outside of a designated floodway, and when the standards of this chapter place undue hardship on a specific development proposal, the applicant may apply for a variance. Upon proper application and after fifteen (15) days' notice of public hearing, the community development director and city engineer shall review the applicant's request for a variance and shall submit the staff recommendation to the city council. The city council may attach such conditions to granting of a variance, as it deems necessary to further the intent of this chapter.

(B) Requirements: No variance shall be granted unless the applicant demonstrates that all of the following conditions are met:

1. The development activity cannot be located outside the SFHA; and

2. An exceptional hardship would result if the variance were not granted; and

3. The relief requested is the minimum necessary; and

4. There will be no additional threat to public health, safety, beneficial stream uses and functions, especially aquatic habitat, or creation of a nuisance; and

5. There will be no additional public expense for flood protection, lost environmental stream uses and functions, rescue or relief operations, policing, or repairs to streambeds and banks, roads, utilities, or other public facilities; and

6. The provisions of sections 4-16-6 and 4-16-8 of this chapter shall still be met; and

7. The activity is not in a designated floodway; and

8. The applicant's circumstances are unique and do not establish a pattern inconsistent with the intent of the NFIP; and

9. The granting of the variance will not alter the essential character of the area involved including existing stream uses; and

10. All other required state and federal permits or waivers have been obtained.

(C) Notice: The community development director shall notify an applicant in writing that a variance from the requirements of section 4-16-9 of this chapter that would lessen the degree of protection to a building will:
1. Result in increased premium rates for flood insurance up to amounts as high as twenty five dollars ($25.00) per one hundred dollars ($100.00) of insurance coverage; and

2. Increase the risks to life and property; and

3. Require that the applicant proceed with knowledge of these risks and that the applicant will acknowledge in writing the assumption of the risk and liability.

(D) Historic Sites: Variances requested in connection with restoration of a historic site or "historic structure" as defined in section 4-16-2 of this chapter, may be granted using criteria more permissive than the requirements of subsection (B) of this section, subject to the conditions that the repair or rehabilitation is the minimum necessary to preserve the historic character and design of the structure and the repair or rehabilitation will not result in the structure being removed as a certified historic structure. (Ord. 85-0-08)

4-16-12: DISCLAIMER OF LIABILITY:

(A) The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on available information derived from engineering and scientific methods of study.

(B) Larger floods may occur or flood heights may be increased by manmade or natural causes.

(C) This chapter does not imply that development, either inside or outside of the SFHA, will be free from flooding or damage.

(D) This chapter does not create liability on the part of the city of Evanston or any officer or employee thereof for any flood damage that results from reliance on this chapter or any administrative decision made lawfully thereunder. (Ord. 85-0-08)
CHAPTER 8
RESIDENTIAL DISTRICTS

6-8-2-10: IMPERVIOUS SURFACE:

(A) The maximum impervious surface ratio for the R1 district is forty five percent (45%).

(B) The impervious surface ratio is calculated by dividing the total defined net impervious surfaces on the zoning lot by the area of the zoning lot.

(C) The total defined net impervious surfaces on the zoning lot are all areas included in building lot coverage plus any hard surfaced, nonnaturally occurring area that does not readily absorb water, including, but not limited to, any paved, asphalt or concrete areas, parking and driveway areas, graveled areas, swimming pools, sidewalks, and paved recreation areas subject to the following exemptions:

1. Any area, including open parking, paved or unpaved, included in the calculation of building lot coverage, shall not be counted twice in the calculation of total defined net impervious surface.

2. Subject to the porch exemption of section 6-8-2-11 of this chapter, the following standards govern the classification of structures commonly called porches, decks, platforms and terraces as impervious surface or pervious surface:

   (a) All such structures to the extent that they are covered by a solid roof are impervious surfaces, but

   (b) All such structures to the extent that they are open to the sky or covered by a trellis or arbor type covering are pervious or impervious subject to subsections (C)2(c) through (C)2(f) of this section.

   (c) All such structures to the extent that they cover asphalt or concrete or similarly treated areas having virtually no porosity are impervious surfaces, but

   (d) All such structures to the extent that they cover an area that maintains a demonstrable level of porosity whether soil, sand, gravel, or similar material, regardless of whether such an area is finished with paving blocks, are pervious or impervious subject to subsections (C)2(a), (C)2(b), (C)2(e) and (C)2(f) of this section.

   (e) All such structures to the extent that they are designed to shed water rather than allow water to fall between individual planks, slats, or other type of flooring, are impervious surfaces, but
(f) All such structures to the extent that they are designed to allow water to fall between individual planks, slats, or other type of flooring are pervious or impervious subject to subsections (C)2(a) through (C)2(d) of this section.

3. Twenty percent (20%) of areas covered by paving blocks and/or pervious paving systems to the extent that they cover an area that maintains a demonstrable level of porosity whether soil, sand, gravel, or similar material shall be excluded from the calculation of net impervious surfaces.

(D) Driveways or walkways legally existing as of the effective date hereof may be replaced or repaired, provided that the replacing or the repairing is in the same or lesser dimensions as existed on the effective date hereof. (Ord. 112-0-03)
CHAPTER 4
GENERAL PROVISIONS

CHAPTER 17
SITE PLAN AND APPEARANCE REVIEW

4-17-6: EVALUATION CRITERIA:

The goals and objectives of the Comprehensive General Plan or other applicable Evanston planning and design documents shall be utilized in the review of proposed site and building plans. In addition, the following criteria shall also be used to determine whether a proposed site and building plan fulfills the objectives of this Chapter.

(A) Building And Structure Location: The arrangement of the structures on the site shall allow for the effective use of the proposed development. Furthermore, such arrangement shall be compatible with development on adjacent property. Also, the arrangement of structures on the site shall be evaluated for their potential impact on the provision of the Municipal services, such as access for emergency equipment.

(B) Building Design And Appearance: The appearance of buildings shall be designed to respect the attributes of adjacent and surrounding development (and any existing on site buildings proposed to remain), and to reduce any adverse impacts caused by differing architectural styles, while maintaining and promoting the city's diverse architectural fabric. Architectural style, massing, scale, proportion, window fenestration, rhythm of design elements, color palette and building materials shall be considered in determining compliance with this objective. Fulfillment of this objective shall be nonbinding on the applicant.

(C) Landscaping: Landscape design shall create a logical transition to adjoining development, screen incompatible uses, and minimize the visual impact of parking lots on adjacent sites and roadways. Plant materials shall be selected so as to withstand Evanston's climate and the microclimate on the property. Plant materials shall be selected with the advice of city staff.

(D) Graphics And Signage: Signs shall be minimized in number and size, and integrated with architectural and site landscape features. Placement of signs shall not unduly obscure or interfere with sight lines to other properties.

(E) Circulation: All circulation systems shall provide adequate and safe access to the site and be compatible with the public circulation systems to minimize dangerous traffic
movements. Pedestrian and auto circulation shall be separated, insofar as is practicable. Curb cuts on the site shall be minimized.

(F) Parking Areas And Lots: Proposed parking areas or lots shall be designed, located, and screened to minimize adverse visual impact on adjacent properties. Perimeter parking lot screening shall be provided. Interior parking lot landscaping is also required where practicable to break up large areas of parking with plant material. Parking lot drainage shall not adversely affect surrounding properties.

(G) Open Space: Where practicable, open space on the site shall create a desirable and functional environment for patrons, pedestrians and occupants.

(H) Site Illumination: Site illumination shall be designed, located and installed so as to minimize adverse impact on adjacent properties.

(I) Preservation: Preservation of unique architectural resources is encouraged. Development designs that respect desirable architectural resources on surrounding sites are also encouraged.

(J) Completeness: The application for site plan and appearance review must contain all the information required in section 4-17-4 of this chapter.

(K) Compliance With All Other Applicable Codes: These may include, but are not limited to, the following:

1. The Evanston zoning ordinance.

2. The adopted building codes.

3. This code. (Ord. 31-0-93)
Title 7
PUBLIC WAYS

CHAPTER 2
STREETS, SIDEWALKS AND PUBLIC WAYS

7-2-1: CITY DATUM ESTABLISHED:

The base or datum for City levels shall be, and the same is hereby established at the plane of low mark of Lake Michigan, in the year 1847, as determined by the trustee of the Illinois and Michigan Canal. All grades now or hereafter fixed shall have reference to the base or datum planes herein established. (1957 Code, secs. 42-1, 42-2)

7-2-5-9: TEMPORARY ROOFS; ELEVATED SIDEWALKS:

(A) Maintenance Of Temporary Roof Over Sidewalks: When buildings are erected to a height greater than four (4) stories and such buildings are near the street line, there shall be built over the adjoining sidewalk a roof having a framework composed of supports and stringers of three inch by twelve inch (3” x 12”) timbers not more than four feet (4’) from center to center, covered by two (2) layers of two inch (2”) plank and a watertight roof so as to prevent dripping. When additional stories are added to an existing building and such building is located near the street line, there shall be built over the sidewalk at the point where the new stories commence, a scaffold not less than six feet (6’) wide, which shall form a covering over the sidewalk composed of a framework of stringers and supports, covered with two (2) layers of two inch (2") planks and a watertight roof so as to prevent dripping. Such framework and covering shall be of such construction and design as shall be satisfactory to the director of public works. Such roof shall be maintained as long as material is being used or handled on such street front above the level of the sidewalk. Temporary sidewalks, their railings, approaches and roofs over same shall be made with regard to ease of approach, strength and safety to the satisfaction of the director of public works. (1957 Code, sec. 42-123)

(B) Extension Of Temporary Enclosures: Temporary enclosures of building fronts, during their construction or repair, may extend over the lot line five feet (5’) for their entire height subject to all ordinance requirements, and on the approval of the director of public works. (1957 Code, sec. 42-125)

(C) Elevated Sidewalks: It shall be lawful, under specific provisions of a street occupation permit and for the purposes of delivering material to the basement of a building in process of erection, to erect elevated temporary sidewalks to a height not exceeding four feet (4”) above the curb level of the street. In case a sidewalk is so elevated it shall be provided with good substantial steps or easy inclines on both
ends of the same, and shall have substantial railings on both sides thereof. (1957 Code, sec. 42-127)

(D) Permission To Place Advertisements On Covered Way Or Barricades Limited To Owner Or Contractor: No notices or signs, or advertising of any kind shall be placed upon any covered way, fencing or barricade other than those of the owner, tenant or occupant on the premises, or the contractor engaged in the construction of the building, in front of which such covered way, fence or barricade is located, and these only in such form and style as may be approved by the director of public works. (1957 Code, sec. 42-126)

7-2-9-4: OBSTRUCTING FLOW OF WATER:

It shall be unlawful for any person to stop or obstruct the passage of water in any street, gutter or public sewer, culvert, water pipe or hydrant. (1957 Code, sec. 42-6)

7-3-2-2: WIDTH AND SLOPE:

Unless otherwise specified by special ordinance, all sidewalks constructed in any street, alley, park or place in the City shall be of the width of five and one-third feet (5 1/3'), and with a slope of three-eighths of an inch (3/8") to the foot towards the center of the street on which they are laid; provided, that unless otherwise ordered by the City Council, sidewalks constructed by owners or occupants of lots or parcels of land abutting thereon may be laid of such width, not less than five and one-third feet (5 1/3'), as the Director of Public Works shall direct. (1957 Code, sec. 42-47)

7-3-2-3: ALIGNMENT; DETOURS AROUND TREES:

All sidewalks, unless otherwise provided by ordinance, shall be constructed in public streets with the edge farthest from the center line of the street parallel to and twenty inches (20") from the boundary line of the street; except that curved detours in the alignment of the sidewalk may be permitted in passing by or around any sound, shapely tree, exceeding ten inches (10") in diameter and of a variety permitted to be planted in the parkways of the City, for the purpose of preserving any such tree from injury or destruction. Such detour shall not exceed twenty inches (20") if made toward the lot line, nor six feet (6') if made toward the center line of the street. (1957 Code, sec. 42-48)

7-3-2-4: GRADES GENERALLY:

Unless otherwise established by special ordinance, the grade for new sidewalks shall be that fixed by the Director of Public Works, from time to time, but in no case shall such grade be less than six inches (6") above the established grade on the top of the curb, except where the sidewalk touches the curb. It shall be the duty of the Director of Public Works, when any new sidewalk is ordered to be laid, to furnish such grade to owners of property desiring to build their portions of such sidewalks, upon their application to him. (1957 Code, sec. 42-49)
7-3-2-5: PRIVATE USE GENERALLY; CONSTRUCTION TO BE FLUSH WITH BUILDING:

No part of any sidewalk shall be taken for private use by lowering or cutting down the same next to the building, or railing off the same by any wooden or iron railing, or by shutting off the public passing along and over the same, and such sidewalk shall not be raised up next to the building by constructing a platform on the same, of either wood, iron, concrete or stone, but such sidewalk shall be built flush up to the building on a uniform grade as provided in this Section. (1957 Code, sec. 42-55)
CHAPTER 6
PLUMBING CODE

4-6-3: ADDITIONAL REQUIREMENTS:

The following are requirements additional to the 2003 international plumbing code:

(A) Existing Plumbing: Where a health or safety hazard exists on a premises by reason of an existing plumbing installation, or lack thereof, the owner's agent shall install additional plumbing or make such corrections as are necessary to abate such nuisance and bring the plumbing installation within the provisions of this code. Plumbing fixtures not maintained shall be disconnected, removed, and sealed.

(B) Safety: Any part of a structure or premises which is changed, altered, or for which replacement is required as a result of the installation, alteration, renovation, or replacement of a plumbing system, or any part thereof, shall be left in a safe, nonhazardous condition. All penetrations through fire rated construction shall be fire stopped with a through penetration protection system approved by the building official.

(C) Installation: All plumbing installed within the city of Evanston shall be installed in accordance with the 2003 international plumbing code. If required by the code official, an approved backflow prevention device is necessary for the safety of the public water supply system, the superintendent of water will give notice to the property owner or person in charge (collectively, "property owner") of the building structure or premises to install such an approved device immediately. The property owner shall, at his own expense, immediately install such an approved device at a location and in a manner in accordance with the 2003 international plumbing code; state of Illinois plumbing code; Illinois environmental agency rules and regulations, title 35: environmental protection, subtitle F: public water supply, chapter I: pollution control board, part 607: operation and record keeping, section 607.104: cross connections; and all applicable local regulations, and shall have inspections and tests made of such approved devices upon installation and annually thereafter, at a minimum. The property owner shall maintain records to document that testing, servicing, and repairs are conducted as required.

(D) Right Of Entry: A city inspector, who shall be a licensed plumber, shall have the right to enter at any reasonable time any property served by a connection to the public water supply or distribution system of the city for the purpose of verifying information submitted by the property owner or person in charge of the building, structure, or premises regarding the required cross connection control inspection. On demand, the property owner or person in charge of the building, structure, or premises so served shall furnish to the code official, his authorized agent, or approved cross connection control device inspector any information which these individuals may request regarding the piping system or systems or water use on such property. The code official or his authorized agents shall have a right to enter at any reasonable
time any property served by a connection to the public water supply or distribution
system of the city for the purpose of verifying information submitted by the property
owner or person in charge of the building, structure, or premises regarding the
required cross connection inspection.

(E) Contamination: The occupant or property owner of the building, structure, or
premises responsible for back siphoned material or contamination of the potable
water supply system which occurs through an illegal cross connection or an
improperly installed, maintained, or repaired device, or a device which has been
bypassed, must bear the cost of cleanup of the potable water supply system. Said
costs to include, but not be limited to, overhead and administrative costs of the city
and any other costs reasonably incurred by the city in the cleanup.

(F) Discharge To Sanitary Drainage System: Every plumbing fixture, drain, appliance, or
appurtenance thereof which is to receive water or waste, or discharge any liquid
wastes or sewage, shall discharge to the sanitary drainage system of the structure in
accordance with the requirements of this chapter.

(G) Automatic Clothes Washing Machine Floor Drains: A pan or receptor with a drain, or
an impervious floor with a floor drain, shall be required for all automatic clothes
washing machines in multi-family and commercial occupancies. Also, a pan or
receptor with a drain, or an impervious floor with a floor drain, shall be required for
all water heaters.

(H) Underground Piping: Piping installed in underground plumbing systems shall be
protected from structural damage by an approved method of installation which
accounts for the conditions of the installation and application and the type of piping
material. In new construction, all plumbing shall be overhead.

(I) Sillcocks: All buildings have a minimum of two (2) frostproof antisiphon type sillcocks.

(J) Public Toilet Room Drains: All public toilet rooms, including employee facilities, shall
be graded into floor drains.

(K) Unmaintained Plumbing Fixtures: All plumbing fixtures not maintained shall be
disconnected, removed, and sealed.

(L) Corrosion: Pipes subject to corrosion by passing through or under corrosive fill
including, but not limited to, cinders, concrete or other corrosive material, shall be
protected against external corrosion by a protective coating, wrapping, or other
means that will resist such corrosion. All copper pipe shall be adequately protected
against galvanic action by proper insulation against contact with other metals.

(M) Freezing: Water service piping shall be installed below recorded frost penetration,
but not less than five feet zero inches (5’0”) below grade. Plumbing piping in any
exterior building walls or in any areas subjected to freezing temperatures shall be protected against freezing by insulation or heat or both.

(N) Sewer Depth: Building sewers shall be a minimum of four feet zero inches (4'0") below grade.

(O) Water Service Pipe: All water service pipe or underground distribution pipe to be ductile iron, cast iron, or type K copper tube.

(P) Water Distribution Pipe: All water distribution pipe is to be metallic. Nonmetallic pipe is prohibited. Copper pipe must be type L or type M.

(Q) Building Sewer Pipe: Building sewer pipe, in a separate trench from the water service, shall be limited to cast iron, concrete, vitrified clay tile, plastic pipe (type SDR 26 only), or ductile iron pipe. The building (house) drain is to be cast iron with rubber gasket joints or lead and oakum joints, or in cases of corrosive waste or soil conditions, use polypropylene pipe (PVC) or polyvinyl chloride pipe and fittings, for a minimum distance of five feet zero inches (5'0") from the foundation (building) wall.

(R) Building Sewer Pipe In Trench With Water Service: Where the building sewer is installed in the same trench as the water service, the building sewer pipe shall conform to one of the standards for cast iron pipe, copper, or copper alloy tubing, or PVC plastic pipe listed in section 890, appendix A, table A, of the state of Illinois plumbing code. No cell core plastic pipe shall be permitted.

(S) Subsoil Drain Pipe: Subsoil drains shall be open jointed, horizontally split or perforated pipe. Footing drains to be connected to the sump pump as discharge shall be made to storm or combination sewers, and not to sanitary sewers. All window wells require drains. The drains shall be connected to drain tile, and drain into sump.

(T) Roof Drains: Roof Drains shall conform to ASME A112.21.2. Buildings in R1, R2 and R3 zoning districts, and all one- and two-family dwelling units shall drain roof stormwater by gutters and downspouts to the front and rear of the property in a manner which will not disturb adjoining property. No connections to the combined sewer shall be made in the above zoning districts. All roofs of buildings not mentioned above may drain directly in the storm sewer system.

(U) Car Wash Facilities: New car wash facilities or replacement of existing facilities shall be equipped with water recycling systems, unless designed to use thirty (30) gallons or less of water per wash.

(V) Reduced Pressure Principle Backflow Preventers: Reduced pressure principle backflow preventers shall conform to ASSE 1013, AWWA C511 or CSA CAN/CSA-B64.4. These devices shall be allowed where subject to continuous pressure conditions. The relief opening shall discharge by air gap and shall be prevented from
being submerged. All domestic and fire suppression water systems located within one thousand seven hundred feet (1,700') of a nonpotable water source and all fire safety systems that contain such additives as antifreeze shall be equipped with a reduced pressure principle backflow preventer (RPZ). (Ord. 28-0-05)
CHAPTER 17
SITE PLAN AND APPEARANCE REVIEW

4-17-1: STATEMENT OF PURPOSE:

(A) Objective: Site plan and appearance review is a procedure for the review of proposed developments or redevelopments to ensure they are compatible with adjacent development by taking into account the relationship of the new development to its surroundings.

(B) Address Details Not Covered: The purpose of site plan and appearance review is to go beyond the basic zoning requirements and to deal with the site details on which zoning and other codes are silent. Site plan and appearance review is not a substitute for zoning.

(C) Elements Examined: In carrying out the purpose of site plan and appearance review, the following are examples of elements which are examined:

1. Parking arrangement.
2. Circulation.
3. Traffic access.
4. Building location on the site.
5. Landscaping.
7. Drainage.
8. Exterior building design and materials.

(D) Authority Limited: Site plan and appearance review does not have any authority to determine land use.

(E) Result Of Review Process: In addition to upgrading site development planning, the city hopes to create a process which will expedite the review of development proposals through providing a coordinated staff review. (Ord. 31-0-93)

4-17-4: SUBMISSION REQUIREMENTS AND PROCEDURES:

(A) Submission Requirements And Procedures: Applications for site plan and appearance review approval for uses other than sidewalk cafes in connection with
Type II Restaurants shall be submitted to the City Manager, or his designee, as follows:

1. Preliminary Site Plan And Appearance Review Application: Three (3) copies of a preliminary site plan, current plat of survey and preliminary elevation drawings.

2. Final Site Plan And Appearance Review Application: A zoning analysis of the proposed development is required prior to final site plan and appearance review. Four (4) copies of the following exhibits shall be prepared by design professionals such as architects or engineers. The final site and building plan shall contain the following:

   a. Existing and proposed development on the site and adjacent sites.

   b. Elevation drawings of all proposed buildings.

   c. Actual building material samples and manufacturer's product information representing accurate color, texture, pattern, finish and range of variations of all exterior building materials proposed.

   d. Parking plans and access drives including dimensions, stall markings, required screening, landscaping and surfacing.

   e. Lighting plan identifying the location, height and type of all site, sign and exterior building illumination proposed.

   f. Landscape development plan including plant names, quantities, locations and sizes of major plant masses, and locations of all existing trees with a trunk diameter in excess of four inches (4").

   g. Signage plan identifying the location, height, type, size, color and proposed message of all exterior signage proposed, consistent with all other signage regulations.

   h. Sidewalks and any other elements of pedestrian circulation.

   i. Major accessory elements including, but not limited to, signage, outdoor furniture, bike racks, outdoor art, etc.

   j. Any proposed improvements on the public right of way which the developer may be required to make as part of the site improvements, such as parkway trees, public sidewalks, adjacent alley surfacing, driveway removal and curb and gutter replacement.

   k. A current plat of survey.
I. A completed zoning analysis on the proposed project.

m. Other materials and data which may be required for an adequate plan review (such as, but not limited to: traffic studies, preliminary engineering and drainage plans, preliminary utility locations, floor plans, etc.).

n. All site plans submitted for final approval shall be accompanied by a plat of survey showing that the property for the proposed development consists of, and is coterminous with, a single lot described in a recorded plat of subdivision, or a preliminary proposed resubdivision or consolidation to create such a single lot.

(B) Type II Restaurant Sidewalk Cafe Submission Requirements: In the case of Type II Restaurant sidewalk cafes, the applicant shall submit the information set forth in subsection 7-2-6(D)3 of this Code.

(C) Review Conference: The developer or his representative shall be present at the final site plan and appearance review conference to explain the project and to answer any questions thereon. (Ord. 47-0-96)

4-17-6: EVALUATION CRITERIA:

The goals and objectives of the Comprehensive General Plan or other applicable Evanston planning and design documents shall be utilized in the review of proposed site and building plans. In addition, the following criteria shall also be used to determine whether a proposed site and building plan fulfills the objectives of this Chapter.

(A) Building And Structure Location: The arrangement of the structures on the site shall allow for the effective use of the proposed development. Furthermore, such arrangement shall be compatible with development on adjacent property. Also, the arrangement of structures on the site shall be evaluated for their potential impact on the provision of the Municipal services, such as access for emergency equipment.

(B) Building Design And Appearance: The appearance of buildings shall be designed to respect the attributes of adjacent and surrounding development (and any existing on site buildings proposed to remain), and to reduce any adverse impacts caused by differing architectural styles, while maintaining and promoting the city's diverse architectural fabric. Architectural style, massing, scale, proportion, window fenestration, rhythm of design elements, color palette and building materials shall be considered in determining compliance with this objective. Fulfillment of this objective shall be nonbinding on the applicant.

(C) Landscaping: Landscape design shall create a logical transition to adjoining development, screen incompatible uses, and minimize the visual impact of parking lots on adjacent sites and roadways. Plant materials shall be selected so as to withstand Evanston's climate and the microclimate on the property. Plant materials shall be selected with the advice of city staff.
(D) Graphics And Signage: Signs shall be minimized in number and size, and integrated with architectural and site landscape features. Placement of signs shall not unduly obscure or interfere with sight lines to other properties.

(E) Circulation: All circulation systems shall provide adequate and safe access to the site and be compatible with the public circulation systems to minimize dangerous traffic movements. Pedestrian and auto circulation shall be separated, insofar as is practicable. Curb cuts on the site shall be minimized.

(F) Parking Areas And Lots: Proposed parking areas or lots shall be designed, located, and screened to minimize adverse visual impact on adjacent properties. Perimeter parking lot screening shall be provided. Interior parking lot landscaping is also required where practicable to break up large areas of parking with plant material. Parking lot drainage shall not adversely affect surrounding properties.

(G) Open Space: Where practicable, open space on the site shall create a desirable and functional environment for patrons, pedestrians and occupants.

(H) Site Illumination: Site illumination shall be designed, located and installed so as to minimize adverse impact on adjacent properties.

(I) Preservation: Preservation of unique architectural resources is encouraged. Development designs that respect desirable architectural resources on surrounding sites are also encouraged.

(J) Completeness: The application for site plan and appearance review must contain all the information required in section 4-17-4 of this chapter.

(K) Compliance With All Other Applicable Codes: These may include, but are not limited to, the following:

1. The Evanston zoning ordinance.

2. The adopted building codes.

3. This code. (Ord. 31-0-93)
Executive Summary
This document describes the updates to the Evanston City Code to remove potential conflict with the Evanston Climate Action Plan (ECAP). The change and additions are to definitions to reflect updates in technology, approach. This document includes updates to:

- Solar Collector definition update
- Geothermal: add definition
- Coin Operated and Amusement Devices definition
- Coal Burning – remove allowances
- Update Refuse Disposal by Burning. Further study is needed to allow for the introduction of biomass energy devices and facilities.
- Reconstruction definition – separate document
- Update definition of ‘Weeds’ to promote use of native plants

Other changes were considered for better compliance with the ECAP, but not included in this package. Examples include the definitions of:

- Junk (3-15-1) – unable to find a better definition that encourages recycling and reuse.
- Alcohol (3-5-1) – unable to find a better definition that also encourages the use of alternative fuels such as alcohol.
- Automatic Dry Cleaning Machines (3-8-10-2) unable to find an current example of a definition such that green practices are encouraged.
- Christmas Tree Sales (3-24-1). Ordinance allows for licensing of sellers of Christmas trees, but does not enforce recycling. Currently, recycling of Christmas tress is a policy, not an ordinance.
- Plumbing Code (4-6-x): no provisions for grey water handling, etc. This is a complicated topic that should be handled separately from this document.
- Electrical Code (4-7,8-x) Work should be undertaken to keep the code current to handle emerging smart grid technology and other conservation devices. The ICC is already addressing this topic.
- Wind Turbines. There is nothing in the City code to restrict or encourage installation of wind turbines, including small turbines that can be mounted on the top of light poles and residential roofs. However, the need to develop code that allows sensible use, while preventing installation of overly large turbines is a complex subject and will be handled separately.
- Impervious Surfaces (used in multiple places in Title 6). There are now pervious paving materials that should be encouraged. However, the use of this new material should be pushed via policy and practice by the City, not via code.
# Proposed Changes to Evanston City Code to Update Special Regulations Applicable to Solar Collectors

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-4-6-8: SPECIAL REGULATIONS APPLICABLE TO SOLAR COLLECTORS:</td>
<td>Delete all (B)</td>
<td>Delete color and matching requirement. Trend for white or light grey shingles to help with cooling in the summer will conflict with usual black or dark grey of solar panels and collectors</td>
</tr>
<tr>
<td>(A)Purpose And Applicability: The purpose of this section is to ensure that solar collectors, whether accessory to principal uses, or integrated with principal uses, are compatible in character and appearance with the principal structure and surrounding neighborhood or area of the zoning districts in which they are located. The provisions of this section apply to solar collectors installed or modified after the effective date hereof. Solar collectors are permitted as an accessory use to any principal permitted or special use subject to the following development standards.</td>
<td>Delete color and matching requirement. Trend for white or light grey shingles to help with cooling in the summer will conflict with usual black or dark grey of solar panels and collectors</td>
<td>Delete (B1) material composition will vary depending on technology and manufacturing techniques and installation methods Delete (B2). Physically integrated roofing products are now available and resemble roof shingles or tiles and are installed along with standard roof shingles or tiles so that they blend into the overall appearance of the roof.</td>
</tr>
<tr>
<td><strong>(B)Appearance And Materials:</strong> Solar collectors should be neutral in color and generally matching the roof color of the principal structure. All such devices shall have the following characteristics: 1. Not be plastic or other non-UV stable material; 2. Include frames, where applicable, of anodized aluminum or painted steel; and 3. Where devices are encased with glass, the glass shall be nonreflective tempered glass.</td>
<td>Delete color and matching requirement. Trend for white or light grey shingles to help with cooling in the summer will conflict with usual black or dark grey of solar panels and collectors</td>
<td>Delete (B1) material composition will vary depending on technology and manufacturing techniques and installation methods Delete (B2). Physically integrated roofing products are now available and resemble roof shingles or tiles and are installed along with standard roof shingles or tiles so that they blend into the overall appearance of the roof.</td>
</tr>
<tr>
<td><strong>(C)Yards:</strong> Solar collectors shall be subject to the following yard requirements: 1. Solar collectors are an allowed encroachment in front, side, and rear yards so long as they do not project more than five feet (5’) from an exterior wall. 2. Solar collectors may be located flush with the exterior wall of the principal and street facing facades. 3. In side wall installations, solar collectors must be set back a minimum of three feet (3’) from the property line. 4. In rear wall installations, solar collectors must be set back a minimum of three feet (3’) from the rear property line.</td>
<td>Delete color and matching requirement. Trend for white or light grey shingles to help with cooling in the summer will conflict with usual black or dark grey of solar panels and collectors</td>
<td>Delete (B1) material composition will vary depending on technology and manufacturing techniques and installation methods Delete (B2). Physically integrated roofing products are now available and resemble roof shingles or tiles and are installed along with standard roof shingles or tiles so that they blend into the overall appearance of the roof.</td>
</tr>
</tbody>
</table>
subject to the following height requirements:

1. Solar collectors may not exceed the maximum building height requirements for the district in which they are located;
2. Solar collectors located on sloped roof buildings may extend up to five feet (5') above the roof ridge; and
3. Solar collectors located on flat roofed buildings may extend up to ten feet (10') above the roof height.

(E) Bulk Requirements: Solar collectors integrated into the structure or building cladding shall be subject to the bulk requirements of the zoning district in which they are located.

(F) Ground Mounted Separate Or Adjacent To The Principal Structure: Solar collectors mounted on the ground shall not:

1. Be more than ten feet (10') high;
2. Have a footprint (as determined by a horizontal plane at the ground generated by extending all parts of the structure vertically down) greater than twenty five percent (25%) of the principal building footprint; or
3. Be located in front or street facing yards.

(G) Accessory Structures: Solar collectors mounted to accessory structures:

1. Shall comply with all yard requirements for accessory structures; and
2. May extend up to four feet (4') above the roof ridge for sloped roof structures and up to five feet (5') above the roof height for flat roofed structures.

(H) Lot Coverage Or Impervious Surface Area: Solar collectors which meet the minimum standards and maximum size limits as determined by this section, shall not be counted in lot coverage or impervious surface area. (Ord. 35-0-08)
### Proposed Addition to Evanston City Code to define Geothermal heating and cooling devices

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is no current definition</td>
<td><strong>GEOTHERMAL ENERGY.</strong> Renewable energy generated from the interior of the Earth and used to produce energy for heating buildings or serving building commercial or industrial processes. Geothermal energy does not include systems that use energy independent of the geothermal source to raise the temperature of the extracted heat, such as heat pumps. Alternative A geothermal heat pump uses the thermal energy of the ground or groundwater to provide residential or industrial space conditioning and/or domestic water heating. A geothermal heat pump normally consists of an indoor conditioning and/or domestic water heat exchanger(s), compressors, and a ground-side heat exchanger. A geothermal heat pump may provide space heating, space cooling, water heating, or a combination of these functions and may also include the functions of liquid circulation, thermal storage, air circulation, air cleaning, dehumidifying or humidifying. A geothermal heat pump system generally consists of one or more geothermal heat pump models, the ground heat exchanger(s), the air and/or hydronic space conditioning distribution system(s), temperature controls, and thermal storage tanks.</td>
<td>from International Construction Code (ICC) proposed draft of 4Jan2010. Definition from EnergyStar web site</td>
</tr>
</tbody>
</table>

### Proposed Changes to Evanston City Code to Update Coin Operated and Amusement Devices

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>COIN-OPERATED AND AMUSEMENT DEVICES 3-8-1: DEFINITIONS: COIN-OPERATED DEVICE: Any coin-operated device, machine or device</td>
<td>COIN-OPERATED AND AMUSEMENT DEVICES 3-8-1: DEFINITIONS: COIN-OPERATED DEVICE: Any coin-operated device, machine</td>
<td>Simply add the allowance for coin operated devices to provide electricity. Coin operated machines for plug in cars are already in testing.</td>
</tr>
</tbody>
</table>
operated by means of a coin, token or similar object for the purpose of providing to the consumer something of value. The term includes vending machines for food, beverages, confections, packaged and unpackaged products, musical devices, amusement devices, mechanical laundries and dryers, and machinery which provides a service to the consumer upon the deposit of coins. Provided, however, that vending machines for tobacco products are excluded from this definition. (Ord. 82-0-96).

Proposed Changes to Evanston City Code to remove Coal Burning

**Current**

4-10-10-3 Coal Burning Equipment:

(A) Automatic, Mechanically Fired Equipment: All institutional, industrial and commercial buildings and multiple-family dwellings using coal for fuel shall be equipped with fuel burning equipment of the automatic, mechanically fired type.

(B) Hand Fired Equipment: In buildings other than those referred to in subsection (A) of this section, no person shall operate any hand fired fuel burning equipment with any solid fuel other than low volatile solid fuel.

(C) Approved Fuels: The director shall maintain and upon request furnish a list of brands or trademarks of approved low volatile solid fuels and shall prescribe the requisite testing procedures for any person seeking approval of a solid fuel not so listed; the expense of any such test shall be borne by the person seeking approval. (Ord. 112-0-67; amd. Ord. 36-0-71)

**Proposed**

4-10-10-3 Coal Burning Equipment:

(A) Coal Burning Equipment:

Coal as a fuel for combustion to generate heat or electricity is prohibited.

(B) Deleted

(C) Deleted

**Comments**

This change simply allows these types of vending machines.

(A) Coal burning should be expressly prohibited in Evanston
(B) Can not find current examples where this clause applies, thus should be deleted
(C) ‘director’ position does not exist any more
### Proposed Changes to Evanston City Code to Update Refuse Disposal by Burning

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-10-10-4: REFUSE DISPOSAL BY BURNING 1:</td>
<td>4-10-10-4: REFUSE DISPOSAL BY BURNING</td>
<td>Most important: 4-10-10-4 does not envision bio mass energy production. City waste, in the form of garbage and sewage, is a source for biomass energy.</td>
</tr>
<tr>
<td>(A)Multiple Chamber Incinerators: No person shall burn refuse except in a multiple chamber incinerator equipped with auxiliary automatic gas firing equipment with adjustable operation cycle timers and pilot and flame failure protective devices. Such multiple chamber incinerators shall not be of the flue fed type.</td>
<td>All open burning is prohibited in Evanston with some exceptions, including the following:</td>
<td></td>
</tr>
<tr>
<td>(B)Construction: All incinerators in this classification shall be constructed in accordance with the applicable standards as set forth in the Incinerator Institute of America publication entitled &quot;Incinerator Standards&quot;, 1963 edition, and they shall be of the requisite size as shown in table VII therein.</td>
<td>• Barbeque and charcoal grills are allowed.</td>
<td></td>
</tr>
<tr>
<td>a. These incinerators shall be served by a separate flue to which only the incinerator will be connected.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Flue door openings shall be designed so that the clear opening of the door shall not exceed one-third (1/3) of the cross-sectional area of the flue.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Flue doors and frames shall be approved and labeled by the Underwriters' Laboratories, Inc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Flue doors shall be self-closing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. These incinerators shall be equipped with auxiliary automatic gas-firing equipment with adjustable operation cycle-timers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. The auxiliary gas-firing equipment shall be equipped with pilot and flame-failure protective devices.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. These incinerators shall have a roof-mounted settling chamber proportioned to reduce gas velocity to one-quarter (1/4) of the velocity in the flue.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. These incinerators shall have a chimney height of five feet (5') above the highest point of the building or above any obstruction within fifty feet (50') of the chimney.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. These incinerators shall have a minimum grate area of fifteen-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
hundredths (0.15) square feet per sleeping room or efficiency unit.

j. These incinerators shall have a minimum volume of three (3) cubic feet for each square foot of grate area.

k. These incinerators shall have secondary or overfire air provided through adjustable openings equivalent in area to two (2) square inches per square foot of grate area. (Ord. 112-0-67; amd. Ord. 36-0-71)

---

**Proposed Changes to Evanston City Code to Standards for Special Uses**

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-3-5-10: STANDARDS FOR SPECIAL USES:</td>
<td>Add (J) to reduce greenhouse gas (GHG) emissions</td>
<td>Allows zoning board to use the goal of the ECAP for justification of Special Use.</td>
</tr>
</tbody>
</table>

The zoning board of appeals or the plan commission, as the case may be, shall only recommend approval, approval with conditions, or disapproval of a special use based upon written findings of fact with regard to each of the standards set forth below and, where applicable, any special standards for specific uses set forth in the provisions of a specific zoning district:

(A) It is one of the special uses specifically listed in the zoning ordinance;

(B) It is in keeping with purposes and policies of the adopted comprehensive general plan and the zoning ordinance as amended from time to time;

(C) It will not cause a negative cumulative effect, when its effect is considered in conjunction with the cumulative effect of various special uses of all types on the immediate neighborhood and the effect of the proposed type of special use upon the city as a whole;

(D) It does not interfere with or diminish the value of property in the neighborhood;

(E) It can be adequately served by
public facilities and services;
(F) It does not cause undue traffic congestion;
(G) It preserves significant historical and architectural resources;
(H) It preserves significant natural and environmental features; and
(I) It complies with all other applicable regulations of the district in which it is located and other applicable ordinances, except to the extent such regulations have been modified through the planned development process or the grant of a variation. (Ord. 43-0-93)

Proposed Changes to Evanston City Code to Bicycle Parking

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
<th>Comments</th>
</tr>
</thead>
</table>
| 6-16-2-11: BICYCLE PARKING FACILITIES: New public, hospital, university or college buildings, and shopping centers shall provide bicycle parking facilities if required by the site plan and appearance review committee. (Ord. 43-0-93) | 6-16-2-11: BICYCLE PARKING FACILITIES: New public, hospital, university or college buildings, and shopping centers shall provide bicycle parking facilities by the site plan and appearance review committee. (Ord. 43-0-93) | Deleted ‘if required’
All new facilities should have bicycle parking to encourage alternative transport. |

Proposed Changes to Evanston City Code to Definition of Weeds

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
<th>Comments</th>
</tr>
</thead>
</table>
| 8-6-1: DEFINITION: "Weeds", as used in this Chapter, shall include the following: burdock, ragweed (giant), ragweed (common), thistle, cockleburr, jimson, blue vervain, common milk weed, wild carrot, poison ivy, wild mustard, rough pigweed, lambsquarter, wild lettuce, curled dock, smart weeds (all varieties), poison hemlock and wild hemp, and bindweed (all varieties). The term "weed" shall also apply to unmowed or uncultivated grasses (all varieties). (1957 Code, sec. 21-38; amd. 1979 Code) | 8-6-1: DEFINITION: "Weeds", as used in this Chapter, shall include the following: burdock, ragweed (giant), ragweed (common), thistle, cockleburr, jimson, blue vervain, common milk weed, wild carrot, poison ivy, wild mustard, rough pigweed, lambsquarter, wild lettuce, curled dock, smart weeds (all varieties), poison hemlock and wild hemp, and bindweed (all varieties). The term "weed" shall also apply to unmowed or uncultivated grasses (excluding native grasses; bluestem, Indisan and switchgrass varieties). (1957 Code, sec. 21-38; amd. 1979 Code) | Exclude native IL grasses from definition of ‘weeds’ including Bluestem grasses, Indian grass (Sorghastrum nutans L.) and switch grass.
Comment: most of these native grasses will be ‘cultivated’ and therefore not classified as ‘weeds’
Biking in Evanston and Possible Best Practices

Hugh Bartling
Evanston Environment Board
11 Nov. 2010

Multimodal Transportation Plan Bike Recommendations
  - Cost estimate: $600/rack or $106,800
- Establish Bike Request System
  - Unclear about financing. City/business split?
- Adopt bicycle parking ordinance
  - Useful for new development.
- Expand on-street bike network

Multi Modal Plan Recommendations
- Improve bike network
  - 3 miles of new bike lanes
  - 6.5 miles marked shared lanes
  - Cost $170,000
    - $90,000/lanes
    - $80,000/shared lanes

Multi Modal Plan Recommendations
- Assorted “education” measures
- Study for a Downtown Bike Station
- Pilot a “Bicycle Boulevard” (street network allows for all types of vehicles, but gives preference to bikes)

Multi Modal Plan Recommendations
- Study possibilities for a bike share program
- Re-evaluate Bicycle Facilities every 3 years
  - The current bike plan: 2002.
- Questions stemming from the MMTP:
  - How many of those bike racks have been installed?
  - Where are we on bike rack request program?
  - Are street improvements for bike enhancements in Capital Improvement Plan?

Evanston in 2010
Evanston in 2010

Evanston in 2010

Evanston in 2010

Evanston in 2010
Improvements with smart design

Smart design from NL

Two way bikes & one way cars

Evanston Environment Board
Possible Action Items?

- Initiate dialogue with Plan Commission, Transportation/Parking Committee, others on bikes.
  - What needs to be done to see that bike plan & MMTP bike elements get addressed in CIP & regular street improvements
  - Ad-Hoc Committee on Biking?
- EEB dialogue with Public Works. Figure out obstacles to cycle tracks, lane painting, enhancing bike parking, etc..

Evanston Environment Board
Possible Action Items?

- EEB proposes specific enhancement or legislation to bring to council.
  - Parking ordinance
  - Propose demo projects (e.g. on-street bike parking in front of popular downtown restaurant/transit station; cycle tracks)
  - Help identify grants
- Other ideas???