

PUBLIC NOTICE

In accordance with the Statutes of the State of Illinois and the Ordinances of the City of Highland Park, the next meeting of the Natural Resources Commission of the City of Highland Park is scheduled to be held at the hour of 6:30 p.m. on Wednesday, June 10, 2015 at the City of Highland Park City Hall, 1707 St. Johns Avenue, Highland Park, Illinois, during which it is anticipated there will be a discussion of the following:

CITY OF HIGHLAND PARK
NATURAL RESOURCES COMMISSION
WEDNESDAY, JUNE 10, 2015
HIGHLAND PARK CITY HALL
1707 ST. JOHNS AVENUE
HIGHLAND PARK, ILLINOIS
6:30 P.M.

MEETING AGENDA

I. Call to Order

II. Roll Call

III. Approval of Minutes: March 11, 2015, April 8, 2015, and May 13, 2015

IV. Business from the Public

V. New Business

- A. 333 Woodland Road – Consideration of a Steep Slope Variation Application for Excavation and Earth Moving to an Existing Single-Family Residential Structure
- B. Presentation on Lake Michigan Coastal Standards
- C. 55-57 S. Deere Park Drive – Consideration of a Beach Structure Permit for Regulated Activities in the Lake Michigan Protection Zone
- D. Consideration of Bird Friendly Building Design and Light Pollution Code Amendments

VI. Old Business

- A. Consideration of Amending the Leaf Blower Ban Dates
- B. Consideration of Commission Participation in Great Lakes Display at Highland Park Public Library

VII. Other Business

- A. Commissioner Comments
- B. Administrative Items

VIII. Adjournment

SPECIAL MEETING
PUBLIC NOTICE

In accordance with the Statutes of the State of Illinois and the Ordinances of the City of Highland Park, the next special meeting of the Natural Resources Commission of the City of Highland Park is scheduled to be held at the hour of 5:00 p.m. on Wednesday, June 10, 2015 at 333 N Woodland Avenue, Highland Park, Illinois, during which it is anticipated there will be a discussion of the following:

CITY OF HIGHLAND PARK
NATURAL RESOURCES COMMISSION
WEDNESDAY, JUNE 10, 2015
333 N. WOODLAND AVENUE
HIGHLAND PARK, ILLINOIS
5:00 P.M.

MEETING AGENDA

I. Call to Order

II. New Business

A. Informational Tour of a Private Residence Located at 333 N. Woodland Avenue in Preparation for the Commission's Consideration of a Steep Slope Variation Application for Excavation to an Existing Single-Family Residential Structure

III. Adjournment

**MINUTES OF A REGULAR MEETING OF
THE NATURAL RESOURCES COMMISSION OF THE CITY OF HIGHLAND
PARK, ILLINOIS**

MEETING DATE: March 11, 2015

MEETING LOCATION: Presession Conference Room, Highland Park City Hall, 1707 St. Johns Avenue, Highland Park, Illinois

CALL TO ORDER

At 6:31 p.m., Chairwoman Coyle called the meeting to order and the Staff Liaison called the roll.

ROLL CALL

Members Present: Coyle, Pagoria, Matthews, Hannick, Wagenius, Ross, Stone, Dotson, and Grill

Members Absent: Rheinstrom, Lewittes, and Theodosakis

The Chairwoman declared that there was a quorum of the Commission present.

Staff Present: Staff Liaison Karen Berardi

MINUTES

A. Regular Meeting of the Natural Resources Commission—December 10, 2014

Commissioner Matthews moved to approve the minutes of a regular meeting held on January 14, 2015. Commissioner Wagenius seconded the motion. On a voice vote, Chairwoman Coyle declared that the motion passed unanimously (6-0).

BUSINESS FROM THE PUBLIC

Joel Cahn, 26 Lakeview Terrace, objected to the January 14, 2015 meeting minutes as approved because he believes the minutes do not accurately report what occurred at the meeting. Mr. Cahn read a statement into the record. Chair Coyle noted that Mr. Cahn's statement will be attached to the meeting minutes.

NEW BUSINESS

A. **Ravine Drive Beach Rock Garden Installation Project Overview**

Park District Representative and Natural Areas Manager Rebecca Grill presented on the rock garden installation to be constructed at Ravine Drive Beach as designed by John Dalton and donated by Highland Park resident Marjie Ettlinger. The pebble harp that will be constructed as part of the project was also demonstrated. Chair

Coyle thanked the Ettlengers, Dalton and the Boy Scout Troop for their contributions.

B. Status Report on Sustainability Code Review

Grace Rink, the City's Sustainability Consultant, provided an update on the code review initiative that she and Primera are undertaking as part of the 2015 Sustainability Work Plan. The code review entails an evaluation of whether sustainable practices are either enabled or prohibited, specifically regarding alternative power, green infrastructure, bird-safe design and light pollution.

Rink stated that many of these practices are allowable by code and that this may provide an opportunity for educating City staff. Chair Coyle and Councilwoman Stone stated that City staff have been resistant to allowing rain barrels and other alternative methods of managing storm water and indicated there may be a misinterpretation of the code. Rink clarified that the code does indicate that any additional storm water overflow must be directed into a storm sewer, but that it does not prohibit rain barrels. Commissioner Hannick noted that the code should still be changed to address reevaluation of drainage after changes have been made to homes, regardless of whether there is a change to their footprints. Commissioner Pagoria and Councilwoman Stone concurred that the code should be clarified. Rink will take the feedback received to evaluate what changes can be made to clarify the code.

Rink confirmed the commission's interest in amending the building code to regulate bird friendly designs on multi-family and commercial buildings. Rink will provide recommended code amendments as a next step.

Rink stated that she will continue to look at wind turbines and solar panel installations and ensure these forms of alternative energy sources are permitted within the code. Rink also noted that the City's tree protection ordinances may limit the installation of some wind turbines or solar panels.

In regards to light pollution, Rink will begin recommending code amendments and will work with City staff to move recommendations forward. Vice Chair Ross stated that with a written directive to ComEd they could begin to replace street lights with LEDs and change one street or neighborhood at a time. Berardi will follow up with the ComEd Representative and report back to the commission.

C. Discussion on Electricity Aggregation 100% Green Power Program

Staff Liaison Berardi provided an overview of the City's Electricity Aggregation Program and provided an update on the current contract recommendation with Integrys. Berardi noted that an update was presented to City Council on March 9, 2015 and discussion led to renewable energy credits (RECs) and whether or not to include 100% RECs in the volume energy mix. Councilwoman Stone provided an overview of the Council discussion pertaining to the Green Power Program and the 100% REC consideration. Councilwoman Stone sought commission direction on providing a recommendation to Council regarding the 100% REC.

Commissioner Wagenius left the meeting at 7:45 p.m.

Chair Coyle stated that Highland Park brands itself as a leader in sustainability and supported sending a recommendation to City Council.

Commissioner Matthews moved to direct the Chair to write a letter on behalf of the commission in support of 100% RECs with a provision that residents can opt out. Vice Chair Ross seconded the motion. On a voice vote, Chairwoman Coyle declared that the motion passed unanimously (5-0).

OLD BUSINESS

A. Status Report on Environmental Movie Screenings

Councilwoman Stone presented on the City's Bike Month activities and suggested that the commission co-sponsor a series of short films on biking in conjunction with the Highland Park Bike Fair on May 16, 2015. The commission was supportive of showing a series of short films on biking in conjunction of the fair. It was noted that the Library Auditorium is available on May 17 from 2:00 p.m. – 4:00 p.m. but the commission supported the idea of coordinating the screening on the same day and time as the bike fair.

Additional future films were discussed including *Food Patriots* and *Wild Things*. Commissioner Hannick suggested coordination with the Come Alive Outside campaign for a *Wild Things* screening. Chair Coyle suggested that a spring 2016 showing of *Wild Things* should be coordinated.

Councilwoman Stone also suggested bringing a Great Lakes exhibit to the Highland Park Library. Park District Representative Grill suggested the exhibit could be done in conjunction with Beach Clean-up in September.

OTHER BUSINESS

A. Commissioner Comments

Vice Chair Ross stated that he has an interest in bringing in outside coastal engineers to provide education on coastal management in addition to staff. Commissioner Hannick and Chair Coyle agreed. Commissioner Matthews suggested the City retain an unbiased coastal engineer to review applications and provide their recommendations to staff and to the commission as part of the review process. Staff Liaison Berardi noted that professional services agreements may have to be bid and the fee resolution would have to be amended.

Commissioner Matthews left the meeting at 8:45 p.m.

The commission directed staff to invite an unbiased coastal engineer to the April 8th, 2015 meeting for education on hard coastal structures and erosion. City staff will still provide an overview of City code and the application process.

Staff Liaison Berardi reported on the fourth quarter clothing and textile results, and provided an update on the City's waste hauling agreements.

B. Administrative Items

There were no administrative items this evening.

ADJOURNMENT

Commissioner Hannick motioned to adjourn the meeting. Vice Chair Ross seconded the motion. Chairwoman Coyle adjourned the meeting at 8:56 p.m.

Respectfully Submitted,

Karen Berardi, Assistant to the City Manager

MINUTES APPROVED BY THE NATURAL RESOURCES COMMISSION ON

- WITH NO CORRECTIONS _____
- WITH CORRECTIONS _____
(SEE MINUTES OF [_____] MEETING FOR CORRECTIONS)

**MINUTES OF A REGULAR MEETING OF
THE NATURAL RESOURCES COMMISSION OF THE CITY OF HIGHLAND
PARK, ILLINOIS**

MEETING DATE: April 8, 2015

MEETING LOCATION: Presession Conference Room, Highland Park City Hall, 1707 St. Johns Avenue, Highland Park, Illinois

CALL TO ORDER

At 6:31 p.m., Chairwoman Coyle called the meeting to order and the Staff Liaison called the roll.

ROLL CALL

Members Present: Coyle, Rheinstrom, Hannick, Wagenius, Pagoria (6:40 p.m.), Ross (7:10 p.m.), Stone, Lewittes, Dotson, and Theodosakis

Members Absent: Pagoria, Ross and Matthews

The Chairwoman declared that there was a quorum of the Commission present.

Staff Present: Staff Liaison Karen Berardi, City Planner Eric Olson

MINUTES

A. Regular Meeting of the Natural Resources Commission—March 11, 2015

Commissioner Wagenius abstained from the vote due to his absence at the March 11, 2015 meeting. Due to lack of quorum, Chair Coyle moved approval of the regular meeting minutes to the May 13, 2015 regular agenda.

BUSINESS FROM THE PUBLIC

There was no business from the public.

NEW BUSINESS

- A. **Presentation on the City's Steep Slope Zone and Lake Michigan Zone Regulations**
City Planner Eric Olson provided an overview of the Steep Slope Zone and Lake Michigan Protection Zone regulations and provided an overview on the commission's role as a regulatory and recommending body.

Commissioner Pagoria joined the meeting at 6:40 p.m. via conference call.

Chair Coyle inquired on where the City's jurisdiction ends in the lake. Staff Liaison Berardi will confirm with Corporation Counsel.

City Planner Olson noted that the codes are grandfathered in the sense that residents who constructed in one of the zones prior to the ordinances' passage are not required to reconstruct on their property unless a new permit application is submitted.

Staff Liaison Berardi noted she will send the presentation to the commission electronically following the meeting.

B. 55-57 Deere Park Drive – Consideration of a Beach Structure Permit for Regulated Activities in the Lake Michigan Protection Zone

Staff Liaison Berardi provided an overview of the project. Commissioner Rheinstrom inquired what documents were necessary for commission approval. Berardi noted that the commission cannot approve Findings of Fact until all permits have been issued, including the one missing in this case from the Army Corps of Engineers. Councilwoman Stone noted that Findings of Fact can be drafted but held until the permit is issued from the Army Corps of Engineers.

Shabica Associate Stefanie Nagelbach presented on the project scope and provided an overview of beach structure and beach restoration standards. Nagelbach noted that there have been multiple opportunities for public comment which is required as part of the permitting process with state and federal regulators.

Vice Chair Ross joined the meeting at 7:10 p.m. via conference call.

Commissioner Hannick inquired how the sand for sandfill is being transported to the site. Nagelbach noted that the sand will be trucked to Waukegan, moved to a barge and then transported to the site.

Commissioner Hannick stated that she prefers more natural looking stones than the formed rock island shown in the drawings. Nagelbach noted that they do not have the ability to change the shape of the structures, but could change whether the stones would be flat or the stone type as long as the type is approved by the Army Corps. Shabica cannot change size or shape as governed by the permits approved with state and federal regulators. Nagelbach recommended that commission input could be given to applicants prior to permit submission to state and federal regulators.

Commissioner Hannick stated that if the project came to a pre-meeting, they could consider aesthetic changes in the design. Commissioner Rheinstrom noted his support of that idea going forward.

The Commission discussed the proposed improvements in light of the Beach Structure Permit Application standards and noted that the two projects would be beneficial to the area and met all of the standards except the final standard: that the Applicant has properly obtained any and all permits required by the federal, state, and county governments for the Regulated Activity and/or the Structure.

The Commission directed staff to draft Findings of Fact recommending City Council approval of the project, noting that the Findings of Fact will not be approved until all state and federal permits have been obtained by staff.

Staff Liaison Berardi noted that the staff-drafted Findings of Fact would be prepared for approval by the Commission at its next regular meeting following the submission of the Applicant's Army Corps of Engineers permit.

C. Discussion on Earth Day Activities

The Commission discussed the commission's role in potential Earth Day activities. Chair Coyle stated that the commission chose to take public education out of its purview in the 2015 work plan. Commissioner Rheinstrom agreed that the commission discussed this last year as part of the 2015 work plan.

Staff Liaison Berardi noted that the City will release several educational messages surrounding Earth Day through the City's communication channels. The commission supported the City's communication plan to focus on environmental messages in the month of April.

Commissioner Rheinstrom left the meeting at 8:15 p.m.

D. Discussion on Highland Park Community Gardens

The commission discussed the possibility of creating a community garden in Highland Park. Commissioner Pagoria volunteered to look into the idea and report back to the commission. The commission was in support of Commissioner Pagoria's initiative.

OLD BUSINESS

A. Status Report on Electricity Aggregation

Staff Liaison Berardi provided an update on the electricity aggregation rate lock process and announced that the City Council had approved an agreement with Integrys Energy Services with a rate including 100% renewable energy credits.

OTHER BUSINESS

A. Commissioner Comments

Vice Chair Ross recommended that a pre-consultation with the commission be mandatory as part of the beach structure application process, and amend the code accordingly. Ross noted that the code should define long-term maintenance plan as more than five years. He recommended that the project be added to next year's work plan.

Chair Coyle recommended that the historical non-conforming aspect of the code should also be examined. Vice Chair Ross suggested to add to next year's work plan.

Commissioner Wagenius stated that he is beginning to work with staff on the waste hauling agreement and negotiations. He suggested that the commissioners assigned to projects with staff should be included earlier in the process and as the Request for

Proposals is developed.

Student Representative Lewittes raised a question regarding liability of damage as of a result of natural occurrences on any beach structure or steep slope application. The commission agreed that the question should be raised with the applicant at the June 10, 2015 meeting. Commissioner Hannick suggested that the applicant provide a bond to the City to cover liability. Councilwoman Stone recommended that liability be considered when examining the application code as part of the 2015 work plan.

Councilwoman Stone announced the Community Bike Fair that is scheduled for May 16 from 10:00 a.m. to 12:00 p.m. as well as the Go Green Highland Park event on May 2 at the City's Recycling Center.

Staff Liaison Berardi reported on the coastal engineer workshop which will be scheduled for the June 10 commission meeting.

Chair Coyle requested that an update on the Recycling Center be provided at the next meeting.

B. Administrative Items

There were no administrative items this evening.

ADJOURNMENT

Commissioner Wagenius motioned to adjourn the meeting. Vice Chair Ross seconded the motion. Chairwoman Coyle adjourned the meeting at 8:56 p.m.

Respectfully Submitted,

Karen Berardi, Assistant to the City Manager

MINUTES APPROVED BY THE NATURAL RESOURCES COMMISSION ON

- WITH NO CORRECTIONS _____
- WITH CORRECTIONS _____
(SEE MINUTES OF [_____] MEETING FOR CORRECTIONS)

**MINUTES OF A REGULAR MEETING OF
THE NATURAL RESOURCES COMMISSION OF THE CITY OF HIGHLAND
PARK, ILLINOIS**

MEETING DATE: May 13, 2015

MEETING LOCATION: Presession Conference Room, Highland Park City Hall, 1707 St. Johns Avenue, Highland Park, Illinois

CALL TO ORDER

At 6:36 p.m., Chairwoman Coyle called the meeting to order and the Staff Liaison called the roll.

ROLL CALL

Members Present: Coyle, Hannick, Wagenius, Matthews (6:49 p.m.), Stone, Dotson, and Theodosakis

Members Absent: Rheinstrom, Pagoria, Ross, Lewittes and Gardocki

The Chairwoman declared that there was a quorum of the Commission present.

Staff Present: Staff Liaison Karen Berardi

MINUTES

A. Regular Meeting of the Natural Resources Commission—March 11, 2015 & April 8, 2015

Commissioner Wagenius abstained from the vote on the March 11, 2015 Regular Meeting minutes due to his absence at the March 11, 2015 meeting. Commissioner Matthews abstained from the vote on the April 8, 2015 Regular Meeting minutes due to his absence at the April 8, 2015 meeting. Due to lack of quorum for both meeting minutes, Chair Coyle tabled the approval of the regular meeting minutes for both March 11, 2015 and April 8, 2015 to the June 10, 2015 regular agenda.

BUSINESS FROM THE PUBLIC

Jon Shabica with Shabica and Associates spoke on current lake levels and erosion as witnessed on 25 Lakeview Terrace. Shabica met with Mayor Nancy Rotering on May 11, 2015 to show the level of erosion on the beach. Shabica passed out a document illustrating the erosion on this property. Shabica noted the importance of working with the City and property neighbors to establish shore protection.

Chair Coyle rearranged agenda items as follows: Item D under New Business, Item A under Old Business, Item B under New Business, Item C under New Business, Item A under New Business and finally, Item B under Old Business.

NEW BUSINESS

D. Recognition of Active Transportation Family Bikeways Partnership

Council liaison Stone presented on the City's partnership with Active Transportation to implement family friendly bikeways in Highland Park. The initiative will allow bikeways to be connected throughout Highland Park but also the entire region.

OLD BUSINESS

A. Discussion on Participation in the Beach Clean-up September Event

Chair Coyle asked for commission feedback on the commission's participation in the Beach Clean-up event in September.

Commissioner Matthews arrived at 6:49 p.m.

The group agreed that the commission will not participate in the event this year, but that local boy scout troops will be encouraged to participate.

NEW BUSINESS

B. Consideration of a Code Amendment to Chapter 150, Article VII of the City Code Amending Section 703.1(E)(5) "Procedure and Notice" for Beach Structure Permit Applications

Staff Liaison Berardi presented on proposed amendments to Chapter 150, Article VII pertaining to beach structure permit applications. At the April regular meeting, the commission expressed interest in moving the pre-application meeting to before applicants submit permit applications to federal and state regulators.

Commissioner Hannick commented that the pre-application meeting before federal and state permit applications are submitted should be mandatory. Commissioner Matthews recommended flexibility to allow the applicant the option to come to the commission earlier, but not to make it mandatory. Commissioner Wagenius and Chair Coyle agreed that it should be mandatory.

Commissioner Hannick added that insurance and bonding should also be included in a future amendment of the code for the commission to consider.

Commissioner Wagenius moved to approve the proposed code amendment to Chapter 150, Article VII, that the pre-application meeting shall take place prior to submission of any and all permits required by state and federal regulators. Commissioner Hannick seconded. On a voice vote, Chair Coyle declared the motion passed (4-0).

Mr. David Meek, legal representation for Mr. Michael Krasny, 41 S. Deere Park, suggested that the pre-application meeting is publicly noticed and that the commission add this to the code amendment.

Commissioner Hannick motioned to add additional language that the pre-application meeting be publicly noticed. Commissioner Wagenius second. On a voice vote, Chair Coyle declared the motion passed (4-0).

C. Consideration of Amending the Leaf Blower Ban Dates

Staff Liaison Berardi presented on the consideration to amend the leaf blower ban dates. Currently, the ban dates are from May 15 to October 1. Berardi sought commission direction on amending those dates from June 15 to October 1 due to potential seasonal plant trends changing.

Commissioner Hannick commented that there is no substantiated evidence that plant trend seasons are changing and therefore, is not in favor of amending the dates. Commissioner Matthews also noted that the ban is not enforced throughout the City.

Commissioner Wagenius moved to deny the consideration to amend the leaf blower ban dates. Commissioner Matthews seconded. On a voice vote, Chair Coyle declared the motion passed (4-0).

Commissioner Hannick moved to affirm the ban dates from May 15 to October 1. Commissioner Matthews seconded. On a voice vote, Chair Coyle declared the motion failed (3-1). The commission tabled the item to the June 10, 2015 regular meeting.

A. 55-57 Deere Park Drive – Consideration of a Beach Structure Permit for Regulated Activities in the Lake Michigan Protection Zone

Commissioner Hannick recused herself from the discussion due to a conflict of interest.

Shabica Associate Stefanie Nagelbach presented on the joint beach structure project and provided an overview of the modifications since the pre-application meeting. Nagelbach noted that a 53 foot revetment to 57 S. Deere Park was added to the project due to increased erosion to the beach on the property.

Commissioner Matthews inquired on how the revetment will affect pedestrians. Nagelbach noted that the project should improve pedestrian access.

David Meek, representing Mr. Michael Krasny at 41 S. Deere Park, spoke on behalf of Mr. Krasny and wishes to understand what impact this project may have on his adjacent property. Mr. Meek noted that the notice was not sent out 15 days in advance, but was sent 13 days in advance of the meeting and therefore, did not fulfill the public notice requirements. Mr. Meek asked that the commission request that Shabica specifically address the standards in regards to impacts on adjacent properties for standards 3(e), 3(f) and 3(h). Mr. Meek additionally requested that the covenant have a condition that would require the petitioner to address the effect on adjacent properties with a monitoring plan.

Commissioner Matthews inquired whether residents had received public notice provided through the state and federal regulators. Mr. Meek noted that Mr. Krasny did receive public notice through state and federal regulators.

Commissioner Wagenius left the meeting at 7:32 p.m.

Mr. Krasny, 41 S. Deere Park Drive, affirmed that he only wishes to ensure that the project has no effect on his adjacent property.

Shabica offered to address the three standards noted by Mr. Meek for its presentation at the commission's June 10, 2015 regular meeting.

Andy Hochberg, 77 S. Deere Park Drive, would like some clarification or assurance that this will not affect his property.

Chair Coyle asked if Shabica could address the standards as they pertain to all properties that have been publicly noticed. Shabica affirmed they will respond to the three standards as it pertains to all properties noticed.

The item will be tabled to the June 10, 2015 regular NRC meeting.

OLD BUSINESS

B. Status Report on Sustainability Code Review

Staff Liaison Berardi presented an update on the sustainability code review, specifically in regards to light pollution and bird friendly designs. Berardi noted that staff was supportive of light pollution code amendments and that the amendments would be presented at the June NRC meeting. Berardi also noted that staff discussed bird friendly window regulations which could add an additional cost burden on developers and could be addressed during plan review. Berardi noted that staff is prepared to update Council with the NRC recommendation and present on additional information pertaining to bird friendly window regulations.

The commission agreed they were interested in learning more about the economic impact of bird friendly window regulations before the matter is presented to the City Council. The item will be added to the June 10, 2015 regular meeting.

OTHER BUSINESS

A. Commissioner Comments

Staff Liaison Berardi provided an update on the Recycling Center and noted that the number of residents served has remained the same but with less days open to the public since the schedule change.

Commissioner Hannick commented that the ComEd letters regarding electricity aggregation sent out to residents in early May were confusing. Staff Liaison Berardi noted that the City has been pushing information through all its communication channels in order to educate residents on the electricity aggregation program and

have been responding to hundreds of calls from residents.

Commissioner Matthews suggested that the City provide the hauler stickers for Spring Clean-Up that can be placed on electronics educating about the electronics drop-off site.

Councilwoman Stone reported on the Go Green Highland Park recycling event on May 2, 2015 in conjunction with the City's open Recycling Center hours. Staff Liaison Berardi noted that she will work with Go Green Highland Park on their next collection event.

Chair Coyle recognized the City and Park District for their outstanding efforts in public education and community events in celebration of Earth Day.

B. Administrative Items

There were no administrative items this evening.

ADJOURNMENT

Commissioner Matthews motioned to adjourn the meeting. Commissioner Hannick seconded the motion. Chairwoman Coyle adjourned the meeting at 8:34 p.m.

Respectfully Submitted,

Karen Berardi, Assistant to the City Manager

MINUTES APPROVED BY THE NATURAL RESOURCES COMMISSION ON

- WITH NO CORRECTIONS _____
- WITH CORRECTIONS _____
(SEE MINUTES OF [_____] MEETING FOR CORRECTIONS)



Memorandum

To: Members of the Natural Resources Commission

From: Karen Berardi, Assistant to the City Manager

Date: June 5, 2015

Re: Agenda Items for the June 10th Meeting of the Natural Resources Commission

NEW BUSINESS:

A. **333 Woodland Road – Consideration of a Steep Slope Variation Application for Excavation and Earth Moving to an Existing Single-Family Residential Structure**

City Planner Eric Olson will present on this item. Attached is a staff report accompanied by application materials from the applicant.

B. **Presentation on Lake Michigan Coastal Standards**

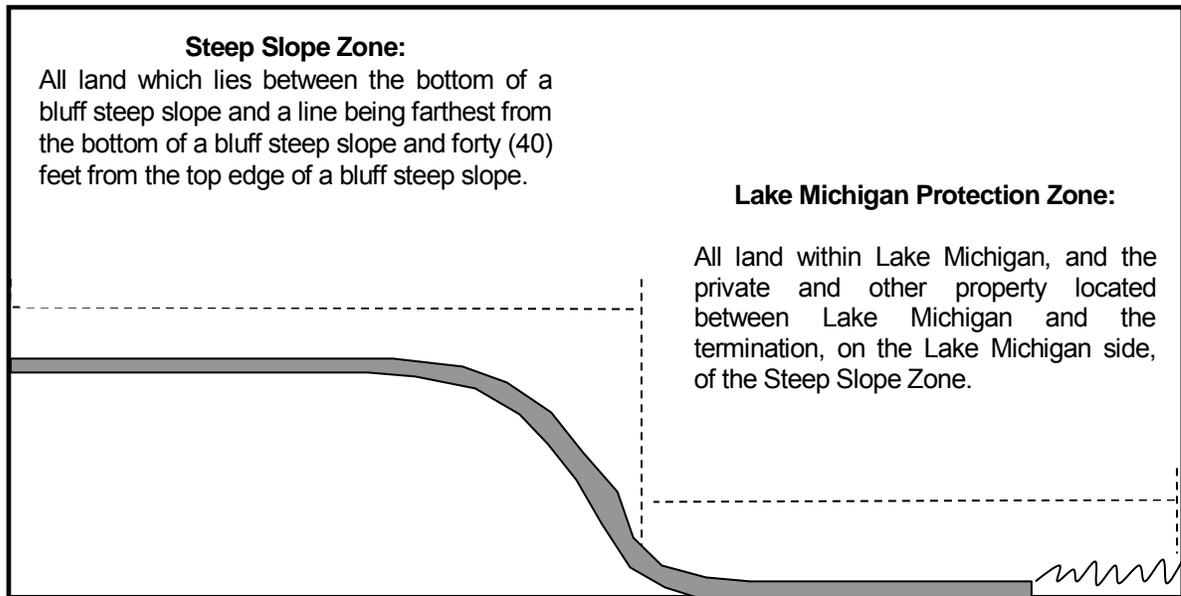
Coastal Engineer William Weaver will present to the commission on Lake Michigan coastal standards. William Weaver, P.E. is a Vice President and Senior Principal Engineer with 39 years of experience in the water resources engineering field. He is the lead principal for midwest coastal and marine engineering at AECOM, a multi-disciplinary engineering consulting firm with offices located throughout the world. He has an undergraduate and Masters Degrees majoring in water resources and environmental engineering from New Jersey Institute of Technology. He has served as chief engineer for the planning and design of a wide variety of coastal and ravine projects along the Lake Michigan Coast. Mr. Weaver has published and presented numerous technical papers on infrastructure issues associated with river, stream and coastal engineering. Mr. Weaver is an active member of the ASCE committee on Urban Stormwater and is also a contributing author for several ASCE Standard Guidelines for the Design of Urban Water Resources Infrastructure.

C. **55 – 57 Deere Park Drive – Consideration of a Beach Structure Permit for Regulated Activities in the Lake Michigan Protection Zone**

The applicants, Jerry Senser and Mark Gerstein, are requesting a Beach Structure Permit for regulated activities within the City's designated "Lake Michigan Protection Zone" at 55-57 S. Deere Park Drive. A diagram illustrating this zone designation follows on the next page.

The proposed activities on 55 S. Deere Park Drive consist of the construction of a 30' long quarrystone breakwater spur and sandfill. The proposed activities on 57 S. Deere Park Drive consist of the construction of a 60' long quarrystone breakwater spur, quarrystone breakwater toe protection, short breakwater spur near the north property line and sandfill. This proposed improvement will augment the existing breakwater previously permitted and constructed in 2009. According to the applicants, "the proposed project is designed to reduce the gap between breakwater helping sand to stay in the bay beach system, reducing lakebed downcutting and wave impacts on the revetment." On April 24, 2015, the applicant notified the City of a modification to the original plan for 57 S. Deere Park and provided additional documentation for this modification. The modification adds a cross section for a revetment on 57 S. Deere Park Drive.

This item was considered at the May 13, 2015 Natural Resources Commission meeting, but due to a lack of quorum, was tabled to a future date. At that meeting, two neighbors with adjacent properties attended. The applicant offered to provide further explanation on three standards that pertain specifically to the affect on adjacent properties. That memo dated June 2, 2015 is attached.



Required Agency Reviews

The applicant has submitted permit applications required from the U.S. Army Corps of Engineers, the Illinois Environmental Protection Agency, and the Illinois Department of Natural Resources, as required by the Beach Structure Application regulations. Due to the modification of the project submitted April 24, 2015, all agencies were notified and an amended permit was issued from IDNR and IEPA. The amended permit has not yet been received from the Army Corps of Engineers as of June 5, 2015.

Engineering Division Review

The Engineering Division reviewed the original application materials and submitted the attached memorandum, dated March 31, 2015, and found that the report should be revised so that each statement in response to the required information is supported with a detailed explanation. The applicant, in turn, provided a response dated April 6, 2015. Following notice of the project modification, the Engineering Division reviewed the modified plan and submitted the attached memorandum, dated May 5, 2015. Upon completion of the project, the applicant's consultant will be responsible for certifying that all of the work has been completed in accordance with the approved plan and project specifications.

Forestry Division Review

The City Forester has not reviewed the application materials. A tree survey was not prepared or submitted by the applicant as the bluff and tableland will not be impacted by the construction. All materials and equipment will be delivered to and removed from the site via barge on Lake Michigan.

Beach Structure Ordinance Policy & Standards

The Beach Structure Ordinance regulates and requires permits for all activity in the City's "Lake Michigan Protection Zone," an area comprised of all land between Lake Michigan and the toe of the bluff. Per Section 150.703.1(E)(5(a), **the Commission is being asked to consider the proposed Beach Structure Permit under the following standards as well as the modified project plan and consider a draft Findings of Fact for future Commission approval and City Council determination.** Please note that within the attached cover memo, the applicant addresses these standards.

Standards:

No permit for a Regulated Activity in the Lake Michigan Protection Zone shall be approved unless all of the following standards have been met or satisfied:

(a) The proposed Regulated Activity and/or Structure shall not unreasonably impede access to or pedestrian movement along the beach or to Lake Michigan;

(b) The proposed Regulated Activity and/or Structure shall not unnecessarily impede navigability within Lake Michigan;

(c) The proposed Regulated Activity and/or Structure shall not unreasonably impact the Subject Property or the Adjacent Properties;

(d) The Applicant has proposed appropriate long-term maintenance requirements and plans, as necessary, for the proposed Regulated Activity and/or Structure;

(e) The proposed means and methods of undertaking the Regulated Activity and/or Structure are consistent with appropriate design and aesthetics principles;

(f) The proposed Regulated Activity and/or Structure shall not create new nor amplify existing erosion problems on the Subject Property and on Adjacent Properties;

(g) The proposed Regulated Activity and/or Structure shall be for the purposes of erosion control, water gathering, and/or public access only;

(h) There will not be an unnecessary adverse environmental or ecological impact on the Subject Property or on any of the Adjacent Properties as a result of the proposed Structure and/or the Regulated Activity;

(i) The proposed Structure and/or the Regulated Activity is the least environmentally and ecologically intrusive means of achieving the stated purpose of the Structure; and

(j) The Applicant has properly obtained any and all permits required by the federal, state, and county governments for the Regulated Activity and/or the Structure.

Feel free to contact Karen Berardi for any questions regarding this matter, or to further discuss the Beach Structure Ordinance prior to the meeting. Per the Commission's direction, a brief presentation will be prepared summarizing the proposed project. The above list of Beach Structure Ordinance standards will also be available on the table for the Commission's reference and discussion.

D. Consideration of Bird Friendly Building Design and Light Pollution Code Amendments

Staff Liaison Berardi will provide an overview of the bird friendly building design and light pollution code amendments. Grace Rink, the City's Sustainability Consultant from Quercus Consulting, and Deborah Steimel with Primera will be present to provide an overview of the amendments and to answer questions.

Bird friendly building design has two factors: first, light pollution, and second, window and building design. Code amendments regarding light pollution are included and attached to this packet. Staff is seeking commission feedback on the lighting code amendments which will be drafted as a recommendation to the City Council. Code amendments to the building code have not yet been made and staff is seeking commission feedback regarding its recommendation made in December 2014 to clarify its recommended code requirements.

The following table provides an overview of municipalities and government entities that have enacted bird friendly requirements and guidelines. Guidelines are voluntary for residents and businesses and are not required. The commission recommended in

December 2014 to make bird friendly designs required, not voluntary, for all commercial and multi-family properties in Highland Park.

Bird Friendly Design Requirements	Bird Friendly Design Guidelines
City of San Francisco, CA	City of New York, NY
City of Oakland, CA	City of Toronto, Canada
State of Minnesota	City of Sunnyvale, CA
	San Jose, CA

The requirements for the City of San Francisco, CA include an exception for residential-zoned buildings less than 45 feet tall.

While some bird friendly designs are cost neutral, others come at some additional price. Cost neutral measures include modifying building design regulations and specifically, regulating developments with facing windows or corner windows in which birds may see through one glass window, then the other and fly through thinking it is a clear path.

However, some bird friendly designs may not be cost neutral. The cost of procuring different forms of window treatments varies depending on the type. Here is a relative cost comparison for different treatments from the San Francisco requirement:

Comparison of Different Treatments

Treatment	Upkeep	Longevity	Application	Cost
NETTING	*****	****	**	\$
FILM	****	***	****	\$
FRITTED/ETCHED	*****	*****	***	\$\$\$
UV/PV	****	*****	***	\$\$\$\$
SCREENS	****	****	**	\$\$
LOUVERS	*****	****	***	\$\$\$
5 STARS/\$ =	MINIMAL	DURABLE	EASY	PRICEY

Source: American Bird Conservancy; San Francisco Planning Department

http://www.sf-planning.org/ftp/files/publications_reports/bird_safe_bldgs/Design%20Guide%20Standards%20for%20Bird%20Safe%20Bldgs_Final.pdf

As an example, the priciest treatment, UV glass (which is opaque to birds but translucent to humans), has about a 50% upcharge compared to standard glass, but is comparable to energy-efficient glazing. The other treatments are less than that comparatively. Netting and film have the least impact on cost, and screens, louvers, and fritted glass could be 10%-40% upcharged.

A nature center built in Omaha reported that the use of UV glass (Ornilux) at this facility would have added 4% to the total cost of \$781,000.

http://wildbirdsbroadcasting.blogspot.com/2011_03_01_archive.html

These treatments can be expensive on their own, but for a new building construction, these costs may not be overwhelming when compared to the total construction cost. As noted previously, some of the treatments can be cost neutral such as window placement and window proximity to landscaping.

OLD BUSINESS:

A. Consideration of Amending the Leaf Blower Ban Dates

This item was tabled from the May 13, 2015 meeting due to a failed motion. The commission tabled it to a future meeting for more discussion. It has been brought to the City Manager's attention that the City's gas leaf blower ban may not coincide appropriately with seasonal plant trends and that the ban length should be shortened.

As the Natural Resources Commission (formerly Environmental Commission) has done in the past, the City Manager's Office has directed this matter to the Natural Resources Commission for their recommendation to City Council.

Background:

In 1992, the City Council directed the Environmental Commission (EC), which has since merged with the Lakefront Commission to form the Natural Resources Commission (NRC), to develop a recommendation on banning gas leaf blowers. The EC vetted the issue and recommended that City Council ban the use of backpack-mounted leaf blowers from June 15 through October 1. The ordinance, as recommended, was approved on July 13, 1992.

In 1999, the City Council directed the EC to yet again make a recommendation on an amendment to the existing ordinance which amended the ban dates to May 15 to October 1. After consideration, the EC recommended that the ban dates be expanded from May 15 to October 1. On July 26, 1999, the City Council approved the EC's recommendation and the leaf blower ban was approved for the duration of May 15 to October 1.

The City's leaf blower ordinance is found in Chapter 95 "Nuisances" in Section 95.001 to which is states: "It is hereby declared to be a public nuisance for any person, firm, corporation or association to do, suffer or permit, any of the following: ... (9) Any leaf blower type of machine other than one that is electrically powered used between May 15 and October 1 of each year, except that this restriction shall not apply to golf course maintenance operations and backpack-mounted or hand-held other than electrically-powered leaf blower type of machines used during roof gutter and downspout cleaning operations between October 1 and the following June 15. (Ord. 21-92, J. 19, p. 080-082, passed 7/13/92; Ord. 50-99, J. 25, pp. 129-133, passed 5/10/99; Ord. 70-99, J. 25, p. 310, passed 7/26/99 effective January 1, 2000)."

Under Penalty, the following is included in the City Code: "(B) Whoever suffers or permits a nuisance as specified in Subsection (O)(9) of Section 95.001, regarding the operation of gasoline powered leaf blower type of machines, to exist or continue upon property owned or

occupied by him within the City shall be fined not less than \$200 nor more than \$500 for each offense. (Ord. 218, J. 4, p. 218, passed 8/28/44; Ord. 2C-64, J. 5, p. 809, passed 1/27/64; Ord. 21-92, J. 19, p. 080-082, passed 7/13/92; Ord. 32-97, J. 24, p. , passed 6/9/97; Ord. 25-10, J. 36, p. 052-058, passed 3/8/10)”

Neighboring Communities:

There are three nearby communities with similar bans on the use of backpack-mounted leaf blowers: Winnetka, Wilmette and Evanston. Their ban dates are listed below:

Municipality	Dates of Ban
Winnetka	June 1 – October 1
Wilmette	May 15 – September 30
Evanston	December 15 – March 30 & May 15 – September 30
Highland Park	May 15 – October 1

Based on the comparisons above, Highland Park falls somewhat in the middle: equal to Wilmette, more restrictive than Winnetka and less restrictive than Evanston.

Recommendation

It has been suggested to the City Manager’s Office that the leaf blower ban dates should be shortened to June 15 – October 1 from its current dates of May 15 – October 1 due to a potential shift in plant seasonal trends. It is recommended that the Natural Resources Commission consider the matter and further, make a recommendation to the City Council for their consideration.

B. Consideration of Commission Participation in Great Lakes Display at Highland Park Public Library

The Highland Park Public Library will soon be promoting a Great Lakes Display this coming August. The commission is requested to consider participating in the promotion and public education of the display.

ATTACHMENTS:

- 333 Woodland Road Staff Report and Application
- 55 S. Deere Park Drive Beach Structure Application
- 57 S. Deere Park Drive Beach Structure Application
- 57 S. Deere Park Drive Modification
- 55-57 S. Deere Park Drive Engineering Division Memorandums
- Light Pollution Executive Summaries
- Light Pollution Proposed Code Amendments to Chapter 93
- Light Pollution Proposed Code Amendments to Chapter 150



Map created on June 5, 2015.

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Disclaimer: This map is for general information purposes only. Although the information is believed to be generally accurate, errors may exist and the user should independently confirm for accuracy. The map does not constitute a regulatory determination and is not a base for engineering design. A Registered Land Surveyor should be consulted to determine precise location boundaries on the ground.

Memorandum



To: Members of the Natural Resources Commission

From: Eric Olson, Planner – Department of Community Development

Date: June 10, 2015

**RE: Zoning Board of Appeals – Variance Request #15-06-VAR-014
333 Woodland Road**

The applicants, David and Morgan Rosenberg, wish to build a new attached garage and an addition to their existing residence located at 333 Woodland Road, but in order to do so, they will require the following zoning variances:

- a) to encroach 4.6 feet into the minimum front yard of 40 feet for a distance of 22 feet,
- b) to encroach 14.76 feet into the established front setback of 50.16 feet for a distance of 22 feet,
- c) to encroach 1.8 feet into the minimum side yard of 9 feet on the east side of the property for a distance of 32 feet,
- d) to encroach 10 feet into the 10' ravine Steep Slope Zone setback, and**
- e) to remove a 36-inch Heritage tree from the property, in order to build a new attached garage and an addition to an existing residence.

In order to obtain a variance to the City's Steep Slope Ordinance (Article XIX [19] of the Zoning Code) to for the setback encroachment shown above as **(D)**, the applicants must appear before the Natural Resources Commission, who will review the variance request relative to standards established in Article 19 and may provide a recommendation to the Zoning Board of Appeals.

Background and Proposed Construction

With respect to the Steep Slope Zone, the existing home is already non-conforming, as a one-story slab on grade portion of the home already encroaches 10 feet into the ravine Steep Slope Zone. The applicants are proposing to remove the existing part of the home that is encroaching, excavate a new basement area in the Steep Slope Zone, and build a two-story addition to the existing home.

The Zoning Code allows the rebuild and renovation of legal non-conforming structures in the Steep Slope Zone as long as the footprint of the rebuilt structure does not exceed that of the previously existing building footprint. However, as the applicants are proposing to remove entirely the existing foundation, excavate a basement and build two stories where one had been previously, this proposal altogether creates much more building bulk in the Steep Slope Zone than exists currently.

Public Works Review

The Department of Public Works Engineering and Forestry Divisions have reviewed the application and submitted the attached memorandum, dated June 1, 2015. The applicant has indicated that they and their representatives will provide a presentation to the NRC members and will respond to the comments made by Public Works at that time.

Steep Slope Variation Process, Policy & Standards

Per Section 150.1912, the Natural Resources Commission is being asked to consider the variation application and vote whether to direct staff to draft Findings of Fact for future Commission approval and Zoning Board of Appeals consideration.

As you consider the Steep Slope variation request, please keep in mind that proposed variation must meet all of the following standards. The applicant has submitted an attached letter of situation and hardship to outline the proposal.

Steep Slope Variation Standards

No variation shall be granted unless all of the following standards have been met or satisfied:

- The proposed development recognizes and fits the natural topography, soils, geology, hydrology and other existing conditions on the proposed sites.
- The proposed development will be oriented so that earth moving, landscaping and other site preparation is kept to an absolute minimum.
- The landscape will be preserved and enhanced and natural terrain and existing vegetation will be minimally disrupted.
- Disruption or alteration of natural drainage ways will be minimal.
- The time in which areas are bare and exposed will be minimized.
- The amount of impervious surface to be placed on the tableland adjacent to steep slopes has been minimized.
- Structures have been designed and properly located so that structure weight does not jeopardize slope stability.

Please feel free to contact Planner Eric Olson if you have any questions regarding this matter prior to the Commission meeting, or if you would like to further discuss the Steep Slope regulations. As a reminder, the Steep Slope regulations can be found in Article 19 of the Zoning Code, accessed online at:

<http://www.cityhpil.com/documents/21/31/50/ART19%20STEEP%20SLOPE%20ZONE.PDF>

ATTACHMENTS:

- Public Works Memorandum – June 1, 2015
- Letter of Hardship – May 20, 2015 (Wiczer & Sheldon, LLC)
- Plat of Survey – 333 Woodland Road (Bleck)
- Yard Setbacks – 333 Woodland Road (Bleck)
- Architectural Drawings – 333 Woodland Road (Ruggles Architecture)
- Structural Engineering Report – 333 Woodland Road (The Structural Group, Ltd.)
- Cross-Section with Slope Profile – Rosenberg Residence (Ruggles Architecture)
- OSHA Over-Dig Diagram – Rosenberg Residence (Ruggles Architecture)
- Means & Methods – E-Mail to Eric Olson, May 28, 2015 (Ruggles Architecture)



PUBLIC WORKS MEMORANDUM



To: Eric Olson, Community Development – Planning
From: Manny Gomez, City Engineer
Date: June 1, 2015
Re: Zoning Board Variance Request - #15-06-VAR-014, SSZ, 333 Woodland Road

We completed our review of the above captioned item and offer the following comments.

Engineering Department

1. The City Building Code IBC 1808.7.2 requires that foundation setback (clearances) from the slope shall be at least the smaller of $H/3$ and 40 feet. “H” is the height from the base slope to the top of slope. The proposed structure in the steep slope does not meet this criteria.
2. For the structure being built in the steep slope zone, Zoning Code Article XIX Steep Slope Zones Section 150.1907 (B) requires a report on Soil Sub-Surface Investigations along with a slope stability analysis to accompany building permit applications. This was not submitted and is required.
3. Signed and sealed calculations must be submitted by a Professional Civil Engineer or Structural Engineer to show factor of safety requirements are met for the new dead and live loads due to the proposed structure.
4. Based on the recent retaining wall built in the City’s steep slope zone, Factor of safety of 1.5 to 2.0 is may not be enough to ensure stability. We note this as the slope and wall failed. Please consider a higher factor of safety to ensure long term stability.
5. The permit applicant should submit plans and reports noted in Sec. 150.1907 of the Highland Park Code.

Forestry Department

The Forestry Department has been asked to review the request for variances to construct an addition to the residence at 333 Woodland Road. Their response to this request is exclusive to tree preservation, and serves the sole purpose of providing the Zoning Board of Appeals with information regarding the impact this variance will have upon protected trees (as per Section 94 and Chapter 150 Article 19 of City Code)

1. The proposed construction will require the removal of three Protected trees, two Key trees, and one Heritage tree. The two Key trees are 20” and 21” diameter Red Oak trees. The Heritage tree is a

36" diameter Red Oak and resides in the backyard of the existing residence. The trees are in good condition and are protected under City Code.

2. In addition to the variance request for the removal of the Heritage Oak, the proposal also requests for the excavation and redevelopment in the Steep Slope Zone as defined by City Code (Section 150 of City Code). The new excavation included in the proposed construction has the potential to negatively impact adjacent trees in the ravine. This includes two Protected trees (an Austrian Pine and Linden) and two Key trees (two White Oaks). Because the trees are growing along the face of the ravine, it is likely that their root systems extend toward the residence. It is therefore likely that excavation of a new basement for the residence will damage the root system these trees. This could cause health problems for the trees in the future or compromise their structural integrity. It is therefore the Forestry Department's opinion that the granting of these variances will result in construction that will negatively impact the Heritage tree and other Key trees in the Steep Slope zone.
3. In the event the variance is approved or considered for approval, it is recommended that the applicant retains the services of a Certified Arborist to provide a detailed review of the trees. The Arborist could assess the potential damage and offer a Tree Preservation Action Plan to mitigate potential damage caused by the trees close proximity to construction. This mitigation action plan could include, but is not limited to, root pruning, application of arboricultural growth inhibitors, and/or fertilization regimen (based on recommendations of the Arborist consultant). If the variance is granted, a Tree Preservation Action Plan should be required. The applicant will also be responsible for all fees and tree replacement, for any removals in conjunction with the construction. These fees and replacement requirements are laid out in Section 94 of City Code.
4. Given the above comments, the Forestry Department cannot support the variances as requested.

c: Ramesh Kanapareddy, Director of Public Works
Ron Bannon, Deputy Director of Public Works
Joel Fontane, Director of Community Development
Linda Sloan, Planning Division Manager
John Tilton, Building Department Manager



Wiczer & Sheldon, LLC

Attorneys at Law

500 Skokie Boulevard
Suite 325
Northbrook, IL 60062

T: 847-849-4850
F: 847-849-4851
www.wiczersheldon.com

May 20, 2015

Chairman
Zoning Board of Appeals
City of Highland Park
1150 Half Day Road
Highland Park, IL 60035

RE: David and Morgan Rosenberg Application for Zoning Variance
333 Woodland Road, Highland Park, Illinois

Dear Mr. Chairman and Zoning Board Commissioners:

I represent Mr. and Mrs. David Rosenberg ("Rosenbergs"). The Rosenbergs are the legal owners of record of the property located at 333 Woodland Road, Highland Park, Illinois (the "Property"). The Rosenbergs have filed an Application for Zoning Variance ("Application") with the City of Highland Park for the reasons discussed herein. The purpose of the request to vary the Highland Park Zoning Code ("Code") is to allow the rehabilitation/remodeling of a single family residence on the Property. The Rosenbergs seek to vary the Zoning Code as follows:

- 1) To erect a garage on the Property that will encroach 4 feet 7 inches into the minimum front yard of 40 feet for a distance of 22 feet;
- 2) To erect a garage on the Property that will encroach 14 feet 7 inches into the established building set back of 50 feet for a distance of 22 feet;
- 3) To erect a garage that will encroach 1 foot 10 inches into the minimum side yard of 9 feet on the east side of the Property for distance of for a distance of 32 feet and;
- 4) Finally, to erect a structure (pre-existing non-conformity) that will encroach into the Steep Slope Zone Special setback of 10 feet.

FACTUAL BACKGROUND

The Property owned by the Rosenbergs has some architectural/historical significance as it was designed and constructed in or about 1936 by the famous architectural firm of Mayo & Mayo. An addition to the home was erected in or about 1970. The Property is not a historical property, as defined by the Zoning Code, and therefore the Historic Preservation Commission

approval is not required. In light of the historical/architectural significance, the Rosenbergs were left with a very difficult decision: to tear the home down and bring the Property into the modern era or to undertake a very difficult rehabilitation/remodeling project of the Property. The Property, if torn down, would enable the Rosenbergs to build a home on the property which meets all their requirements. For example, if they started from scratch by tearing the home down, there is no doubt that the Rosenbergs could build a three car garage on the Property without the necessity of a zoning variation. However, given the current configuration of the home, without tearing the home down, variations are necessary including the request to erect a new garage if the home is going to be saved.

Given the choices presented to the Rosenbergs, tear down the Property with some significant architectural history or attempt to rehabilitate/remodel the home, the Rosenbergs chose the latter and that is why this Application is brought to the Highland Park Zoning Board of Appeals for its consideration.

DISCUSSION OF RELIEF REQUESTED

As set out above, the Rosenbergs are requesting four variations to the Code. The first is in the rear yard of the Property and to encroach in the steep slope zone. This request for variation is a result of a pre-existing legal non-conformity. This encroachment is not being extended and comes before the ZBA only because a permit has been requested to perform construction on the Property.

Second is a request for a variation into the side yard of the Property on the east side. The side yard encroachment is also a pre-existing legal non-conformity, in part. The encroachment into the side yard on the east side already exists. However, the Rosenbergs propose to reconstruct the garage and move the garage further south. Thus, the side yard encroachment already exists, however is being moved further south and will cover a greater distance (from 20.87 feet to 32 feet).

The third variation is the request for a variance of both the established and required front yard setbacks. The hardship driving this request, is simply the existing structure of the home. The front yard setback survey ("Survey") reveal that there are homes that have a setback from as little as 30 feet to as much as 80 feet. The request for variation into the front yard is to encroach into the required front yard setback from 40 feet to 35 feet 5 inches. Unlike most of the other homes on Survey, the Rosenberg's request relates only to the garage and not the entire structure. Thus, any impact on the front yard is minimized. Also, as noted, there is no doubt that the Rosenbergs could build a three car garage if they tore down the existing structure. It is clear that the existing garage will need to be tore down as it is not in good condition.

STANDARDS FOR GRANTING VARIATIONS

Pursuant to Section 150.1205 of the Code of the Rosenbergs' request for the four variations described herein may be granted because:

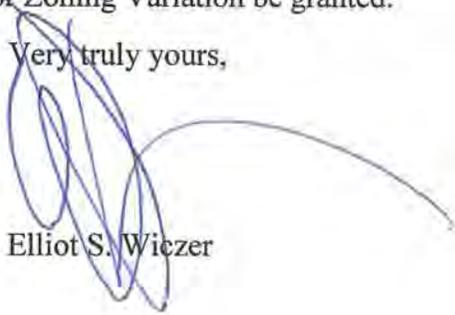
1. 1205 (A) (1). The property in question cannot yield a reasonable return if permitted to be used only under the conditions allowed by the regulations of the Zoning District. This is because, in its current condition, there are two options. One is to tear the home down and the other option is to obtain relief by the Zoning Board which would allow the home to be rehabilitated and brought into the modern era. The Rosenbergs

motivation is to live in the home with their family, not to make money from this Property. The goal is to update, remodel and rehabilitate a beautiful, old, historic home.

2. 1205(A) (2). The Rosenberg's plight is unique in that a grant of the variation requested will alleviate demonstrable and unusual hardship in that in order to preserve the Property, zoning variations are required. Again, if no structure existed on the Property, the Rosenbergs could build a home that contained all of the features that are being proposed in their plans, including the three car garage without any need of zoning board action. In order to preserve the current structure it is impossible to do so without the grant of relief. Moreover, at least two of the requests for variation, in part or in whole, are pre-existing legal, non-conformities. Namely, the current garage encroaching in the side yard and the steep slope zone encroachment.
3. 1205(A) (3). The particular, physical surrounding and shape of the Property is what is driving the hardship. Without relief from the Zoning Code, the structure on the Property does not permit the Rosenbergs to sufficiently bring the home into the modern era, rehabilitate the Property and remodel the Property without tearing the Property down. Also, as mentioned above, two of the four requests for variation are current legal, non-conforming structures.
4. 1205A(4). The hardship has not been created by the Rosenbergs.
5. 1205A(5). The proposed variation will not necessarily be detrimental to the public welfare or injurious to the other property. None of the requests for variation will impact the neighborhood. In fact, the opposite will occur, the Rosenbergs will, by their plans, save a property with historical/architectural significance.
6. 1205A(6). There is no evidence that the proposed variation will impair an adequate supply of light and air to adjacent properties.
7. 1205A(7). The proposed variation will not alter the essential character of the neighborhood. In fact, the proposed variations will continue to preserve the character of the neighborhood in that the Rosenbergs have chosen to rehabilitate and remodel the Property as opposed to tearing down the Property.

It is clear that the Rosenbergs meet the requirements of the Code and respectfully request that the variations as requested in the Application for Zoning Variation be granted.

Very truly yours,

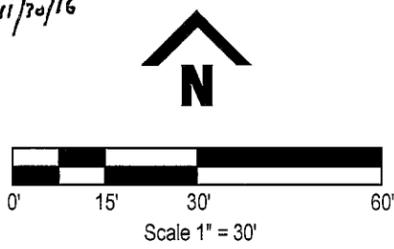
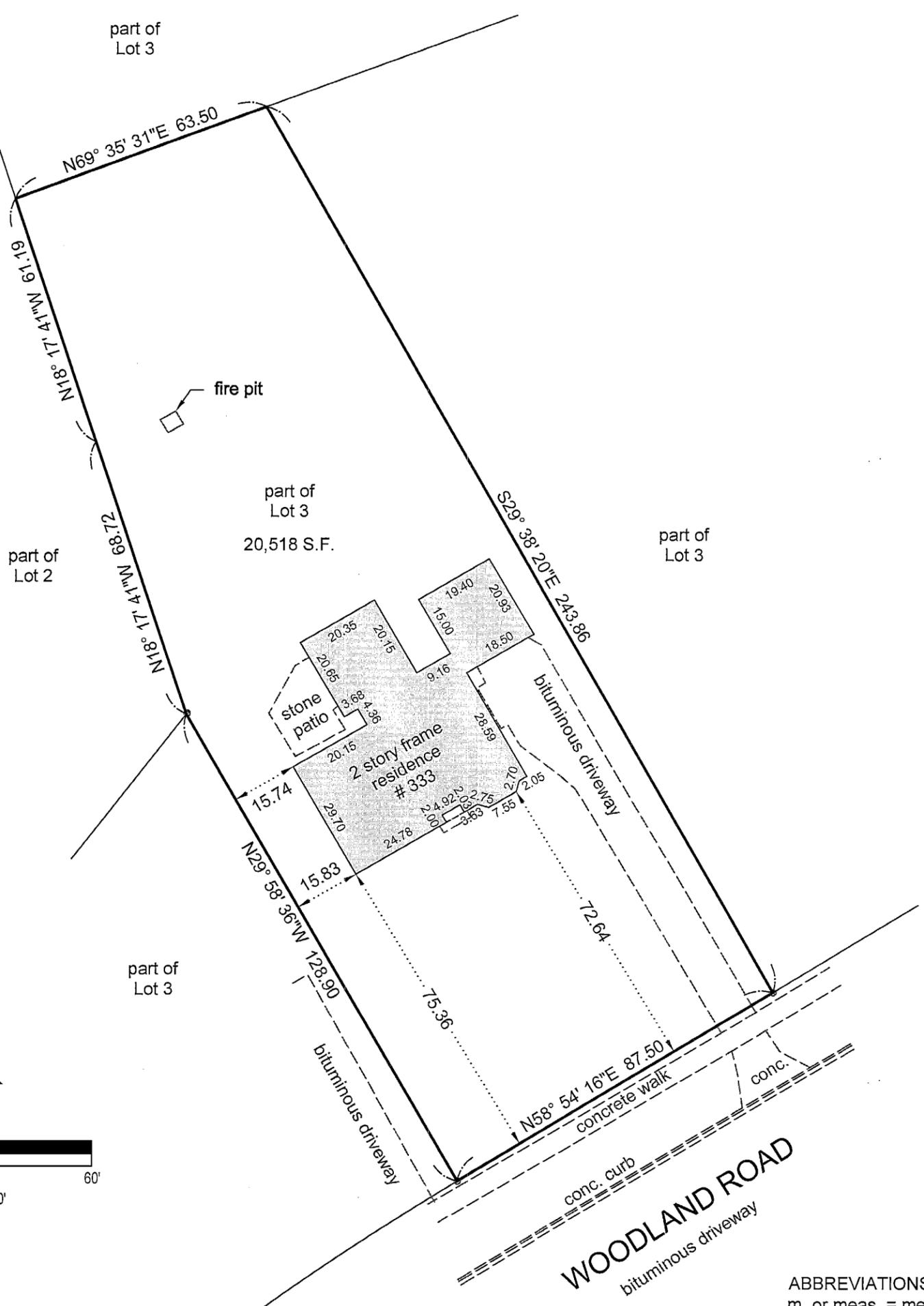

Elliot S. Wiezer

ESW/an

Cc: Mr. and Mrs. David Rosenberg

PLAT OF SURVEY

THOSE PARTS OF LOT 3 IN RAVINIA WOODS BEING A SUBDIVISION OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 36, TOWNSHIP 43 NORTH, RANGE 12, EAST OF THE THIRD PRINCIPAL MERIDIAN (EXCEPTING RAILROAD RIGHTS OF WAY) AS RECORDED JANUARY 29, 1909 IN BOOK "H" OF PLATS, PAGE 22, AS DOCUMENT 120792 AND LOT 3 IN NELSON'S ADDITION TO RAVINIA WOODS, BEING A SUBDIVISION OF LOTS 117 AND 118 OF SOUTH HIGHLAND ADDITION TO HIGHLAND PARK, AS RECORDED APRIL 7, 1909 IN BOOK "H" OF PLATS, PAGE 33, AS DOCUMENT 121840 LYING SOUTHWESTERLY OF A STRAIGHT LINE DRAWN FROM THE MID-POINT IN THE SOUTHEASTERLY LINE OF SAID LOT 3 IN RAVINIA WOODS, TO THE MID-POINT IN THE NORTHWESTERLY LINE OF SAID LOT 3 IN NELSON'S ADDITION TO HIGHLAND PARK, IN LAKE COUNTY, ILLINOIS.



PLAT IS VOID IF IMPRESSED SEAL DOES NOT APPEAR

STATE OF ILLINOIS } S.S.
COUNTY OF LAKE }

NOTE: ONLY THOSE BUILDING LINES OR EASEMENTS SHOWN ON THE RECORDED SUBDIVISION PLAT ARE SHOWN HEREON; CHECK LOCAL ORDINANCES BEFORE BUILDING. COMPARE YOUR DESCRIPTION AND SITE MARKINGS WITH THIS PLAT AND AT ONCE REPORT ANY DISCREPANCIES WHICH YOU MAY FIND.

ON BEHALF OF BLECK ENGINEERING CO., INC., I, JACK R. BLECK, DO HEREBY CERTIFY THAT THE PROPERTY DESCRIBED IN THE ABOVE CAPTION WAS SURVEYED AND STAKED BY ME, OR UNDER MY DIRECTION, AND THE PLAT DRAWN HEREON IS A TRUE AND CORRECT REPRESENTATION OF SAID SURVEY. MEASUREMENTS ARE GIVEN IN FEET AND DECIMAL PARTS THEREOF. THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

DATED AT LAKE FOREST, ILLINOIS, THIS 24TH DAY OF APRIL A.D., 2015.

BY Jack R. Bleck
REGISTERED ILLINOIS LAND SURVEYOR NO. 3591

ABBREVIATIONS:
m. or meas. = measured
r. or rec. = record
CB = chord bearing
CH = chord length
L = arc length
N = North
S = South
E = East
W = West
S.F. = square feet

Project No. 90-310



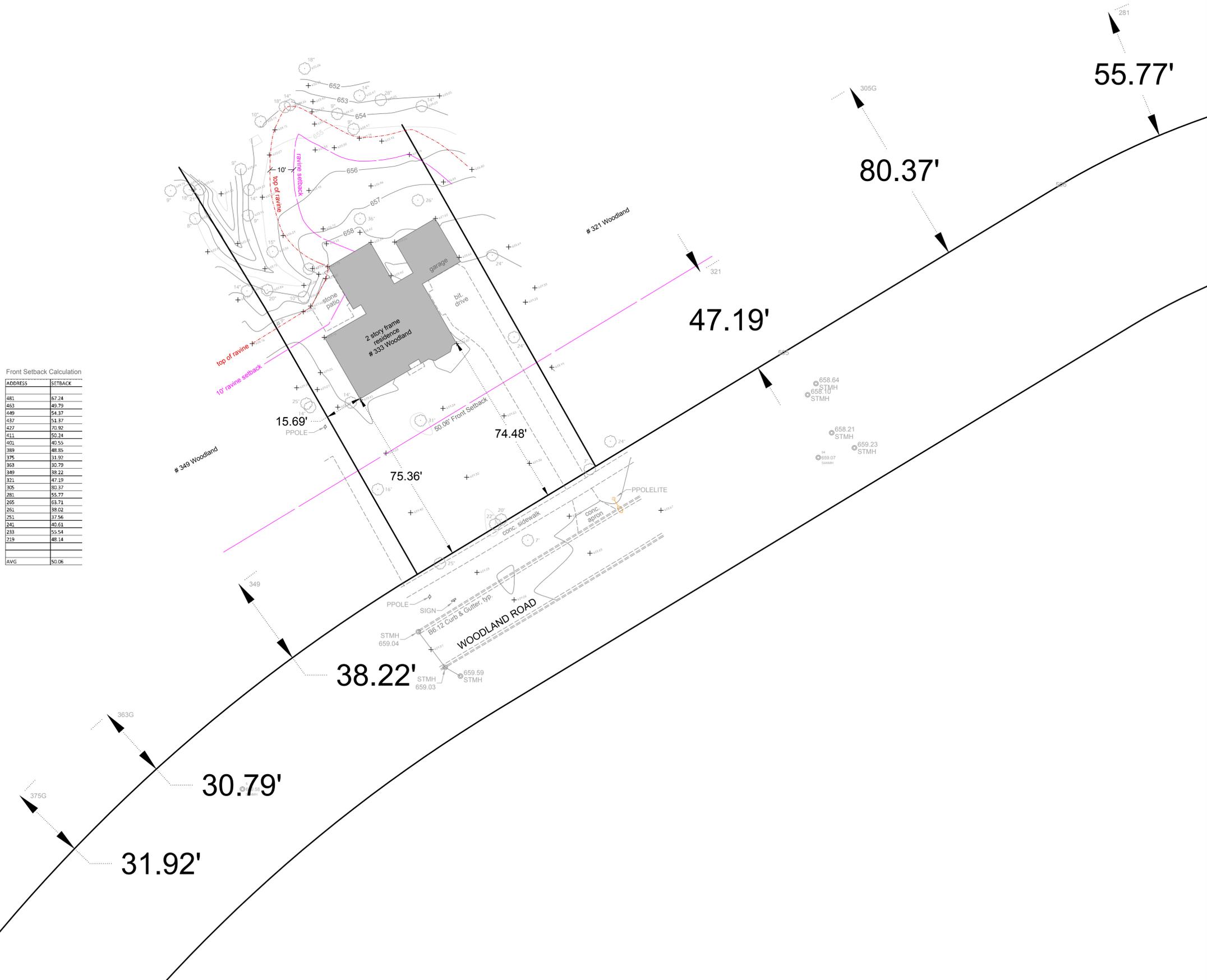
Bleck Engineering Company, Inc.
1375 North Western Avenue
Lake Forest, Illinois 60045

T 847.295.5200 F 847.295.7081
www.bleckeng.com

iron pipes were found at all lot corners

Rosenberg Residence, 333 Woodland, Highland Park, IL

LEGAL DESCRIPTION



Front Setback Calculation

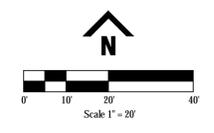
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489	54.37
497	51.37
427	79.92
411	50.24
401	40.55
389	48.85
375	31.92
369	30.79
349	38.22
321	47.19
305	80.37
281	55.77
255	63.71
251	38.02
251	37.56
241	40.61
233	55.54
219	48.14
AVG	50.06



engineers | surveyors

Bleck Engineering Company, Inc.
1375 North Western Avenue
Lake Forest, Illinois 60045
T 847.295.5200 F 847.295.7081
www.bleckeng.com

Rosenberg
333 Woodland
Highland Park, IL



BENCHMARK: North Bolt on Fire Hydrant
at 389 Woodland Road
ELEVATION = 663.32

ISSUED DATE	ISSUED FOR
03.09.2015	Coordination

PROFESSIONAL SEAL

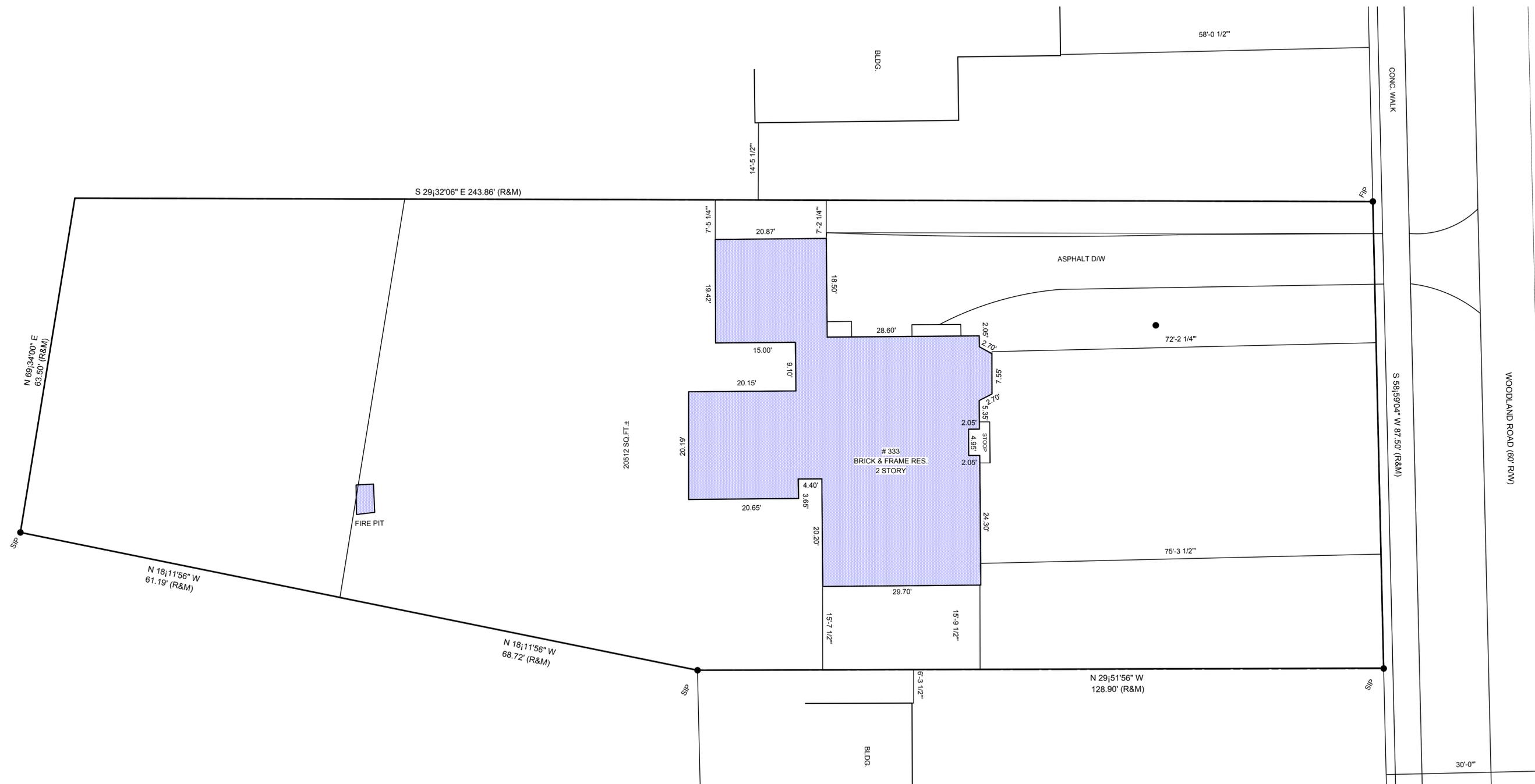
Michael G. Bleck, PE Mar. 9, 2015
License No. 002-048893 Expires 11/30/15

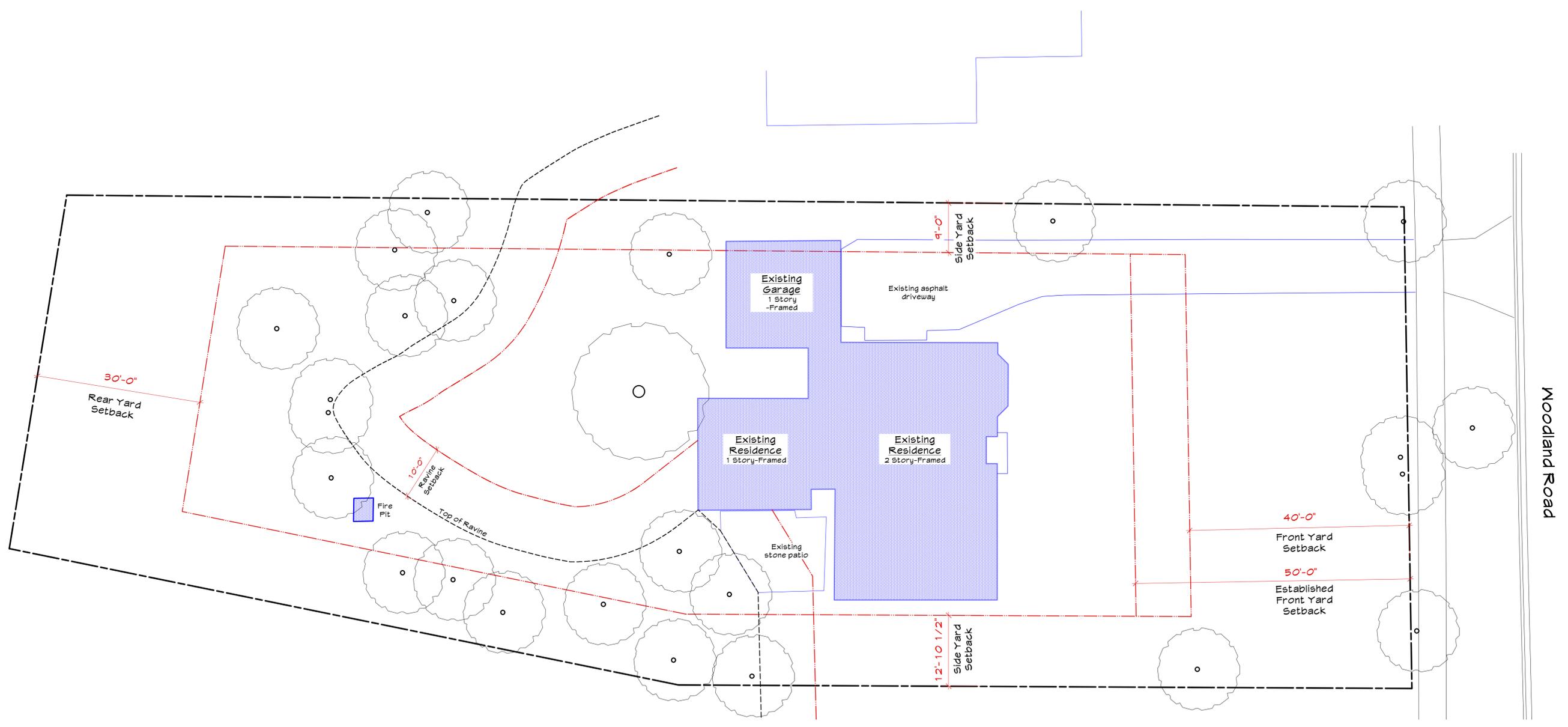
David A. Rosenberg
333 Woodland
Highland Park, IL

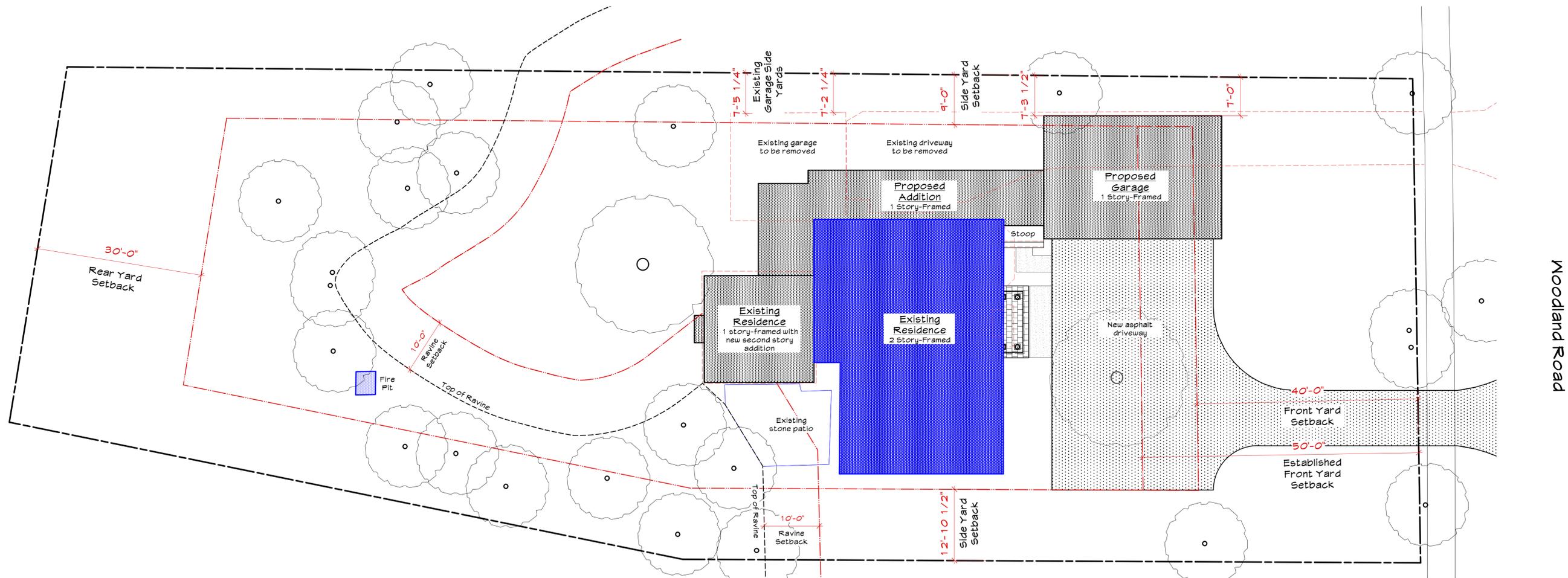
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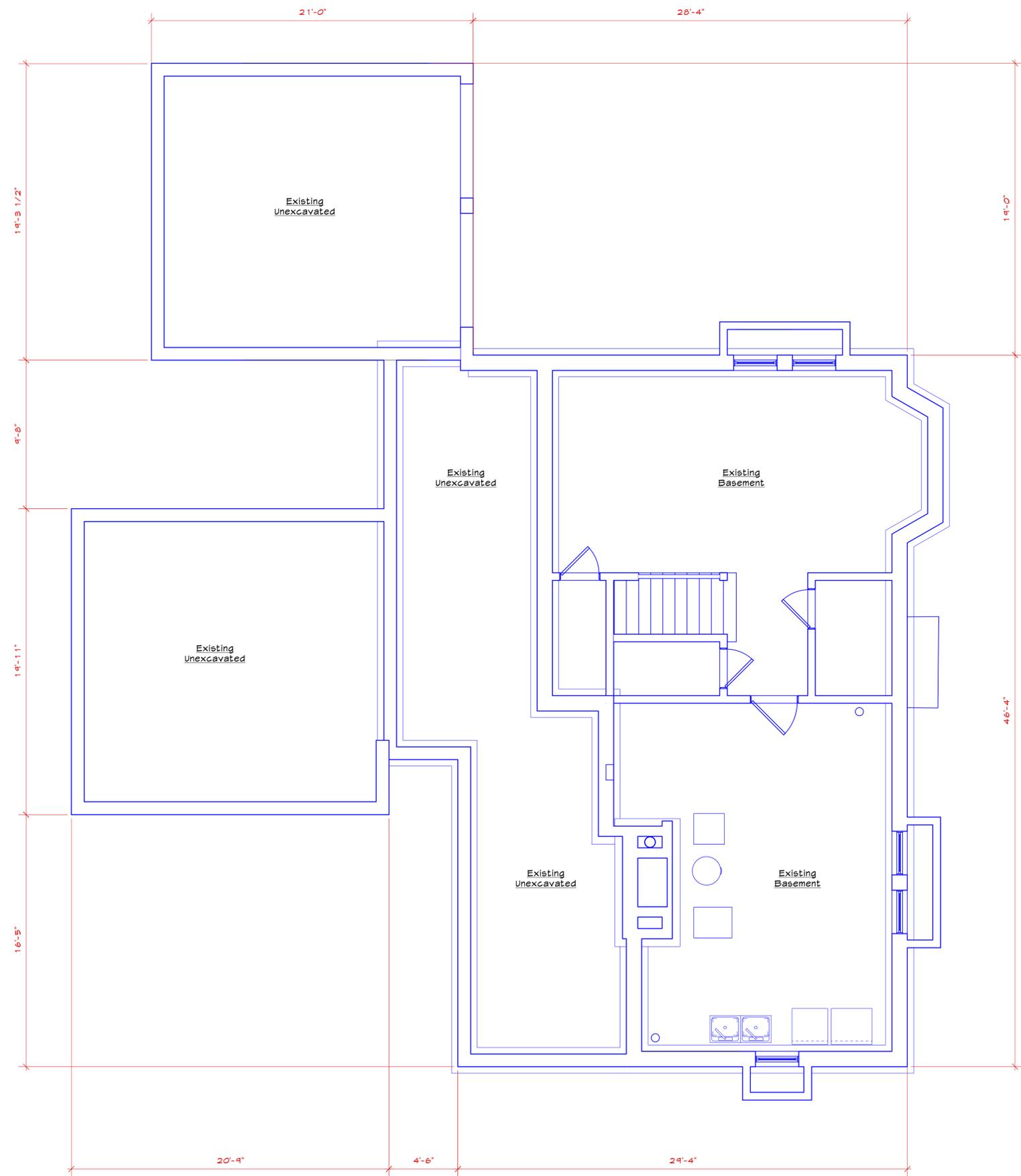
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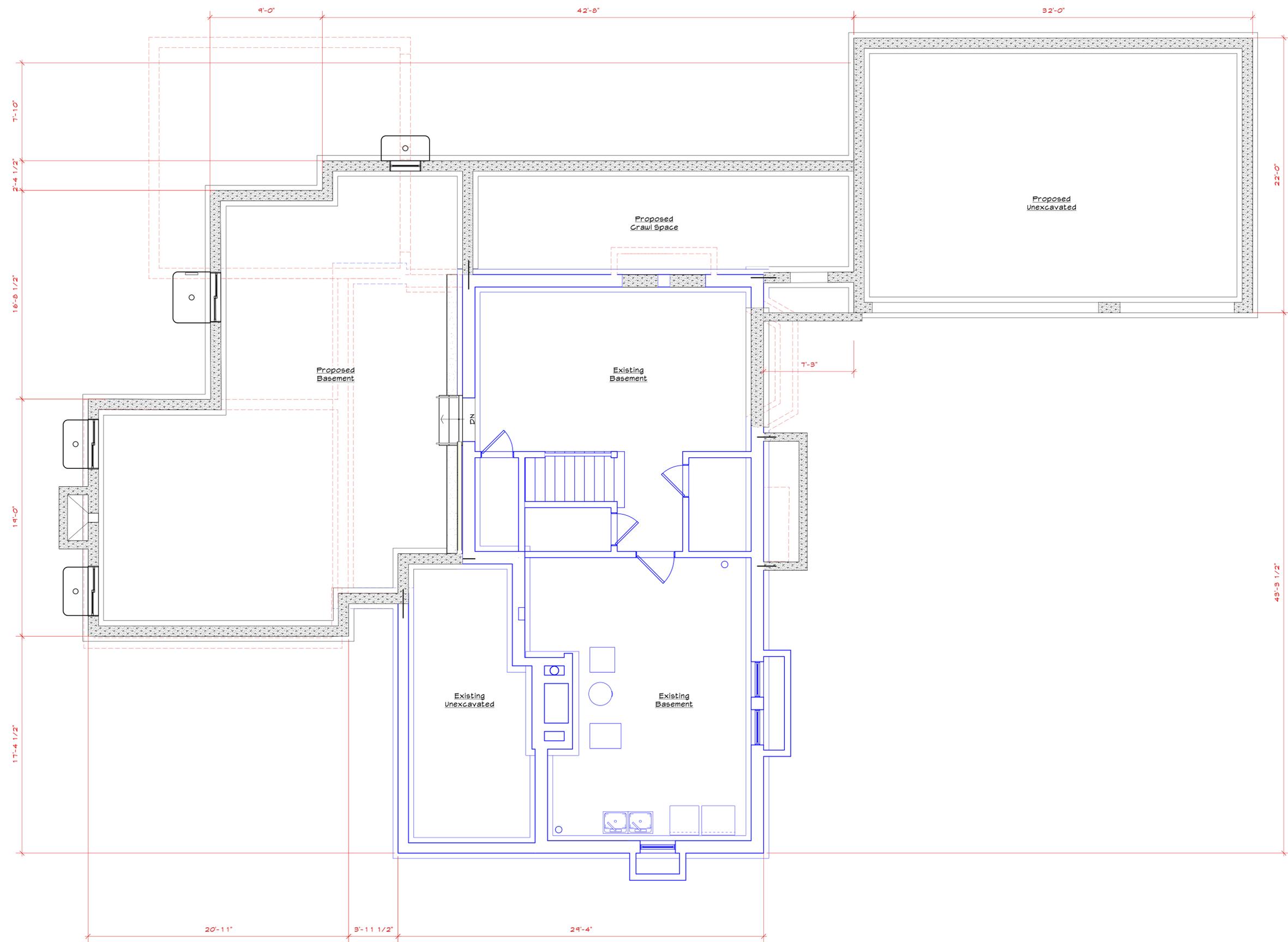
Drawing Name
Yard Setbacks

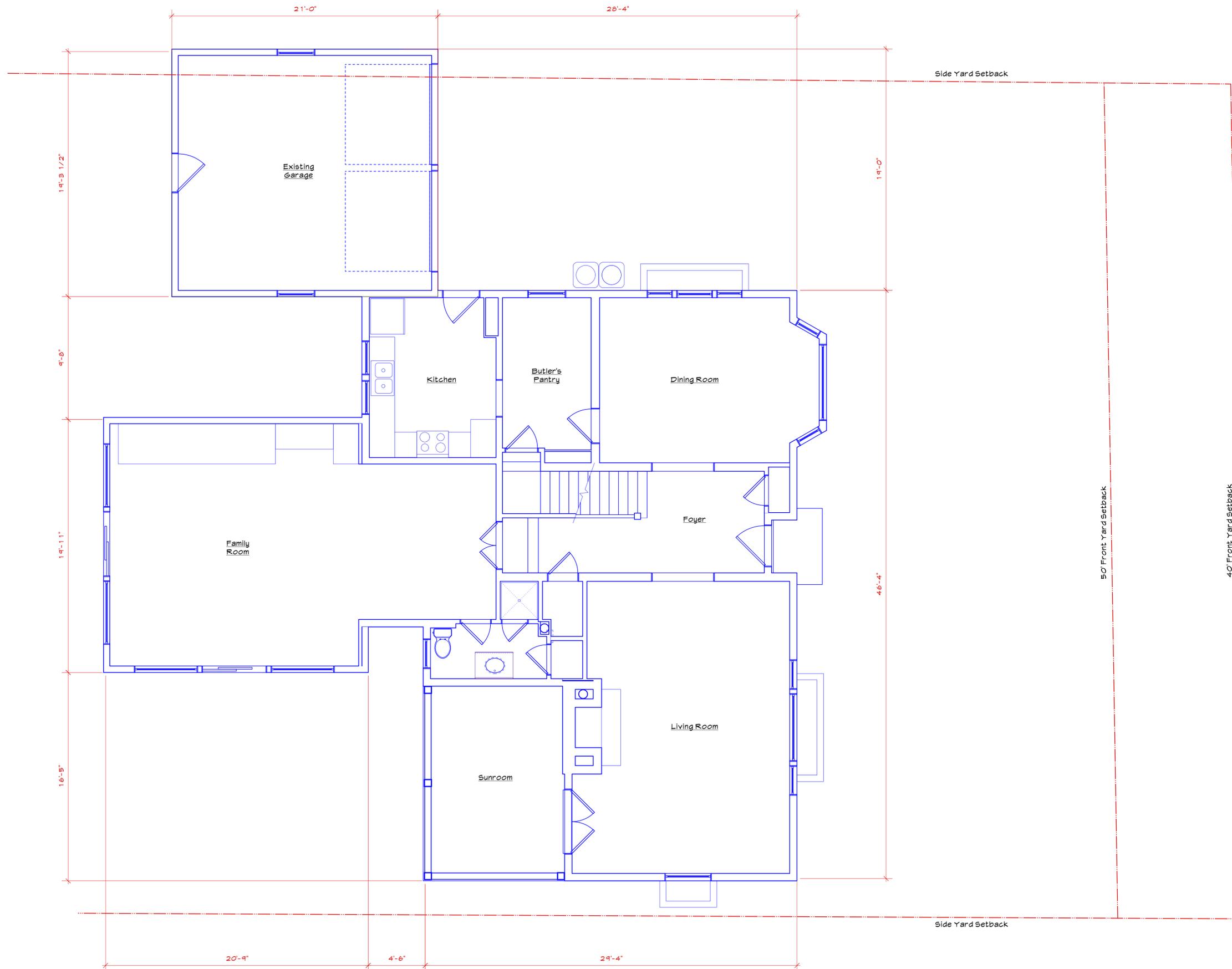


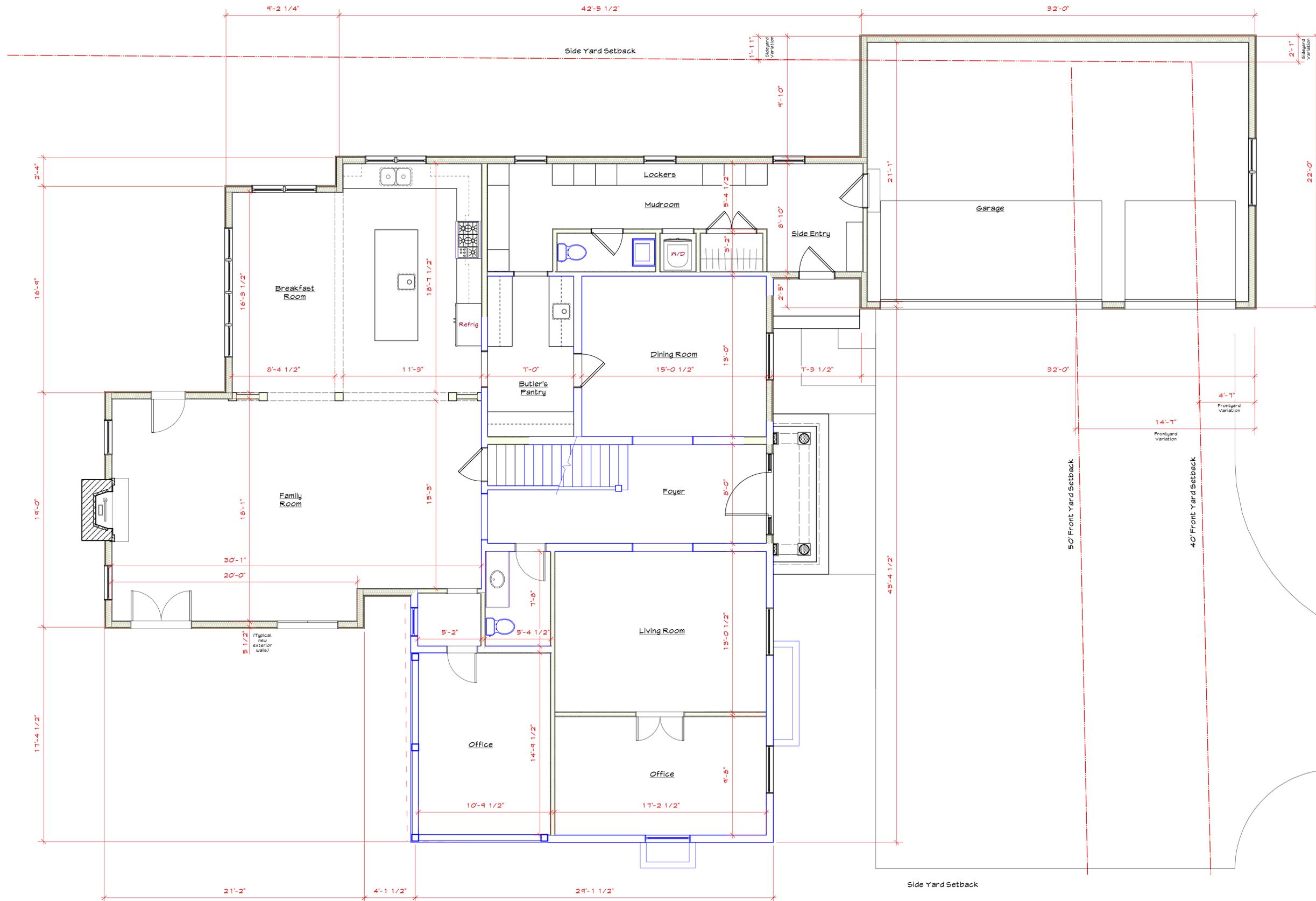


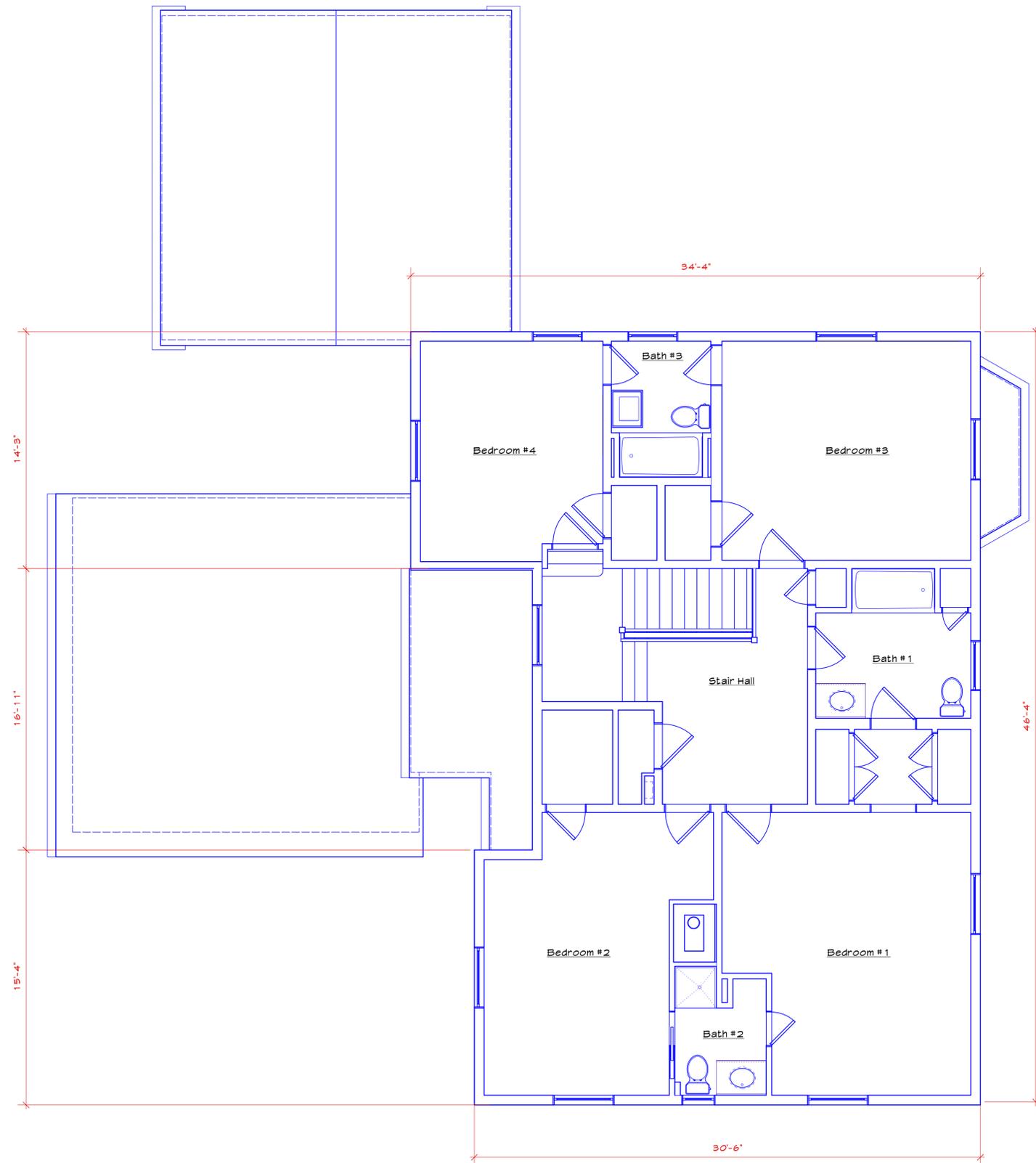


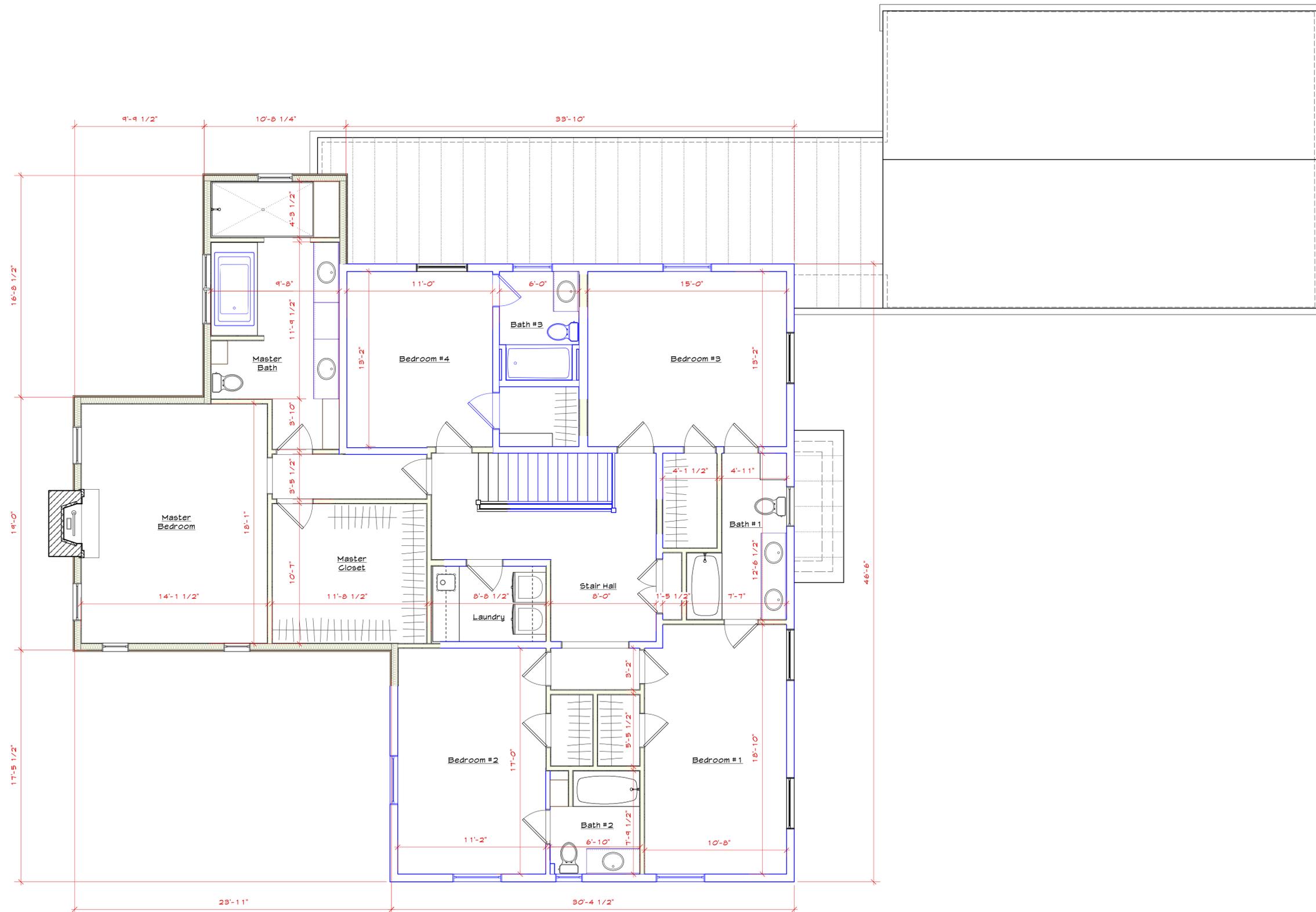


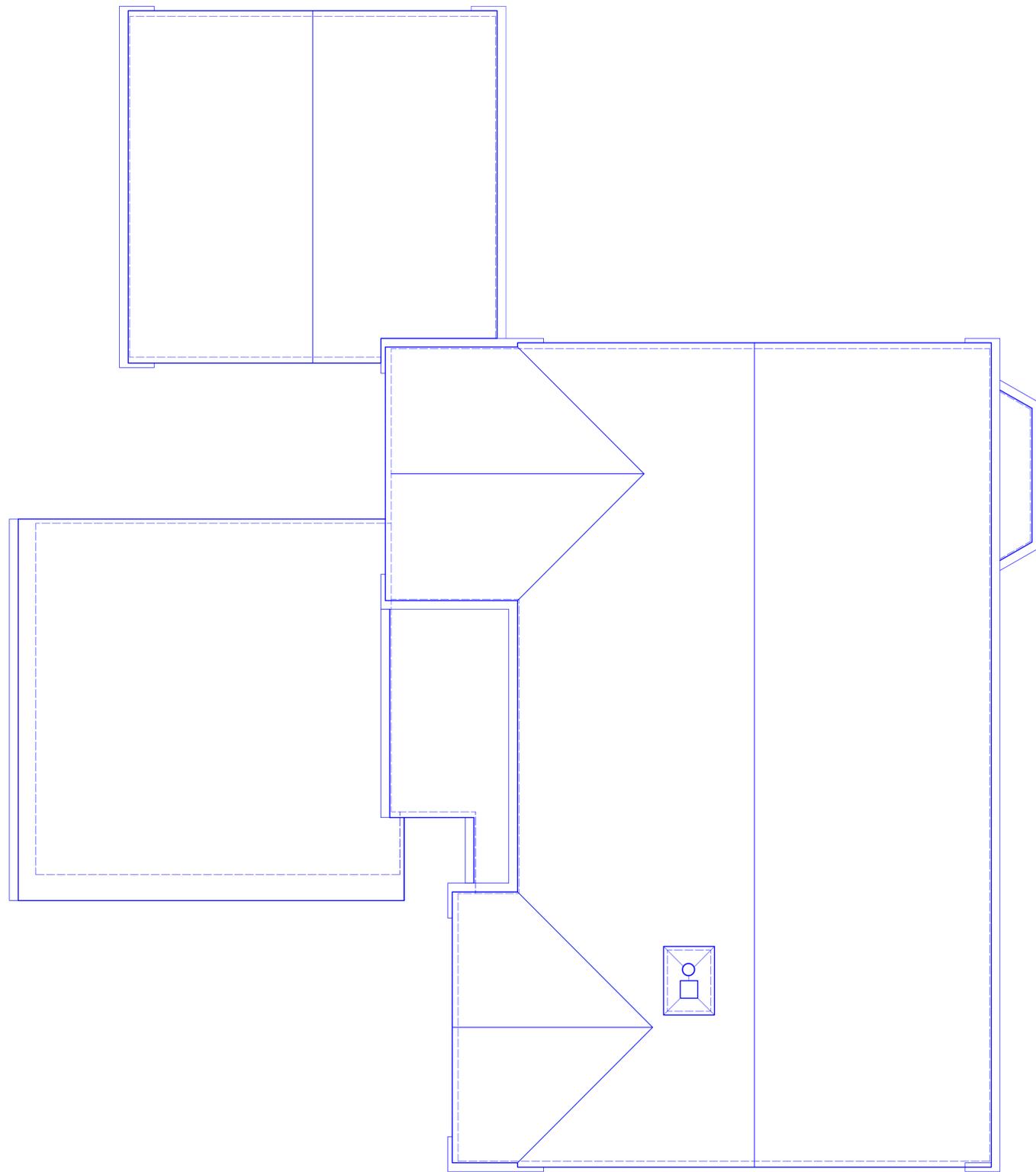


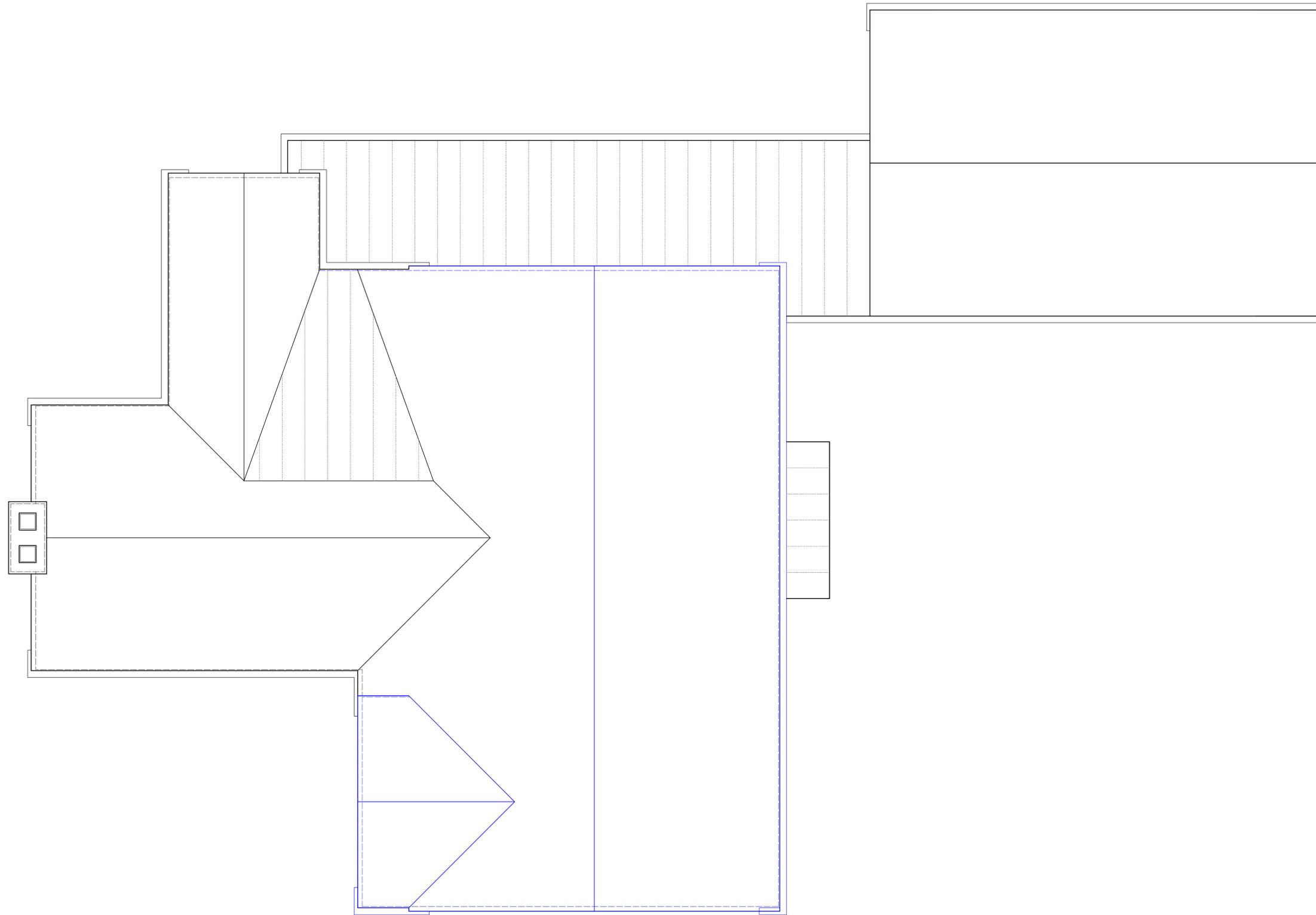










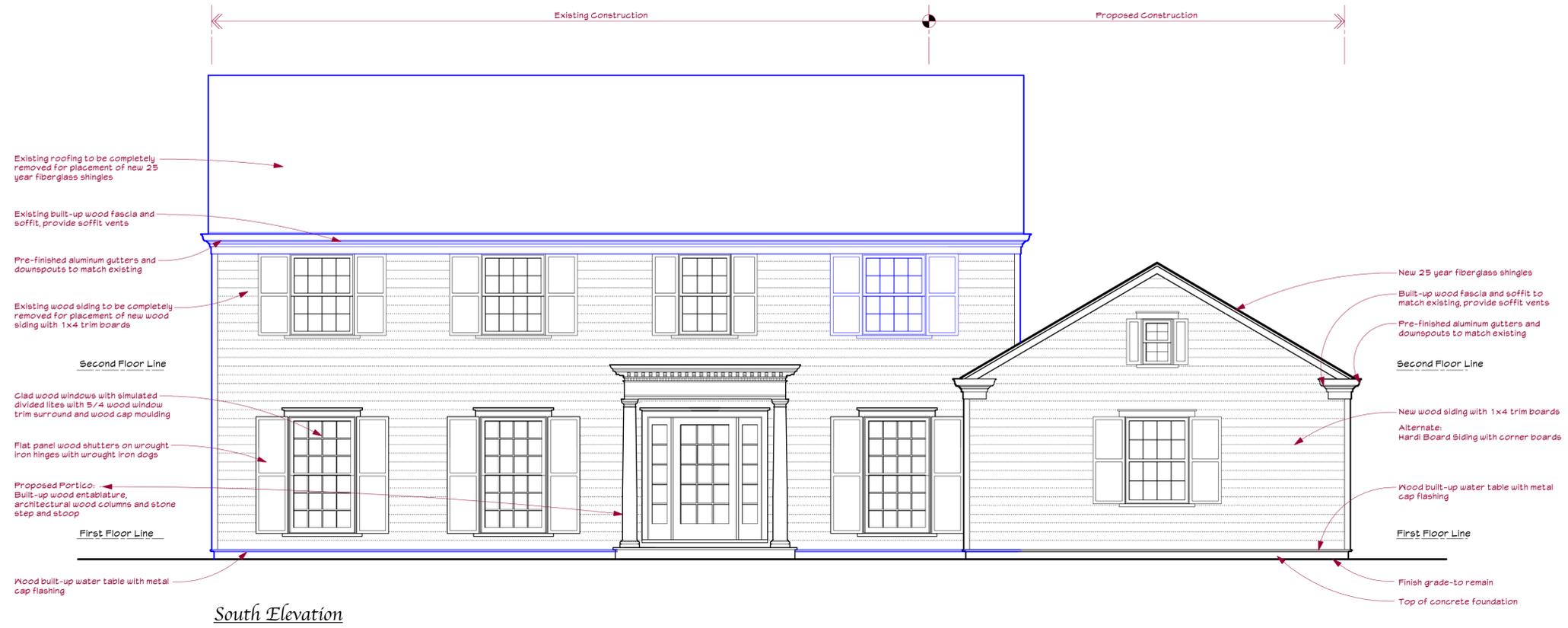




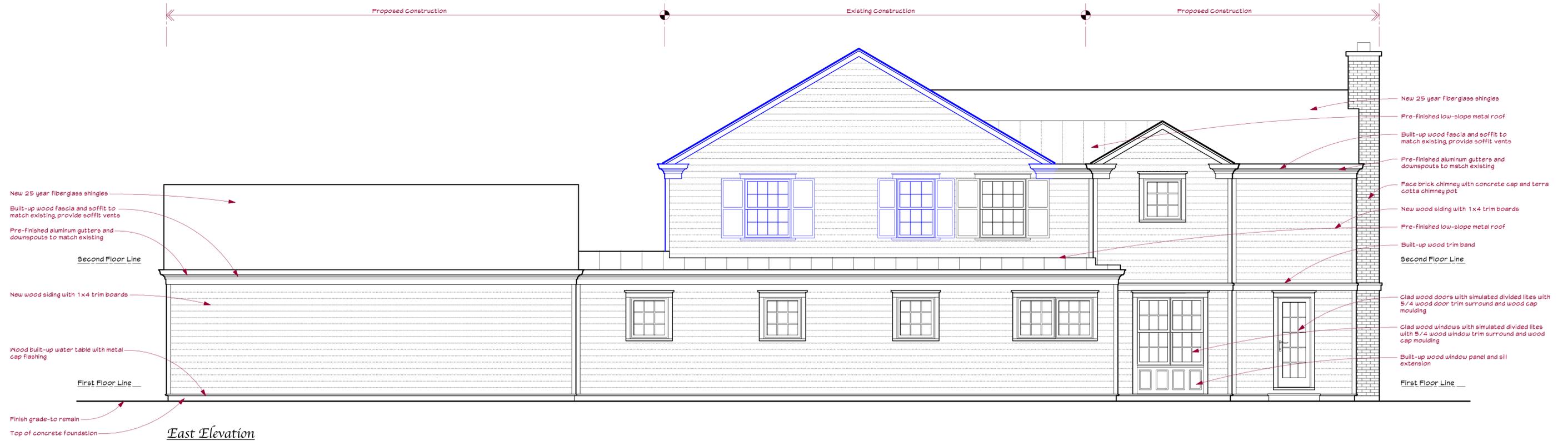
South Elevation



East Elevation



South Elevation



East Elevation





North Elevation



West Elevation

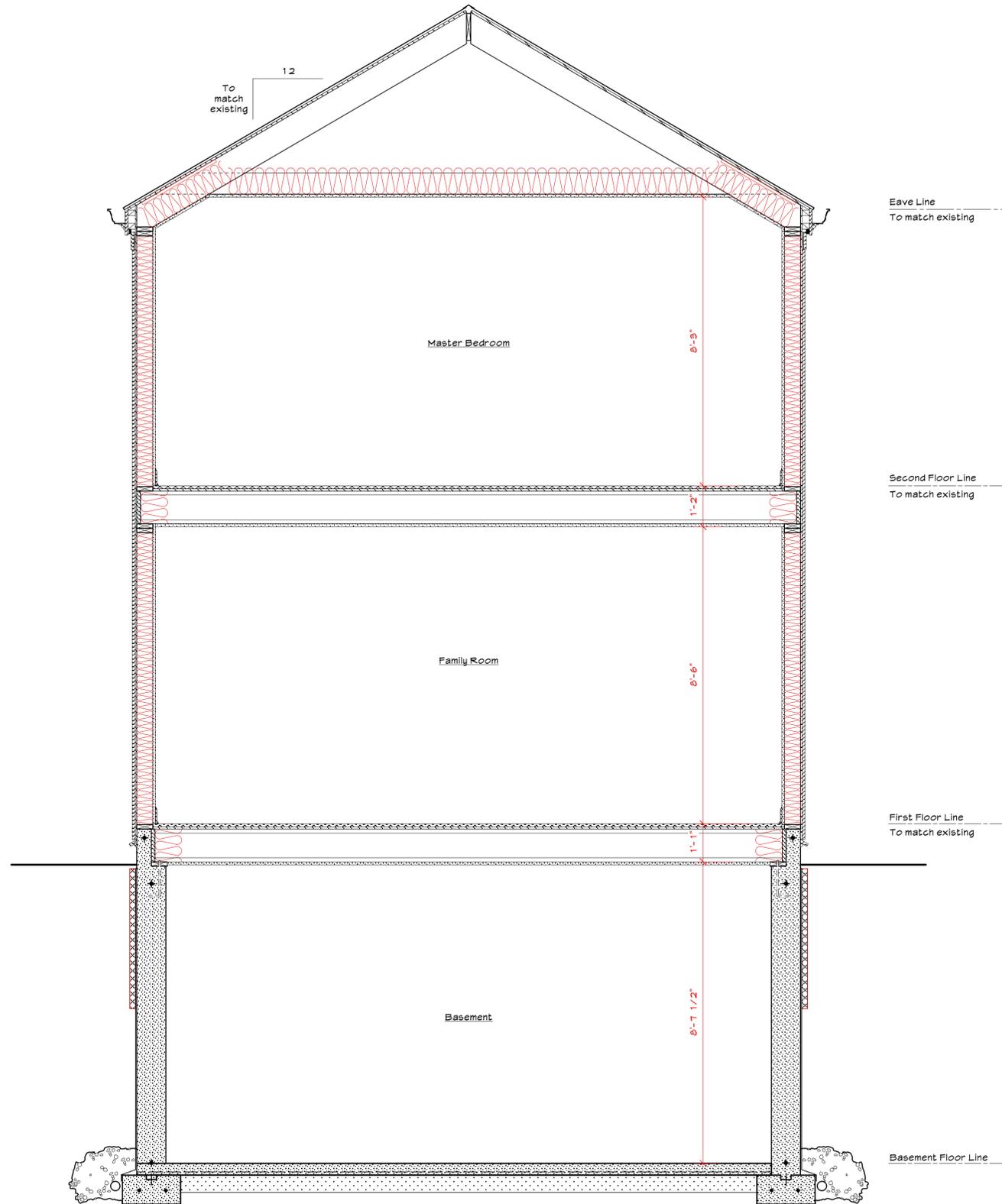


North Elevation



West Elevation





Section at Family Room/Master Bedroom



The Structural Group, Ltd.

707 Lake Cook Road, Suite 107, Deerfield, Illinois 60015

Phone 847.562.1977 Fax 847.562.1978

May 19, 2015

Mr. Robert Ruggles
Ruggles Architecture, PC
175 Washington Circle
Lake Forest, IL 60045

Re: **333 Woodland Rd., Highland Park, IL**

TSG Proj. No. 15RAPC01

Dear Bob:

Per your request, we have reviewed the plans for the proposed addition and renovation of a two-story single family residence at 333 Woodland Rd., Highland Park, Illinois. The purpose of the review was to evaluate the effects of the construction with respect to the Steep Slope zone.

This review is based on drawings provided by Ruggles Architecture, PC (RA) including the following drawings prepared by RA dated March 12, 2015:

Site Plan - Plat of Survey
Site Plan - Existing
Site Plan - Proposed
Basement - Existing
Basement - Proposed
Floor 1 - Existing
Floor 1 - Proposed
Floor 2 - Existing
Floor 2 - Proposed
Roof Plan - Existing
Roof Plan - Proposed
Elevations - Existing (2 drawings)
Elevations - Proposed (2 drawings)

Additionally, RA also provided the drawing Yard Setbacks plan dated March 9 , 2015 prepared by Bleck Engineering Company, Inc. (BEC).

Letter to Mr. Robert Ruggles
Re: 333 Woodland Rd., Highland Park, IL
Steep Slope Zone
TSG P.N.: 15RAPC01
May 19, 2015

The City of Highland Park has enacted a Steep Slope ordinance. The ordinance requires that building permits address the requirements of the Steep Slope ordinance. The ordinance indicates that construction occurring within 10 feet of the top of a ravine address these issues.

TSG relies on the interpretation of the definition of “top of ravine” and “10' ravine setback” as indicated in the Yard Setbacks plan by BEC identified above.

The proposed construction has several areas of renovation and addition. The only area of the proposed construction which impedes on the 10 foot set back is at what is currently the reconstruction of the existing Family Room.

The current Family Room is a single-story dimensional lumber framed structure on frost depth perimeter foundation walls with a crawl space. The proposed scheme in this area is to reconstruct the same footprint but with a basement and a second story.

The proposed construction scheme is to demolish the existing structure, perform a conventional open excavation for new basement walls bearing at 10 feet below existing grade. We anticipate that the plan area of over dig of the foundation will slope up to grade and extend 10 feet beyond the perimeter of the building footprint. This construction complies with the Steep Slope ordinance as follows:

1. The new construction footprint will be identical to that of the existing structure.
2. The new foundation wall/basement wall and footing will be constructed of cast-in-place concrete.
3. Per the attached sketches SSK-1 through SSK-3, we have plotted five (5) slope profile section views of the most critical slope locations along the ravine. SSK-1 indicates the location of those section cuts on a partial plan excerpted from the Yard Setbacks plan.
 - a. The largest drop in elevation at 5 feet from the structure is 1 foot (slope 1:5) occurring at Section 5.
 - b. The largest drop in elevation at 10 feet from the structure is 2.4 feet (slope 1:4) occurring at Section 5 which reaches a low point of -3 feet at 12 feet away before climbing again.
 - c. Besides section 5, the largest drop in elevation at 15 feet away is -2.2 feet (slope

Letter to Mr. Robert Ruggles
Re: 333 Woodland Rd., Highland Park, IL
Steep Slope Zone
TSG P.N.: 15RAPC01
May 19, 2015

1:6.8) at Sections 3 and 4.

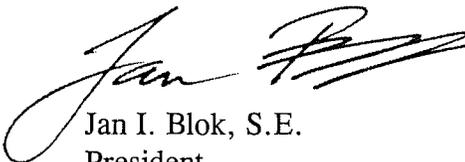
- d. None of these slopes would become unstable by excavation for the proposed basement within the guidelines to be set in the contract documents as described below.
4. The contractor is responsible for the means and methods of construction. The contract documents will indicate the following parameters:
- a. The location of any motorized equipment used in the demolition of the existing structure and foundations is to be located behind the ravine setback line and/or from within the existing building footprint.
 - b. The extent of excavation be minimized to the minimum required for slope stability of the excavation.
5. The proposed footing elevation of 10 feet below existing grade will not impose a surcharge on adjacent slopes within 30 feet of the structure.

Based on this understanding, it is our opinion that excavation for and reconstruction of the foundations of the Family Room for this project with a full depth basement and 2-story light framed residence will not jeopardize the slope stability of the adjacent ravine.

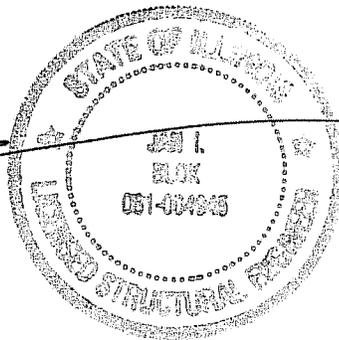
Please feel free to contact us with any further questions or comments. It has been a pleasure to be of service to you.

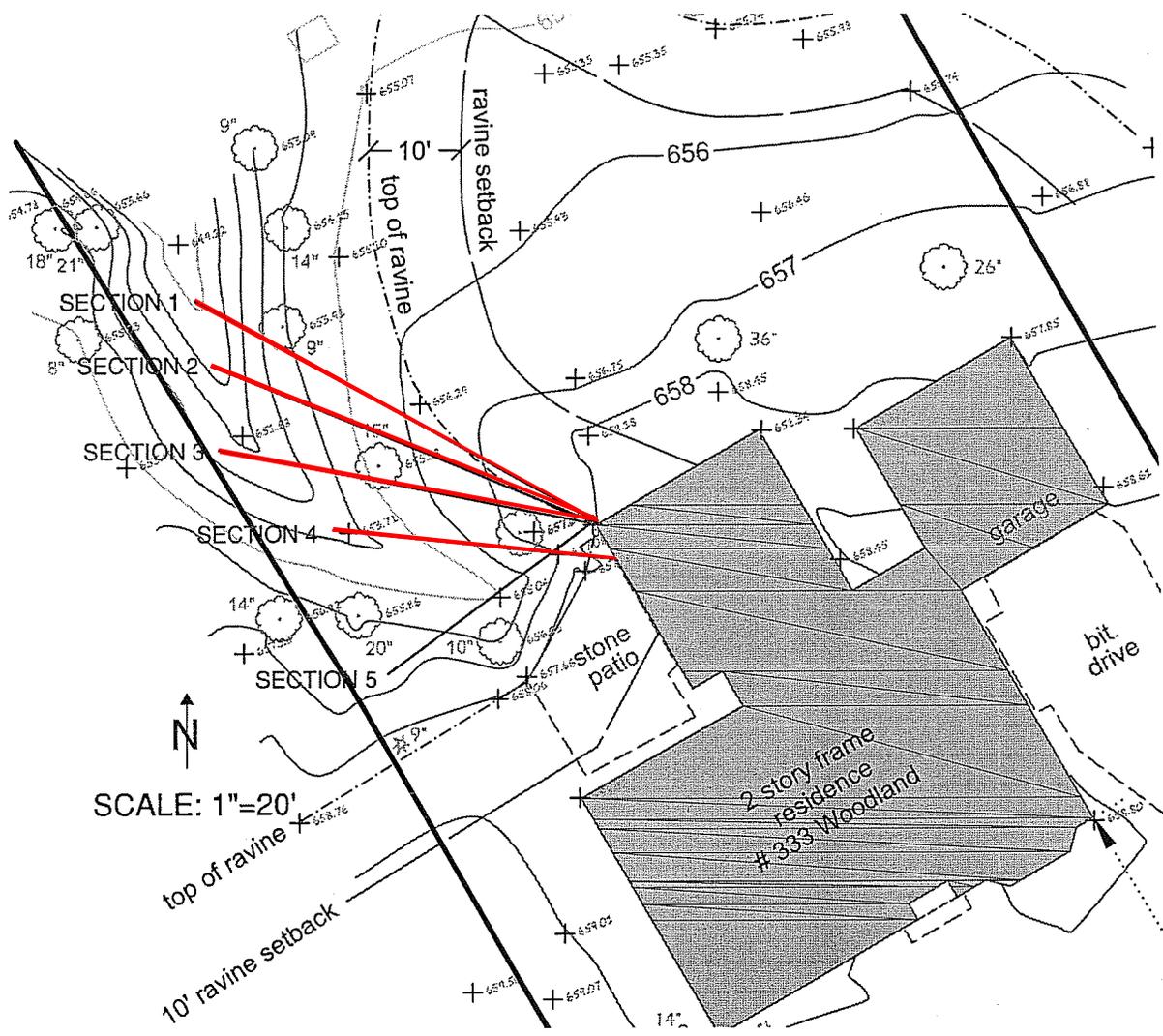
Sincerely,

The Structural Group, Ltd.



Jan I. Blok, S.E.
President
Licensed Structural Engineer
State of Illinois
License No. 081-004945
Expiration 11/30/2016





The Structural Group, Ltd.

Consulting Engineers

707 Lake Cook Road, Suite 107 Deerfield, Illinois 60015
 Phone 847.562.1977 Fax 847.562.1978

www.thestructuralgroup.com

Project:

ROSENBERG RESIDENCE

333 WOODLAND ROAD
 HIGHLAND PARK, IL.

PLAN

Project number: 15RAPC01

Date: 5.19.15

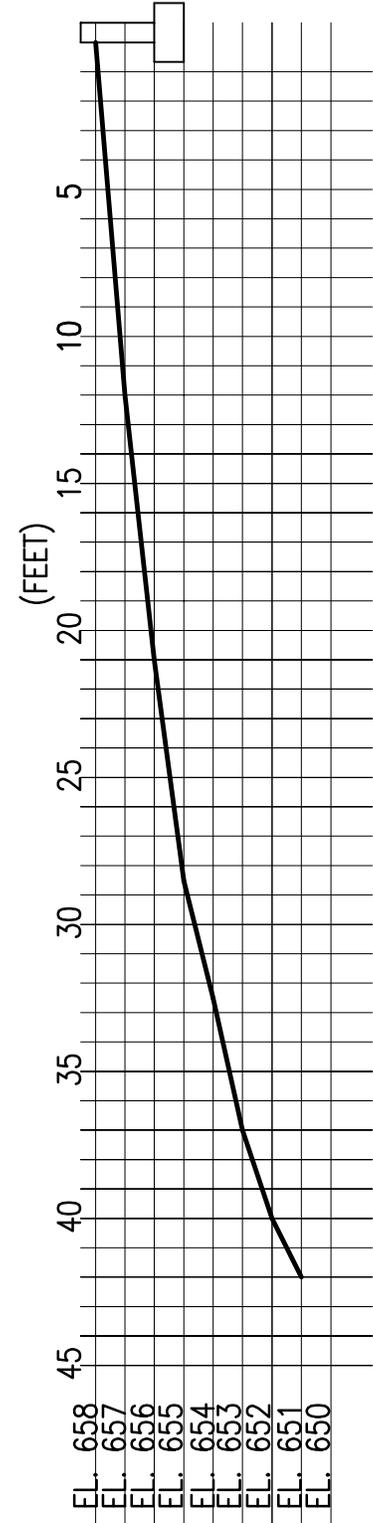
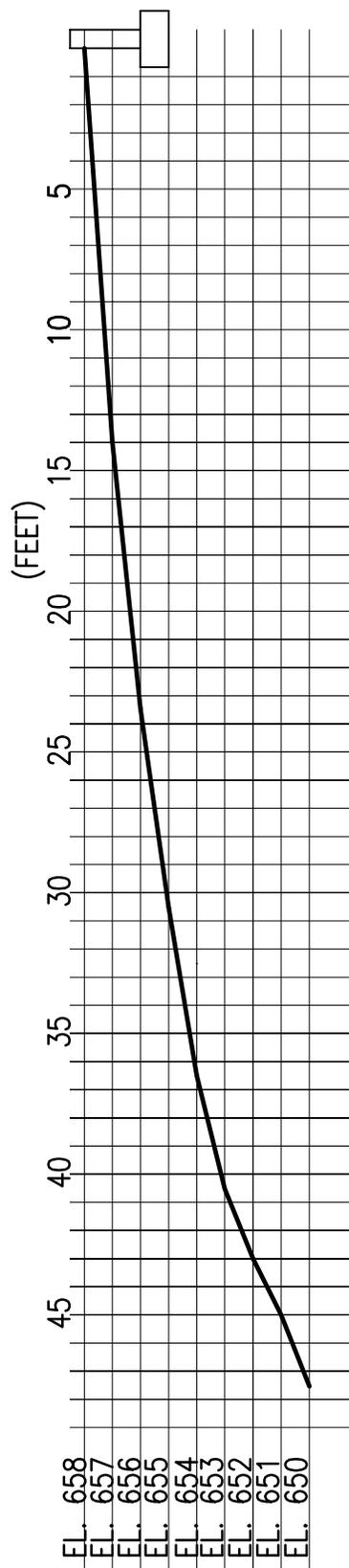
Drawn by: CAG

Checked by: JB

Sheet No.

SSK-1

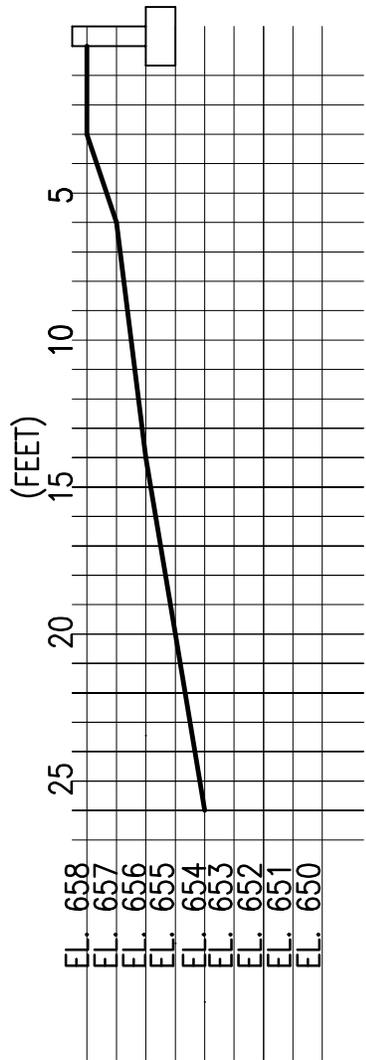
Scale AS NOTED



The Structural Group, Ltd.
Consulting Engineers
 707 Lake Cook Road, Suite 107 Deerfield, Illinois 60015
 Phone 847.562.1977 Fax 847.562.1978
 www.thestructuralgroup.com

Project:
ROSENBERG RESIDENCE
 333 WOODLAND ROAD
 HIGHLAND PARK, IL.

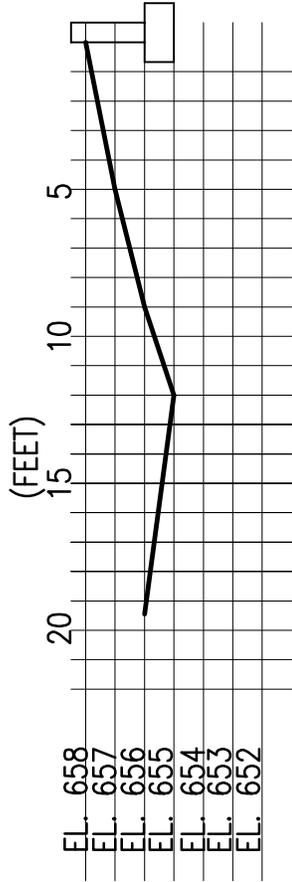
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SECTION 3

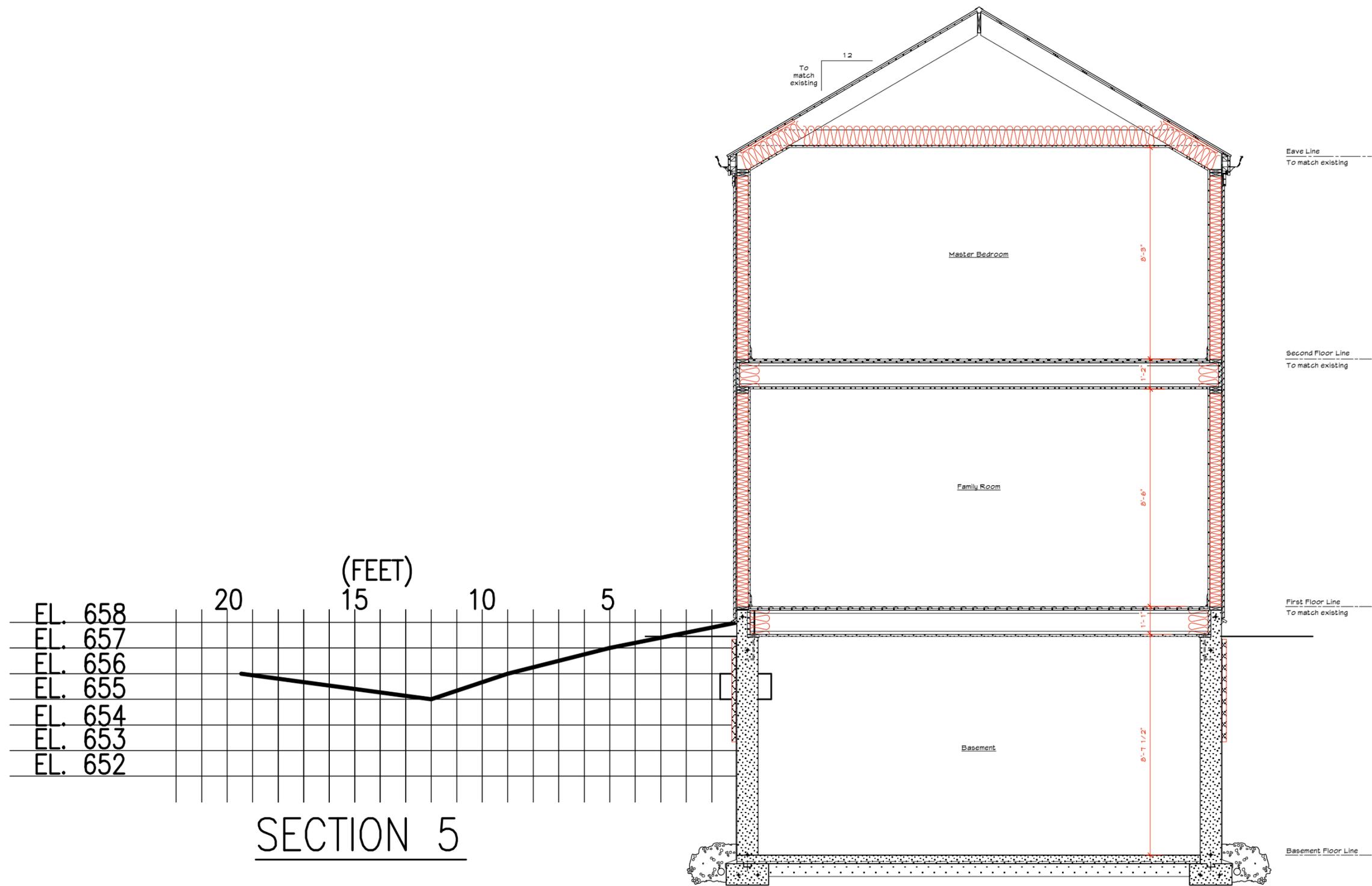


SECTION 4



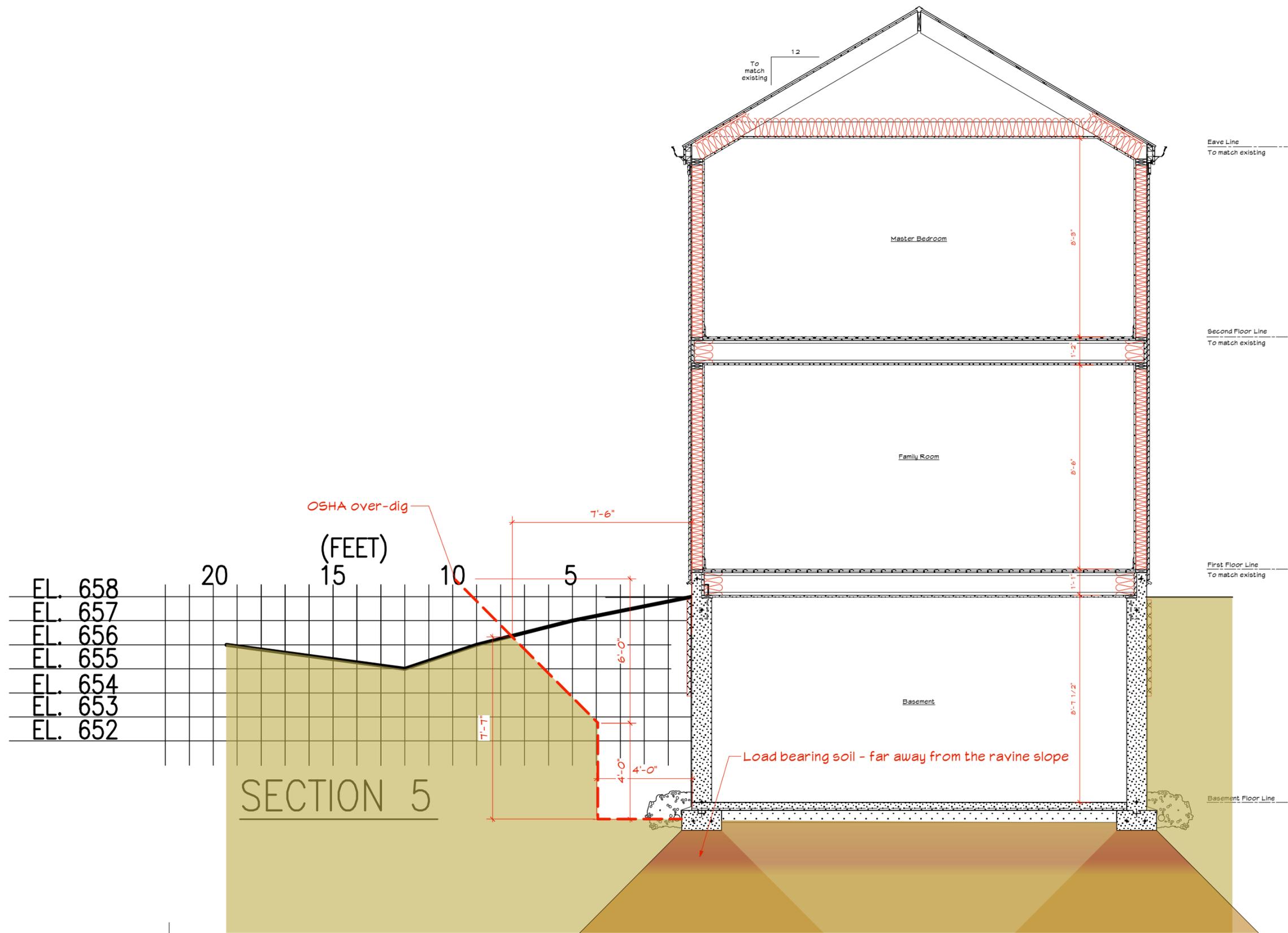
SECTION 5

<p>The Structural Group, Ltd. <i>Consulting Engineers</i> 707 Lake Cook Road, Suite 107 Deerfield, Illinois 60015 Phone 847.562.1977 Fax 847.562.1978 www.thestructuralgroup.com</p>	<p>Project:</p> <p>ROSENBERG RESIDENCE</p> <p>333 WOODLAND ROAD HIGHLAND PARK, IL.</p>	<p>SECTIONS</p>		
		<p>Project number: 15RAPC01</p>	<p>Sheet No.</p>	
		<p>Date: 5.19.15</p>	<p>SSK-3</p>	
		<p>Drawn by: CAG</p>		
		<p>Checked by: JB</p>	<p>Scale</p>	<p>AS NOTED</p>



Section at Family Room/Master Bedroom





Olson, Eric

From: Robert Ruggles <bob@rugglesarchitecture.com>
Sent: Thursday, May 28, 2015 10:40 AM
To: Olson, Eric
Cc: Elliot Wiczer; Jan Blok; David A. Rosenberg
Subject: 333 Woodland - excavation in ravine setback

Thank you for raising the concern over the "means and methods" of excavation within the ravine setback and beyond the top of ravine as indicated in the architectural plans.

I have drafted a paragraph that addresses the concerns of digging in the ravine area for this specific project:

The desired means is excavation by use of hydraulic excavator in compliance with OSHA requirements: over-dig: 4' out from wall, first 4' can be vertical but each foot vertical must have 1' horizontal beyond that initial 4' - a 10' wall is proposed (4'-10'=6') therefore a 6' horizontal cut + the initial 4' dig = 10' horizontal and 10' vertical as stated within the Structural Engineers Report. The intent is to restore the pre-construction grade and because the grade is not truly "steep" it would be an easy thing to do. While it is possible to use exceptional means to limit the over-dig, the delivery and maneuvering of this type of equipment and supplies would be more invasive to the entire site than a small back hoe and OSHA over-dig and simple restoration of the pre-construction grade.

Please let me know if you or Engineering has any further concerns.

Best Regards,
Bob

Robert J. Ruggles, Architect

Ruggles Architecture, PC

175 Washington Circle
Lake Forest, IL 60045

Tel: 847-234-4362

Cell: 847-431-0210

www.rugglesarchitecture.com



**Shoreline Stabilization at
55 S. Deere Park Drive
Highland Park**

**Submittal to
Community Development Department
March 4, 2015**

Prepared By:

**Shabica & Associates, Inc.
We Build Beaches
550 Frontage Road, Suite 3735
Northfield, Illinois 60093
Tel. 847-446-1436
Fax 847-716-200**



Shabica & Associates, Inc.
WE BUILD BEACHES

Eric Olson
City of Highland Park
Community Development Department
1150 Half Day Road
Highland Park, Illinois 60035

Dear Mr. Olson:

March 4, 2015

Attached please find a submittal to the City of Highland Park's Community Development Department for a Shoreline Stabilization project at the property of Jerrold and Naomi Senser at 55 S. Deere Park Drive, Highland Park. Proposed work includes construction of a short quarystone breakwater spur and sandfill as required for this work. This submittal includes required documents for review and approval by the Natural Resources Commission and City Council.

This project was submitted to the state and federal regulators in October 2014 and is under final review. All Federal and State permits have gone through the public notice stage. The IDNR has issued the permit. The IEPA and US Army Corps of Engineers are nearing approval for the proposed work (see Appendix).

The property at 55 S. Deere Park Drive has existing shore protection in the form of a breakwater protected beach at the south end of the property with a quarystone revetment at the north end. This shore protection was the first beach system to be permitted by the IDNR after the 2 ½ year moratorium on structures extending on the bed of Lake Michigan lifted January 2008. As this was the first project reviewed, the scope was kept at a minimum, see article entitled, *Beach project a model in many ways*. The sand at the north end of the property has eroded over the years and with the lake level rising after a long period of low lake levels, the lakebed has been downcut causing deeper water and larger waves impacting the revetment. The proposed project is designed to reduce the gap between breakwaters, helping sand to stay in the bay beach system, reducing lakebed downcutting and wave impacts on the revetment.

The City's Standards for Review, as outlined in the "Lake Michigan Protection Regulations" from Section 150.703.1 *Special Regulations for the LFOZ Lakefront Density and Character Overlay Zone*, are outlined below with our responses following:

- a. *The proposed Regulated Activity and/or Structure shall not unreasonably impede access to or pedestrian movement along the beach or to Lake Michigan.*

This project will not impede pedestrian access or movement along the beach or to Lake Michigan.

- b. *The proposed Regulated Activity and/or Structure shall not unnecessarily impede navigability within Lake Michigan*

As the breakwaters will not extend further east than other existing structures, the proposed project will not have any impact on the navigability of Lake Michigan.

- c. *The proposed Regulated Activity and/or Structure shall not unreasonably impact the Subject Property or the Adjacent Properties*

The project will protect the Subject Property from shoreline erosion, and the sandfill, as required by the IDNR will assure that the project will not negatively impact the adjacent properties.

- d. *The Applicant has proposed appropriate long-term maintenance requirements and plans, as necessary, for the proposed Regulated Activity and/or Structure*

The project has a long-term maintenance plan. Monitoring of the project is also required for 5 years post construction by the IDNR.

- e. *The proposed means and methods of undertaking the Regulated Activity and/or Structure are consistent with appropriate design and aesthetics principles*

The means and methods of construction are consistent with design and aesthetics; all work will be completed via marine mobilization. A similar structure has been constructed on the south side of the property.

- f. *The proposed Regulated Activity and/or Structure shall not create new nor amplify existing erosion problems on the Subject Property and on Adjacent Properties*

The project will prevent future bluff erosion on the subject property, and will not affect adjacent properties. As the construction will be completed via marine access, the bluff will not be disturbed.

- g. *The proposed Regulated Activity and/or Structure shall be for the purposes of erosion control, water gathering, and/or public access only*

The proposed shore protection will reduce and/or prevent future sand loss and bluff erosion on the subject property and allow access to the beach from the tableland.

- h. *There will not be an unnecessary adverse environmental or ecological impact on the Subject Property or on any of the Adjacent Properties as a result of the proposed Structure and/or the Regulated Activity*

The proposed structure will not cause unnecessary adverse environmental or ecological impact. The quarystone breakwater provides improved habitat for fish. Sand acts as a natural filter for stormwater runoff.

- i. *The proposed Structure and/or Regulated Activity is the least environmentally and ecologically intrusive means of achieving the stated purpose of the Structure*

The proposed system is a viable, environmentally-correct means of achieving the stated purpose.

- j. *The Applicant has properly obtained any and all permits required by the federal, state, and county governments for the Regulated Activity and/or the Structure*

All Federal, State and County permits are under review and nearing issuance. The state and federal permit application is attached. All permits will be issued prior to any work commencing.

A Permit Application has been filed with the Department of Public Works for the proposed project. In conformance to the City's Application Guidelines, the following documents and information are included:

- i. A statement of the purpose and planning objectives to be achieved by the proposed Regulated Activity*
The proposed breakwater-protected pocket beach system will help protect the north half of the property during average to high lake levels. The proposed system will move the locus of wave action further offshore where lakebed downcutting will be reduced.
- ii. A plat of survey of the Subject Property*
A Plat of Survey is attached as well as a recent hydrographic survey showing the entire work area. A tree survey has not been prepared as the bluff and tableland will not be impacted by the construction. All access will be via barge on Lake Michigan.
- iii. A conceptual plan showing the Subject Property and the Adjacent Properties, including any and all existing Structures in the portion of the Lake Michigan Protection Zone abutting those properties*
A Plan View is attached.
- iv. Development and site plans showing the proposed Structure, if applicable*
Same as Conceptual Plan in Item iii
- v. A demolition plan, if applicable*
N/A
- vi. An elevation plan, which shall include sectional views of the proposed Structure, if applicable*
Cross-sectional drawings are attached.
- vii. Copies of any and all permits required by the federal, state, and county governments for the Regulated Activity and/or the Structure*
Federal and State permits are attached.
- viii. Engineering details of the proposed Structure and/or the Regulated Activity, which shall include, if applicable:*
 - A. Structure height: N/A, see Coastal Engineering Report in the cover letter to the state and federal regulators and plans in the Appendix*
Structure Length: System extends about 112' lakeward from the seawall
Structure Width: N/A, see plans
 - B. The spacing between the proposed Structure and other Structures in the Lake Michigan Protection Zone abutting any of the Adjacent Properties*
No spacing is applicable.
 - C. The materials of which the proposed Structure will be composed*

The breakwater will be quarried quartzite. Sand will be placed as required by the IDNR as beach fill.

- ix. *A geo-technical investigation report of the site*
As there will be no major earthmoving or structures built on the bluff slope, this project does not require a geotechnical investigation.
- x. *A statement outlining structure success in various water levels*
The breakwater is designed to function during varying lake levels.
- xi. *A statement describing the long-term maintenance requirements and plan for the proposed Structure*
The proposed structure has a 20-year design-life, and the stone that will be used will last thousands of years. Periodic maintenance is recommended as necessary based on biannual visual inspections. Typically, at the time of recommended maintenance, additional stone will be brought in and placed over the existing revetment to bring it back to the original specification.
- xii. *A written description of the proposed means and methods of undertaking the Regulated Activity*
All materials and equipment will be delivered to and removed from the site via barge on Lake Michigan. The beach work will be completed using a backhoe and crane as needed.
- xiii. *An explanation, in narrative form, of the following:*
- A. *Any and all erosion problems on the Subject Property for which the Structure and/or Regulated Activity is designed to correct or remedy*
This system is designed to protect the Subject Property from future sand loss, lakebed downcutting and bluff erosion due to stormwave damage.
- B. *The environmental and ecological impact on the Property and the Adjacent Properties that are expected to result from the Structure and/or Regulated Activity*
The environmental impact of this project is that the stormwater will be filtered by the beach. This will reduce sediment and non-point source pollution from flowing into Lake Michigan.
- C. *How the proposed Structure and/or Regulated Activity is the least environmentally and ecologically intrusive means of achieving the stated purpose*
The design of this system is minimally intrusive to the environment. The project design mimics mother nature by creating a rocky headland to create a calm bay where wave energy is reduced and sand can remain to provide shore protection.
- D. *The nature and composition of existing protections, including existing Structures, of the shoreline in that portion of the Lake Michigan Protection Zone abutting either the Subject Property or the Adjacent Properties, and the impact and effectiveness of those protections on the shoreline, the lakebed, and on erosion of the Subject Property and Adjacent Properties*

The existing form of shore protection at the Subject Property is a quarystone breakwater at the south property line and a steel groin at the north property line. A quarystone revetment has been placed along the existing bluff toe. Sand has eroded severely from the north half of the current system due to increased lake water levels and extreme storms.

- xiv. *A non-refundable application fee, in the amount set forth in the City's Annual Fee Resolution*
The application fee is attached.

An Appendix of attachments is included with this letter.

This information addresses the application requirements for submission. Please let us know if you require any further information.

Sincerely,



Jon Shabica
Vice President



Appendix

FIRST TO BE OK'D BY LAKEFRONT COMMISSOIN

Beach project a model in many ways

By CHARLES BERMAN
cberman@pioneerlocal.com

An exciting scene stretched deep over the Lake Michigan shoreline Nov. 20 as crews put the final touches on the gold standard of beach-restoration projects.

Cranes reached over the side of a barge and dropped tons of sand and stone onto a newly constructed private, residential beach on the southeast corner of Highland Park.

Shabica and Associates, a Northfield-based shoreline protection firm, designed the project to correct years of damage caused by erosion and to withstand years of natural destruction.

Jon Shabica, the firm's vice president, said what once was up to 50-feet of sandy beach was reduced to less than half its previous size during the last two years.

"There was very little natural sand left and the beaches were deteriorating to just cobble and lakebed clay," Shabica said.

Shabica said once sand disappears and lake-bed clay begins to erode, the natural process is unable to repair itself, resulting in larger waves and additional destruction to the bluffs and beaches.

So quarry stone breakwater stones were installed, a concrete pier was removed, a new curbstone groin was constructed with steps built into it, which extended into the lake. A limestone revetment was added, new sand was deposited, the beach was regraded and a dune grass system was installed.

That type of complete restoration project can cost between \$400,000 and \$1 million depending on finishes, the size of the property and the level of damage, Shabica said.

"My guess is that like the ravines, the amount of (property) loss we've seen has come more toward the

"We want to prevent any negative impact from the construction onto neighbors. The lake is constantly moving and shifting sand; we want to make sure nothing impedes its flow."

Barbara Cates

end of the season and we typically see healthier beaches before winter," Shabica said. "So we might see some panicked people in the spring.

"This really hasn't been a good summer weather wise," he continued. "We think it has to do with the rising lake. It's up 1 foot, 3 inches since January."

The project also proved noteworthy because it was the first to go through the Highland Park Lakefront Commission's new process and the first state project to be completed since the Illinois Department of Natural Resources put a moratorium on all private coastal engineering projects.

"The city recognizes that the lakefront is a defining element of the city's character," said Barbara Cates, city planner and staff liaison to the Lakefront Commission. "We want to promote activities on the beach in the most ecological manner possible, so we established a process of approvals at the Lakefront Commission.

"There are a lot of natural processes going on at the lakefront."

Cates said the most important aspect of the city's new guidelines is the requirement for a resident to obtain all necessary state



Sand is moved into place Nov. 20 as a barge drops sand on the shoreline for a restoration project at a Highland Park homeowner's private beach. The barge was dropping off tons of sand to replenish the sand bank of the beach, which has been deteriorating because of higher lake-water levels. (Buzz Orr/Staff Photographer)

and county permits before the commission would make a recommendation to the city council.

"The (homeowners) were required to get six approvals before we considered this," Cates said. "We want to prevent any negative impact from the construction onto neighbors. The lake is constantly moving and shifting sand; we want to make sure nothing impedes its flow."

City Engineer John Welch said the work on South Deere Park Drive was a model project.

"We aren't saying people have to do this system," he said. "This is the Bentley of improvements that can be done on the lake shore. Their situation was probably worse than (most other situations) to begin with."

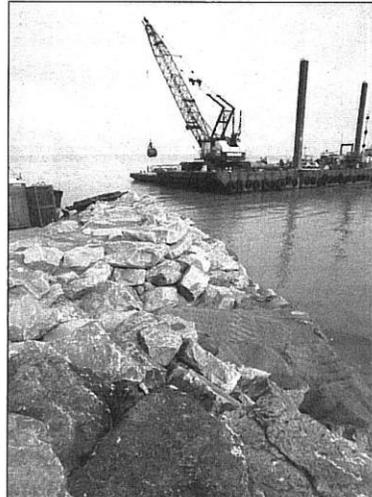
Welch recommends that residents employ a shoreline expert and take preventative measures to maintain their property, as it is cheaper to repair problems

that are found earlier. Cates said the Lakefront Commission found that this project will retain sand, prevent erosion and ultimately protect the shoreline in that area. The commission is also using this project as an education tool.

In the city's conditional approval, the homeowners were required to provide updated reviews of the improvements at its one-year and five-year anniversaries. The site was also extensively photographed before, during and after project was completed. Ongoing inspections and supervision of the project was required as well.

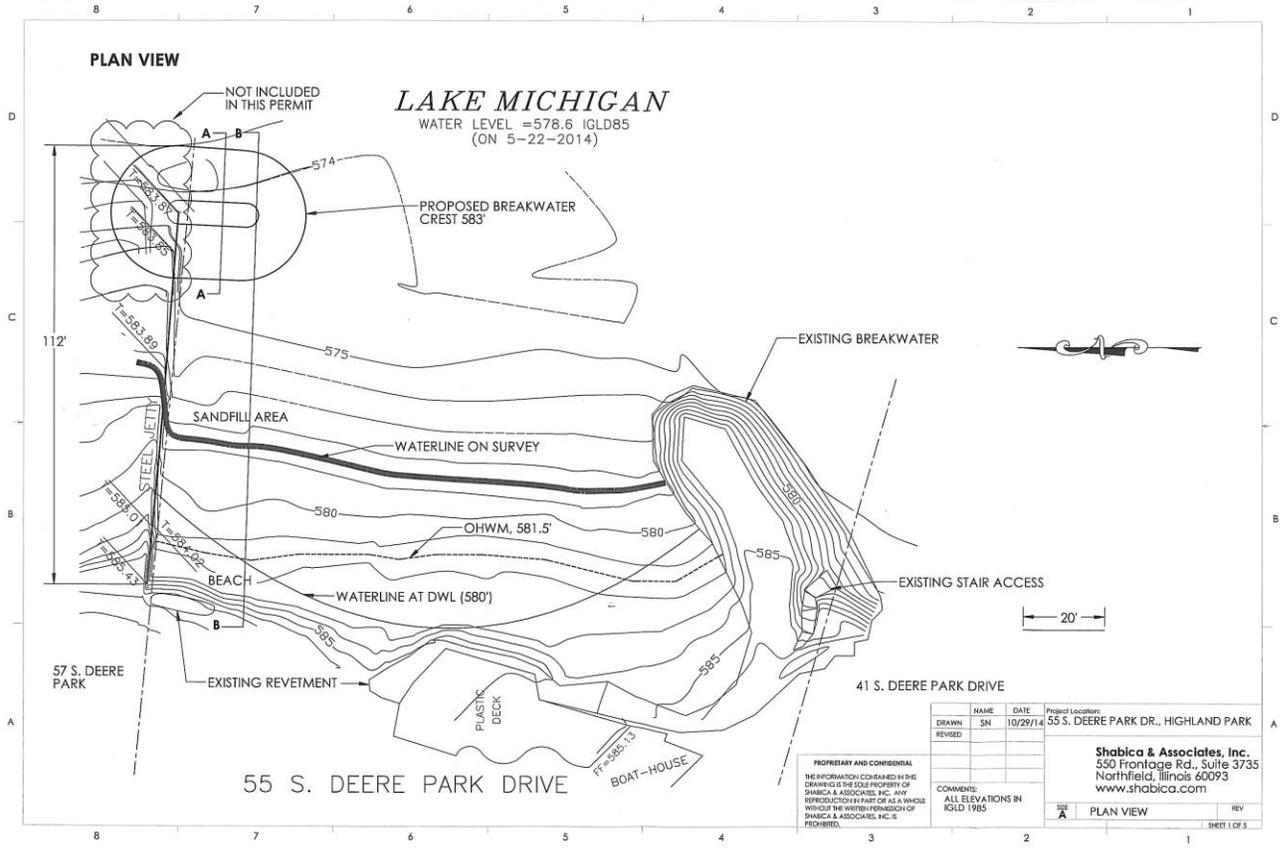
"It's a good learning process for the commission," Cates said. "We were making sure what they proposed, in the end, is what is being installed."

"These were vast improvements," Cates continued. "It's striking how much has changed. It looks very natural."

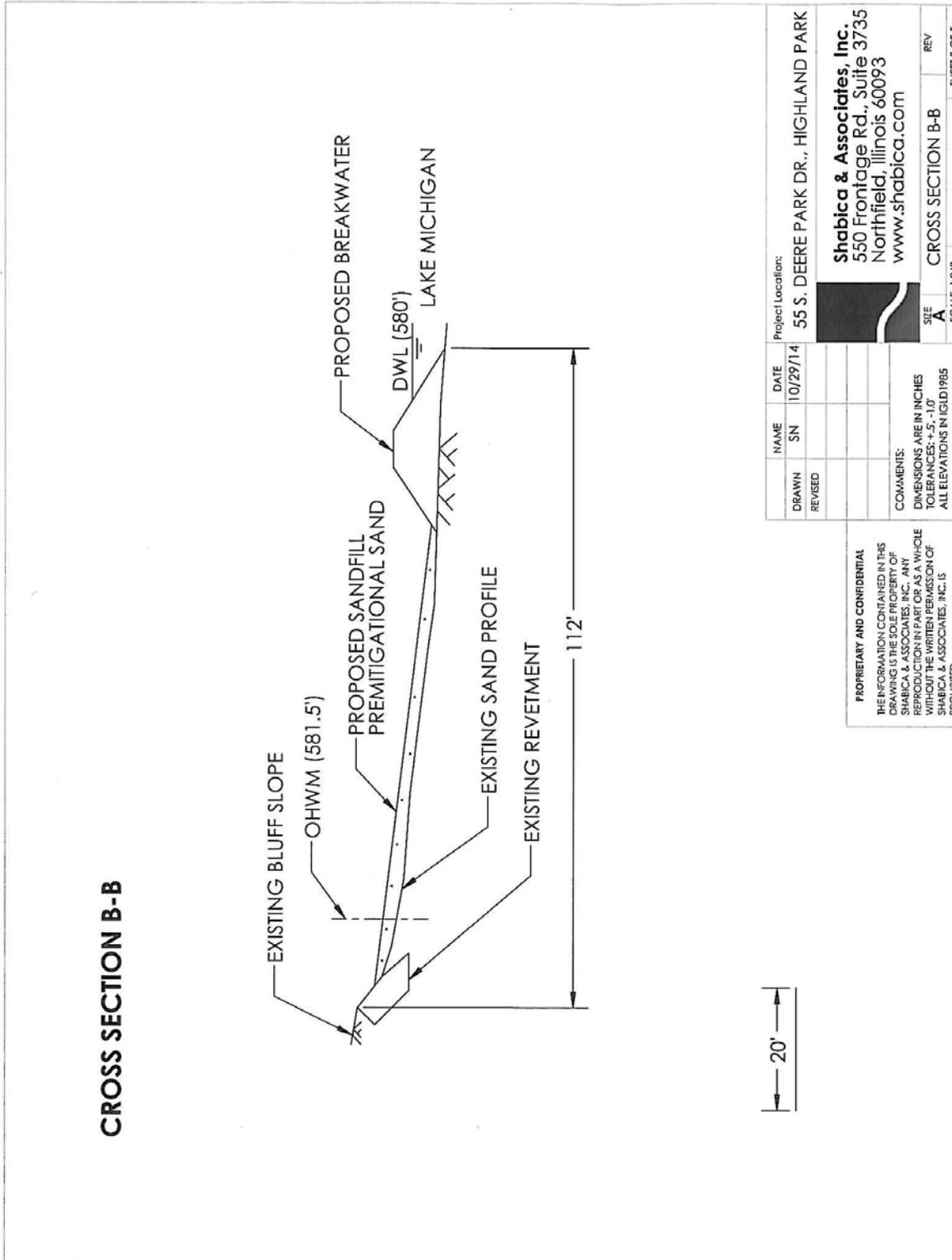


A barge (background) hauls sand to the shoreline for a restoration project at a Highland Park homeowner's private beach Nov. 20. In the foreground is a human-made stone breakwater that acts as an arm for an engineered beach. (Buzz Orr/Staff Photographer)

Permit Drawings



Permit Drawings (cont.)



CROSS SECTION B-B

NAME	DATE	Project Location:
DRAWN	10/29/14	55 S. DEERE PARK DR., HIGHLAND PARK
REVISED		
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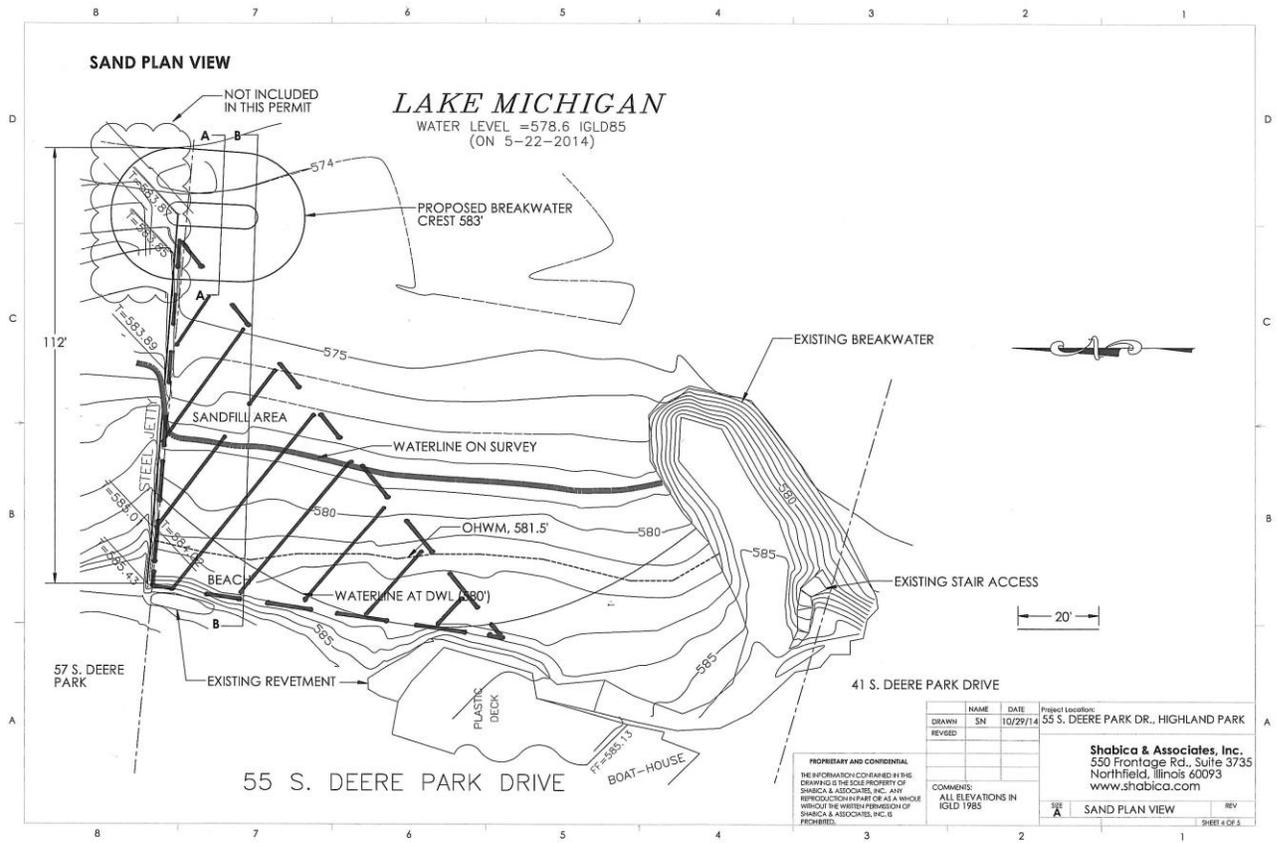
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 Northfield, Illinois 60093
 www.shabica.com

SCALE: 1/2"=1'-0"
 SHEET 3 OF 5

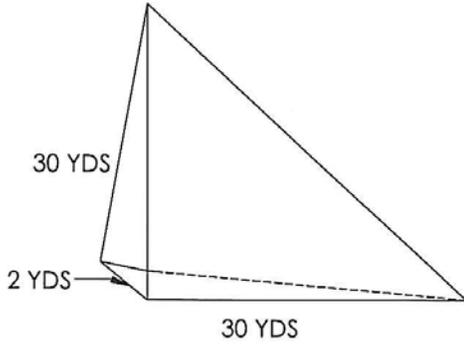
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Permit Drawings (cont.)



Permit Drawings (cont.)

SAND CALCULATIONS



$$\frac{30 \text{ YDS} \times 30 \text{ YDS} \times 2 \text{ YDS}}{6} = 300 \text{ CUBIC YDS}$$

$$300 \text{ CUBIC YDS} \times 20\% = 60 \text{ CUBIC YDS}$$

$$300 \text{ CUBIC YDS} + 60 \text{ CUBIC YDS} = 360 \text{ CUBIC YDS}$$

$$360 \text{ CUBIC YARDS} \times 1.25 \text{ YDS/TON} = 450 \text{ TONS}$$

PLACE 450 TONS OF CLEAN SAND FOR MITIGATION

PROPRIETARY AND CONFIDENTIAL
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF SHABICA & ASSOCIATES, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF SHABICA & ASSOCIATES, INC. IS PROHIBITED.

	NAME	DATE	Project Location:
DRAWN	SN	10/29/14	55 S DEERE PARK DR., HIGHLAND PARK
CHECKED			
COMMENTS:			Shabica & Associates, Inc. 550 Frontage Rd., Suite 3735 Northfield, Illinois 60093 847-446-1436 www.shabica.com
DIMENSIONS ARE IN FEET TOLERANCES: +.5", -1" ALL ELEVATIONS IN IGLD 1985			
SEE	A		SAND CALCULATIONS
SCALE	1"=5'		SHEET 5 OF 5

State and Federal Permit Application



Shabica & Associates, Inc.

WE BUILD BEACHES

Ms. Kathy Chernich
East Section Chief, Regulatory Branch
Chicago District
U.S. Army Corps of Engineers
231 S. LaSalle Street, Suite 1500
Chicago, IL 60604

Dear Ms. Chernich:

October 31, 2014

Please find enclosed a permit application for shore protection for the property located at 55 South Deere Park Drive, Highland Park, Illinois, 60035, owned by Mr. and Mrs. Jerrold Senser. Proposed work includes construction of a short quarystone spur breakwater and sandfill, as required. A letter of support is attached from the adjacent north property owner, Mr. Mark Gerstein, who has submitted a permit application for work to be completed in conjunction with this project on the north property.

A *Design of Shoreline Erosion Protection* report has been attached to this cover letter as the coastal design specifications component of this permit. All references, photographs and figures referred to in the cover letter and the following report can be found in the Appendix.

The proposed activity complies with the approved Illinois Coastal Management Program (ICMP) and will be conducted in a manner consistent with such policies. A separate letter has been submitted to the ICMP office.

Project Purpose Statement

The property owner has retained Shabica & Associates (SA) to design and engineer enhancement to the shore protection system for his property. Shortly after the moratorium on lakefront structures was lifted in 2008, the homeowner permitted and built a breakwater protected pocket beach on his property. The proposed work was originally recommended at that time in 2008, but the north neighbor did not want to participate in the project or sign off on any work attached to his property, because he was in the process of selling his residence. As this was one of the first projects to be reviewed after the moratorium, a minimal design was recommended to help protect the property. The original project has been monitored for the past 5 years. This system is still not holding a stable beach profile. During the recent low lake levels, the property has continued to experience beach erosion. Waves impact the north half of the revetment that was designed to be a last line of defense; not a full line of defense. Now after monitoring the system's performance for 5 years, the homeowner is working in conjunction with his north neighbor, Mr. Mark Gerstein of 57 South Deere Park Drive, to install his own shore protection system. The north neighbor, Mr. Gerstein, is simultaneously moving forward with his own shore protection system that shares one common structure with this property, the breakwater that crosses the steel sheetpile groin at the property line.

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COVER LETTER

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The homeowner would like to have peace of mind that his property is stable and secure from the lake by constructing a 33-foot long quarystone breakwater spur extending south from the lakeward end of the existing steel groin to the north on his lakefront at 55 South Deere Park Drive, Highland Park. This would help break waves in the north section of the beach cell and help to retain the sand cover over the lakebed as well as the beach. The homeowner wants to provide additional shore protection and reduce lakebed downcutting that will eventually destabilize the bluff and steel groin.

A 33-foot long quarystone spur breakwater (groin to toe) is proposed extending south from the breakwater along the north property line. The lakeward toe of the structure will extend to about 112 feet east of the toe of the bluff and the breakwater will have a crest elevation of 583' (IGLD 1985). The slope of the breakwater will be 1v:1.5h. This quarystone spur breakwater will be placed at the lakeward end of the existing steel sheetpile groin to help reduce scour in this area to reduce wave energy in the north end of the beach system. Mitigational sand will be placed in a quantity of 450 tons in the system.

This section of coastline has historically lost sand due to lakebed downcutting especially during prolonged periods of low water. Sand deposits are thin here (Figure 1, Appendix) and scientists estimate that the rate of lakebed erosion averages 6 inches per year (Nairn, 1997). The net result is similar to the effects of global warming and rising sea level on marine coasts. This includes deeper water nearshore, larger stormwaves and progressively narrower beaches as the nearshore lakebed continues to erode. This has resulted in bluff toe erosion especially during average to high lake levels. While a narrow beach has been present at this site during higher lake levels, stormwaves have scoured the glacial clay till at the bluff toe. If ignored, this will lead to destabilization of the bluff face causing loss of tableland and infrastructure.

The Illinois Lake Michigan shoreline is considered "sediment starved" by coastal scientists. This is in contrast to East Coast and Gulf Coast open ocean shores where tens of thousands of tons of sand are found in the nearshore system that provide a primary line of defense against stormwaves. On most Great Lakes shores including southern Lake Michigan, natural sand beaches are not able to protect the lakeshore (exceptions may be during very low lake levels like 1964 or 2004-07). Large quantities of sand have been trapped or diverted offshore by municipal structures that extend 900 feet or more into the lake. Today, the main sand supply is wave erosion of the nearshore glacial clay lakebed that contains only about 10% sand (Shabica and Pranschke, 1994). The result is that groins are losing their effectiveness at holding a sandy beach during average to high lake levels. To retain a sand covering of the shallow lakebed (where downcutting is most active), as well as to protect the revetment and bluff toe, SA has designed an open breakwater beach system to hold sand, as necessary, to protect the lakebed and bluff during higher lake levels.

If beach and nearshore sand is lost, degradation of the nearshore ecosystem will result. Meadows et al., (2005) reports an increase in zebra mussels *Dreissena polymorpha*, and a decrease in native zooplankton in waters where the lakebed is eroding clay and rocks. In comparison, a nearshore area with 100% sand cover supports a species-rich community. The report concludes, "it [is] nonetheless clear that sand-based areas were characterized by sufficient shallow water fish CPUE and species richness to suggest that these are important habitats within the context of the Great Lakes Basin and not simply 'wet deserts' as they are often considered."

Design Options

The site at 55 South Deere Park Drive, Highland Park has been inspected and options for shore protection were studied based on monitoring the previous work completed on this property using desktop coastal engineering, site conditions from the 2014 bathymetric survey, and studying local prototypes. Given the sand loss over the last several years including during extreme low lake levels, as well as the uncertainty of future lake levels, it is prudent to engineer and design a system that will anticipate greater lakebed downcutting, higher amounts of beach erosion, more extreme storm events with larger waves, and potential loss of land. These three options were considered:

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OPTION 1

Do Nothing –

The first option of "Do Nothing" results in leaving the currently eroding shoreline and exposed revetment in its existing state. This will allow lakebed erosion to continue allowing larger stormwaves to impact the lakebed and revetment. Over time, the beaches along Illinois' North Shore coastline have continued to narrow due to being in a sand starved system. At this site, the beach continues to narrow even with lower than average lake levels. Now with the water level rising, Lake Michigan waves are impacting the seawall.

OPTION 2

Encapsulate the North Groin in Quarrystone–

This option would help to hold sand in the beach cell at a much reduced rate than the preferred option. This property is located at the north end of a groin field. The beach is narrow at the north end and with the deflation seen recently, the bluff toe would remain at risk. Additionally, the cost of encapsulating the existing structures in stone and adding sand is almost as expensive as constructing a more sustainable coastline.

OPTION 3

Preferred Option: Design a 33-foot Long Spur Breakwater –

The preferred option is to reduce the breakwater gap with a 33-foot breakwater spur extending south from the existing groin to the north in conjunction with the north neighbor's shore protection project. The proposed breakwater will extend east from the bluff toe approximately 112 feet. This plan will help to break wave energy during high lake levels as well as help the system to retain sand. The proposed plan will help protect the glacial clay lakebed, as well as the beach and bluff, while allowing safe access to Lake Michigan. With proper maintenance, a structure like this could be expected to continue functioning for 30 plus years.

OPTION 4

Larger Breakwater Protected Beach –

Options were discussed with the homeowner for larger breakwaters. The homeowner did not entertain larger options as the south end of the property already has a small breakwater that was constructed in 2009.

Public Benefits of Sandy Beaches

The Great Lakes represent the most important natural resource in the United States. Sandy beaches play an important role in keeping the lakes clean and safely accessible. Furthermore, a sandy beach makes a better ecotone (transitional environment) for flora and fauna than seawalls and revetments. Summary arguments supporting a sandy beach system include:

- 1) Beaches are filters for non-point source runoff.
- 2) Beaches reduce lakebed downcutting, a source of fine clay pollutants.
- 3) Beaches support endangered species such as sea rocket, marram grass, and seaside spurge.
- 4) Beaches make better wildlife habitat than actively eroding bluffs or seawalls.
- 5) Stone headlands make better fish habitat than eroding lakebed clay.
- 6) Beaches protect the lakebed from erosion that causes larger stormwaves to impact the shore.
- 7) Beaches are far safer for swimmers and boaters than a coast lined with seawalls or revetments, especially in an emergency.
- 8) Beaches, unlike most steel or concrete seawalls, are not visual pollution.

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Impacts to Downdrift Properties

The proposed project will have minimal impact on the property immediately downdrift of the subject property. The adjacent property to the south has a quarystone revetment immediately south of the subject property. Additionally, there is already a quarystone breakwater at the south end of this property.

Impact to Littoral Drift System

The proposed plan for this site includes the construction of a short quarystone spur breakwater and placement of sandfill as required for permit.

The section of Lake Michigan shoreline north and south of 55 South Deere Park Drive, Highland Park is fully engineered with steel groins, revetments, seawalls, and quarystone breakwaters. Based on our experience, as the proposed structure is immediately north of a quarystone breakwater and extends minimally lakeward, it will not negatively impact the littoral system after the sandfill is placed (anticipated quantity plus 20% overfill). According to the Illinois State Coastal Geologist (Chrastowski, 2005), "the design to contain placed sand is becoming necessary because of reduced volume of littoral sand in transport." He further states, "beach-cell systems may represent the future for beaches along much of the Illinois bluff coast from Waukegan south to Evanston."

The beach system will be nourished with sand including a 20% overfill placed north and south of the system. The new IDNR regulations for structures that will retain sand require pre- and post-construction surveys, as well as surveys at the one and five-year intervals. This new requirement will help assure that a sand equilibrium is met and that the new project is gaining and losing sand at a similar rate to neighboring properties.

Impact on Public Uses

Public access will not be impacted by the modifications to the existing system. No additional public access structures will be built as part of this project, however, public access should be improved by the engineered beach system retaining more sand and holding a higher beach profile during all lake levels. The beach will provide a safe place for boaters and swimmers in distress. Fishing will not be impacted negatively, as the underwater area of the quarystone protection will create an improved fish habitat. Additionally, navigation of water craft will not be impacted, as the proposed construction will not extend further east than the existing structure.

Impact on Natural Resources

Quarystone structures in the nearshore waters of Lake Michigan and sandy beaches improve native species habitat. The LandOwner Resource Centre with support from the Canadian Wildlife Service and the Ontario Ministry of Natural Resources states that, "unstable shorelines can release silt that can choke nearby aquatic habitats." Additionally, underwater structures such as artificial reefs constructed of large boulders and clean riprap material "in large water bodies, such as the Great Lakes . . . are often the best method of creating habitat." As stated above, according to Meadows, et al., 2005, "a nearshore area with 100% sand cover support[s] a species rich community." As the design does not impact the bluff and vegetation, the local terrestrial wildlife will continue to inhabit this property.

Type of Permit

The scope of this project requires an individual permit.

Description and Schedule of Proposed Activity

All of the proposed work will be completed via marine access. A barge will deliver a backhoe to work on land to place the materials. All stone will be delivered by barge to the site. Sand will be delivered by truck. Work will not begin until all necessary permits have been received. This work will require approximately 3 weeks to complete.

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Type and Quantity of Fill/Measures Taken to Avoid Impact/Erosion and Sediment Control Plan

All material will be clean and from inland quarries. Approximately 300 tons of new, clean quarried stone will be placed to construct the revetment and breakwater. Approximately 450 tons of clean sand will be placed on the existing beach. All clay displaced from the lakebed for installation of the breakwater toe stone will be placed on the barge and removed from the site and disposed of properly. Acreage of stone placed on the lakebed east of the OHWM is less than 0.02 acres.

Summary

All of the above described activities and plans will follow IPP terms and conditions. All of the proposed work adheres to the guidelines prescribed by the Illinois Environmental Protection Agency and its Anti-Degradation Assessment. U.S. Fish & Wildlife Service and the Illinois Historic Preservation Association will be updated on all relevant correspondence.

If you have any questions please feel free to call me at the phone number below.

Sincerely,



Jon Shabica, Vice President

C: IDNR (Casey)
IEPA (Heacock)
U.S. Fish & Wildlife Service
Illinois Historic Preservation Agency (Haaker)
Jerrold and Naomi Senser

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DESIGN OF SHORELINE EROSION PROTECTION

Introduction

The following report summarizes assumptions and design criteria for a quarystone breakwater and sandfill mitigation to help reduce erosion and protect the property located at 57 South Deere Park Drive, Highland Park. The design is based on the drawings included in the permit application to the U.S. Army Corps of Engineers dated October 29, 2014.

The site lies within a fully engineered section of urban lakeshore that is typically protected with revetments, seawalls, impermeable piers, steel sheetpile groins and breakwater protected beaches that may hold narrow beaches.

This section of coast is sand-starved due to municipal structures (littoral barriers) constructed over the past 100 years that extend lakeward beyond the littoral zone and reduce sand bypass as well as due to lakebed downcutting causing a steeper lakebed profile leading to increased sand loss. Although there is currently an exposed sandy beach due to extreme low lake levels, the beach width varies greatly due to the vulnerability of this location. According to the Illinois State Geological Survey, there is almost no sand moving along this section of coast. All structures in the area have been steadily losing their effectiveness at holding beach sand. This problem is exacerbated by lakebed erosion. In many cases where all the sand has been lost, the adjacent bluffs have begun to erode. To provide adequate protection for the upland property, solutions have typically been of two types: breakwater- or groin-anchored beaches to protect the bluffs, or large quarystone revetments placed against the toe of the bluff that prevent stormwave erosion but at the expense of the beach.

Project Description

Construction of a short quarystone spur breakwater and sandfill mitigation are proposed that fulfill the design requirements of 20-year stormwave erosion protection. The proposed system is designed for all lake level conditions.

Summary Specifications

Using the Army Corps of Engineers Shore Protection Manual (1984), performance of nearby prototypes and other sources, the following specifications were developed for this site (elevations are based on IGLD 1985):

Stone Breakwater Specifications

Lakeward Crest Elevation:	583 ft
Toe of Structure:	573 ft (average)
Crest Width:	6 ft
Average Armor Size:	2.5 tons
"B" Stone	200 lbs to 1000 lbs
Slope:	1:1.5
Tons/linear feet:	11.5 tons

Assumptions

• Design High Water (DHW):	582.0 ft *
• Design Water Level:	580.0 ft
• Design Low Water (DLW):	577.5 ft *
• Existing clay till elevation at breakwater toe:	573.0 ft
• 20-yr lakebed erosion at toe of breakwater:	3 ft**
• Design wave height (Hs):	9.36 ft

COASTAL DESIGN SPECIFICATIONS
55 South Deere Park Drive, Highland Park • October 31, 2014

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Assumptions (continued)

• Nearshore Slope:	1:30 – 1:40
• Design Wave Period (T):	9.9 s ***
• Depth at Structure Toe DHW (Ds):	9'
• Design Deepwater Wave (Ho):	18.0'
• Design Wave Length (Lo):	501.8'
• Structure Porosity:	37%

* DHW includes 2 ft storm setup; DLW is equivalent to Low Water Datum

** 2.5 ft sand and gravel (thickness varies) plus 2 ft clay till, Nairn, 1997

*** Resio & Vincent, 1976

Stone Breakwater Stability, Armorstone

The proposed quarystone breakwater has two layers of 1 – 5 ton armorstone built on a 1:1.5. Overtopping of the structure is expected during storms and higher water levels. Design conditions include:

- Lakeward breakwater crest elevation is at DHW 4.5 ft above DLW
- Depth-limited breaking waves will break on the stone breakwater and sand beach
- Depth at the toe of the structure is 9 ft (573.0) at design high water
- Incident wave directions: NE, E and SE
- Wave period for DHW T = 9.9 seconds
- Wave period for average conditions T = 6 seconds

For a quarystone breakwater, structural integrity may depend on the ability of the foundation to resist the erosive scour by the highest waves. Therefore, it is suggested that the selected design wave height H_s for such structures be based on the design wave height H being the average height of the top 10 percent of waves expected during an extreme event. Based on the deepwater significant wave height H_s corrected for refraction and shoaling.

The stability coefficient (K_d) varies primarily with the shape of armor units, roughness of armor unit surface, sharpness of edges and degree of interlocking obtained in placement.

The equation below is Hudson's formula and is used to determine the armor stone weight needed to support a particular structure.

$$W = (W_r * H_s^3) / (K_d [(W_r / W_w) - 1]^3 * \cot(\beta))$$

W = weight of individual armor units in lbs

W_r = Unit weight of armor units

W_w = unit weight of water

H_s = the design wave height for the structure

K_d = the design stability coefficient for rubble and toe protection

β = the angle of incline of the structure

Quartzite armorstone is recommended as it is highly durable and is locally available in most gradations under 5 tons. Hudson's formula was used to estimate armorstone size. An armorstone of 1.83 tons is predicted for special placement stone based on the design conditions. As the lakeward face of the breakwater will be built random placement, 1 – 5 ton quartzite will be utilized for the construction of this project.

Bathymetry

Bathymetric profiling was performed on 5/21/2014. Five transects were completed in the project area. The profiles extend up to 450 ft east of the existing seawall. Survey work was completed by Terra Technology.

Water Levels

The following table summarizes water level data representing daily highest extremes measured at Calumet Harbor, Illinois, approximately 31 miles to the south of Highland Park. Note: Low water datum = 577.5 ft (IGLD 1985).

<u>Lake Level</u>	<u>LWD</u>	<u>IGLD 1985</u>
Record High	+5.5	583.0
Record Low	-1.4	576.1

Project Supporting Data

To help facilitate project review, SA offers the following supporting data based on standard coastal engineering practices:

1. **Sediment Transport Around Structure** The structure is designed to lie within the surf zone (zone of breaking waves), therefore allowing sediment transport around the structure. The range of breaking wave heights is from 7.4 ft based on a 6-second wave with a wave length of 184 ft (using $1/25 L_o$) to 18 ft based on a 9.9-second wave with a wave length of 501.8 ft (Resio and Vincent, 1976). The commonly accepted zone of sediment transport is to 18 ft (depth of closure) in this section of Lake Michigan, which is a function of the design wave parameters. Based on this data, once the structure has been filled with sand, it will continue to bypass littoral drift sand. Rod and transit survey monitoring will be conducted, as required by the IDNR, to assure that the system performs as designed.

The IDNR requires sand fill in areas where sediment will be trapped by the new system. Sand volume quantities have been calculated as shown in the permit drawings. As required by the IDNR, a 20% overfill will be added to the calculated volume. Additionally, the new pre- and post-construction monitoring will be performed and submitted to the IDNR to verify the impacts to the system.

2. **Effect on Adjacent Shorelines** A wave diffraction diagram (Figure 2, Appendix) has been overlain on the proposed shore protection system. Using a refracted incident wave angle of 90 degrees (USACE, Shore Protection Manual), with average and design waves, there will be a decrease in wave energy on adjacent properties. The wave diffraction pattern shows that the coefficient of diffraction (K) reduces the wave energy to a distance of about $1/2$ the wave length downdrift and does not have an impact further downdrift. For the average 6-second wave, that distance of reduced wave energy is about 90 ft and for the design wave, the protected distance is about 250 ft. This protected area close to the structure has diminished wave energy that will in turn reduce erosion in the area.
3. **Wave Reduction in Rubble-Mound Structures** The Iribarren number (ξ), or surf similarity number, is used to determine the wave reflection coefficient. For rubble-mound structures, wave reflection (and wave energy) is reduced by one half or more (0.2 to 0.53) (Figure 3, Appendix). For example, a wave reflection of 0.25 means that the wave energy is reduced by 75%. The range of wave reflection for beaches peaks at about 0.44. The range for plane slopes, however, quickly rises to 0.5 and peaks at .91. This illustrates that rubble-mound structures reduce wave energy almost as well as beaches.

Lakebed Erosion

Lakebed erosion, active in water depths of 10 ft or less, is a design component of this plan. This section of Highland Park lakeshore is considered sediment-starved. Sand deposits were measured near this site (Ravine Drive, Highland Park) from the backshore to a depth of 6.1 m (20 ft). Sand deposits were thin to non-existent to a distance of 250 ft from shore (Shabica & Pranschke, 1994). Also, the site is underlain by highly-erodible, cohesive glacial clay-till. See Shabica survey cross-section (see, Figure 1) showing loss of lakebed sand from 1975 to 1989. According to Robert Nairn, approximately 200 m³ of sand cover per meter of lakeshore (out to a depth of 4 m) is necessary to protect the underlying cohesive profile from lakebed erosion under most conditions. Sand and coarser sediments represent typically less than 15% of the material eroding from the lakebed and bluffs. Using the historic rate of lakebed downcutting of 0.15 ft/yr (Nairn, 1997), an irreversible lowering of the nearshore lakebed clay of approximately 3.0 ft over a 20-year period is predicted in unprotected areas. With the stone breakwater, revetment and sandfill installed, the lakebed erosion will be reduced.

Project Monitoring

As the performance of shore protection structures cannot be predicted with absolute certainty, the shore protection system for 55 South Deere Park Drive in Highland Park will be inspected as required by IDNR guidelines. This includes topographic and hydrographic surveys beginning at an elevation of 581.5 ft (IGLD 1985) and progressing to 300 ft lakeward of the lakeward end of the project, within the north and south property lines. Additionally, all structures should be inspected to assure that they continue to meet design specifications.

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APPENDIX
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PHOTO 1



1997 Aerial Photo Approximate Property Lines in Yellow

PHOTO 2



2010 Google Earth Photo shows the breakwater constructed in 2009

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APPENDIX
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PHOTO 3



Spring 2014 photo depicts the conditions as the lake was beginning to rise from low lake levels.
Note revetment is becoming exposed at the north end of the property.

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FIGURE 1

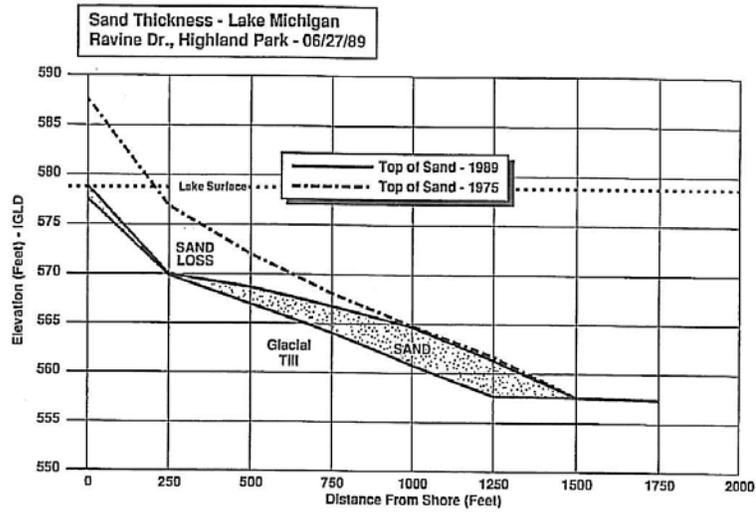
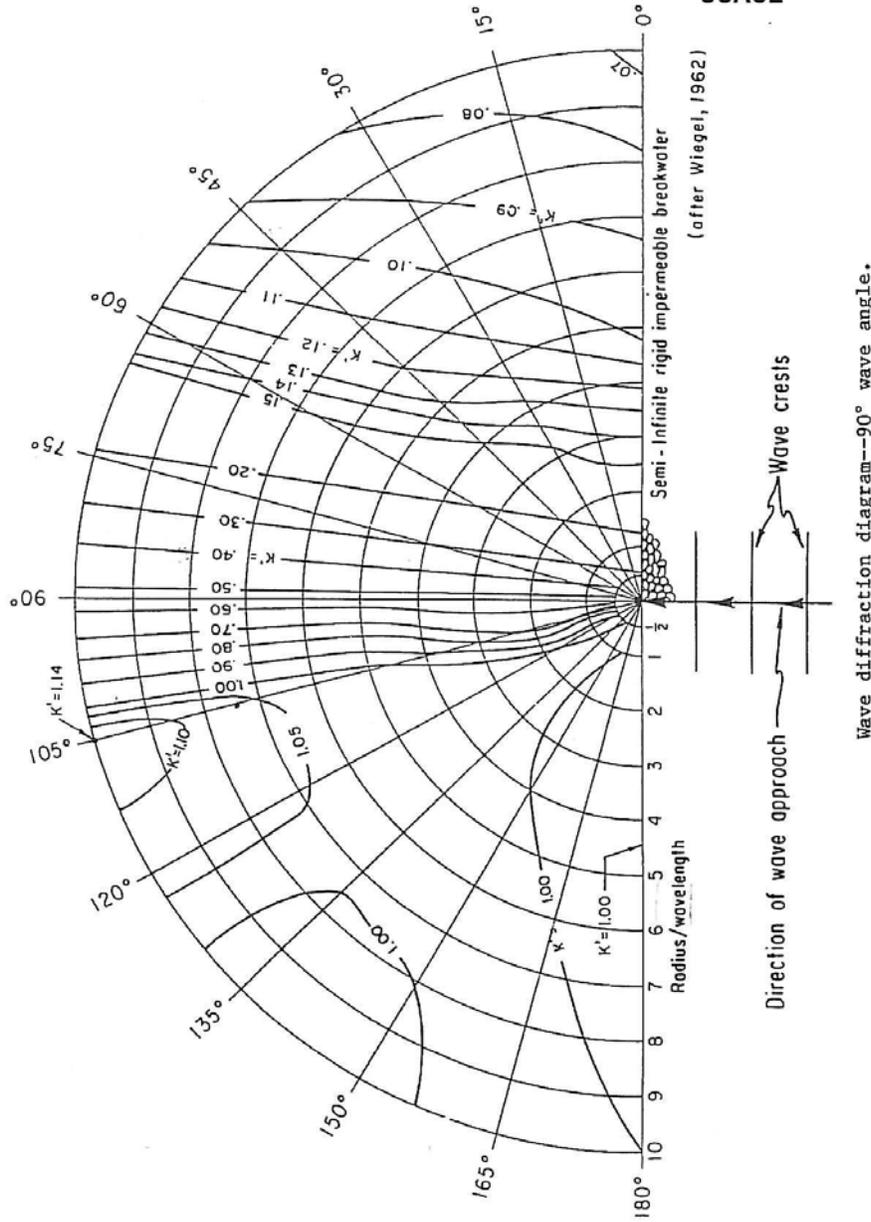


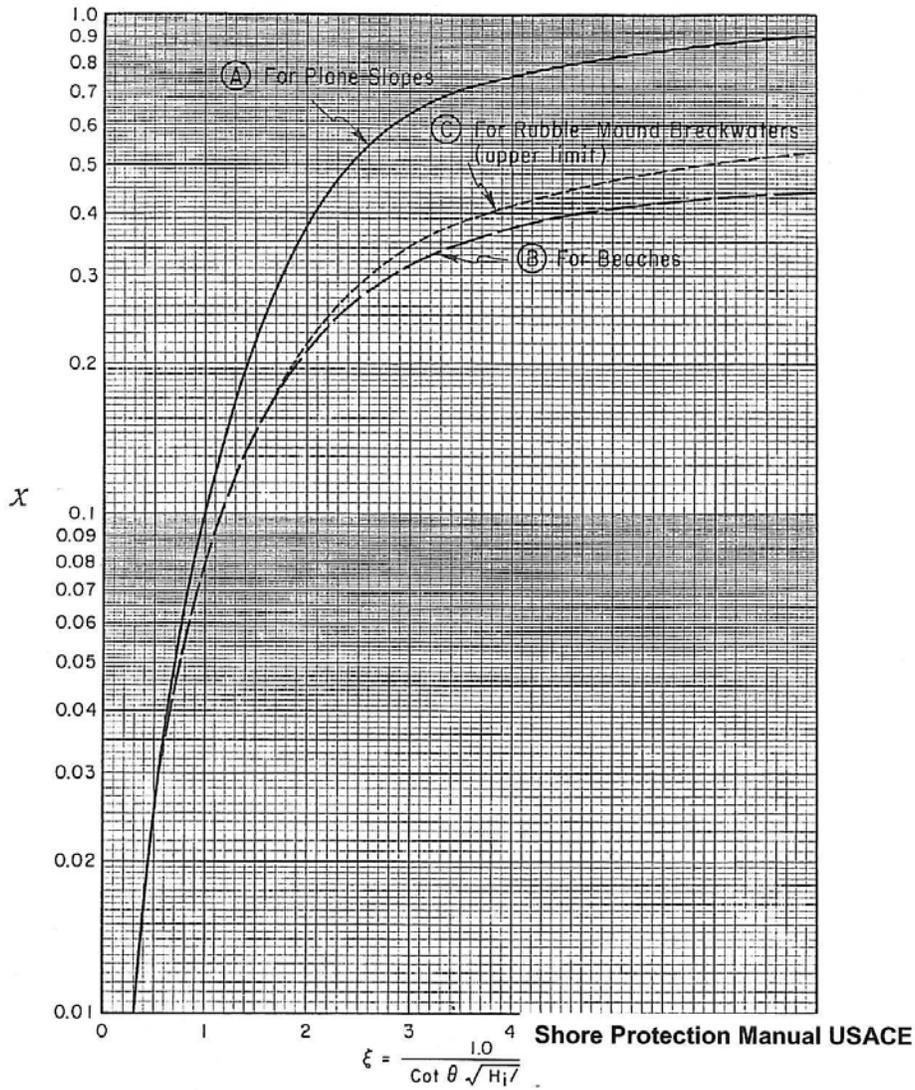
FIGURE 2

**Shore Protection Manual
USACE**



www.shabica.com

FIGURE 3



Wave reflection coefficients for slopes, beaches, and rubble-mound breakwaters as a function of the surf similarity parameter ξ .

JOINT APPLICATION FORM FOR ILLINOIS							
ITEMS 1 AND 2 FOR AGENCY USE							
1. Application Number			2. Date Received				
3. and 4. (SEE SPECIAL INSTRUCTIONS) NAME, MAILING ADDRESS AND TELEPHONE NUMBERS							
3a. Applicant's Name: Jerrold and Naomi Senser Company Name (if any): Address: 55 S. Deere Park Drive Highland Park, IL 60035 Email Address: jsenser@icapusa.com		3b. Co-Applicant/Property Owner Name (if needed or if different from applicant): Company Name (if any): Address: Email Address:		4. Authorized Agent (an agent is not required): Jon Shabica Company Name (if any): Shabica & Associates, Inc. Address: 550 Frontage Road Suite 3735 Northfield, IL 60093 Email Address: jon@shabica.com			
Applicant's Phone Nos. w/area code Business: 312-424-9157 Residence: 847-266-0622 Cell: Fax:		Applicant's Phone Nos. w/area code Business: Residence: Cell: Fax:		Agent's Phone Nos. w/area code Business: 847-446-1436 Residence: Cell: Fax: 847-716-2007			
STATEMENT OF AUTHORIZATION							
I hereby authorize, <u>Shabica & Associates, Inc.</u> to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.							
_____ Applicant's Signature			_____ Date				
5. ADJOINING PROPERTY OWNERS (Upstream and Downstream of the water body and within Visual Reach of Project)							
Name		Mailing Address		Phone No. w/area code			
a. see attached vicinity map							
b.							
c.							
d.							
6. PROJECT TITLE: Breakwater-Protected Beach							
7. PROJECT LOCATION: 57 S. Deere Park Drive, Highland Park, IL							
LATITUDE: 42.15336 °N			UTMs				
LONGITUDE: -87.75982 °W			Northing: 4667082.16m				
			Easting: 437221.26m				
STREET, ROAD, OR OTHER DESCRIPTIVE LOCATION			LEGAL DESCRIPT	QUARTER	SECTION	TOWNSHIP NO.	RANGE
55 S. Deere Park Drive				SE	31	43N	13E
<input checked="" type="checkbox"/> IN OR <input type="checkbox"/> NEAR CITY OF TOWN (check appropriate box)			WATERWAY			RIVER MILE (if applicable)	
Municipality Name Highland Park			Lake Michigan				
COUNTY	STATE	ZIP CODE					
Lake	IL	60035					

Revised 2010

Corps of Engineers

IL Dep't of Natural Resources

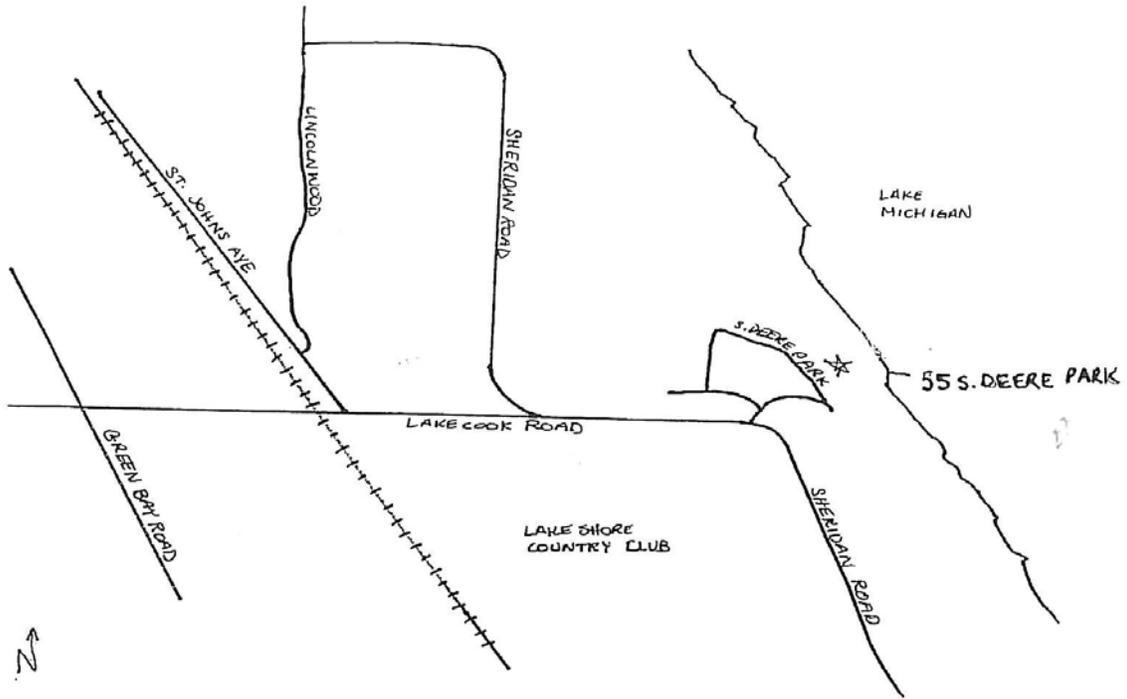
IL Environmental Protection Agency

Applicant's Copy

8. PROJECT DESCRIPTION (Include all features): A 33-foot long quarystone spur breakwater (groin to toe) will be built extending south from the breakwater along the north property line. The lakeward toe of the structure will extend to about 112 feet east of the toe of the bluff and the breakwater will have a crest elevation of 583' (IGLD 1985). The slope of the breakwater will be 1v:1.5h. This quarystone spur breakwater will be placed at the lakeward end of the existing steel sheetpile groin to help reduce scour in this area to reduce wave energy in the north end of the beach system. Mitigational sand will be placed in a quantity of 450 tons in the system.													
9. PURPOSE AND NEED OF PROJECT: To stabilize the north end of the site as well as reduce deepening of the lakebed caused by lakebed erosion.													
COMPLETE THE FOLLOWING FOUR BLOCKS IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED													
10. REASON(S) FOR DISCHARGE: Shore protection in the form of a breakwater-protected beach.													
11. TYPE(S) OF MATERIAL BEING DISCHARGED AND THE AMOUNT OF EACH TYPE IN CUBIC YARDS FOR WATERWAYS: TYPE: Stone and Sand AMOUNT IN CUBIC YARDS: Sand: 360 cu. yds Stone:122 cu. yds.													
12. SURFACE AREA IN ACRES OF WETLANDS OR OTHER WATERS FILLED (See Instructions) 0.02 acres													
13. DESCRIPTION OF AVOIDANCE, MINIMIZATION AND COMPENSATION (See instructions) By designing smaller structures, the footprints will be minimized on the lakebed.													
14. Date activity is proposed to commence July 10, 2015	Date activity is expected to be completed July 31, 2015												
15. Is any portion of the activity for which authorization is sought now complete? Month and Year the activity was completed	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> <small>NOTE: If answer is "YES" give reasons in the Project Description and Remarks section. Indicate the existing work on drawings.</small>												
16. List all approvals or certification and denials received from other Federal, interstate, state, or local agencies for structures, construction, discharges or other activities described in this application. <table border="1" style="width:100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr> <th style="text-align: left;">Issuing Agency</th> <th style="text-align: left;">Type of Approval</th> <th style="text-align: left;">Identification No.</th> <th style="text-align: left;">Date of Application</th> <th style="text-align: left;">Date of Approval</th> <th style="text-align: left;">Date of Denial</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		Issuing Agency	Type of Approval	Identification No.	Date of Application	Date of Approval	Date of Denial						
Issuing Agency	Type of Approval	Identification No.	Date of Application	Date of Approval	Date of Denial								
17. CONSENT TO ENTER PROPERTY LISTED IN PART 7 ABOVE IS HEREBY GRANTED.													
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>													
18. APPLICATION VERIFICATION (SEE SPECIAL INSTRUCTIONS) Application is hereby made for the activities described herein. I certify that I am familiar with the information contained in the application, and that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities.													
_____ Signature of Applicant or Authorized Agent	_____ Date 10/29/14												
_____ Signature of Applicant or Authorized Agent	_____ Date 10/29/14												
_____ Signature of Applicant or Authorized Agent	_____ Date												
<input type="checkbox"/> Corps of Engineers Revised 2010 <input type="checkbox"/> IL Dep't of Natural Resources <input type="checkbox"/> IL Environmental Protection Agency <input type="checkbox"/> Applicant's Copy													

SEE INSTRUCTIONS FOR ADDRESS

Vicinity Map



Breakwater-Protected Beach

55 S. Deere Park Drive
Highland Park, IL 60035



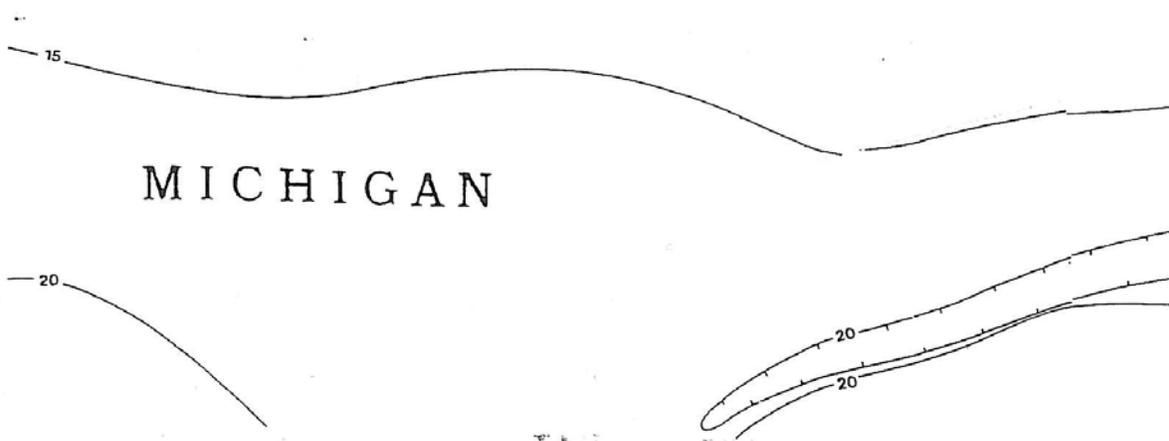
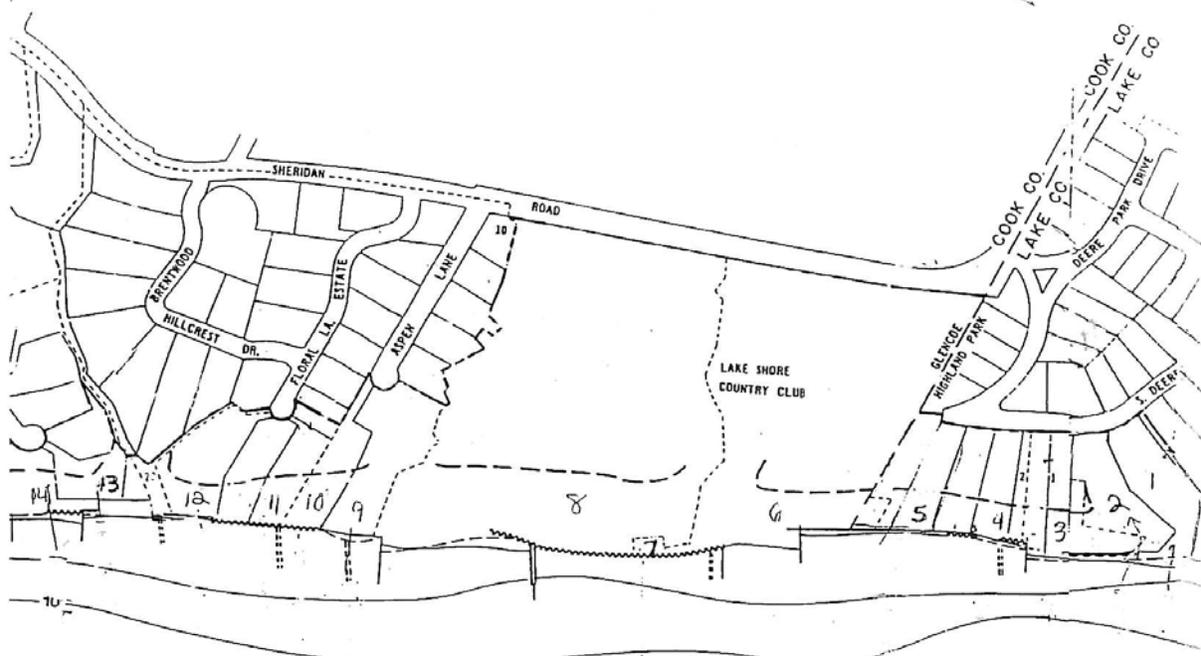
Shabica & Associates, Inc.
WE BUILD BEACHES

Location of Project: 55 Deere Park Drive, Highland Park, Illinois 60035

List of property owners (from North to South):

1. Andrew S. and Laura C. Hochberg, 77 S. Deere Park Drive, Highland Park, IL 60035
2. Cynthia B. Hirsch Trust, 65 S. Deere Park Drive, Highland Park, IL 60035
3. Mark and Julia Gerstein, 57 S. Deere Park Drive, Highland Park, IL 60035
4. Subject Property: Jerrold and Naomi Senser, 55 S. Deere Park Drive, Highland Park, IL 60035
5. Michael and Janet Krasny, 41 S. Deere Park Drive, Highland Park, IL 60035
6. Lake Shore Country Club, 1255 Sheridan Road, Glencoe, IL 60022
7. Village of Northbrook, Public Works Department, 655 Huehl Road, Northbrook, IL 60062
8. North Shore Congregation Israel, 1195 Sheridan Road, Glencoe, IL 60022
9. Milton Vainer, 35 Aspen Lane, Glencoe, IL 60022
(mailing: 191 Apple Tree Road, Winnetka, IL 60093)
10. Nena Addis, 25 Aspen Lane, Glencoe, IL 60022
11. David Muslin, 35 Estate Drive, Glencoe, IL 60022
12. Robert Price, 30 Estate Drive, Glencoe, IL 60022
13. Shayle P. Fox, 1 Rockgate Lane, Glencoe, IL 60022
14. Property Owner, 6 Rockgate Lane, Glencoe, IL 60022

E N C O E



MICHIGAN

Mark Gerstein
57 South Deere Park Drive
Highland Park, Illinois 60035

Construction Operations Div. Regulatory Branch
Corps of Engineers, Chicago District
111 N. Canal Street
Chicago, IL 60606-7206

September 25, 2014

Dear Sir or Madam,

I hereby request that Shabica & Associates, Inc. be authorized to act in my behalf in filing a permit application for shore protection work at the Senser property, 55 South Deere Park Drive, Highland Park, Illinois. I understand that the lakeward end of the steel groin on my property will be encapsulated with stone. I convey permission for representatives of Shabica & Associates, Inc. to enter my property for consulting purposes.

If additional information is required, please contact me at the above address.

Sincerely,



Mark Gerstein
Owner

cc: Illinois Department of Natural Resources
Illinois Environmental Protection Agency
Shabica & Associates, Inc.
Jerry Senser



**Shoreline Stabilization at
57 S. Deere Park Drive
Highland Park**

**Submittal to
Community Development Department
March 4, 2015**

Prepared By:

**Shabica & Associates, Inc.
We Build Beaches
550 Frontage Road, Suite 3735
Northfield, Illinois 60093
Tel. 847-446-1436
Fax 847-716-200**



Shabica & Associates, Inc.
We Build Beaches

Eric Olson
City of Highland Park
Community Development Department
1150 Half Day Road
Highland Park, Illinois 60035

Dear Mr. Olson:

March 4, 2015

Attached please find a submittal to the City of Highland Park's Community Development Department for a Shoreline Stabilization project at the property of Mark and Julia Gerstein at 57 S. Deere Park Drive, Highland Park. Proposed work includes construction of a breakwater protected beach system with sandfill as required for this work. All Federal and State permits have gone through the public notice stage and are nearing approval for the proposed work (see Appendix).

This project was submitted to the state and federal regulators in October 2014 and is under final review. All Federal and State permits have gone through the public notice stage. The IEPA and IDNR have issued permits, see Appendix The US Army Corps of Engineers are nearing approval for the proposed work (see Appendix).

The shoreline at this site has been losing sand at a fast rate due to the lake level rising and higher intensity lake storms. As the sand level is lowering, the bluff toe has become vulnerable to erosion and the base of the stair access to the beach has been compromised.

The City's Standards for Review, as outlined in the "Lake Michigan Protection Regulations" from Section 150.703.1 *Special Regulations for the LFOZ Lakefront Density and Character Overlay Zone*, are outlined below with our responses following:

- a. *The proposed Regulated Activity and/or Structure shall not unreasonably impede access to or pedestrian movement along the beach or to Lake Michigan.*
This project will not impede pedestrian access or movement along the beach or to Lake Michigan.
- b. *The proposed Regulated Activity and/or Structure shall not unnecessarily impede navigability within Lake Michigan*
As the breakwaters will not extend further east than other existing structures, the proposed project will not have any impact on the navigability of Lake Michigan.
- c. *The proposed Regulated Activity and/or Structure shall not unreasonably impact the Subject Property or the Adjacent Properties*

The project will protect the Subject Property from shoreline erosion, and the sandfill, as required by the IDNR will assure that the project will not negatively impact the adjacent properties.

- d. *The Applicant has proposed appropriate long-term maintenance requirements and plans, as necessary, for the proposed Regulated Activity and/or Structure*
The project has a long-term maintenance plan. Monitoring of the project is also required for 5 years post construction by the IDNR.
- e. *The proposed means and methods of undertaking the Regulated Activity and/or Structure are consistent with appropriate design and aesthetics principles*
The means and methods of construction are consistent with design and aesthetics; all work will be completed via marine mobilization. A similar structure has been constructed on the south side of the property.
- f. *The proposed Regulated Activity and/or Structure shall not create new nor amplify existing erosion problems on the Subject Property and on Adjacent Properties*
The project will prevent future bluff erosion on the subject property, and will not affect adjacent properties. As the construction will be completed via marine access, the bluff will not be disturbed. As the construction will be completed via marine access, the bluff will not be disturbed except the location where the north spur breakwater is placed abutting the toe of the bluff.
- g. *The proposed Regulated Activity and/or Structure shall be for the purposes of erosion control, water gathering, and/or public access only*
The proposed shore protection will reduce and/or prevent future sand loss and bluff erosion on the subject property and allow access to the beach from the tableland.
- h. *There will not be an unnecessary adverse environmental or ecological impact on the Subject Property or on any of the Adjacent Properties as a result of the proposed Structure and/or the Regulated Activity*
The proposed structure will not cause unnecessary adverse environmental or ecological impact. The quarrystone breakwater provides improved habitat for fish. Sand acts as a natural filter for stormwater runoff.
- i. *The proposed Structure and/or Regulated Activity is the least environmentally and ecologically intrusive means of achieving the stated purpose of the Structure*
The proposed system is a viable, environmentally-correct means of achieving the stated purpose.
- j. *The Applicant has properly obtained any and all permits required by the federal, state, and county governments for the Regulated Activity and/or the Structure*
All Federal, State and County permits are under review and nearing issuance. The state and federal permit application is attached. All permits will be issued prior to any work commencing.

A Permit Application has been filed with the Department of Public Works for the proposed project. In conformance to the City's Application Guidelines, the following documents and information are included:

- i. *A statement of the purpose and planning objectives to be achieved by the proposed Regulated Activity*
The proposed breakwater-protected pocket beach system will help protect the bluff from erosion during all lake levels. The proposed system will move the locus of wave action further offshore where lakebed downcutting will be reduced.
- ii. *A plat of survey of the Subject Property*
A Plat of Survey is attached as well as a recent hydrographic survey showing the entire work area. A tree survey has not been prepared as the bluff and tableland will not be impacted by the construction. All access will be via barge on Lake Michigan.
- iii. *A conceptual plan showing the Subject Property and the Adjacent Properties, including any and all existing Structures in the portion of the Lake Michigan Protection Zone abutting those properties*
A Plan View is attached.
- iv. *Development and site plans showing the proposed Structure, if applicable*
Same as Conceptual Plan in Item iii
- v. *A demolition plan, if applicable*
N/A
- vi. *An elevation plan, which shall include sectional views of the proposed Structure, if applicable*
Cross-sectional drawings are attached.
- vii. *Copies of any and all permits required by the federal, state, and county governments for the Regulated Activity and/or the Structure*
Federal and State permits are attached.
- viii. *Engineering details of the proposed Structure and/or the Regulated Activity, which shall include, if applicable:*
 - A. *Structure height:* N/A, see Coastal Engineering Report in the cover letter to the state and federal regulators and plans in the Appendix
Structure Length: System extends about 116' lakeward from the bluff toe
Structure Width: N/A, see plans
 - B. *The spacing between the proposed Structure and other Structures in the Lake Michigan Protection Zone abutting any of the Adjacent Properties*
No spacing is applicable.
 - C. *The materials of which the proposed Structure will be composed*
The breakwater will be quarried quartzite. Sand will be placed as required by the IDNR as beach fill.
- ix. *A geo-technical investigation report of the site*

As there will be no major earthmoving or structures built on the bluff slope, this project does not require a geotechnical investigation.

- x. *A statement outlining structure success in various water levels*
The breakwater is designed to function during varying lake levels.
- xi. *A statement describing the long-term maintenance requirements and plan for the proposed Structure*
The proposed structure has a 20-year design-life, and the stone that will be used will last thousands of years. Periodic maintenance is recommended as necessary based on biannual visual inspections. Typically, at the time of recommended maintenance, additional stone will be brought in and placed over the existing revetment to bring it back to the original specification.
- xii. *A written description of the proposed means and methods of undertaking the Regulated Activity*
All materials and equipment will be delivered to and removed from the site via barge on Lake Michigan. The beach work will be completed using a backhoe and crane as needed.
- xiii. *An explanation, in narrative form, of the following:*
 - A. *Any and all erosion problems on the Subject Property for which the Structure and/or Regulated Activity is designed to correct or remedy*
This system is designed to protect the Subject Property from future sand loss, lakebed downcutting and bluff erosion due to stormwave damage.
 - B. *The environmental and ecological impact on the Property and the Adjacent Properties that are expected to result from the Structure and/or Regulated Activity*
The environmental impact of this project is that the stormwater will be filtered by the beach. This will reduce sediment and non-point source pollution from flowing into Lake Michigan.
 - C. *How the proposed Structure and/or Regulated Activity is the least environmentally and ecologically intrusive means of achieving the stated purpose*
The design of this system is minimally intrusive to the environment. The project design mimics mother nature by creating a rocky headland to create a calm bay where wave energy is reduced and sand can remain to provide shore protection.
 - D. *The nature and composition of existing protections, including existing Structures, of the shoreline in that portion of the Lake Michigan Protection Zone abutting either the Subject Property or the Adjacent Properties, and the impact and effectiveness of those protections on the shoreline, the lakebed, and on erosion of the Subject Property and Adjacent Properties*
The existing form of shore protection at the Subject Property is a steel groin along the south property line to help to hold a narrowing sandy beach. There is no engineered protection at the base of the bluff. Sand has eroded severely from the current system.

- xiv. *A non-refundable application fee, in the amount set forth in the City's Annual Fee Resolution*
The application fee is attached.

An Appendix of attachments is included with this letter.

This information addresses the application requirements for submission. Please let us know if you require any further information.

Sincerely,



Jon Shabica
Vice President



Appendix

FIRST TO BE OK'D BY LAKEFRONT COMMISSOIN

Beach project a model in many ways

By CHARLES BERMAN
cberman@pioneerlocal.com

An exciting scene stretched deep over the Lake Michigan shoreline Nov. 20 as crews put the final touches on the gold standard of beach-restoration projects.

Cranes reached over the side of a barge and dropped tons of sand and stone onto a newly constructed private, residential beach on the southeast corner of Highland Park.

Shabica and Associates, a Northfield-based shoreline protection firm, designed the project to correct years of damage caused by erosion and to withstand years of natural destruction.

Jon Shabica, the firm's vice president, said what once was up to 50-feet of sandy beach was reduced to less than half its previous size during the last two years.

"There was very little natural sand left and the beaches were deteriorating to just cobble and lakebed clay," Shabica said.

Shabica said once sand disappears and lake-bed clay begins to erode, the natural process is unable to repair itself, resulting in larger waves and additional destruction to the bluffs and beaches.

So quarry stone breakwater stones were installed, a concrete pier was removed, a new curbstone groin was constructed with steps built into it, which extended into the lake. A limestone revetment was added, new sand was deposited, the beach was regraded and a dune grass system was installed.

That type of complete restoration project can cost between \$400,000 and \$1 million depending on finishes, the size of the property and the level of damage, Shabica said.

"My guess is that like the ravines, the amount of (property) loss we've seen has come more toward the

"We want to prevent any negative impact from the construction onto neighbors. The lake is constantly moving and shifting sand; we want to make sure nothing impedes its flow."

Barbara Cates

end of the season and we typically see healthier beaches before winter," Shabica said. "So we might see some panicked people in the spring.

"This really hasn't been a good summer weather wise," he continued. "We think it has to do with the rising lake. It's up 1 foot, 3 inches since January."

The project also proved noteworthy because it was the first to go through the Highland Park Lakefront Commission's new process and the first state project to be completed since the Illinois Department of Natural Resources put a moratorium on all private coastal engineering projects.

"The city recognizes that the lakefront is a defining element of the city's character," said Barbara Cates, city planner and staff liaison to the Lakefront Commission. "We want to promote activities on the beach in the most ecological manner possible, so we established a process of approvals at the Lakefront Commission.

"There are a lot of natural processes going on at the lakefront."

Cates said the most important aspect of the city's new guidelines is the requirement for a resident to obtain all necessary state



Sand is moved into place Nov. 20 as a barge drops sand on the shoreline for a restoration project at a Highland Park homeowner's private beach. The barge was dropping off tons of sand to replenish the sand bank of the beach, which has been deteriorating because of higher lake-water levels. (Buzz Orr/Staff Photographer)

and county permits before the commission would make a recommendation to the city council.

"The (homeowners) were required to get six approvals before we considered this," Cates said. "We want to prevent any negative impact from the construction onto neighbors. The lake is constantly moving and shifting sand; we want to make sure nothing impedes its flow."

City Engineer John Welch said the work on South Deere Park Drive was a model project.

"We aren't saying people have to do this system," he said. "This is the Bentley of improvements that can be done on the lake shore. Their situation was probably worse than (most other situations) to begin with."

Welch recommends that residents employ a shoreline expert and take preventative measures to maintain their property, as it is cheaper to repair problems

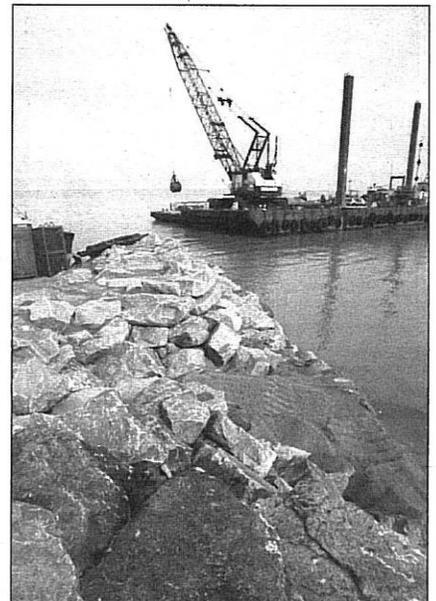
that are found earlier.

Cates said the Lakefront Commission found that this project will retain sand, prevent erosion and ultimately protect the shoreline in that area. The commission is also using this project as an education tool.

In the city's conditional approval, the homeowners were required to provide updated reviews of the improvements at its one-year and five-year anniversaries. The site was also extensively photographed before, during and after project was completed. Ongoing inspections and supervision of the project was required as well.

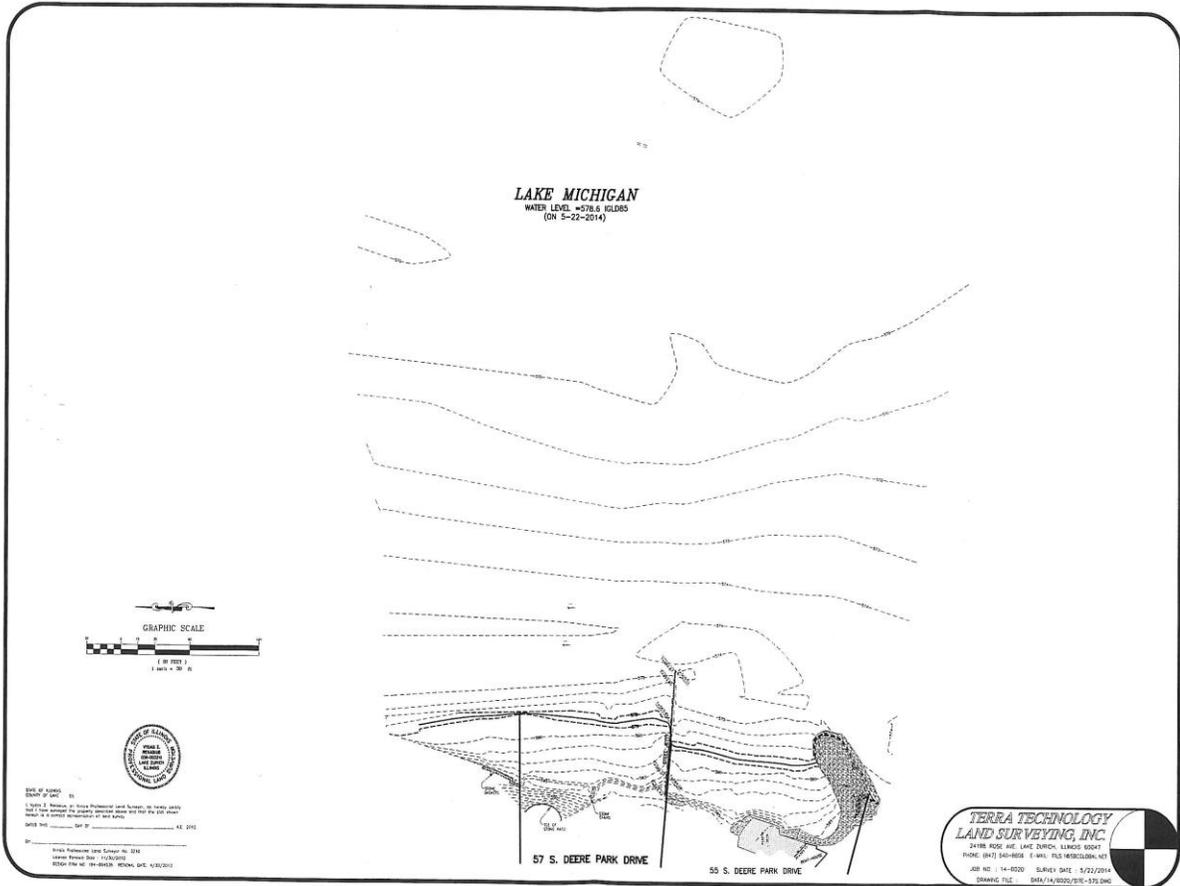
"It's a good learning process for the commission," Cates said. "We were making sure what they proposed, in the end, is what is being installed."

"These were vast improvements," Cates continued. "It's striking how much has changed. It looks very natural.

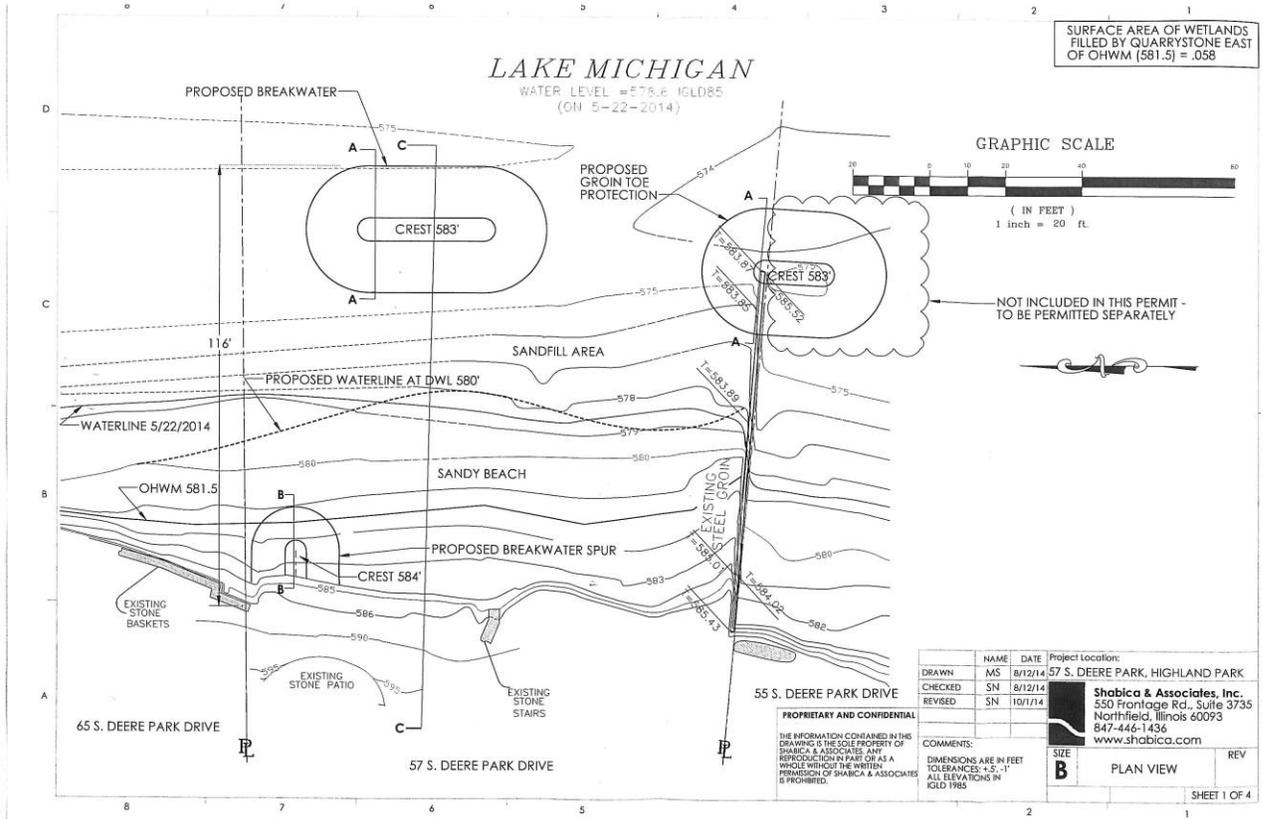


A barge (background) hauls sand to the shoreline for a restoration project at a Highland Park homeowner's private beach Nov. 20. In the foreground is a human-made stone breakwater that acts as an arm for an engineered beach. (Buzz Orr/Staff Photographer)

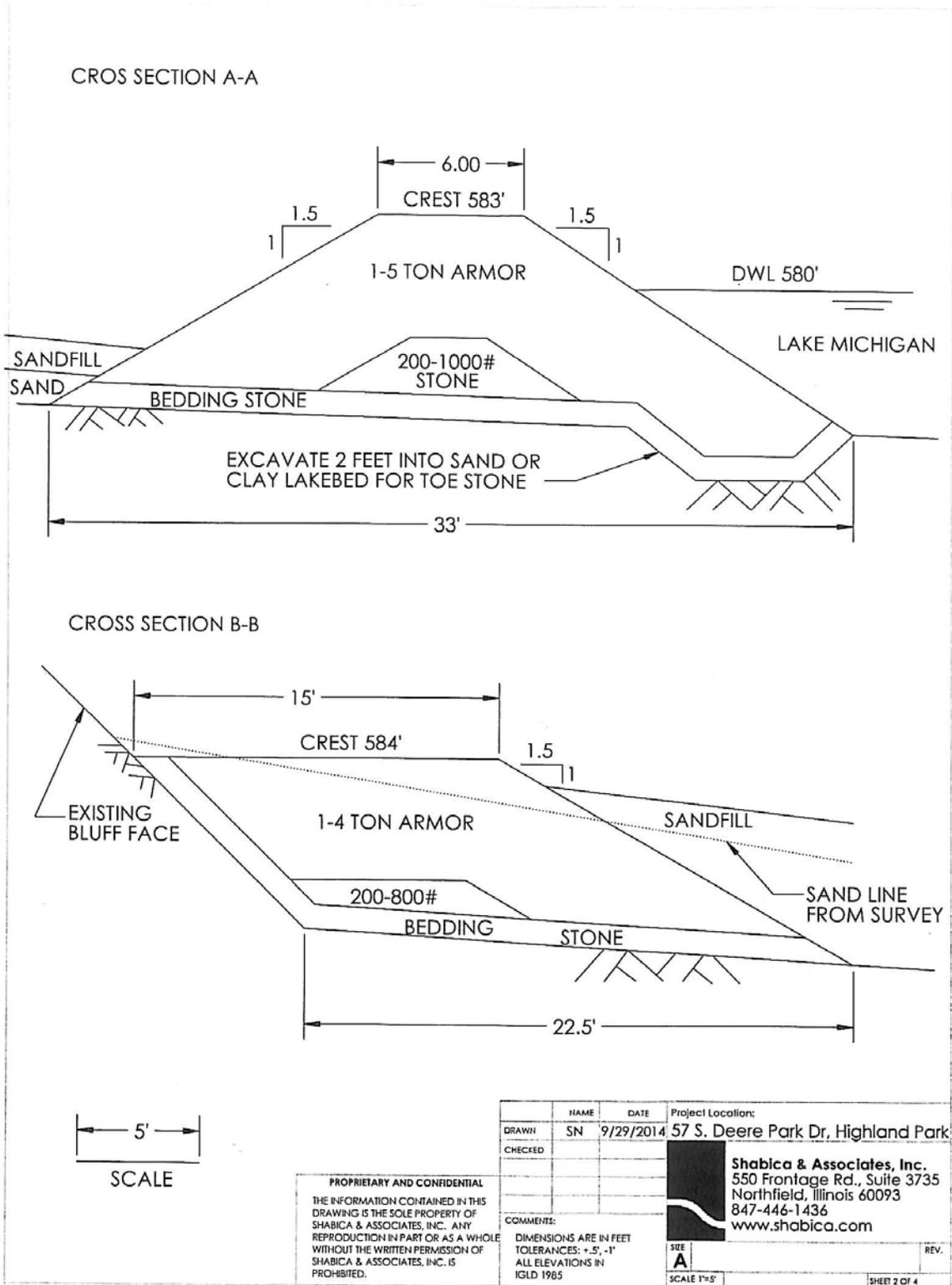
Hydrographic Survey



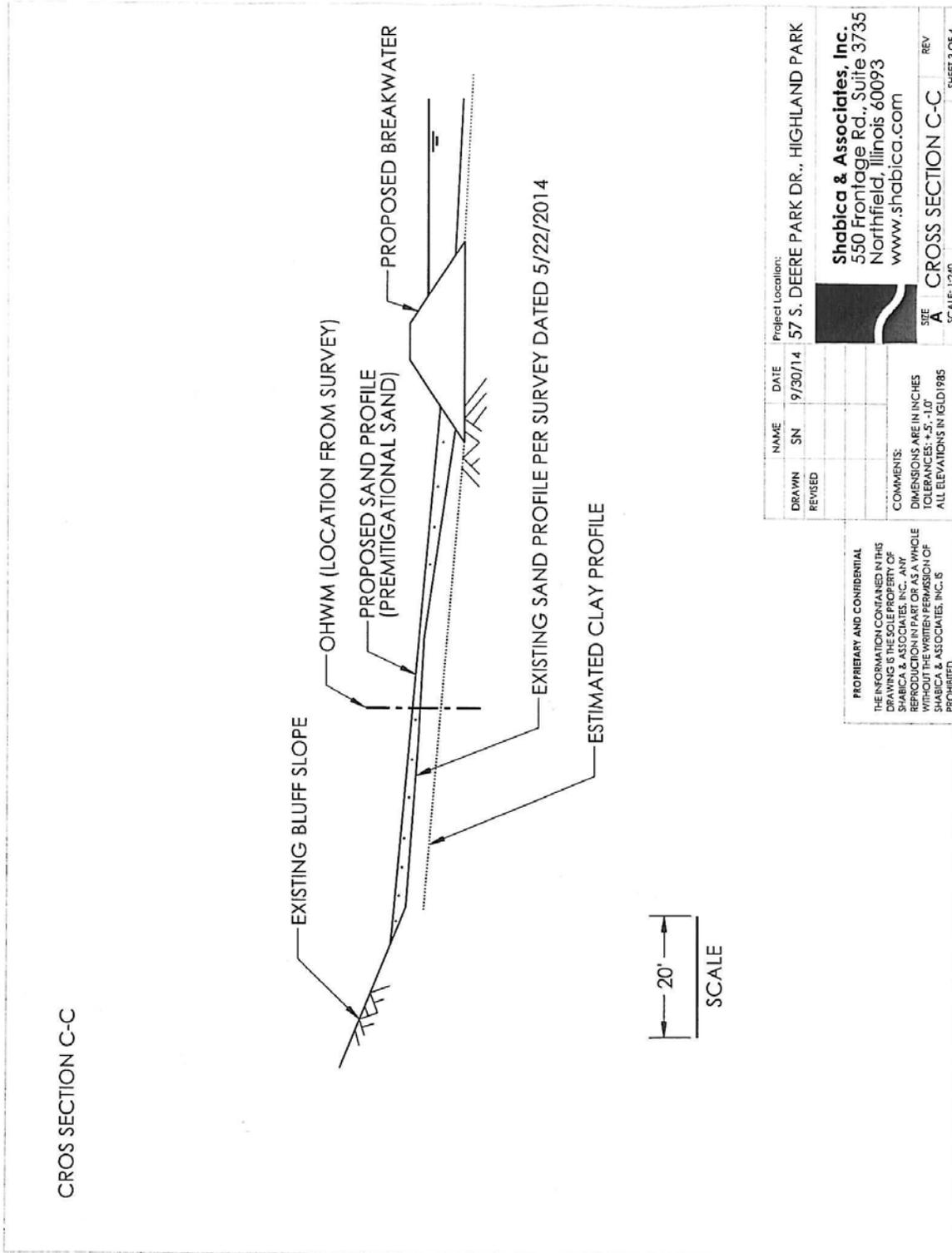
Permit Drawings



Permit Drawings (cont.)



Permit Drawings (cont.)



NAME		DATE	Project Location:
DRAWN	SN	9/30/14	57 S. DEERE PARK DR., HIGHLAND PARK
REVISED			

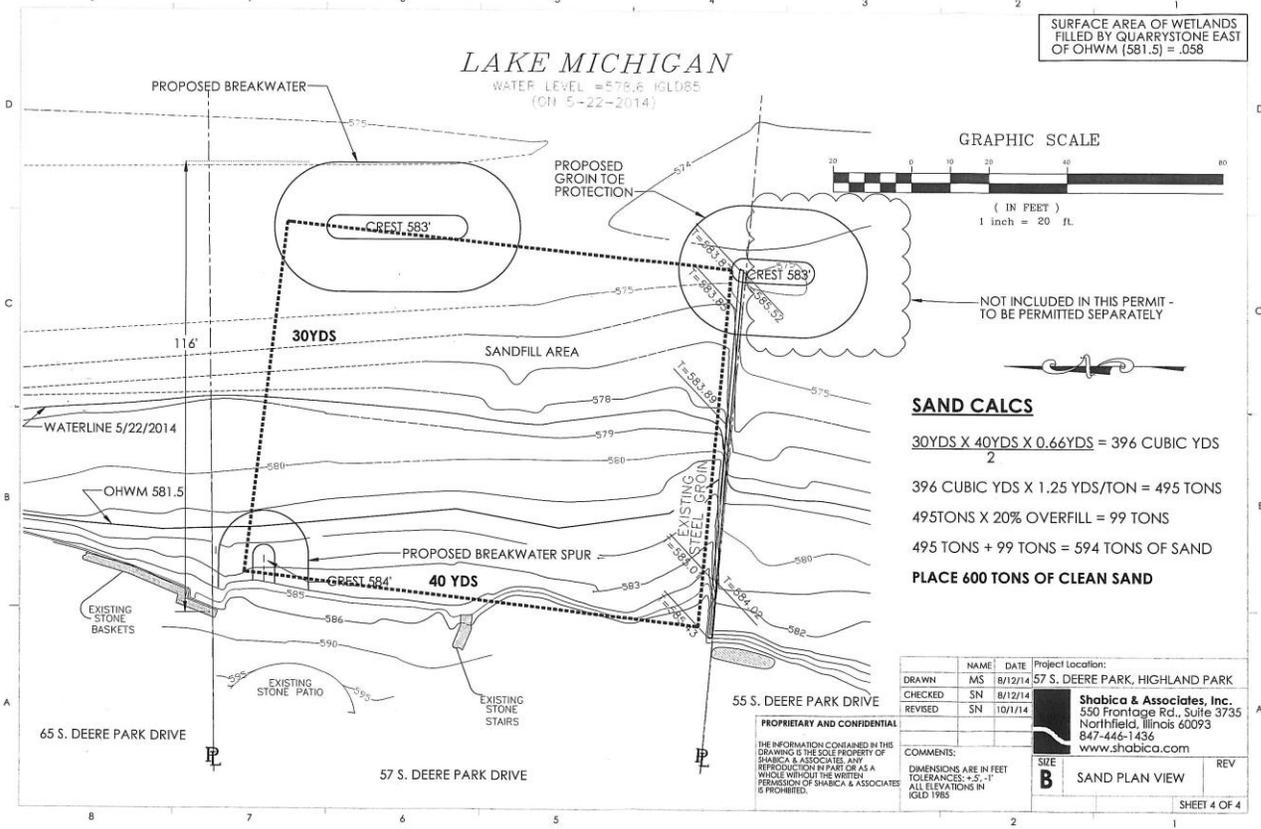
Shabica & Associates, Inc.
 550 Frontage Rd., Suite 3735
 Northfield, Illinois 60093
 www.shabica.com

SCALE: 1:240

SITE A CROSS SECTION C-C REV SHEET 3 OF 4

PROPRIETARY AND CONFIDENTIAL
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF SHABICA & ASSOCIATES, INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF SHABICA & ASSOCIATES, INC. IS PROHIBITED.

Permit Drawings (cont.)



State and Federal Permit Application



Shabica & Associates, Inc.
WE BUILD BEACHES

Ms. Kathy Chernich
East Section Chief, Regulatory Branch
Chicago District
U.S. Army Corps of Engineers
231 S. LaSalle Street, Suite 1500
Chicago, IL 60604

Dear Ms. Chernich:

October 9, 2014

Please find enclosed a permit application for shore protection for the property located at 57 South Deere Park Drive, Highland Park, Illinois, 60035, owned by Mr. Mark Gerstein. Proposed work includes construction of a shore disconnected quarystone breakwater, quarystone toe protection for the lakeward end of the existing steel groin, a short quarystone spur adjacent to the north property line and sandfill, as required. A letter of support is attached from the adjacent south property owner, Mr. Jerry Senser, who will be submitting a permit application for work to be completed in conjunction with this project on the south property.

A *Design of Shoreline Erosion Protection* report has been attached to this cover letter as the coastal design specifications component of this permit. All references, photographs and figures referred to in the cover letter and the following report can be found in the Appendix.

The proposed activity complies with the approved Illinois Coastal Management Program (ICMP) and will be conducted in a manner consistent with such policies. A separate letter has been submitted to the ICMP office.

Project Purpose Statement

The property owner has retained Shabica & Associates (SA) to design and engineer a shore protection system for his property. This project will be constructed on the lakefront of 57 South Deere Park Drive, Highland Park, where the homeowner wants to provide additional shore protection and reduce lakebed downcutting that will eventually destabilize the bluff and existing steel groin. The sandy beach at this site has deflated over the years. Even with recent low lake levels, the beach is narrower during all lake levels with stormwaves impacting the bluff toe and showing signs of eroding the bluff landward.

The bluff at this site has a vegetated slope face leading down to the beach and shoreline. The beach at this site has deflated an average of 3' in elevation as evidenced by the scarp at the back of the beach. This scarp has retreated west over time during storms and now, at the north end of the property, waves impact the bluff toe. Additionally, during a site visit in 2011, there was exposed lakebed clay near the waterline. This indicates that there is only a thin veneer of sand in this area increasing the amount of lakebed downcutting. At the south property line, there is an existing steel sheetpile groin that helps to hold the sand that does stay on the beach.

550 Frontage Road • Suite 3735 • Northfield, Illinois 60093 • Tel 847.446.1436 • Fax 847.716.2007
www.shabica.com

COVER LETTER
57 South Deere Park Drive, Highland Park • October 9, 2014

2

A 60-foot long shore disconnected quarrystone breakwater (toe to toe) will be built approximately 50 feet north of the existing steel groin. The lakeward toe of the structure will extend to 116 feet east of the toe of the bluff and the breakwater will have a crest elevation of 583' (IGLD 1985). The slope of the breakwater will be 1v:1.5h. Quarrystone breakwater toe stone will be placed at the lakeward end of the existing steel sheetpile groin to help reduce scour in this area to improve the longevity of the groin. The crest elevation of the toe stone will be 583'. A short quarrystone spur breakwater will extend approximately 28 feet east of the bluff toe at the north end of the property. The crest elevation will be 584' with a slope of 1:1. This structure will help reduce loss of sand from the beach as well as break waves impacting the bluff toe during high lake levels. Mitigational sand will be placed in a quantity of 600 tons in the system.

This section of coastline has historically lost sand due to lakebed downcutting especially during prolonged periods of low water. Sand deposits are thin here (Figure 1, Appendix) and scientists estimate that the rate of lakebed erosion averages 6 inches per year (Nairn, 1997). The net result is similar to the effects of global warming and rising sea level on marine coasts. This includes deeper water nearshore, larger stormwaves and progressively narrower beaches as the nearshore lakebed continues to erode. This has resulted in bluff toe erosion especially during average to high lake levels. While a narrow beach has been present at this site during higher lake levels, stormwaves have scoured the glacial clay till at the bluff toe. If ignored, this will lead to destabilization of the bluff face causing loss of tableland and infrastructure.

The Illinois Lake Michigan shoreline is considered "sediment starved" by coastal scientists. This is in contrast to East Coast and Gulf Coast open ocean shores where tens of thousands of tons of sand are found in the nearshore system that provide a primary line of defense against stormwaves. On most Great Lakes shores including southern Lake Michigan, natural sand beaches are not able to protect the lakeshore (exceptions may be during very low lake levels like 1964 or 2004-07). Large quantities of sand have been trapped or diverted offshore by municipal structures that extend 900 feet or more into the lake. Today, the main sand supply is wave erosion of the nearshore glacial clay lakebed that contains only about 10% sand (Shabica and Pranschke, 1994). The result is that groins are losing their effectiveness at holding a sandy beach during average to high lake levels. To retain a sand covering of the shallow lakebed (where downcutting is most active), as well as to protect the revetment and bluff toe, SA has designed an open breakwater beach system to hold sand, as necessary, to protect the lakebed and bluff during higher lake levels.

If beach and nearshore sand is lost, degradation of the nearshore ecosystem will result. Meadows et al., (2005) reports an increase in zebra mussels *Dreissena polymorpha*, and a decrease in native zooplankton in waters where the lakebed is eroding clay and rocks. In comparison, a nearshore area with 100% sand cover supports a species-rich community. The report concludes, "it [is] nonetheless clear that sand-based areas were characterized by sufficient shallow water fish CPUE and species richness to suggest that these are important habitats within the context of the Great Lakes Basin and not simply 'wet deserts' as they are often considered."

Design Options

The site at 57 South Deere Park Drive, Highland Park has been inspected and options for shore protection were determined using desktop coastal engineering, site conditions from the 2014 bathymetric survey, studying local prototypes, and several years of observations of the deteriorating shoreline conditions at this site. Given the sand loss over the last several years including during extreme low lake levels, as well as the uncertainty of future lake levels, it is prudent to engineer and design systems that will anticipate greater lakebed downcutting, higher amounts of beach erosion, more extreme storm events with larger waves, and potential loss of land. These four design options were considered:

COVER LETTER
57 South Deere Park Drive, Highland Park • October 9, 2014

3

OPTION 1

Do Nothing –

The first option of "Do Nothing" results in leaving the currently eroding beach in its existing state. This will allow lakebed erosion to continue allowing larger stormwaves to impact the coastline. Over time, the beaches along Illinois' North Shore coastline have continued to narrow due to being in a sand starved system. At this site, the beach continues to narrow even with lower than average lake levels. Now with the water level rising, Lake Michigan waves are impacting the seawall.

OPTION 2

Construct a Revetment –

The second option considered is to construct a quarystone revetment. This option provides enhanced stormwater protection at the cost of the following:

1. Continued erosion of the lakebed, which will ultimately destabilize the revetment toe
2. The beach will erode over time, as there is less sand in the system.

OPTION 3

Preferred Option: Design an Open Breakwater Beach System –

The preferred option is to protect the property with a pocket beach breakwater system. Based on research of prototypes along the Illinois North Shore, structures that extend less than around 125 feet offshore with a wide gap opening between structures, do not dissipate enough wave energy to hold a stable beach with fluctuating lake levels. This system is less than 125 feet offshore and due to its design will greatly enhance the level of shore protection at this property. The proposed breakwater will extend east from the bluff toe approximately 116 feet. This plan also includes quarystone toe protection for the lakeward end of the existing steel sheetpile groin and a short breakwater spur near the north property line that will help to break wave energy during high lake levels as well as help the system to retain sand. The proposed plan will help protect the glacial clay lakebed, as well as the beach and bluff, while allowing safe access to Lake Michigan. This option will help stabilize the sand on the adjacent beaches by reducing wave energy in the immediate area. With proper maintenance, a structure like this could be expected to continue functioning for 30 plus years.

OPTION 4

Encapsulate the Groin in Quarystone –

This option would help to hold sand in the beach cell at a much reduced rate than the preferred option. This property is located at the north end of a groin field. The beach is narrow at the north end and with the deflation seen recently, the bluff toe would remain at risk. Additionally, the cost of encapsulating the existing structures in stone and adding sand is almost as expensive as constructing a more sustainable coastline.

OPTION 5

Larger Bay Beach System-

Options for a larger bay beach were studied but were cost preventative for the client.

Public Benefits of Sandy Beaches

The Great Lakes represent the most important natural resource in the United States. Sandy beaches play an important role in keeping the lakes clean and safely accessible. Furthermore, a sandy beach makes a better ecotone (transitional environment) for flora and fauna than seawalls and revetments. Summary arguments supporting a sandy beach system include:

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- 1) Beaches are filters for non-point source runoff.
- 2) Beaches reduce lakebed downcutting, a source of fine clay pollutants.
- 3) Beaches support endangered species such as sea rocket, marram grass, and seaside spurge.
- 4) Beaches make better wildlife habitat than actively eroding bluffs or seawalls.
- 5) Stone headlands make better fish habitat than eroding lakebed clay.
- 6) Beaches protect the lakebed from erosion that causes larger stormwaves to impact the shore.
- 7) Beaches are far safer for swimmers and boaters than a coast lined with seawalls or revetments, especially in an emergency.
- 8) Beaches, unlike most steel or concrete seawalls, are not visual pollution.

Impacts to Downdrift Properties

The proposed project will have minimal impact on the property immediately downdrift of the subject property. The adjacent property to the south has a breakwater protected beach and is currently applying for a permit to install a short breakwater spur on the existing steel groin that separates the properties.

Impact to Littoral Drift System

The proposed plan for this site includes the construction of a shore-disconnected quarrystone breakwater, groin toe protection, a short quarrystone spur at the bluff toe and placement of sandfill as required for permit.

The section of Lake Michigan shoreline north and south of 57 South Deere Park Drive, Highland Park is fully engineered with steel groins, revetments, seawalls, and quarrystone breakwaters. Based on our experience, as the proposed structure is immediately north of a steel sheetpile groin and extends minimally lakeward, it will not negatively impact the littoral system after the sandfill is placed (anticipated quantity plus 20% overfill). According to the Illinois State Coastal Geologist (Chrastowski, 2005), "the design to contain placed sand is becoming necessary because of reduced volume of littoral sand in transport." He further states, "beach-cell systems may represent the future for beaches along much of the Illinois bluff coast from Waukegan south to Evanston."

The beach system will be nourished with sand including a 20% overfill placed north and south of the system. The new IDNR regulations for structures that will retain sand require pre- and post-construction surveys, as well as surveys at the one and five-year intervals. This new requirement will help assure that a sand equilibrium is met and that the new project is gaining and losing sand at a similar rate to neighboring properties.

Impact on Public Uses

Public access will not be impacted by the modifications to the existing system. No additional public access structures will be built as part of this project, however, public access should be improved by the engineered beach system retaining more sand and holding a higher beach profile during all lake levels. Although the spur will extend 28' lakeward from the bluff toe, the modified sand elevation will accommodate for pedestrian access. During high lake levels, the beaches to the north tend to be submerged cutting off access for beach walkers. The beach will provide a safe place for boaters and swimmers in distress. Fishing will not be impacted negatively, as the underwater area of the quarrystone protection will create an improved fish habitat. Additionally, navigation of water craft will not be impacted, as the proposed construction will not extend further east than the existing structure.

Impact on Natural Resources

Quarrystone structures in the nearshore waters of Lake Michigan and sandy beaches improve native species habitat. The LandOwner Resource Centre with support from the Canadian Wildlife Service and the Ontario Ministry of Natural Resources states that, "unstable shorelines can release silt that can choke nearby aquatic habitats." Additionally, underwater structures such as artificial reefs constructed of large boulders and clean riprap material "in large water bodies, such as the Great Lakes . . . are often the best method of creating habitat." As stated above,

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according to Meadows, et al., 2005, "a nearshore area with 100% sand cover support[s] a species rich community." As the design does not impact the bluff and vegetation, the local terrestrial wildlife will continue to inhabit this property.

Type of Permit

The scope of this project requires an individual permit.

Description and Schedule of Proposed Activity

All of the proposed work will be completed via marine access. A barge will deliver a backhoe to work on land to place the materials. All stone will be delivered by barge to the site. Sand will be delivered by truck. Work will not begin until all necessary permits have been received. This work will require approximately 10 weeks to complete.

Type and Quantity of Fill/Measures Taken to Avoid Impact/Erosion and Sediment Control Plan

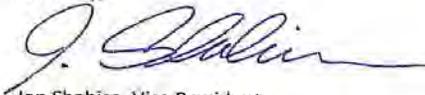
All material will be clean and from inland quarries. Approximately 850 tons of new, clean quarried stone will be placed to construct the revetment and breakwater. Approximately 600 tons of clean sand will be placed on the existing beach. All clay displaced from the lakebed for installation of the breakwater toe stone will be placed on the barge and removed from the site and disposed of properly. Acreage of stone placed on the lakebed east of the OHWM is less than 0.058 acres.

Summary

All of the above described activities and plans will follow IPP terms and conditions. All of the proposed work adheres to the guidelines prescribed by the Illinois Environmental Protection Agency and its Anti-Degradation Assessment. U.S. Fish & Wildlife Service and the Illinois Historic Preservation Association will be updated on all relevant correspondence.

If you have any questions please feel free to call me at the phone number below.

Sincerely,



Jon Shabica, Vice President

C: IDNR (Casey)
IEPA (Heacock)
U.S. Fish & Wildlife Service
Illinois Historic Preservation Agency (Haaker)
Mark Gerstein

COASTAL DESIGN SPECIFICATIONS
57 South Deere Park Drive, Highland Park • October 9, 2014

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DESIGN OF SHORELINE EROSION PROTECTION

Introduction

The following report summarizes assumptions and design criteria for a quarystone breakwater and sandfill mitigation to help reduce erosion and protect the property located at 57 South Deere Park Drive, Highland Park. The design is based on the drawings included in the permit application to the U.S. Army Corps of Engineers dated September 25, 2014.

The site lies within a fully engineered section of urban lakeshore that is typically protected with revetments, seawalls, impermeable piers, steel sheetpile groins and breakwater protected beaches that may hold narrow beaches.

This section of coast is sand-starved due to municipal structures (littoral barriers) constructed over the past 100 years that extend lakeward beyond the littoral zone and reduce sand bypass as well as due to lakebed downcutting causing a steeper lakebed profile leading to increased sand loss. Although there is currently an exposed sandy beach due to extreme low lake levels, the beach width varies greatly due to the vulnerability of this location. According to the Illinois State Geological Survey, there is almost no sand moving along this section of coast. All structures in the area have been steadily losing their effectiveness at holding beach sand. This problem is exacerbated by lakebed erosion. In many cases where all the sand has been lost, the adjacent bluffs have begun to erode. To provide adequate protection for the upland property, solutions have typically been of two types: breakwater- or groin-anchored beaches to protect the bluffs, or large quarystone revetments placed against the toe of the bluff that prevent stormwave erosion but at the expense of the beach.

Project Description

Construction of a shore disconnected quarystone breakwater, groin toe protection, a quarystone spur at the bluff toe and sandfill mitigation are proposed that fulfill the design requirements of 20-year stormwave erosion protection. The proposed system is designed for all lake level conditions.

Summary Specifications

Using the Army Corps of Engineers Shore Protection Manual (1984), performance of nearby prototypes and other sources, the following specifications were developed for this site (elevations are based on IGLD 1985):

Stone Breakwater Specifications

Lakeward Crest Elevation:	583 ft
Toe of Structure:	573 ft (average)
Crest Width:	6 ft
Average Armor Size:	2.5 tons
"B" Stone	200 lbs to 1000 lbs
Slope:	1:1.5
Tons/linear feet:	11.5 tons

Assumptions

• Design High Water (DHW):	582.0 ft *
• Design Water Level:	580.0 ft
• Design Low Water (DLW):	577.5 ft *
• Existing clay till elevation at breakwater toe:	573.0 ft
• 20-yr lakebed erosion at toe of breakwater:	3 ft**
• Design wave height (Hs):	9.36 ft

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COASTAL DESIGN SPECIFICATIONS
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Assumptions (continued)

• Nearshore Slope:	1:30 – 1:40
• Design Wave Period (T):	9.9 s ***
• Depth at Structure Toe DHW (Ds):	9'
• Design Deepwater Wave (Ho):	18.0'
• Design Wave Length (Lo):	501.8'
• Structure Porosity:	37%

* DHW includes 2 ft storm setup; DLW is equivalent to Low Water Datum

** 2.5 ft sand and gravel (thickness varies) plus 2 ft clay till, Nairn, 1997

*** Resio & Vincent, 1976

Stone Breakwater Stability, Armorstone

The proposed quarystone breakwater has two layers of 1 – 5 ton armorstone built on a 1:1.5. Overtopping of the structure is expected during storms and higher water levels. Design conditions include:

- Lakeward breakwater crest elevation is at DHW 4.5 ft above DLW
- Depth-limited breaking waves will break on the stone breakwater and sand beach
- Depth at the toe of the structure is 9 ft (573.0) at design high water
- Incident wave directions: NE, E and SE
- Wave period for DHW T = 9.9 seconds
- Wave period for average conditions T = 6 seconds

For a quarystone breakwater, structural integrity may depend on the ability of the foundation to resist the erosive scour by the highest waves. Therefore, it is suggested that the selected design wave height H_s for such structures be based on the design wave height H being the average height of the top 10 percent of waves expected during an extreme event. Based on the deepwater significant wave height H_s , corrected for refraction and shoaling.

The stability coefficient (K_d) varies primarily with the shape of armor units, roughness of armor unit surface, sharpness of edges and degree of interlocking obtained in placement.

The equation below is Hudson's formula and is used to determine the armor stone weight needed to support a particular structure.

$$W = (W_r * H_s^3) / (K_d ([W_r / W_w] - 1)^3 * \cot(\beta))$$

W = weight of individual armor units in lbs

W_r = Unit weight of armor units

W_w = unit weight of water

H_s = the design wave height for the structure

K_d = the design stability coefficient for rubble and toe protection

β = the angle of incline of the structure

Quartzite armorstone is recommended as it is highly durable and is locally available in most gradations under 5 tons. Hudson's formula was used to estimate armorstone size. An armorstone of 1.83 tons is predicted for special placement stone based on the design conditions. As the lakeward face of the breakwater will be built random placement, 1 – 5 ton quartzite will be utilized for the construction of this project.

Bathymetry

Bathymetric profiling was performed on 5/21/2014. Five transects were completed in the project area. The profiles extend up to 450 ft east of the existing seawall. Survey work was completed by Terra Technology.

Water Levels

The following table summarizes water level data representing daily highest extremes measured at Calumet Harbor, Illinois, approximately 31 miles to the south of Highland Park. Note: Low water datum = 577.5 ft (IGLD 1985).

<u>Lake Level</u>	<u>LWD</u>	<u>IGLD 1985</u>
Record High	+5.5	583.0
Record Low	-1.4	576.1

Project Supporting Data

To help facilitate project review, SA offers the following supporting data based on standard coastal engineering practices:

1. **Sediment Transport Around Structure** The structure is designed to lie within the surf zone (zone of breaking waves), therefore allowing sediment transport around the structure. The range of breaking wave heights is from 7.4 ft based on a 6-second wave with a wave length of 184 ft (using $1/25 L_o$) to 18 ft based on a 9.9-second wave with a wave length of 501.8 ft (Resio and Vincent, 1976). The commonly accepted zone of sediment transport is to 18 ft (depth of closure) in this section of Lake Michigan, which is a function of the design wave parameters. Based on this data, once the structure has been filled with sand, it will continue to bypass littoral drift sand. Rod and transit survey monitoring will be conducted, as required by the IDNR, to assure that the system performs as designed.

The IDNR requires sand fill in areas where sediment will be trapped by the new system. Sand volume quantities have been calculated as shown in the permit drawings. As required by the IDNR, a 20% overfill will be added to the calculated volume. Additionally, the new pre- and post-construction monitoring will be performed and submitted to the IDNR to verify the impacts to the system.

2. **Effect on Adjacent Shorelines** A wave diffraction diagram (Figure 2, Appendix) has been overlain on the proposed shore protection system. Using a refracted incident wave angle of 90 degrees (USACE, Shore Protection Manual), with average and design waves, there will be a decrease in wave energy on adjacent properties. The wave diffraction pattern shows that the coefficient of diffraction (K) reduces the wave energy to a distance of about $1/2$ the wave length downdrift and does not have an impact further downdrift. For the average 6-second wave, that distance of reduced wave energy is about 90 ft and for the design wave, the protected distance is about 250 ft. This protected area close to the structure has diminished wave energy that will in turn reduce erosion in the area.
3. **Wave Reduction in Rubble-Mound Structures** The Iribarren number (ξ), or surf similarity number, is used to determine the wave reflection coefficient. For rubble-mound structures, wave reflection (and wave energy) is reduced by one half or more (0.2 to 0.53) (Figure 3, Appendix). For example, a wave reflection of 0.25 means that the wave energy is reduced by 75%. The range of wave reflection for beaches peaks at about 0.44. The range for plane slopes, however, quickly rises to 0.5 and peaks at .91. This illustrates that rubble-mound structures reduce wave energy almost as well as beaches.

Lakebed Erosion

Lakebed erosion, active in water depths of 10 ft or less, is a design component of this plan. This section of Highland Park lakeshore is considered sediment-starved. Sand deposits were measured near this site (Ravine Drive, Highland Park) from the backshore to a depth of 6.1 m (20 ft). Sand deposits were thin to non-existent to a distance of 250 ft from shore (Shabica & Pranschke, 1994). Also, the site is underlain by highly-erodible, cohesive glacial clay-till. See Shabica survey cross-section (see, Figure 1) showing loss of lakebed sand from 1975 to 1989. According to Robert Nairn, approximately 200 m³ of sand cover per meter of lakeshore (out to a depth of 4 m) is necessary to protect the underlying cohesive profile from lakebed erosion under most conditions. Sand and coarser sediments represent typically less than 15% of the material eroding from the lakebed and bluffs. Using the historic rate of lakebed downcutting of 0.15 ft/yr (Nairn, 1997), an irreversible lowering of the nearshore lakebed clay of approximately 3.0 ft over a 20-year period is predicted in unprotected areas. With the stone breakwater, revetment and sandfill installed, the lakebed erosion will be reduced.

Project Monitoring

As the performance of shore protection structures cannot be predicted with absolute certainty, the shore protection system for 57 South Deere Park Drive in Highland Park will be inspected as required by IDNR guidelines. This includes topographic and hydrographic surveys beginning at an elevation of 581.5 ft (IGLD 1985) and progressing to 300 ft lakeward of the lakeward end of the project, within the north and south property lines. Additionally, all structures should be inspected to assure that they continue to meet design specifications.

APPENDIX
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PHOTO 1



1997 Aerial Photo Approximate Property Lines in Yellow

PHOTO 2



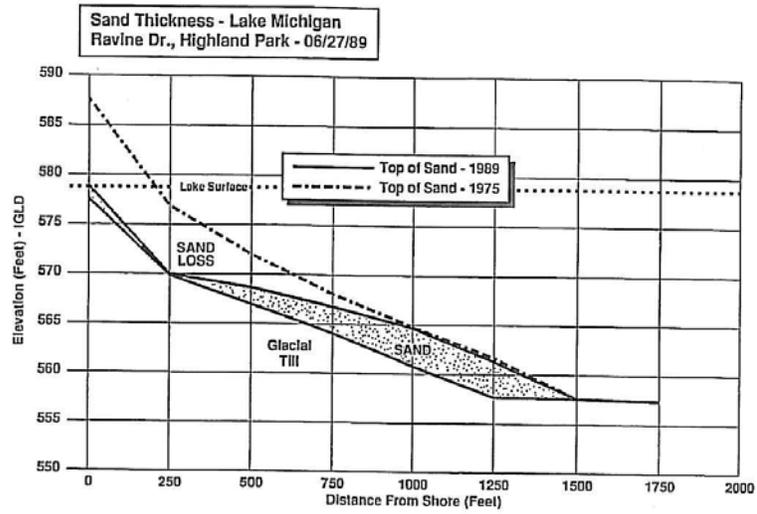
2013 Photo, note the extent of wave run-up on the sand and narrow beach

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FIGURE 1

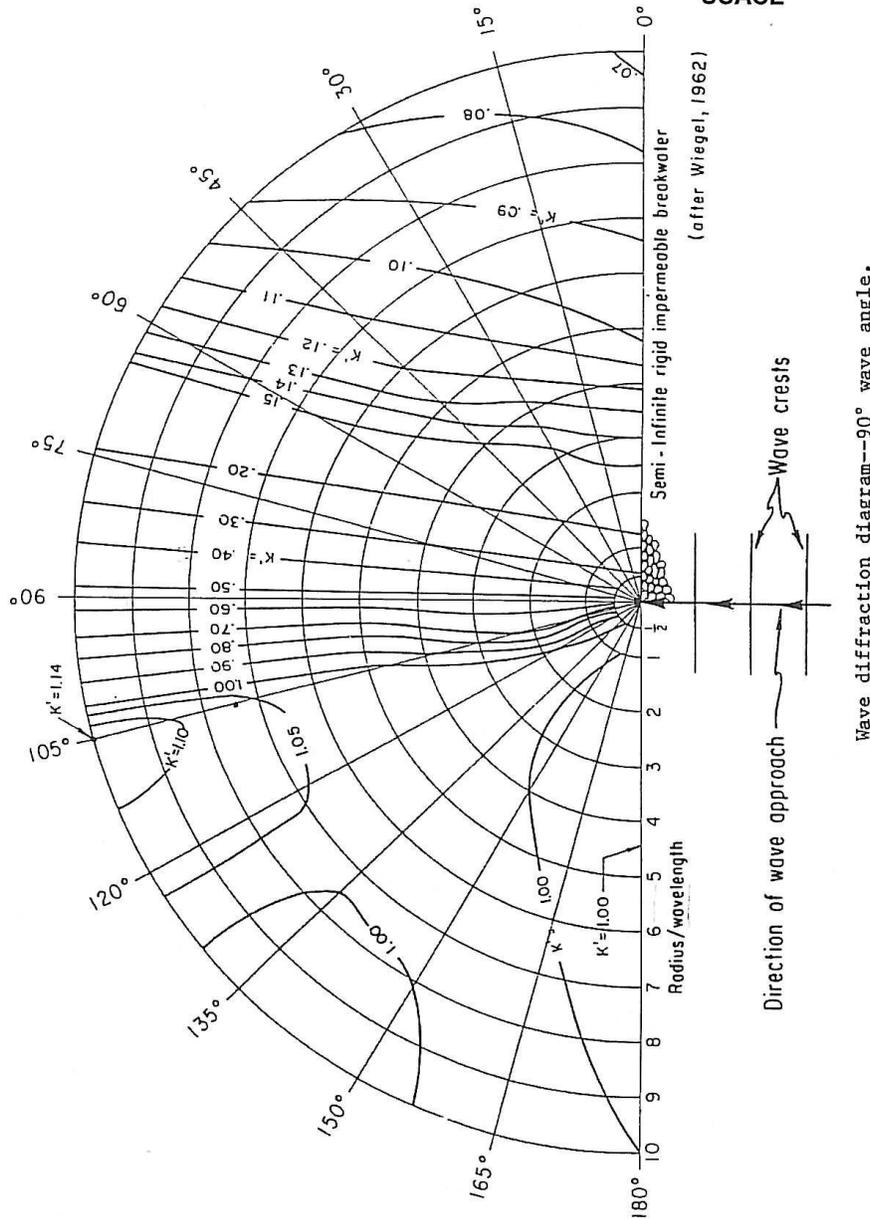


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FIGURE 2

**Shore Protection Manual
USACE**

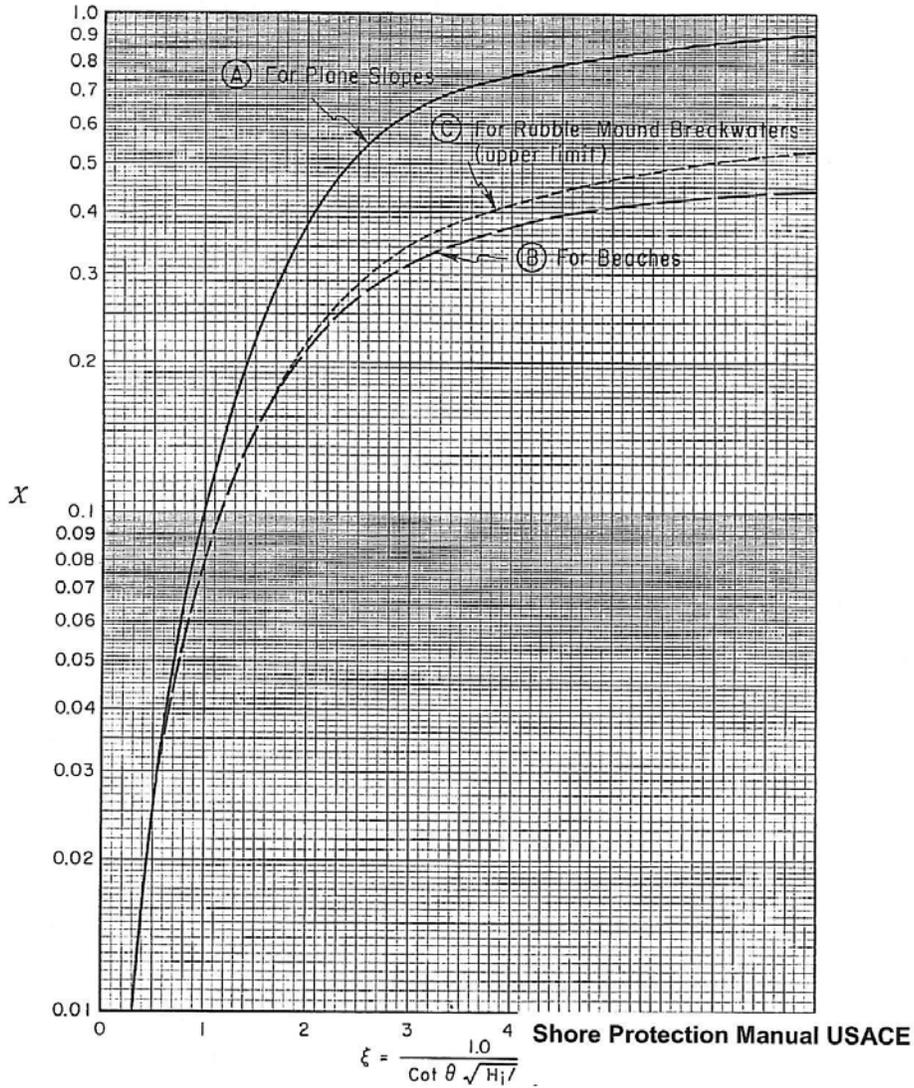


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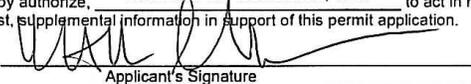
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FIGURE 3



Wave reflection coefficients for slopes, beaches, and rubble-mound breakwaters as a function of the surf similarity parameter ξ .

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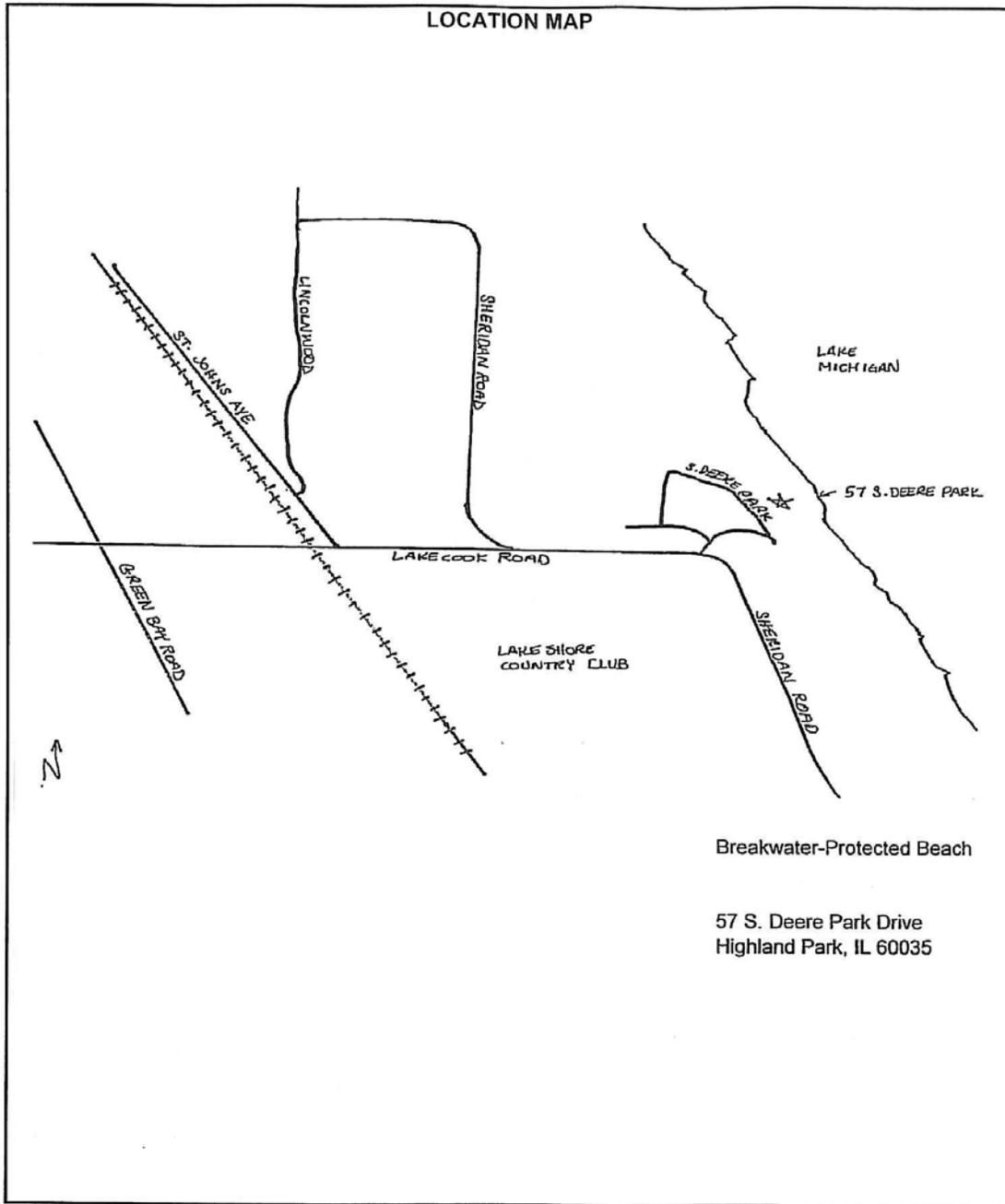
JOINT APPLICATION FORM FOR ILLINOIS							
ITEMS 1 AND 2 FOR AGENCY USE							
1. Application Number			2. Date Received				
3. and 4. (SEE SPECIAL INSTRUCTIONS) NAME, MAILING ADDRESS AND TELEPHONE NUMBERS							
3a. Applicant's Name: Mark Gerstein Company Name (if any) : Address: 57 S. Deere Park Drive Highland Park, IL 60035 Email Address: mark.gerstein@lw.com		3b. Co-Applicant/Property Owner Name (if needed or if different from applicant): Company Name (if any): Address: Email Address:		4. Authorized Agent (an agent is not required): Jon Shabica Company Name (if any): Shabica & Associates, Inc. Address: 550 Frontage Road Suite 3735 Northfield, IL 60093 Email Address: jon@shabica.com			
Applicant's Phone Nos. w/area code Business: 312-876-7666 Residence: 847-926-0226 Cell: Fax:		Applicant's Phone Nos. w/area code Business: Residence: Cell: Fax:		Agent's Phone Nos. w/area code Business: 847-446-1436 Residence: Cell: Fax: 847-716-2007			
STATEMENT OF AUTHORIZATION							
I hereby authorize, <u>Shabica & Associates, Inc.</u> to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.							
 Applicant's Signature				<u>9/25/14</u> Date			
5. ADJOINING PROPERTY OWNERS (Upstream and Downstream of the water body and within Visual Reach of Project)							
Name		Mailing Address		Phone No. w/area code			
a. see attached vicinity map							
b.							
c.							
d.							
6. PROJECT TITLE: Breakwater-Protected Beach							
7. PROJECT LOCATION: 57 S. Deere Park Drive, Highland Park, IL							
LATITUDE: 42.15359 °N LONGITUDE: -87.75995 °W			UTM's Northing: 4667107.66m Easting: 437212.53m				
STREET, ROAD, OR OTHER DESCRIPTIVE LOCATION			LEGAL DESCRIPT	QUARTER	SECTION	TOWNSHIP NO.	RANGE
57 S. Deere Park Drive				SE	31	43N	13E
<input checked="" type="checkbox"/> IN OR <input type="checkbox"/> NEAR CITY OF TOWN (check appropriate box) Municipality Name Highland Park			WATERWAY			RIVER MILE (if applicable)	
COUNTY Lake			STATE IL			ZIP CODE 60035	
			Lake Michigan				

Revised 2010

- Corps of Engineers
 IL Dep't of Natural Resources
 IL Environmental Protection Agency
 Applicant's Copy Agency

8. PROJECT DESCRIPTION (Include all features): A 60-foot long shore disconnected quarystone breakwater (toe to toe) will be built approximately 50 feet north of the existing steel groin. The lakeward toe of the structure will extend to 116 feet east of the toe of the bluff and the breakwater will have a crest elevation of 583' (IGLD 1985). The slope of the breakwater will be 1v:1.5h. Quarystone breakwater toe stone will be placed at the lakeward end of the existing steel sheetpile groin to help reduce scour in this area to improve the longevity of the groin. The crest elevation of the toe stone will be 583'. A short quarystone spur breakwater will extend approximately 28 feet east of the bluff toe at the north end of the property. The crest elevation will be 584' with a slope of 1:1. This structure will help reduce loss of sand from the beach as well as break waves impacting the bluff toe during high lake levels. Mitigational sand will be placed in a quantity of 600 tons in the system.													
9. PURPOSE AND NEED OF PROJECT: To stabilize the site as well as reduce deepening of the lakebed caused by lakebed erosion.													
COMPLETE THE FOLLOWING FOUR BLOCKS IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED													
10. REASON(S) FOR DISCHARGE: Shore protection in the form of a breakwater-protected beach.													
11. TYPE(S) OF MATERIAL BEING DISCHARGED AND THE AMOUNT OF EACH TYPE IN CUBIC YARDS FOR WATERWAYS: TYPE: Stone and Sand AMOUNT IN CUBIC YARDS: Sand: 480 cu. yds Stone: 400 cu. yds													
12. SURFACE AREA IN ACRES OF WETLANDS OR OTHER WATERS FILLED (See Instructions) 0.058 acres													
13. DESCRIPTION OF AVOIDANCE, MINIMIZATION AND COMPENSATION (See instructions) By designing smaller structures, the footprints will be minimized on the lakebed.													
14. Date activity is proposed to commence August 1, 2015	Date activity is expected to be completed October 15, 2015												
15. Is any portion of the activity for which authorization is sought now complete? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NOTE: If answer is "YES" give reasons in the Project Description and Remarks section. Indicate the existing work on drawings.													
16. List all approvals or certification and denials received from other Federal, interstate, state, or local agencies for structures, construction, discharges or other activities described in this application.													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Issuing Agency</u></th> <th style="text-align: left;"><u>Type of Approval</u></th> <th style="text-align: left;"><u>Identification No.</u></th> <th style="text-align: left;"><u>Date of Application</u></th> <th style="text-align: left;"><u>Date of Approval</u></th> <th style="text-align: left;"><u>Date of Denial</u></th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		<u>Issuing Agency</u>	<u>Type of Approval</u>	<u>Identification No.</u>	<u>Date of Application</u>	<u>Date of Approval</u>	<u>Date of Denial</u>						
<u>Issuing Agency</u>	<u>Type of Approval</u>	<u>Identification No.</u>	<u>Date of Application</u>	<u>Date of Approval</u>	<u>Date of Denial</u>								
17. CONSENT TO ENTER PROPERTY LISTED IN PART 7 ABOVE IS HEREBY GRANTED. Yes <input checked="" type="checkbox"/> No													
18. APPLICATION VERIFICATION (SEE SPECIAL INSTRUCTIONS) Application is hereby made for the activities described herein. I certify that I am familiar with the information contained in the application, and that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities.													
_____ Signature of Applicant or Authorized Agent	_____ Date												
_____ Signature of Applicant or Authorized Agent	_____ Date												
_____ Signature of Applicant or Authorized Agent	_____ Date												
<input type="checkbox"/> Corps of Engineers Revised 2010 <input type="checkbox"/> IL Dep't of Natural Resources <input type="checkbox"/> IL Environmental Protection Agency <input type="checkbox"/> Applicant's Copy													

SEE INSTRUCTIONS FOR ADDRESS



Revised 2010

Corps of Engineers

IL Dep't of Natural Resources

IL Environmental Protection Agency

Applicant's Copy



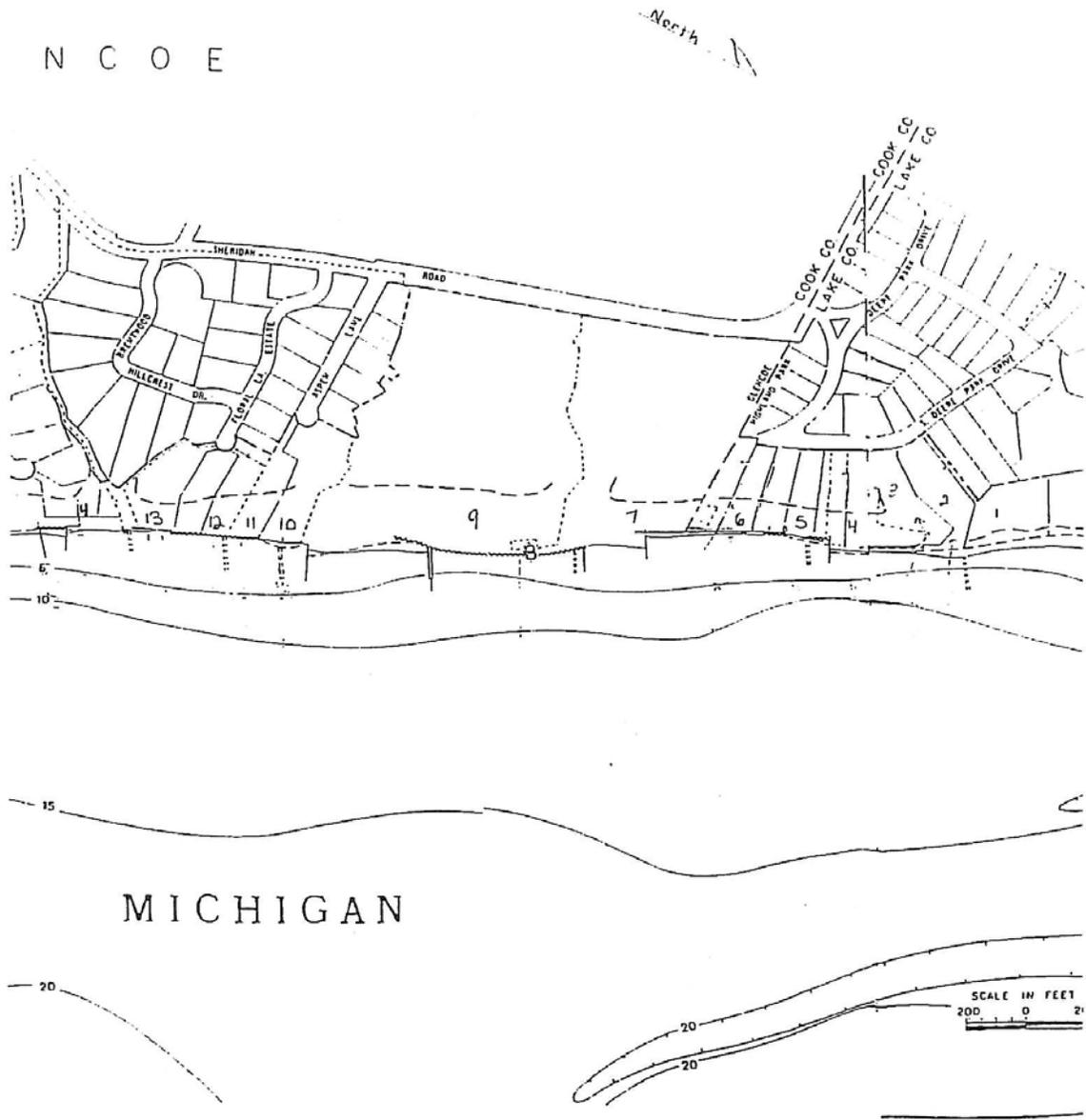
Shabica & Associates, Inc.
WE BUILD BEACHES

Location of Project: 57 Deere Park Drive, Highland Park, Illinois 60035

List of property owners (from North to South):

1. Deere Park Neighborhood Association, c/o Rob Rubin 336 N. Deere Park Drive, Highland Park, IL 60035
2. Andrew S. and Laura C. Hochberg, 77 S. Deere Park Drive, Highland Park, IL 60035
3. Cynthia B. Hirsch Trust, 65 S. Deere Park Drive, Highland Park, IL 60035
4. Subject Property: Mark and Julia Gerstein, 57 S. Deere Park Drive, Highland Park, IL 60035
5. Jerrold and Naomi Senser, 55 S. Deere Park Drive, Highland Park, IL 60035
6. Michael and Janet Krasny, 41 S. Deere Park Drive, Highland Park, IL 60035
7. Lake Shore Country Club, 1255 Sheridan Road, Glencoe, IL 60022
8. Village of Northbrook, Public Works Department, 655 Huehl Road, Northbrook, IL 60062
9. North Shore Congregation Israel, 1195 Sheridan Road, Glencoe, IL 60022
10. Milton Vainer, 35 Aspen Lane, Glencoe, IL 60022
(mailing: 191 Apple Tree Road, Winnetka, IL 60093)
11. Nena Addis, 25 Aspen Lane, Glencoe, IL 60022
12. David Muslin, 35 Estate Drive, Glencoe, IL 60022
13. Robert Price, 30 Estate Drive, Glencoe, IL 60022
14. Shayle P. Fox, 1 Rockgate Lane, Glencoe, IL 60022

550 Frontage Road • Suite 3735 • Northfield, Illinois 60093 • Tel 847.446.1436 • Fax 847.716.2007
www.shabica.com



Jerry Senser
55 South Deere Park Drive
Highland Park, Illinois 60035

Construction Operations Div. Regulatory Branch
Corps of Engineers, Chicago District
111 N. Canal Street
Chicago, IL 60606-7206

October 2, 2014

Dear Sir or Madam,

I hereby request that Shabica & Associates, Inc. be authorized to act in my behalf in filing a permit application for shore protection work at my property as well as the Gerstein's property immediately to my north at 57 South Deere Park Drive, Highland Park, Illinois. I support the plan proposed by Shabica & Associates for the work to be completed on the Gerstein's property. I convey permission for representatives of Shabica & Associates, Inc. to access the beach for consulting purposes.

If additional information is required, please contact me at the above address.

Sincerely,



Jerry Senser
Owner

cc: Illinois Department of Natural Resources
Illinois Environmental Protection Agency
Shabica & Associates, Inc.
Mark Gerstein

State of Illinois Department of Natural Resources, Office of Water Resources
and Illinois Environmental Protection Agency – Permit



PERMIT NO. LM2015002

DATE: February 6, 2015

State of Illinois
Department of Natural Resources, Office of Water Resources
and
Illinois Environmental Protection Agency

Permission is hereby granted to: **Mark Gerstein**
57 S. Deere Park Drive
Highland Park, IL 60035

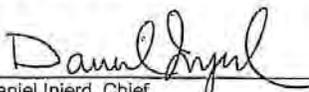
To construct two quarystone breakwaters, a shore attached quarystone spur and sand fill in Lake Michigan at 57 S. Deere Park Drive, Highland Park, Illinois 60035. The project is located in the Southeast Quarter of Section 31, Township 43 North, Range 13 East, of the 3rd Principal Meridian in Lake County.

In accordance with an application dated September 25, 2014, and the plans and specifications entitled:

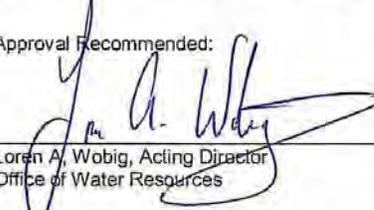
UNTITLED LOCATION MAP, ONE SHEET, UNDATED, RECEIVED OCTOBER 15, 2014.

57 S. DEERE PARK, HIGHLAND PARK, SHEET 1 OF 4, DATED AUGUST 12, 2014, REVISED OCTOBER 1, 2014;
SHEET 2 OF 4, DATED SEPTEMBER 29, 2014; SHEET 3 OF 4, DATED SEPTEMBER 30, 2014; SHEET 4 OF 4,
DATED AUGUST 12, 2014, REVISED OCTOBER 1, 2014, ALL SHEETS RECEIVED OCTOBER 15, 2014.

Examined and Recommended:


Daniel Injerd, Chief
Lake Michigan Management Section

Approval Recommended:


Loren A. Wobig, Acting Director
Office of Water Resources

Approved:


Wayne A. Rosenthal, Acting Director
Department of Natural Resources

This PERMIT is subject to the terms and special conditions contained herein and in the attached NOTICE OF FINAL DETERMINATION of the Illinois Environmental Protection Agency. This PERMIT is not valid unless a NOTICE OF FINAL DETERMINATION of the Illinois Environmental Protection Agency as required by Section 39(a) of the Environmental Protection Act is attached.

SURFACE AREA OF WETLANDS
 FILLED BY QUARRYSTONE EAST
 OF OHWM (581.5) = .05

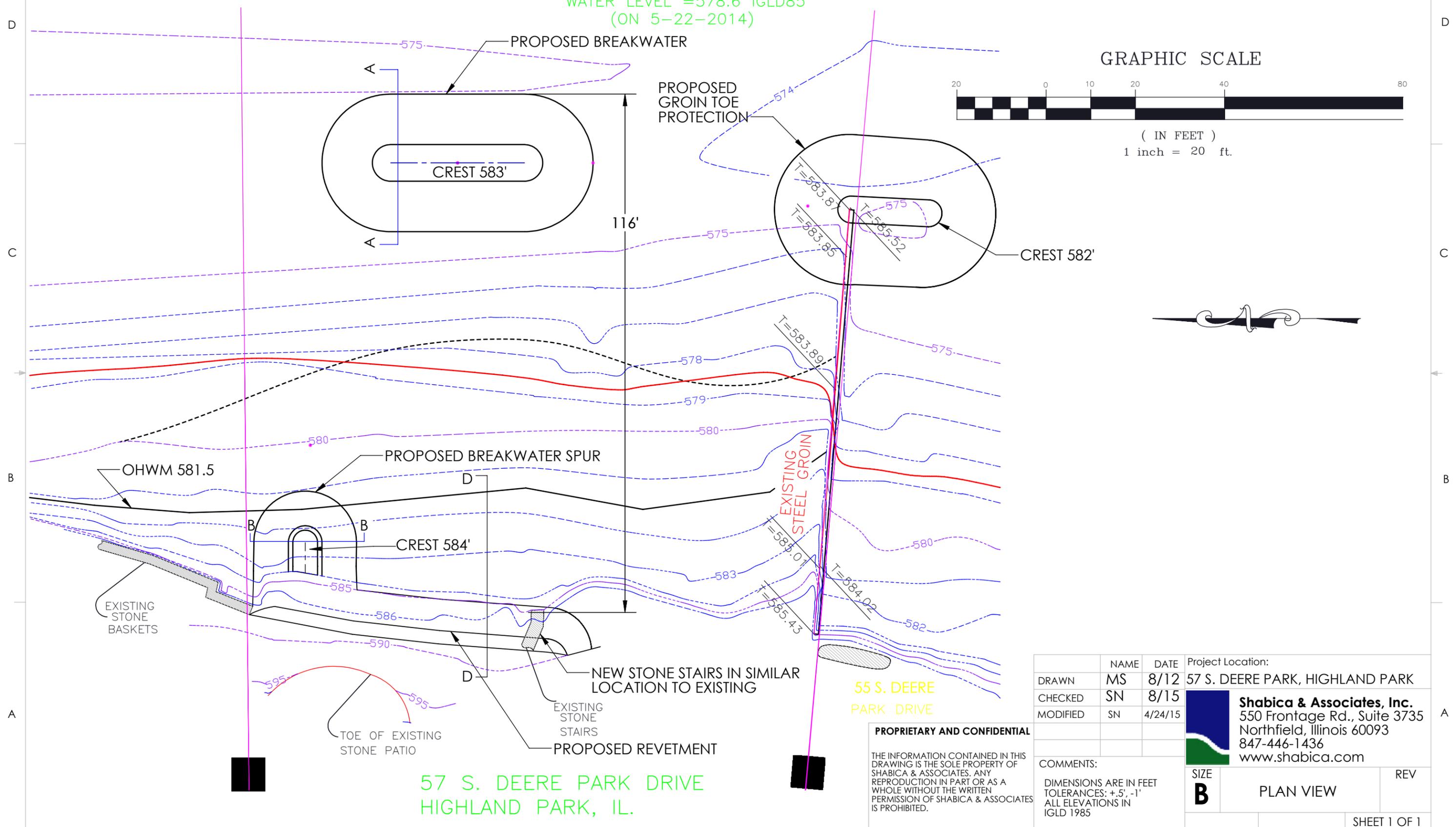
LAKE MICHIGAN

WATER LEVEL = 578.6 IGLD85
 (ON 5-22-2014)

GRAPHIC SCALE



(IN FEET)
 1 inch = 20 ft.



57 S. DEERE PARK DRIVE
 HIGHLAND PARK, IL.

55 S. DEERE
 PARK DRIVE

			Project Location:	
			57 S. DEERE PARK, HIGHLAND PARK	
DRAWN	MS	8/12	 Shabica & Associates, Inc. 550 Frontage Rd., Suite 3735 Northfield, Illinois 60093 847-446-1436 www.shabica.com	
CHECKED	SN	8/15		
MODIFIED	SN	4/24/15		
COMMENTS: DIMENSIONS ARE IN FEET TOLERANCES: +.5', -1' ALL ELEVATIONS IN IGLD 1985			SIZE	REV
			B	PLAN VIEW
				SHEET 1 OF 1

PROPRIETARY AND CONFIDENTIAL

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF SHABICA & ASSOCIATES. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF SHABICA & ASSOCIATES IS PROHIBITED.

MODIFIED

2

1

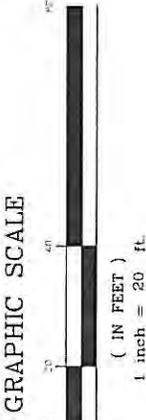
SURFACE AREA OF WETLANDS
 FILLED BY QUARRYSTONE EAST
 OF OHWM (.581.5) = .05

LAKE MICHIGAN

WATER LEVEL = 576.6 (GLD85
 (CN 5-22-2014))

PROPOSED BREAKWATER

PROPOSED GROIN TOE PROTECTION



CREST 582

CREST 583

PROPOSED BREAKWATER SPUR

CREST 584

OHWM 581.5'

EXISTING STONE BASKETS

NEW STONE STAIRS IN SIMILAR LOCATION TO EXISTING

PROPOSED REVETMENT

57 S. DEERE PARK DRIVE
 HIGHLAND PARK, IL.

PROPRIETARY AND CONFIDENTIAL
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF SHABICA & ASSOCIATES, INC. NO REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF SHABICA & ASSOCIATES IS PROHIBITED.

COMMENTS:
 DIMENSIONS ARE IN FEET
 TOLERANCES: +.5, -.1
 ALL ELEVATIONS IN
 IGLD 1985

SIZE
B

PLAN VIEW

REV

SHEET 1 OF 4

NAME DATE Project Location:

DRAWN	MS	8/12	57 S. DEERE PARK, HIGHLAND PARK
CHECKED	SN	8/15	
MODIFIED	SN	4/24/15	
MODIFIED	SN	5/4/15	

Stabica & Associates, Inc.
 550 Frontage Rd., Suite 3735
 Northfield, Illinois 60093
 847-446-1436
 www.stabica.com



Wayne R. Brunzell



PUBLIC WORKS MEMORANDUM



DATE: May 5, 2015

TO: Karen Berardi, Natural Resources Commission Liaison

FROM: Joe Pasquesi, Civil Engineer 

SUBJECT: 57 South Deere Park Drive Revetment

I do not have any objections to the construction of the proposed stone revetment at 57 South Deere Park Drive; subject to the permits required by the Army Corps of Engineers and Illinois Department of Natural Resources. The proposed revetment is allowed by the Zoning Code and is intended to protect the toe of the Lake Michigan bluff (Steep Slope Zone) from wave action and beach erosion. The plan for the revetment should be signed and sealed by a licensed professional engineer. Upon completion of the revetment, a licensed professional engineer must certify that the revetment was constructed in accordance with the approved plan and specifications.

Please contact me with any comments regarding this memo.



Shabica & Associates, Inc.
WE BUILD BEACHES

DATE: May 26, 2015, rev. June 2, 2015

TO: Karen Berardi, City of Highland Park

COPY: Michael Krasny, 41 S. Deere Park Drive
Andrew Hochberg, 77 S. Deere Park Drive
David Meek, Attorney for 41 S. Deere Park Drive

FROM: Stefanie Nagelbach, CPESC

SUBJECT: Impact to Littoral Adjacent Properties: 55 & 57 S. Deere Park Drive

The proposed shore protection project at 55 and 57 S. Deere Park Drive will have minimal impact, if any, to the properties located to the north and south. The property located immediately to the north will likely experience sand accretion (whether above the water or submerged). Going further north to 77 S. Deere Park Drive, there will be times when the sand accretion extends to the property but likely at most times there will be no noticeable change to the beach due to this project. However, the rising/changing lake level will heavily impact the beach width, along with storm activity.

The property at 41 S. Deere Park Drive should have no impact to its shoreline due to the installation of the shore protection at the north end of the property to the north. There will be no work done on the south half of 55 S. Deere Park Drive, as a quarystone breakwater already exists here. This breakwater helps to break wave energy at the north end of 41 S. Deere Park Drive. The previously constructed system at 55 S. Deere Park Drive was monitored for 5 years and the results show a net loss of 93 cubic yards of sand. This shows that the system has not “stolen” sand from the littoral drift system and has benefitted the existing littoral environment.

Additionally, the IDNR requires that the new work is prefilled with mitigation sand at a quantity larger (by 20%) than what the system is expected to hold. This prevents the system from “stealing” sand from the littoral drift system. Once the system is filled at the time of construction, it should gain and lose sand at a similar rate to the open, neighboring beaches. As part of this overfill requirement, the new system must be monitored for 5-years with results being presented to the IDNR. If the IDNR sees that

there is an issue with the design or the quantity of sandfill, they can require additional sand be put into the littoral drift system or even modification to the structures.

The neighbor at 41 S. Deere Park Drive also requested that a three items from the Highland Park Standards be addressed. Our response is as follows:

- c. *The proposed Required Activity and/or Structure shall not unreasonably impact the Subject Property or the Adjacent Properties*

The proposed structure shall not unreasonably impact the Subject Property or the Adjacent Properties. All of the proposed hard structures are designed to be constructed of quarried stone. Properly constructed quarystone breakwaters and revetments help to dissipate wave energy in the immediate area. The level of dissipation decreases as the distance from the structure increases. Additionally, as the energy in the water is reduced, larger sand particles are no longer suspended and settle to the lakebed. Therefore, in and around a properly designed quarystone shore protection system, erosion is reduced. Based on monitoring of similar quarystone shore protection projects, the proposed system will not unreasonably impact the Subject Property and/or Adjacent Properties.

- f. *The proposed Regulated Activity and/or Structure shall not create new nor amplify existing erosion problems on the Subject Property and on the Adjacent Properties*

The proposed shore protection project will not create new nor amplify existing erosion problems on the Subject Property and on the Adjacent Properties. The Subject Property has lost a large quantity of sand and is having erosion of the bluff toe. The proposed project is designed to reduce erosion of sand and the clay lakebed, in addition to helping to halt erosion of the bluff toe. Once again, quarystone structures help reduce wave energy in the immediate area; therefore, reducing not amplifying erosion problems.

- h. *There will not be an unnecessary adverse environmental or ecological impact on the Subject Property or on any of the Adjacent Properties as a result of the proposed Structure and/or the Regulated Activity*

Quarystone breakwaters are a statewide BMP to help improve lake habitat over the devoid open expanse of lakebed. By helping to hold sand, breakwaters reduce lakebed downcutting which is an irreversible phenomenon that creates deeper water closer to shore, and therefore allows larger waves to impact the shoreline. Additionally, when the clay lakebed is exposed due to sand loss; eroding clay increases water pollution by allowing colloidal material into the water column. And, as previously stated, a sandy beach acts as a natural filter for stormwater runoff. Impacts to adjacent properties are discussed above.

ARTICLE VI. PERFORMANCE STANDARDS

SECTION

150.601	Purpose
150.602	Other Regulations
150.603	Application
150.604	Electromagnetic Radiation
150.605	Lighting
150.606	Heat
150.607	Noise
150.608	Odorous Matter
150.609	Radioactive Materials
150.610	Smoke, Particulate Matter, and Other Air Contaminants
150.611	Vibration
150.612	Refuse Disposal

Sec. 150.601 Purpose.

It is the intent of these regulations to prevent land or structures, including those permitted by right or special use permit, from being used or occupied in any manner so as to create any dangerous, injurious, noxious or otherwise objectionable fire, explosive, radioactive or other hazardous condition; noise or vibration; smoke, dust, odor or other form of air pollution; electrical or other disturbance, glare or heat; liquid or solid refuse or wastes; or other substance, condition or elements in a manner or amount as to adversely affect the surrounding area.

Sec. 150.602 Other Regulations.

Compliance with the requirements of this Article shall not be interpreted as authorizing any practice or operation which would constitute a violation of any other applicable statute, ordinance, rule, or regulation.

Sec. 150.603 Application.

All uses established in all districts shall conform in operation, location and construction to the performance standards herein specified; provided, however, that uses in the PA District shall comply with the performance standards set forth in this Article for residential districts, unless the City Council, by ordinance duly adopted, provides otherwise. (Ord. 42-02, J. 28, p. 313-337, passed 7/8/02)

Sec. 150.604 Electromagnetic Radiation.

(A) It shall be unlawful to operate or cause to be operated any planned or intentional source of electromagnetic radiation for such purposes as communication, experimentation, entertainment, broadcasting, heating, navigation, therapy, vehicle velocity measurement, weather survey, aircraft detection, topographical survey, personal pleasure or any other use directly or indirectly associated with these purposes which does not comply with the then current regulations of the Federal Communications Commission regarding such sources of electromagnetic radiation.

(1) Such operation, even when in compliance with Federal Communications Commission regulations, shall be unlawful if such radiation causes an abnormal degradation in performance of other electromagnetic radiators or electromagnetic receptors of quality and property design because of proximity, primary field, blanketing, spurious reradiation, harmonic content, modulation or energy conducted by power or telephone lines.

(2) The determination of "abnormal degradation in performance" and "of quality and property design" shall be made in accordance with good engineering practices as defined in the latest

principals and standards of American Institute of Electrical Engineers, the Institute of Radio Engineers and Electronic Industries Association.

(3) In case of any conflict between the latest standards and principles of the above groups, the following precedence in the interpretation of the standards and principles shall apply:

- (a) American Institute of Electrical Engineers;
- (b) Institute of Radio Engineers; and
- (c) Electronic Industries Association.

(B) It shall be unlawful to operate or to cause to be operated any source of electromagnetic interference, the radiation or transmission from which exceeds the maximum values tabulated below:

RADIATED:

Section of Electromagnetic Spectrum (from-to)	Primary Intended Service	Maximum Field Strength at Edge of Property Containing Interference Source
10 Kilocycles - 100Kc.	Communications Service	500 Microvolts/Meter
100 Kc. - 535 Kc.	Navigational Aids	300 Microvolts/Meter
535 Kc. - 1605 Kc.	AM Broadcasting	200 Microvolts/Meter
1605 Kc. - 44 Megacycles	Various Communications Service	200 Microvolts/Meter
44 Mc. - 88 Mc.	VHF Television Airport Control	150 Microvolts/Meter
88 Mc. - 174 Mc.	FM Broadcasting	200 Microvolts/Meter
174 Mc. - 216 Mc.	VHF Television	150 Microvolts/Meter
216 Mc. - 580 Mc.	Navigational Aids Citizens Radio	250 Microvolts/Meter
580 Mc. - 920 Mc.	UHF Television	300 Microvolts/Meter
920 Mc. - 30,000 Mc.	Various	500 Microvolts/Meter

BY TRANSMISSION OR CONDUCTION:

Section of Electromagnetic Spectrum (from-to)	Primary Intended Service	Maximum Voltage Measured Line to Line to Ground Where Power or Telephone Lines Cross Edge of Property-Containing Interference Source
10 Kilocycles - 100 Kc.	Communications Service	2.5 Millivolts
100 Kc. - 535 Kc.	Navigational Aids	1.5 Millivolts
535 Kc. - 1605 Kc.	AM Broadcasting	1.0 Millivolts
1605 Kc. - 44 Megacycles	Various Communica-tions Services	0.5 Millivolts
44 Mc. - 88 Mc.	VHF Television	0.25 Millivolts
88 Mc. - 174 Mc.	FM Broadcasting Airport Control	1.5 Millivolts

174 Mc. - 216 Mc.	VHF Television	0.15 Millivolts
216 Mc. - 580 Mc.	Navigational Aids Citizens Radio	5.0 Millivolts
580 Mc. - 920 Mc.	UHF Television	20.0 Millivolts
920 Mc. - 30,000 Mc.	Various	150 Millivolts

(1) For the purpose of determining the level of radiated electromagnetic interference, standard field strength measuring techniques shall be employed. The maximum value of the tabulation shall be considered as having exceeded if, at any frequency in the section of the spectrum being measured, the measured field strength exceeds the maximum value tabulated for this spectrum section.

(2) For purposes of determining the level of electromagnetic interference transmitted or conducted by power or telephone lines, a suitable, tunable, peak reading, radio frequency voltmeter shall be used. This instrument shall, by means of appropriate isolation coupling, be alternately connected from line to line and from line to ground during the measurement. The maximum value of the tabulation shall be considered as having been exceeded if, at any frequency in the section of the spectrum being measured, the measured peak voltage exceeds the maximum value tabulated for this spectrum section.

Sec. 150.605 Lighting.

(A) No use in any zoning district shall be operated so as to produce direct sky-reflected glare or direct illumination across the adjacent property line from a visible source of illumination in violation of the following:

		Maximum Foot-Candle Level at Property Line		Average Foot Candles	Foot-Candle Average / Minimum Uniformity Ratio	Minimum Foot Candles for Parking	Minimum Foot Candles for Walkways	Maximum Lumens per SF	Light Source Shielding Requirements	Maximum Light Pole Height from Grade	Maximum Exterior Fixture Height on Principal Structures	Maximum Exterior Fixture Height on Accessory Structures	Maximum
		Horizontal	Vertical										Fixture Height in Trees
Low Density (Single Family) Residential Districts (LZ1) (10)	All Lighting	0.5 foot candles within front yard setback. 0.25 foot candles behind front yard setback.	0.1 FC along any point of the plane of the property line	Not Applicable	Not Applicable	Not Applicable	Not Applicable	See Table R below	>800 lumens per fixture fully shielded when viewed from property line(1) - Must be fully shielded unless allowed by Table R below, or footnote (7)	7'6"	20'	18'	Maximum building height allowed (2)
High Density (Multi-Family) Residential Districts (LZ2) (10)	Parking Lots	0.5 foot candles within front yard setback. 0.25 foot candles behind front yard setback.	0.3 FC along any point of the plane of the property line	Not to Exceed 1.5	4:01	0.2 foot candles	Not Applicable	Comply with governing energy code	Full cutoff, BUG rating of B2 U0 G2 (5)	16'	Not Applicable	15'	Not Allowed
	All Other Lighting			Not Applicable	4:1 for walkways only	Not Applicable	0.6 foot candles	Comply with governing energy code	>1800 lumens per fixture partially shielded. >3000 lumens per fixture fully shielded (1)(7). At individual units on upper levels >800 lumens per fixture fully shielded	14'	Not Applicable	15'	Maximum building height allowed (2)
Commercial, Industrial, Public Activity and Health Care Districts (LZ2 or LZ3) (10)	Parking Lots	0.25 foot candles if adjacent residential	0.3 FC along any point of the plane of the property line for LZ2, 0.8FC along any point of the plane of the property line for LZ3. 0.1 FC along any point of the plane of the property line where adjacent to residential	Not to Exceed 1.5	4:01	0.2 foot candles	Not Applicable	Comply with governing energy code	Full cutoff, BUG rating of B2 U0 G2 for LZ2, BUG rating of B3 U0 G3 for LZ3 (5)	22' in B3 & I zone.	Not Applicable	15'	Not Allowed
		1.0 all other times(6)		16' other zones									
	All Other Lighting			I.E.S. Standards Shall Apply	I.E.S. Standards Shall Apply	Not Applicable	0.6 foot candles	Comply with governing energy code	>1800 lumens per fixture partially shielded. >3000 lumens per fixture fully shielded (1) - Full cutoff, BUG rating of B2 U0 G2 (5)(7) Uplighting Accent or Façade lighting may be allowed with special permission from the City	14'	Not Applicable	15'	Maximum building height allowed(2)

The Following Standards Supersede Those Listed above only for the Specific Use Noted

		Maximum Foot-Candle Level at Property Line		Average Foot Candles	Foot-Candle Average / Minimum Uniformity Ratio	Minimum Foot Candles for Parking	Minimum Foot Candles for Walkways	Maximum Lumens per SF	Light Source Shielding Requirements	Maximum Light Pole Height from Grade	Maximum Exterior Fixture Height / Accessory Structure	Maximum Fixture Height in Trees
		Horizontal	Vertical									
Outdoor Recreation Uses	All Lighting	0.25 foot candles if adjacent residential	0.3 FC along any point of the plane of the property line for LZ2. 0.8FC along any point of the plane of the property line for LZ3. 0.1 FC along any point of the plane of the property line where adjacent to residential	I.E.S. Standards Shall Apply	I.E.S. Standards Shall Apply	Not Applicable	0.6 foot candles	Comply with governing energy code	See footnote 4	I.E.S. Standards Shall Apply	15'	Not Allowed
		1.0 all other times										
Gasoline &/or Diesel Fuel Stations	Parking Areas and Approach	0.25 foot candles if adjacent to residential. All other times 2.0 at property line and 1.0 at 15 feet beyond property line(6)	0.3 FC along any point of the plane of the property line for LZ2. 0.8FC along any point of the plane of the property line for LZ3. 0.1 FC along any point of the plane of the property line where adjacent to residential	Not to exceed 15	4:01	0.2 foot candles	Not Applicable	Comply with governing energy code	Full cutoff, BUG rating of B2 U0 G2 (5)	22'	15'	Not Allowed
	Pump Area			Not to exceed 30	3:01	Not Applicable	Not Applicable	Comply with governing energy code	Full cutoff, BUG rating of B2 U0 G2 (5)	22'	15'	
	All Other Lighting			I.E.S. Standards Shall Apply	4:1 for walkways only	Not Applicable	0.6 foot candles	Comply with governing energy code	>1800 lumens per fixture partially shielded. >3000 lumens per fixture fully shielded (4) - Full cutoff, BUG rating of B2 U0 G2 (5)(7) Uplighting Accent or Façade lighting may be allowed with special permission from the City	14'	15'	

The Following Standards Supersede Those Listed above only for the Specific Use Noted												
		Maximum Foot-Candle Level at Property Line		Average Foot Candles	Foot-Candle Average / Minimum Uniformity Ratio	Minimum Foot Candles for Parking	Minimum Foot Candles for Walkways	Maximum Lumens per SF	Light Source Shielding Requirements	Maximum Light Pole Height from Grade	Maximum Exterior Fixture Height / Accessory Structure	Maximum Fixture Height in Trees
		Horizontal	Vertical									
Motor Vehicle Sales	Front Row Feature Stands	0.25 foot candles if adjacent to residential. All other times 2.0 at property line and 1.0 at 15 feet beyond property line (6) (11)	0.3 FC along any point of the plane of the property line for LZ2. 0.8FC along any point of the plane of the property line for LZ3. 0.1 FC along any point of the plane of the property line where adjacent to residential (11)	Not to exceed 50	Average/ Minimum Ratio Not Applicable	Not Applicable	Not Applicable	Comply with governing energy code	Full cutoff, BUG rating of B3 U0 G3 (3)(5)	22'	15'	Not Allowed
					Maximum to Minimum Uniformity Ratio 5:1							
	General Sales Area			Not to exceed 30	Average/ Minimum Ratio Not Applicable	Not Applicable	Not Applicable	Comply with governing energy code	Full cutoff, BUG rating of B3 U0 G3 (5)			
					Maximum to Minimum Uniformity Ratio 10:1							
	Within 100 feet of adjacent residential			Not to exceed 7	Average/ Minimum Ratio Not Applicable	.2 foot candles	.6 foot candles	Comply with governing energy code	Full cutoff, BUG rating of B3 U0 G3 (5)			
					Maximum to Minimum Uniformity Ratio 12:1							
The Following Standards Supersede Those Listed above only for the Specific Use Noted												
		Maximum Foot-Candle Level at Property Line		Average Foot Candles	Foot-Candle Average / Minimum Uniformity Ratio	Minimum Foot Candles for Parking	Minimum Foot Candles for Walkways	Maximum Lumens per SF	Light Source Shielding Requirements	Maximum Light Pole Height from Grade	Maximum Exterior Fixture Height / Accessory Structure	Maximum Fixture Height in Trees
		Horizontal	Vertical									
Religious and Educational Institutions in Single Family Residential Districts	Parking Lots	0.25 foot candles if adjacent to residential 1.0 all other times (6)	0.2 FC along any point of the plane of the property line	Not to Exceed 1.5	4:01	0.2 foot candles	Not Applicable	Comply with governing energy code	Full cutoff, BUG rating of B1 U0 G1 (5)	16'	15'	Not Allowed
	All Other Lighting			I.E.S. Standards Shall Apply	I.E.S. Standards Shall Apply	Not Applicable	0.6 foot candles	Comply with governing energy code	>1800 lumens per fixture partially shielded. >2000 lumens per fixture fully shielded (4) Full cutoff, BUG rating of B1 U0 G1 (5)(7) Uplighting Accent or Façade lighting may be allowed with special permission from the City	14'	15'	Maximum building height allowed (2)

Footnotes:

- (1) Incandescent lamp - 890 lumens = 60 watts, 1800 lumens = 100 watts, 3000 lumens = 150 watts, halogen lamp - 890 lumens = 52 watts, 1800 lumens = 90 watts, 3000 lumens = 150 watts, compact fluorescent lamp - 890 lumens = 13 watts, 1800 lumens = 26 watts, 3000 lumens = 42 watts, HID lamp - 890 lumens = N/A, 1800 lumens = N/A, 3000 lumens = 39 watts
- (2) Fixtures shall be aimed directly downward and shall not to exceed 2.0 maximum foot candles measured 6 feet above ground immediately below lighting fixture.
- (3) Secondary flood lights may be added to front row poles provided mounting height does not exceed 14 feet and aiming angle does not exceed 35 degrees (measured vertically from nadir).
- (4) Fixtures must be aimed toward interior of the property. **Fixtures must be extinguished at 10pm unless a city allowed competition.**
- (5) Written documentation must be submitted in addition to the other requirements of this section that demonstrates that the location, type, and aiming of all light fixtures will focus light on the playing fields and minimize glare and visibility from adjoining properties.
- (6) Fixtures located within 20 feet of a residential property line shall be directed toward the interior of the property and fully shielded from view of the adjacent residential property.
- (7) Where a driveway serving as ingress and/or egress bisects the property line, illumination levels at the property line shall not exceed 3 foot candles.
- (8) All flood or spot directional lights regardless of wattage shall be shielded to prevent glare from being visible at the property line.
- (9) I.E.S. standards will apply when items such as definitions, standards, measurement protocol and methodology are not addressed in this Code.
- (10) **Refer to Zoning Ordinance Map for definitive locations of lighting zones (LZ1, LZ2, LZ3)**
- (11) **For B3 and I zones, when the property line is adjacent to a major arterial street or highway, then the light trespass requirements (calculation plane “property line”) may be met relative to the mid-line of the street/highway. When the street/highway is divided, use the mid-line of the adjacent single-direction of travel lanes.**

Table R - Residential Site Lumen Limits**				
Lighting Application	LZ0	LZ1	LZ2	LZ3
Row 1: maximum allowed luminaire lumens* for unshielded luminaires at one entry only	not allowed	420 lumens	630 lumens	630 lumens
Row 2: maximum allowed luminaire lumens for each fully shielded luminaire	630 lumens	1260 lumens	1260 lumens	1260 lumens
Row 3: maximum allowed luminaire lumens for each unshielded luminaire excluding main entry (row 1)	not allowed	315 lumens	315 lumens	315 lumens
Row 4: maximum allowed luminaire lumens for each landscape lighting luminaire	not allowed	not allowed	2100 lumens	2100 lumens
Row 5: maximum allowed luminaire lumens for each shielded directional flood light luminaire	not allowed	not allowed	2100 lumens	2101 lumens
Row 6: maximum allowed luminaire lumens for each low voltage landscape lighting luminaire	not allowed	not allowed	525 lumens	525 lumens
*Luminaire lumens equals the initial lamp lumens for a lamp, multiplied by the number of lamps per luminaire				
**All fixtures for this zone must be a Row 2 style fixture, except for the following:				
a - 1 main entry fixture per residence may be calculated under Row 1				
b - other entry fixtures may be calculated under Row 3				
c - landscape lighting aimed away from all adjacent properties may be calculated under Row 4 or 6^				
d - fully shielded directional flood lighting in compliance with property line trespass values may be calculated under Row 5^				
^All vertical and horizontal maximum trespass values must be met				



City of Highland Park

Zoning Ordinance - District Map

Multiple Family Residential Districts

RM1	Medium to High Density	LZ2
RM1A	Medium to High Density	
RM2	High Density	
RO	High Density Res./Office	

Multiple Family Use - Minimum Lot Area Per Unit	Per Unit	Single Family Use Minimum Lot Area
10,000 sq. ft.	2,904 sq. ft.	7,000 sq. ft.
21,780 sq. ft.	1,980 sq. ft.	7,000 sq. ft.
21,780 sq. ft.	1,442 sq. ft.	7,000 sq. ft.
21,780 sq. ft.	871 sq. ft.	7,000 sq. ft.

Single Family Residential Districts

R1	Country Estate	LZ1
R2	Country Home	
R3	Low Density	
R4	Low to Moderate Density	
R5	Moderate Density	
R5A	Moderate to Medium Density	
R6	Medium Density	LZ1-LZ2
R7	Single- and Two-Family	7,000/10,000 sq. ft.

Commercial Districts

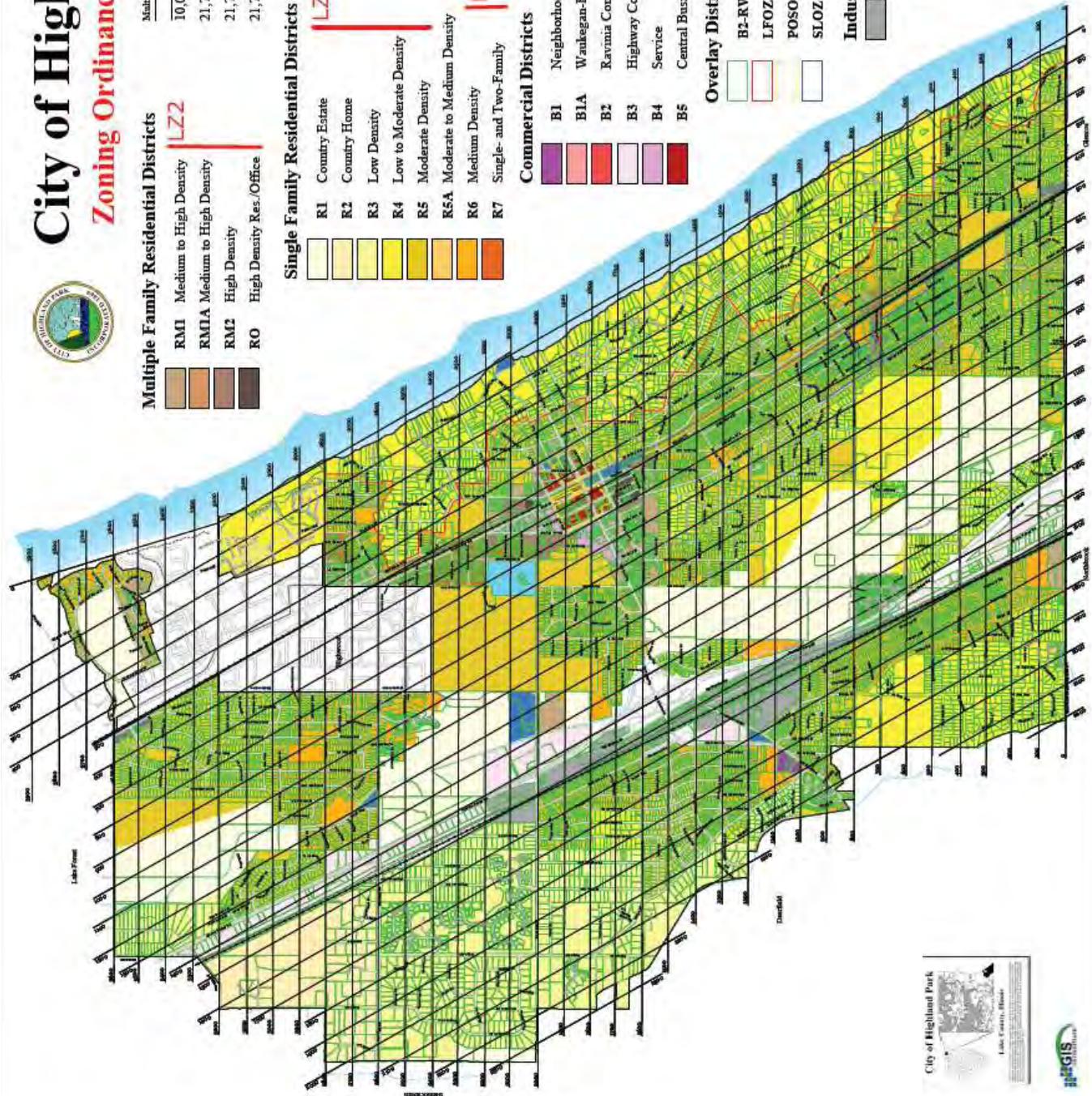
B1	Neighborhood Commercial	LZ2
B1A	Waukegan-Bloom Neighborhood	
B2	Ravenna Commercial	
B3	Highway Commercial	
B4	Service	
B5	Central Business District	LZ3

Overlay Districts

B2-RW	Roger Williams Overlay District
LFOZ	Lake Front Density & Character Overlay Zone
POSO	Pedestrian Oriented Shopping Overlay
SLOZ	Small Lot Overlay Zone

Industrial Districts

I	Light Industry	LZ2
Health Care		
HC	Health Care	LZ2
Public Activity		
PA	Public Activity	



Scale: 0 800 1,600 2,400 3,200 Feet

North Arrow

Map Date: 10/1/2014

(B) Additional Requirements in single-family districts. The following requirements and provisions shall be applicable in all single-family residential districts:

1. Lighting levels at exterior building walls shall not exceed 40 foot candles at any one point and no more than 15% of foot candle readings, taken at 20-foot intervals along an exterior building wall shall exceed 5 foot candles.
2. A motion controlled fixture shall only be setoff by movement occurring on the property on which such a fixture is located. Motion occurring from off of the property on which a motion controlled fixture is located shall not cause that motion controlled fixture to illuminate.

(C) Additional Requirements in all zoning districts. The following requirements and provisions shall be applicable in all zoning districts, except that they shall not apply to streetlights or to any lighting located within a public right-of-way:

1. Use or installation of high and low pressure sodium lights or mercury vapor lights is prohibited.
2. Where LED (light emitting diode) light sources are used, LED's must be within 2700-4100K CCT (correlated color temperature) and have a minimum CRI (color rendering index) of 70%.
3. All lighting, except for emergency and security lighting, shall not exceed seven average foot candles within 100 feet of adjacent residential land except for 24-hour gasoline service stations.
4. Exterior lights that blink or shine with an intermittent phase are prohibited; provided, however, outdoor holiday decorations are exempt from these requirements for a period of forty-five (45) days before and fifteen (15) days after the holiday for which such outdoor holiday decorations are installed.
5. Light poles in a parking lot shall be protected from vehicles by curbed landscape islands or elevated concrete pedestals.
6. Light levels shall be measured in the horizontal plane, at ground level unless I.E.S. standards dictate otherwise or notated to be a vertical light level restriction. Vertical light level restrictions shall be measured in the vertical plane, at the property line, up to the maximum height of the site building and/or adjacent buildings, whichever is greater.
7. Lighting of outdoor recreational uses shall cease at midnight.
8. The installation of all exterior lights and fixtures operating on 120 volts or greater AC shall require a permit prior to installation. Each application for such exterior lights shall include a photometric plan demonstrating compliance with the requirements of Article VI (Performance Standards) of this chapter and shall include the following:

- (a) All property lines, building locations, dimensions of paved areas, and location of all curbs relative to the proposed exterior light(s) and fixture(s).
- (b) Proposed exterior light and fixture location(s)
- (c) Details and height specifications of all proposed exterior lights and fixtures, including BUG rating values.
- (d) Photometric data at all property lines and within all parking lots at a spacing of not greater than ten feet (10') measured at the ground. When possible, photometric data shall extend 15' beyond the property line. Photometric data shall be generated by a recognized computer program and shall include calculation of maximum foot candles, minimum foot candles, average foot candles, and average to minimum uniformity ratio.
- (e) Photometric data shall be calculated by using maintained light levels as calculated by I.E.S. standards.
- (f) Plans at a scale of not less than one inch to fifty feet (1":50').
- (g) Details of all proposed light poles and associated foundations.
- (h) Other information as required.

8. Any abandoned, non-functional exterior light or fixture, as well as all associated hardware including, without limitation, poles, bases, and wiring shall be immediately removed.

(D) Specific Authorized Variations by the Zoning Board of Appeals. Notwithstanding any other provision of this Chapter, the Zoning Board of Appeals shall have the right to grant or deny a variance for the following specific purposes, but only with respect to single-family residential land uses, and only pursuant to the procedures set forth in Section 150.605(G):

- a. To permit legal non-conforming uses, homeowners associations, community based services, recreational clubs, and similar facilities to be subject to the lighting requirements set forth in this Section 150.605 for high density residential districts.
- b. To allow an increase in maximum lighting levels and uniformity standards when needed for security purposes provided that no greater impact on the surrounding property is found. Variations may be granted in average foot candles or maximum lumens if related to an increase in foot candles.
- c. To increase the maximum light pole height from grade, provided that such an increased height provides a better alternative to meet operational requirements and does not increase the impact on surrounding property.

(E) Specific Authorized Variations by the Design Review Commission.

Notwithstanding any other provision of this Chapter, the Design Review Commission shall have the right to grant or deny a variance for the following specific purposes, but only with respect to non-single-family residential land uses, and only pursuant to the procedures set forth in Section 150.605(G):

- a. To permit legal non-conforming uses, homeowners associations, community based services, recreational clubs, and similar facilities to be subject to the lighting requirements set forth in this Section 150.605 for high density residential districts.
- b. To allow an increase in maximum lighting levels and uniformity standards when needed for security purposes provided that no greater impact on the surrounding property is found. Variations may be granted in average foot candles or maximum lumens if related to an increase in foot candles.
- c. To increase the maximum light pole height from grade, provided that such an increased height provides a better alternative to meet operational requirements and does not increase the impact on surrounding property.

(F) Variations Authorized by the City Council. The City Council shall have the right to either (a) grant any variance to this Section 150.605 or (b) authorize the Zoning Board of Appeals or the Design Review Commission, as the case may be, to consider and recommend to the City Council any variance to this Section 150.605; provided that the granting of any such variance shall be in accordance with the procedures and standards set forth in Section 150.605(G).

(G) Procedures and Standards for Variations.

1. Application. If a variation is requested pursuant to Sections 150.605(D), (E), or (F), upon submittal of a completed application for such variation, the Director of Community Development shall refer the application and all other relevant documents to the Zoning Board of Appeals, the Design Review Commission, or the City Council, as the case may be, for consideration and decision in accordance with this Section 150.605(G). The application shall include sketches, drawings, or photographs of the Lot on which the proposed variation is requested; sketches, drawings, or photographs of the proposed exterior light or fixture; sketches, drawings, or photographs of the proposed location of the proposed exterior light or fixture on the Lot on which the proposed variation is requested; and a written petition explaining (i) in what manner the proposed exterior light or fixture varies from the provisions of this Section 150.605, and (ii) why a variation is requested.
2. Notice. Notice of a public meeting concerning a variation to be considered by the Zoning Board of Appeals or the City Council shall be provided in accordance with Section 150.1203 of this Code. Notice of a public meeting concerning a variation to be considered by the Design Review Commission shall be provided in accordance with Subsection 176.045(D) of this Code.
3. Meeting. The Zoning Board of Appeals, the Design Review Commission, or the

City Council, as the case may be, shall consider the variation application at a public meeting commenced within 90 days after the completed application for variation is submitted to the Director of Community Development.

4. Standards. No variation from the requirements of this Section 150.605 shall be granted unless the Zoning Board of Appeals, the Design Review Commission, or the City Council, as the case may be, determines that (i) the requested variance is appropriate due to a particular hardship or special unique circumstance, and (ii) the requested variance will not defeat the fundamental purposes and intent of this Section 150.605, and (iii) the requested variation will not be detrimental to the public welfare or injurious to property in the vicinity of the Lot for which a variance is granted.

(H) APPEALS.

1. NOTWITHSTANDING ANY OTHER PROVISION OF THIS CHAPTER, APPEALS FROM ANY DECISION UNDER THIS SECTION 150.605 SHALL BE PERMITTED ONLY PURSUANT TO THE PROCEDURES CONTAINED IN THIS SECTION 150.605(H).
2. Appeals from any decision of the Zoning Board of Appeals or Design Review Commission, as the case may be, granting or denying a variance pursuant to this Section 150.605 may be taken by the applicant or any other Person adversely affected by any such decision within 30 days after the decision. If no appeal is filed within 30 days after a decision by the Zoning Board of Appeals or Design Review Commission, as the case may be, such decision shall be final. All such appeals shall be taken to the City Council by filing a written notice of appeal with the Director of Community Development within five days following receipt or notice of the decision from which the appeal is taken. The City Council shall review the relevant variation application and any other reliable and relevant evidence, documents, or information, and may receive and consider new evidence. Within 45 days after receipt of the written notice of appeal of the decision from which the appeal is taken, the City Council shall render its written decision at a regularly scheduled meeting. The action taken by the City Council shall be final.

(I) Continuation of Legal Nonconforming Exterior Lights and Fixtures.

1. Authority to Continue. Any nonconforming exterior light or fixture may be continued so long as it otherwise remains lawful, and shall be maintained in good condition, subject to the regulations contained in this Subsection 150.605(I).

2. Ordinary Repair and Maintenance. Normal maintenance and incidental repair or replacement may be performed on any nonconforming exterior light or fixture; provided, however, that any repair or replacement shall, whenever possible, eliminate or reduce any nonconformity in the element being repaired or replaced; and, provided further that this Subsection 150.605(I) shall not be deemed to authorize any violation of this Section 150.605. Maintenance shall include the replacing, repairing, or repainting of any portion of an exterior light or fixture, including, without limitation, the renewing of any part that has

been made unusable by ordinary wear and tear, weather, or accident. The replacing or repairing of an exterior light or fixture that has been damaged to an extent exceeding 50 percent of the appraised replacement cost (as determined by the Director of Community Development) shall be considered maintenance only when the exterior light or fixture conforms to all of the applicable provisions of this Article and when the damage has been caused by an act of God or violent accident.

3. Alteration; Enlargement; Moving. No nonconforming exterior light or fixture shall be:

(a) changed or altered in any manner that would increase the degree of its nonconformity;

(b) enlarged or expanded;

(c) structurally altered to prolong its useful life;

(d) moved in whole or in part to any other location where it would remain nonconforming; or

(e) changed to another nonconforming exterior light or fixture.

4. Change of Exterior Light or Fixture. A nonconforming exterior light or fixture that has been changed to eliminate its nonconformity, or any element of its nonconformity, shall not thereafter be changed to restore such nonconformity or nonconforming element.

5. Damage or Destruction. Any nonconforming exterior light or fixture damaged or destroyed, by any means, to an extent of 50 percent or more of its replacement cost shall not be restored but shall be removed or brought into conformity with the provisions of this Article.

6. Termination by Abandonment. Any nonconforming exterior light or fixture, the use of which is discontinued for a period of 90 days, regardless of any intent to resume or not to abandon such use, shall be deemed to be abandoned and shall not be reestablished or resumed. Every such nonconforming sign or fixture shall be immediately removed or brought into conformity with the provisions of this Section.

(J) COMPLIANCE OR REMOVAL.

Any nonconforming exterior light or fixture that loses its status as a legal nonconforming exterior light or fixture pursuant to this Section 150.605 shall be brought immediately into compliance with the provisions of this Section, or shall be immediately removed.

(K) VIOLATIONS.

1. It shall be unlawful and a violation of this Article for any Person to maintain any prohibited exterior light or fixture, to perform or order the performance of any act prohibited by this Section 150.605, or to fail to perform any act that is required by the provisions of this Article.

2. Any exterior light or fixture erected, altered, or maintained in violation of any of the clauses or provisions of this Section 150.605, or in violation of any of the laws or ordinances of the City or the State of Illinois, or both, are declared to be a public nuisance and subject to treatment and abatement of the nuisance. Any exterior light or fixture erected, altered, or maintained contrary to law shall be abated as a common nuisance by the Director of Community Development.

(Section 150.605 amended in its entirety by Ord. 53-05, J. 31, p. 173-181, passed 8/22/05)
Sec. 150.606 Heat.

No use or activity in any zoning district shall be so operated that it emits or transmits heat or heated air so as to be discernible at or beyond the property line of the lot on which it is located.

Sec. 150.607 Noise.

(A) Residential Districts. The regulation of noise radiated by a use or activity located on a lot that is located in any residential district shall be governed solely by Chapter 95, "Nuisances," of the Code; provided, however, that any noise created by a generator, as defined in Article II of this Chapter, that is located in a residential district shall not surpass the levels set forth in Column B of Section 150.607(B) below. (Ord. 44-04, J. 30, p. 166-172, passed 6/28/04)

(B) Non-Residential Districts.

(1) In no event shall the sound-pressure level of any noise radiated continuously by a use or activity located on a lot that is located in any non-residential district exceed, at the lot line of such lot, the levels in Column A of the following table in any octave band of frequency; unless such lot adjoins or lies within 25 feet of the lot line of a lot located in a residential district, in which case the levels set forth in Column B shall govern. (Ord. 44-04, J. 30, p. 166-172, passed 6/28/04)

Maximum Sound Level Table.

Frequency Band Per Second	Column A*	Column B*
20 - 75	74	70
75 - 150	65	55
150 - 300	61	48
300 - 600	55	43
600 - 1,200	47	38
1,200 - 2,400	45	35
2,400 - 4,800	43	33
4,800 - 10,000	40	31

* Sound Pressure Level Decibels re 0.0002 dyns/cm²
 (Ord. 44-04, J. 30, p. 166-172, passed 6/28/04)

(2) If the noise is not smooth and continuous, or if it occurs within certain times, one (1) or more of the corrections below shall be added to or subtracted from each of the decibel levels given in the sound level table-above. Only one (1) of the additional corrections may be made for any noise source.

(a) For noise radiated between the hours of 9:00 p.m. and 7:30 a.m., five (5) decibels must be subtracted.

(b) If the noise source operates less than twenty (20) percent of any one (1) hour period, five (5) decibels may be added.

(c) If the noise source operates less than five (5) percent of any one (1) hour period, ten (10) decibels may be added.

(d) If the noise source operates less than one (1) percent of any one (1) hour period, fifteen (15) decibels may be added.

(e) If the noise is of an impulsive character (hammering, etc.), five (5) decibels must be subtracted.

(f) If the noise is of a periodic character (varying hum, screeching, etc.), five (5) decibels must be subtracted.

(C) Measurement of noise shall be made with a sound level meter and octave band analyzer meeting the standards prescribed by the American Standards Association. The instruments shall be maintained in calibration and good working order. Octave band corrections may be employed in meeting the response specification. A calibration check shall be made of the system at the time of any noise measurement. Measurements recorded shall be taken so as to provide a proper representation of the noise source. The microphone during measurement shall be positioned so as not to create any unnatural enhancement or diminution of the measured noise. A windscreen for the microphone shall be used when required. Traffic, aircraft, and other transportation noise sources and other background noises shall not be considered in taking measurements except where such background noise interferes with the primary noise being measured.

(D) Impulsive and periodic type noises shall be subject to the sound level standards if those noises are capable of being accurately measured with the equipment specified in the paragraph above. Noises capable of being so measured, for the purpose of this Article, shall be those noises which cause rapid fluctuations of the needle of the sound level meter with a variation of no more than plus or minus two (2) decibels. Noises incapable of being so measured, but objectionable because of intermittence, beat, frequency, or shrillness, shall be muffled and controlled so as not to become a nuisance to adjacent uses.

(E) Nothing in this Section shall apply to noises not directly under the control of the property user, such as: noises resulting from the construction and non-routine maintenance of buildings and facilities, including a site preparation; noises of infrequent

safety signals or wiring devices; and noises of motor vehicles (except when they are being serviced).

Sec. 150.608 Odorous Matter.

(A) Any condition or operation which results in the creation of odors of such intensity and character as to be detrimental to the health and welfare of the public or which interferes unreasonably with the comfort of the public shall be removed, stopped or so modified as to remove the odor.

(B) No continuous, frequent, or repetitive emission of odors or odor-causing substances shall exceed the odor threshold at or beyond the bounding property line of the tract on which the odor emission is initiated. An odor emitted no more than once in any one (1) day for a period not exceeding fifteen (15) minutes shall not be deemed continuous, frequent, or repetitive within the meaning of these regulations.

(C) The odor threshold as herein referred to shall be determined by observation by a person or persons. In any case where the owner or operator of an odor-emitting use or activity may disagree with the Zoning Administrator where specific measurement of odor concentration is required, the method and procedures specified by the American Society for Testing Materials shall be used.

(D) Any process which may involve the creation or emission of odors which would be in violation of this Article shall be provided with both a primary and secondary safeguard system so that control will be maintained if the primary safeguard system fails.

Sec. 150.609 Radioactive Materials.

The handling of radioactive materials, the discharge of such materials into air and water, and the disposal of radioactive wastes shall be in conformance with:

- (A) The applicable regulations of the Nuclear Regulatory Commission; and
- (B) The applicable regulations of any instrumentality of the State of Illinois.

Sec. 150.610 Smoke, Particulate Matter, and Other Air Contaminants.

(A) The rules and regulations of the Illinois Air Pollution Control Board shall be complied with in respect to particulate matter and gasses in emissions into air.

(B) No use or activity in any zoning district shall cause, create, or allow the emission of air contaminants for more than three (3) minutes in any one (1) hour which, at (or within a reasonable distance of) the emission points are as dark or darker in shade as that designated as No. 1 on the Ringelman Smoke Chart, as published by the United States Bureau of Mines.

(C) Open storage and open processing operations, including on-site transportation movements which are the source of wind borne dust and other particulate matter, or which involve dust or other particulate air contaminant generating equipment (such as used in paint spraying, grain handling, sand or gravel processing or storage, or

sandblasting) shall be so conducted that dust and other particulate air contaminants are not transported across the boundary line of the lot on which the use is located.

Sec. 150.611 Vibration.

(A) Ground-Transmitted Steady State Vibration.

(1) Residential Districts. The regulation of ground-transmitted steady-state vibration transmitted by a use or activity located on a lot that is located in any residential district shall be governed solely by Chapter 95, "Nuisances," of the Code. (Ord. 44-04, J. 30, p. 166-172, passed 6/28/04)

(2) Non-Residential Districts. In no event shall the ground-transmitted steady-state vibration caused by any use or activity located on a lot that is located in any non-residential district exceed, at or beyond the lot line of such lot, the levels set forth in Column A of the following table; unless such lot adjoins or lies within 25 feet of the lot line of a lot located in a residential district, in which case the levels set forth in Column B shall govern. (Ord. 44-04, J. 30, p. 166-172, passed 6/28/04)

MAXIMUM PERMITTED STEADY-STATE VIBRATION
DISPLACEMENT

Frequency Cycles Per Second	Column A Inches	Column B Inches
Less than 10	.0008	.0004
10 through 19	.0005	.0002
20 through 29	.0003	.0001
30 through 39	.0002	.0001
40 through 49	.0001	.0001
50 and Over	.0001	.0001

(B) Discrete Pulses. Discrete pulses shall not cause displacement in excess of twice the values established in the table above for steady-state vibration.

(C) Impact Vibration.

(1) Residential Districts. The regulation of impact vibration transmitted by a use or activity located on a lot that is located in any residential district shall be governed solely by Chapter 95, "Nuisances," of the Code. (Ord. 44-04, J. 30, p. 166-172, passed 6/28/04)

(2) Non-Residential Districts. In no event shall the impact vibration caused by any use or activity located on a lot that is located in any non-residential district exceed, at or beyond the lot line of such lot, the levels set forth in Column A of the following table; unless such lot adjoins or lies within 25 feet of the lot line of a lot located in a residential district, in which case the levels set forth in Column B shall govern. (Ord. 44-04, J. 30, p. 166-172, passed 6/28/04)

MAXIMUM PERMITTED IMPACT VIBRATION DISPLACEMENT

Frequency Cycles Per Second	Column A Inches	Column B Inches
Less than 10	.0016	.0006
10 through 19	.0010	.0003
20 through 29	.0006	.0002
30 through 39	.0004	.0001
40 through 49	.0002	.0001
50 and Over	.0002	.0001

(Ord. 44-04, J. 30, p. 166-172, passed 6/28/04)

(D) For the purpose of measuring vibrations, a three-component system shall be used. A three-component measuring system denotes instrumentation which can measure earth borne vibrations in three (3) directions, each of which occurs at right angles to the other two.

Sec. 150.612 Refuse Disposal.

(A) It shall be the duty of any person responsible for the production or accumulation of refuse on any lot located in the City resulting from any building or construction operations, and of the owner of the lot, to cause the storage, collection, and disposal of all refuse produced or otherwise accumulated on the lot in accordance with the provisions of the Code.

(B) Access to refuse receptacles shall not be across public curb or parkway. When in use, refuse receptacles shall not be allowed to overflow. Refuse receptacles shall not be allowed to stand unutilized at any site for longer than thirty (30) days. **(Ord. 71-07, J. 33, p. 461-508, passed 9/24/07)**

CHAPTER 93: STREETS AND SIDEWALKS

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PENALTY

93.999 Penalty

STREET IMPROVEMENTS

Sec. 93.001 Short title; definitions.

(A) This Chapter shall be known and cited as "The Highland Park Street and Improvement Ordinance of 1955."

(B) For the purpose of this Chapter, the following terms shall have the meaning given herein:

(1) A "street" shall mean the entire right-of-way or width between property lines of every road, way, thoroughfare, easement, or place, public or private, that is or that may be open to the use of the public for the primary purpose of vehicular traffic, but shall not include an alley.

(2) An "arterial street" shall mean a proposed or existing street that provides or that will provide for traffic with a high degree of continuity.

(a) A "major arterial street" shall mean an arterial street that provides or that will provide for fast or heavy traffic of considerable continuity and that is or that will be used primarily as a traffic artery for inter-communication between large areas in and near the City; and shall include those streets designated or that may be designated arterial streets by the State of Illinois and those streets shown or that may be shown as major streets on the ~~major street plan~~ **Functional Street Classification Map**.

(b) A "minor arterial street" shall mean an arterial street that carries or that will carry traffic from ~~minor~~ **local** streets to arterial streets; and shall include the principal entrance streets of a subdivision or similar development and the primary circulating streets therein.

(3) A "~~minor~~ **local** street" shall mean a street in a residential area used or that will be used primarily for access to abutting residential properties.

(4) An "alley" shall mean a public or private way or easement used or that will be used primarily for vehicular access to the back or the side of property otherwise abutting on a street, but shall not include a driveway.

(5) "Official Highland Park standards" shall mean those standards of installation, construction, and design on file for public inspection in the office of the City Engineer, as the same may be approved and adopted from time to time by the City Council of Highland Park, Illinois.

(6) "~~Major street plan~~ **Functional Street Classification Map**" shall mean the major street plan of the official City plan of the City of Highland Park as the same may be amended and adopted from time to time.

(7) "Sidewalk ordinance" shall mean an ordinance of the City of Highland Park, Illinois, entitled "An Ordinance Providing Standards for and Manner of the Construction, Repair and Rehabilitation of Sidewalks in the City of Highland Park", as the same may be amended from time to time. (See Section 93.100 to 93.145)

(8) "Official use district map" shall mean the official use district map of the Highland Park Zoning Ordinance of 1947, as amended, and as the same may be amended from time to time. (Ord. 834, J. 4, p. 834, passed 9/6/55)

Cross references:

Zoning Code, see Chapter 150

Pavements, see Section 151.140

Sec. 93.005 Minimum street widths.

No road, way, thoroughfare, easement, or place, public or private, other than an alley, that may be open to the use of the public for the primary purpose of vehicular traffic shall be created after the effective date of this ordinance unless the same shall have a width of not less than 66 feet. If the same may be used as a major arterial street, it shall have a width of not less than 80 feet. (Ord. 834, J. 4, p. 834, passed 9/6/55) Penalty, see Sec. 93.999

Sec. 93.010 Minimum widths of new pavement.

The minimum widths of new pavement, installed on any street after the effective date of this ordinance, shall be as follows:

- (1) Major arterial streets: 60 feet, including widths of curbs.
- (2) Minor arterial streets: 38 feet, including widths of curbs.
- (3) ~~Minor~~Local streets: 28 feet, including widths of curbs.

(Ord. 834, J. 4, p. 834, passed 9/6/55) Penalty, see Sec. 93.999

Sec. 93.015 Installation, construction and design of pavements.

(A) All new pavements installed hereafter shall be of reinforced concrete and the minimum thicknesses of such pavements shall be as follows:

- (1) Major arterial streets: Not less than a uniform thickness of 9 inches.
- (2) Minor arterial streets: Not less than a uniform thickness of 8 inches.
- (3) ~~Minor~~Local streets: Not less than a uniform thickness of 7 inches.

(B) Provision shall be made for the concurrent installation of the curbing and storm sewers herein required.

(C) When, in the opinion of the City Council, the axle loadings of trucks, busses, and other such vehicles traveling over ~~minor~~local streets will not exceed 6 tons per axle, such ~~minor~~local streets may be paved with a dustproof, flexible type of pavement of equal load-bearing value to that of said reinforced concrete. Such equivalence shall be determined by

methods of analysis accepted and approved by the City Engineer. The installation, construction, and design of all new pavements installed hereafter shall be in accordance with official Highland Park standards. (Ord. 834, J. 4, p. 834, passed 9/6/55) Penalty, see Sec. 93.999

Sec. 93.020 Minimum width of alleys.

The minimum width of an alley right-of-way created hereafter in a central business district, outlying business district, or industrial district, as such districts are now or as the same may hereafter be delineated on the official use district map, shall be 20 feet. All such alleys shall be paved with reinforced concrete of a uniform thickness of not less than 8 inches. The installation, construction, and design of all alley pavements shall be in accordance with official Highland Park standards and the width of such pavement shall be not less than 2 feet narrower than the width of the alley right-of-way. (Ord. 834, J. 4, p. 834, passed 9/6/55) Penalty, see Sec. 93.999

Cross reference:

Zoning Code, see Chapter 150

Sec. 93.025 Subgrade requirements.

Subgrades for all new pavements installed hereafter shall have subgrade soil-bearing values of not less than "K" equals 100 as determined by the Westergaard Formula. Whenever subgrade soil-bearing values are, in the opinion of the City Engineer, less than "K" equals 100 as determined by the Westergaard Formula, the subgrade shall be improved to that standard. (Ord. 834, J. 4, p. 834, passed 9/6/55) Penalty, see Sec. 93.999

Sec. 93.030 Street relationships and arrangements.

(A) The official City plan of the City of Highland Park, Illinois, as the same may be amended and adopted from time to time, shall govern consideration of the arrangement, character, extent, width, grade, and location of streets. All streets shall be considered in their relation to existing and planned streets, to topographic and soil conditions, to public convenience and safety; and in their appropriate relation to the proposed uses of the land to be served. ~~Minor~~Local streets shall be so laid out that their use by through traffic will be discouraged.

(B) The arrangement of all streets created hereafter shall make provision for the continuation of the existing or proposed streets in adjoining areas and when a new subdivision or similar development adjoins unsubdivided land susceptible of being subdivided, then new streets shall be carried to the boundaries of the tract proposed to be subdivided. (Ord. 834, J. 4, p. 834, passed 9/6/55) Penalty, see Sec. 93.999

Sec. 93.035 Curb requirements.

No street shall be paved hereafter unless provision is made for the concurrent installation of concrete curbing along each side-edge of the pavement. The type of curbing shall be designated by the City Engineer and shall consist of either straight concrete curbs or combined concrete curbs and gutters. The installation, construction, and design of the curbing herein required shall be in accordance with official Highland Park standards. (Ord. 834, J. 4, p. 834, passed 9/6/55) Penalty, see Sec. 93.999

Sec. 93.040 Installation, construction and design of sidewalks.

(A) Concrete sidewalks shall be installed in conformity with the provisions of the sidewalk specifications (Sec. 93.100 to 93.145) as follows:

- (1) On both sides of all major arterial streets.
- (2) On both sides of all minor arterial and ~~minor~~local streets in the "C", "D", "E", "F", "G", and "H" zoning districts, as defined in the "Highland Park Zoning Ordinance of 1947", as amended.
- (3) On one side of all minor arterial and ~~minor~~local streets in the "B-1" single-family dwelling zoning district, as defined in the "Highland Park Zoning Ordinance of 1947", as amended.
- (4) Sidewalks may be omitted along minor arterial and ~~minor~~local streets in the "A", "A-1", and "B" single-family dwelling zoning districts, as defined in the "Highland Park Zoning Ordinance of 1947", as amended.

(B) No sidewalk, however, need be constructed in the radius or "T" end of cul-de-sac or dead-end streets.

(C) Whenever lots constituting 75% of the frontage upon one side of a street have been improved with any structure, sidewalks shall be installed and a special tax levied or a special assessment proceeding commenced for payment of the cost thereof by the adjoining property owners, unless payment therefor has been provided by the builder, subdivider, developer or property owner. (Ord. 834, J. 4, p. 834, passed 9/6/55; Ord. 40-63, J. 5, p. 752, passed 8/12/63) Penalty, see Sec. 93.999

Sec. 93.045 Installation, construction and design of water mains.

Water mains installed hereafter shall be installed in such a manner that every lot or parcel of land to be serviced thereby shall be serviced by means of a house connection within its own frontage and shall be so connected to the existing water distribution system as to be circulating. The installation, construction, and design of the mains herein required shall be in accordance with official Highland Park standards. (Ord. 834, J. 4, p. 834, passed 9/6/55) Penalty, see Sec. 93.999

Cross reference:

Building Regulations, see Title XVII

Sec. 93.050 Installation, construction and design of fire hydrants.

Fire hydrants installed hereafter shall be installed and located at intervals of approximately 400 feet in a manner permitting connection of a 10 foot to 20 foot, non-flexible, steamer hose connection with a fire truck standing on the pavement. The installation, construction, and design of the hydrants herein required shall be in accordance with official Highland Park standards. (Ord. 834, J. 4, p. 834, passed 9/6/55) Penalty, see Sec. 93.999

Sec. 93.055 Installation, construction and design of sanitary sewers.

Sanitary sewers installed hereafter shall be installed in such a manner that every lot or parcel of land to be serviced thereby shall be serviced by means of a house connection

within its own frontage. The installation, construction, and design of the sanitary sewers herein required shall be in accordance with official Highland Park standards. (Ord. 834, J. 4, p. 834, passed 9/6/55) Penalty, see Sec. 93.999

Sec. 93.060 Installation, construction and design of storm sewers.

Storm sewers installed hereafter shall be installed on both sides of a street and no street shall be paved unless provision is made for the concurrent installation of storm sewers for the full length of the street pavement. The installation, construction and design of the storm sewers herein required shall be in accordance with official Highland Park standards. (Ord. 834 J. 4, p. 834, passed 9/6/55) Penalty, see Sec. 93.999

Sec. 93.062 Installation, construction and design of street lighting and public utilities.

Street lighting and public utilities shall be installed in a manner set forth hereinbelow:

(A) General.

(1) All plans for residential street lighting shall be designed by an engineer professionally registered in the State of Illinois, **or an NCQLP certified LC**. Six sets of such plans must be submitted to the City Engineer for review and approval. Upon approval, one set of such approved plan shall be distributed to the subdivider's ~~engineer~~ and to the City Manager for the permanent files of the City. Two sets shall be retained by the City Engineer.

(2) The subdivider's ~~engineer~~ shall be responsible for coordinating the improvement work; correcting faulty work; and consulting with the City Engineer in the settlement of any construction disputes, plan changes or plan adjustments.

(3) The improvement contractor shall familiarize himself with existing improvements in the work area. He shall exercise due precaution to protect such improvements from damage. All parkways or other area disturbed by the contractor shall be restored to its original condition.

(4) A notification of twenty-four hours must be given to the City Engineer prior to the initiation of construction. All contract work must be approved by the City Engineer.

(5) A minimum easement of ten feet shall be provided for all underground street lighting supply mains, conduits or cable to be laid across private property. Such easements shall be properly documented by deed or plat, accepted by the City and recorded. All documents required to properly establish such easements shall be provided by subdivider and shown on final plat.

(6) In some circumstances, the City Engineer may designate larger lamps, higher light standards, longer bracket arms, specific light pattern controls or vary the spacings as he deems necessary.

(7) Connection to the power supply shall be made at locations approved by the Commonwealth Edison Company. Such connection shall be made in accordance with

the current requirements for supply of electric service as set forth by the Commonwealth Edison Company.

(8) Upon completion of construction the subdivider's ~~engineer~~ shall be responsible for providing two sets of as built plans to the City ~~Manager~~ **Engineer** for permanent record use.

(B) Performance.

(1) Lighting levels. Illumination levels on the pavements shall comply with the latest minimum maintained values as published in the American Standard Practice for Roadway Lighting (ASHRAE/IES RP-8). The current standards are:

Area Classification

<u>Roadway Class</u>	<u>Downtown</u>	<u>Intermediate</u>	<u>Outlying</u>
Major Arterial Streets	1.7 2.0 FC	1.3 1.2 FC	0.9 FC
Collector Streets	1.2	0.9	0.6
Minor Local Streets	0.9	0.7 0.6	0.4 0.2

Roadway classifications shall be as shown on the official ~~map and street plan~~ **Functional Street Classification Map** for the City. The lowest footcandle value on the pavement shall not be less than **one third, one quarter, or one sixth** of the average value for **Downtown, Intermediate, and Outlying roads respectively.**

(2) Luminaire mounting height. The light center shall be located at the following distances above the pavement:

<u>Roadway Class</u>	<u>Min. Mounting Height</u>	<u>Min. HID Lamp Size</u>	<u>LED System Lumen Equivalants</u>
Major Arterial Streets	30'	400 Watt	~14,000 lm
Collector Streets	25'	250 Watt	~8,000 lm
Minor Local Streets	15'	100 Watt	~4,000 lm

(3) Luminaire classification. All luminaires shall have ~~medium vertical distribution, semi-cutoff control and I.E.S. Type II or III lateral distribution with a phosphor coated mercury lamp~~ **an High Intensity Dischard lamp [HID (HPS {high pressure sodium} or MH {metal halide})] or LED (light emitting diode) light source.** All luminaires shall also comply with the BUG rating classification table below:

BUG Rating Classification

Roadway Class	Downtown (LZ3)	Intermediate (LZ2)	Outlying (LZ1)
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	B / U / G	B / U / G	B / U / G
Arterial Streets	B3 U1 G3	B2 U1 G3	B2 U1 G2
Collector Streets	B3 U0 G3	B2 U0 G3	B2 U0 G2
Local Streets	B2 U0 G2	B2 U0 G2	B1 U0 G2

(4) Spacing of luminaires. Spacing between luminaires shall be limited to produce good uniformity of brightness on the pavement. On ~~major~~ arterial and collector streets the spacing between units measured along the center line of the roadway shall not exceed four times the mounting height. On ~~minor~~ local residential streets, the spacing may be seven times the mounting height, as long as the maintained minimum illumination is (≥ 0.1 F.C.)

(5) Location of lighting standards. Standards shall be located not closer than 2'6" from the back of the curb. They shall be located alternately on both sides of the street. Post type standards shall be used in residential areas and shall be installed alternately on both sides of the street, at intervals that will meet the specified lighting requirements. Intersections of ~~minor~~ local roads with collector or ~~major~~-arterial roads shall have a standard-luminaire-lamp combination as determined for the higher traffic street as indicated in paragraph (B)2.

(C) Material.

(1) Standards. Lighting standards shall be prestressed concrete with a butt type base and a water polished granite finish of a color and to standards designated by the City Engineer. A cable entrance slot shall be provided below grade and a wiring hand hole shall be above grade. Standards shall be set back thirty inches behind the back of the curb. Limestone screenings shall be wetted and tamped around the butt. They shall be similar to the design of the American Concrete Company for the following locations:

Roadway Class	Catalog Numbers
Major Arterial Streets	800-B268AD6 with 6' Bracket
Collector Streets	800-B218AD6 with 6' Bracket
Minor Local Streets	901-B14

(2) Luminaires. All luminaires shall be ~~mercury vapor~~ HID (HPS or MH) or LED type complete with an integral regulator ballast (or driver) and a twist lock receptacle for photo electric control, or integral photocell controller.

All luminaires shall be made of die cast aluminum, with specular reflectors and glass or color-stable polycarbonate prismatic refractors for IES distribution type II or III.

Roadway "unistyle" or "cobrahead" style luminaires on 25' and 30' poles shall have flat lens and an adjustable slip fitter capable of adapting to 1 1/4" to 2" mounting brackets.

Low-level pedestrian style luminaires (on 15' or lower poles) shall be post-top

type and U0 rated. They shall be compatible with a 3" post fitter. Style shall match existing nearby streetscape styles, or be pre-approved by the City.

All LED luminaires shall have a minimum CRI (color rendering index) of 70% and shall have a CCT (correlated color temperature) of 3000K (±200)

~~250 watt and 400 watt luminaires shall be die cast aluminum with a specular reflector and glass prismatic refractor for MSII or MSIII distribution. A side mounted slip fitter shall be capable of adapting to 1 1/4" to 2" mounting brackets.~~

~~Equipment shall be equal to General Electric Company M250 or M400 or Line Material Company "Unistyle" design.~~

~~100 watt luminaires shall be of the lantern type, cast aluminum, 3" post type fitter and mogul socket. Polycarbonate prismatic panels shall deliver a MSIII distribution with a phosphor coated lamp. Equipment shall be similar to General Electric Company "Town and Country" design.~~

(3) Raceways. Steel conduit shall be standard galvanized heavy wall type 2 inch in size.

Ducts shall be 2" asphalt impregnated fiber (No-crete) or 2" heavy wall transite.

Steel shall be used at all street, driveway or sidewalk crossings. Fiber or transite may be used in easements. All underground raceways shall have insulated bushings at their termination and shall be sealed to prevent the entrance of debris.

(4) Cable. Single conductor, neoprene hacketed, U.S.E. type 600 volt direct burial copper cable of a size designed to limit the voltage drop at the lamps to 5% shall be used. Where raceways and ducts are not indicated, cable may be buried directly in earth at a depth of 24" below grade. The cable shall be surrounded on all sides by 3' of clean sand backfill. When laid in parkway such cable shall be installed 2' from and parallel to the back of the curb.

(5) Pole Wire. Wiring from the hand hole to the luminaire shall be #10 gauge with RH-RW insulation.

(6) Controls. Luminaires shall be controlled by one of the following methods:

(a) Individual. Each luminaire shall be controlled by individual photo-electric control unit, or integral photocell controller.

(b) Group. The control unit controlling more than one luminaire shall consist of a R-C-O-C Type MR multiple relay actuated by a photo-electric control unit. (Alternate: Individually fused at base of each standard.) The switch and relay, if used, shall be mounted in a cast aluminum weatherproof box set on a 4" conduit pedestal anchored into a concrete base.

(c) Group with curfew controls. The control unit controlling more than one luminaire shall consist of a R-C-O-C type MR multiple relay actuated by both a photo-electric control unit and astronomic timeclock. Upon reaching curfew, lighting shall be reduced by a minimum of 30%, **but no area between lights may go to 0.00FC.** The controls, if used, shall be mounted in a cast aluminum weatherproof box set on a 4" conduit pedestal anchored into a concrete base.

(i) Curfew times shall be pre-approved by the City prior to taking effect. **Recommended curfew is 1 hour after close of latest business operation, or 11pm in residential areas.**

(D) Installation.

(1) Trenching and backfilling. All trenches shall be a minimum of 24" in depth. A 3" sand fill shall be placed around direct burial cable before the trench is backfilled. Surplus soil shall be hauled away at the expense of the installer.

Where trenching occurs in lawn areas, the backfilling shall be puddled and tamped and reseeded.

(2) Cable laying. Direct burial cable shall be placed to leave slack in the line. Sharp bends and kinks shall be avoided.

(3) Pole Setting. After poles are set in place they shall have 6" of limestone screening wetted and compacted around the butt. Poles shall be plumbed to insure straightness.

(4) Raceways under pavement. When cable must go under streets or drives, the steel conduit raceway shall be pushed under the pavement.

(5) Wiring. Sufficient wire slack shall be allowed at hand holes to make secure splices. No splices will be allowed in earth. Connectors shall be of the solderless type taped to exceed the insulation value of the conductors. Control cabinets shall be grounded according to code.

(6) Testing. On completion of an installation, the luminaries shall be tested for distribution and adjusted, if necessary, to correct the light pattern. Wiring shall be tested for shorts or grounds and replaced if required. (Ord. passed 6/10/68; Ord. 38-69, J. 7, p. 373, passed 6/9/69)

Sec. 93.063 Approval required for construction on City-owned right-of-way.

(A) City Council Approval Required. Except as provided in Section 93.063(B) of this Chapter, no person firm, corporation, trustee or legal entity or association, or any unit of local government, other than the City and other than a public utility holding a franchise granted by the City, shall install, construct, reconstruct, repair place or replace any structure or improvement of any kind upon or above the surface of ground which is upon any right-of-way owned by or under the control of the City, except upon the express prior approval of the City Council, by ordinance or resolution duly adopted, which approval shall not be granted prior to: (1) submission by the applicant to the City Engineer of detailed plans and specifications for the proposed structure or improvement; and (2) receipt by the City Council of a written recommendation from the City Engineer regarding the proposed structure or improvement. ((Ord. 91 -73, passed 11/26/73; Ord. 96-73, J. 10, p. 936, passed 12/10/73; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07; **Ord. 45-10, J. 36, p. 188-192, passed 5/10/10**)

(B) Exceptions. No approval of the City Council shall be required for the installation, construction, reconstruction, repair, placement or replacement of any of the following structures or improvements:

(1) Boulders and stones; but only upon the issuance of a special license therefor by the Director of Public Works or his or her designee pursuant to Section 93.063(C) of this Chapter, which license shall not be issued for any boulder or stone that is:

(a) Of a size greater than 18 inches in any linear dimension;

(b) Placed or located within three feet of any other boulder or stone located within the same right-of-way; or

(c) Placed or located less than two feet from the nearest back of curb or roadway, as that term is defined in Section 93.200 of this Chapter. (**Ord. 45-10, J. 36, p. 188-192, passed 5/10/10**)

(2) Carriage walks, but only upon the issuance of a special license therefor by the City Engineer pursuant to Section 93.063(C) of this Chapter; (**Ord. 45-10, J. 36, p. 188-192, passed 5/10/10**)

(3) Sprinklers and sprinkler systems, but only upon the issuance of a special license therefore by the City Engineer pursuant to Section 93.063(C) of this Chapter; (**Ord. 45-10, J. 36, p. 188-192, passed 5/10/10**)

(4) Mailboxes, but only when mounted on a structure that is:

(a) no larger than either four inches by four inches, or two inches in diameter;

(b) buried no more than 24 inches into the ground;

(c) designed to bend, break, or fall away if struck by a vehicle;

(d) located so that the mailbox door is located between six and eight inches from the front face of the curb or the road edge; and

(e) in compliance with all applicable and then-current rules and regulations, if any, of the United States Postal Service; (**Ord. 45-10, J. 36, p. 193-195, passed 5/10/10**)

(5) Trees and landscape materials, but only upon the issuance of a special license therefor by the City Forester pursuant to Section 93.063(C) of this Chapter, which license shall not be issued for any trees or landscape materials that are placed or located less than three feet from the back of curb or roadway, as that term is defined in Section 93.200 of this Chapter; (**Ord. 45-10, J. 36, p. 193-195, passed 5/10/10**)

(6) Driveways and driveway approaches, installed in compliance with, and pursuant to, Sections 93.200 through 93.270 of this Chapter; (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07; **Ord. 45-10, J. 36, p. 193-195, passed 5/10/10**)

(7) Replacement or temporary sidewalks installed in compliance with, and pursuant to, Section 93.115 of this Chapter; (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07; **Ord. 45-10, J. 36, p. 193-195, passed 5/10/10**)

(8) Materials used for the outdoor sale of seasonal items or for outdoor dining, installed in compliance with, and pursuant to, Section 93.305(B) of this Chapter; and (**Ord. 45-10, J. 36, p. 193-195, passed 5/10/10**)

(9) Temporary displays of artwork or seasonal items, but only upon the issuance of a special license therefore by the City Manager in accordance with Section 93.063 (C) of this Chapter, which special license shall not be issued unless:

(a) The City Manager determines, in his or her sole discretion, that the proposed temporary or seasonal display will not: (i) violate any applicable federal, state, or City laws or regulations; (ii) unreasonably obstruct pedestrian or vehicular traffic; (iii) threaten the public health, safety, and welfare; or (iv) obstruct the performance of any service or function of the City or any other unit of government;

(b) The delivery by the licensee to the City of a cash deposit, in an amount to be determined by the City Manager, but in no event less than \$500, as security for the restoration of the right-of-way after removal of the temporary or seasonal display; provided, however, that the City Manager may waive the requirements of this Section 93.063(B)(9)(b), in his or her sole discretion, if the City Manager determines that either: (i) a cash deposit is not necessary to assure restoration of the right-of-way; or (ii) this Section 93.063(B)(9)(b) would impose an unresasonable hardship on the proposed licensee; and

(c) Proof that the licensee has obtained all necessary permits and approvals from the City and other units of government; and (Ord. 84-13, J. 39, p. 293-295, passed 8/12/13)

(d) Payment by the licensee to the City of a non-refundable administrative application fee, in the amount set forth in the Annual Fee Resolution. **(Ord 96-13, J. 39, p.332-334, passed 09/23/13)**

(C) Standard for Special Licenses. No special license shall be issued pursuant to Section 93.063(B) of this Chapter except upon a determination by the applicable City official, in his or her sole discretion, that the proposed structure or improvement will not be injurious to the public health, safety, and welfare. **(Ord. 45-10, J. 36, p. 193-195, passed 5/10/10)**

(D) Disclaimer of Liability. The City assumes no liability for any structure or improvement located or placed in any City-owned right-of-way pursuant to this Section 93.063 by any person, firm, corporation, trustee or legal entity or association, or any unit of local government other than the City. **(Ord. 45-10, J. 36, p. 193-195, passed 5/10/10)**

(E) Pre-Existing Structures in City-Owned Rights-of-Way. Any structure or improvement that existed lawfully within a City-owned right-of-way as of May 10, 2010 but that no longer conforms with the provisions of this Section 93.063 may be continued; provided, however, that:

(1) The City shall have the right, but not the obligation, to order the owner of any structure or improvement located within a City-owned right-of-way to remove the structure or improvement, or to cause the removal upon the failure of the owner to remove the structure or improvement, if the Director of Public Works determines, in his or her sole discretion, that the structure or improvement is injurious to the public health, safety, or welfare; and **(Ord. 45-10, J. 36, p. 193-195, passed 5/10/10)**

(2) In the event that the structure or improvement is removed or is completely damaged or destroyed by any means, the structure or improvement shall not be reconstructed or replaced except in strict compliance with the provisions of this Section 93.063. **(Ord. 45-10, J. 36, p. 193-195, passed 5/10/10)**

(F) Appeal. Any person, firm, or corporation aggrieved by a decision made by the Director of Public Works pursuant to Section 93.063(E)(1) of this Chapter that a pre-existing structure or improvement is or is not injurious to the public health, safety, or welfare shall have the right to appeal the decision to the City Council. Such appeal shall be made in writing and filed within five days after receipt by the appellant of written notice of the decision of the Director of Public Works. The City Council shall consider and decide such appeal within 30 days after the filing thereof. Any order of removal related to the decision shall be stayed during the pendency of any appeal filed pursuant to this Section 93.063(F). **(Ord. 45-10, J. 36, p. 193-195, passed 5/10/10)**

Sec. 93.064 Reserved.

(Ord. 12-73, J. 10, p. 680, passed 3/26/73; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07; **Section 93.064 Repealed and Reserved by Ord. 45-10, J. 36, p. 193-195, passed 5/10/10)**

Sec. 93.065 Reserved.

(Ord. 834, J. 4, p. 834, passed 9/6/55; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07; Ord. 83-07, J. 33, p. 706-711, passed 11/26/07; **Section 93.064 Repealed and Reserved by Ord. 45-10, J. 36, p. 193-195, passed 5/10/10**)

Sec. 93.070 Inspection and enforcement.

The City Engineer or his duly designated deputy shall inspect the installation and construction of the improvements enumerated herein during the course of said installation and construction. The actual costs of such inspection shall be paid to the City by the party or parties initiating said improvements. All work shall be done in a good and workmanlike manner to conform to the provisions of this Chapter and the plans and specifications required herein. The City Engineer shall order the stoppage of all unsatisfactory or nonconforming work and failure to stop the installation or construction of the improvement upon the order of the City Engineer shall constitute a violation of this Chapter. Each day of non-compliance with said order shall constitute a separate and distinct violation of this Chapter. (Ord. 834, J. 4, p. 834, passed 9/6/55)

Sec. 93.075 Performance bond.

A bond in an amount set by the City Manager, but not less than the estimated cost of the proposed improvement nor more than one and one-fourth times said estimated cost, shall be filed with the City Manager and approved by him prior to the installation and construction of any of the improvements enumerated herein. Said bond, with good and sufficient surety approved by the City Manager, shall be strictly conditioned upon the installation and construction of the improvement within a time certain and in a manner satisfactory to the City Engineer. (Ord. 834, J. 4, p. 834, passed 9/6/55)

Sec. 93.080 Insurance policy required.

The party initiating or installing any of the improvements herein shall, prior to the installation thereof, agree to protect and save the City harmless from any and all claims, expenses, liability or judgments, in any manner resulting from or arising out of, or incident to the making of any of the aforesaid improvements or the granting of permission to so make. Said party, naming said party and the City as the insured, shall cause a policy of insurance to be issued providing minimum public liability coverage in the amounts of \$100,000 for injury or death to one person, \$500,000 for injury or death to more than one person in any one accident and property damage coverage in an amount of not less than \$100,000. All such policies of insurance shall be approved by the City Manager prior to the installation of any of the aforesaid improvements. (Ord. 834, J. 4, p. 834, passed 9/6/55)

Sec. 93.085 Chapter constitutes minimum requirements.

The requirements of this Chapter shall be considered minimum requirements and the City Council may increase the minimum requirements set forth herein in specific cases where the volume or type of traffic, the soil or topographic conditions, the existing or proposed use of land, the intensity of the use or proposed use of land, and buildings, or the density of population, in the area of a proposed improvement, may so warrant. (Ord. 834, J. 4, p. 834, passed 9/6/55)

Sec. 93.090 Variances.

(A) The City Council may grant a variance from the provisions of this Chapter in specific cases:

- (1) Where the volume or type of traffic may so warrant; or
- (2) Where topographic or soil conditions may so warrant; or
- (3) Where, by reason of an exceptional situation, surrounding, or condition, the strict application of any provision of this Chapter would result in peculiar and exceptional practical difficulties or particular hardship upon the owner of property abutting upon an existing or proposed street.

(B) The City Council may, in its discretion and after having received the recommendations of the Director of Building and Zoning and the City Engineer, vary the provisions of the foregoing when, in its sole discretion, such variation will not prejudice the public health, safety, comfort or welfare. (Ord. 834, J. 4, p. 834, passed 9/6/55; Ord. 71-69, passed 10/13/69)

SIDEWALKS

Sec. 93.100 Sidewalk construction regulated.

It shall be and is hereby declared unlawful for any person, firm or corporation to construct, reconstruct, repair or rehabilitate any sidewalk in the City except that the same shall be constructed, reconstructed, repaired or rehabilitated in accordance with the standards and using the methods of construction as herein set forth. (Ord. 223, J. 4, p. 223, passed 10/9/44)

Sec. 93.105 Sidewalk specifications.

(A) On all the streets, avenues, parts of streets and avenues and public places in the City of Highland Park, all sidewalks shall be of Portland cement concrete constructed in

accordance with the following specifications, directions and provisions:

(1) Subgrade: A subgrade or earth foundation shall be prepared by cutting down or filling up the surface of the ground to a grade which shall not be less than 9 inches below the final sidewalk grade in the residence and apartment districts and not less than 10 inches below the final sidewalk grade in the business and commercial districts, after compaction.

Where filling is necessary to bring the subgrade to the desired elevation, the materials used shall be tamped in place in 6-inch layers. Muck, quicksand, soft clay, spongy or perishable materials shall not be used. The entire fill shall be placed in such a manner as to leave a berm of 1 foot on each side of and flush with the finished grade of the sidewalk (except where sidewalks are laid full width between the curb and the lot line). The slope from the top of said fill to the natural surface of the ground shall be at the rate of 1 1/2 feet horizontal to 1 foot vertical. Said subgrade shall be consolidated by wetting and tamping so that the subgrade shall have a uniform bearing power. All soft and spongy places shall be dug out and the resulting holes filled with clean boiler cinders or pea gravel thoroughly tamped in place. Exceptionally hard spots in said subgrade shall be loosened and tamped so as to provide the same bearing power as the balance of the subgrade. Tampers used shall not be larger than 8 inches square and shall weigh not less than 25 pounds.

(2) Forms: Sidewalk side forms shall be of wood or metal, straight and free from warp and of sufficient strength to resist springing during the process of depositing the concrete against them, and during the work of striking off. If of wood, they shall be of 2 inch surfaced plank. If of metal, they shall be of approved section and shall have a flat surface on top. The depth shall be equal at least to the depth of the walk, and so designed as to permit secure fastening together at the tops. Forms shall be securely staked, braced and held firmly to the required line and grade. All forms shall be thoroughly cleaned and oiled before the concrete is placed against them. Flexible forms shall be used on curves of 100 feet or less. Where walks are constructed in one half widths, as hereinafter specified, the forms shall have drilled holes large enough for the installation of the dowel bars specified. All cross forms for the support of expansion joint materials and for the construction of traverse contraction or construction joints shall be of metal 1/8 of an inch to 3/16 of an inch thick, out to the cross section of the sidewalk and provided with slots to allow installation of dowel bars and removal of the cross form without disturbing said bars.

(3) Cinder or pea gravel bed: Upon the entire subgrade there shall be placed a bed of clean boiler cinders or pea gravel 4 inches in depth, which shall constitute the foundation for the sidewalk. Said bed shall be thoroughly puddled with water and leveled and compacted by tamping, as specified for the subgrade, so that the top surface of the compacted cinder or pea gravel bed shall not be less than the required thickness of the sidewalk below the proposed finished surface of said sidewalk. Wherever the cinder or pea gravel bed creates a reservoir in which water could collect, a drain not less than 4 inches in diameter shall be installed. Said drain shall extend under the edge of the sidewalk not to exceed 12 inches and shall connect to the nearest storm sewer or curb drain or shall discharge upon a lower ground surface when a storm sewer or drain does not exist. Said drain shall be laid in conformity with ordinances covering that type of work.

(4) Thickness of sidewalks: The thickness of all sidewalks in the residence and apartment districts shall be not less than 5 inches, except that where said sidewalk intersects a driveway, in which case the thickness shall be not less than 6 inches, for the full width of said driveway. The thickness of all sidewalks in the business and commercial districts shall be 6 inches. All sidewalks shall be poured in one course.

(5) Alignment and width of sidewalks: The inner or property edge of all sidewalks shall be 22 inches from and parallel with the street line of the lot, lots or parcels of land in front of which the sidewalk is to be constructed, except as otherwise specified herein. The minimum width of sidewalks in the residential and apartment districts shall be 5 feet, except at driveway intersections where said width shall be increased by 1 foot on each side of said sidewalks for the full width of the driveway. Where sidewalks in the residence or apartment districts are desired 10 feet or more wide, then the requirements pertaining to sidewalks for the business and commercial districts as specified herein, shall apply. In the business and commercial districts the width of said sidewalks shall be the width required between the inner or property edge of the sidewalk, as before specified herein, and the back of the established curb line on said street, except that where the topographic features are such that preclude such width, then the Commissioner of Streets and Public Improvements shall determine the width. Where buildings occupy the lot, lots or parcels of land to the street line, in front of which the sidewalk is to be constructed, the width of the sidewalk shall be increased so as to extend to the said street line for the entire width of the building.

(6) Placing concrete: Upon the aforesaid subgrade, within the area as formed for the sidewalk, shall be placed Portland cement concrete as hereinafter specified. Said concrete shall be placed and struck off 1/2 to 3/4 of an inch higher than the top edge of the forms and shall be tamped until all voids are removed and free mortar appears on the surface sufficient to allow proper finishing. The edges shall be thoroughly spaded and the surface then struck off to the true grade and given a float finish. After the concrete has set sufficiently so that trowelling can be properly done, the surface of the walk shall be troweled to a smooth even surface. The surface shall then be brushed with a fine haired floor brush, the strokes of said brush starting at one edge of the sidewalk and brushing across said sidewalk to the other edge in one stroke. When the concrete has hardened enough so that there is no danger of breaking the edges of the concrete, the cross forms for the expansion and contraction joints shall be carefully removed and all the exposed edges along side forms, expansion joints, contraction joints and longitudinal joints shall be rounded with an edging tool of 1/4 inch radius.

(7) Expansion joints: Transverse premoulded bituminous expansion joints 3/4 of an inch thick shall be placed at right angles to the edges of the sidewalk at intervals of 30 feet, throughout the length of said sidewalk. These joints shall be held in place, perpendicular to the surface of the sidewalk and in proper alignment and grade by use of the metal cross forms as hereinbefore specified. The length of said joints shall be the width of the sidewalk. The joint shall extend from 1 inch below the top of the foundation bed prepared for the sidewalk, to the top surface of the finished sidewalk. Wherever a sidewalk is constructed adjacent to existing improvements, such as buildings, curbs, and sidewalks, a 3/4 inch premoulded bituminous expansion joint shall be installed between the sidewalk and the existing improvement. One-half inch round smooth dowel bars 2 feet long shall extend across and through the expansion joints. The bars shall be spaced 2 feet apart

center to center. The first bar on either edge of the sidewalk shall be 6 inches from said edge. The dowel bars shall be embedded in the concrete one-half the thickness of the sidewalk below the top surface of said sidewalk, and shall extend into the concrete slabs equally on each side of said joint. Caps or sleeves of metal, or of a composition acceptable to the City, shall be placed on the alternate opposite ends of the dowel bars after that portion of the bars has been coated with approved heavy grease. Said cap or sleeve shall be approximately 5 inches long, shall fit the dowel bar tightly, shall be indented so that there is a stop for said dowel bar and shall provide unobstructed expansion space of not less than 1 inch. The dowel bars shall comply with the requirements of the Standard Specifications for Rail-Steel Concrete Reinforcement bars, A.S.T.M. Designation A-16. Said dowel bars shall be held parallel to the surface of the sidewalk and at right angles to the expansion joints by metal chains, or by other methods acceptable to the City.

(8) Transverse contraction joints: Transverse contraction joints shall be installed one-half the distance between expansion joints. They shall be made by placing the metal cross forms, previously specified, in place perpendicular to the sidewalk surface and normal to the side forms. Dowel bars shall be installed across said joints the same as for the expansion joints. The metal cross forms shall be removed as specified herein.

(9) Dummy joints: Between the contraction and expansion joints (transverse) as described herein, the sidewalk shall be laid off with dummy joints spaced 5 feet apart. A dummy joint is an edged joint for a depth of about 1/2 inch.

(10) Longitudinal joints: In the business and commercial districts where the sidewalk fills the space between the established curb line and the inside edge, or property side, of the sidewalk, as previously specified, the sidewalk shall be placed one-half width at a time. Where buildings exist and occupy to the street line of said lot, lots or parcels of land, the space between said building and the edge of the sidewalk shall be constructed as a separate strip. The longitudinal joints resulting shall be constructed in the same manner as hereinbefore specified for transverse contraction joints, except that the forms shall be the side forms previously specified, drilled to receive the dowel bars.

(11) Curing: Immediately after the sidewalk has been brushed and edged, the surface shall be protected from the elements with a covering of wet burlap until it has hardened sufficiently to be walked upon without marring the surface. In no case shall this period be less than 24 hours.

(12) Composition of the concrete: All materials for Portland cement concrete shall be proportioned so as to produce a workable plastic concrete having a compressive strength of not less than 3,500 pounds per square inch and a modulus of rupture of not less than 650 pounds per square inch at the age of 28 days when tested by standard methods. The approximate quantities of cement, sand, gravel and water shall be determined by the City after field tests of the materials. Said quantities of aggregate for each batch shall be measured by weight or by volume, and will be 1 sack of cement, which is considered 1 cubic foot or 94 pounds net, to approximately 2 cubic feet of torpedo sand, dry compacted state, 3 1/2 cubic feet of gravel, dry compacted state, and not to exceed 6 gallons of water. The method of designing the exact mix is explained in detail in a manual entitled "Design and Control of Concrete Mixtures", sixth edition, published by the Portland Cement Association.

(13) Consistency of the concrete: The mixture shall not contain more water than is necessary to produce the proper plasticity of the concrete. Corrections shall be made for the amount of moisture contained in the aggregates as delivered. The consistency of the mix shall be measured as described in the "Tentative Method of Test for Consistency of Portland Cement Concrete, American Society for Testing Materials Designation: D-138-32T". The slump shall not be less than 1 inch nor more than 2 inches.

(14) Mixing of the concrete: The concrete shall be mixed in the quantity required for immediate use. No retempering of concrete will be allowed. Concrete which has been mixed for longer than 30 minutes, or which has developed an initial set shall not be used. No materials containing frost or lumps of hardened materials shall be used. No concrete shall be mixed when the temperature in the shade is 40 degrees or less Fahrenheit and falling. The minimum temperature of the concrete in the mixer shall be at least 60 degrees Fahrenheit. When the temperature for the 10 hour period previous to the placing of concrete has been 32 degrees Fahrenheit or less, the aggregate and the water shall be heated to a temperature of not less than 70 degrees Fahrenheit but not over 150 degrees Fahrenheit. Chemical admixtures for lowering the freezing point or accelerating the initial set of the concrete shall only be used by special permission of the City. The aggregate may be heated by steam or dry heat prior to being placed in the mixer, or by heaters in the mixer, or by heaters placed on the mixer. All aggregate and the cement shall be thoroughly mixed in an approved batch mixer for a period of not less than 1 minute, during which time the drum shall make not less than 16 nor more than 20 revolutions per minute. The water shall be introduced during the first fifteen seconds of the mixing period. The mixing time may be extended if necessary to obtain thorough mixing and uniform consistency. Any concrete mixed less than the specified time shall be rejected. The volume of material mixed per batch shall not exceed the manufacturer's guaranteed capacity. The entire contents of the drum shall be discharged before any materials are placed therein for the succeeding batch.

Hand mixing will not be allowed except in case of emergency or for exceedingly small volume, and then only on written permission of the City. Where such permission is granted the concrete shall meet all the requirements as herein specified, and must be mixed on a platform.

Ready mixed concrete shall be mixed and delivered in accordance with the requirements set forth in "Standard Specifications for Ready Mixed Concrete", A.S.T.M. Designation: C94-35.

(15) Cement: Portland cement shall conform to the requirements of the "Standard Specifications for Portland Cement", A.S.T.M. Designation C-9-37 or the "Tentative Specifications for High Early Strength Portland Cement", A.S.T.M. Serial Designation C74-38. Mixing of different kinds of brands of cement, or cement of the same brand from different mills, shall not be allowed. Cement which has become partially set or which contains lumps shall not be allowed. No salvaged cement shall be used.

(16) Water: Water used with cement in mortar or concrete shall be Lake Michigan water taken from the mains of the City of Highland Park. Where Lake Michigan water is not available, the City may permit the use of water from other supplies, providing

tests show it fit for use in concrete.

(17) Fine aggregate: Fine aggregate shall consist of sand having hard, durable particles, free from organic impurities. Fine aggregate shall be well graded from coarse to fine, and when tested by means of laboratory sieves shall conform to the following requirements:

Passing 3/8 inch sieve.....	100%
Passing No. 4 sieve.....	95%-100%
Passing No. 8 sieve.....	70%-90%
Passing No. 16 sieve.....	45%-75%
Passing No. 50 sieve.....	10%-30%
Passing No. 100 sieve.....	3%-10%

(18) Coarse Aggregate: Coarse aggregate shall consist of gravel having hard, strong, durable pieces, free from adherent coatings. Coarse aggregate shall be well graded between the limits specified, and shall conform to the grading requirements given below:

Passing 1-1/2 inch sieve.....	100%
Passing 1 inch sieve.....	60%-90%
Passing 3/4 inch sieve.....	40%-75%
Passing 1/2 inch sieve.....	10%-30%
Passing No. 4 sieve.....	0%- 5%

Both laboratory and field sieves shall have square openings. The use of pit run unscreened materials will not be allowed.

(19) Unworkable mixtures: In case the concrete resulting from a mixture of aggregate approaching the extreme limits for gradation is not of a workable character, or when finished does not exhibit a proper surface, the City may require either a fine aggregate having a sufficiently greater percentage of fine material or a fine aggregate in which 95 to 100 per cent of the material passes the No. 8 sieve, with the remainder falling within the gradation limits as above specified, be used.

(20) Equipment: All machinery and equipment which is used in the work shall be of sufficient size and mechanical condition to do the work required in a satisfactory manner. Equipment for measuring the volume or weight of the aggregate shall be such as to guarantee proper proportions. A cubic foot box shall be available at all times for use in checking the volume of materials. (Ord. 223, J. 4, p. 223, passed 10/9/44) Penalty, see Sec. 93.999

Sec. 93.110 Grade of slope for sidewalks.

The grade for new sidewalks shall be fixed by the City from time to time. In no case shall such grade be less than that obtained by a uniform raise from the established grade of the top of curb to the top surface of the sidewalk at inner or property edge of the sidewalk, which is the edge farthest removed from the said curb. The rate of said rise shall be not less than 1/4 inch per foot, and shall not exceed 1/2 inch per foot, except that where the topography is such that the grade would cause unreasonable hardship on the property

abutting and to other public improvements, the City shall establish the grade by resolution or ordinance. (Ord. 223, J.4, p. 223, passed 10/9/44) Penalty, see Sec. 93.999

Sec. 93.115 Removal of sidewalks.

(A) Permit Required. No person, firm or corporation shall remove any portion of public sidewalk for any purpose, except in accordance with a valid sidewalk removal permit issued by the City pursuant to this Section 93.115. (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

(B) Application. An applicant for a sidewalk removal permit shall file an application therefore on a form provided by the City, which application shall include, without limitation, the following: (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

(1) The name, address, and telephone number of the applicant: (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

(2) The name, address, and 24-hour telephone number of the contractor that will perform all proposed and required work pursuant to the requested permit and this Section 93.115; (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

(3) The location, by nearest street address, of the sidewalk that is proposed to be removed; (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

(4) A depiction of that portion of the sidewalk that is proposed to be removed; (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

(5) The purpose of the proposed sidewalk removal; (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

(6) The materials and method of installation proposed to be used for the temporary sidewalk required pursuant to Section 93.115(D)(1)(b) of this Chapter. (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

(7) Provision of a guarantee deposit, in an amount sufficient to provide for the complete restoration of the sidewalk to be removed, as determined by the Director of Public Works in his or her sole discretion; and (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

(8) Payment of the sidewalk removal permit fee, in the amount set forth in the Annual Fee Resolution. (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

(C) The City Manager shall issue a sidewalk removal permit upon receipt of a complete application therefore, and upon a determination that (1) the proposed work will not create undue safety hazards in the use of the right-of-way or property adjoining the affected sidewalk, and (2) the proposed work complies with all applicable provisions of this Chapter. (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

(D) Replacement of Permanent Sidewalk.

(1) Within 24 hours after the completion of the work for which the sidewalk was removed, the applicant shall either (a) install a replacement permanent sidewalk, in accordance with the specifications set forth in Sections 93.105 and 93.110 of this Chapter, or (b) install a temporary sidewalk, which temporary sidewalk shall consist of either (i) Portland cement concrete at least two inches in thickness, (ii) asphaltic concrete at least two inches in thickness, or (iii) a material that provides a hard walking surface that is suitable for pedestrian traffic, in the sole determination of the Director of Public Works or his or her designee. (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

(2) In the event that the applicant installs a temporary sidewalk pursuant to Section 93.115(D)(1)(b) of this Chapter, the applicant shall proceed to install a permanent sidewalk in accordance with the specifications set forth in Sections 93.105 and 93.110 of this Chapter as soon as practicable, but in no event later than the completion date established pursuant to Section 93.115(E) of this Chapter. (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

(3) Notwithstanding any provision of this Section 93.115(D) to the contrary, the City Manager may, upon written request by the applicant, waive the requirement to install a temporary sidewalk pursuant to Section 93.115(D)(1)(b), subject to such conditions as the City Manager may deem necessary. (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

(E) Time of Performance. All work performed pursuant to a sidewalk removal permit issued pursuant to this Section 93.115 shall be completed not later than the date that is 180 days after the issuance of the permit, as may be extended in the sole discretion of the City Director of Public Works. (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

(F) Guarantee Deposit.

(1) The City shall have the right, but not the obligation, to deduct from the guarantee deposit submitted pursuant to Section 93.115(B)(7) of this Chapter any cost of repair or replacement for any damage done to public property by the applicant in prosecution of the work for which a sidewalk removal permit has been issued, or the costs of completion or removal of any temporary or permanent sidewalk, upon failure of the applicant to repair or to replace the damaged public property, or to complete the sidewalk in conformity with the standards set forth in this Section 93.115, within 10 days of receipt of a written demand therefore by the City. (Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

(2) Upon final approval by the Director of Public Works of the permanent replacement sidewalk for which the guaranteed deposit was required, the City shall return to the applicant the guaranteed deposit, less any amount deducted pursuant to Section 93.115(F)(1) of this Chapter. (Ord. 223, J. 4, p. 223, passed 10/9/44; Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

Sec. 93.120 City to supervise construction of sidewalks.

All sidewalks shall be constructed under the inspection and superintendence of the Commissioner of Streets and Public Improvements and shall be subject to his approval. (Ord. 223, J. 4, p. 223, passed 10/9/44)

Sec. 93.121 Charge to abutting property owners.

(A) Subject to the provisions of Subsection (B) below, upon receipt of a petition by an owner of property abutting a section of sidewalk located in a public right-of-way within the City (which sidewalk is hereafter in this Section referred to as "public sidewalk"), and his concurrent deposit of a sum of money computed at the rate per lineal foot established from time to time by resolution of the City Council, the City will replace such public sidewalk and assume all costs of said replacement in excess of the amount of said deposit.

(B) Approval of participation for replacement of 5 foot wide residential public sidewalks will be based upon the City Engineer's determination of the degree to which there exists a hazard to the safety of the public using such public sidewalk as well as the availability of budgeted City funds within each fiscal year.

(C) In cases where, after proper notice of a dangerous public sidewalk condition, the abutting property owner does not voluntarily initiate a petition for replacement, the City Council will consider the imposition of a special tax or special assessment for the purpose of replacing such dangerous public sidewalk on the basis of the City assuming 33-1/3% of the replacement costs and the property owner assuming 66-2/3% of the replacement costs of such public sidewalk.

(D) Upon receipt of satisfactory certification (the previous year's tax return) that the abutting property owner has an income of less than the "moderate income" as established by the United States Department of Housing and Urban Development and published as "Income Eligibility Rates", the City Manager shall (subject to the provisions of Subsection (B) herein) waive the property owner's participation and have the full costs of public sidewalk replacement paid by the City. (Ord. 21-76, J. 12, p. 1540, passed 4/26/76; Ord. 25-81, J. 14, p. 1257, passed 9/14/81)

Sec. 93.125 Removal of improperly constructed sidewalks.

Any sidewalk constructed contrary to this Chapter shall be removed by the person or persons, firm or corporation, either as principal or agent responsible for the construction after having received notice from the Commissioner of Street and Public Improvements to so remove. If the same is not done within 15 days of said notice, it shall become the duty of said Commissioner to cause such walk to be removed and replaced with proper walk, and the cost of said removal and replacement shall be assessed against the person, firm or corporation responsible for same. (Ord. 223, J. 4, p. 223, passed 10/9/44)

Sec. 93.130 Damage to sidewalks prohibited.

Any person, who shall willfully, maliciously or carelessly, in any way, injure, mar, deface or do damage in any way to any sidewalk, or any person who in the process of necessary repair work allows the walk to remain in a dangerous condition shall be deemed guilty of a misdemeanor and subject to the penalty hereinafter provided. (Ord. 223, J. 4, p. 223, passed 10/9/44) Penalty, see Sec. 93.999

Sec. 93.135 Driving on sidewalks prohibited.

No person or persons shall push, propel or draw any horse, wagon, cart or other vehicle over any sidewalk or parkway, or use, lead, ride or drive any horse, wagon, sled or sleigh or other vehicle thereon unless it be crossing the same to go into a yard or lot where no suitable crossing or means of access is provided, and in such case only when such sidewalk has been fully protected from injury therefrom as required by the City. (Ord. 223, J. 4, p. 223, passed 10/9/44) Penalty, see Sec. 93.999

Sec. 93.140 No conflict with special assessment provisions.

Nothing contained in Sections 93.100 to 93.145 is intended to conflict with the construction of sidewalks as may be provided by special assessment or special taxation. (Ord. 223, J. 4, p. 223, passed 10/9/44)

DRIVEWAYS AND DRIVEWAY APPROACHES

Sec. 93.200 Definitions.

Wherever the following words or phrases are used, they shall, for purposes of this Chapter, have the meanings respectively ascribed to them in this Section 93.201, except when the context otherwise indicates:

(A) Applicant – The person who applies for a driveway permit pursuant to Section 93.204 of this Chapter. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(B) Driveway – That portion of a lot that provides direct vehicular access from the lot to the driveway approach. (Ord. 49-68, passed 8/12/68; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(C) Driveway approach - That portion of a right-of-way that provides vehicular access from the roadway to an adjoining lot. (Ord. 49-68, passed 8/12/68; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(D) Driveway permit – A permit issued by the City pursuant to Section 93.205 of this Chapter for the construction, installation, replacement, reconstruction, or establishment of any driveway or driveway approach. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(E) Parkway - That portion of a right-of-way, if any, between the curb line and the adjacent property line, or, in the absence of curbs, between the edge of the roadway or the pavement and the adjacent property line. (Ord. 49-68, passed 8/12/68; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(F) Person - Any person, firm, partnership, association, company, corporation or organization of any kind.

(G) Right-of-Way – A strip of land, whether publicly or privately owned, designated for use for vehicular or pedestrian or pedestrian access or passage or for installation of railroad tracks, utility lines, or similar facilities. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(H) Roadway - That portion of a right-of-way improved, designed or ordinarily used for vehicular travel; provided, however, that the term "roadway" shall not include the berm, shoulder, or parkway, if any. In the event that a right-of-way includes two or more separate roadways, the term "roadway" shall refer only to each separate roadway, and not to all roadways collectively. (Ord. 49-68, passed 8/12/68; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(I) Sidewalk - A pedestrian way open to the use of the public.

(J) Temporary driveway or driveway approach – A driveway or driveway approach, constructed in accordance with Section 93.231 of this Chapter, to provide vehicular access to a lot only during periods of construction or reconstruction on the lot. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.201 Driveway approaches required.

A driveway approach shall be required for every building, structure or off-street parking facility when or where access to the building, structure, or off-street parking facility is not available to vehicular traffic, including construction equipment, other than by driving or moving over curbs, public parkways or sidewalks. The use and construction of driveway approaches shall comply with the provisions of Sections 93.200 through 93.270 of this Chapter. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.202 Use of driveway approaches

(A) Except as provided in Section 93.202(B) of this Chapter, it shall be unlawful to (1) operate, move or drive any vehicle, including, without limitation, any vehicle or equipment intended for use in construction, excavation, grading or clearing, over, across or upon any public curb, parkway or sidewalk within the City except by way of an authorized and approved driveway approach; (2) park or store any vehicle or construction equipment upon any portion of a driveway approach or public parkway; or (3) unload, store or stockpile any construction or other materials upon any portion of any driveway approach or public parkway. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(B) The following shall be exempted from the provisions of Section 93.202(A) of this Chapter:

(1) Equipment of the City, or privately owned and operated maintenance equipment, in actual operation for public right-of-way maintenance purposes; and (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(2) Upon receipt of written approval of the City Manager, equipment and materials for public right-of-way construction projects and other public improvements. (Ord. 49-68, passed 8/12/68; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.203 Permit required.

No person, firm or corporation shall construct, install, replace, reconstruct, build, or establish any driveway or driveway approach prior to issuance of a permit therefore in accordance with the procedures set forth in Sections 93.204 through 93.210 of this Chapter. (Ord. 205, J. 4, p. 205, passed 5/29/44, Ord. 903, J. 4, p. 903, passed 8/13/56; Ord. 49-68, passed 8/12/68; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.204 Driveway permit application.

(A) Application. An applicant for a driveway permit shall file an application therefor on a form provided by the City, which application shall include, without limitation, the following (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07):

(1) The names and addresses of the owner and lessees, if any, of the premises to be served by the proposed driveway and driveway approach; (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(2) The present and proposed use of all property to be served by the driveway and driveway approach; (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(3) The names and addresses of any contractor that will perform any work on the driveway and driveway approach that is the subject of the application; (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(4) A plot plan of the site and property drawn to scale, indicating, without limitation:

(a) The proposed location and dimensions of the driveway and driveway approach:

(b) The location of adjacent rights-of-way;

(c) All other driveways and driveway approaches connected with or serving the property; and

(d) The location on the public parkway of any sidewalks, water meter vaults, manholes, fire hydrants, trees, shrubbery and all other similar appurtenances; (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(5) Complete plans and specifications, to City standards, of the proposed driveway and driveway approach, which plans and specifications shall (a) include grades of the proposed driveway and driveway approach; (b) indicate any change in existing grade of parkway or sidewalk; and (c) whether construction of the proposed driveway and driveway approach will require alteration of the existing curb, if any; and. (Ord. 205, J. 4, p. 205, passed 5/29/44; Ord. 903, J. 4, p. 903, passed 8/13/56; Ord. 49-68, passed 8/12/68; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(6) An acknowledgment, signed by the owner of the property to be served by the driveway and driveway approach, and in a form acceptable to the Corporation Counsel, stating that:

(a) The owner, and the proposed driveway and driveway approach, will comply with all of the provisions of this Chapter and all other applicable sections of the City Code, including, without limitation, (i) Section 93.255(C), regarding the owner's indemnification of the City, and (ii) Section 170.005, governing street obstructions in the City and permits therefor; (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(b) All work performed on the proposed driveway and driveway approach will comply with the plans and specifications submitted with the application for a driveway permit; and (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(c) The owner will pay all fees required by this Chapter. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(B) Payment of Fees. At the time of issuance of an application for a driveway permit, the applicant shall submit payment of (1) a driveway permit application fee, in the amount set forth in the Annual Fee Resolution, and (2) any third-party legal, engineering, and other consulting or administrative fees, costs, and expenses incurred or accrued by the City in connection with the review and processing of the driveway permit application. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.205 Approval of permit application.

Upon receipt of a complete application for a driveway permit, the City shall issue a driveway permit upon a determination that (a) the proposed driveway and driveway approach will not create undue safety hazards in the use of the right-of-way adjoining the property to be served by the proposed driveway and driveway approach or the immediate vicinity thereof, (b) the proposed driveway and driveway approach complies with all applicable provisions of this Chapter, and (c) the existing and proposed uses of the property conform in all respects to existing traffic, zoning and building ordinances. (Ord. 205, J. 4, p. 205, passed 5/29/44; Ord. 903, J. 4, p. 903, passed 8/13/56; Ord. 49-68, passed 8/12/68; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.208 Guaranteed Deposits.

(A) Prior to the issuance of a driveway permit, the applicant shall deposit with the City a guaranteed deposit, in an amount determined by the Director of Public Works but not less than the amount set forth in the Annual Fee Resolution. Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(B) The City shall have the right, but not the obligation, to deduct any cost of repair or replacement for any damage done to public property by the contractor in prosecution of the work for which a driveway permit has been issued, or the costs of completion or removal of any temporary or permanent driveway or driveway approach, upon failure of the applicant to repair or to replace the damaged public property or to complete the driveway or driveway approach in conformity with the standards of this Chapter within 10 days of receipt of a written demand therefor by the City, (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(C) Upon final approval of the driveway or driveway approach for which the guaranteed deposit was required, the City shall return to the applicant the guaranteed deposit, less any amount deducted pursuant to Section 93.208(B) of this Chapter. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.210 Time of Performance.

(A) If a driveway or driveway approach for which a driveway permit has been issued is not completed within six calendar months after the date of issuance of the permit, the Director of Public Works shall, except as provided in Section 93.210(B) of this Chapter,

declare the applicant in default, and the driveway permit expired and void. Upon such declaration, the City may either (1) remove the uncompleted driveway approach removed and restore the site to the condition existing prior to issuance of the permit, or, (2) complete the driveway or driveway approach. The cost of any removal or completion undertaken pursuant to this Section 93.210(A) shall be deducted from the guaranteed deposit, in accordance with Section 93.208(B) of this Chapter. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(B) The Director of Public Works may, in his or her sole discretion and for good cause shown, grant an extension of the time for completion of the work authorized by the driveway permit, for a period not to exceed twelve calendar months from the date of issuance of the permit. (Ord. 49-68, passed 8/12/68; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.220 Non-conformance.

(A) Except as provided in Section 93.220(B) of this Chapter, any driveway or driveway approach serving a single-family or multiple-family dwelling, and in existence as of January 1, 2007, shall be considered to be in compliance with Sections 93.200 through 93.270 of this Chapter. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(B) Section 93.220(A) of this Chapter shall not apply to any driveway or driveway approach that satisfies one or more of the following criteria:

(1) The owner of the driveway or driveway approach has been found in violation of Section 93.338 of this Chapter for that driveway or driveway approach on three or more separate instances; (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(2) The driveway or driveway approach has been replaced, significantly altered or reconstructed since January 1, 2007, as determined by the Director of Public Works. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(3) The driveway or driveway approach is injurious to the public health, safety or welfare; (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(4) The owner of the driveway or driveway approach has received a permit pursuant to this Code since January 1, 2007 for either (a) an addition of 250 or more square feet to any building or structure on the property served by the driveway or driveway approach, or (b) the removal or destruction of 50 percent or more of any building or structure on the property served by the driveway or driveway approach; or (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(5) The driveway or driveway approach interferes with drainage facilities, as determined by the Director of Public Works. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.230 City Inspections.

The City shall have the right to inspect any driveway or driveway approach at any time for compliance with the provisions set forth in this Chapter. Specifically, and without

limitation of the foregoing, the City shall inspect a new driveway approach upon the completion of each of the following: (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(A) Permanent Driveway Approaches.

(1) Removal of the curbing, if authorized pursuant to Section 93.235(L) of this Chapter.

(2) Excavation prior to backfilling;

(3) Placement of forms for the curb, gutter, and sidewalk sections of the driveway approach;

(4) Placement of backfill material;

(5) Pouring of the curb, gutter and sidewalk sections of the surfacing of the driveway approach; (Ord. 49-68, passed 8/12/68; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(6) Surfacing of the driveway approach. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(B) Temporary Driveway Approaches.

(1) Removal of the curbing, if authorized pursuant to Section 93.235(L) of this Chapter.

(2) Excavation prior to backfilling; and

(3) Removal of the backfilling. Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.231 Temporary driveways and driveway approaches.

(A) Driveway Permit Required. No temporary driveway or driveway approach may be constructed to serve any lot except upon issuance of a valid driveway permit for that lot in accordance with Section 93.205 of this Chapter. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(B) Specifications for Temporary Driveways and Driveway Approaches. Temporary driveways and driveway approaches may be constructed upon satisfaction of, and in compliance with, each of the following: (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(1) The surface of the temporary driveway and driveway approach shall:

(a) Be maintained at grade level at all times;

(b) Shall have adequate drainage to avoid accumulations or ponding of water;

and (c) Be maintained free of mud, debris and construction materials:

(d) Be kept open at all times for vehicular traffic; (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(2) Prior to the commencement of construction of any kind upon the lot served by the temporary driveway and driveway approach, the applicant shall:

(a) Remove the right-of-way curb at the approved location of the driveway approach, in the manner set forth by, and at the direction of, the Director of Public Works; and

(b) Excavate the driveway and driveway approach from the roadway surfacing to a distance within such lot or tract of land of 50 percent and not less than 25 feet of the distance from the lot line to the building line, which excavation shall be backfilled to grade level with granular materials to form a base for driveway and driveway approach surfacing in compliance with the specifications set forth in this Chapter; and

(3) Not later than the date on which a certificate of occupancy is issued for any building on the property on which a temporary driveway or driveway approach was constructed, the property owner shall (a) remove all temporary driveways and driveway approaches from the property, and (b) construct and complete a permanent driveway and driveway approach, in accordance with, and pursuant to, the provisions set forth in this Chapter. (Ord. 49-68, passed 8/12/68; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.235 Plans and specifications for driveways and driveway approaches.

All driveways and driveway approaches shall be designed, constructed, installed and maintained in accordance with the following minimum requirements. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(A) A driveway approach serving any lot, other than a lot for which a residential structure is the principal structure, shall be constructed of Portland cement concrete at least six inches in thickness, which concrete shall conform with all applicable specifications set forth in Sections 93.100 through 93.140 of this Chapter. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(B) A driveway approach for any lot for which a residential structure is the principal structure shall be constructed of Portland cement concrete as set forth in Section 93.235(A) of this Chapter; provided, however, that an asphaltic concrete surface shall be permitted if the surface (a) has a minimum depth of four inches (without any loose material on top), and (b) has a base of compacted crushed stone at least six inches in thickness, and either (i) the abutting right-of-way is publicly maintained and has a bituminous concrete or sealcoat surface, or (ii) the driveway approach is a replacement of a previously existing driveway approach. (Ord. 41-76, J. 12, p. 1580, passed 6/14/76, Ord. 26-80, J. 14, p. 1017, passed 8/11/80; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(C) No pavement material other than asphaltic concrete or Portland cement shall be used for any driveway approach, except upon receipt of a waiver therefor by the Director

of Public Works, in accordance with Section 93.270(B) of this Chapter. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(D) The sidewalk section of a driveway approach shall lie at a grade equal to that of the abutting sidewalk, as determined by the City Director of Public Works. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(E) In the event that a driveway approach is constructed across an existing sidewalk less than six inches in thickness, the sidewalk shall be removed and replaced with Portland cement concrete of not less than six inches in thickness for the full width of the driveway approach, in accordance with the provisions set forth in Sections 93.100 through 93.140 of this Chapter. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(F) In the event that the applicant constructs a concrete driveway approach abutting a public roadway that is also constructed of concrete, the applicant shall place a one inch bituminous premoulded expansion joint with load transmission unit approximately three feet from the edge of the concrete paving and normal to the center line of the driveway approach. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(G) The width of a driveway for any lot, other than a lot for which a residential structure is the principal structure, shall not exceed 30 feet at the property line. If two or more adjoining driveway approaches are provided for the same lot, the applicant shall install a safety island of not less than 10 feet in width between the driveway approaches, measured at the outer or street side of the sidewalk. No more than two driveway approaches shall be allowed for any lot or tract of land on any one street for every 100 feet of continuous frontage in common ownership thereon. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(H) No more than two driveway approaches shall be permitted to serve any single-family or multi-family residential structure, which driveway approaches shall be not less than 60 feet apart, measured from the center line of each driveway approach at the curb line, or, in the absence of curbs, at the edge of the pavement. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(I) The width of a driveway for a lot for which a residential structure is the principal structure shall be not less than 10 feet nor more than 18 feet at the property line. (Ord. 87-75, J. 12, p. 1428, passed 10/13/75; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(J) The width of a driveway approach opening at the curb shall not exceed the width of the driveway at the property edge of the sidewalk plus 10 feet, nor be less than the width of the driveway at the property edge of the sidewalk plus 6 feet; provided, however, that in the event no sidewalk exists, the width of the driveway approach shall extend into the right-of-way to a point determined by the Director of Public Works, at which point the driveway approach shall flare to its maximum or minimum dimension at the curb line. The center line of all driveways, must be approximately at right angles to the curb line of the pavement in the public right-of-way for a distance of at least 10 feet from the curb line. (Ord. 69-00, J. 26, p. 328, passed 10/23/00; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(K) A driveway approach shall be graded between the gutter and the sidewalk in a manner (1) consistent with the established grade of the gutter and the sidewalk, and (2) that will not elevate or depress any portion of the gutter or the sidewalk. No part of any driveway approach shall extend beyond the curb line in such a manner as to change the grade of the gutter or obstruct the free flow of water in the gutter. Where elevations or depressions are necessary in the parkway strip between the curb and sidewalk, the parkway shall, as nearly as possible, be graded on both sides of the driveway to a distance sufficient to create a gradual ascent or descent not to exceed a slope of one foot vertical to ten feet horizontal. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(L) Curbs and gutters, or separate curbing, if any, shall be entirely removed for the full width of the driveway approach opening at the curb line only in the manner set forth by, and upon the approval of, the Director of Public Works. If an existing joint in such a curb is within five feet of the end of the driveway approach opening, the existing curbing shall be removed between the driveway joint. If no joint is within five feet of the end of the driveway approach opening, the combined curb and gutter or separate curbing shall be cut so as to make a neat edge at right angles to the edge of the pavement and truly vertical. Integral curbing (that type placed with the pavement and moulded as an integral part thereof) shall be removed for the full depth from the top of curb to the bottom of the pavement. No combined curb and gutter, straight curb or integral curb shall be removed within five feet of a public crosswalk. New curbing of the same type as that removed shall be re-installed in a manner satisfactory to the City Director of Public Works. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(M) No portion of a driveway approach shall be less than five feet from a fire hydrant.

(N) No portion of a driveway approach shall be less than five feet from any tree or shrubbery located on a public parkway.

(O) No excavation in any portion of any right-of-way shall be left open and unattended at any time, except as expressly permitted in accordance with the provisions of a street obstruction permit. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(P) A driveway approach serving a corner lot shall be not less than twenty feet from the extended right-of-way curb line to the nearest point of the driveway approach measured along the curb line. (Ord. 205, J. 4, p. 205, passed 5/29/44; Ord. 14-67, passed 5/22/67; Ord. 49-68, passed 8/12/68; Ord. 68-69, J. 7, p. 538, passed 9/22/69, Ord. 60-02, J. 28, p. 483-484, passed 9/23/02; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.236 Loose Aggregate Material Prohibited.

No gravel or other loose aggregate material of any kind shall be permitted on the surface of any driveway, driveway approach, or off-street parking or loading space or facility, except for temporary driveways and driveway approaches constructed in accordance with Section 93.231 of this Chapter. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.240 Open ditches in parkway; culverts.

In the event that a driveway approach crosses an open ditch in the abutting

parkway, the applicant shall install culverts in a quantity determined by the Director of Public Works to be necessary to avert any diminution in the flow of water. All culverts installed pursuant to this Section shall conform to the following minimum requirements: (Ord. 205, J. 4, p. 205, passed 5/29/44; Ord. 49-68, passed 8/12/68; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

- (A) Culvert openings shall be not less than twelve inches in diameter.
- (B) Culverts shall be constructed of ductile iron pipe or reinforced concrete pipe;
- (C) Culvert length shall be determined as follows:
 - (1) Culverts shall be not less than twenty feet long;
 - (2) For a ditch depth of two feet or less, culverts shall extend not less than five feet beyond each edge of the driveway approach where they cross the ditch; and
 - (3) For each additional foot of depth of ditch, culverts shall extend an additional two feet;
- (D) The ends of all culverts shall be flared; and
- (E) Culverts shall comply with such other requirements and dimensions as deemed necessary by the Director of Public Works, in his or her sole discretion. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.245 Water meter pits.

In the event that a water meter pit exists in the area of a proposed driveway approach, the City may, in the sole discretion of the Director of Public Works, replace the existing water meter pit cover as may be necessary to accommodate the proposed driveway approach, at the sole cost and expense of the applicant. (Ord. 205, J. 4, p. 205, passed 5/29/44; Ord. 49-68, passed 8/12/68; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.250 Catch basins.

In the event that a catch basin exists in the area of a proposed driveway approach, the City may, in the sole discretion of the Director of Public Works, replace the top of the existing catch basin with a manhole top with a perforated lid, to be furnished and set by the Department of Public Works, at the sole cost and expense of the applicant. (Ord. 205, J. 4, p. 205, passed 5/29/44; Ord. 49-68, passed 8/12/68; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.255 Maintenance by Property Owner; Indemnification

- (A) The owner of the property served by a driveway approach shall maintain the driveway approach, and those portions of the public curb, parkway, and public sidewalk over which the driveway approach crosses, in good repair, free from obstructions and openings, clear of snow and ice, and in a safe condition for pedestrian and vehicular travel. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)
- (B) The owner of the property served by culverts installed pursuant to Section

93.240 of this Chapter shall keep the culverts clean, and shall maintain the culverts in good repair. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(C) The owner shall hold harmless and indemnify the City and all City elected or appointed officials, officers, employees, agents, representatives, engineers, and attorneys from any and all claims that may be asserted at any time against any of such parties arising out of or in connection with the proposed driveway or driveway approach or the permit application process required by this Chapter.. (Ord. 26-80, J. 14, p. 1017, passed 8/11/80; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.260 Abandoned or Unnecessary Driveway Approach.

Whenever the use of a driveway approach as a means of ingress and egress to the premises served thereby has been abandoned, or becomes unnecessary by reason of improvements subsequently placed or relocated upon the premises, the owner of the premises shall promptly restore the public street, sidewalk, curb or other public way, as applicable, to the same condition as that of the adjoining public street, sidewalk, parkway, curb and other public way at the time of restoration. (Ord. 60-371, J. 5, p. 289, passed 6/13/60; Ord. 49-68, passed 8/12/68; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.265 No conflict with special assessment provisions.

Nothing contained in Sections 93.200 through 93.270 of this Chapter shall be construed to conflict with or supersede the provisions and powers of the City provided by statute for the construction of sidewalks by special assessment or special taxation. (Ord. 205, J. 4, p. 205, passed 5/29/44; Ord. 49-68, passed 8/12/68; Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.270 Variations.

(A) The City Council may, after having received the recommendations of the Director of Community Development and the City Engineer, grant, by ordinance duly adopted, a variation from the provisions of Sections 93.200 through 93.265 of this Chapter, when, in its sole discretion, the variation will not prejudice, or be injurious to, the public health, safety, comfort or welfare. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

(B) The Director of Public Works may, in his or her sole discretion and without City Council approval, grant a variation from those provisions of Sections 93.200 through 93.265 of this Chapter governing the materials of which driveways and driveway approaches must be constructed, upon a determination that the variation will not prejudice, or be injurious to, the public health, safety, comfort or welfare. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07; **Ord. 45-10, J. 36, p. 193-195, passed 5/10/10**)

(C) No variation shall be granted pursuant to this Section 93.270 except upon: (1) the filing of an application therefor with the Director of Public Works, on a form to be provided by the City; and (2) payment of a nonrefundable application review fee, in the amount set forth in the Annual Fee Resolution. (Ord. 77-09, J. 35, p. 304-308, passed 12/14/09)

STREET USES AND RESTRICTIONS

Sec. 93.300 Streets to be clear and free of obstructions.

The streets and alleys in the City shall be kept free and clear of all obstructions, incumbrances, and encroachments, for the use of the public, and shall not be used or occupied in any other way than is herein provided in this Chapter. (1919 Code, Sec. 1407)

Sec. 93.305 Private use of public streets; subsurface or overhead occupancy.

(A) It shall be and is hereby declared unlawful for any person, firm or corporation to construct, erect, maintain or permit to exist upon the surface of any street, alley, public thoroughfare or public lands of the City any building, fence, stairwell, porch, steps, fuel or gasoline pump or loading installation, sign, stand or other obstruction whatsoever, provided, however, that where any such building, fence, stairwell, porch, steps, fuel or gasoline pump or loading installation, sign, stand or other obstruction shall now exist or is presently maintained upon the surface of any such street, alley, public thoroughfare or public grounds, whether pursuant to license issued therefor or otherwise, then the person, firm or corporation so using such street, alley, public thoroughfare or public land shall vacate and remove the same on or prior to the first day of January, 1951.

(B) It shall be and is hereby declared unlawful for any person, firm or corporation to use, occupy or permit to be occupied for private use or by the installation of tanks, conduits, or otherwise, any lands underlying the surface of any street, alley, public right-of-way or public lands within the City without having first obtained a license therefor issued by the City Manager. Such license for subsurface occupancy shall be issued nonexclusively and only upon written application to the City Manager. In addition, the City Manager is authorized to issue licenses for the occupation (hereinafter referred to as "Encroachment") of any area on or above any street, alley, public right-of-way or public land within the City to an adjacent property owner for the purpose of utilizing such area for the outdoor sale of seasonal items or for outdoor dining, subject to the following terms and conditions:

(1) Payment by the applicant of a \$50 fee for application and administrative costs;

(2) That any equipment or improvements made in connection with the Encroachment shall be installed and maintained at the sole cost and expense of the licensee in a good and workmanlike manner, satisfactory to the Building Division of the City;

(3) That upon completion of the work of installation, operation, maintenance, repair and/or removal of the Encroachment, the licensee shall leave the licensed area and all adjacent land in a neat, clean, and orderly condition;

(4) That the licensee shall at all times and under all circumstances, indemnify, protect, and save harmless the City, its grantees, licensees, agents, lessees and invitees from and against any and all damages, losses, claims, demands, actions and causes of action whatsoever (including any reasonable costs, expenses and attorneys' fees which may be incurred in connection therewith) whether or not the claim, demand, or action asserted be meritorious, and which results from or is alleged to arise out of or in connection with, the installation, construction, reconstruction, operation, maintenance, alteration,

repair, replacement, removal or existence of the Encroachment, or the existence of the license granted such licensee; provided, however, in the event any such claim, damage, loss, demand, action, or cause of action is asserted against the City, or its agents, the City shall furnish such licensee with written notification thereof and such licensee shall conduct the defense thereof before any court, board, commission or other governmental body exercising jurisdiction therein. No settlement or compromise of any such claim, damage, loss, demand, action or cause of action against the City shall be made unless first agreed to by the City;

(5) That the licensee shall agree to pay the City, its grantees, licensees, agents, lessees and invitees for any and all damage or injury (including death) to persons or property or any expense which they, or any of them, may sustain resulting from or arising out of or in connection with, the installation, construction, reconstruction, operation, maintenance, alteration, repair, replacement, removal, or existence of the Encroachment upon the licenses area, or the existence of the license granted licensee hereunder;

(6) That the licensee shall indemnify, hold harmless, and defend the City and the City shall not be liable to such licensee, its grantees, licensees, agents, lessees or invitees for any damage or injuries (including death) to any persons or to any of their properties except to the extent that injuries or damages are caused by the negligent, willful or malicious misconduct of the City;

(7) That any notice herein provided to be given shall be deemed properly given if in writing and delivered personally or mailed to the City c/o City Manager, 1707 St. Johns Avenue, Highland Park, Illinois 60035, or to the licensee at an address supplied by such licensee upon application, or to such other person or address as such licensee or the City may from time to time designate upon written notice;

(8) That, in addition to the above and foregoing conditions, when the special license is for the purpose of providing outdoor dining facilities, the licensee shall:

(a) Limit the outdoor dining area to that number of tables and chairs specified in writing by the City Manager;

(b) Maintain an unobstructed path of at least five feet (5') in width for pedestrian access along the entire length of the licensed area abutting the public street;

(c) Establish a temporary barrier at the perimeter and around the licensed area to prevent moving tables and/or chairs within the dining area further into the public right-of-way, and which, when liquor is served upon the licensed premises, shall not permit access to the licensed area except from within an adjacent building or through one passageway controlled by the licensee and/or its employees; and

(d) Remove the tables and chairs aforesaid each night and store them inside the licensee's premises, and replace them each morning upon the licensed area; and

(e) In addition, in the event such license is issued to the holder of an existing liquor license for premises immediately adjacent to the area of public right-of-

way for which a license is sought hereunder, such liquor licensee may serve alcoholic beverages within the area of public right-of-way licensed hereunder, conditioned upon such liquor licensee first having provided the Mayor with a copy of its dram shop insurance which includes coverage for the service of alcoholic beverages upon the area of public right-of-way so licensed hereunder; and

(9) That failure of the licensee to comply continuously with the foregoing terms and conditions automatically and without notice shall terminate the aforesaid license and notwithstanding the foregoing in any event this license may be terminated by the City at any time without notice. Upon such termination, at the sole option of the City but at the sole cost and expense of the licensee, within thirty (30) days of his receipt of written notice from the City to do so the licensee shall remove the Encroachment and cease the use granted hereby; and upon the failure of the licensee to remove same, the City may undertake or cause the removal of said Encroachment and charge the cost of such removal to the licensee;

(10) That the provisions of this license shall inure to the benefit of and be binding upon the parties hereto; and

(11) All such licenses for use of any such public right-of-way shall be terminable by the terms thereof, or, in the event no termination provision exists therein, by action of the City Manager and/or the City Council, which action may take effect immediately and without further notice. Such license shall be issued only upon the condition that the licensee shall provide such adequate assurances as the City Manager shall determine; and that said license shall indemnify, hold harmless, and defend the City of Highland Park, its officers, agents, representatives, independent contractors and employees against any and all claims which may be made or liabilities which may be incurred for or by reason of the issuance of such license. In any event, no such license shall be issued where the interests of the public will be prejudiced, and such license shall be subject to such other conditions as the City Manager shall deem necessary in order to serve the best interests of the public. (Ord. 45-84, J.15, p.709, passed 10/15/84; Ord. 46-89, J. 18, p. 086, passed 7/24/89; Ord. 5-92, J. 19, p. 005, passed 3/23/92; Ord. 66-96, J. 23, p. 531-534, passed 11/12/96)

(C) The provisions of Subsections (A) and (B) of Section 93.235 and Subsections (A) and (B) of this Section 93.305 shall not be applicable in the case of the surface and/or subsurface use of parkways and/or other public rights-of-way for the construction and maintenance of exposed aggregate concrete and/or concrete/brick paver residential driveway approaches and/or lawn sprinkler systems (hereinafter such driveway approaches and sprinkler systems are referred to generically as "Facilities") when a license therefore has been obtained from the Coordinator of the Building Division. The applicant therefor shall submit evidence of title for the premises adjacent to the proposed location of the Facilities and legally described on the face of the application, such application shall be accompanied by specific drawings, plans, and specifications for the Facilities to be constructed upon the public right-of-way involved and shall be signed by the person or persons shown to be the legal owners of said premises, and said signatures shall be properly acknowledged. Upon approval of the aforesaid application the applicant and the Coordinator of the Building Division shall execute a license agreement in form approved by the Corporation Counsel setting forth the legal description of the land, shall clearly indicate

that the licensee will have no possessory interest or estate in the land so described and shall terminate at the pleasure of the City of Highland Park. In addition the license agreement shall contain the following terms and conditions, the failure to comply with any of which automatically and without notice shall terminate any such license:

(1) That the licensee will defend, protect, indemnify and save harmless the City of Highland Park, its officers, agents, and employees from any and all liability arising in any manner out of the use, construction, maintenance, operation, or existence of said use of the portion of the public right-of-way covered by such license;

(2) That any work to be performed pursuant to any such license shall be constructed and maintained at the sole cost and expense of the licensee in a good and workmanlike manner, satisfactory to the Director of Public Works of the City of Highland Park;

(3) That the existence of the licensee's Facilities shall not in any way interfere with the right of the City or any franchisee thereof to excavate or utilize the public right-of-way for any purpose, nor with the right of the City to otherwise maintain, clean, plow, repair, construct or reconstruct thereon any systems or operations of the City and the City shall not be required to maintain or replace any of such Facilities as may be damaged by any such work or by any street or other public utility maintenance, cleaning, plowing, repair, construction or reconstruction operation;

(4) That the licensee shall indemnify and hold harmless the City of Highland Park, its officials, officers, independent contractors, agents, employees, successors and assigns from and against any loss, damage, cause of action, fine or judgment, including all costs connected therewith (such as reasonable attorneys' and witness fees, filing fees and any other expenses incident thereto) which may arise out of or in connection with this license;

(5) That this license may be terminated by the City at any time without notice of such termination. Upon such termination, at the sole option of the City of Highland Park but at the sole cost and expense of the licensee, within thirty (30) days of his receipt of written notice from the City to do so the licensee shall remove the Facilities and cease the use granted hereby; and upon the failure of the licensee to remove same, the City of Highland Park may undertake or cause the removal of said Facilities and charge the cost of such removal to the licensee. (Ord. 63-70, J. 8, p. 167, passed 8/24/70; Ord. 30-93, J. 20, p. 098-099, passed 6/14/93)

Sec. 93.310 Obstruction or debris in street; nuisance; removal.

(A) No person, firm, or corporation shall occupy the surface, subsurface, or area above any street, alley, sidewalk, or public ground in the City without first complying with the provisions of Section 93.305 of this Chapter. Occupancy by such person, firm, or corporation without such compliance shall constitute a nuisance, which the Building Official is authorized hereby to abate. Within fifteen (15) days of the service of notice by the Building Official by certified mail upon the person, firm, or corporation maintaining said occupancy, said nuisance shall be removed and abated. Failure to so remove and abate said nuisance within said time shall constitute a further violation of this Section and the Building Official shall cause such occupancy to be removed and abated at the expense of

such person, firm, or corporation. (Ord. 2-87, J. 17, p. 004, passed 1/12/87)

(B) In order to assure the cleanliness of public roadways during all seasons and to insure safe and sanitary conditions, it shall be the duty of any permittee undertaking work pursuant to his permit to cause the removal of any and all dirt and debris which accumulates upon any roadway as a result of the work undertaken pursuant to such permit. In addition, when deemed necessary by the Building Official any given permittee shall install a tire-cleaning facility upon the property whereon any work is being done, whether such property contains existing residential, industrial, or commercial structures, or is undergoing entirely new construction. (Ord. 2-87, J. 17, p. 004, passed 1/12/87)

Sec. 93.311 Encroachments on public right-of-way.

(A) The City of Highland Park and the State of Illinois, acting by and through its Department of Transportation, Division of Highways, have entered into certain agreements relative to the improvement of certain sections of the public right-of-way. In order to facilitate these improvements, it is necessary for the City to regulate encroachments on the right-of-way for said improvements.

(B) For the purposes of this Section, wherever in this Section the following words and phrases are used, they shall have the meanings respectively ascribed to them in this Subsection, except when the context of the said words and phrases otherwise indicates:

(1) Encroachment. Any building, fence, sign, or any other structure or object of any kind (with the exception of utilities and public road signs), which is placed, located, or maintained in, on, under, or over any portion of the project right-of-way or the roadway right-of-way where no project right-of-way line has been established.

(2) Permissible Encroachment. Any existing awning, marquee, advertising sign or similar overhanging structure supported from a building immediately adjacent to the limits of the platted street where there is a sidewalk extending to the building line and which does not impair the free and safe flow of traffic on the highway; the permissive retention of overhanging signs is not to be construed as being applicable to those signs supported from poles constructed outside the project right-of-way and not confined by adjacent buildings.

(3) Project Right-of-Way. Those areas within the project right-of-way lines established jointly by the City, State and the Federal Highway Administration, which will be free of encroachment except as hereinafter defined.

(4) Roadway Right-of-Way. Those areas existing or acquired by dedication or by fee simple for highway purposes; also, the areas acquired by temporary easement during the time the easement is in effect.

(C) It shall be unlawful for any person, firm or corporation to erect or cause to be erected, to retain or cause to be retained, any encroachment except as provided in Subsection (E), within the limits of the project right-of-way or roadway right-of-way where no project right-of-way lines have been established.

(D) This Section applies to the following portions of the public right-of-way:

(1) The intersection of Deerfield Road and Central Avenue - MFT Section 66-TL-CS.

(2) Those portions of Illinois Route 22 and U. S. Route 41 and Highmoor Road included in Job No. C-91-008-78 including the reconstruction of the Chicago & Northwestern Railway structure over Illinois Route 22 and the intersection improvement of Illinois Route 22 and U. S. Route 41.

(3) Those portions of West Park Avenue included in State Job No. P-91-522-78, Federal Project M-5003 (363).

(4) Those portions of Half Day Road from Western Avenue to U.S. Route 41 known as State Sections Y-WRS-5 and Y-B-R-1(83). (Ord. 38C-85, J. 16, p. 262, passed 10/22/85)

(5) Those portions of Clavey Road included in State Job No. P-91-234-75. (Ord. 60-87, J. 17, p. 438, passed 9/28/87)

(6) Those portions of U.S. Route 41 included in State Job No. C-91-352-87. (Ord. 3-89, J. 18, p. 004, 1/9/89)

(7) That portion of Half Day Road from Highmoor Road to the western corporate limits of the City of Highland Park. (Ord. 8-92, J. 19, p. 059, passed 4/27/92)

(8) Those portions of U.S. Route 41 at Park Avenue West and of U.S. Route 41 at Half Day Road included in State Job No. C-91-013-96, FAP Route 346, State Section: 104N-5, City Section: 94-00098-CH. (Ord. 36-96, J. 23, p. 160-161, passed 6/10/96)

(E) This Section is intended to and shall be in addition to all other ordinances, rules and regulations concerning encroachments and shall not be construed as repealing or rescinding any other ordinance or part of any ordinance unless in direct conflict therewith.

(F) Any person, firm or corporation violating this Section shall be fined not less than \$100 nor more than \$500 for each offense, and a separate offense shall be deemed committed for each and every day during which a violation continues or exists. (Ord. 6-83, J. 15, p. 0272, passed 2/28/83)

Sec. 93.312 Discharge of sanitary and/or industrial waste water.

(A) It shall be unlawful for any person, firm or corporation to discharge any sanitary waste or industrial waste water into any storm sewer or drainage facility constructed as part of the improvements to the following public right(s)-of-way:

(1) U.S. Route 41 improvement, the limits of said improvement being between Clavey Road and Seven Pines Circle within the corporate limits of the City of Highland Park.

(2) U. S. Route 41-Clavey Road grade separation project, the limits of said

project being from a point 1400 feet south of Clavey Road to a point 4700 feet north of Clavey Road on U.S. Route 41. (Ord. 2-89, J. 18, p. 002-003, passed 1/9/89)

(3) That portion of Half Day Road from Highmoor Road to the western corporate limits of the City of Highland Park. (Ord. 8-92, J. 19, p. 059, passed 4/27/92)

(4) Those portions of U.S. Route 41 at Park Avenue West and of U.S. Route 41 at Half Day Road included in State Job No. C-91-013-96, FAP Route 346, State Section: 104N-5, City Section: 94-00098-CH. (Ord. 36-96, J. 23, p. 160-161, passed 6/10/96)

(B) This Section is intended to and shall be in addition to all other ordinances, rules and regulations concerning the discharge of sanitary and/or industrial waste water and shall not be construed as repealing or rescinding any other ordinance or part of any ordinance unless in direct conflict therewith.

(C) Any person, firm or corporation violating this Section shall be fined not less than \$100 nor more than \$500 for each offense, and a separate offense shall be deemed committed for each and every day during which a violation continues or exists. (Ord. 59-87, J. 17, p. 436-437, passed 9/28/87; Ord. 2-89, J. 18, p. 002-003, passed 1/9/89)

Sec. 93.315 Excavation in streets.

Every person in said City who shall dig, make or cause to be dug or make any hole, pit, ditch, vault or other excavation in or upon any street, lane, avenue, alley, sidewalk or other public place, or who shall dig, make or cause to be dug or make any excavation upon any lot adjoining or bounded by any street, lane, avenue, alley, public place or sidewalk, and who shall not during the night cause the same to be fenced in with a substantial fence at least three feet high, the boards or rails of which shall not be more than one foot apart, and who shall fail to place sufficient red lights in conspicuous places in front of said fence, shall forfeit and pay not less than \$10 nor more than \$500 for each offense. (Ord. 5-79, J. 14, p. 0007, passed 1/8/79)

Sec. 93.320 Excavation of street; replacement.

Whenever any part of any street, alley, or other property owned by the City, other than sidewalks for which a permit has been issued pursuant to Section 93.115 of this Chapter, shall be torn up, dug up or taken up for any purpose, or any openings or excavations made in any street, alley, or public place, all paving, planking, crosswalks, graveling, or macadamizing if any, taken up, or dug up, shall be relaid in a skillful and permanent manner within 30 days after the initial removal work is completed, as determined by the City Manager, and in as good condition as it, or they, were before, and in every case to the satisfaction and approval of the City Manager and under his direction, and wherever in any of the work in this Section provided for, it shall become necessary to make any excavation or do any digging or taking up of any earth, all earth taken dug up or excavated shall be completely removed from the place where excavated, and the excavated space from which such earth has been removed shall be completely back-filled with CA6 grade stone or per IDOT specifications, which shall be compacted to a 95% modified proctor, to a firm or solid bearing and in such a manner as to entirely prevent any settling, or the settling of any pavement, graveling, macadamizing, sidewalk, or crosswalk resting thereon, and where any macadam pavement is taken up, the stone for the said macadam shall be

relaid to the same depth, and of the same kind and quality as the macadam of the pavement where said excavation is made, and all of said stone shall be thoroughly mixed with cement, equal in quality to the best Portland cement, in the proportion of one part of cement to five parts of stone, mixed with water so as to form a concrete, which mixture shall be thoroughly tamped down with paving hammers to a smooth and even surface to correspond with the rest of the street. (1919 Code, Sec. 1416, Ord. 39-03, J. 29, p. 141-144, passed 7/14/03; Ord. 83-07, J. 33, p. 706-711, passed 11/26/07)

Sec. 93.325 Application for excavation permit.

(A) Before any person or persons, firm or corporation, either as principal or agent, shall make any excavations or openings in any of the streets, alleys or public places of the City or do anything provided for in Section 93.320, such person shall apply in writing to the City Manager for a permit, in which application he shall state the place of said proposed opening and the purpose of same, which permit shall be good for a period of 30 days from the date of its issue and shall provide the time in which said work shall be completed.

(B) When said excavation or opening is made for the purpose of connecting any building with a public sewer, water main or gas main, or for any other purpose, there shall be deposited with the City Collector a sum of money sufficient to pay the cost for properly restoring all excavations or openings made to the same condition existing prior to the excavation or opening being made, which amount shall be determined by the City Manager, and in no case shall the amount be less than \$100, which sum of money, or deposit, said City shall have the right to apply towards the cost and expense of properly relaying pavement or restoring excavations and furnishing material therefor, in accordance with the ordinances of the City of Highland Park now or hereafter in force. The overplus, if any, shall be returned to the person depositing same. (Ord. 25-78, J. 13, p. 2063, passed 7/24/78)

(C) The said work shall be done by the foreman of streets and public improvements under the direction and to the satisfaction of the Commissioner of Streets and Public Improvements. (1919 Code, Sec. 1418)

(D) When any service pipe installed for the purpose of connecting any building to a storm or sanitary sewer, water main (except that when the water meter to which said water service is attached is located in the public right-of-way, the responsibility of the owner of such building is extended to only that part of the service line between such building and such water meter), gas main or other supply facility, is installed in the public right-of-way, the owner of the building so served shall be responsible to the City of Highland Park for the proper installation, connection and maintenance of said pipe and shall defend, indemnify and save the City harmless of and from all and any loss, cost, damage or expense arising out of the connection of said pipe, its presence in the public right-of-way, its breakage, leakage, deterioration, maintenance or repair.

(E) The water supply to any premises may be turned off for any failure to keep said service pipe or the sanitary sewer service line, or the connection of said water service pipe to the water meter, or of said sanitary sewer service line to the public sanitary sewer main in a proper state of repair. (Ord. 55-76, J. 12, p. 1710, passed 9/13/76)

(F Reserved. (Ord. 25-78, J. 13, p. 2064, passed 7/24/78, Ord. 35-03, J. 29, p. 134, passed 5/27/03)

Sec. 93.330 Permit to lay pipes in street.

No City Officer shall grant permission to any person, company or corporation to lay pipes for any purpose whatever, in the streets or alleys or public grounds of the City, except for private connections with mains already laid, unless the application for such permission shall have been approved or recommended by the Council. (1919 Code, Sec. 1420) Penalty, see Sec. 93.999

Sec. 93.335 Barricade around excavation; lights.

(A) It shall be the duty of every person or persons engaged in digging into any street, alley or other public highway, in paving any street or alley, building any sewer or drain, or trench for water pipes, in any of the public streets, avenues, or other public places, under contract with the City, or by virtue of any permission which may have been granted to them or their principals by the Council, where such work, if left exposed, would be dangerous to passengers, to erect a fence or railing at such excavations or work, in such manner as to prevent danger to passengers who may be traveling such streets, roads or avenues, and to continue and uphold the said railing or fence until the work shall be completed or the obstruction or danger removed. And it also shall be the duty of such persons to place upon such railing or fence at twilight in the evening suitable and sufficient lights as danger signals, and keep them burning through the night during the performance of said work. **All such lights providing area or pathway lighting shall have a B1 U0 G1 BUG rating.**

(B) The provisions of this Section shall apply to any person who shall place building materials in any of the public streets or avenues, or being engaged in building any vault, or constructing any lateral drain from any cellar to any public sewer, or who shall do or perform any work causing obstructions in the public streets, by virtue of any permit from any officer of said City, and also to all public officers engaged in performing any work in behalf of the City whereby obstructions or excavations shall be made in the public streets.

(C) The extent to which such railing or fence shall be built in the several cases is hereby defined as follows, to wit:

(1) In digging into any street or road, by placing the same along the upper bank of such excavation, or by extending the fence so far across the street or road as to prevent persons from traveling on such portion as would be dangerous.

(2) In paving any street or avenue, by extending it across the carriage way of such street or avenue, or if but a portion of the width of such carriage way be obstructed, across such portion; in which case the obstruction shall be so arranged as to leave a passageway through as nearly as may be of uniform width.

(3) In the building of a sewer, by placing it across the carriage way at the ends of such excavations as shall be made.

(4) In building vaults, by enclosing the ground taken from the vaults.

(5) In placing building materials in the streets, by placing it across so much of the street as shall be occupied by such materials; and the materials shall be so placed as to occupy a space of uniform width, except brick or stone piled at least seven feet high. In all cases sufficient lights are to be placed upon such building materials, fences or railings, and kept burning during the night. (1919 Code, Secs. 1421, 1422 and 1423) Penalty, see Sec. 93.999

Sec. 93.337 Deposit of snow limited.

No person, firm or corporation removing snow or ice from any portion of any building, private property, driveway, driveway approach or public sidewalk shall sweep, shovel, scrape, drag or in any other manner move such snow or ice being so removed in such a manner as to leave or deposit such snow or ice upon (a) any parcel of private or public property other than that parcel from which the snow or ice was removed, without the consent of the owner of the property onto which the snow or ice is to be left or deposited, or (b) any street or other way used or intended for use for vehicular travel, including, without limitation, the public parkway; provided, however, that this Section shall not prohibit the leaving or depositing of snow or ice onto that portion of the public parkway that is immediately adjacent to, and on the same side of the street as, the property from which such snow or ice was removed. The owner of private property authorizing removal shall also be deemed responsible for any violation of the foregoing requirements by any person, firm or corporation so employed by such owner. (Ord. 18-70, J. 7, p. 601, passed 3/23/70, Ord. 11-06, J. 32, p. 14-15, passed 2/13/06)

Sec. 93.338 Deposit of debris.

No person, firm or corporation shall sweep, shovel, scrape, drag, move, or otherwise deposit or leave debris upon the public right-of-way or upon any lot. The owner of the property from which debris has been removed and then deposited on the public right-of-way or another lot in violation of this Section, or of the property served by the driveway or driveway approach from which the debris is removed, shall be held liable to the same extent as the party that deposited the debris. For purposes of this Section, "debris" shall include, without limitation, loose aggregate, leaves and garbage. (Ord. 17-07, J. 33, p. 048-068, passed 1/22/07)

Sec. 93.340 Liability for injuries.

In all cases where any private contractor or private party performs any of the work described in Sections 93.300 through 93.346, either under a contract with the City or with prior authorization or permission from the City, such private contractor or private party shall be liable and responsible for any damage that may be occasioned to persons, animals, or property, by reason of carelessness in any manner connected with such work. (1919 Code, Sec. 1424; Ord. 58-01, J. 27, p. 287-289, passed 10/8/01)

Sec. 93.346 Service and Maintenance of Private Roads

The service and maintenance (including, without limitation, snow removal) of any and all private roads and easements in the City shall be the responsibility of the owners thereof. Neither the City, nor any officer, agent, or employee thereof, shall at any time, service or maintain any private road or easement, or any part thereof, except in accordance with the following provisions and procedures:

- (A) Any request for the City to maintain (including, without limitation, routine

pavement repair and snow plowing), a private road must be made by a written petition signed by 100% of the owners of record of the private road, and submitted to the City Clerk for review and consideration by the City Council.

(B) Within ninety (90) days after the filing of such petition, the City Council shall determine whether the City shall undertake the maintenance requested in such petition.

(C) In the event the City Council makes a determination that the City should perform the requested maintenance services, it shall do so by adoption of a resolution authorizing the execution of a maintenance contract. The contract shall be signed by one or more of the owners of record of the private road, and shall, at a minimum, include the following provisions:

(1) An estimate of the annual maintenance costs anticipated by the City in order to accomplish the requested maintenance;

(2) A provision that the owners shall appoint a single representative as the primary contact to the City for the implementation of the contract;

(3) A provision that the maintenance costs shall be paid within 30 days of the owners' representative's receipt of the City's invoice for the maintenance work;

(4) A provision that the City shall perform maintenance only upon the written request of the owners' representative or in accordance with the terms of the contract between the City and the owners;

(5) A provision that the owners will protect, indemnify, save harmless, and defend the City, its officers, agents, and employees from any and all liability arising in any manner out of any work done pursuant to the contract; and

(6) A termination date for, or procedures for terminating, such contract. (Ord. 58-01, J. 27, p. 287-289, passed 10/8/01)

Sec. 93.347 Requests for Vacation of Public Rights-of-Way.

Any person who shall file a written request with the City for the vacation of any City-owned right-of-way shall pay, in addition to any other compensation that may be paid in consideration of the vacation, an administrative fee in the amount set forth in the Annual Fee Resolution. The acceptance by the City of a request or fee payment pursuant to this Section 93.347 shall not be deemed or interpreted as an obligation of the City of vacate, in whole or in part, any right-of-way. (Ord. 77-09, J. 35, p. 304-308, passed 12/14/09)

SYSTEM OF STREET NUMBERING

Sec. 93.350 Uniform system of street numbering established.

For the purposes of establishing a simplified and uniform system of street numbering within the City of Highland Park, facilitating the location of residences and obviating the confusion now obtaining in the City of Highland Park occasioned by lack of uniformity of numbering in the various streets of the City, a new and permanent system of street numbering is hereby ordained and established. (1919 Code, Sec. 1436, Ord. 540,

passed 7/10/50)

Sec. 93.355 Base lines located.

(A) There is hereby established and delineated a South Base Line for the purposes of street numbering which shall be coincident with the central line of County Line Road, being the southerly limits of the City of Highland Park, which said line shall extend from the westerly City limits, as now or hereafter established, to the easterly City limits, as now or hereafter established, the same being approximately the shores of Lake Michigan.

(B) There shall be and is hereby further established an Easterly Base from which shall be a straight line, the southerly limits of which shall be from a point in the center line of County Line Road projected, or the South Base Line hereinbefore established. This said point in the South Base Line shall be 3,200 feet east of the West Line of Section 31, Township 43 North, Range 13, East of the Third Principal Meridian. This Easterly Base Line shall extend northwesterly in a straight line to a point in the South Line of the Fort Sheridan Reservation projected 3,000 feet east of the West Line of Section 14, Township 43 North, Range 12, East of the Third Principal Meridian. Such Easterly Base Line shall further extend north on the same course.

(C) Lines shall thereupon be extended parallel to said South Base Line from east to west at intervals of 660 feet, and lines parallel to said Easterly Base Line shall be drawn from the south limits of the City to the north limits of the City at intervals of 660 feet, measured at right angles in each case to the base line. (Ord. 540, passed 7/10/50)

Sec. 93.360 System of numbering.

(A) It shall be the duty of each owner or occupant of each improved parcel of land within the City of Highland Park, or of any parcel of land hereafter sought to be improved with either residential or commercial construction, or combination thereof, to deliver to the Department of Community Development of the City of Highland Park a legal or surveyor's description of such parcel of real estate, and the department shall thereupon assign to each such parcel a street number in accordance with the following formula:

(1) Said department shall assign street numbers beginning upon streets extending in a northerly and southerly direction, beginning at the South Base Line with number 1 and proceeding in sequence to the north City limits, and upon streets extending in an east and west direction beginning at the East Base Line hereinabove fixed and proceeding in sequence in a westerly direction, assigning 100 numbers to each 660 feet interval established by the parallel lines and at the rate of one number approximately every 13.2 feet, right angle measurement.

(2) Upon streets extending northerly and southerly said department shall assign odd numbers upon the east side of the street, and upon streets extending in an east and west direction shall assign odd numbers to the north side of such streets. Said department shall further adjust such numbering at the parallel lines so that the numbering will be consistent with the formula hereinabove provided and so as to effect the designation and assignment of 100 numbers to each 660 foot interval. Wherever by reason of curvature of a street or where the direction of a street is not parallel or approximately parallel to base lines as herein established, the numbers shall be so distributed that they are consistent with the intent of this ordinance and shall check out at the grid boundaries.

(3) The said department, in order to avoid confusion which would result from literal adherence to the formula herein set forth, upon order of the City Council, may vary from such formula in assigning numbers falling within any one grid, but may not change the number assigned to any grid on the master plan now on file in the office of the department and made a part of this Chapter.

(4) In determining whether a street shall be numbered from the South Base Line or East Base Line, said department shall determine whether the course of the street is mainly northerly and southerly in direction or easterly and westerly as to a majority of its length.

(B) Upon assigning any such number to any premises, the same shall be endorsed upon the City records in the Street Number Plat Book which the said department of the City shall keep and maintain at all times. No number other than that so issued and appearing on the plat book shall be at any time issued or used, except where correction thereof shall be made by the department by reason of error in the original assignment. (Ord. 53-78, J. 13, p. 2112, passed 10/23/78)

Sec. 93.365 Display of street numbers.

Each owner or occupant of improved real estate shall provide, place and display such street number so assigned, in a manner that the same may be easily and distinctly read year-round from the roadway in the daylight and easily and distinctly read year-round during darkness with the use of outside lighting provided by the persons on the roadway doing the reading. (Ord. 53-78, J. 13, p. 2113, passed 10/23/78)

Sec. 93.370 Special provisions for South Deere Park Drive.

(A) It shall be the duty of each owner or occupant of each improved parcel of land within the City of Highland Park abutting upon South Deere Park Drive, or any parcel or combination of parcels of land hereafter sought to be improved, and lying and abutting upon said street, to deliver to the Department of Community Development of the City of Highland Park a legal or surveyor's description of such parcel or combination of parcels of real estate, and the said department shall thereupon assign to each parcel a street number in accordance with the following formula:

(1) Beginning upon said street at its entrance to the public street known as Sheridan Road in the City of Highland Park and the beginning upon the southerly or outer line of said street and following the outer line of said street throughout its course, progressing first in an easterly direction, said department shall assign odd numbers to parcels of land abutting upon said outer line, beginning with the number 1, and shall assign even numbers to the parcels of land abutting upon the inner or opposite line of said street, in a number not to exceed 200.

(2) In assigning such numbers, said department shall prorate the numbers available and limited as above in accordance with the linear measurements of the frontage.

(3) In assigning numbers to the frontage abutting upon said street, the numbers shall be assigned in sequence upon alternate sides of said street throughout the

course of said street.

(B) Display of street numbers. Beginning upon the date of the assignment of numbers to the parcels of land in accordance with the foregoing, each owner or occupant of improved real estate abutting upon South Deere Park Drive shall provide, place and maintain such street number so assigned in a manner that the same may be easily and distinctly read, at or near the front entrance of the improvement, not more than 40 feet from the property line, or, if such front entrance shall be distant from the front line a distance greater than 40 feet, then upon a street, post or standard in a position near and adjacent to the walk, drive or approach to the building. Where an owner or occupant shall elect to install or maintain a reflecting style of street number on the City parkway, the same shall be permitted, except that such installation shall be in addition to the above provisions.

(C) The provisions hereof shall not be deemed to repeal or supersede the provisions of Sections 93.350 to 93.366. (Ord. 53-78, J. 13, p. 2113, passed 10/23/78)

Sec. 93.375 Restoration following excavation.

Any excavation made within the parkway shall be restored to a condition that is substantially equivalent to or better than the condition of the excavated area that existed immediately prior to the excavation. It shall be the responsibility of the applicant who received a permit to perform the parkway excavation to ensure that the parkway is properly restored as required by this Code. The restoration shall take into account, without limitation, the pre-excavation soil grade, the type and quality of turf or sod, and any additional landscape elements existing in the parkway prior to its excavation. All restoration must be completed within ten days after installation of or modification to all utility lines for which the parkway excavation was made. In no event shall the parkway excavation exist for a period of more than 20 days without being backfilled and properly restored as required by this Section. Upon written request from the applicant to the Director of Public Works, the time period specified for parkway restoration may be extended for good cause shown, as determined by the Director of Public Works at his or her discretion. (Ord. 70-04, J. 30, p. 285-287, passed 12/13/04)

Sec. 93.380 Responsibility for restoration following excavation.

In the event that a parkway excavation is not restored within the time period required by Section 93.375 of this Code, the City has the right, but not the obligation, to complete the necessary restoration work. If the City undertakes the work or causes the work to be undertaken, the City shall bill the applicant who received a permit to perform the parkway excavation for any and all costs that the City incurs related to the restoration work. If the applicant does not make payment to the City within a standard billing cycle, the City shall be authorized to file a lien to collect payment in accordance with the provisions of applicable law. (Ord. 70-04, J. 30, p. 285-287, passed 12/13/04)

Sec. 93.385 Maintenance following restoration.

For a period of one year from the date that the area of excavation is backfilled and restored, the applicant who received a permit to perform the parkway excavation shall be responsible for maintaining the restored area of excavation by rectifying any portions of the area that settle, erode, or otherwise deteriorate due to disturbance from the excavation, backfilling or restoration. During this one-year maintenance period, the applicant shall,

upon notification by the Director of Public Works, correct all restorative work to the extent necessary as determined by the Director of Public Works. If requested by the Director of Public Works during the one-year maintenance period, the applicant shall, at its sole cost and expense and without limitation, remove any existing soil and turf as necessary, place and properly compact new or additional backfill material in and around the restored area, regard the restored area, and restore and maintain all turf within and around the restored area by reseeding and/or resodding the restored area to the satisfaction of the Director of Public Works. (Ord. 70-04, J. 30, p. 285-287, passed 12/13/04)

PENALTY

Sec. 93.999 Penalty.

(A) Whoever violates any provision of Sections 93.001 to 93.090 shall be subject to a penalty of not less than \$25 nor more than \$200 for each offense. A separate offense shall be deemed committed on each day during, or on which a violation occurs or continues. (Ord. 834, J. 4, p. 834, passed 9/6/55)

(B) Whoever shall violate any of the provisions of Sections 93.100 to 93.140 shall be fined not more than \$200 for each offense. (Ord. 223, J. 4, p. 223, passed 10/9/44)

(C) Whoever shall violate any of the provisions of Sections 93.200 to 93.265 shall be fined not less than \$10 and not more than \$200 for each day that such violation continues shall be deemed a separate offense. (Ord. 60-371, J. 5, p. 289, passed 6/13/60)

(D) Whoever shall violate any of the provisions of Section 93.320 shall be fined not less than \$100 nor more than \$500 for each offense. For purposes of this Subsection, each day that a violation is permitted to exist shall constitute a separate offense. (Ord. 39-03, J. 29, p. 141-144, passed 7/14/03)

(E) Any person, firm or corporation, being owner or occupant of any building now erected or that may be hereafter erected in the City of Highland Park, who shall neglect, refuse or fail to apply for and receive and thereafter to number any building owned or occupied by him, in conformity with Sections 93.350 through 93.370, and in the event of presently constructed buildings, within 10 days after the effective date of this ordinance,* shall be subject to a penalty of not less than \$10 nor more than \$200. Each day on which such violation continues shall be deemed a separate and distinct offense. (* amended 10/23/78)

(F) Whoever violates, neglects or refuses to comply with any of the provisions of this Chapter for which another penalty is not specifically provided shall be fined not less than \$10, nor more than \$200, for each such offense, and every such person, firm or corporation shall be deemed guilty of a separate offense for every day on which such violation, neglect and refusal shall continue. (Ord. 531, J. 4, p. 531, passed 5/8/50; Ord. 53-78, J. 13, p. 2114, passed 10/23/78)

Project Title: Highland Park Code Review Project No.: 2014016 Memo No.: 4
To: Grace Troccolo Rink
From: Deborah Steimel-Clair, PE, LC
Subject: Chapter 93 Redline Executive Summary
Date: 5-14-15

The following revisions are proposed to the City of Highland Park’s Ordinance #93: Chapter 93 Streets and Sidewalks. These revisions are based on direction from the departments of Public Works and Community Development, and the Natural Resources Commission.

To update terminology and qualifications:

- Revised street terminology from “Major” to “Arterial”, and from “Minor” to “Local” throughout the document
- Revised map terminology from “major street plan and map” to “Functional Street Classification Map”
- Revised qualifications for street lighting designers to also include NCQLP certified LC’s (certified lighting designer)

To update the ordinance with current technologies and standards:

- Revised Area Classification to align with current standard values
- Revised luminaire options to allow LED* and other HID* sources.
- Added luminaire classifications based on new industry standard of BUG* ratings.
- Added LED* fixture qualifications for lumen output, CRI*, and CCT*
- Added controls option for “Curfew Controls”

To update the ordinance to promote “dark sky” strategies and technology:

- Revised construction safety lighting to have BUG* rating restrictions, and allow no uplight components.
- Added luminaire classifications based on new industry standard of BUG* ratings, including minimizing the amount of uplight allowed (minimal or none based on street type)

* Refer to definitions below

BUG rating: New exterior fixture rating that replaces “semi-cutoff” and “full-cutoff” terms. Rates the fixture in 3 categories for “Backlight” (B), “Uplight” (U), and “Glare” (G).

CCT: Correlated Color Temperature – describes the ‘color’ of white light of a fixture, from “warm” to “cool” across a temperature spectrum, generally from 2700K (very warm, or incandescent) to 6500K (very cool, or almost blue).

CRI: Color Rendering Index – a 0-100% value that describes how well a light source renders individual colors “true” to color

LED: Light Emitting Diode – a printed circuit-board based light source

HID: High Intensity Discharge lamp – a lamp type category that includes metal halide, low and high pressure sodium, and mercury vapor lamps

Project Title: Highland Park Code Review Project No.: 2014016 Memo No.: 5
To: Grace Troccoli Rink
From: Deborah Steimel-Clair, PE, LC
Subject: Article VI Redline Executive Summary
Date: 5-14-15

The following revisions are proposed to the City of Highland Park’s Article VI: Performance Standards (section 150). These revisions are based on direction from the departments of Public Works and Community Development, and the Natural Resources Commission.

To update the ordinance with current technologies and standards:

- Added luminaire classifications based on new industry standard of BUG* ratings.
- Added LED* fixture qualifications for CRI* and CCT*
- Added Lighting Zone (LZ) categories to the Zoning Ordinance District Map, and including it within this section
- Linked area types with the appropriate LZ category
- Added references to governing energy code for allowed Watts/SF

To update the ordinance to promote “dark sky” strategies and technology:

- Revised tables to include Vertical light trespass limitations
- Revised luminaire classifications to be based on new industry standard of BUG* ratings, including minimizing the amount of uplight allowed (minimal or none based on site type)
- Added curfews for sports lighting
- Added additional allowance for zone B3 and I areas to allow light spillage onto major arterial streets or highways (to ease permitting issues with motor vehicle dealer lots)

* Refer to definitions below

BUG rating: New exterior fixture rating that replaces “semi-cutoff” and “full-cutoff” terms. Rates the fixture in 3 categories for “Backlight” (B), “Uplight” (U), and “Glare” (G).

CCT: Correlated Color Temperature – describes the ‘color’ of white light of a fixture, from “warm” to “cool” across a temperature spectrum, generally from 2700K (very warm, or incandescent) to 6500K (very cool, or almost blue).

CRI: Color Rendering Index – a 0-100% value that describes how well a light source renders individual colors “true” to color

LED: Light Emitting Diode – a printed circuit-board based light source