

# VILLAGE OF ELM GROVE

13600 Juneau Boulevard  
Elm Grove, WI 53122

PLAN COMMISSION MEETING  
Monday, March 7, 2016 \* 7:00 PM \* Court Room

## AGENDA

### 1. Roll Call

Documents: [memo 030716.pdf](#)

### 2. Review and act on regular meeting minutes dated February 1, 2016 and special meeting minutes dated February 9, 2016

Documents: [pc020116dm.pdf](#), [pc020916dm \(special\).pdf](#)

### 3. Review and act on a request for a plan of operation for Van Westen Orthodontics, LLC pursuant to §335-85, for a dental clinic located in the B-1 Local Business District at 12850-12960 Bluemound Road

Documents: [12850 bluemound rd van westen orthodontics.pdf](#)

### 4. Review and provide recommendation regarding the certified survey map pursuant to §305-8 regarding the combination of parcels at 705 Elm Grove Road

Documents: [705 elm grove road goranson csm 02.09.16.pdf](#), [griffiths-20160126-goranson certified survey map review.pdf](#)

### 5. Review and act on a request for a demolition permit for a single family residential home located at 1850 Fairfax Drive pursuant to §106-11 to §106-19.

Documents: [1850 fairfax demo existing home plans.pdf](#), [1850 fairfax- demo forms.pdf](#), [1850 fairfax demo site plan and new home.pdf](#)

### 6. Review and act on a request for a temporary plan of operation for Alsum Sweet Corn, pursuant to §335-85, for a temporary vegetable stand, located at 12600 Bluemound Road.

Documents: [alsum sweet corn 12600 bluemound road.pdf](#)

### 7. Conceptual review and discussion of a proposed rezoning and development project by Wangard Partners Incorporated & R & R Investments of Wisconsin, LLC to provide a multiple family development at 13400 Watertown Plank Road.

Documents: [elevations and floor plans.pdf](#), [exterior color renderings.pdf](#), [griffiths-20160224-reinders property re-development concept plan review.pdf](#), [reinders project-selzer comments.pdf](#), [site grading and landscape plans.pdf](#), [traffic study executive summary.pdf](#), [wangard request letter and density calcs.pdf](#), [memo 030716- reinders.pdf](#)

**8. Other Business**

**9. Adjournment.**

Any person who has a qualifying disability as defined by the Americans with Disabilities Act who requires that the meeting or materials for the meeting has to be in an accessible location or format must contact the Village Clerk, Mary S. Stredni, at 262-782-6700 or 13600 Juneau Boulevard by 3:00 PM Friday prior to the meeting so that any necessary arrangements can be made to accommodate your request.

**NOTICE:** It is possible that members of, and possibly a quorum of, other governmental bodies of the Village may be in attendance at the above stated meeting to gather information. No action will be taken by any governmental body at the above stated meeting other than the governmental body specifically referred to in the above notice.



# Memo

To: Plan Commission  
From: Casey Griffiths, Zoning and Planning Administrator/Assistant to the Village Manager  
Date: February 26, 2016  
Re: Review of March 7, 2016 Agenda

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**Item 3. Review and act on a request for a plan of operation for Van Westen Orthodontics, LLC pursuant to §335-85 for a dental clinic located in the B-1 Local Business District at 12850-12960 Bluemound Road.**

The applicant is requesting approval of a plan of operation for a dental clinic in the Autumn Grove Plaza. The proposed business would be located in the east building. The hours of operation comply with Village Ordinance. Total number of employees is 3, with the daily average of customers being 30. Expected occupancy date is April 1, 2016. Please see the enclosed application.

**Item 4. Review and provide recommendation regarding the certified survey map pursuant to §305-8 regarding the combination of parcels at 705 Elm Grove Road.**

The applicant is requesting review of a certified survey map. In 2015 the applicant had applied to the Plan Commission for a demolition permit for the existing home. In reviewing the demolition permit and new home plans, the proposed site plan indicated that the existing lot contained two parcels with separate legal descriptions. This issue brought forth the question as to what the setbacks for the proposed new home would be. Ruckert & Mielke researched the matter and discovered that there was no state statute that regulates this type of issue and that it would be up to the local municipality to determine setbacks for a property. In the opinion of Bruce Cross, Senior Land Surveyor for Ruckert & Mielke, and the Department of Administration that even through the two properties were attached, the lot lines remain in effect. Based upon this determination, the Village requested that the owner submit a certified survey map in order to combine the lots under one parcel and allow for the home to comply with applicable setbacks. Please see the enclosed certified survey map.

**Item 5. Review and act on a request for a demolition permit for a single family residential home located at 1850 Fairfax Drive pursuant to §106-11 to §106-19.**

The applicants are requesting approval of a demolition permit for a single family home located on Fairfax Drive. Notices for property owners located 300 feet from the proposed demolition site have been sent out. The demolition is to facilitate the construction of a new single family home. Please see the enclosed plans.

**Item 6. Review and act on a request for a temporary plan of operation for Aslum Sweet Corn, pursuant to §335-85 for a temporary vegetable stand located at 12600 Bluemound Road.**

The applicant's Scott and Ben Alsum are requesting approval of a temporary plan of operation for a vegetable stand. The proposed stand would be located on Village property at 12600 Bluemound Road (South Park Facility). The owner had operated a vegetable stand for twelve years located at 13785 North Avenue in the City of Brookfield. That property is currently under development as an office building and the Alsum's have approached the Village about utilizing the South Park property. The stand would be located on the south end of the parking lot and would utilize approximately three parking stalls for a 20 x 20 tent. Hours of operation are proposed to be Monday through Friday from 10:00 a.m. to 5:30 p.m., Saturdays from 9:00 a.m. to 3:30 p.m. and Sundays from 11:00 a.m. to 4:00 p.m. The stand is proposed to be open from July 1<sup>st</sup> to October 31<sup>st</sup>. The applicants are anticipating 80 customers per day. The parking lot would have 34 spaces available for customers.

The property currently is considered a park, and as such a Village ordinance would need to be amended to allow for vending. §204-6 of the Village's code prohibits vending in Village parks or Village land unless a business holds a temporary vending permit for a special event. If the Plan Commission approves the temporary plan of operation the Village Board will need to enter into a lease agreement with the stand operators for use of Village property. The applicants will also need to secure a transient merchant permit and have their signage approved by the Building Board. Please see the enclosed application.

**Item 7. Conceptual review and discussion of a proposed rezoning and development project by Wangard Partners Incorporated & R & R Investments of Wisconsin, LLC to provide a multiple family development at 13420 Watertown Plank Road.**

Please see the memo attached to the submittal items under item seven.

**DISCLAIMER- THE FOLLOWING ARE DRAFT MINUTES FROM  
THE PLAN COMMISSION AND ARE SUBJECT TO CHANGE UPON  
APPROVAL OF THE PLAN COMMISSION**

**PLAN COMMISSION  
MEETING MINUTES  
Monday, February 1, 2016**

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Meeting was called to order at 7:02 p.m. by Mr. Palmer

**1. Roll Call.**

Present: Mr. Cashin, Mr. Higgins (arrived at 7:05 pm), Ms. Hunter, Mr. Kujawa, Mr. Long, Mr. Nelson and Mr. Palmer

Absent: None

Also Present: Mr. Griffiths, Attorney de La Mora, and applicants.

**2. Review and act on Plan Commission regular meeting minutes dated January 3, 2016**

Ms. Hunter motioned and Mr. Nelson seconded to approve the minutes as submitted. Motion carried 6-0.

**3. Review and act on a request for a demolition permit for a single family residential home located at 1825 San Fernando Drive pursuant to §106-11 to §106-19.**

Pat Seegers from Ascent Builders representing the property owners was present.

Mr. Palmer asked if anything had changed from what was submitted. Mr. Seegers stated nothing had changed. Mr. Palmer asked staff if there were any additional items. Mr. Griffiths noted that the required bonds still needed to be submitted, in addition to some revisions to the survey.

Mr. Nelson noted the proximity of the site to Underwood Creek and historical flooding issues. Mr. Griffiths noted that the proposed building is outside the floodplain and also outside wetlands, which were delineated in 2012. Mr. Seegers noted that they have applied for a Chapter 30 permit from the DNR, due to the amount of grading work needing to be done in proximity to Underwood Creek.

Mr. Higgins arrived.

Ms. Hunter motioned and Mr. Cashin seconded to approve the demolition permit as submitted. Motion carried 7-0.

**4. Review and act on a request for a plan of operation for Remedy Within, LLC pursuant to §335-85 and a conditional use permit pursuant to §335-86 for a massage parlor, pursuant to §335-22C(10) located in the B-1 Local Business District at 15285 Watertown Plank Road.**

Tammi Kapitanski, owner of Remedy Within, LLC was present.

Ms. Kapitanski noted that her business was relocating back to Elm Grove after five years. She had previously been located in the Denny Building on Watertown Plank Road. She is currently moving to Elm Grove from 92<sup>nd</sup> Street and Bluemound Road in the City of Milwaukee.

Mr. Palmer asked if staff is recommending approval of the proposed plan of operation and conditional use permit. Mr. Griffiths noted that staff is recommending approval and there are no issues with either the plan of operation or the conditional use permit. Notices went out to neighboring properties without any comments from the property owners.

Mr. Higgins motioned and Mr. Nelson seconded to approve the plan of operation and recommend approval of the conditional use permit to the Board of Trustees. Motion carried 7-0.

**5. Other Business**

Mr. Griffiths stated that an issue had been recently brought to the attention of staff regarding the zoning of the Autumn Grove Plaza property, 12850-12960 Bluemound Road. During the redevelopment of the property in 2003 it was rezoned from B-3 Mid-Rise Office and Professional District to B-1 Local Business District. It was discovered that an error occurred with the zoning map, whereby the property’s zoning on the map did not change. Subsequently, businesses that require conditional use permits have been operating without them. The current owners of the property are selling it and the potential buyer would like to close at the end of February. However, the buyer’s lender has concerns about the unresolved situation and the buyer is unsure if they can secure financing with these issues unresolved. Staff has discussed the matter and would like to have a special Plan Commission meeting to review the conditional use permits to allow for their review at the February Board of Trustee meeting.

Mr. Palmer stated that he was fine with holding a special Plan Commission meeting. The consensus of the Plan Commission was to have a special meeting with Mr. Griffiths scheduling that meeting through email.

**6. Adjournment**

Mr. Higgins motioned and Mr. Long seconded to adjourn the meeting. Motion carried 7-0.

Meeting adjourned at 7:12 p.m.

Respectfully Submitted,

Casey Griffiths  
Zoning & Planning Administrator/  
Assistant to the Village Manager

**DISCLAIMER- THE FOLLOWING ARE DRAFT MINUTES FROM  
THE PLAN COMMISSION AND ARE SUBJECT TO CHANGE UPON  
APPROVAL OF THE PLAN COMMISSION**

**SPECIAL PLAN COMMISSION  
MEETING MINUTES  
Tuesday, February 9, 2016**

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Meeting was called to order at 5:01 p.m. by Mr. Palmer

**1. Roll Call.**

Present: Mr. Cashin, Ms. Hunter, Mr. Kujawa, Mr. Long, Mr. Nelson and Mr. Palmer

Absent: Mr. Higgins

Also Present: Mr. De Angelis, Mr. Griffiths, Attorney Koehnke, and applicants.

**2. Review and act on a request by TCF Bank for a conditional use permit pursuant to §335-86 for a drive – in bank, pursuant to §335-22C(3) located in the B-1 Local Business District at 12850 Bluemound Road.**

Mr. Palmer noted that this conditional use permit request, in addition to the three other conditional use permit requests on the agenda were before the Plan Commission due to an error regarding the zoning map and a rezoning complete in 2003.

Mr. Kujawa motioned and Mr. Long seconded to recommend approval of the conditional use permit. Motion carried 6-0.

**3. Review and act on a request by JHS Fitness, LLC d/b/a Pure Barre Elm Grove for a conditional use permit pursuant to §335-86 for a fitness center, pursuant to §335-22C(10) located in the B-1 Local Business District at 12850 Bluemound Road.**

Mr. Long motioned and Mr. Kujawa seconded to recommend approval of the conditional use permit. Motion carried 6-0.

**4. Review and act on a request by Elements Elm Grove, LLC for a conditional use permit pursuant to §335-86 for a massage parlor pursuant to §335-22C(10) located in the B-1 Local Business District at 12850 Bluemound Road.**

Ms. Hunter motioned and Mr. Cashin seconded to recommend approval of the conditional use permit. Motion carried 6-0.

**5. Review and act on a request by Commerce State Bank for a conditional use permit pursuant to §335-86 for a drive – in bank, pursuant to §335-22C(3) located in the B-1 Local Business District at 12850 Bluemound Road.**

Mr. Kujawa motioned and Mr. Nelson seconded to recommend approval of the conditional use permit. Motion carried 6-0.

**6. Adjournment**

Mr. Long motioned and Mr. Kujawa seconded to adjourn the meeting. Motion carried 6-0.

Meeting adjourned at 5:04 p.m.

Respectfully Submitted,

Casey Griffiths  
Zoning & Planning Administrator/  
Assistant to the Village Manager

**VILLAGE OF ELM GROVE**  
**Application for Plan of Operation and**  
**Change in Use/Amendment to Existing Operation**

*\*\*This document is a matter of public record and may be reviewed upon request.\*\**

**Business Contact Information**

**\$25.00 Application Fee due at time of submission**

Property Information	Business/Tenant Information
Property Tax Key # <b>EGV1108984</b>	Business Name: <b>Van Westen Orthodontics LLC</b>
Property Address: <b>12850-12960 N. Bluemound Rd Elm Grove, WI 53122</b>	Business Owner: <b>Luciana Van Westen, DDS, MS</b>
Property Owner and Mailing Address (City/State/ZIP): <b>710 N. Plankinton Avenue Milwaukee, WI 53203</b>	Business Owner Mailing Address (City/State/ZIP): <b>1962 N Commerce Street, Milwaukee, WI 53212</b>
Property Owner Business Phone and Fax #: <b>414-274-2623 414-274-2744-Fax</b>	Business Owner Business Phone and Fax #: <b>414-249-5108 (same for fax)</b>
Property Owner Cell Phone #: <b>414-274-2632</b>	Business Owner Cell Phone #: <b>414-477-5955</b>
Property Owner E-mail Address: <b>tenantservices@zilber.com</b>	Business Owner E-mail Address: <b>luciana.vanwesten@gmail.com</b>
After Hours Emergency Contact Name and Phone #: <b>414-274-2632</b>	After Hours Emergency Contact Name and Phone #: <b>Corey Van Westen, DC (husband) 414-412-5490</b>

**Business Use Information (attach additional sheets if required)**

1. Explanation of Proposed Business (e.g. use of building/property):  
 Use of property for an orthodontic practice

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2. Total Number of Employees/Number of Employees on Largest Work Shift:  
 Total Number of Employees: 3 (both full and part time)  
 Total Number of Employees on Largest Work Shift: 3

3. Hours of Operation (for each day of the week):  
 Monday: 10 am - 6 pm    Wednesday: 7:30am - 4:30pm    Friday: 8 am - noon    Sunday: closed  
 Tuesday: 7:30am - 4:30pm    Thursday: 7:30am - 4:30pm    Saturday: 8 am - noon

Thursday:

4. Customer Load:

Daily Average: 30 (10-60)

Daily Peak: 60

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5. Will you be submitting for signage? If yes, your proposal must meet Building Board specifications - see Zoning Administrator.

Yes *in the future after logo design is chosen. Will follow Arlington Grove Plaza guidelines.*

No *not at this time*

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6. If a dumpster is located on the property, is it screened from the street and all neighboring properties? Dumpsters must be screened per Village Ordinance - see Zoning Administrator.

Yes

No

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7. Expected Date of Occupancy:

April 1st, 2016

- **Site Plan Information** (Provide representation of the following: ingress; egress; parking arrangement; landscaping; loading docks/stalls; refuse/recycling receptacle storage; equipment/materials storage; accessory structures. *If a site plan has been previously filed with the Village, please indicate below and reference the date of submittal.*)
- **Floor Plan Information** (Provide identification of offices, conference rooms, display areas and storage areas). List all other occupants within the building, their business and parking requirements (may be provided by building owner).

Approval of the Plan of Operation and Site Plan Review will NOT be granted without receipt of this completed form at least 20 business days prior to a regularly scheduled Plan Commission meeting (first Monday of each month).

\*Applicant's Signature: *[Signature]* Date: *01/28/16*

\*Signature of Property Owner or Registered Agent: *[Signature]* Date: *1/29/16*

\*Signature of this document denotes review of and agreement to the content of this form and the requirements of Section 335-85 - Plans of Operation.

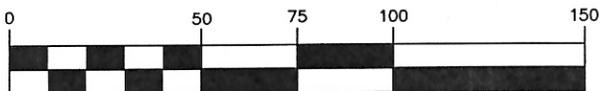
Conditions of Approval

Copies provided to:

- Building Inspector
- Police Chief
- Fire Chief
- Fire Inspector
- Assessor
- Village Clerk

CERTIFIED SURVEY MAP NO. \_\_\_\_\_

BEING A REDIVISION OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 2238, OUTLOT 1 OF CERTIFIED SURVEY MAP NO. 2239, AND LANDS, BEING A PART OF THE SOUTHEAST 1/4 OF THE NORTHWEST 1/4 AND THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 25, TOWN 7 NORTH, RANGE 20 EAST, IN THE VILLAGE OF ELM GROVE, WAUKESHA COUNTY, WISCONSIN.



**SCALE 1" = 50'**

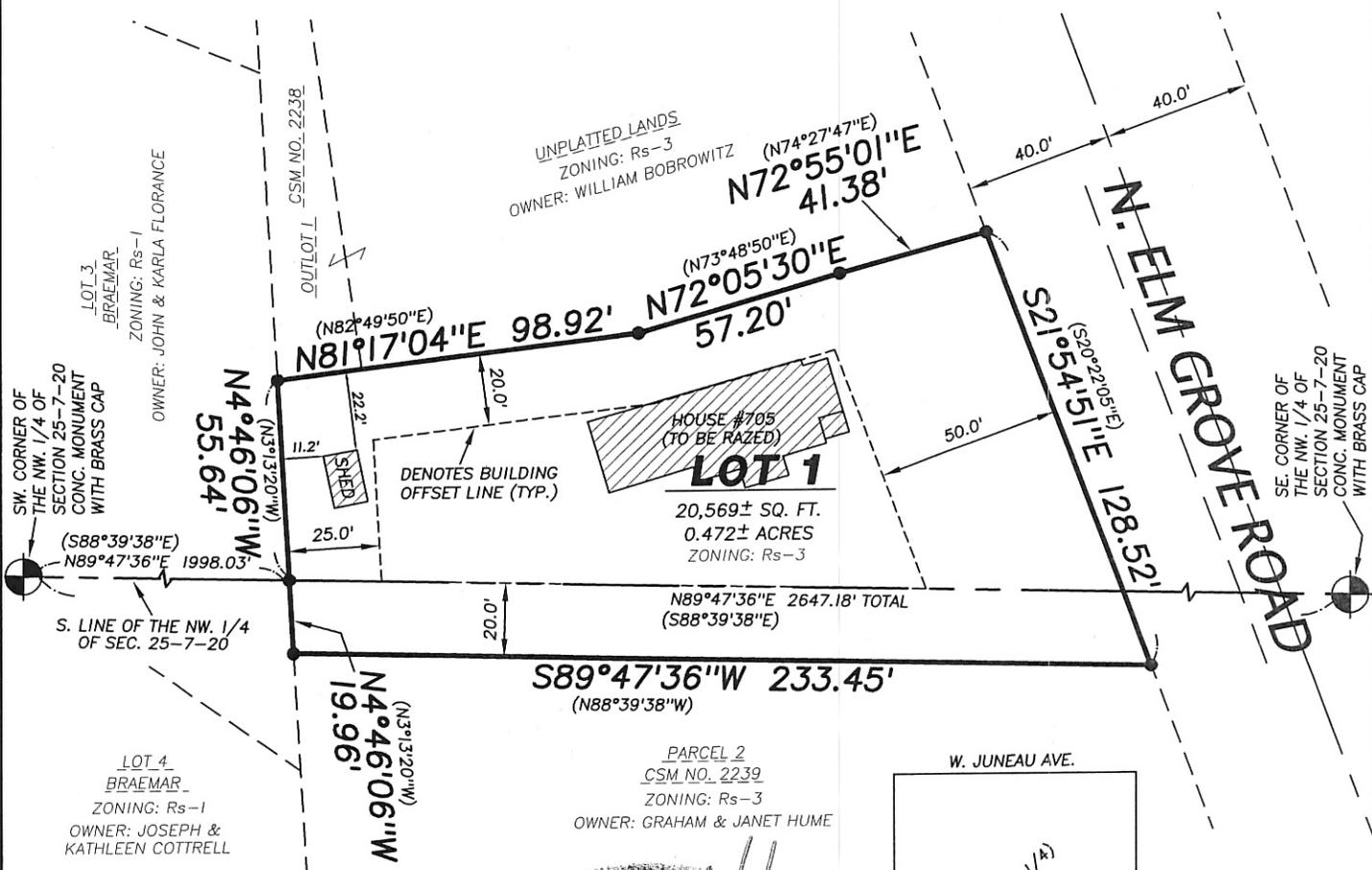


**NORTH SHORE ENGINEERING, INC.**  
Consulting Engineers & Land Surveyors  
11433 N. Port Washington Rd., Mequon, Wisconsin, 53092  
(262) 241-9400 • FAX: (262) 241-5337  
www.northshoreengineering.net

**OWNER & SUBDIVIDER:**  
KURT & LAURA GORANSON  
705 ELM GROVE RD.  
ELM GROVE, WI. 53122

**NOTES:**

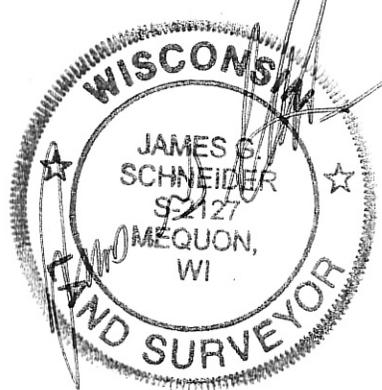
1. THIS PROPERTY IS ALSO SUBJECT TO EASEMENTS OF RECORD.



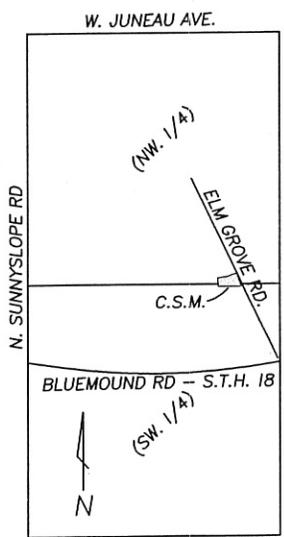
**LEGEND**

- - DENOTES 1.315"X18" STEEL PIPE WEIGHING 1.13 LBS. PER LINEAL FOOT (SET)
- - DENOTES 1.3" STEEL PIPE FOUND
- ( ) - DENOTES ALSO RECORDED AS BEARING

ALL BEARINGS REFERENCED TO GRID NORTH OF THE WISCONSIN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (SOUTH LINE OF THE NW. 1/4 OF SECTION 25-7-20, WHICH BEARS S89°47'36"W) REVISION DATE, DECEMBER, 2013



1/22/2016  
REV. 2/9/2016



**LOCATION MAP**

NW. 1/4 & SW. 1/4 OF SEC. 25-7-20  
(SCALE 1"=2000')

CERTIFIED SURVEY MAP NO. \_\_\_\_\_

BEING A REDIVISION OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 2238,  
OUTLOT 1 OF CERTIFIED SURVEY MAP NO. 2239 AND LANDS, BEING A PART OF  
THE SOUTHEAST 1/4 OF THE NORTHWEST 1/4 AND THE NORTHEAST 1/4 OF THE  
SOUTHWEST 1/4 OF SECTION 25, TOWN 7 NORTH, RANGE 20 EAST, IN THE  
VILLAGE OF ELM GROVE, WAUKESHA COUNTY, WISCONSIN.

SURVEYOR'S CERTIFICATE

I, James G. Schneider, Professional Land Surveyor, do hereby certify:

THAT I have surveyed, divided and mapped the following parcel of land:

A redivision of Parcel 2 of Certified Survey Map No. 2238, Outlot 1 of Certified Survey Map No. 2239 and lands, being a part of the Southeast 1/4 of the Northwest 1/4 and the Northeast 1/4 of the Southwest 1/4 of Section 25, Township 7 North, Range 20 East, in the Village of Elm Grove, Waukesha County, Wisconsin, bounded and described as follows:

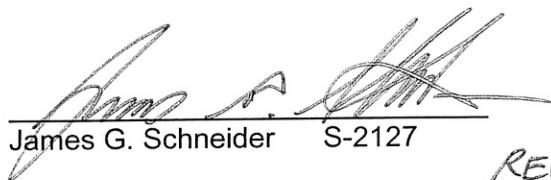
Commencing at the Southwest corner of the Northwest 1/4 of said Section 25; thence N89°47'36"E (also rec as S88°39'38"E) along the South line of said Northwest 1/4, 1998.03 feet to the Southwesterly corner of Parcel 2 of Certified Survey Map No. 2238, said point also being the point of beginning of lands to be described; thence N4°46'06"W (also rec. as N3°13'20"W) along the West line of said Parcel 2, 55.64 feet to the Northwest corner of said Parcel 2; thence N81°17'04"E (also rec. as N82°49'50"E) along the North line of said Parcel 2, 98.92 feet; thence N72°05'30"E, 57.20 feet; thence N72°55'01"E, 41.38 feet to a point in the West right of way line of N. Elm Grove Rd., said point also being the Northeast corner of said Parcel 2, thence S21°54'51"E (also rec. as S20°22'05"E) along said West right-of-way and the East line of said Parcel 2, 128.52 feet to the Southeast corner of said Parcel 2; thence S89°47'36"W (also rec. as S88°39'38"W) along the South line of said Parcel 2 and the South line of Outlot 1 of Certified Survey Map No. 2239, 233.45 feet to the Southwest corner of said Outlot 1; thence N4°46'06"W (also rec. as N3°13'20"W) along the West line of said Outlot 1, 19.96 feet to the point of beginning.

Said lands containing 0.472 acres of land, more or less.

That I have made such survey, land division, and plat at the direction of Kurt W. Goranson and Laura C. Goranson, OWNERS of said lands.

That such map is a correct representation of all the exterior boundaries of the land surveyed and the land division thereof made.

That I have complied with, Chapter 236.34 of the Wisconsin Statutes and Section 305-10 of the Village of Elm Grove.

  
James G. Schneider S-2127  
1/22/2016  
REV. 2/9/2016



This instrument was drafted by James G. Schneider

CERTIFIED SURVEY MAP NO. \_\_\_\_\_

BEING A REDIVISION OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 2238,  
OUTLOT 1 OF CERTIFIED SURVEY MAP NO. 2239 AND LANDS, BEING A PART OF  
THE SOUTHEAST 1/4 OF THE NORTHWEST 1/4 AND THE NORTHEAST 1/4 OF THE  
SOUTHWEST 1/4 OF SECTION 25, TOWN 7 NORTH, RANGE 20 EAST, IN THE  
VILLAGE OF ELM GROVE, WAUKESHA COUNTY, WISCONSIN.

OWNER'S CERTIFICATE

We, Kurt W. Goranson and Laura C. Goranson, OWNERS, do hereby certify: THAT, We  
have caused the lands described in the foregoing certificate of James G. Schneider,  
Surveyor, to be surveyed, divided and mapped.

WITNESS the hand and seal of said OWNERS on this \_\_\_\_\_ day of  
\_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Kurt W. Goranson

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Laura C. Goranson

STATE OF WISCONSIN)  
OZAUKEE COUNTY )<sup>SS</sup>

PERSONALLY came before me on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_  
the above named Kurt W. Goranson and Laura C. Goranson to me known to be the  
persons who executed the foregoing certificate and acknowledged the same.

\_\_\_\_\_  
Notary Public

My Commission expires \_\_\_\_\_

CONSENT OF MORTGAGEE

ASSOCIATED BANK, N.A., existing under and by virtue of the laws of the State of  
Wisconsin, mortgagee of the above described land does hereby consent to the  
surveying, dividing and mapping of the land described on this Certified Survey Map and  
does hereby consent to the above certificate of Kurt W. Goranson and Laura C.  
Goranson, OWNERS.

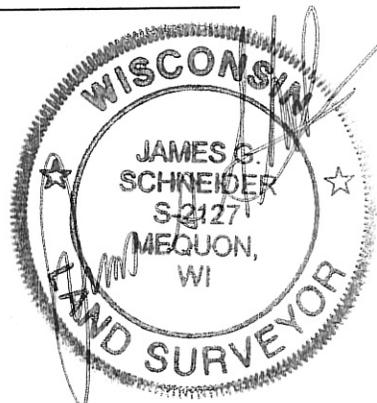
In witness whereof, the said ASSOCIATED BANK, N.A. has caused these presents to  
be signed by \_\_\_\_\_, it's  
at Milwaukee, Wisconsin, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

IN THE PRESENCE OF:  
\_\_\_\_\_

ASSOCIATED BANK, N.A.  
By: \_\_\_\_\_

1/22/2016

This instrument was drafted by James G. Schneider



CERTIFIED SURVEY MAP NO. \_\_\_\_\_

BEING A REDIVISION OF PARCEL 2 OF CERTIFIED SURVEY MAP NO. 2238,  
OUTLOT 1 OF CERTIFIED SURVEY MAP NO. 2239 AND LANDS, BEING A PART OF  
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SOUTHWEST 1/4 OF SECTION 25, TOWN 7 NORTH, RANGE 20 EAST, IN THE  
VILLAGE OF ELM GROVE, WAUKESHA COUNTY, WISCONSIN.

VILLAGE OF ELM GROVE PLANNING COMMISSION APPROVAL:

This Certified Survey Map is hereby approved by the Planning Commission of the  
Village of Elm Grove on this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
Neil Palmer, Chairman

\_\_\_\_\_  
Date

\_\_\_\_\_  
Mary S. Stredni, Clerk/Deputy Treasurer

\_\_\_\_\_  
Date

VILLAGE OF ELM GROVE BOARD APPROVAL

This Certified Survey Map, being a division of (part of SW. 1/4 and NW. 1/4 of Section  
25, Township 7 North, Range 20 East, Village of Elm Grove, Waukesha County,  
Wisconsin, having been approved by the Planning Commission being the same, is  
hereby approved and accepted by the Village Board of the Village of Elm Grove on this  
\_\_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
Neil Palmer, Village President

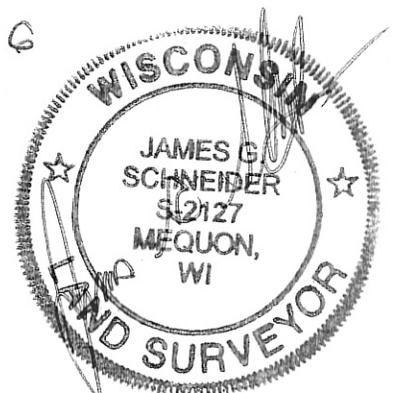
\_\_\_\_\_  
Date

\_\_\_\_\_  
Mary S. Stredni, Clerk/Deputy Treasurer

\_\_\_\_\_  
Date

1/22/2016

This instrument was drafted by James G. Schneider



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W233 N2080 Ridgeview Parkway • Waukesha, WI 53188-1020 • Tel. (262) 542-5733

January 26, 2016

Casey Griffiths  
Zoning & Planning Administrator/  
Assistant to the Village Manager  
Village of Elm Grove  
13600 Juneau Boulevard  
Elm Grove, WI 53122

RE: Goranson Certified Survey Map Review

Dear Mr. Griffiths:

Per your request, we have completed our review of the Goranson Certified Survey Map (dated January 22, 2016) for compliance with Wisconsin Administrative Code Chapter A-E 7, Wisconsin Statute Chapter 236 (utilizing the 2014 Plat Review Check List), and the Village of Elm Grove Chapter 305.

Based on this review, we have the following comments;

1. Per Chapter 236 (1m) (a): In the Surveyor's Certificate, Registered must be changed to Professional.
2. Per Chapter 236 (1m) (a), which references 236.20 (2) (c): The recorded as bearing and distance for the all segments of the north line of Lot 1 must be shown.
3. Per Chapter 236 (1m) (a), which references 236.20 (2) (i): The bearing reference in the lower left hand corner on Sheet 1 is incorrect.
4. Per Chapter 305-10 (8): The zoning for Lot 1 must be indicated.

We believe that the items listed above be corrected to the satisfaction of all governing authorities prior to the recording of this land division instrument.

Casey Griffiths  
Goranson Certified Survey Map Review  
January 26, 2016  
Page 2

Thank you for allowing us to be of service to the Village of Elm Grove. If you should have any questions regarding this review, please do not hesitate to contact our office.

Very truly yours,

RUEKERT & MIELKE, INC.



Bruce K. Cross, P.L.S. (WI)  
Senior Land Surveyor  
[bcross@ruekert-mielke.com](mailto:bcross@ruekert-mielke.com)

BKC:jkc

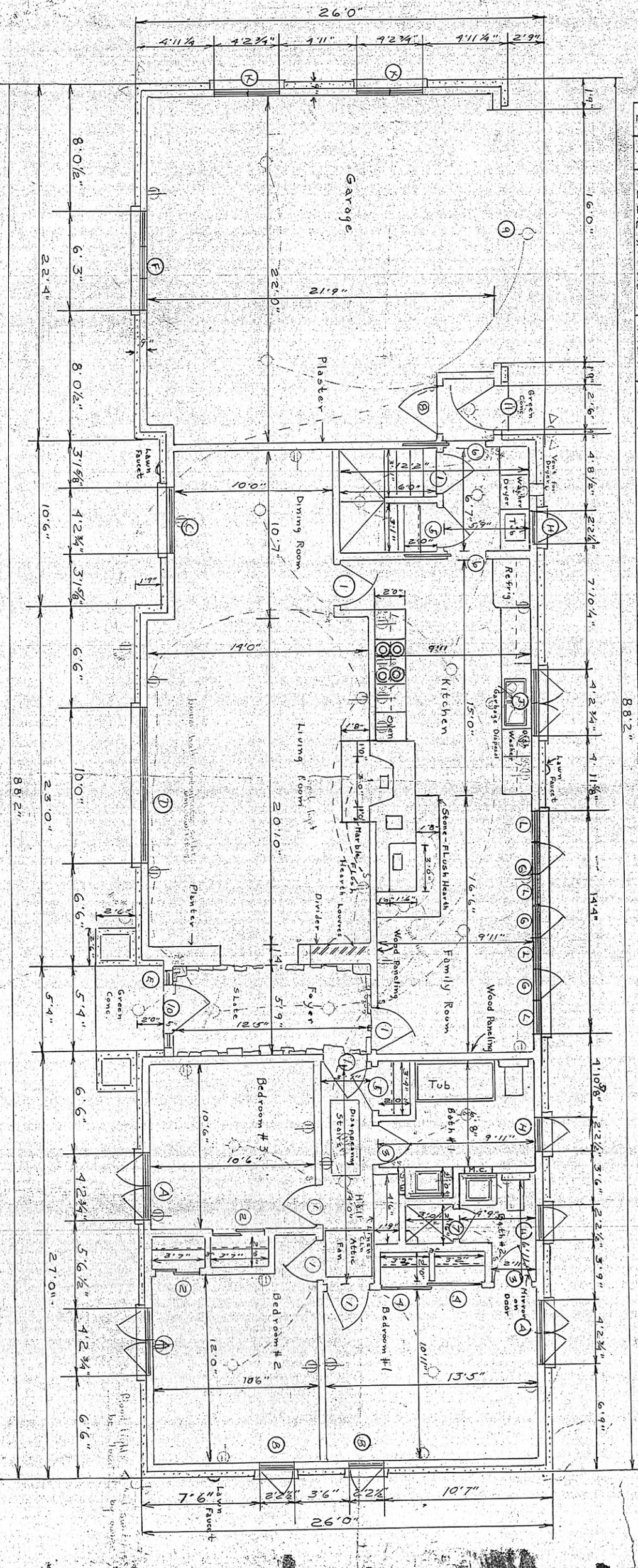
cc: Anthony D. Petersen, P.E., Ruekert & Mielke, Inc.  
James G. Schneider, P.L.S., North Shore Engineering, Inc.  
File

Window Schedule

Mark	Size - Stud Opn	Type
A	4'2 3/4" x 3'6"	Anderson - 1'10 1/2" Sash - Storm - Screen
B	2'2 1/2" x 3'6"	Anderson - 1'10 1/2" Sash - Storm - Screen
C	4'2 3/4" x 3'6"	Thermopane - Fixed - Set in Frame
D	10'0" x 5'1"	Thermopane - Glass size - 58" x 116 1/2" Fixed - Set in Frame
E	7'1" x 6'8"	Thermopane - Fixed - Set in Frame
F	6'3" x 3'6"	Plate Glass - Fixed - Set in Frame
G	2'2 1/2" x 4'6 1/8"	Anderson - 1'10 1/2" Storm - Screen
H	2'2 1/2" x 3'0"	Anderson - 1'10 1/2" Sash - Storm - Screen
I	2'6" x 2'0"	R.O.W. Basement Unit - Screen
J	4'2 3/4" x 3'0"	Anderson - 1'10 1/2" Sash - Storm - Screen
K	4'2 3/4" x 3'6"	Plate Glass - Fixed - Set in Frame
L	2'2 1/2" x 4'6 1/8"	Thermopane - Fixed - Set in Sash

Door Schedule

Mark	Size	Type
1	2'6" x 6'8" x 1 3/4"	Swinging - Flush
2	1'6" x 6'8" x 1 3/8"	Sliding - Flush
3	2'4" x 6'8" x 1 3/4"	Swinging - Flush
4	3'1" x 6'8" x 1 3/8"	Sliding - Flush
5	2'6" x 6'8" x 1 3/8"	Swinging - Flush
6	2'6" x 6'8" x 1 3/4"	Sliding - Flush
7	2'0" x 6'0"	Glass Shower Door - Clear Glass
8	2'6" x 6'8" x 1 3/4"	Solid Door - Fireproof
9	1'6" x 7'6" x 1 3/4"	Gawford - See Plan
10	3'0" x 6'8" x 1 3/4"	Flush - Weatherstrip
11	2'6" x 6'8" x 1 3/4"	Weatherstrip - Storm - Screen - Glass Panel - Milk Del. Door

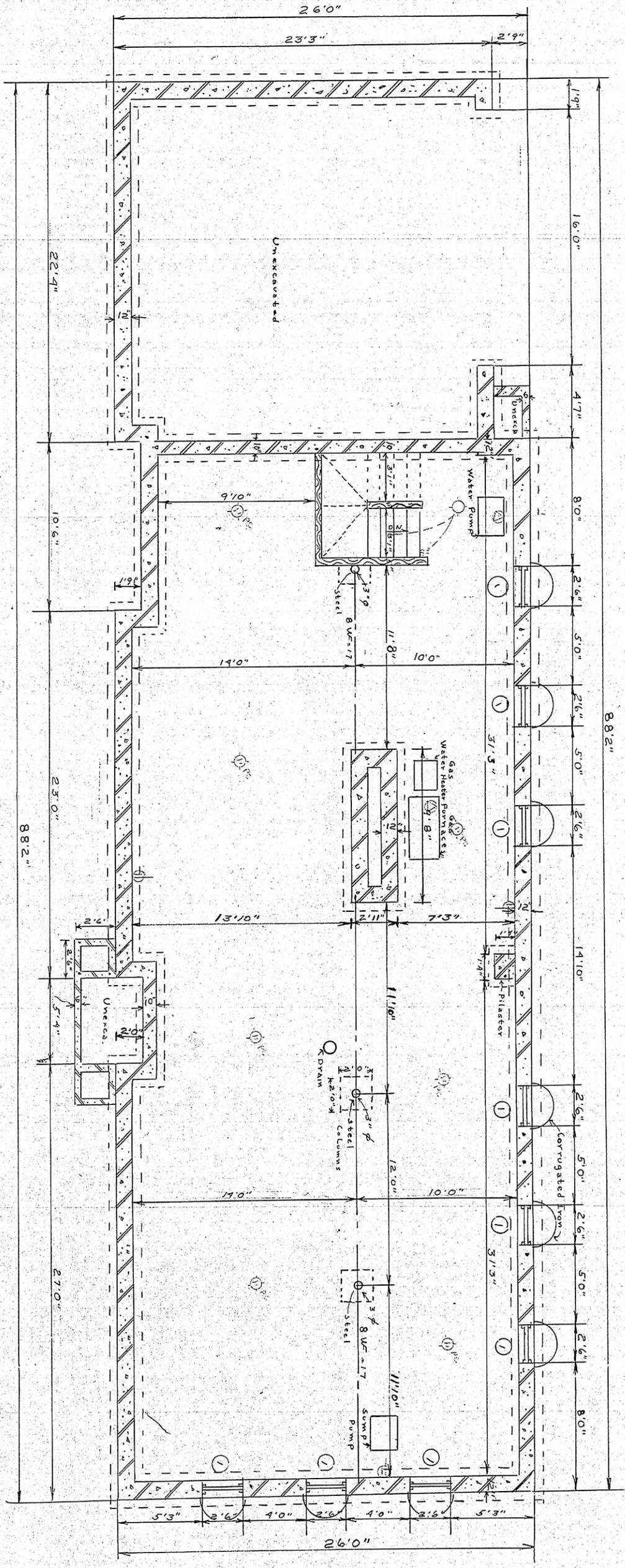


Original Home, Built in 1959

Floor Plan

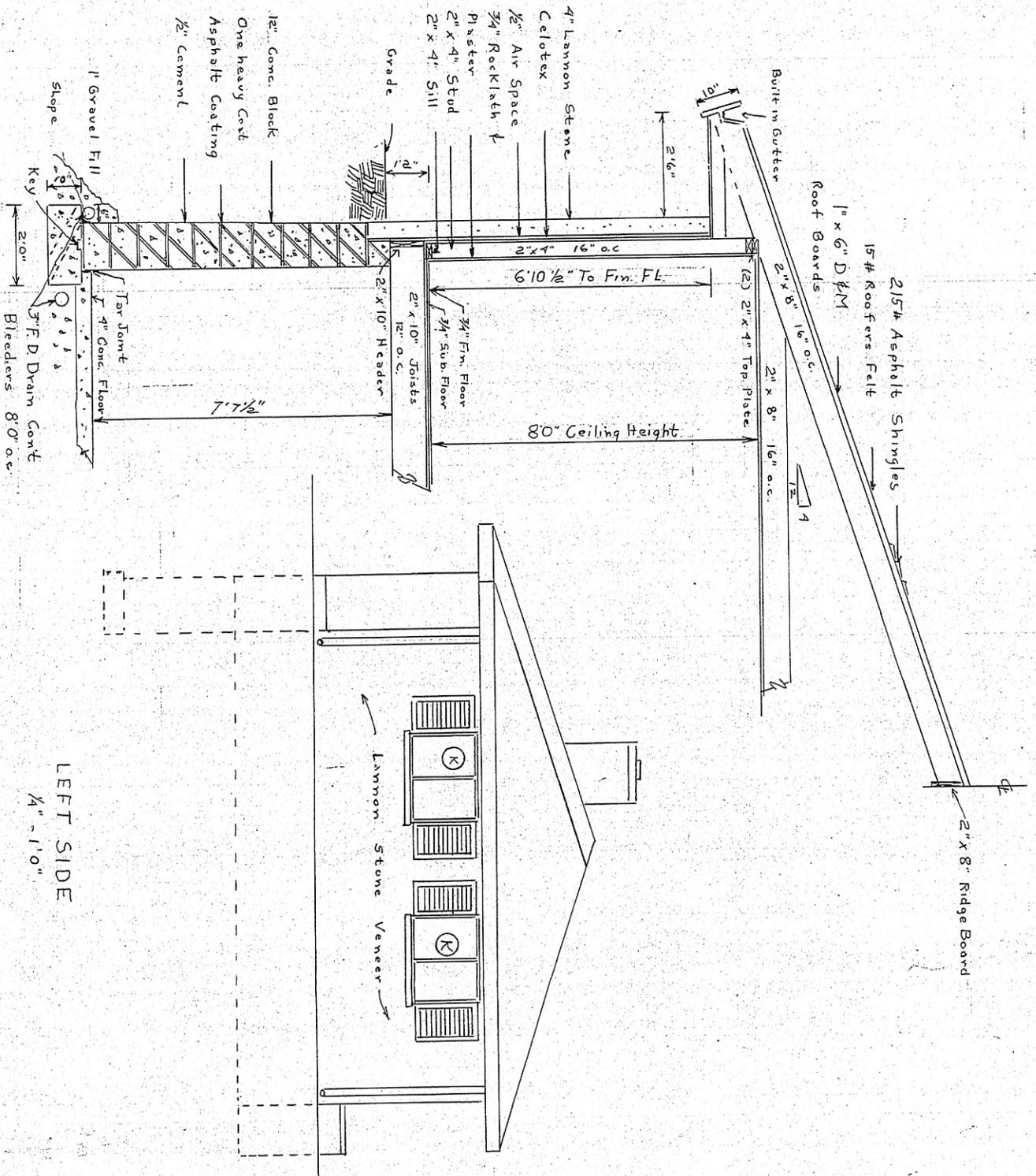
Scale 1/4" = 1'0"

James S. Fielding Sheet



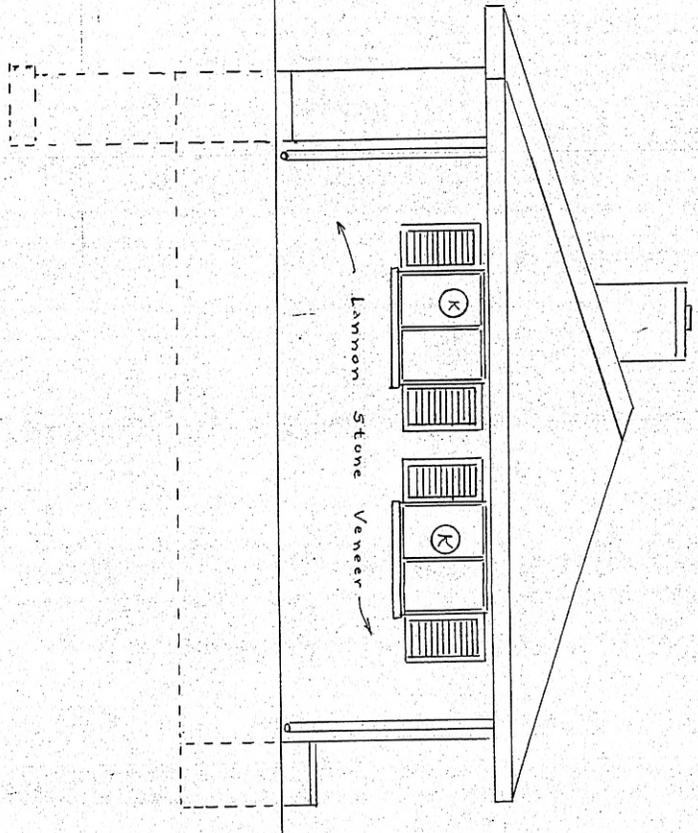
Basement Plan  
Scale  
1/4" = 1'0"



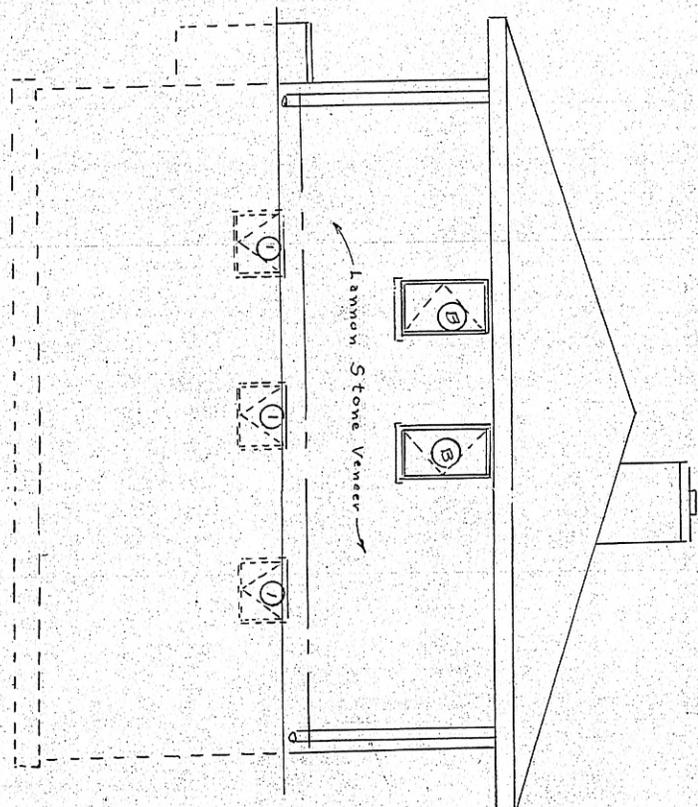


Wall Section  
1/2" = 1'0"

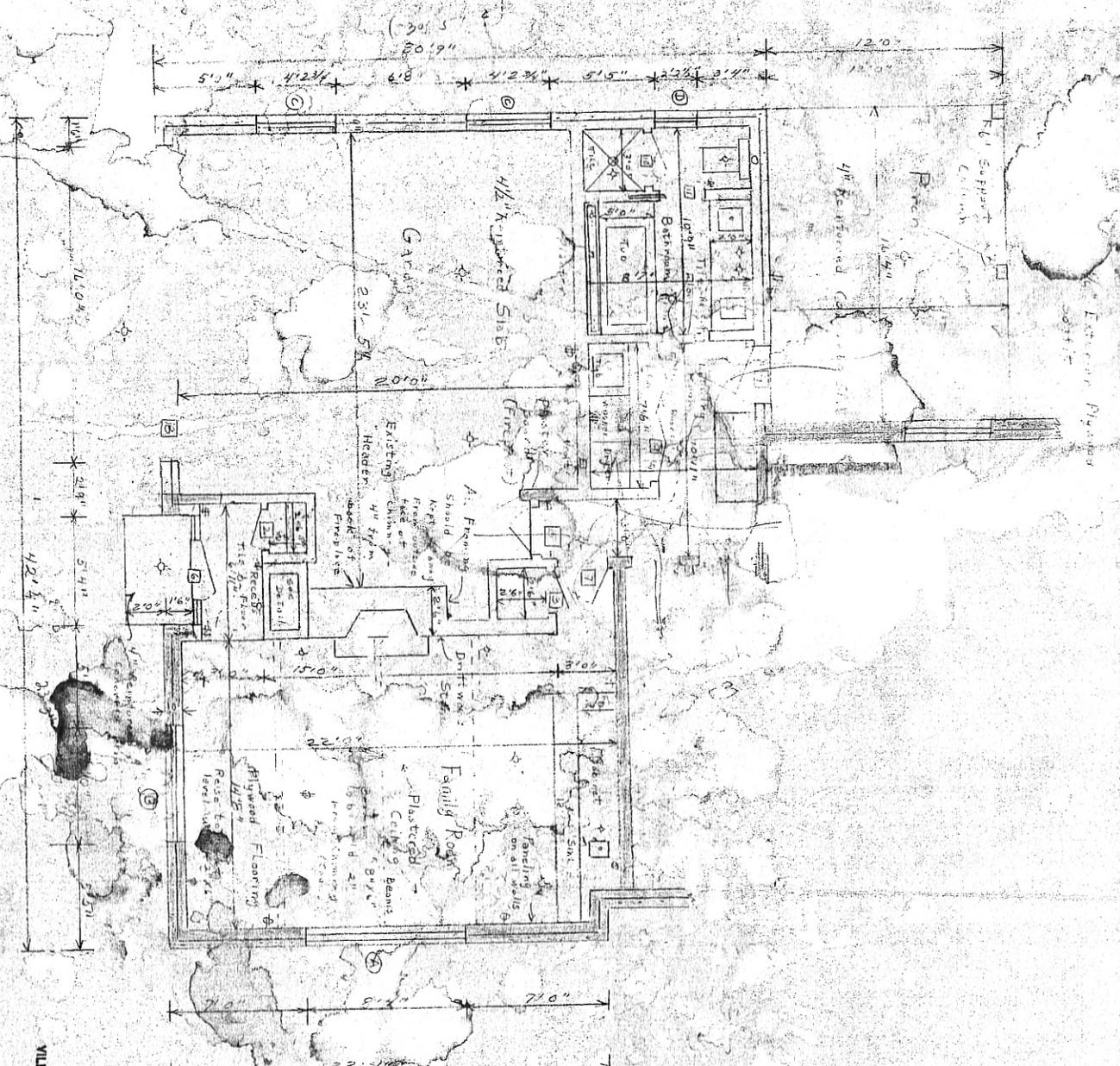
LEFT SIDE  
1/4" = 1'0"



RIGHT SIDE  
1/4" = 1'0"



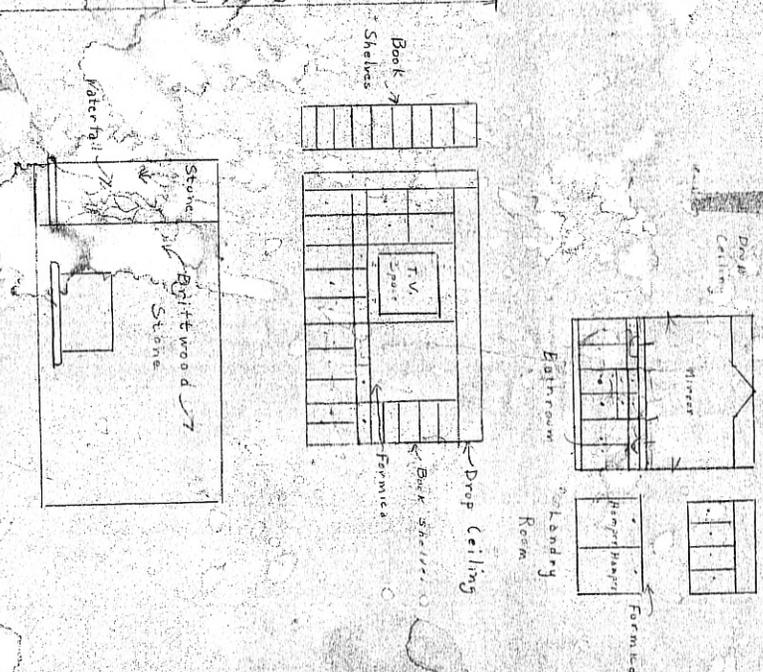
Elevations - Wall Section	Scale
Townsend Fielding	As Shown
Sheet	

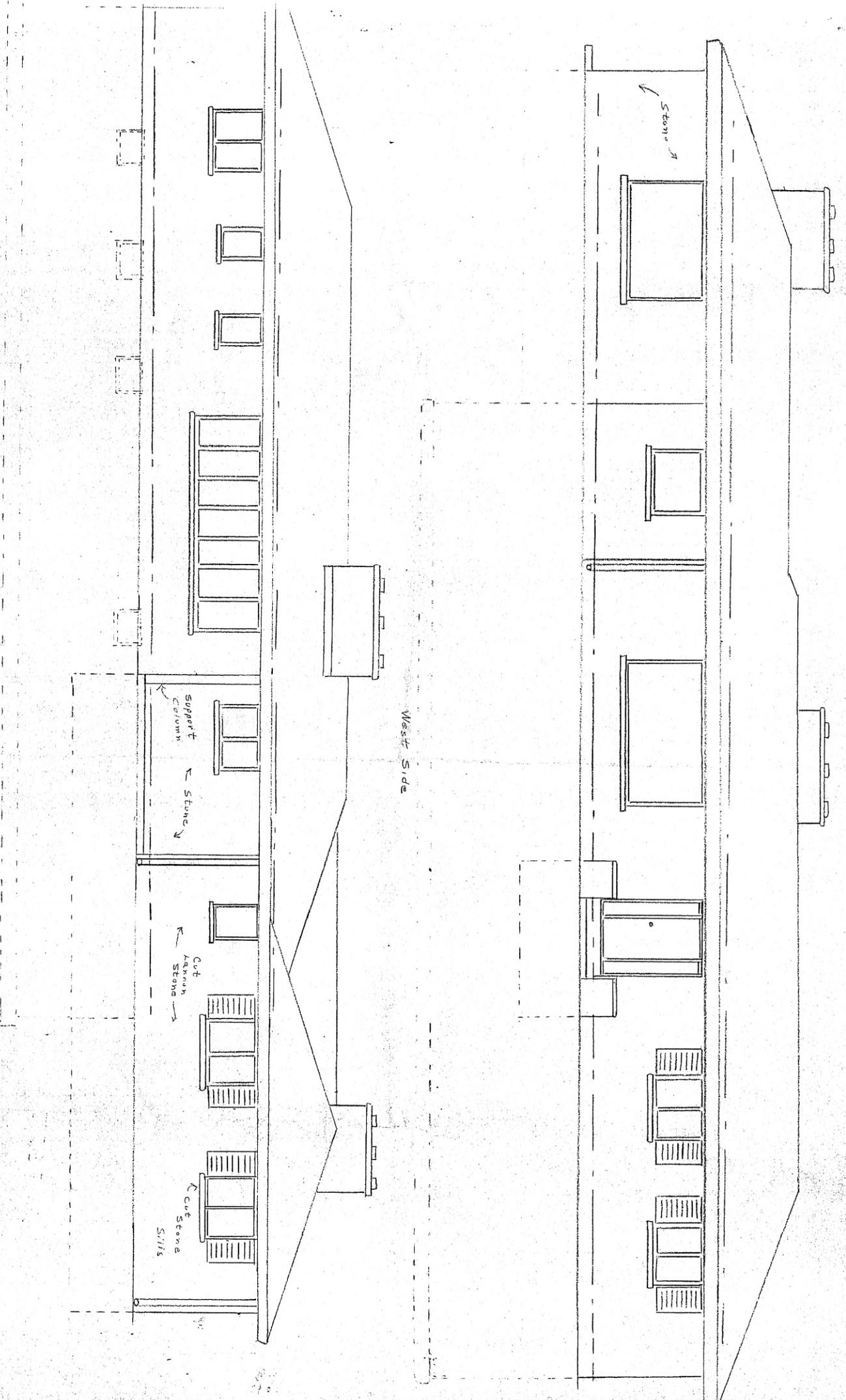


APPROVED  
VILLAGE OF ELK GROVE  
BUILDING BOARD  
6/17/70 wmg

Floor Plan	Scale
Existing Const.	1/4" = 1'-0"
Door and Window	
Shaded Above	
Change S. Fielding	Sheet
Fielding	1 of 5

Addn to Plans, Built in 1970

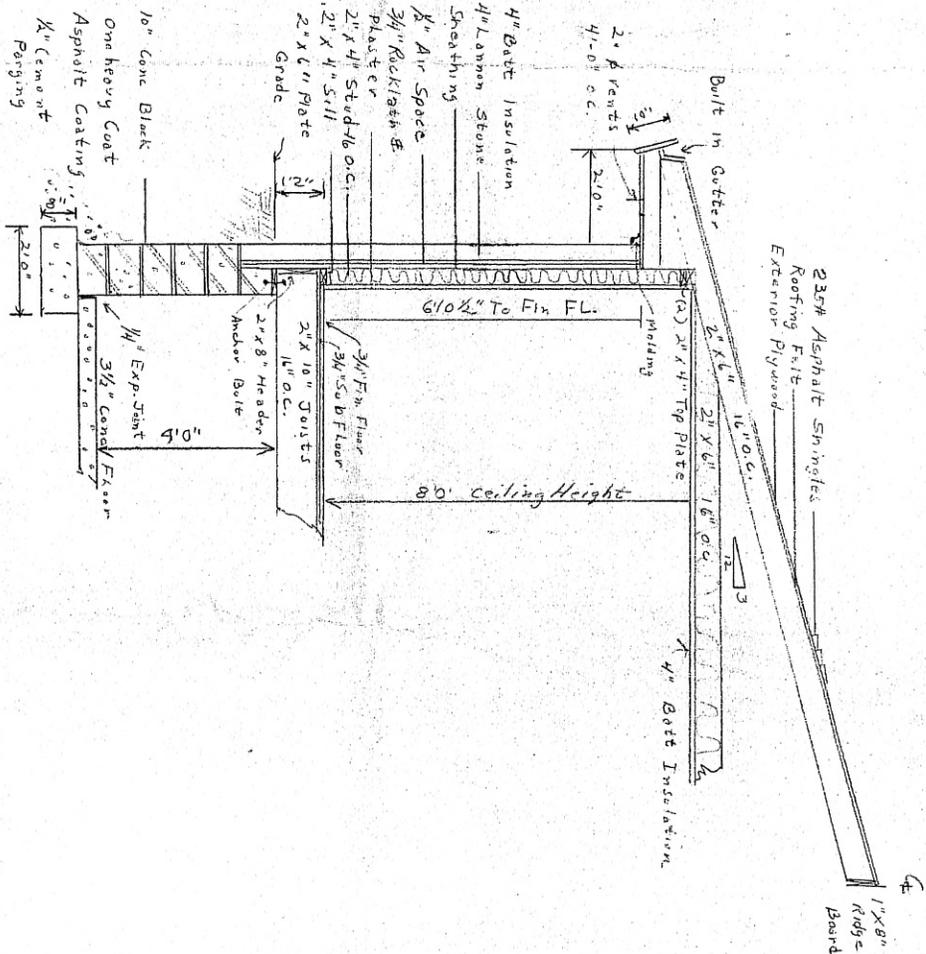
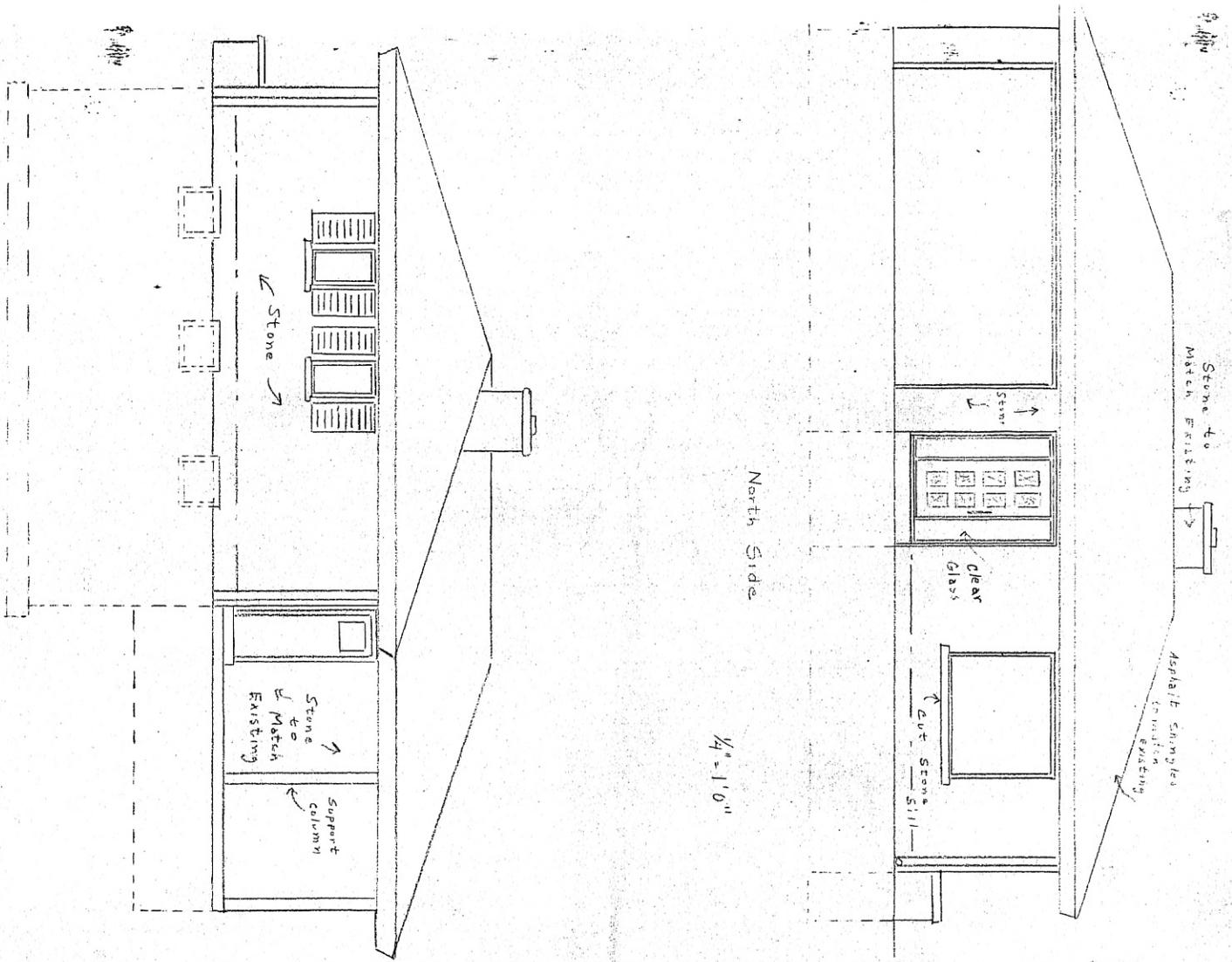




East Side

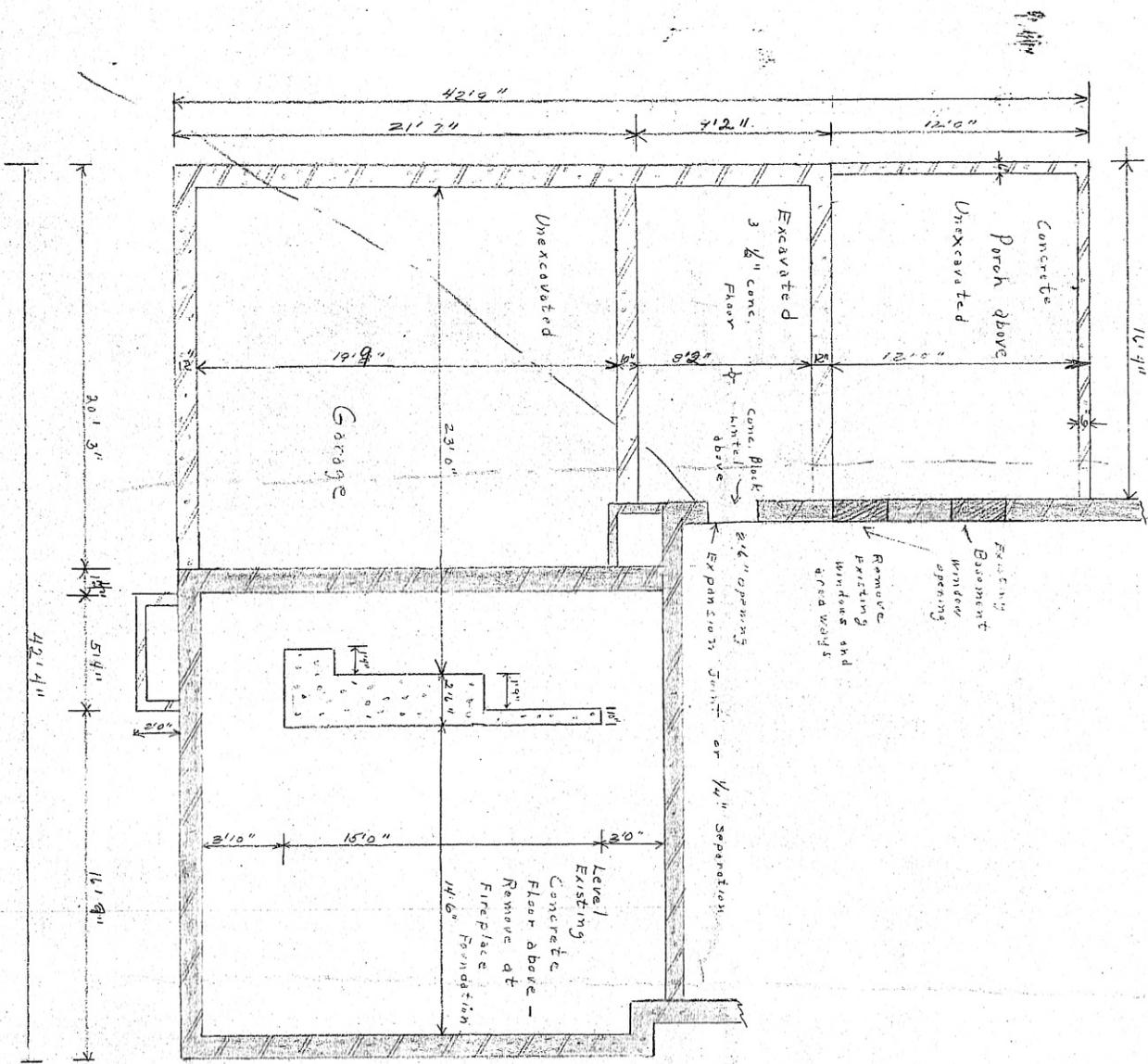
West Side

Elevations.	Scale
	1/4" = 10"
Drawn S. F. J. H. L.	Page

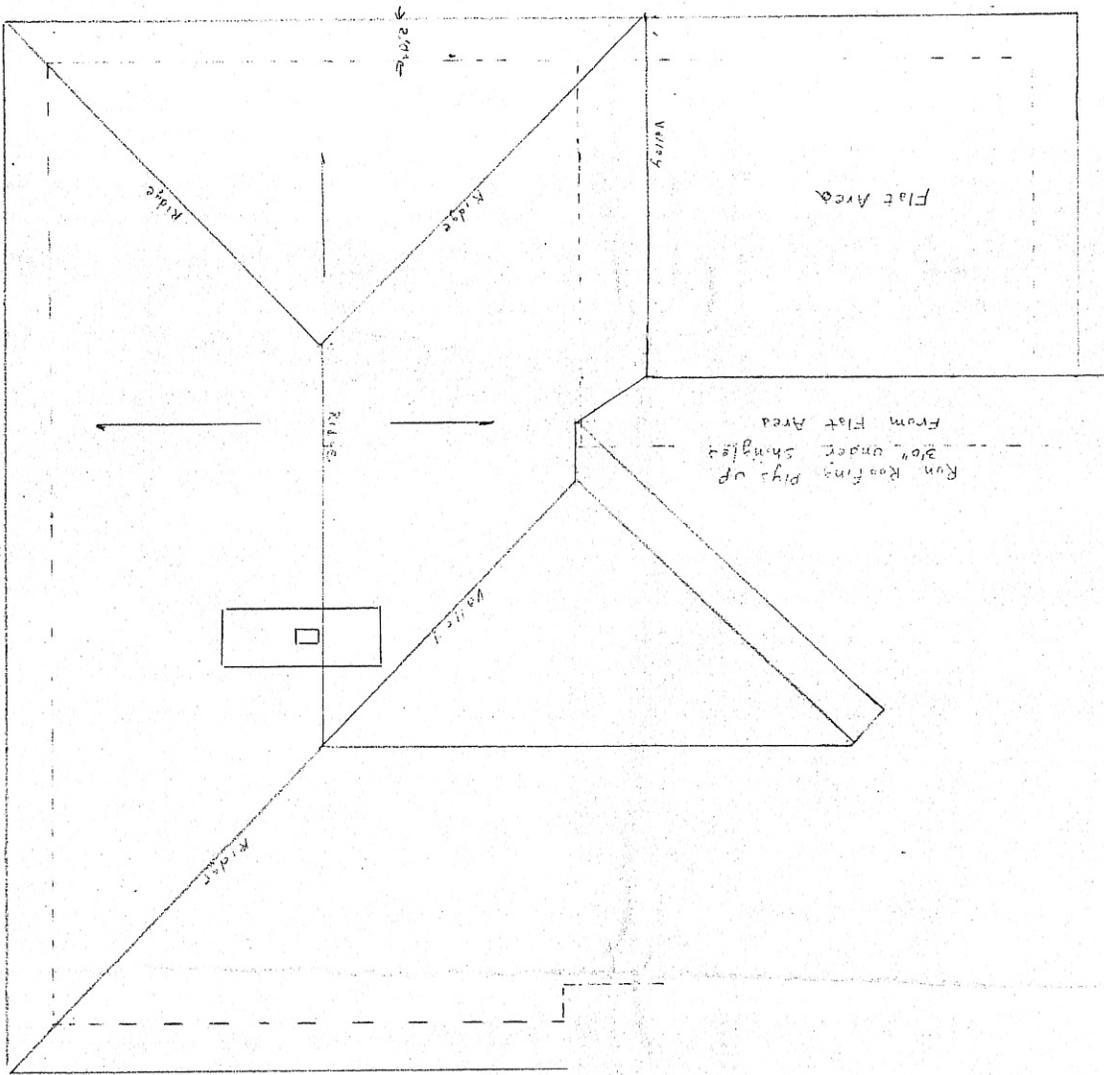


Wall Section  
1/2" = 1'0"

Elevations and Wall Section		Scale
James S Fielding	As Shown	Sheet
Elm Grove, Wisc.		3 of 5



Basement Plan		Scale
	Existing Wall	1/4" = 10'
	Existing Sewer Line	
	Existing Water Line	
James S. Fielding		Sheet
Elm Grove, Wisc.		4 of 5

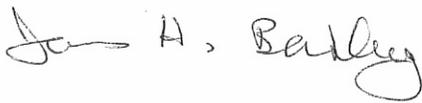


Roof Plan	Scale
James S Fielding	$1/4" = 1' 0"$
Elm Grove, Mass	Sheet
	6 of 5

January 5, 2016

James and Linda Beckley  
4850 S Forest Ave.  
New Berlin, WI 53151

We are requesting a demolition permit for our second home at 1850 Fairfax Drive to allow for construction of a new home by James Craig Builders.

James and Linda Beckley

**RECEIVED**

**FEB 15 2016**

**VILLAGE OF ELM GROVE**



DESCRIPTION

Demolition Permit Submittal Requirements for the property located at  
**1850 Fairfax, Elm Grove**, which is owned by James and Linda Beckley. There is a  
single family residence on the property, and it will be razed in its entirety.

The property has been vacant since January of 2010.



## PRINCIPLES

The property at 1850 Fairfax, owned by James and Linda Beckley, is being razed to facilitate the building of a new home. Linda's parents had built the home in 1959. The plan for the new home will be more efficient for James and Linda's family, from an energy standpoint as well as livability. To honor Linda's parents as well as the aesthetics of Elm Grove, the beautiful Iannoni stone on the original home will be removed, cleaned, and used on the new home.

VILLAGE OF ELM GROVE  
SEWER LATERAL DISTURBANCE & ABANDONMENT PERMIT

Contractor Name: BPX Contractors, Inc.  
Address: W 230 N5001 Betker Drive Pewaukee, WI 53072  
Phone: 414-406-4139  
Email: bill@bpxinc.net  
Property Owner: James and Linda Beckley  
Address: 4850 S. Forest Avenue New Berlin, WI 53151  
Phone: 414-427-9535  
Email: jamesandlinda@aol.com  
Project Address (if different than above): 1850 Fairfax Drive

**SEWER LATERAL CONDITION:**

- Replacement of existing lateral with new PVC.
- Existing lateral free of defects.
- Existing lateral has been lined.
- Lateral terminated at the main and permanently sealed at the main.

Other comments:

Richard Paul, Jr., Director of Public Works

Date

Revised: March, 2014

s:\forms\public works\sewer lateral requirements 2014.doc



# PUBLIC WAY DISTURBANCE PERMIT

The Village of Elm Grove | 13600 Juneau Blvd. | (262) 782-6700

Property Owner Name: James & Linda Beckley  
 Property Mailing Address: 4850 S. Forest Ave., New Berlin 53151  
 Property Owner Phone: 414-427-9535  
 Property Owner Email: jamesandlinda b@aol.com

Project Location: 1850 Fairfax  
 Project Manager Name: Dave Montguire James Craig Builders  
 Property Manager Address: 12229 W. North Ave. Wauwatosa, WI 53226  
 Property Manager Phone: 414-559-9300  
 Property Manager Email: dave@jamescraigbuilders.com

A description of the general nature of the work to be done: Raze the existing home at 1850 Fairfax and build a new home.

### Pre-Submission

- A.) Base Permit Fee \$ 300.00
- B.) Total square yardage of disturbed paved surface area \_\_\_\_\_ x \$40.00 \$ \_\_\_\_\_
- C.) Total linear footage of disturbed grassed surface area \_\_\_\_\_ x \$2.00 \$ \_\_\_\_\_
- D.) Total due at submission (add lines A, B, C) \$ \_\_\_\_\_

(If you do not have any disturbed paved surface area or disturbed grassed area, please use zero.)

Signature of Applicant: [Signature] Date: 2-11-16  
 Approved by: Agent for James Craig Builders Inc.

Director of Public Works: \_\_\_\_\_ Date: \_\_\_\_\_

### Post-Submission

Final Inspection Date: \_\_\_\_\_  
 Outstanding Permit Fee Total: \_\_\_\_\_  
 Director of Public Works Approval: \_\_\_\_\_

### Permit Checklist

- Complete and Signed Application (above)
- Copy of Corporate Surety Bond in the Amount of \$2000.00
- Check for the Fees - Payable to the Village of Elm Grove
- A Drawing Indicating the Approximate Location of the Work to be Done
- Any Additional Items Needed by the Director of Public Works
- Coordinate Final Inspection with the Director of Public Works

# Bernklau

## Surveying, Inc.

N60 W25864 Walnut Road  
Sussex, WI 53089  
(262) 538-0708  
www.bernklausurveying.com

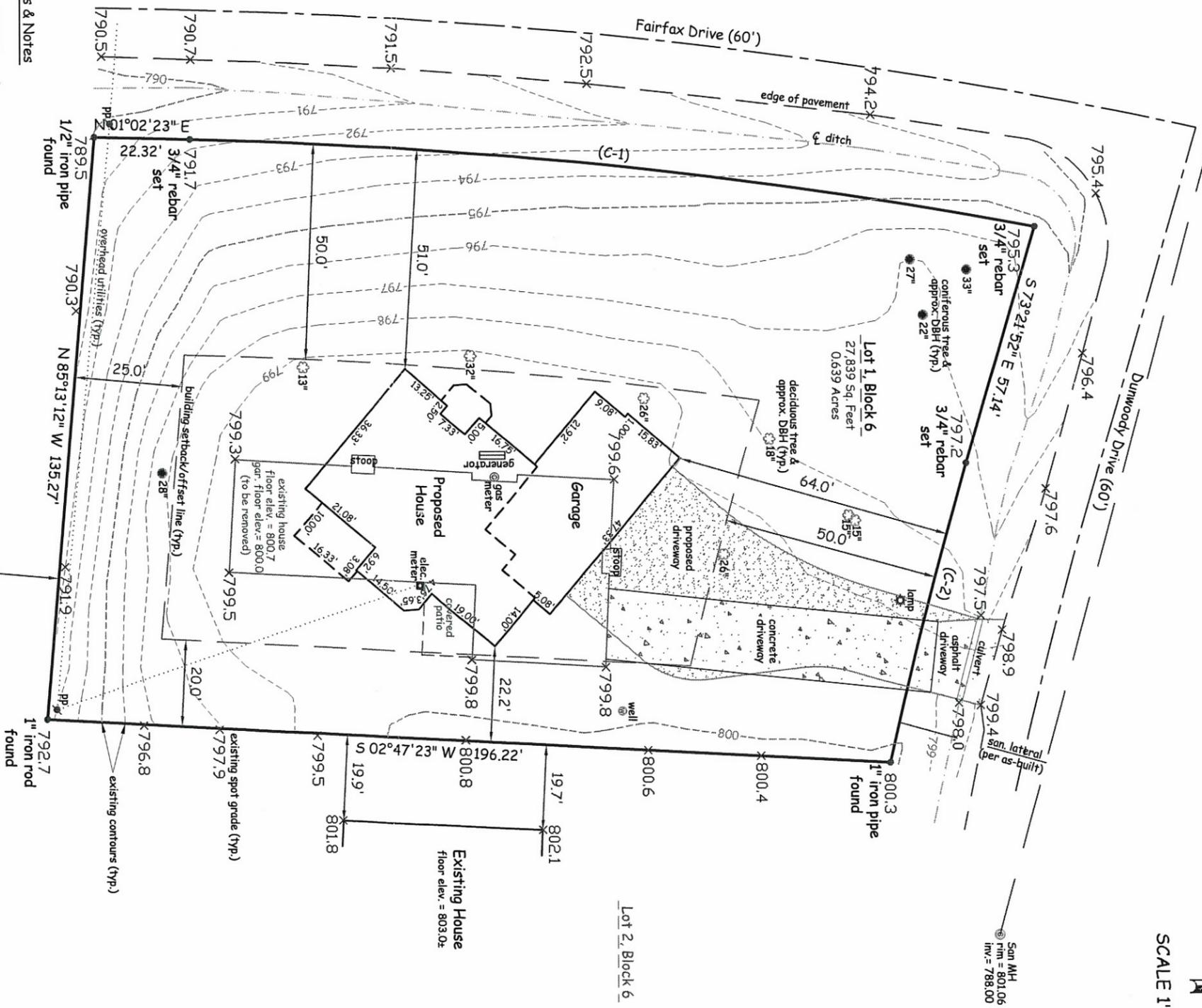
### Plat of Survey

(C-1) A=198.16' R=1180.99 D=9°36'50" CH=197.92 CB=5°05'47.03" W  
(C-2) A=71.60' R=1093.78 D=3°53'06" CH=71.59 CB=N79°18'25" W

San MH  
Irv = 787.94  
Irv = 777.49



SCALE 1" = 30'



#### Area Calculations & Notes

Total Lot Area = 27,839 sq. ft.

Proposed Impervious surface:

Proposed House, garage & porch = 3,187 sq. ft. (11.4% lot area)

Proposed driveway = 2,363 sq. ft. (8.5% lot area)

Total proposed impervious surface = 5,550 sq. ft. (19.9% lot area)

Other existing impervious surfaces to be removed: house, asphalt driveway stoops & patio.

Suggested yard grade = 800.00

Suggested top of foundation elevation = 800.67

Suggested garage floor elevation = 800.33

Suggested first floor elevation = 801.7±

Suggested top of footing elevation = 791.67 (9' wall)

Prepared for:

James Craig Builders, Inc.  
12229 W. North Ave.  
Wauwatosa, WI 53226

Owner: James & Linda Beckley

Property Address:

1850 Fairfax Drive  
Elm Grove, WI 53122

PN 3630-16

Lot 1, Block 6, Fredrick Manor, being a subdivision of part of the Northeast ¼ and the Southeast ¼ of the Northeast ¼ of Section 24, Township 7 North, Range 20 East, Village of Elm Grove, Waukesha County, Wisconsin.

I, Thomas M. Bernklau, Professional Land Surveyor, certify that I have surveyed the above described property to the official records, to the best of my knowledge and belief, and that the map shown hereon is a true representation thereof, and shows the size and location of the property, its exterior boundaries, the location and dimensions of all visible structures thereon, boundary fences, apparent easements, and all visible encroachments, if any.

This survey is made for the exclusive use of the present owners of the property; also those who purchase, mortgage or guarantee the same within one year hereof.

Date January 15, 2016



Bernklau

Surveying, Inc.

N60 W25864 Walnut Road

Sussex, WI 53089

(262) 538-0708

www.bernklausurveying.com

Plat of Survey

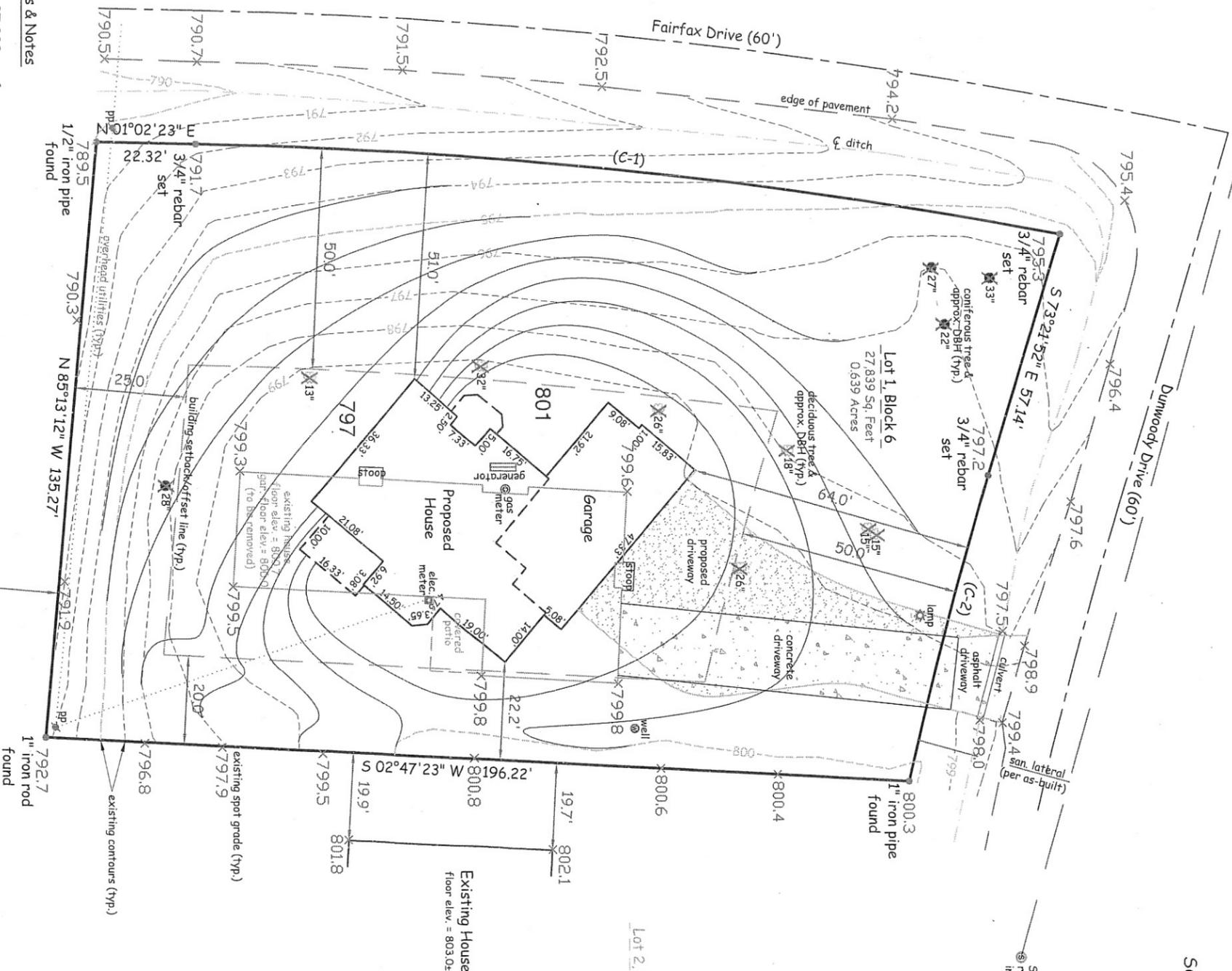
Grading Plan by JCB 2-11-16

(C-1) A=198.16' R=180.95' D=9°36'50" Ch=197.92' CB=S 05°47'03" W  
 (C-2) A=71.60' R=1035.98' D=3°53'06" Ch=71.59' CB=N 75°18'25" W

San MH  
 rim = 787.94  
 INV = 777.49



SCALE 1" = 30'



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 Total proposed impervious surface = 5,550 sq. ft. (19.9% lot area)

Other existing impervious surfaces to be removed: house, asphalt driveway stoops & patio.

- Suggested yard grade = ~~800.00~~ 801.0/797.0
- Suggested top of foundation elevation = ~~800.67~~ 801.67
- Suggested garage floor elevation = ~~800.33~~ 801.33
- Suggested first floor elevation = ~~801.7~~ 802.7
- Suggested top of footing elevation = ~~791.67~~ (9' wall) 792.67

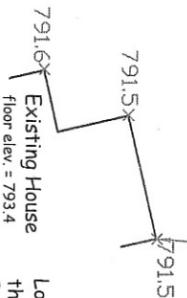
Prepared for:  
 James Craig Builders, Inc.  
 12229 W. North Ave.  
 Wauwatosa, WI 53226

Owner: James & Linda Beckley

Property Address:  
 1850 Fairfax Drive  
 Elm Grove, WI 53122

PN 3630-16

Lot 8, Block 6



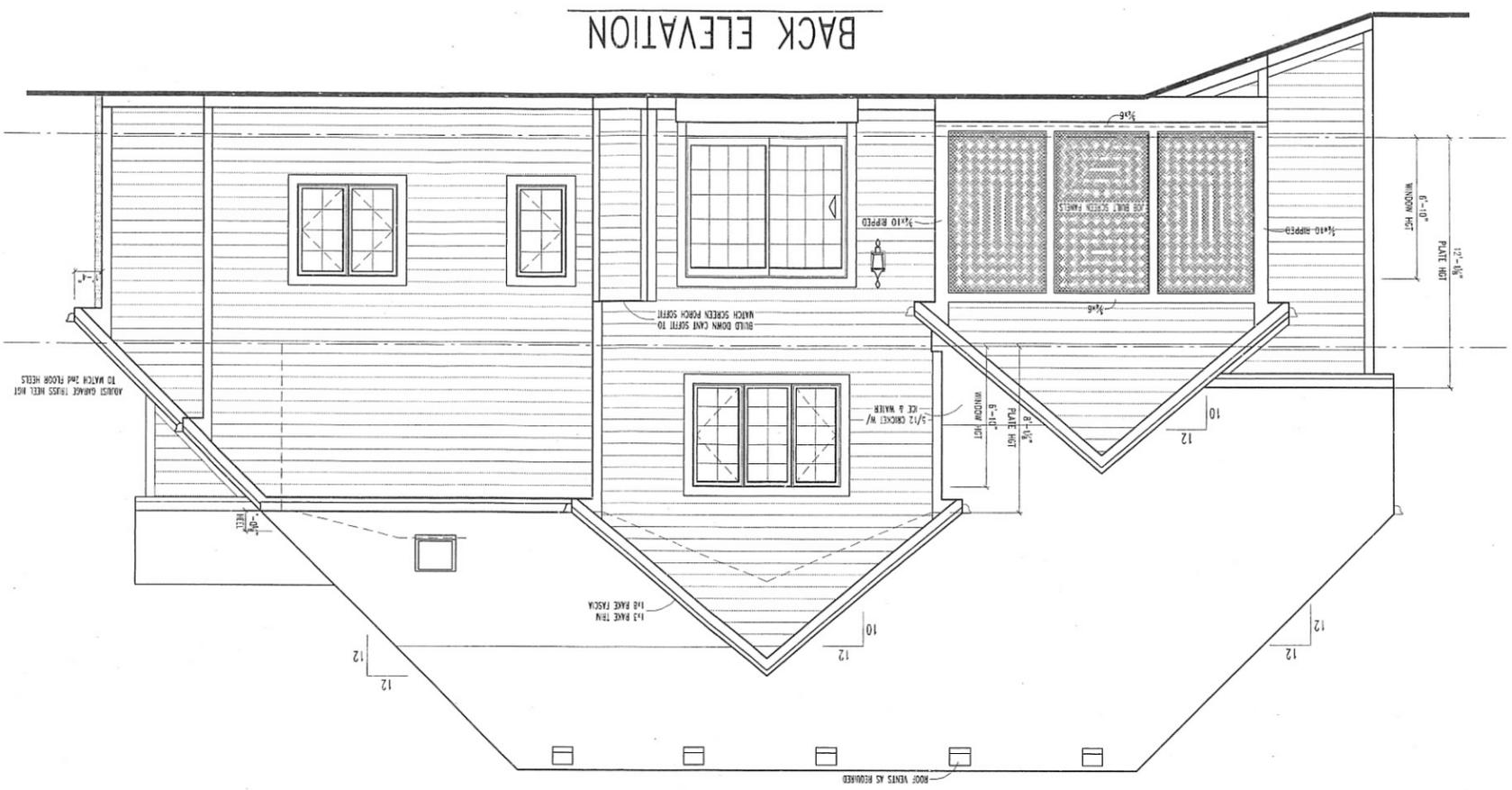
Lot 1, Block 6, Frederick Manor, being a subdivision of part of the Northeast 1/4 and the Southeast 1/4 of the Northeast 1/4 of Section 24, Township 7 North, Range 20 East, Village of Elm Grove, Waukesha County, Wisconsin.

I, Thomas M. Bernklau, Professional Land Surveyor, certify that I have surveyed the above described property to the official records, to the best of my knowledge and belief, and that the map shown hereon is a true representation thereof, and shows the size and location of the property, its exterior boundaries, the location and dimensions of all visible structures thereon, boundary fences, apparent easements, and all visible encroachments, if any.

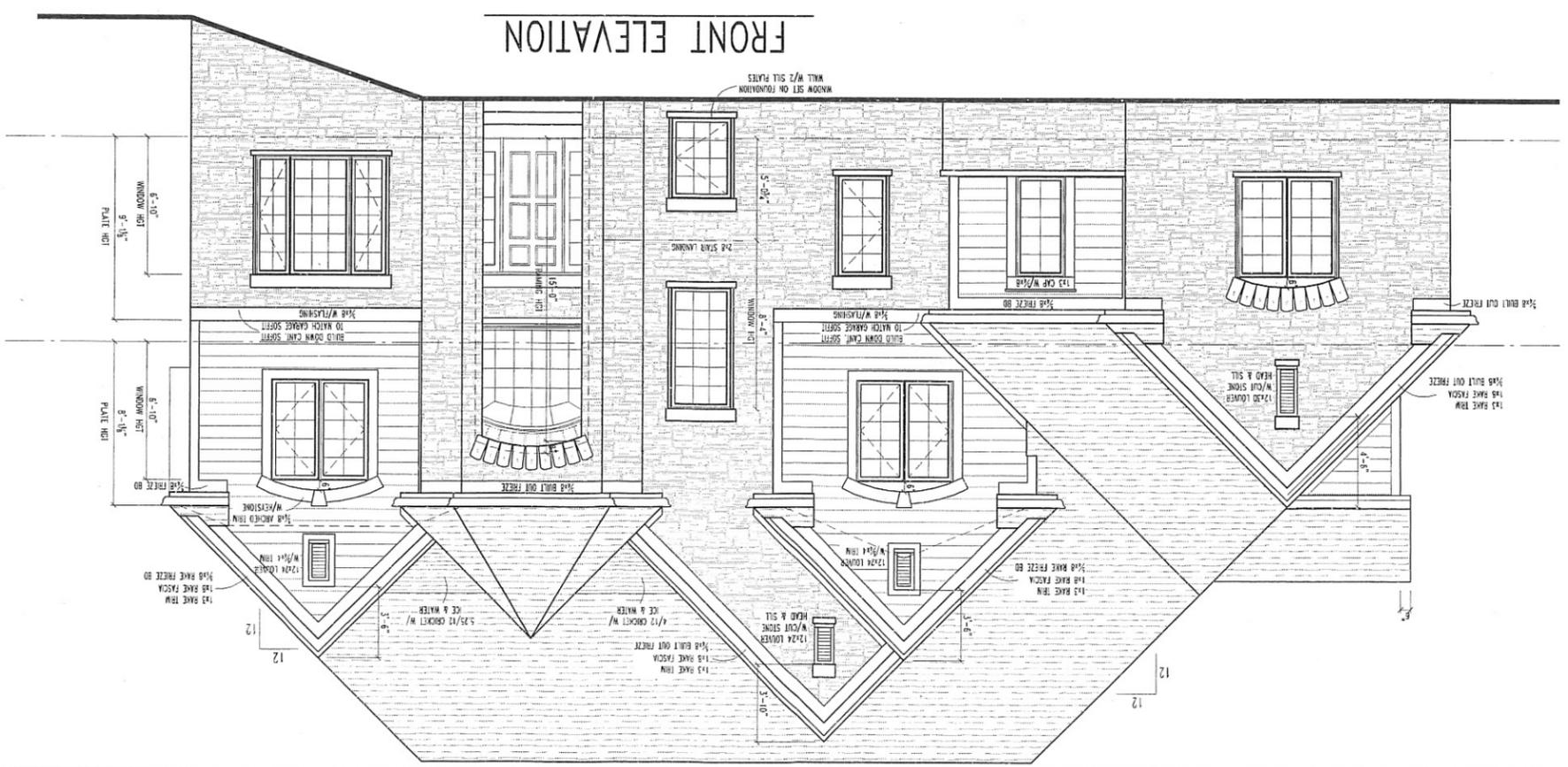
This survey is made for the exclusive use of the present owners of the property, also those who purchase, mortgage or guarantee title thereto, within one year hereof.

Date January 15, 2016

Thomas M. Bernklau, PLS - 2147



BACK ELEVATION



FRONT ELEVATION

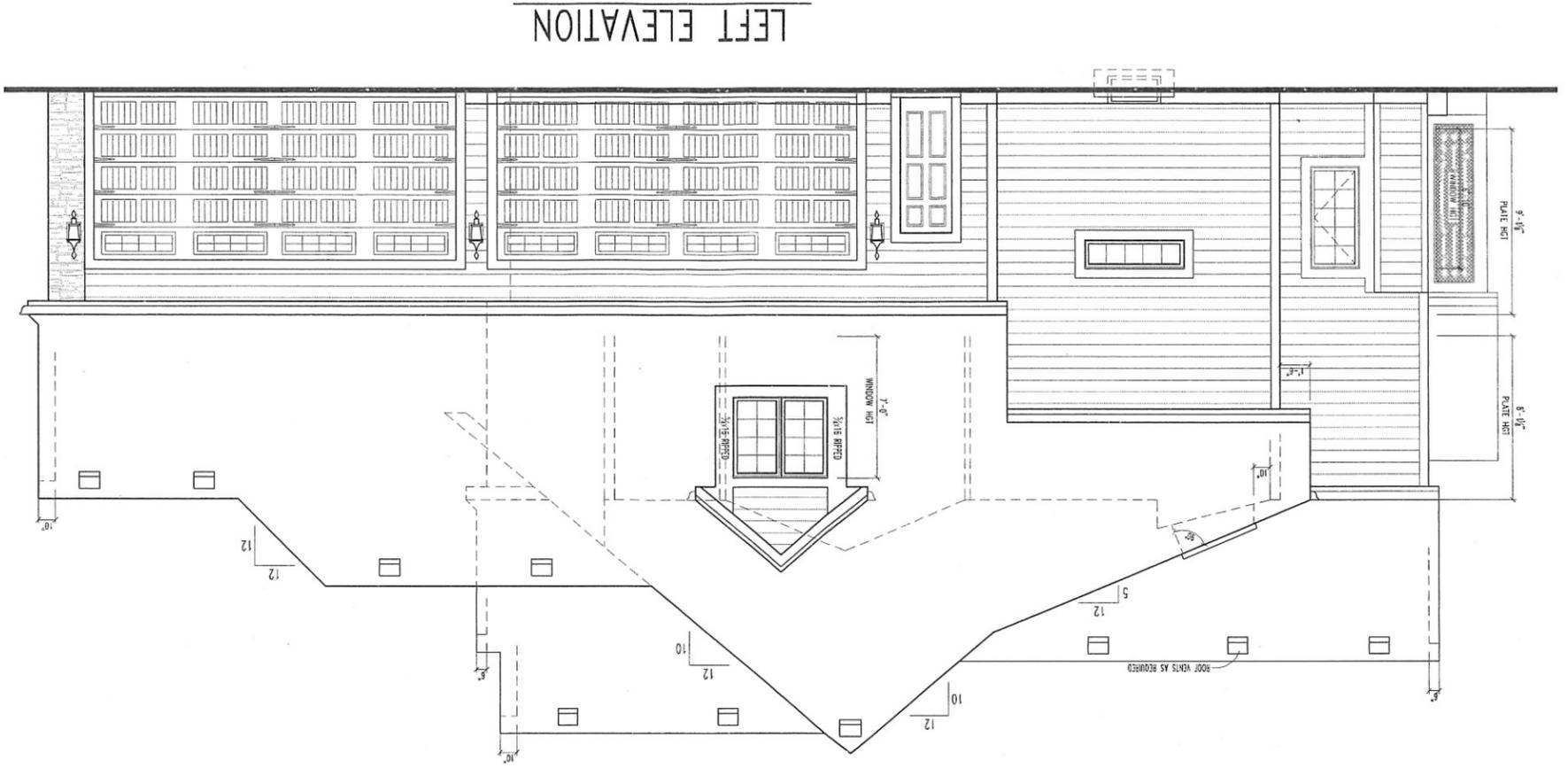
- EXTERIOR MATERIALS**
- LIFETIME WARRANTED DIMENSIONAL SHINGLES
  - MIRATEC FASCIA & COMPOSITE SOFFITS W/ 1/8\"/>
  - CEMENT BRD. LAP SIDING W/ 3/4\"/>
  - 3/4\"/>
  - 3/4\"/>
  - 3/4\"/>
  - FULL STONE VENEER W/ CUT STONE SILLS & HEAD TRIM

SCALE: 1/8" = 1'-0"

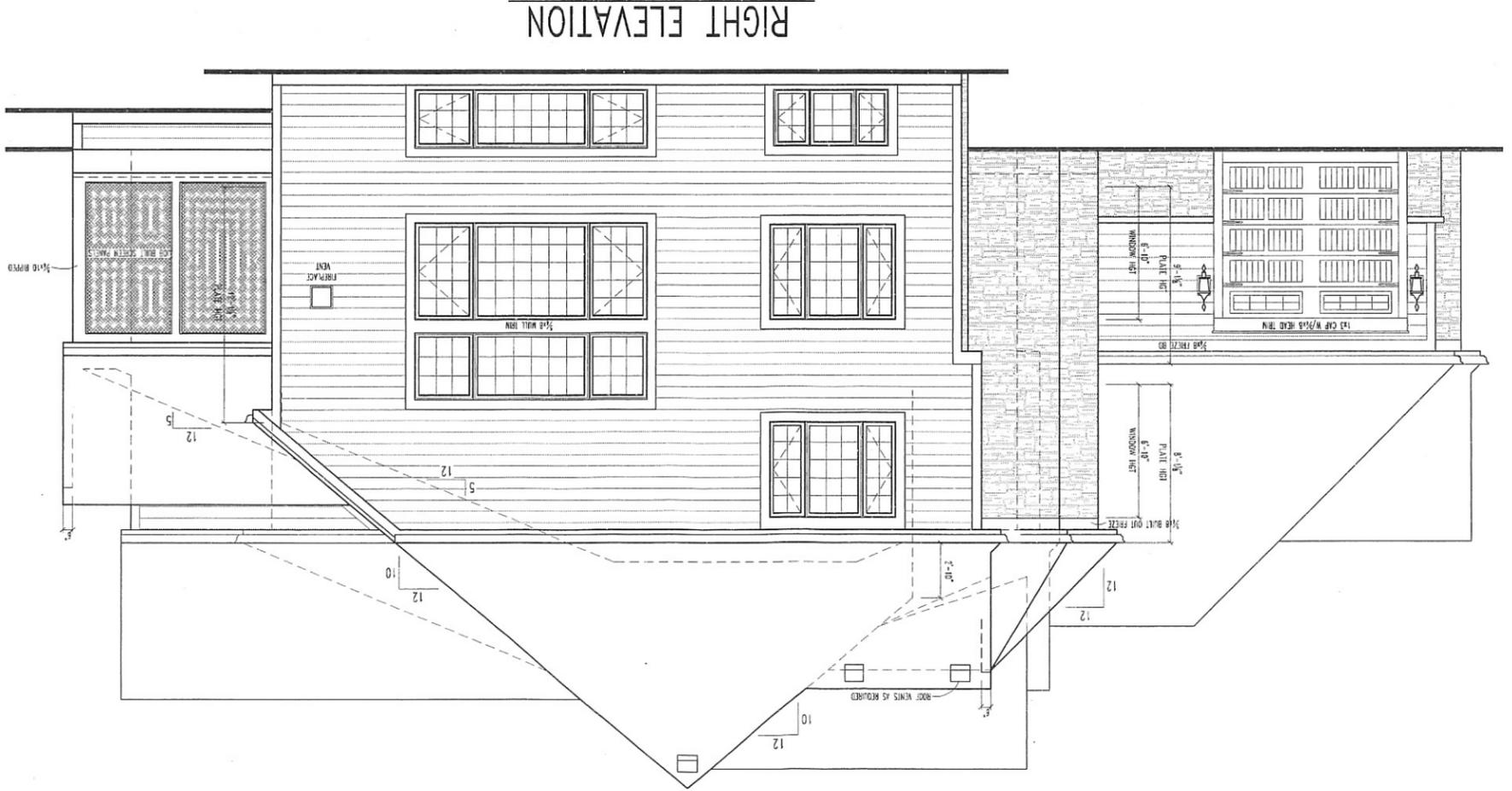
Customer: James & Linda Beckley  
 Model: Custom 2 Story  
 Date: 8-5-2015  
 Rev. Date: 1-10-16

**James Craig Builders Inc.**  
 12229 W NORTH AVE  
 WAUWATOSA, WI 53226  
 PHONE (414) 771-5563  
 FAX (414) 771-7522  
 www.jamescraigbuilders.com

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LEFT ELEVATION



RIGHT ELEVATION

SCALE: 1/8" = 1'-0"

Customer: James & Linda Beckley

Model: Custom 2 Story

Date: 2-12-2016 Rev.Date:

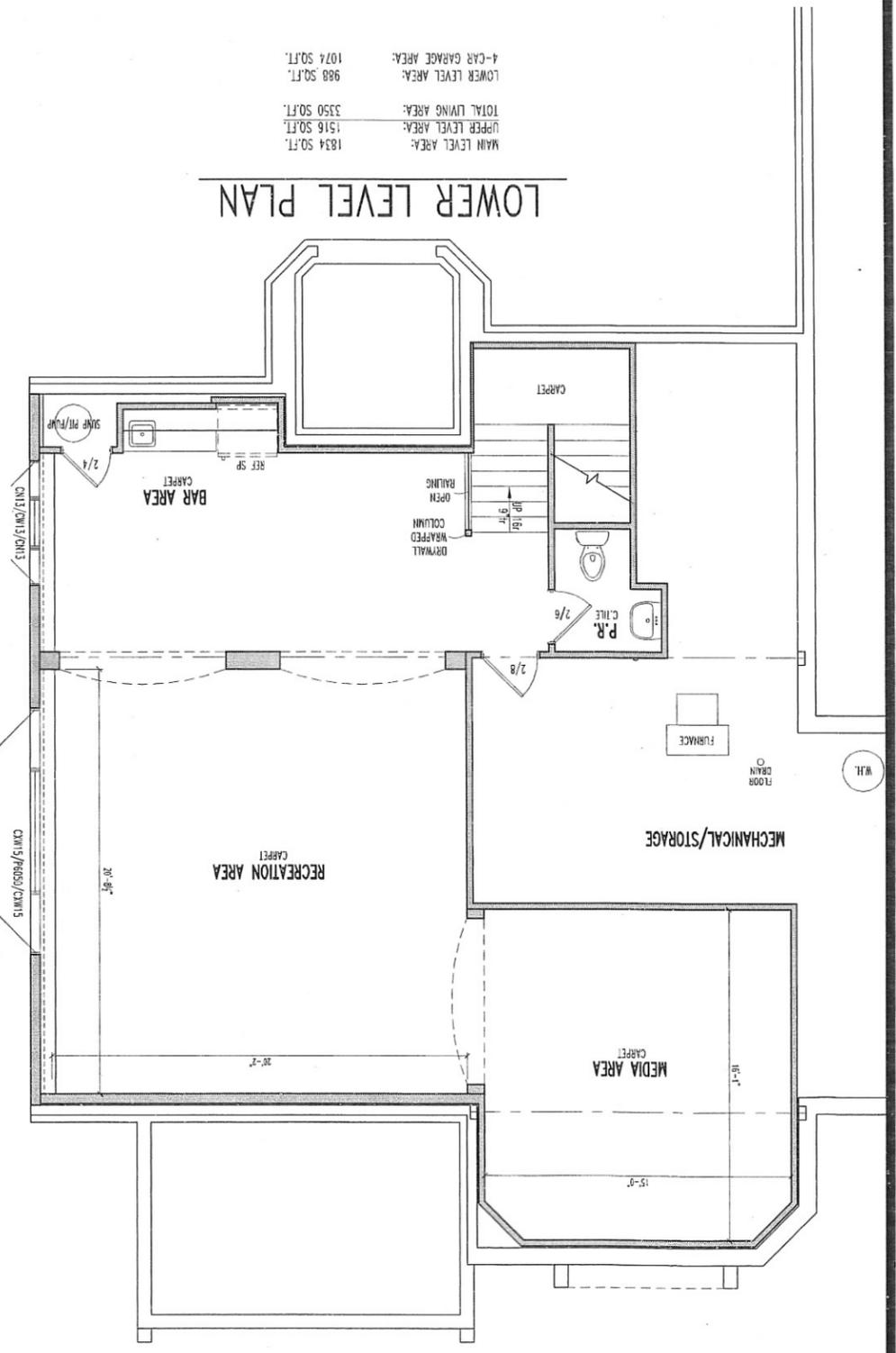


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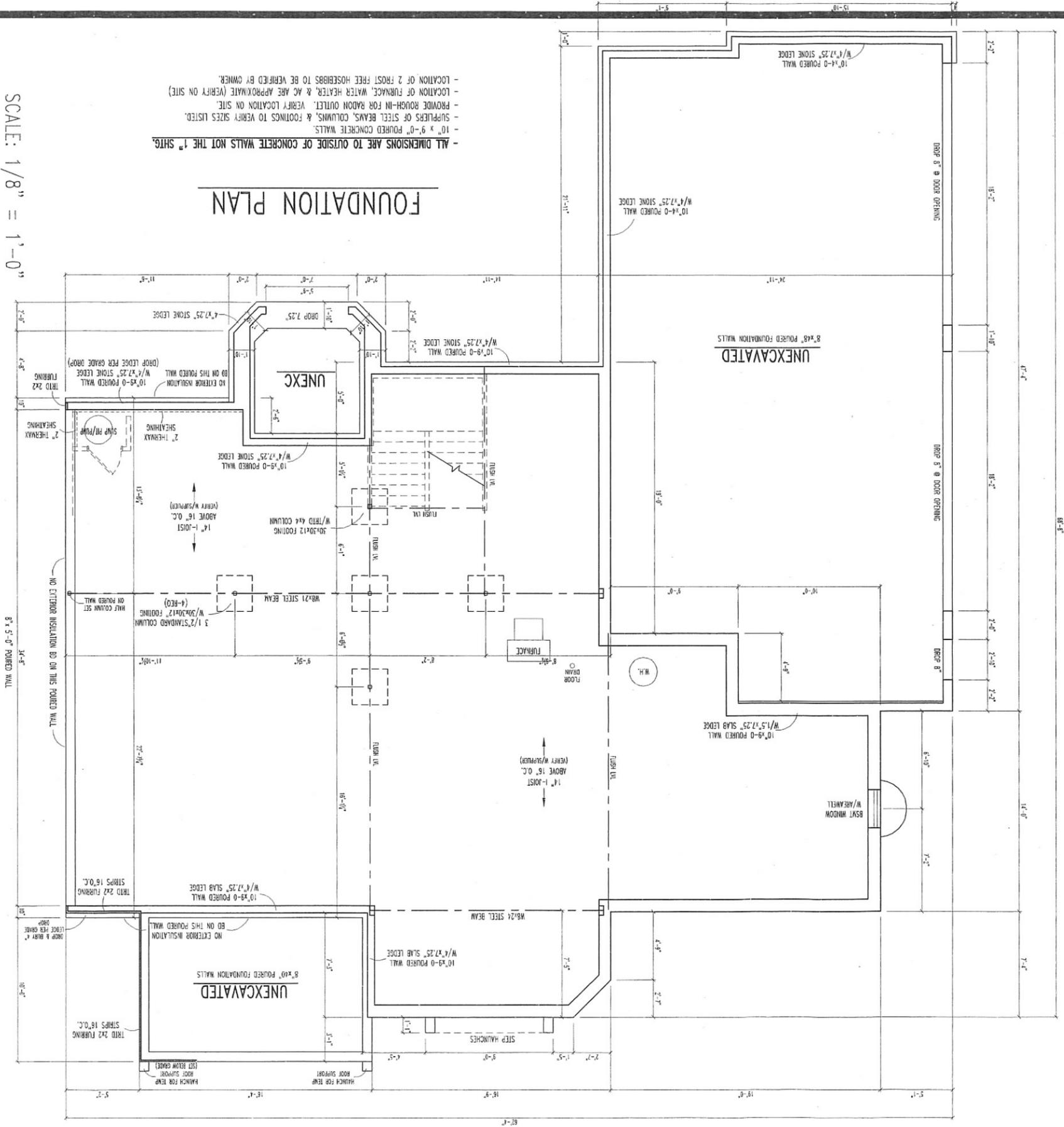
MAIN LEVEL AREA: 1834 SQ. FT.  
 UPPER LEVEL AREA: 1516 SQ. FT.  
 TOTAL LIVING AREA: 3350 SQ. FT.  
 LOWER LEVEL AREA: 988 SQ. FT.  
 4-CAR GARAGE AREA: 1074 SQ. FT.

### LOWER LEVEL PLAN



- ALL DIMENSIONS ARE TO OUTSIDE OF CONCRETE WALLS NOT THE 1" SHITG.
- 10" x 9'-0" POURED CONCRETE WALLS.
- SUPPLIERS OF STEEL BEAMS, COLUMNS, & FOOTINGS TO VERIFY SIZES LISTED.
- PROVIDE ROUGH-IN FOR RADON OUTLET, VERIFY LOCATION ON SITE.
- LOCATION OF FURNACE, WATER HEATER, & AC ARE APPROXIMATE (VERIFY ON SITE).
- LOCATION OF 2 FROST FREE HOSEBIBBS TO BE VERIFIED BY OWNER.

### FOUNDATION PLAN



SCALE: 1/8" = 1'-0"

Customer: James & Linda Beckley

Model: Custom 2 Story

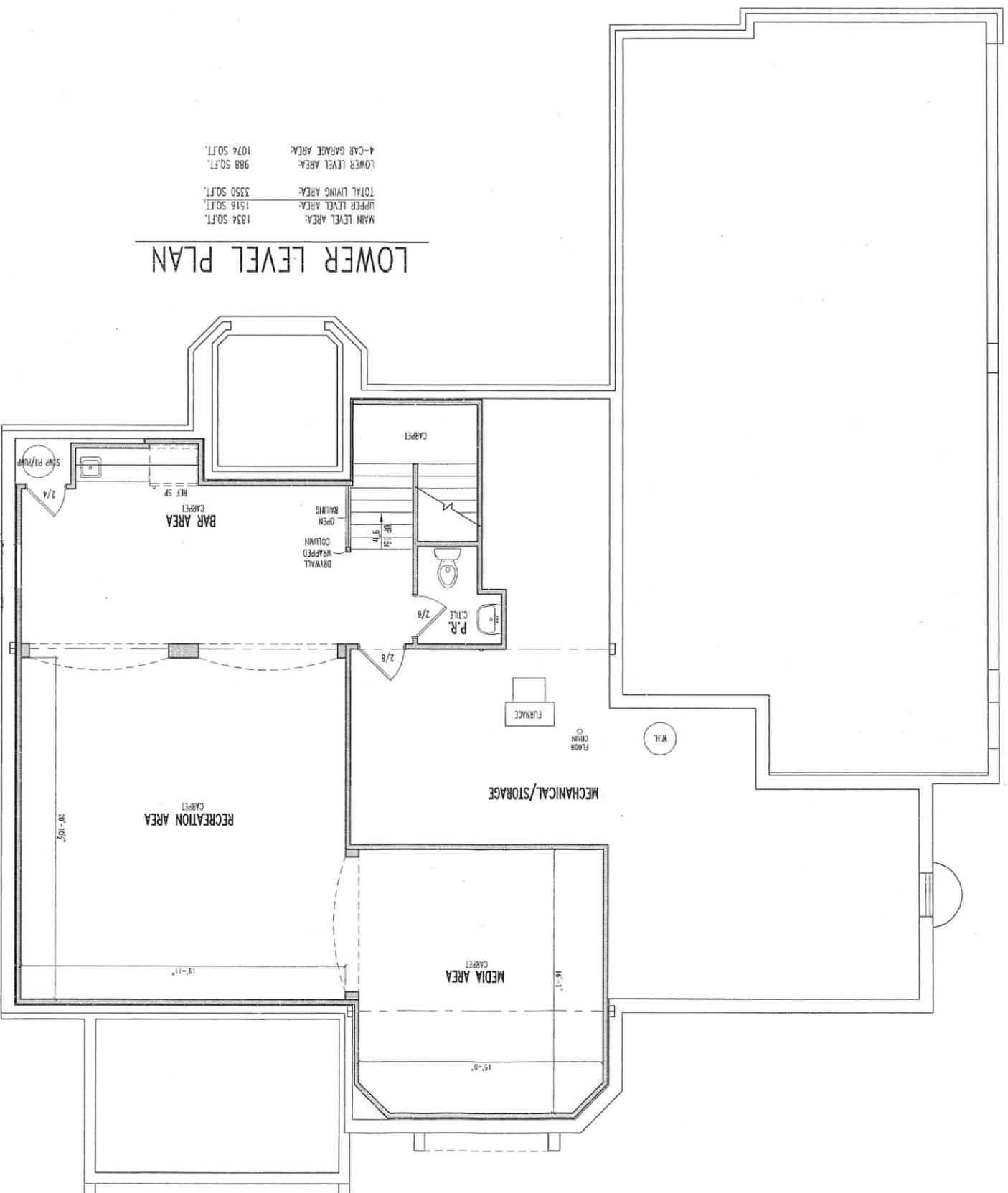
Date: 2-12-2016

Rev.Date:



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 WAUWATOSA, WI 53226  
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SCALE: 1/8" = 1'-0"

Customer: James & Linda Beckley

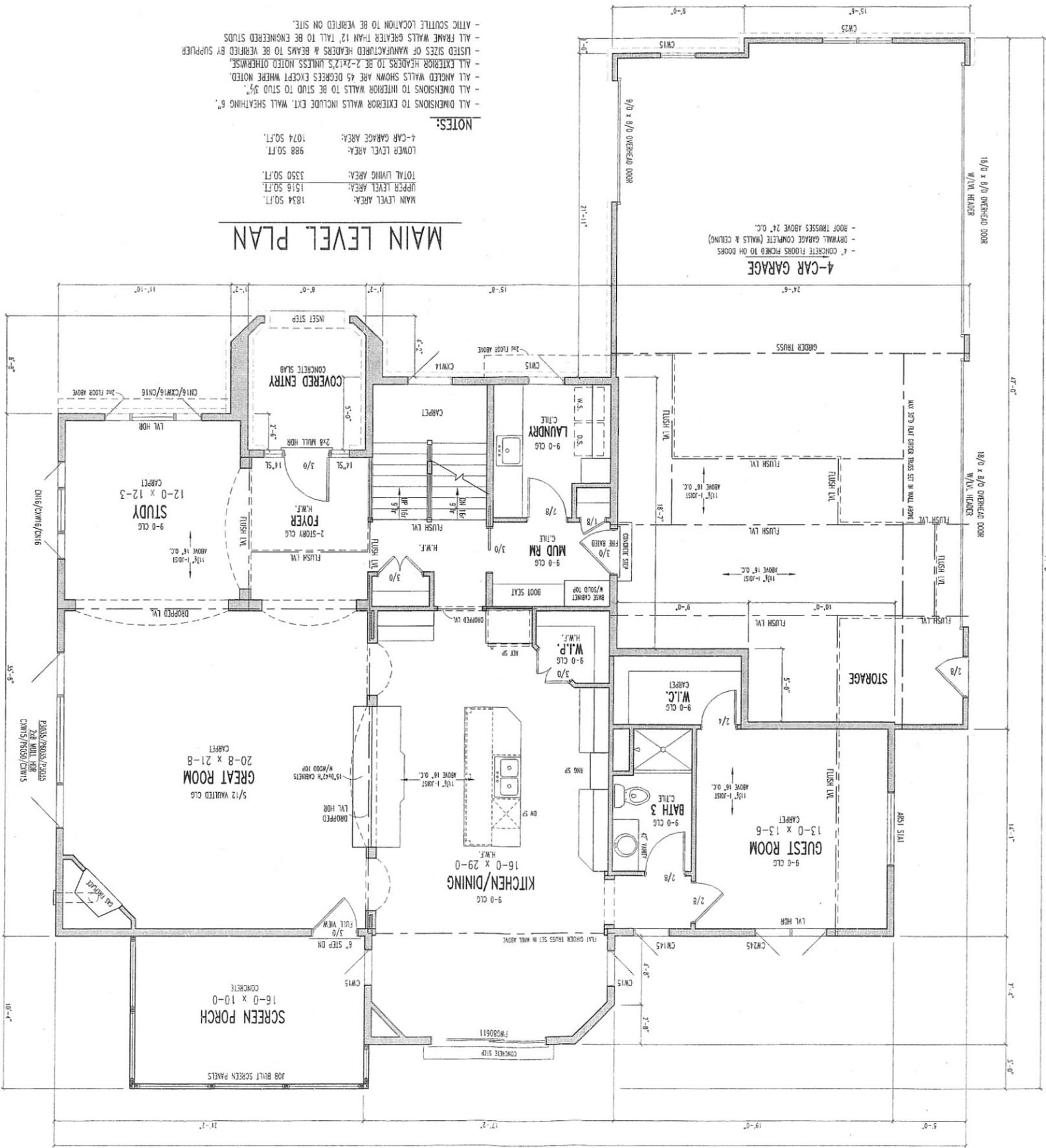
Model: Custom 2 Story

Date: 8-5-2015 Rev.Dat: 12-9-15

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**MAIN LEVEL PLAN**

**NOTES:**

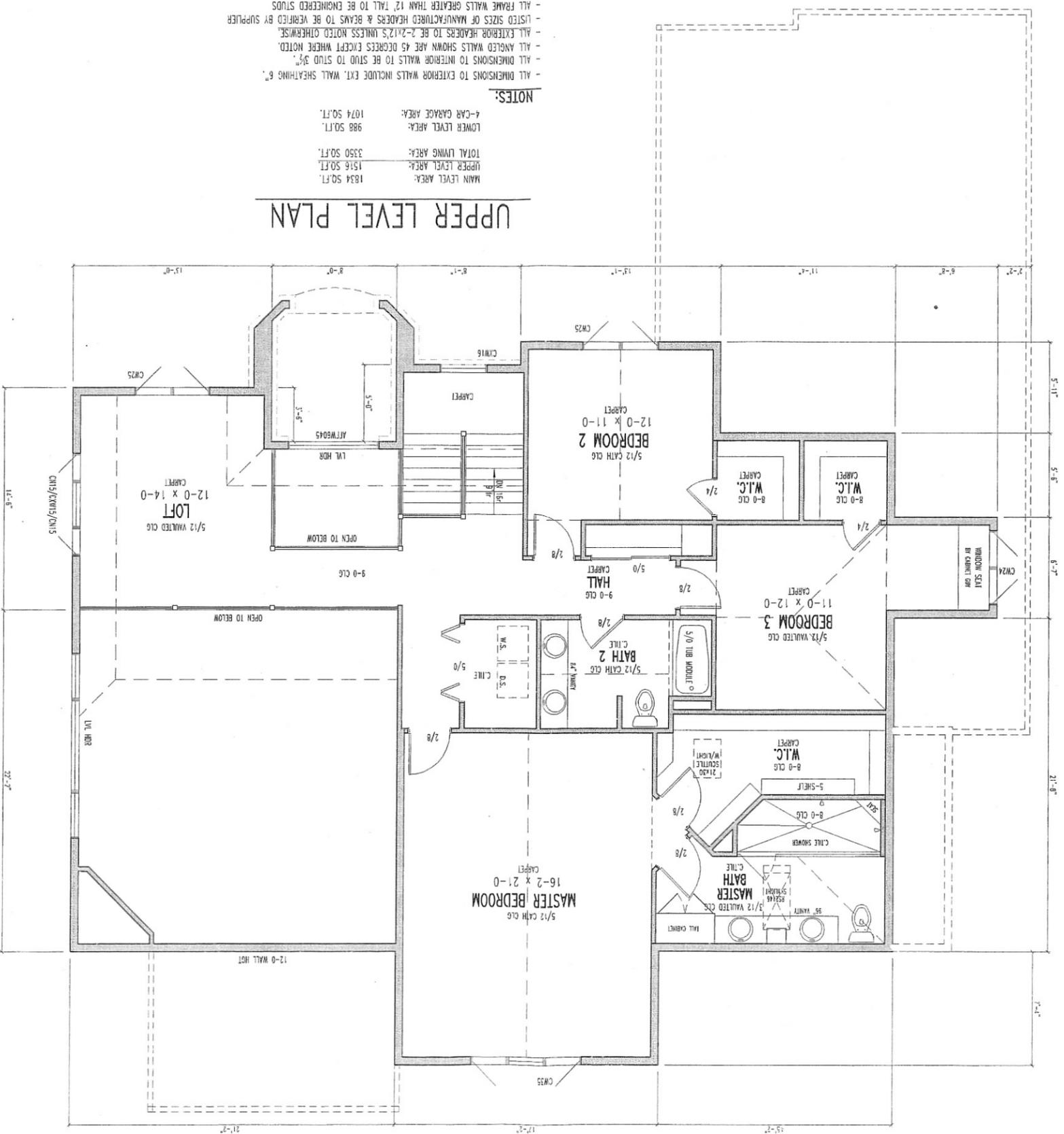
- ALL DIMENSIONS TO EXTERIOR WALLS INCLUDE EXT. WALL SHEATHING 6"
- ALL DIMENSIONS TO INTERIOR WALLS TO BE STUD TO STUD 3/4"
- ALL ANGLED WALLS SHOWN ARE 45 DEGREES EXCEPT WHERE NOTED.
- ALL EXTERIOR HEADERS TO BE 2-2x12'S UNLESS NOTED OTHERWISE.
- LISTED SIZES OF MANUFACTURED HEADERS & BEAMS TO BE VERIFIED BY SUPPLIER.
- ALL FRAME WALLS GREATER THAN 12" TALL TO BE ENGINEERED STUDS
- ATTIC SCUTTLE LOCATION TO BE VERIFIED ON SITE.

SCALE: 1/8" = 1'-0"

Customer: James & Linda Beckley  
 Model: Custom 2 Story  
 Date: 8-5-2015 Rev.Date: 12-9-15

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UPPER LEVEL PLAN

MAIN LEVEL AREA:	1834 SQ.FT.
UPPER LEVEL AREA:	1516 SQ.FT.
TOTAL LIVING AREA:	3350 SQ.FT.
LOWER LEVEL AREA:	988 SQ.FT.
4-CAR GARAGE AREA:	1074 SQ.FT.

NOTES:

- ALL DIMENSIONS TO EXTERIOR WALLS INCLUDE EXT. WALL SHEATHING 6".
- ALL DIMENSIONS TO INTERIOR WALLS TO BE STUD TO STUD UNLESS NOTED.
- ALL ANGLED WALLS SHOWN ARE 45 DEGREES EXCEPT WHERE NOTED.
- ALL EXTERIOR HEADERS TO BE 2"x12"s UNLESS NOTED OTHERWISE.
- LISTED SIZES OF MANUFACTURED HEADERS & BEAMS TO BE VERIFIED BY SUPPLIER.
- ALL FRAME WALLS GREATER THAN 12' TALL TO BE ENGINEERED STUDS.
- ALL ATTIC SCUTTLE LOCATION TO BE VERIFIED ON SITE.
- SEPARATE ZONE HVAC AT LIVING SPACE ABOVE GARAGE.

SCALE: 1/8" = 1'-0"

Customer: James & Linda Beckley

Model: Custom 2 Story

Date: 8-5-2015

Rev. Date: 12-9-15

**James Craig Builders Inc.**

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WAUWATOSA, WI 53226  
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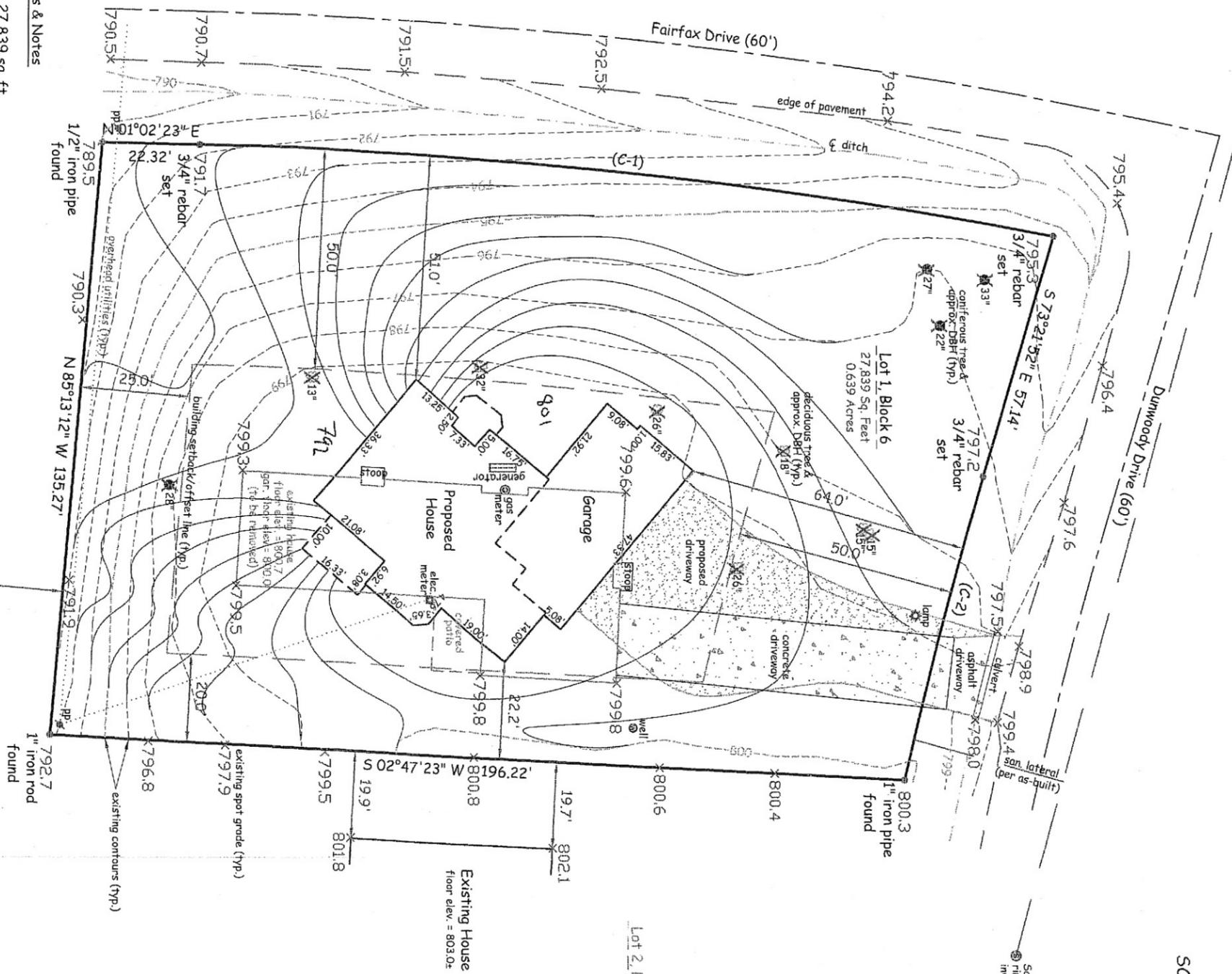
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 (C-2) A=71.60' R=105.98' D=3°53'06" Ch=27.59' CB=N 79°18'25" W

San MH  
 rim = 787.94  
 inv = 777.49

**Bernklau Surveying, Inc.**  
 N60 W25864 Walnut Road  
 Sussex, WI 53089  
 (262) 538-0708  
 www.bernklausurveying.com  
 Plat of Survey



SCALE 1" = 30'



Area Calculations & Notes

Total Lot Area = 27,839 sq. ft.  
 Proposed Impervious surface:  
 Proposed House, garage & porch = 3,187 sq. ft. (11.4% lot area)  
 Proposed driveway = 2,363 sq. ft. (8.5% lot area)  
 Total proposed impervious surface = 5,550 sq. ft. (19.9% lot area)  
 Other existing impervious surfaces to be removed: house, asphalt driveway stoops & patio.

Suggested yard grade = ~~800.00~~ 801.0/792.0  
 Suggested top of foundation elevation = ~~800.67~~ 801.67  
 Suggested garage floor elevation = ~~800.33~~ 801.33  
 Suggested first floor elevation = ~~801.7~~ 802.7  
 Suggested top of footing elevation = ~~794.67~~ (9' wall) 792.67

Prepared for:  
 James Craig Builders, Inc.  
 12229 W. North Ave.  
 Wauwatosa, WI 53226

Owner: James & Linda Beckley  
 Property Address:  
 1850 Fairfax Drive  
 Elm Grove, WI 53122

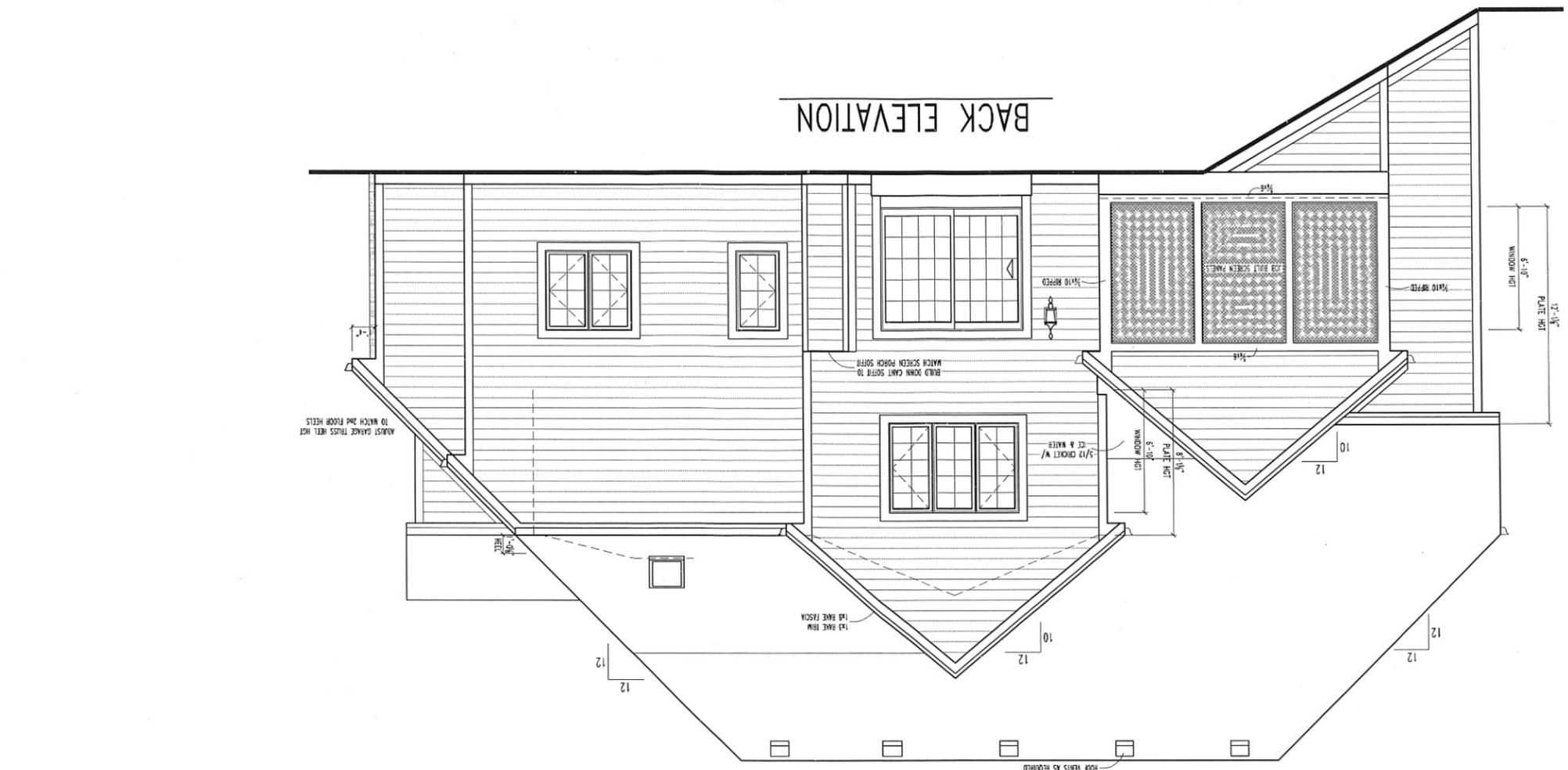
Lot 1, Block 6, Frederick Manor, being a subdivision of part of the Northeast 1/4 and the Southeast 1/4 of the Northeast 1/4 of Section 24, Township 7 North, Range 20 East, Village of Elm Grove, Waukesha County, Wisconsin.

I, Thomas M. Bernklau, Professional Land Surveyor, certify that I have surveyed the above described property to the official records, to the best of my knowledge and belief, and that the map shown hereon is a true representation thereof, and shows the size and location of the property, its exterior boundaries, the location and dimensions of all visible structures thereon, boundary fences, apparent easements, and all visible encroachments, if any.

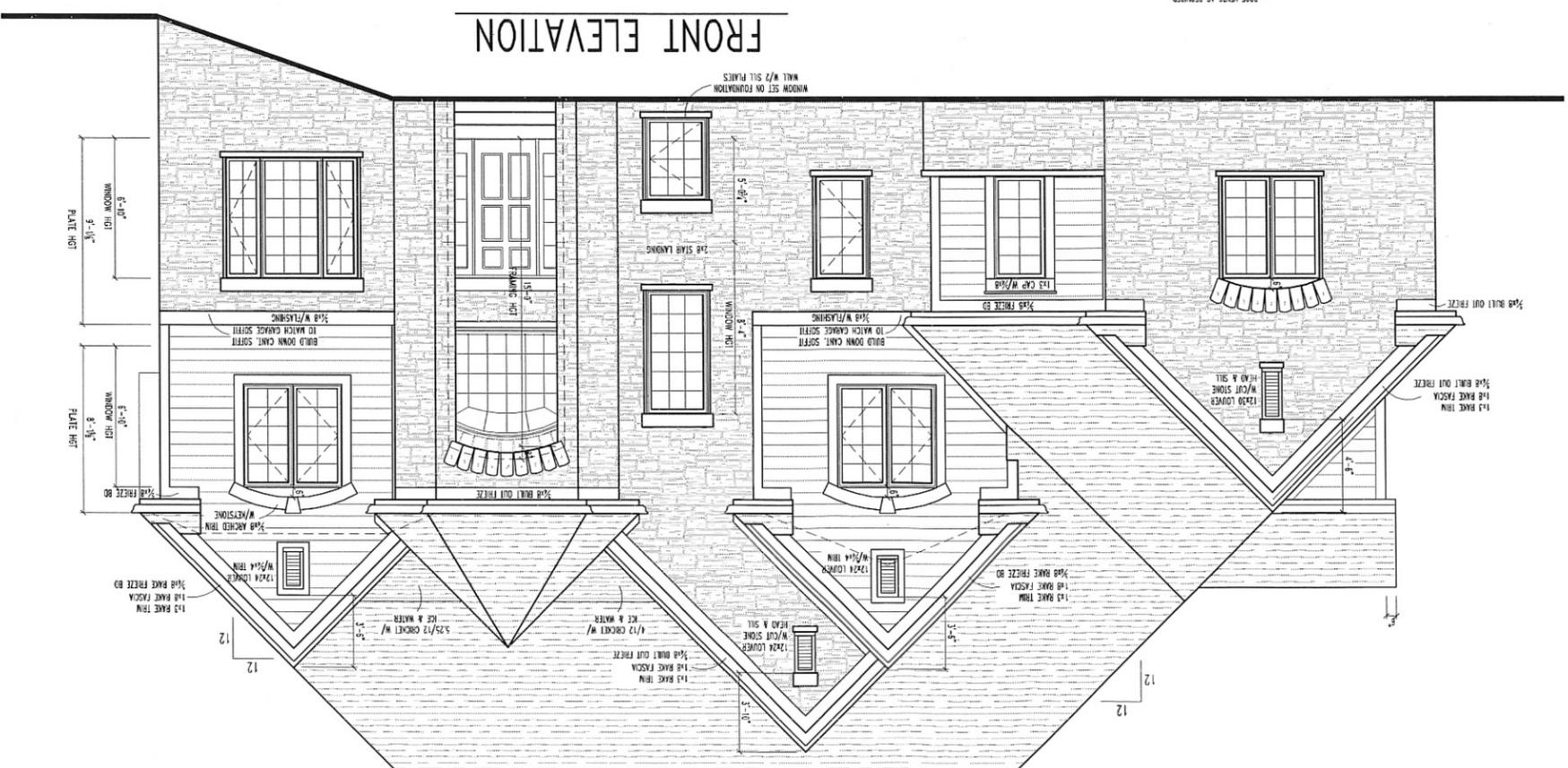
This survey is made for the exclusive use of the present owners of the property; also those who purchase, mortgage or guarantee title thereto, within one year hereof.

Date January 15, 2016

Thomas M. Bernklau, PLS - 2147



BACK ELEVATION



FRONT ELEVATION

SCALE: 1/8" = 1'-0"

Customer: James & Linda Beckley

Model: Custom 2 Story

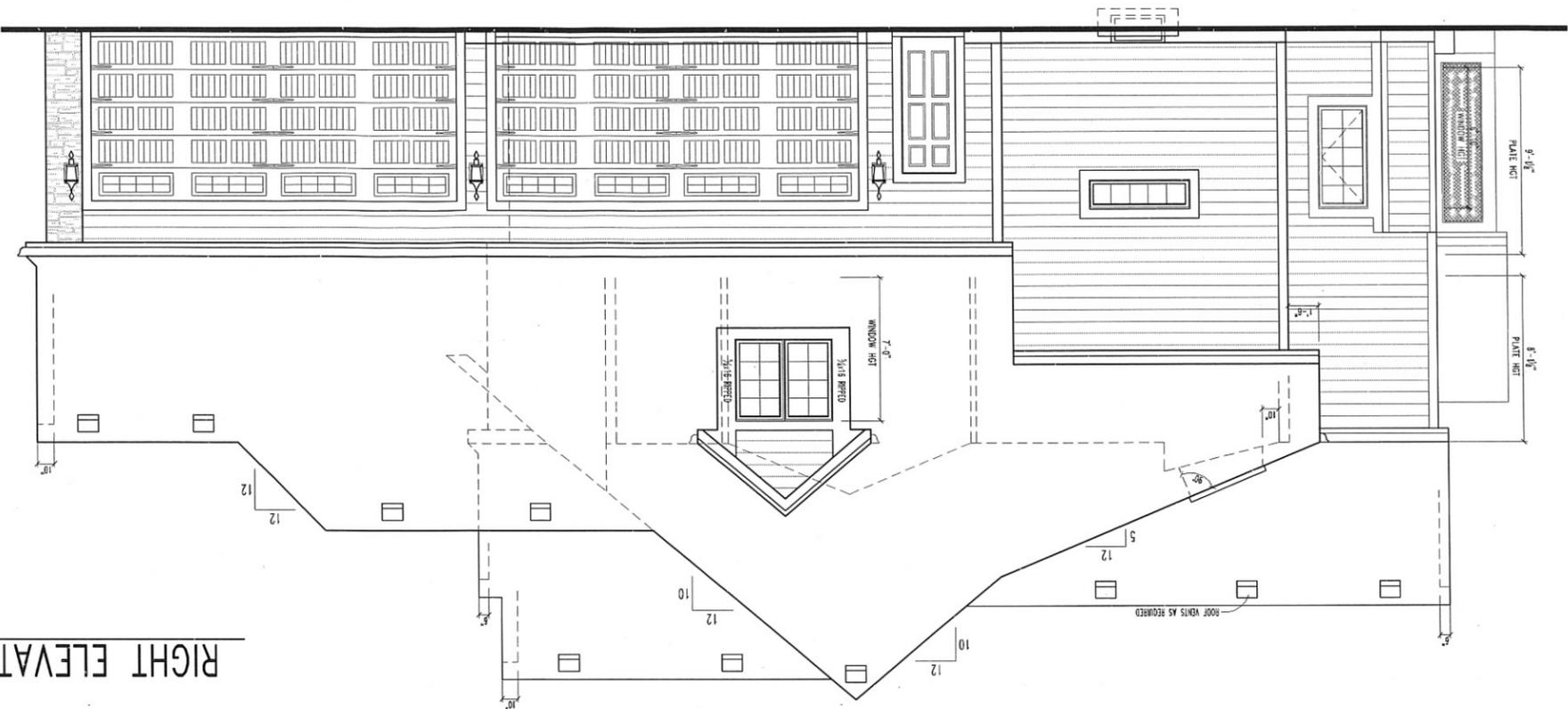
Date: 2-12-2016

Rev.Date:

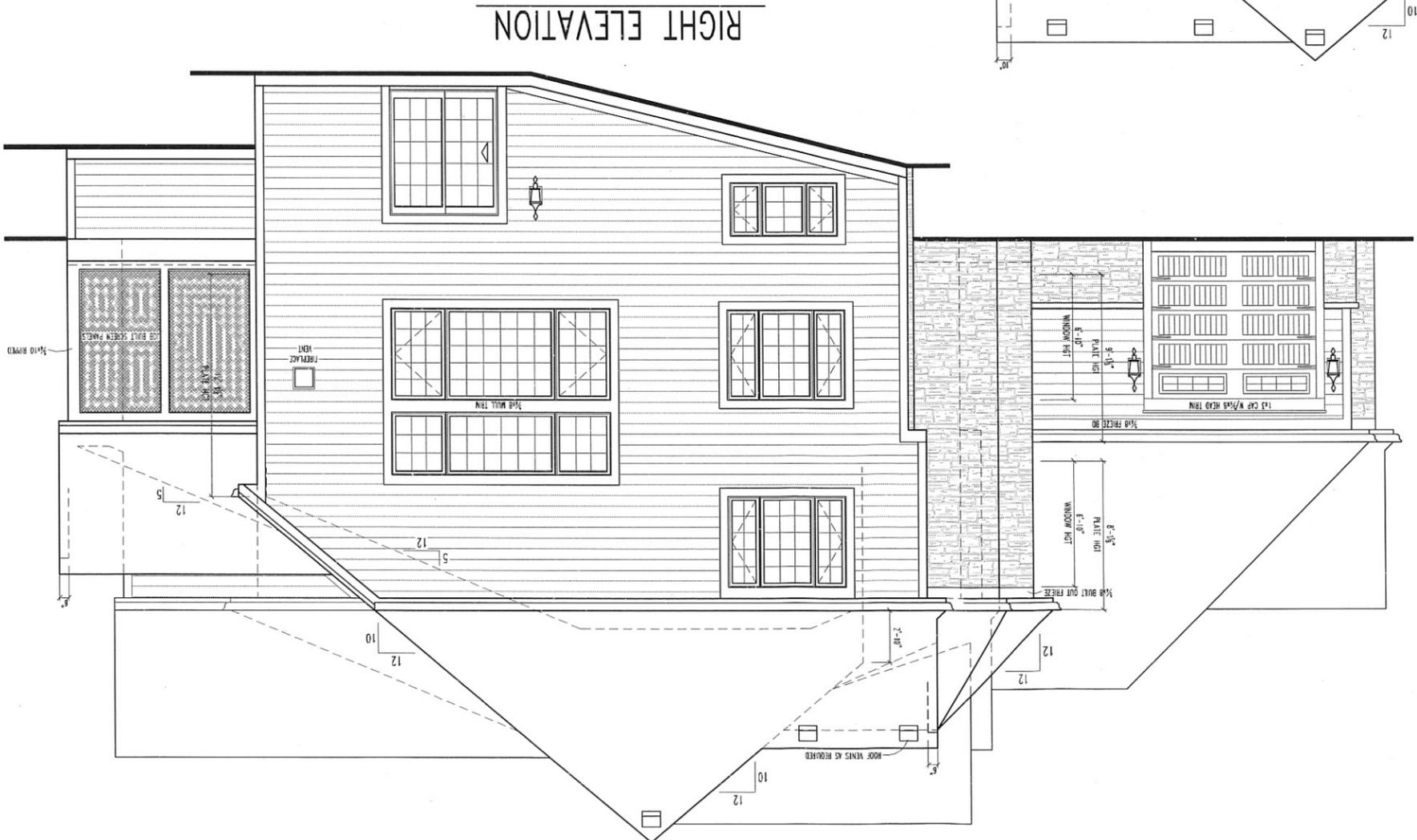
**James Craig Builders Inc.**

12229 W NORTH AVE  
 WAUWATOSA, WI 53226  
 PHONE (414) 771-5563  
 FAX (414) 771-7522  
 www.jamescraigbuilders.com

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 JAMES CRAIG BUILDERS INC. RESERVES THE RIGHT TO  
 USE ALL OR PARTS OF THE PLANS IN THE FUTURE



LEFT ELEVATION



RIGHT ELEVATION

SCALE: 1/8" = 1'-0"

Customer: James & Linda Beckley

Model: Custom 2 Story

Date: 2-12-2016

Rev.Date:

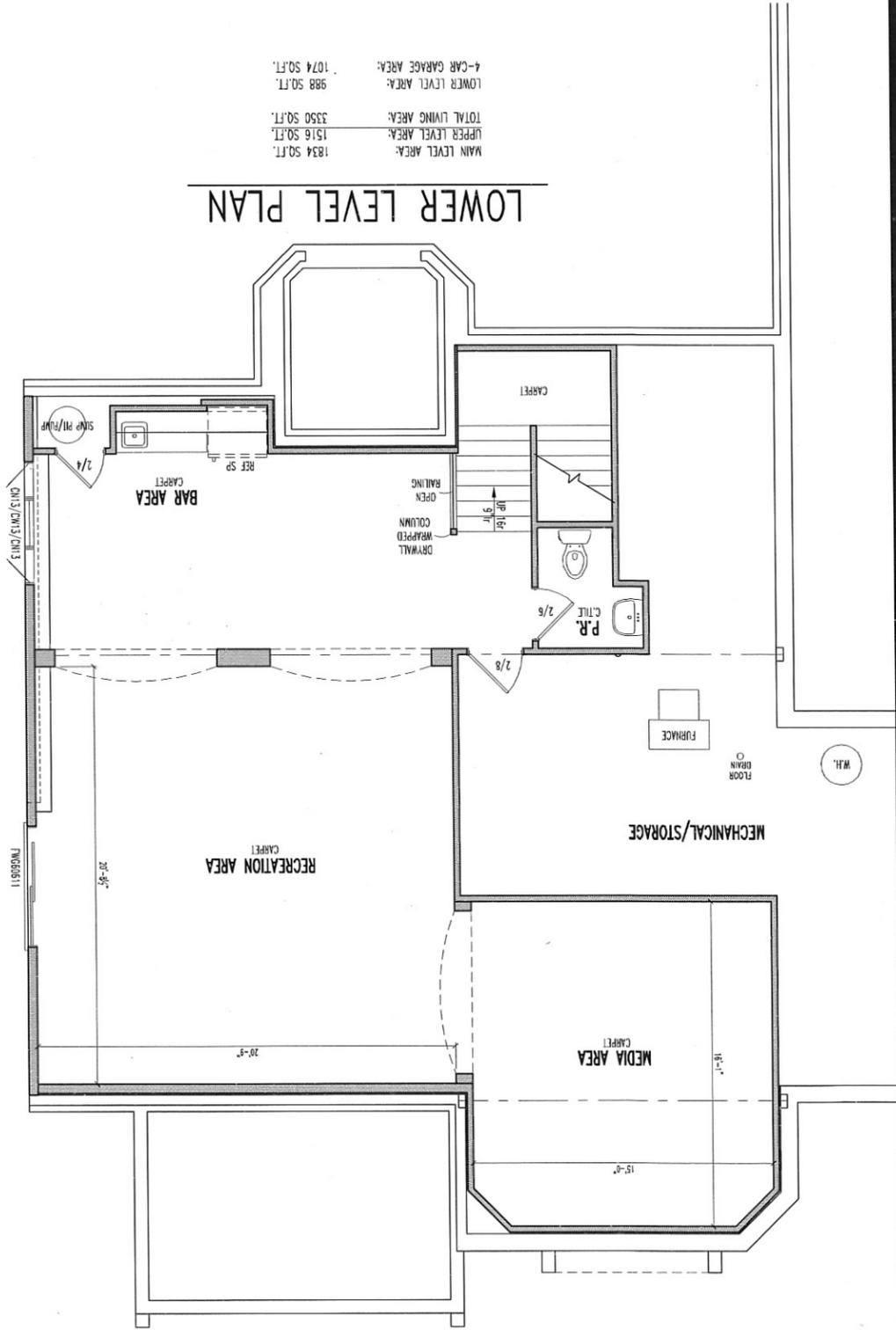
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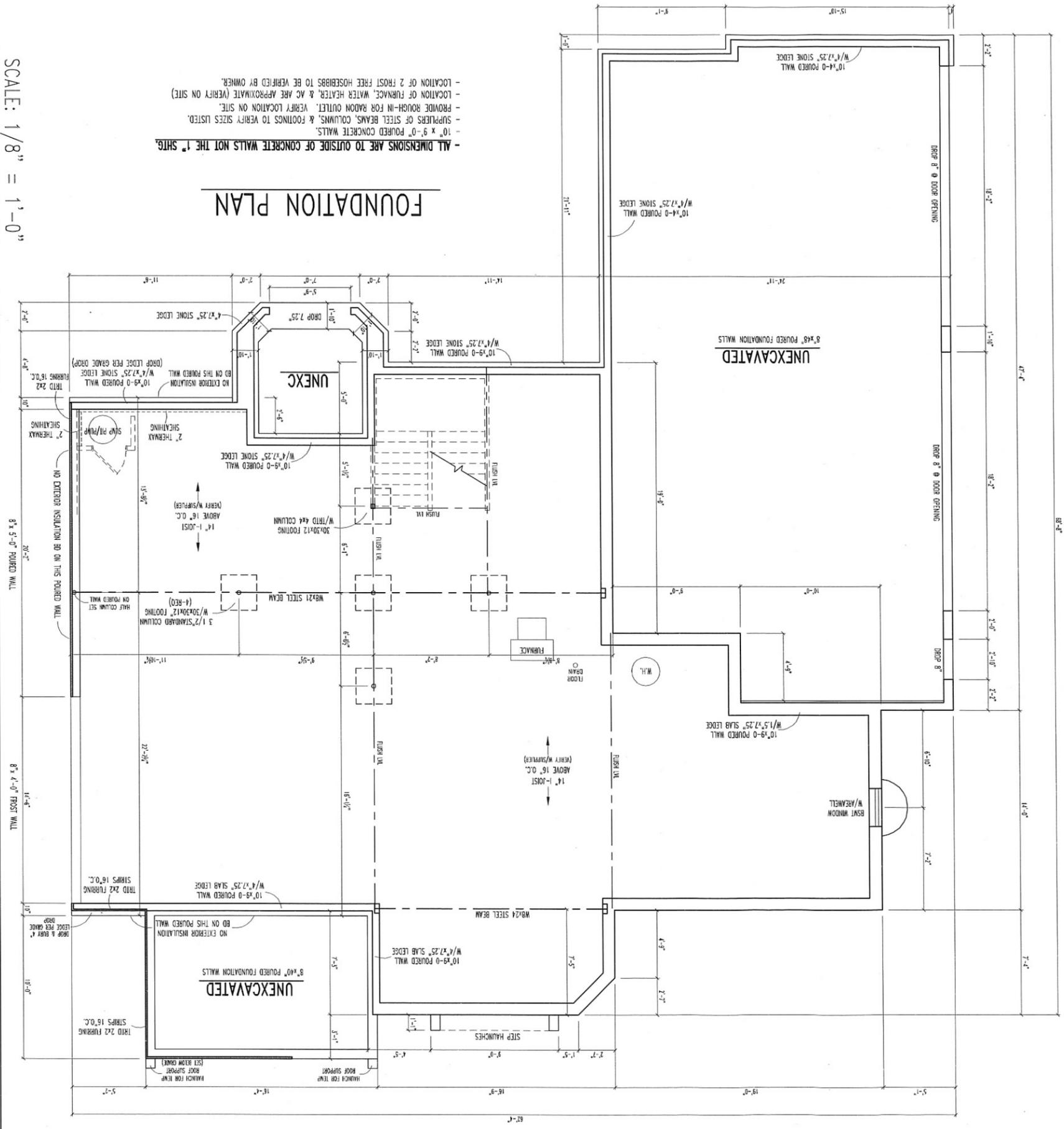
MAIN LEVEL AREA:	1834 SQ.FT.
UPPER LEVEL AREA:	1516 SQ.FT.
TOTAL LIVING AREA:	3350 SQ.FT.
LOWER LEVEL AREA:	988 SQ.FT.
4-CAR GARAGE AREA:	1074 SQ.FT.

## LOWER LEVEL PLAN



- ALL DIMENSIONS ARE TO OUTSIDE OF CONCRETE WALLS NOT THE 1" SHTG.
- 10" x 9'-0" POURED CONCRETE WALLS.
- SUPERS OF STEEL BEAMS, COLUMNS, & FOOTINGS TO VERIFY SIZES LISTED.
- PROVIDE ROUGH-IN FOR RADON OUTLET. VERIFY LOCATION ON SITE.
- LOCATION OF FURNACE, WATER HEATER, & AC ARE APPROXIMATE (VERIFY ON SITE).
- LOCATION OF 2 FROST FREE HOSEBIBS TO BE VERIFIED BY OWNER.

## FOUNDATION PLAN



SCALE: 1/8" = 1'-0"

Customer: James & Linda Beckley

Model: Custom 2 Story

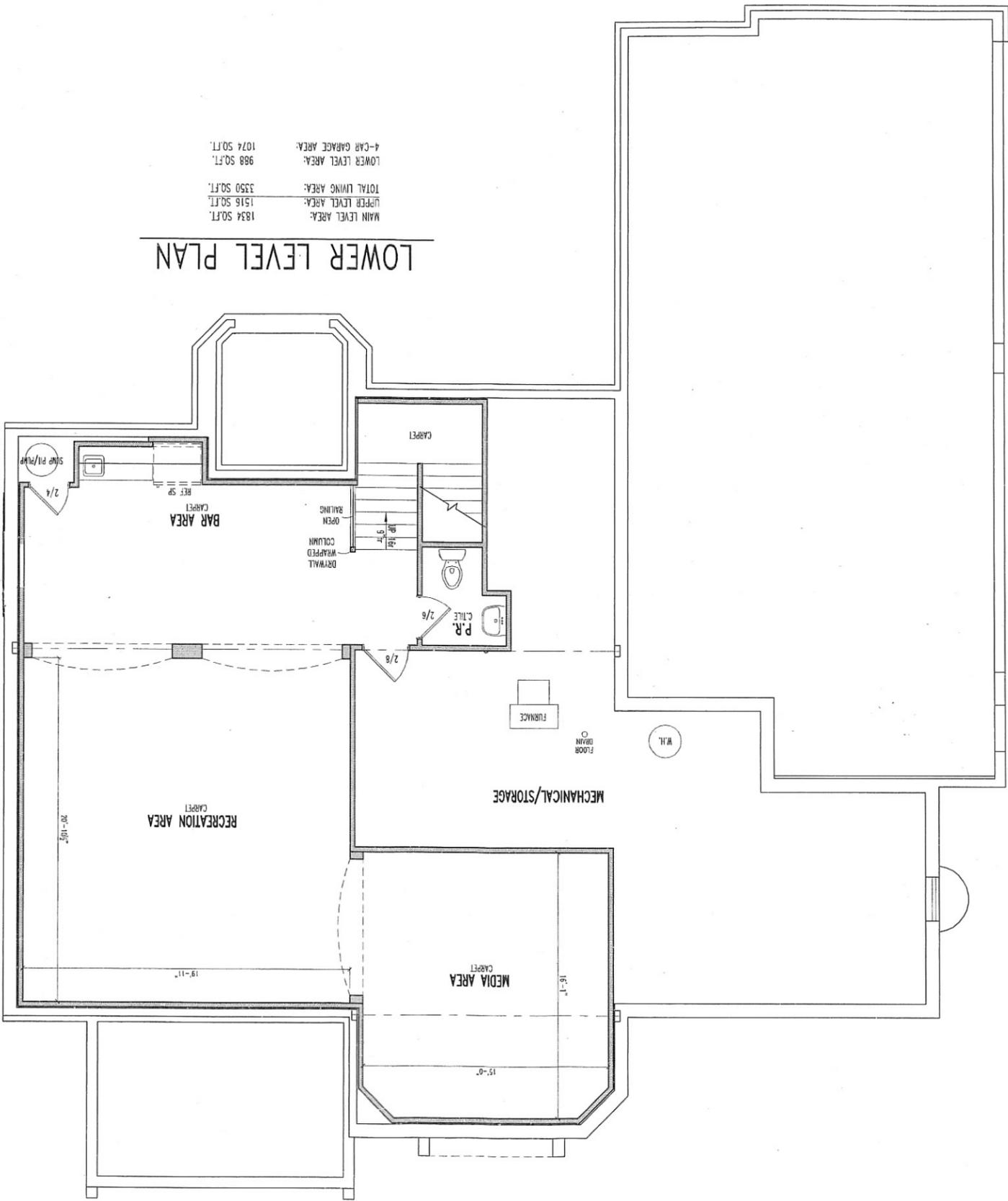
Date: 2-12-2016

Rev.Date:



12229 W NORTH AVE  
 WAUKATOSA, WI 53226  
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 FAX (414) 771-7522  
 www.jamescraigbuilders.com

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 USE ALL OR PARTS OF THE PLANS IN THE FUTURE



MAIN LEVEL AREA:	1834 SQ.FT.
UPPER LEVEL AREA:	1516 SQ.FT.
TOTAL LIVING AREA:	3350 SQ.FT.
LOWER LEVEL AREA:	988 SQ.FT.
4-CAR GARAGE AREA:	1074 SQ.FT.

**LOWER LEVEL PLAN**

SCALE: 1/8" = 1'-0"

Customer: James & Linda Beckley  
 Model: Custom 2 Story  
 Date: 8-5-2015 Rev.Date: 12-9-15

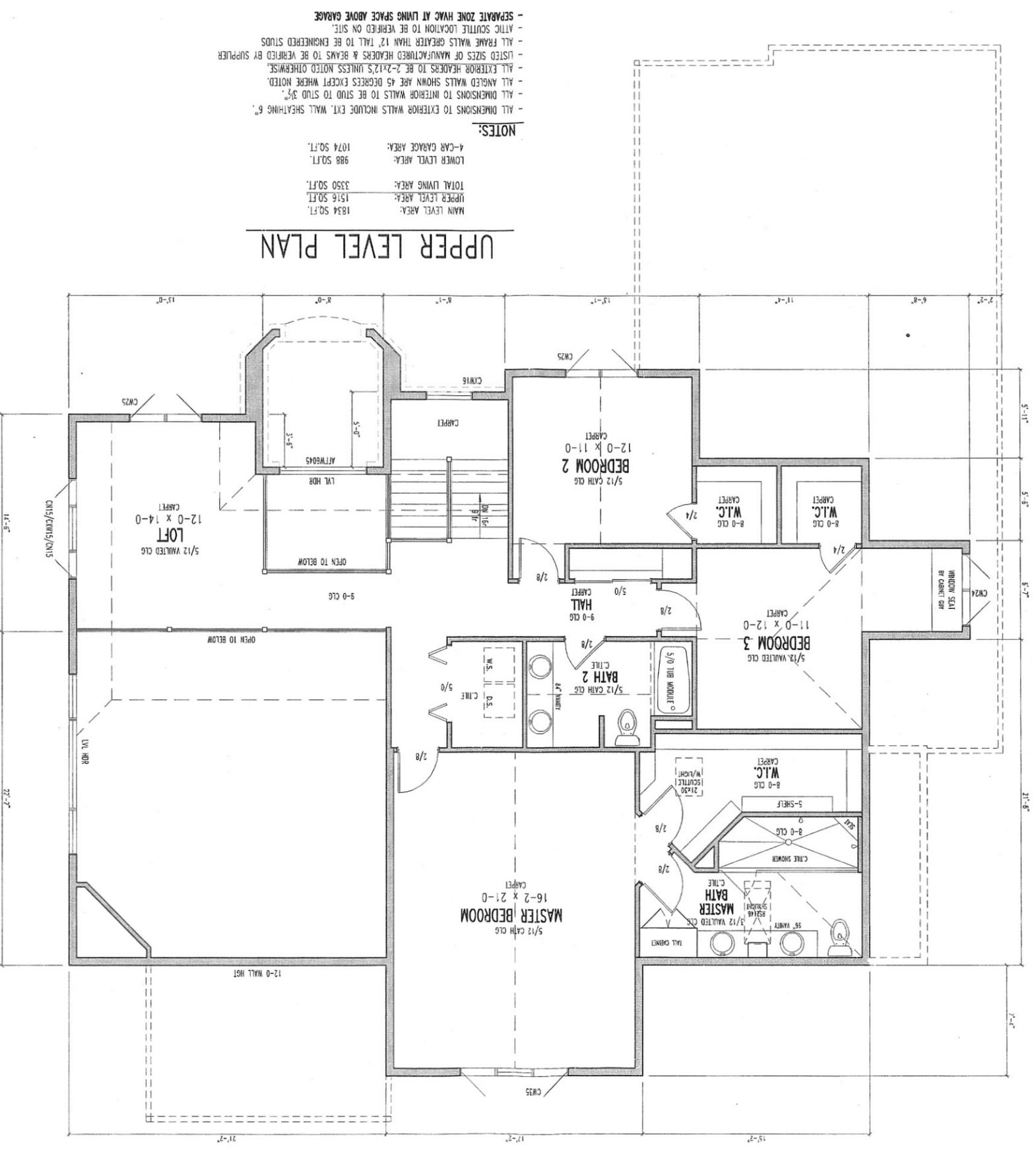
**James Craig Builders Inc.**

12229 W NORTH AVE  
 WAUWATOSA, WI 53226  
 www.jamescraigbuilders.com

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**NOTES:**

MAIN LEVEL AREA:	1834 SQ.FT.
UPPER LEVEL AREA:	1516 SQ.FT.
TOTAL LIVING AREA:	3350 SQ.FT.
LOWER LEVEL AREA:	988 SQ.FT.
4-CAR GARAGE AREA:	1074 SQ.FT.

- ALL DIMENSIONS TO INTERIOR WALLS TO BE STUD TO STUD 3/8"
- ALL ANGLED WALLS SHOWN ARE 45 DEGREES EXCEPT WHERE NOTED.
- ALL EXTERIOR HEADERS TO BE 2-2x12'S UNLESS NOTED OTHERWISE.
- LISTED SIZES OF MANUFACTURED HEADERS & BEAMS TO BE VERIFIED BY SUPPLIER.
- ALL FRAME WALLS GREATER THAN 12' TALL TO BE ENGINEERED STUDS.
- ATTC SCUTTLE LOCATION TO BE VERIFIED ON SITE.
- SEPARATE ZONE HVAC AT LIVING SPACE ABOVE GARAGE.

**UPPER LEVEL PLAN**

SCALE: 1/8" = 1'-0"

Customer: James & Linda Beckley  
 Model: Custom 2 Story  
 Date: 8-5-2015  
 Rev.Date: 12-9-15

**James Craig Builders Inc.**  
 12229 W NORTH AVE  
 WAUWATOSA, WI 53226  
 PHONE (414) 771-5563  
 FAX (414) 771-7522  
 www.jamescraigbuilders.com

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# Bernklau Surveying, Inc.

N60 W25864 Walnut Road  
Sussex, WI 53089  
(262) 538-0708  
www.bernklausurveying.com

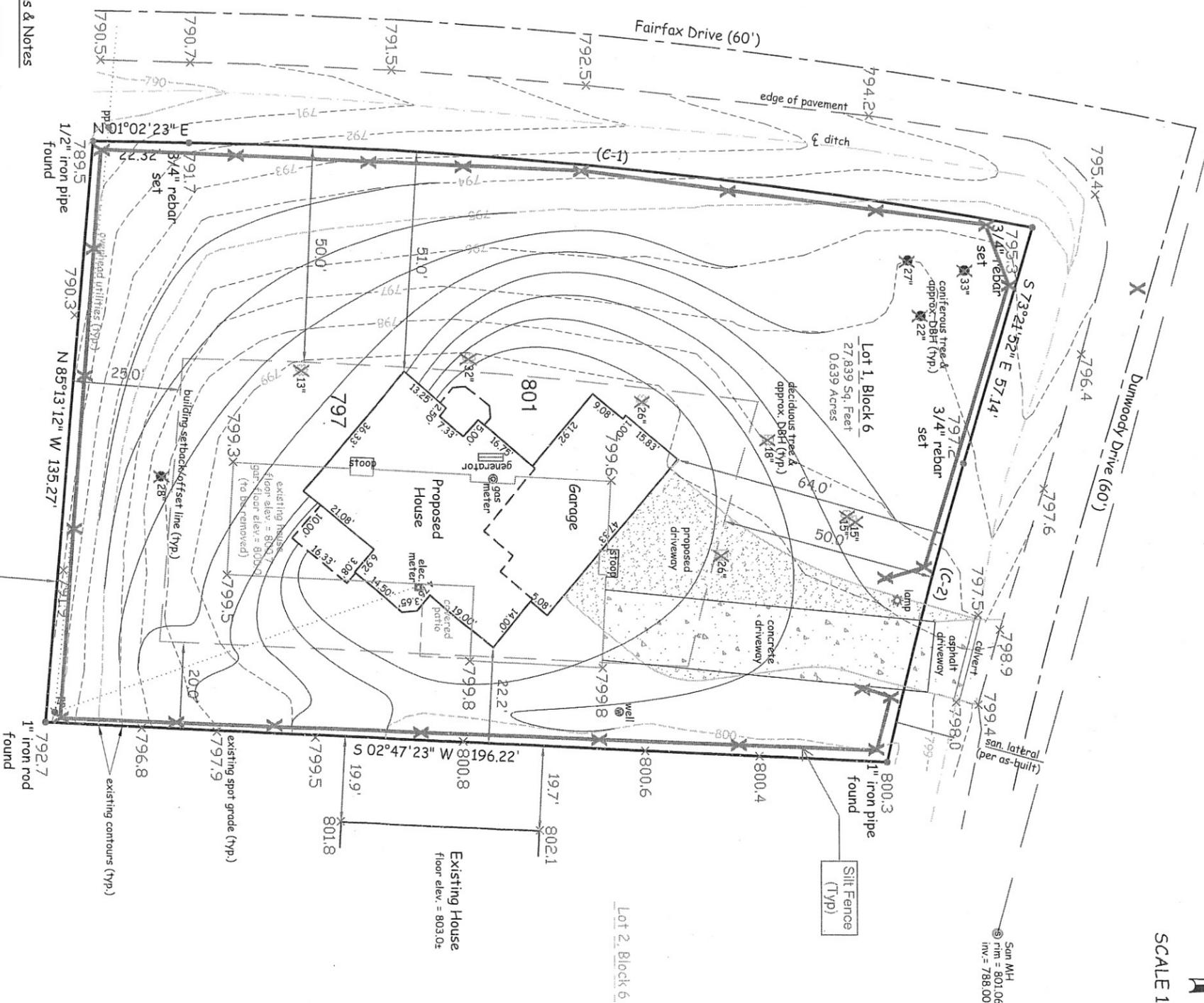
Plat of Survey

(C-1) A=198.16' R=1180.99' D=9°36'50" Ch=197.92' CB=5°05'47.03" W  
(C-2) A=71.60' R=1055.98' D=3°53'06" Ch=71.59' CB=N 75°18'25" W

San MH  
rim = 787.94  
Inv. = 777.49



SCALE 1" = 30'



**Area Calculations & Notes**

Total Lot Area = 27,839 sq. ft.

Proposed Impervious surface:  
Proposed House, garage & porch = 3,187 sq. ft. (11.4% lot area)  
Proposed driveway = 2,363 sq. ft. (8.5% lot area)  
Total proposed impervious surface = 5,550 sq. ft. (19.9% lot area)  
Other existing impervious surfaces to be removed: house, asphalt driveway stoops & patio.

Suggested yard grade = ~~800.00~~ 801.0/797.0  
Suggested top of foundation elevation = ~~800.67~~ 801.67  
Suggested garage floor elevation = ~~800.33~~ 801.33  
Suggested first floor elevation = ~~801.7~~ 802.7  
Suggested top of footing elevation = ~~799.67~~ (9' wall) 792.67

Prepared for:  
James Craig Builders, Inc.  
12229 W. North Ave.  
Wauwatosa, WI 53226

Owner: James & Linda Beckley

Property Address:  
1850 Fairfax Drive  
Elm Grove, WI 53122

PN 3630-16

Lot 1, Block 6, Fredrick Manor, being a subdivision of part of the Northeast 1/4 and the Southeast 1/4 of the Northeast 1/4 of Section 24, Township 7 North, Range 20 East, Village of Elm Grove, Waukesha County, Wisconsin.

I, Thomas M. Bernklau, Professional Land Surveyor, certify that I have surveyed the above described property to the official records, to the best of my knowledge and belief, and that the map shown hereon is a true representation thereof, and shows the size and location of the property, its exterior boundaries, the location and dimensions of all visible structures thereon, boundary fences, apparent easements, and all visible encroachments, if any.

This survey is made for the exclusive use of the present owners of the property; also those who purchase, mortgage or guarantee title thereto, within one year hereof.

Date January 15, 2016

Thomas M. Bernklau, PLS - 2147

Casey Griffiths Zoning & Planning Administrator/  
Assistant to the Village Manager  
Village of Elm Grove  
13600 Juneau Blvd.  
Elm Grove, WI 53122

February 15, 2016

Dear Mr. Griffiths,

Enclosed is the Temporary Plan of Operations form for Alsum Sweet Corn. I have included 13 copies of the form and 13 copies of the plan layout. I am also including pictures from our previous stand on North Avenue in Brookfield, which is on the back of the plan out page. This stand had been in operation for 12 years.

Scott and Ben Alsum will be at the March 7, 2016 meeting to help answer any questions that may be asked. We also would like to explain more in depth the way our family operation works. Please let me know if there is anything else that is needed to help with clarity at this meeting.

I have also included the application fee check along with the operation forms and plans.

We appreciate the efforts of your village board as they work through different issues to help us.

Sincerely,

A handwritten signature in black ink that reads "Lona Alsum". The signature is written in a cursive, flowing style with a large loop at the end.

Lona Alsum  
Alsum Sweet Corn  
920-296-5207



VILLAGE OF ELM GROVE  
Application for Temporary Plan of Operation

**\*\*This document is a matter of public record and may be reviewed upon request\*\***

**Business Contact Information (name of business on current plan of operation form)**

Alsum Sweet Corn  
W516 Friesland Rd  
Randolph, WI 53956

Scott Alsum (920-296-5208)  
Lona Alsum (920-296-5207)  
Ben Alsum (920-382-5207)

**Business Use Information**

**1. Explanation of Proposed Temporary Use:**

We will set up tent in parking (as shown on map) We will bring our fresh farm produce to this area for customers. We also will sell Mums, pumpkins + squash in fall. I would like to display on front grass close to stand. (Mums dry out quickly on blacktop)  
Previously sold for 12 years at 13785 W. North Ave in Brookfield. Needed to move b/c owner is developing lot.

**2. Change in Hours of Operation (if applicable):**

Monday: 10 - 5:30 Friday: 10 - 5:30  
Tuesday: 10 - 5:30 Saturday: 9 - 3:30 pm  
Wednesday: 10 - 5:30 Sunday: 11 - 4 pm  
Thursday: 10 - 5:30

**3. Anticipated Customer Load:**

80 customers / day

**4. Site Plan:**

Included on map - Please note - included in plan is a portapotty for employee use only - it can be moved to anywhere on lot that is appropriate.

Applicant's Signature: Lona Alsum

Date: 2/13/16

Signature of Zoning Administrator: \_\_\_\_\_

Date: \_\_\_\_\_

Copies provided to:

- Police Chief
- Fire Chief
- Fire Inspector
- Village Clerk



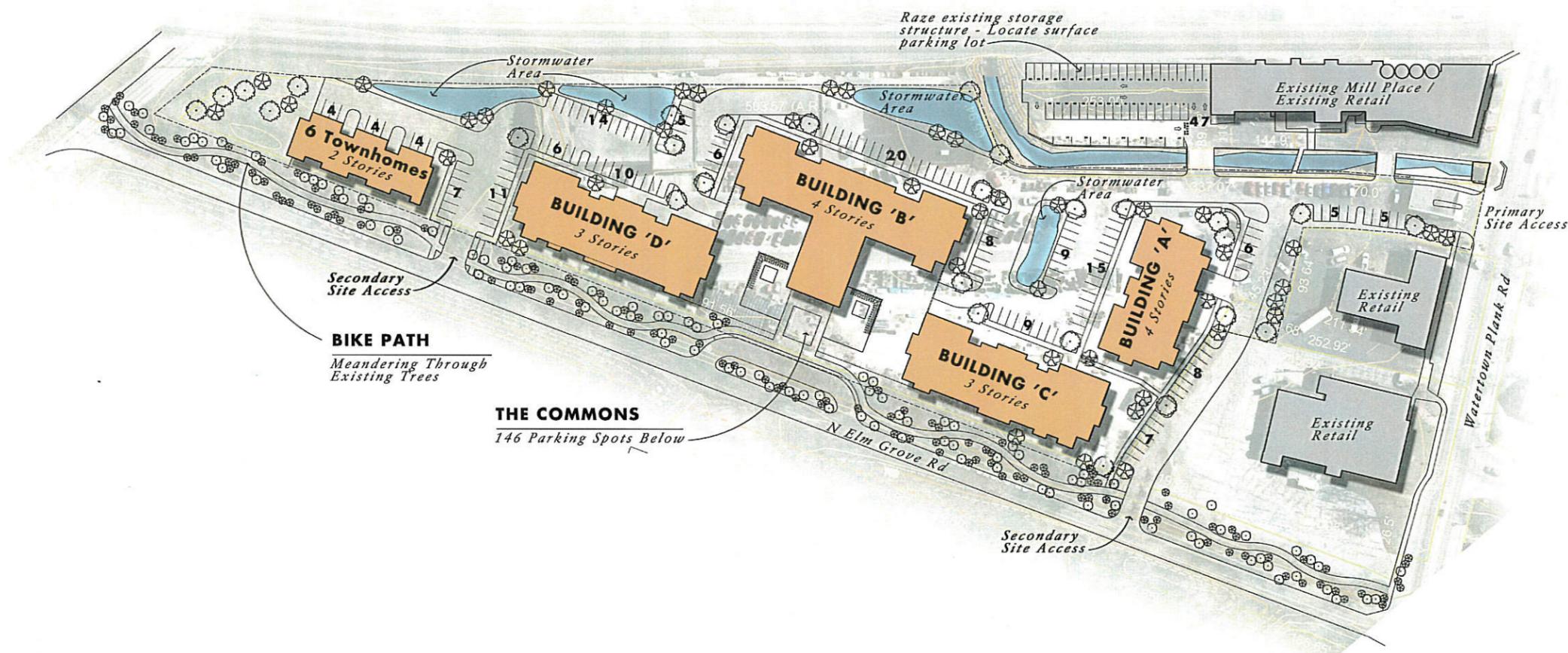


Alsum Sweet Corn Stand  
proposal



This is a picture of our Brookfield stand in the fall with our Mums and pumpkins. It also shows the tent design that we use for our business set up. The yellow counter holds the smaller produce that we have available. Produce includes sweet corn, tomatoes, green beans, colored and green peppers, zucchini, cucumbers, potatoes, squash, pumpkins, gourds, maple syrup, honey, strawberries, blueberries, and raspberries in season. We enjoy meeting people and bringing them delicious fresh picked produce that brings happiness and joy to all. We look forward to having a location in your village to share our produce and meet new friends.

RECEIVED  
FEB 08 2016  
VILLAGE OF ELM GROVE



**182 APARTMENTS**  
**238 CARS ENCLOSED**  
**164 SURFACE CARS**

**ADDITIONAL 47**  
**SURFACE CARS**

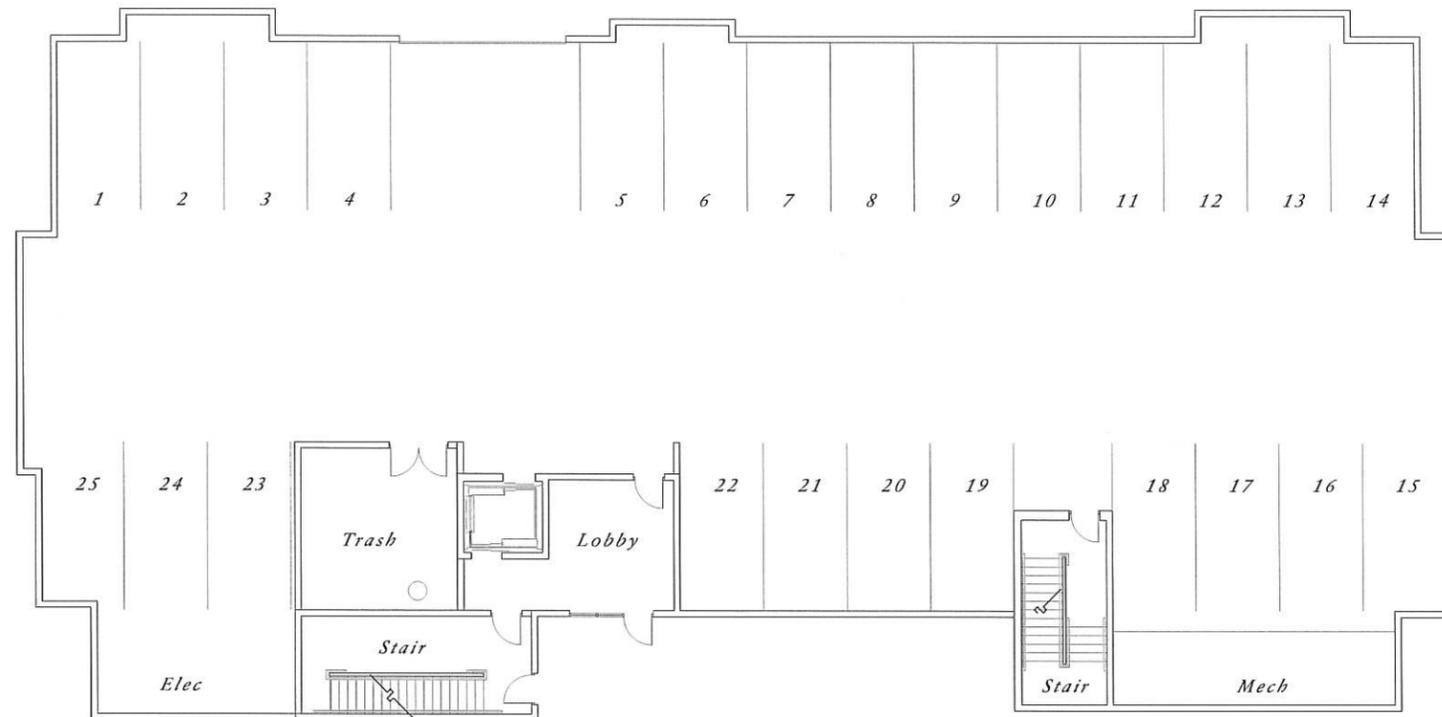
**402 OVERALL PARKING**

08 FEB 2016



*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*





**BUILDING 'A' PARKING PLAN**



**BUILDING 'A' RESIDENTIAL PLAN**

**BUILDING 'A'**

4 STORIES  
1 BUILDING

STUDIO	4
1 BEDROOM TRADITIONAL	8
1 BEDROOM STANDARD	4
1 BEDROOM DELUXE	4
1 BEDROOM PLUS DEN	0
2 BEDROOM CORNER 1	4
2 BEDROOM CORNER 2	0
2 BEDROOM CORNER DELUXE	8
2 BEDROOM PLUS DEN	4
<b>OVERALL UNIT COUNT</b>	<b>36</b>
<b>PARKING COUNT</b>	<b>25</b>

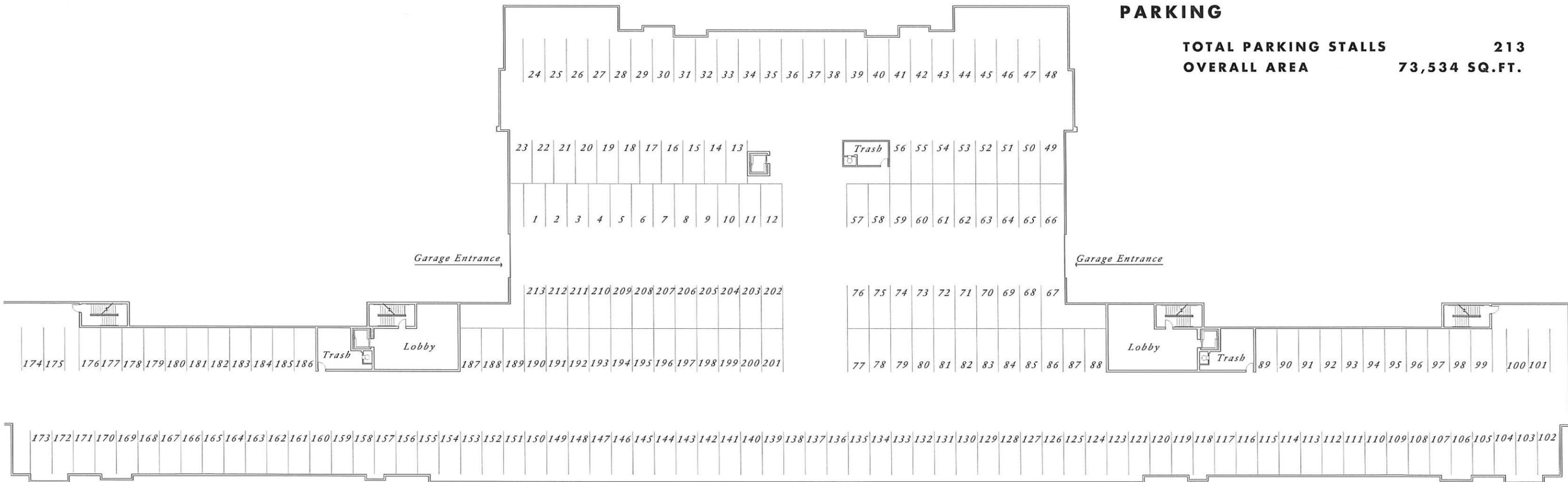
**AREA**

AREA PER FLOOR	10,453 SQ.FT.
<b>OVERALL AREA</b>	<b>52,265 SQ.FT.</b>

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*

08 FEB 2016





**PARKING**

**TOTAL PARKING STALLS 213**  
**OVERALL AREA 73,534 SQ.FT.**

08 FEB 2016

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*





<b>STUDIO</b>	<b>12</b>
<b>1 BEDROOM TRADITIONAL</b>	<b>8</b>
<b>1 BEDROOM STANDARD</b>	<b>16</b>
<b>1 BEDROOM DELUXE</b>	<b>8</b>
<b>1 BEDROOM PLUS DEN</b>	<b>4</b>
<b>2 BEDROOM CORNER 1</b>	<b>8</b>
<b>2 BEDROOM CORNER 2</b>	<b>4</b>
<b>2 BEDROOM CORNER DELUXE</b>	<b>12</b>
<b>2 BEDROOM PLUS DEN</b>	<b>0</b>
<b>OVERALL UNIT COUNT</b>	<b>72</b>

<b>AREA</b>	
<b>AREA PER FLOOR</b>	<b>20,204 SQ.FT.</b>
<b>OVERALL AREA</b>	<b>80,816 SQ.FT.</b>

08 FEB 2016

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*



**BUILDING 'C' & 'D'**

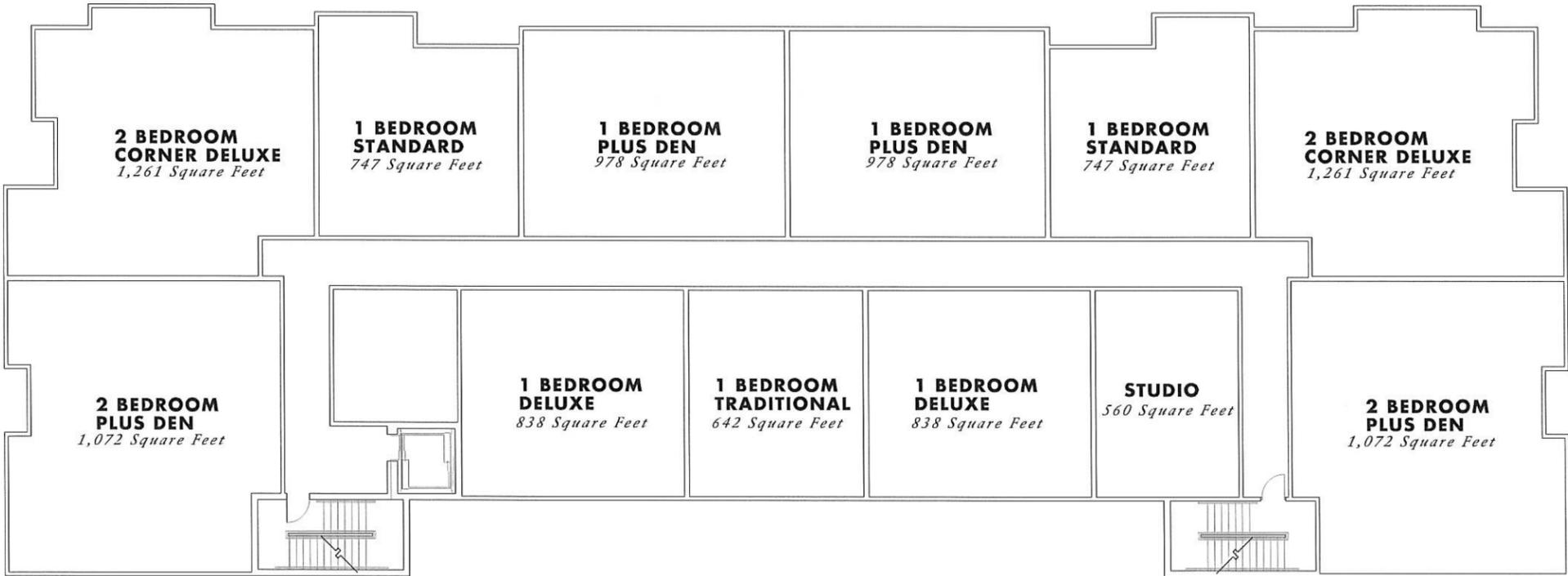
**3 STORIES**

<b>STUDIO</b>	<b>6</b>
<b>1 BEDROOM TRADITIONAL</b>	<b>6</b>
<b>1 BEDROOM STANDARD</b>	<b>12</b>
<b>1 BEDROOM DELUXE</b>	<b>12</b>
<b>1 BEDROOM PLUS DEN</b>	<b>12</b>
<b>2 BEDROOM CORNER 1</b>	<b>0</b>
<b>2 BEDROOM CORNER 2</b>	<b>0</b>
<b>2 BEDROOM CORNER DELUXE</b>	<b>12</b>
<b>2 BEDROOM PLUS DEN</b>	<b>12</b>

**OVERALL UNIT COUNT 72**  
*Overall Unit Count Includes Both Buildings*

**AREA**

<b>AREA PER FLOOR</b>	<b>13,687 SQ.FT.</b>
<b>OVERALL AREA</b> <i>Per Building</i>	<b>41,061 SQ.FT.</b>
<b>OVERALL AREA</b> <i>2 Buildings</i>	<b>82,122 SQ.FT.</b>



08 FEB 2016

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*





**ECLECTIC EXTERIOR  
BUILDING 'A'**

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*

08 FEB 2016





**NORTH SIDE ELEVATION (ROAD)**



**SOUTH SIDE ELEVATION (ROAD)**



**COURTYARD ELEVATION**

*Visitor and Resident Entry*

**ECLECTIC EXTERIOR  
BUILDING 'B'**

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*

08 FEB 2016





EAST ELEVATION (ROAD)

*Resident Gathering and Community Space*

**ECLECTIC EXTERIOR  
BUILDING 'B'**

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*

08 FEB 2016



1414 UNDERWOOD AVE.  
WALWATONIA, WI 53193  
414.431.2131 TEL  
414.431.0221 FAX  
WWW.ABARCH.COM



**SIDE ELEVATION (ROAD)**



**COUTYARD ELEVATION**



**SIDE ELEVATION (COURTYARD)**



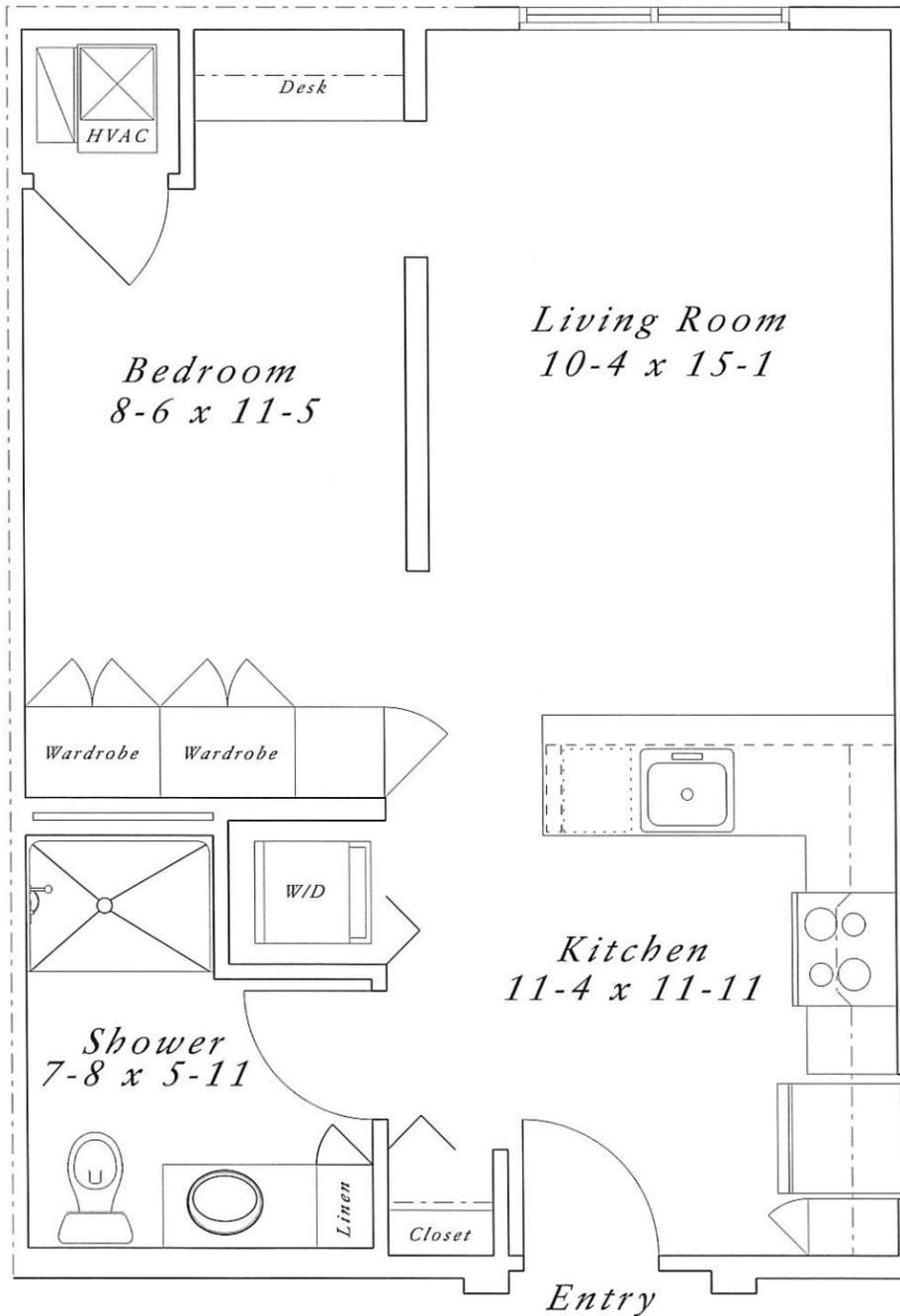
**ROAD ELEVATION**

08 FEB 2016

**CRAFTSMAN EXTERIOR  
BUILDING 'C' & 'D'**

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*





**STUDIO**

560 Square Feet

1/4" Scale

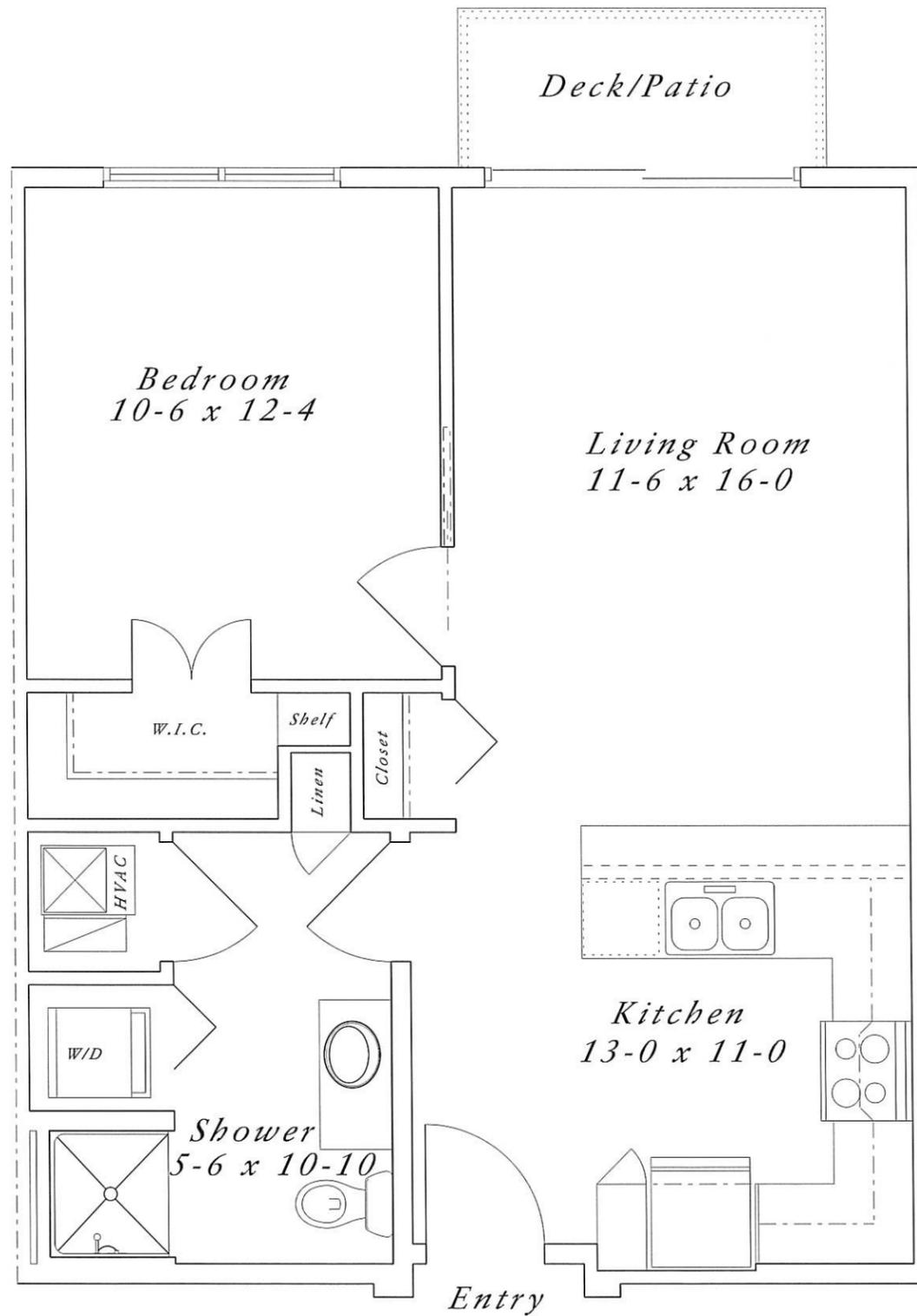
*Reinders/ Wangard Elm Grove*

**MULTIFAMILY DEVELOPMENT**

*Elm Grove, WI*

08 FEB 2016





**1 BEDROOM TRADITIONAL**

642 Square Feet

1/4" Scale

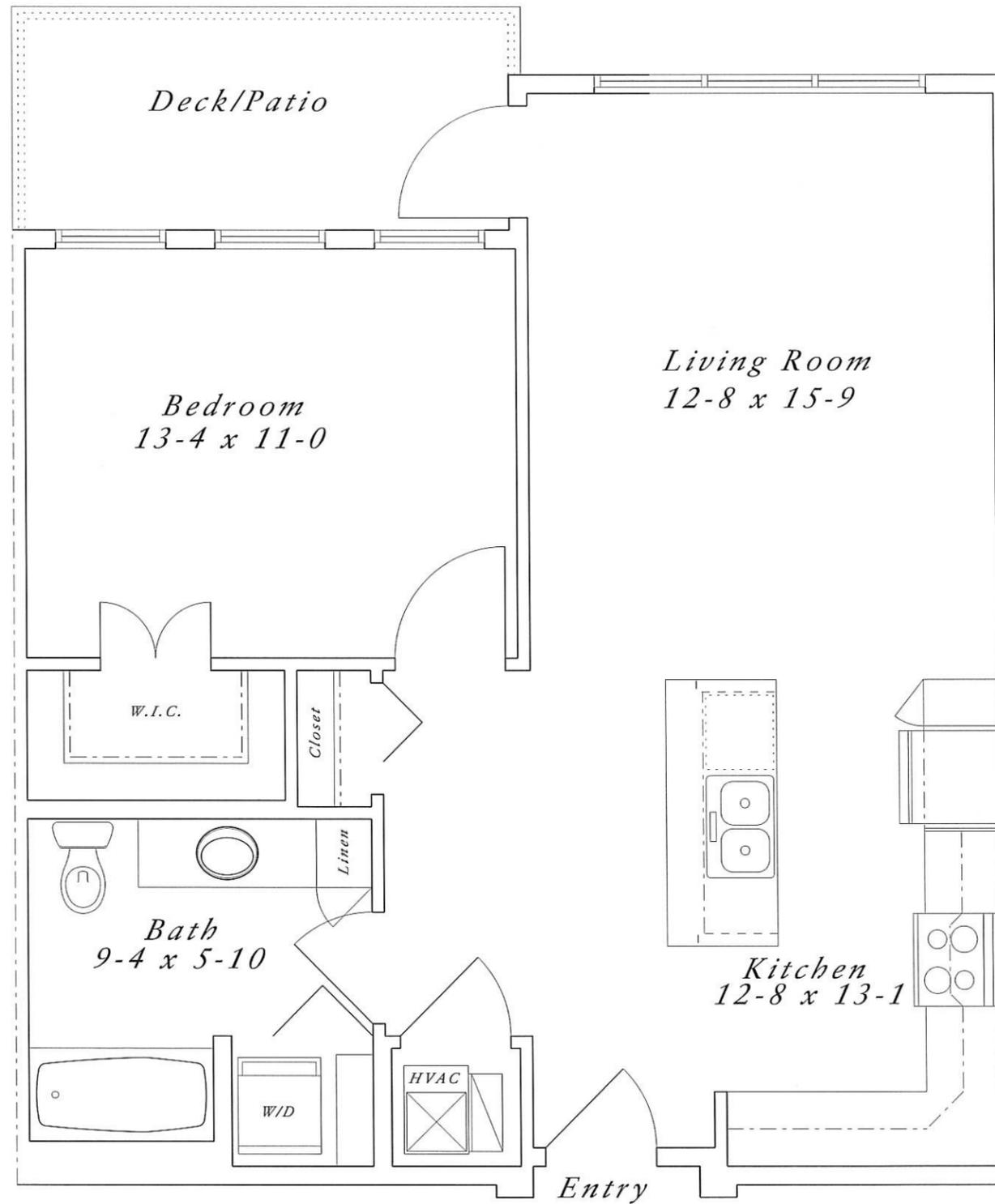
*Reinders/ Wangard Elm Grove*

**MULTIFAMILY DEVELOPMENT**

*Elm Grove, WI*

08 FEB 2016





**1 BEDROOM STANDARD**

*747 Square Feet*

*1/4" Scale*

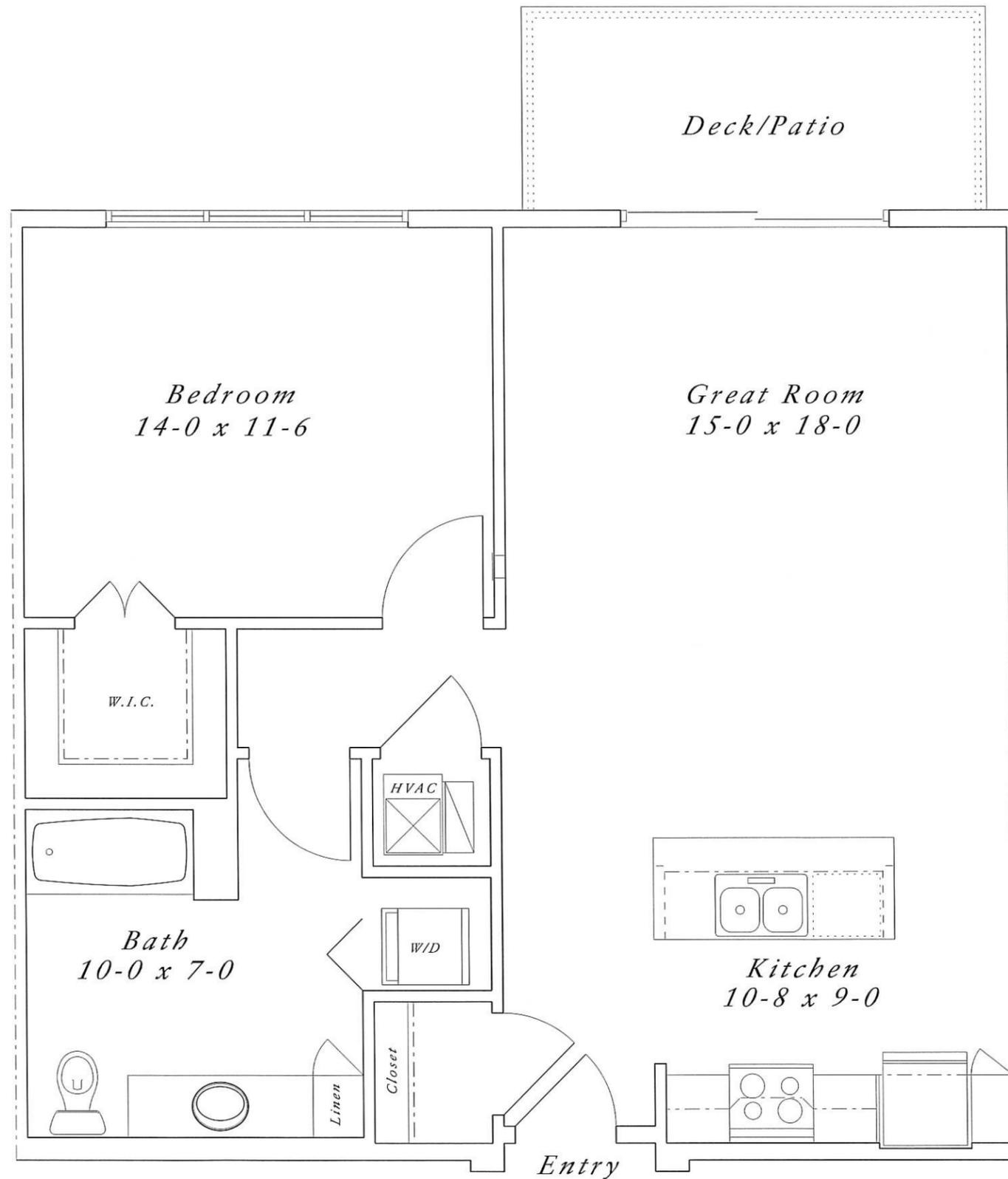
*Reinders/ Wangard Elm Grove*

**MULTIFAMILY DEVELOPMENT**

*Elm Grove, WI*

08 FEB 2016





**1 BEDROOM DELUXE**

*838 Square Feet*

*1/4" Scale*

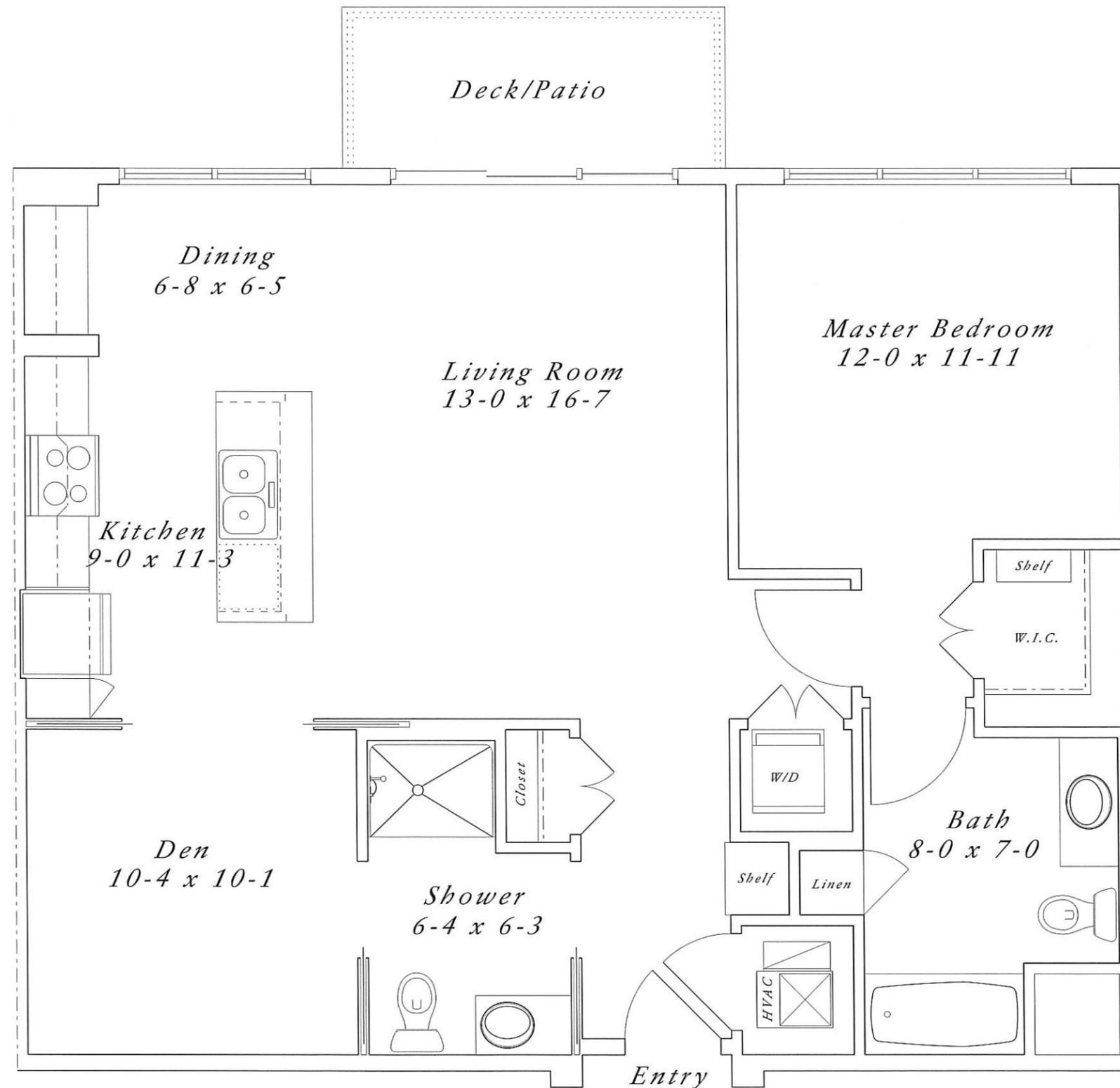
*Reinders/ Wangard Elm Grove*

**MULTIFAMILY DEVELOPMENT**

*Elm Grove, WI*

08 FEB 2016





**1 BEDROOM PLUS DEN**

978 Square Feet

1/4" Scale

*Reinders/ Wangard Elm Grove*

**MULTIFAMILY DEVELOPMENT**

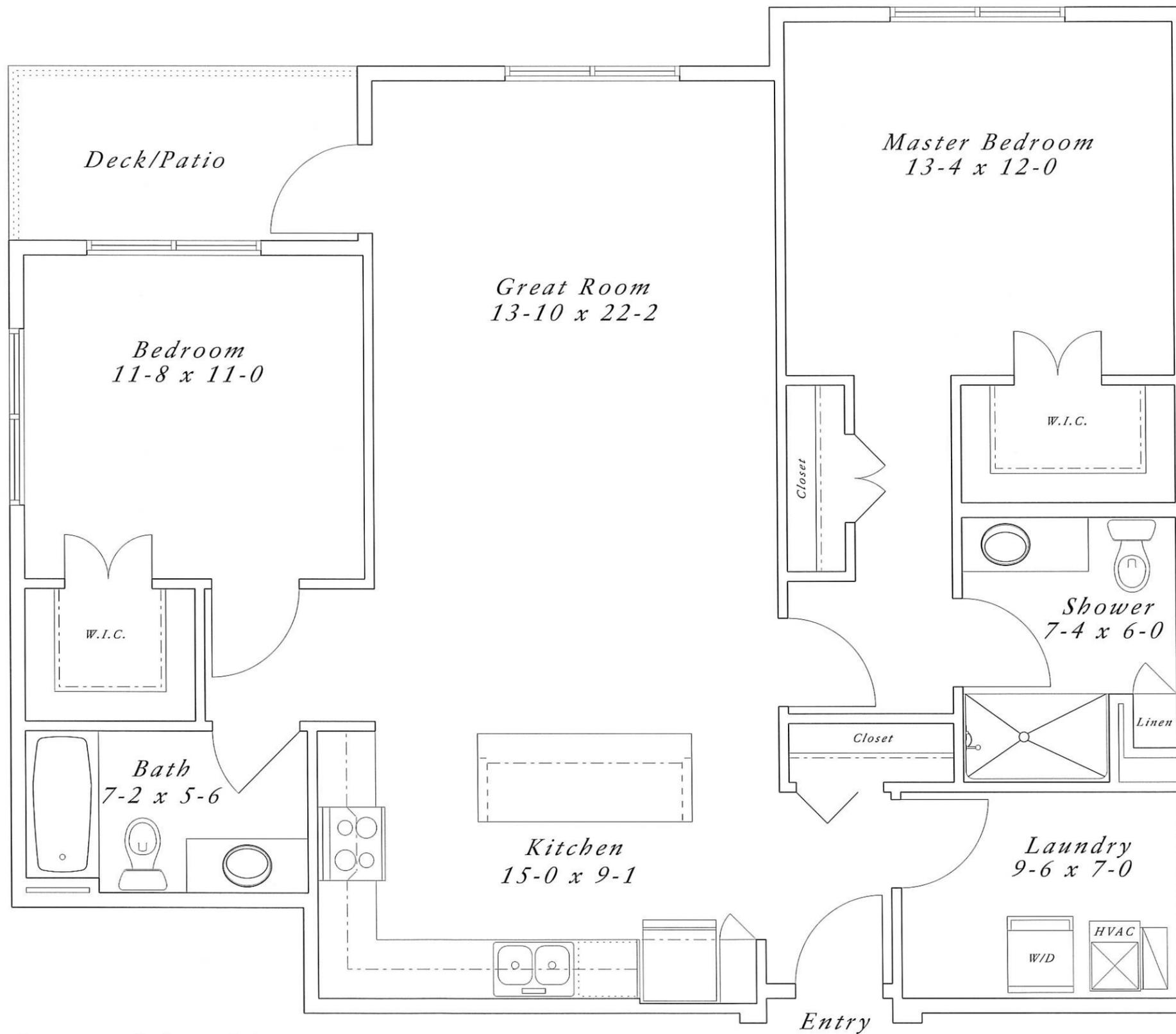
*Elm Grove, WI*

08 FEB 2016



Architecture

1414 UNDERWOOD AVE.  
WAUWATOSA, WI 53193  
414.451.5131 TEL  
414.451.5241 FAX  
WWW.RWARCH.COM



**2 BEDROOM CORNER 1**  
 1,217 Square Feet

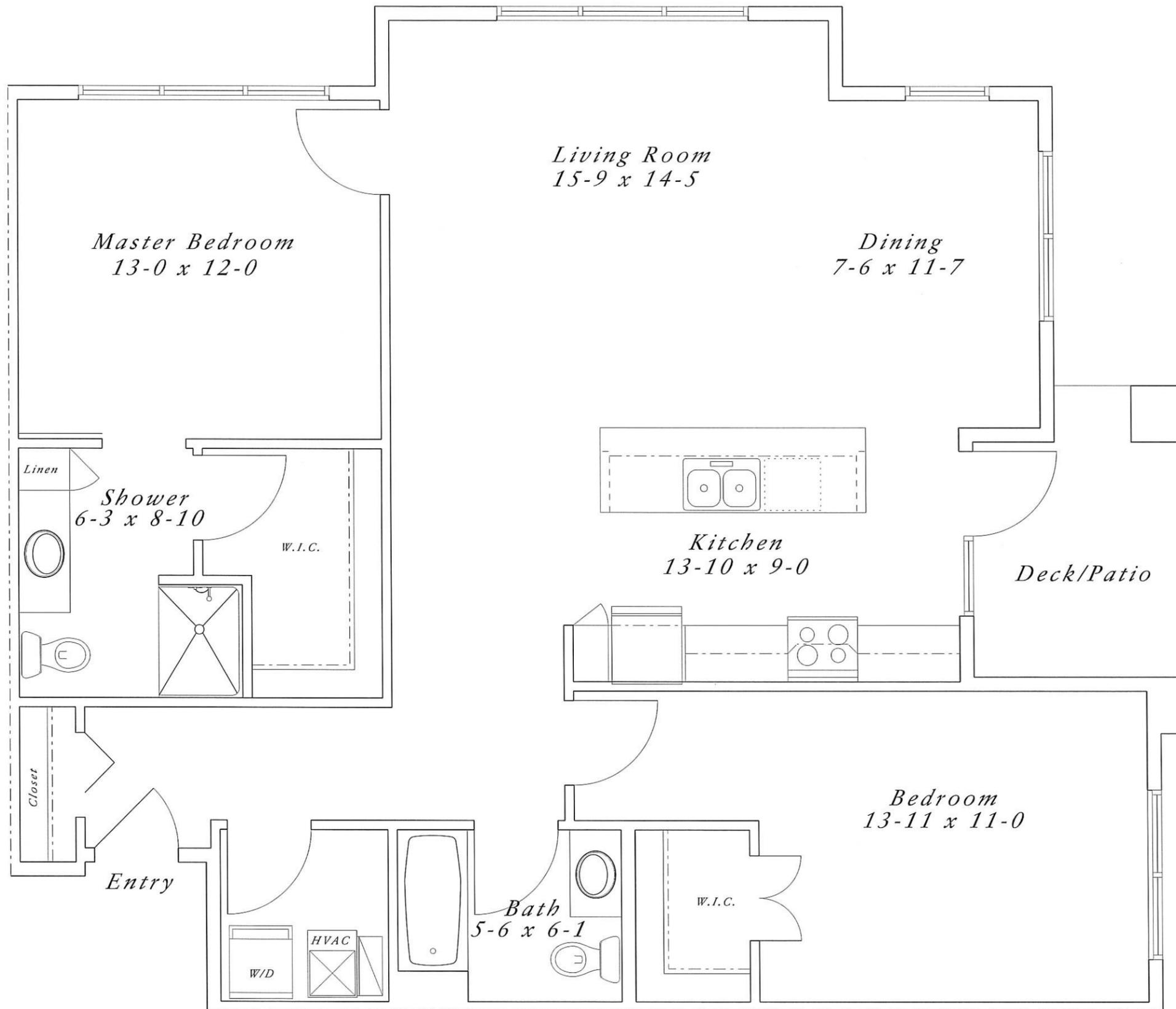
1/4" Scale

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
 Elm Grove, WI

08 FEB 2016







**2 BEDROOM CORNER DELUXE**

1,258 Square Feet

1/4" Scale

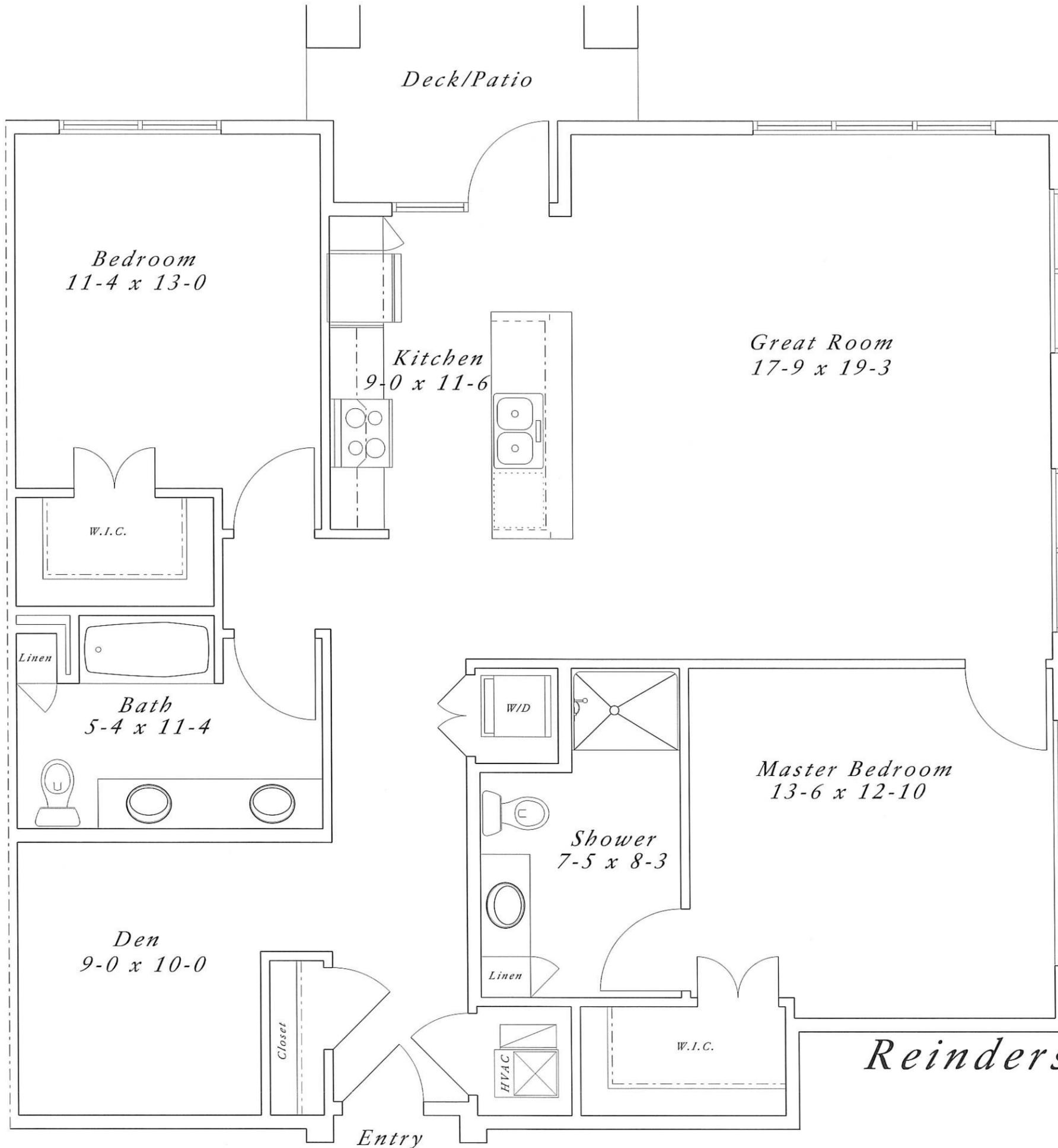
*Reinders/ Wangard Elm Grove*

**MULTIFAMILY DEVELOPMENT**

*Elm Grove, WI*

08 FEB 2016





**2 BEDROOM PLUS DEN**

1,372 Square Feet

1/4" Scale

*Reinders/ Wangard Elm Grove*

**MULTIFAMILY DEVELOPMENT**

*Elm Grove, WI*

08 FEB 2016

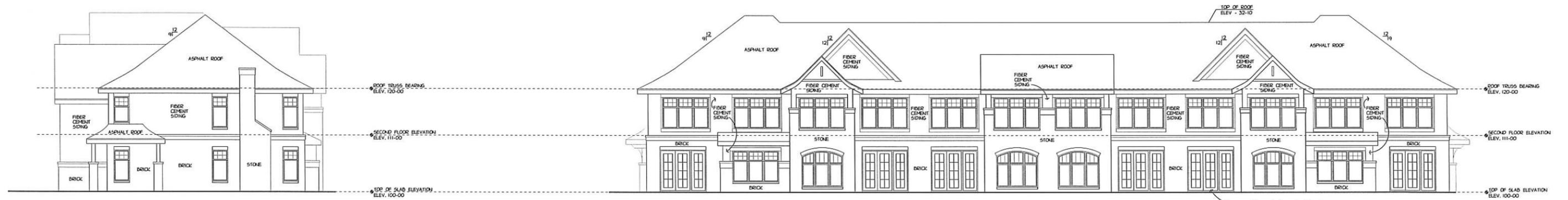


1414 UNDERWOOD AVE.  
WAUKESHA, WI 53151  
414.451.2121 TEL  
414.451.2521 FAX  
WWW.RWAARCH.COM



**SIDE ELEVATION (ROAD)**

**BACK ELEVATION**



**EAST ELEVATION**

**FRONT ELEVATION**

**TOWNHOUSE**

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*

24 FEB 2016



**TOWNHOMES**

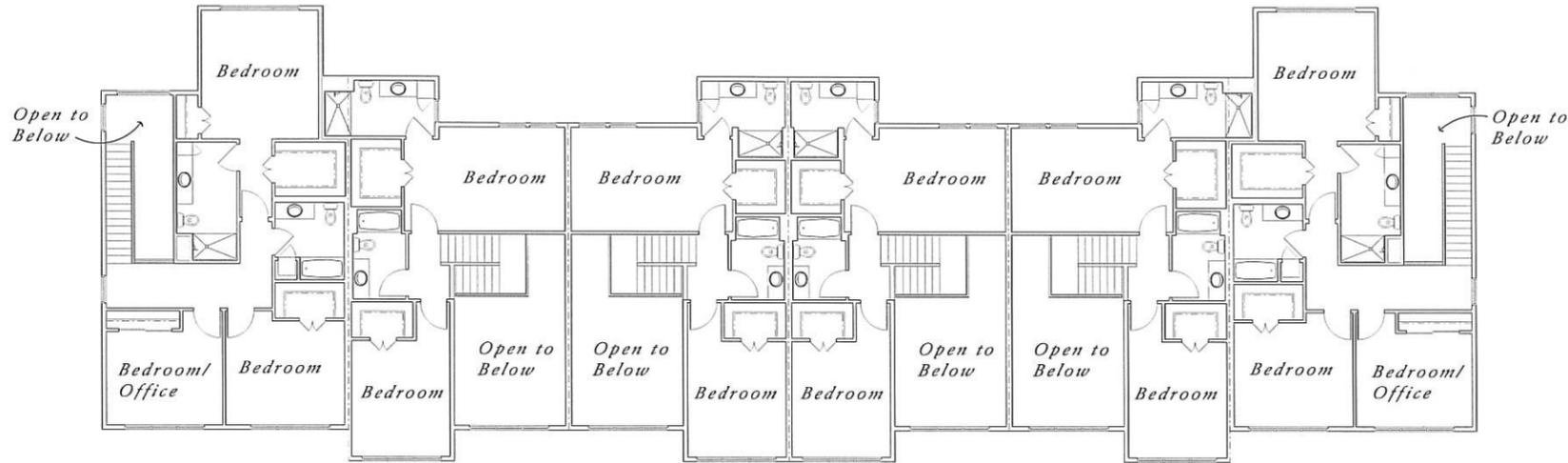
**2 STORIES**

<b>2 BDRM TOWNHOME</b>	<b>4</b>
<b>3 BDRM TOWNHOME</b>	<b>2</b>
<b>OVERALL UNIT COUNT</b>	<b>6</b>

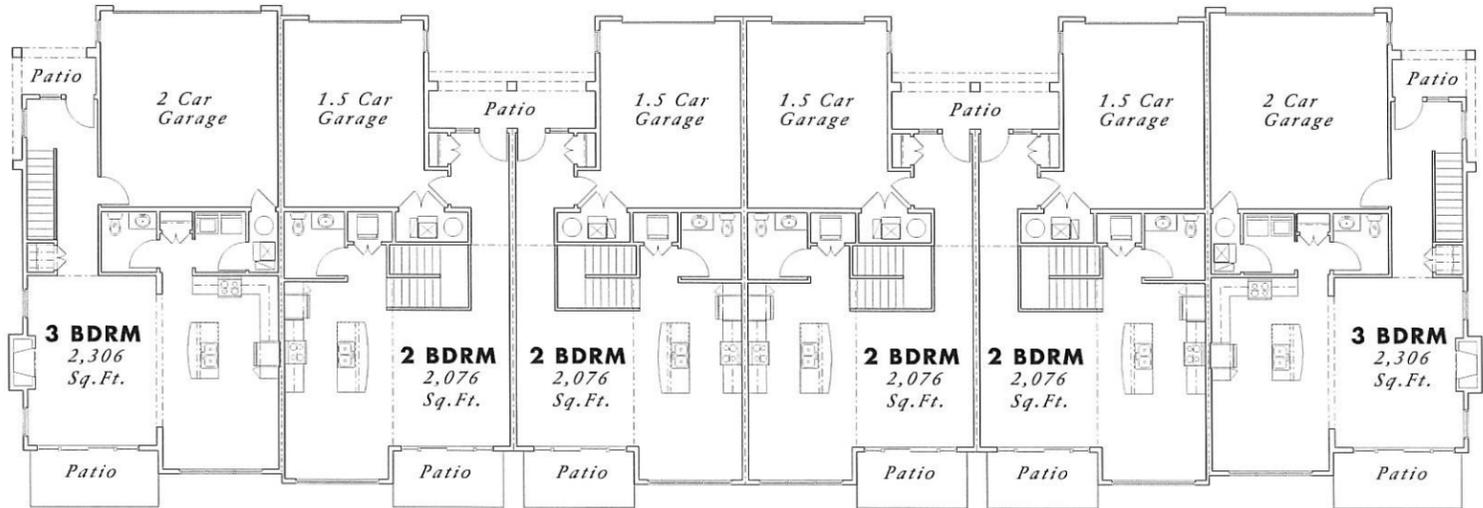
**AREA**

<b>2 BDRM TOWNHOME</b>	<b>2,076 SQ.FT.</b>
<b>FIRST FLOOR</b>	<b>757 SQ.FT.</b>
<i>Does Not Include Garages</i>	
<b>SECOND FLOOR</b>	<b>979 SQ.FT.</b>
<b>GARAGE</b>	<b>340 SQ.FT.</b>
<b>OVERALL AREA</b>	<b>1,736 SQ.FT.</b>
<i>Without Garage</i>	

<b>3 BDRM TOWNHOME</b>	<b>2,306 SQ.FT.</b>
<b>FIRST FLOOR</b>	<b>854 SQ.FT.</b>
<i>Does Not Include Garages</i>	
<b>SECOND FLOOR</b>	<b>1,023 SQ.FT.</b>
<b>GARAGE</b>	<b>429 SQ.FT.</b>
<b>OVERALL AREA</b>	<b>1,877 SQ.FT.</b>
<i>Without Garage</i>	



**SECOND FLOOR PLAN**



**FIRST FLOOR PLAN**

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*

24 FEB 2016





19 FEB 2016

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*





19 FEB 2016

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*





19 FEB 2016

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*





19 FEB 2016

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*





19 FEB 2016

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*





24 FEB 2016

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*





24 FEB 2016

*Reinders/ Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
*Elm Grove, WI*



February 24, 2016

Mr. Casey Griffiths  
Zoning and Planning Administrator  
Village of Elm Grove  
13600 Juneau Boulevard  
Elm Grove, WI 53122-0906

Re: 13400 and 13402 Watertown Plank Road  
Re-Development Concept Plan Review

Dear Mr. Griffiths:

As requested, we have reviewed the re-development concept plan dated February 19, 2016 and the traffic impact analysis dated January 2016. As requested, we reviewed these documents with the understanding they are conceptual even though they include more information and detail than typical concept plans that I have seen. A more in depth review will be necessary as the designs are developed and submitted. On February 5, 2016, prior to submittal of the Concept Plan, a meeting was held at Village Hall to discuss the site and utility connections. The meeting was attended by Village Staff, representatives from The Sigma Group and myself. Some of the items discussed at the February 5<sup>th</sup> meeting and our findings and recommendations from this review are as follows:

1. The Concept Plan does not show improvements to the intersection of Elm Grove Road and Juneau Boulevard as recommended in the Traffic Impact Analysis (TIA).
2. The TIA indicates a realignment of Elm Grove Road north of Watertown Plank Road should be considered during the second phase of the overall redevelopment of this area. Our understanding is that the realignment would create a four-way intersection of the two streets, which is desired by the Village. We recommend the concept of realigning Elm Grove Road be included in the Concept Plan for Phase 1 in order to understand how this might impact public utility alignments serving Phase 1, public right-of-ways and the re-development of the parcels under Phase 2.
3. The TIA indicates the existing two way left turn lane (TWLTL) on Watertown Plank Road works well even though it is discouraged from engineering practice. We recommend the Village determine if the current TWLTL configuration is desirable moving forward. If not, the TIA should include some recommended alternatives.
4. One of the recommendations in the TIA is to maintain the existing west driveway access to Watertown Plank Road with no median. The Concept Plan shows the driveway to remain, but includes a median.

Mr. Casey Griffiths

Re: 13400 and 13402 Watertown Plank Road Re-Development Concept Plan Review

February 24, 2016

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5. The TIA analyzes existing background traffic with an assumed growth rate as well as future traffic generated by the development. We recommend the TIA be revised as follows:
  - Provide some discussion about what changes may be made to improve all traffic movements to level of service (LOS) B for the Village to consider.
  - Verify references to exhibits in the text are correct. There are at least two references to exhibits that were not included in the document I received.
6. Re-development of Phase 1 is located on two separate parcels. A Site Survey drawing was provided with the overall Concept Plan. The drawing shows the property boundary of the larger parcel, but not the smaller one to the east. A Plat of Survey should be prepared for each parcel showing property boundary lines with distances and bearings. The Plat of Survey should also show existing site features and label proposed changes to property lines, existing easements, encumbrances, floodplains, environmental areas and other requirements listed in the Village Code. During the February 5<sup>th</sup> meeting we were told there may be a discrepancy in the boundary of the larger parcel when compared to the Waukesha County Land Information System web site. We recommended during the meeting that title reports be obtained for the parcels to help determine if any land ownership issues exist so that they can be resolved.
7. There is a request to vacate 20 feet of right-of-way width along both sides of Elm Grove Road north of Watertown Plank Road. Documents necessary to complete the vacation process on the east side of the road will need to be prepared by the applicant and reviewed by the Village.
8. If two or more parcels will be combined as part of the re-development plan, then a Certified survey Map will be required.
9. The larger parcel where all of the proposed multi-family units are located is currently zoned M-1. It is my understanding the parcel will be rezoned to RM-1 as the underlying zoning. The parcel will also be included within a Planned Development Overlay (PDO) providing flexibility to some of the requirements of the underlying zoning.
10. The density of multifamily units proposed by the Concept Plan is higher than is allowed by the proposed underlying zoning. The PDO provides flexibility for the applicant to increase the density. The Concept Plan proposes a density that requires the highest degree of flexibility. We understand the Village will need to decide if the development meets the criteria to allow the proposed density level.
11. Building Footprint, Impervious Area and Parking:
  - Impervious area of the larger parcel is summarized on the Site Plan. According to the summary, approximately 64% of the lot area will be impervious assuming the

Mr. Casey Griffiths

Re: 13400 and 13402 Watertown Plank Road Re-Development Concept Plan Review

February 24, 2016

Page 3

- right-of-way is vacated as requested. This amount meets the limit of impervious area required by the underlying proposed RM-1 zoning.
- A separate summary of impervious area will need to be provided for the smaller parcel.
  - The impervious area summaries for each parcel will need to be broken out to show how much impervious area is created by building footprint, sidewalks and pavements (including curb and gutter or curb and gutter separately).
  - RM-1 zoning limits building footprint area to 30% of the lot area.
  - Buildings 'B', 'C' and 'D' are situated over the top of an underground parking area that is bigger than the three buildings combined. The overall size of the underground parking structure will also need to be provided. The Village will need to consider whether or not the larger footprint of the underground parking structure will be counted toward the total building footprint on the lot.
  - The total number of indoor and outdoor parking stalls including the number of stalls reserved for those with disabilities will need to be provided. The PDO provides some flexibility to Village Code parking requirements. However, the number of stalls needed to be reserved for those with disabilities will need to meet ADA requirements in the Federal Code.
12. The PDO district provides flexibility to yard setbacks required by the proposed underlying RM-1 zoning. Regardless, the Concept Plan will need to provide dimensions of yard setbacks from all existing or future lot lines for review.
13. Floodplain: The effective FEMA floodplain map shows proposed development will occur within the regulatory floodplain. The applicant will need to prepare a floodplain impact study and obtain approval from FEMA to place fill within the floodplain.
14. Building 'A' is shown to have a lower level at elevation 737.00 with a storm sewer system connecting the lower level to Underwood Creek. According to the Site Survey the 100-year flood elevation is 738.8, which would back up into the lower level of this building. Additionally, the catch basin located at the bottom of the underground parking ramp is shown to have an invert that is lower than the outfall of the downstream storm sewer.
15. Topography of the existing site generally slopes east or southeast toward Underwood Creek. Elm Grove Road borders the western side of the larger parcel and is generally higher than the adjacent site but slopes downward from north to south. The Concept Plan shows five multifamily buildings on the site. Four of those buildings front Elm Grove Road and the fifth building (Building 'A') is situated behind Building 'C'. A summary of the first floors of these buildings is as follows:
- North Building (Townhomes) – Proposed first floor elevation of 755.00, which is approximately 3 feet below Elm Grove Road pavement.

Mr. Casey Griffiths

Re: 13400 and 13402 Watertown Plank Road Re-Development Concept Plan Review

February 24, 2016

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- Building 'D' – Proposed first elevation of 757.50, which is approximately 0.5 feet above Elm Grove Road pavement.
  - Building 'B' - Proposed first elevation of 757.50, which is approximately 1.5 feet above Elm Grove Road pavement.
  - Building 'C' - Proposed first elevation of 757.50, which is approximately 2 feet above Elm Grove Road pavement.
  - Building 'A' - Proposed first elevation of 747.00. Although it does not front Elm Grove Road this building is approximately 8 feet below Elm Grove Road pavement.
16. Underwood Creek is located on the smaller of the two parcels. Normally, wetlands are located adjacent to creeks and vary in width. A wetland investigation will need to be completed on the entire site and a delineation will need to be performed to locate any wetlands that may exist.
17. Grading more than 10,000 square feet within the setbacks of waterways as well as any impacts to waterways and wetlands will require permits from the Department of Natural Resources (DNR) and possibly the US Army Corps of Engineers. Additionally, because the redevelopment plan will disturb more than 1 acre, a Construction Site Storm Water Discharge Permit from the DNR will also be required. During the February 5<sup>th</sup> meeting we recommended the applicant contact representatives from the DNR to verify what permits and approvals will be needed.
18. During the February 5<sup>th</sup> meeting we discussed that contamination has been documented to exist on the site. The applicant will need to coordinate with DNR to determine how the contamination may restrict work on the site, disposal of excess soils that may be contaminated, infiltration or treatment of storm water runoff, utility trench backfill and utility piping materials.
19. The site is located within the Milwaukee Metropolitan Sewerage District (MMSD). The redevelopment plan will need to follow MMSD Chapter 13 requirements for storm water management and obtain an approval from MMSD.
20. Both parcels are located adjacent to a railroad. It appears the building proposed to be removed from the smaller parcel is located within the railroad right-of-way and possibly within an easement according to the Site Survey of the Concept Plan. Work within a railroad right-of-way will require a permit from the railroad.
21. There are a number of existing bridges that cross Underwood Creek which appear to be reused as part of the re-development plan. We recommend the applicant have the bridges inspected to determine their condition and fitness for use moving forward.

Mr. Casey Griffiths

Re: 13400 and 13402 Watertown Plank Road Re-Development Concept Plan Review

February 24, 2016

Page 5

22. Additional tracking pads will be necessary if construction traffic will be allowed to leave the site onto Elm Grove Road.
23. Site Grading and Drainage:
  - A retaining wall is shown along the railroad right-of-way with a height of 5 feet. Retaining walls more than 4 feet tall and those with loadings greater than level earth dead loads need to be designed by a professional engineer licensed in the State of Wisconsin. The design will need to consider possible impacts from the railroad live loads behind the wall.
  - The Grading Plan shows multiple low points in paved areas adjacent to proposed biofiltration facilities and Underwood Creek without catch basins. Future designs will need to show how these low points will drain into the biofiltration facilities.
  - Future designs will need to show an overland flow path from the biofiltration facilities for runoff from large storm events without discharging flows onto neighboring properties.
  - The southern storm sewer system collects runoff from pavements without providing treatment or removal of suspended solids. Storm water quality measures may be required on the system before flows are discharged to Underwood Creek.
  - Future designs will need to show how drainage will be handled for the circular driveway and the curb and gutter shown along Elm Grove Road.
  - The vertical alignment and cross slope of the proposed bike path may need to be revised to meet ADA requirements if it will be considered an accessible route.
  - An easement may need to be granted to the Village for the existing storm sewer that crosses through the site. The storm sewer was not installed by the Village. If the storm sewer becomes publicly owned, then the pipes will need to be upgraded to reinforced concrete.
24. Proposed utilities on site that will be publicly owned will need to be located within easements.
25. Future designs will need to show how the southern building will be served by sanitary sewer.
26. Normally we do not recommend sanitary laterals to be connected directly to manholes. However, in this case because the laterals are shown to be 8-inch diameter pipes and each lateral serves multiple units we would recommend having laterals connected to the public sewer system at manholes. Two of the laterals are shown to connect to existing manholes. The benches and inverts of these structures will need to be reconstructed. We also recommend new sanitary manholes be constructed where the other three sanitary laterals connect to the public sanitary sewer system.

Mr. Casey Griffiths

Re: 13400 and 13402 Watertown Plank Road Re-Development Concept Plan Review

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Page 6

27. The site does not currently have access to public water service. Public water main will need to be extended from the intersection of Elm Grove Road and Wall Street. Before our meeting on February 5<sup>th</sup> the Village had contemplated extending the 16-inch diameter public water main northerly along Elm Grove Road from Wall Street to Watertown Plank Road, then easterly along Watertown Plank Road across the bridge to Legion Drive. Public water service to this site was planned to be provided by a connection to the future water main along Watertown Plank Road.
28. During the meeting on February 5<sup>th</sup> we discussed an alternative plan to possibly extend public water main northerly along Elm Grove Road from Wall Street crossing Watertown Plank Road and continuing on to the northern part of the site. The water main north of Watertown Plank Road has not been sized but would be smaller than 16-inch diameter. Water service to the site would then be provided to the site initially from the water main in Elm Grove Road. This alternative plan may avoid having a public water main in an easement though the site and possibly minimize the exposure of public water main to contamination that exists on the site. The City of Brookfield will need to determine whether on site water main will be considered public or private for either water service piping alternative.
29. Eventually, the 16-inch diameter water main would be extended easterly along Watertown Plank Road from the intersection of Elm Grove Road. If multiple interconnecting connections to the public water system are made, then backflow preventers will need to be installed at each connection point.
30. During our meeting on February 5<sup>th</sup> we discussed the parking lot layout as it relates to emergency access. The Concept Plan shows a continuous access drive from the south end of the site to the north end with three access points to public roads (one on Watertown Plank Road and two on Elm Grove Road). However, there are three tight turns in the pavement that may be difficult for larger emergency vehicles to pass through. During the meeting we recommended the Concept Plan be provided to the Fire Chief to obtain his comments regarding emergency access and hydrant locations. Subsequent to this review I also recommend the designer run turning templates through the site using various design vehicles such as delivery trucks, moving vans and emergency vehicles resembling those used by the Village. If design vehicles cannot navigate through the site, then changes may be necessary to the access drive layout.

Mr. Casey Griffiths

Re: 13400 and 13402 Watertown Plank Road Re-Development Concept Plan Review

February 24, 2016

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We believe the Concept Plan is feasible assuming the above comments can be addressed to the Village's satisfaction. Please contact our office with any questions regarding this matter. Thank you for allowing us to be of service to the Village of Elm Grove.

Very truly yours,

RUEKERT & MIELKE, INC.



Anthony D. Petersen, P.E. (WI, IA)

Senior Project Manager

[apetersen@ruekert-mielke.com](mailto:apetersen@ruekert-mielke.com)

ADP:adp

cc: David De Angelis, Village of Elm Grove  
Richard Paul, Jr., Village of Elm Grove  
File

**Plot plan**

- Apparatus access – access from Elm Grove Rd. and Watertown Plank to accommodate department apparatus may need to be wider
- Apparatus turning radius – all apparatus should be able to safely navigate through the property without any obstacles
- Aerial reach to each building – aerial apparatus should be able to reach above the roof line from strategic locations
- Hydrants, FDC's and strobes – hydrants should be within close proximity of the building fire department connections

**Underground parking**

- Points of access – there should be multiple points of access to the parking garage for fire suppression operations
- Length of hose lays
- Standpipes and sprinklers

**Building A – 5 story back side – 66'-6" to top of roof**

- Building entrance access
- Standpipes in stairwells and sprinklers
- Length of hose lays – to be determined from the standpipes
- EMS access and elevator size

**Building B – 5 story back side**

- Building entrance access
- Standpipes in stairwells and sprinklers
- Length of hose lays – to be determined from the standpipes
- Parking garage access
- EMS access and elevator size

**Buildings C and D – 4 story back side – 56'-6" to top of roof**

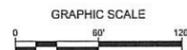
- Building entrance access
- Standpipes in stairwells and sprinklers
- Length of hose lays – to be determined from the standpipes
- Parking garage access
- EMS access and elevator size

**Building E – 2 story townhouse**

- Unit entrance access
- Sprinklers, FDC and hydrant location
- Parking

**Other**

- Fire pits and grills
- Widening Elm Grove Rd. 4'-0" to accommodate fire apparatus



**LEGEND:**

- 5' THICK CONCRETE WALK (E/C401)
- ASPHALT SURFACE (B/C401)
- BIKE PATH
- CURB & GUTTER (ACCEPT) (A/C401)
- CURB & GUTTER (REJECT) (A/C401)
- PROPOSED BIOINFILTRATION (B/C403)

**GENERAL NOTES:**

1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
2. VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
4. ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
5. DIMENSIONS ARE FROM FACE OF CURB OR EDGE OF PAVEMENT.
6. WORK WITHIN THE PUBLIC RIGHT OF WAY, INCLUDING BUT NOT LIMITED TO DRIVEWAY OPENINGS, SIDEWALK AND RAMPS, PAVING, AND CURB AND GUTTER SHALL BE COMPLETED PER MUNICIPAL AND/OR COUNTY REQUIREMENTS AND STANDARDS.

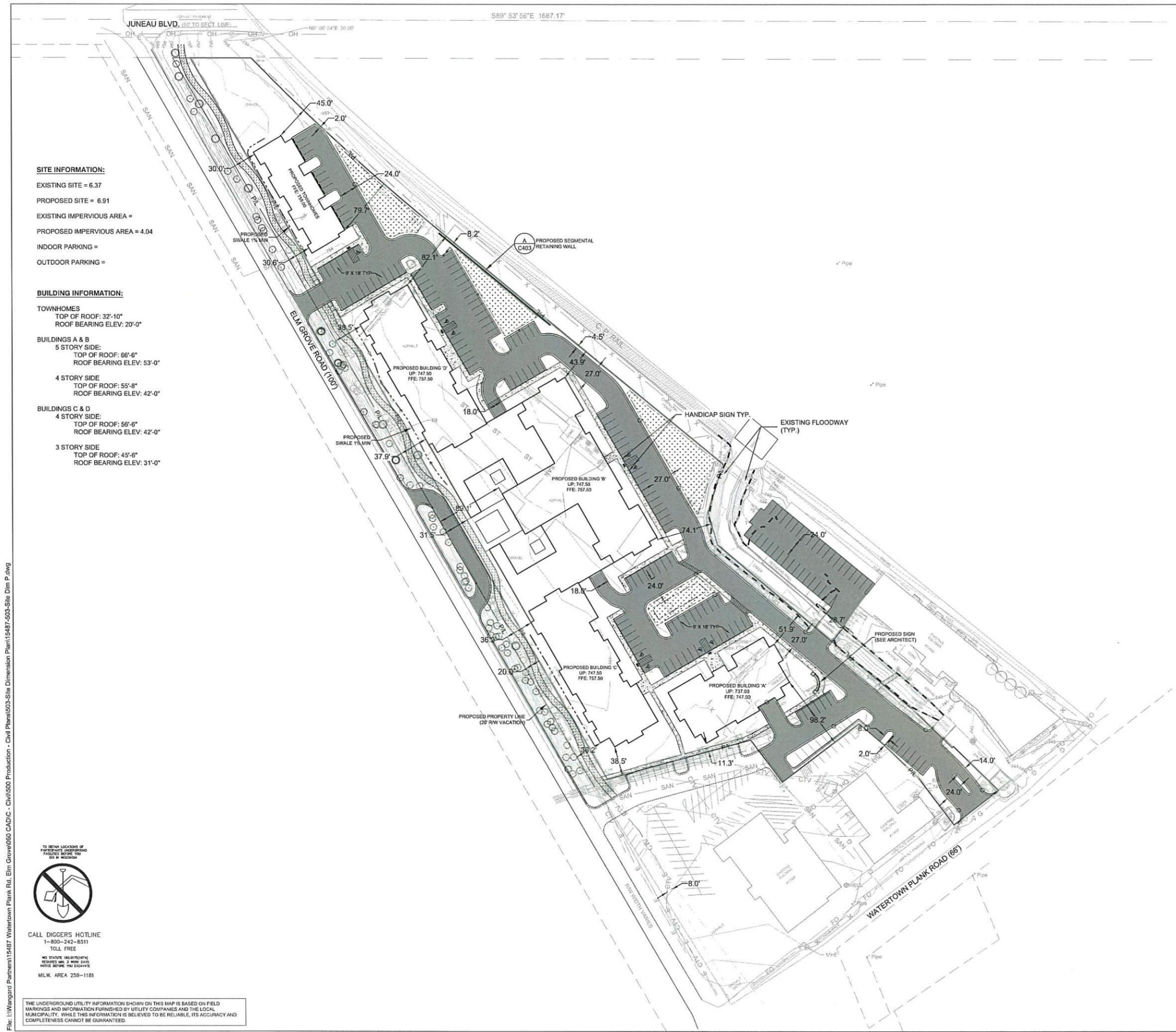
MULTI FAMILY DEVELOPMENT  
 WATERTOWN PLANK ROAD  
 ELM GROVE, WISCONSIN

**SITE PLAN**

CITY SUBMITTAL 2-19-2016  
 NO. REVISION DATE BY

DRAWING NO. 15487-503-Site Dim P.dwg  
 DRAWN BY:  
 DATE:  
 PROJECT NO:  
 CHECKED BY:  
 APPROVED BY:  
 SHEET NO.:

**C 100**



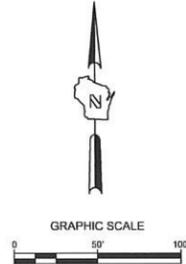
**SITE INFORMATION:**  
 EXISTING SITE = 6.37  
 PROPOSED SITE = 6.91  
 EXISTING IMPERVIOUS AREA =  
 PROPOSED IMPERVIOUS AREA = 4.04  
 INDOOR PARKING =  
 OUTDOOR PARKING =

**BUILDING INFORMATION:**  
**TOWNHOMES**  
 TOP OF ROOF: 32'-10"  
 ROOF BEARING ELEV: 20'-0"  
**BUILDINGS A & B**  
 5 STORY SIDE:  
 TOP OF ROOF: 66'-6"  
 ROOF BEARING ELEV: 53'-0"  
 4 STORY SIDE:  
 TOP OF ROOF: 55'-8"  
 ROOF BEARING ELEV: 42'-0"  
**BUILDINGS C & D**  
 4 STORY SIDE:  
 TOP OF ROOF: 56'-6"  
 ROOF BEARING ELEV: 42'-0"  
 3 STORY SIDE:  
 TOP OF ROOF: 45'-6"  
 ROOF BEARING ELEV: 31'-0"

TO DENY LOCATIONS OF  
 UTILITIES UNDERGROUND  
 SEE RECORDS

CALL DIGGERS HOTLINE  
 1-800-242-8511  
 TOLL FREE  
 WE SERVICE 100 DIVERSITY  
 REQUIRES MIN. 3 WORK DAYS  
 NOTICE BEFORE YOU EXCAVE  
 MILW. AREA 259-1181

THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.



**LEGEND:**

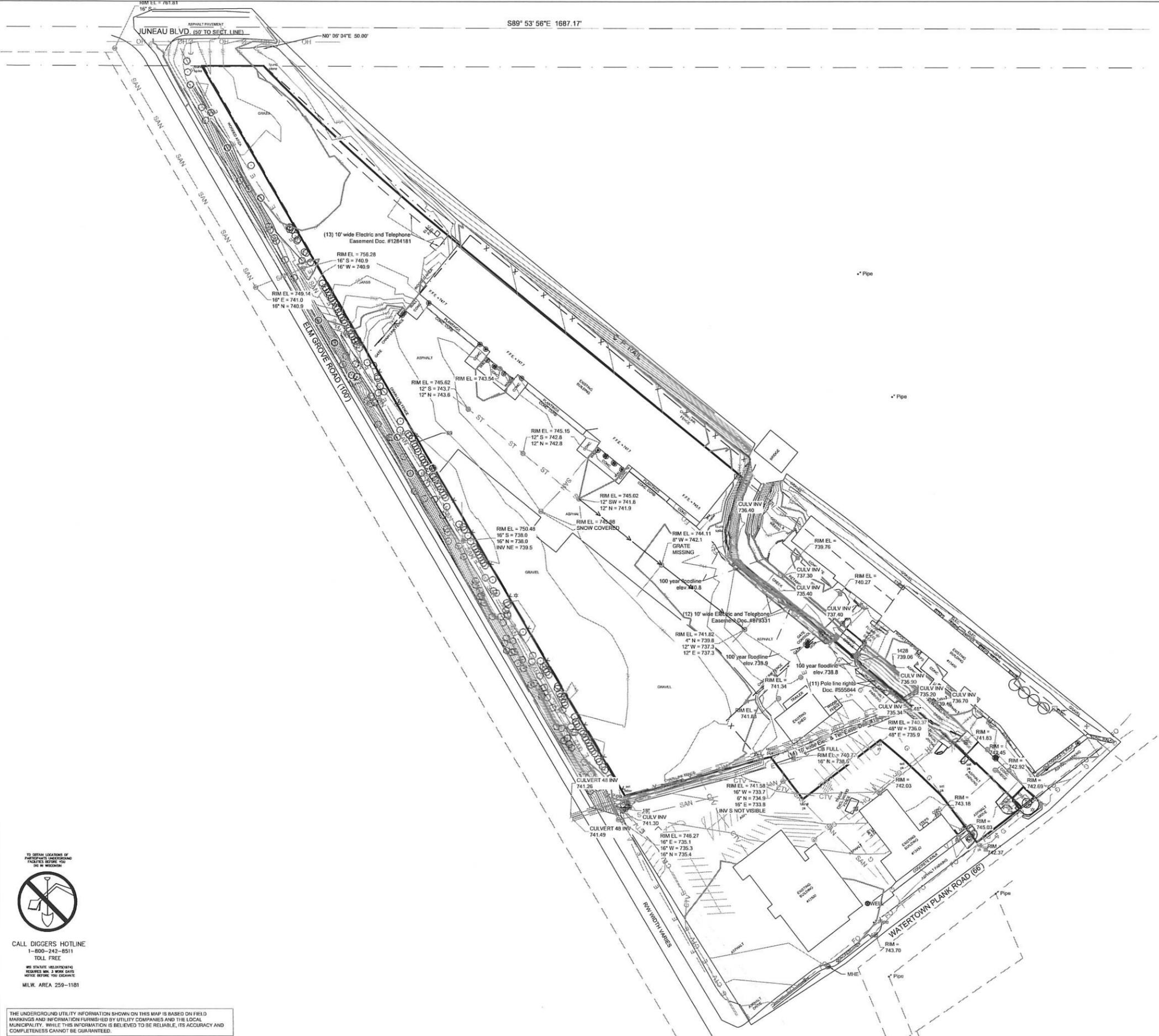
---	SECTION 1/4 SECTION LINE	○	MANHOLE	○	IRON PIPE FOUND/SET
---	PROPERTY LINE	■	CATCH BASIN	●	REBAR FOUND/SET
---	EASEMENT	●	CATCH BASIN (ROUND)	⊗	CHISELED CROSS FOUND/SET
-x-x-x-	CHAIN LINK FENCE	⊗	ROOF DRAIN	⊗	PK NAIL FOUND/SET
~~~~~	TREE LINE	⊗	HYDRANT	●	SPIKE/NAIL
OH	OVERHEAD UTILITY LINE	⊗	WATER VALVE	⊗	MONUMENT
E	ELECTRIC	⊗	GAS VALVE	⊗	BENCHMARK
T	TELEPHONE	⊗	UTILITY POLE	⊗	SIGN
FO	FIBER OPTIC	⊗	GUY WIRE	⊗	DECIDUOUS TREE
CTV	CABLE TV	⊗	GAS METER	⊗	CONIFEROUS TREE
SAN	SANITARY SEWER	⊗	ELECTRIC METER	⊗	BUSH
FM	FORCE MAIN	⊗	UTILITY PEDESTAL	⊗	POST
ST	STORM SEWER	⊗	TRAFFIC SIGNAL	⊗	
W	WATER MAIN	⊗	LIGHT POLE	⊗	
G	GAS	⊗	SOIL BORING	⊗	
---	EXISTING CONTOUR	⊗	MONITORING WELL	⊗	

- GENERAL NOTES:**
1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
  2. VERIFY ACTUAL LOCATIONS AND INVERTS IN THE FIELD. ANY POTENTIAL ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
  3. DRAWING IS BASED ON FIELD SURVEY COMPLETED BY THE SIGMA GROUP ON JULY 14, 2015
  4. VERTICAL DATUM FOR THE PROJECT SURVEY IS NAVD 1988. BENCHMARK FOR THE PROJECT SURVEY IS THE CONCRETE MONUMENT WITH BRASS CAP AT THE NORTHEAST CORNER OF THE NORTHWEST 1/4 OF SECTION 25-7-20 WITH AN ELEVATION OF 762.31.

**MULTI FAMILY DEVELOPMENT  
 WATERTOWN PLANK ROAD  
 ELM GROVE, WISCONSIN**

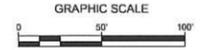
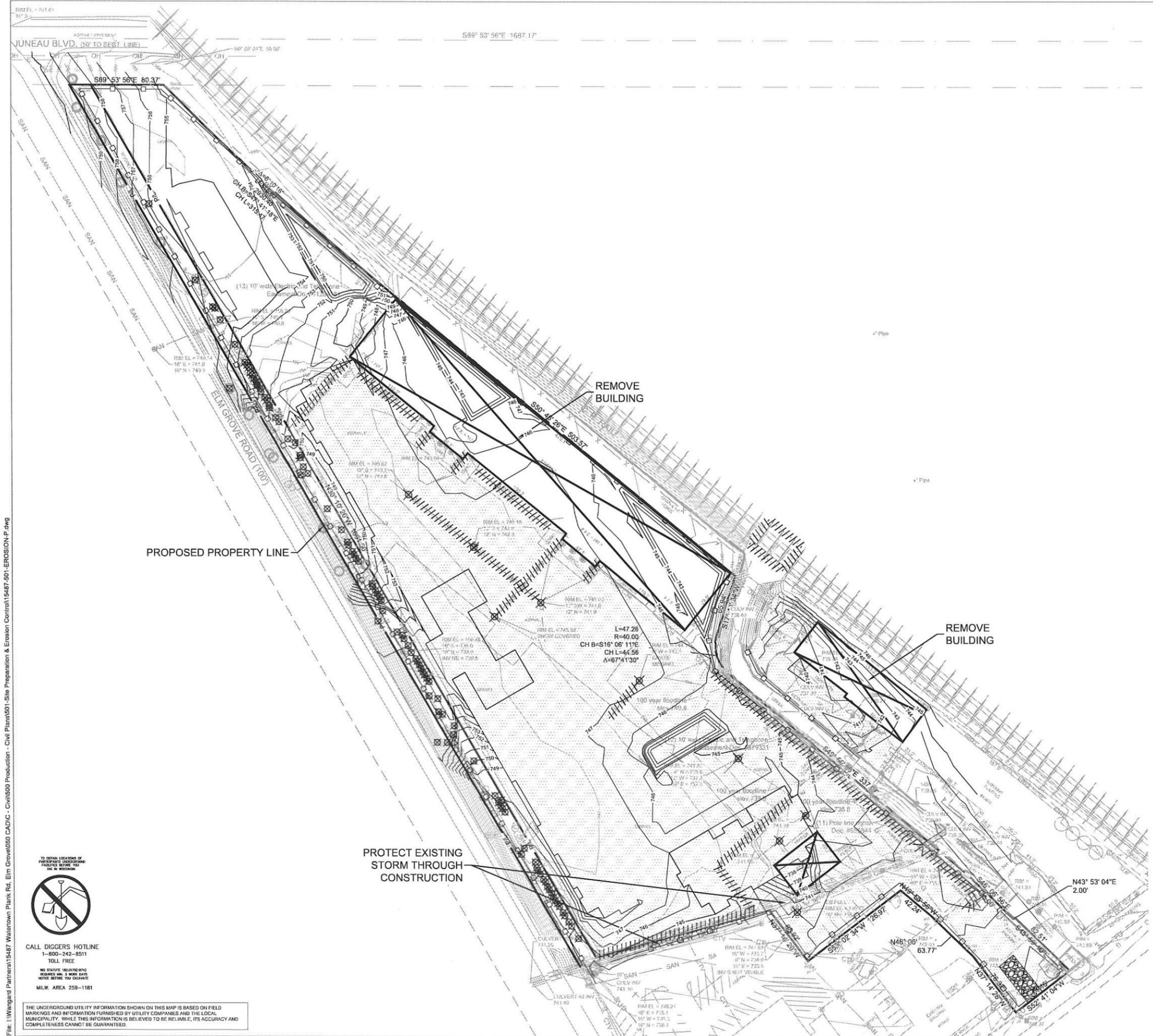
**SITE SURVEY**

CITY SUBMITTAL	2-19-2016
NO. REVISION	DATE BY
DRAWING NO.	15487-500-SURVEY-P.dwg
DRAWN BY:	
DATE:	
PROJECT NO:	
CHECKED BY:	
APPROVED BY:	
SHEET NO.:	<b>C 001</b>



File: I:\Wingard\Parsons\15487 Watertown Plank Rd, Elm Grove\050 CAD/C - Civil\1500-Sub-Survey\15487-500-SURVEY-P.dwg  
 TO OBTAIN LOCATIONS OF FACILITIES MARKING FACILITY SURVEY YOU OR A WISCONSIN  
 CALL DIGGERS HOTLINE  
 1-800-242-8511  
 TOLL FREE  
 WIS STATUTE 182.20(1)(b)(iv)  
 REQUIRES 30 DAY NOTICE BEFORE YOU DIG ANY  
 MILW. AREA 259-1181

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- LEGEND:**
- PROPOSED SILT FENCE
  - PROPOSED INLET PROTECTION
  - PROPOSED TRACKING PAD
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - UTILITY REMOVAL
  - STRUCTURE REMOVAL
  - PULVERIZE PAVEMENT

- GENERAL NOTES:**
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  3. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
  4. ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
  5. SEE SHEET C400 FOR A COMPLETE LIST OF EROSION CONTROL NOTES AND DETAILS. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO START OF LAND DISTURBING ACTIVITIES.
  6. DO NOT BEGIN LAND DISTURBING ACTIVITIES UNTIL AN EROSION CONTROL PERMIT IS OBTAINED FROM LOCAL JURISDICTION.

MULTI FAMILY DEVELOPMENT  
 WATERTOWN PLANK ROAD  
 ELM GROVE, WISCONSIN

# EROSION CONTROL AND SITE PREPARATION PLAN

CITY SUBMITTAL 2-19-2016  
 NO. REVISION DATE BY

DRAWING NO. 15487-501-EROSION-P.dwg  
 DRAWN BY:  
 DATE:  
 PROJECT NO.  
 CHECKED BY:  
 APPROVED BY:  
 SHEET NO.:

**C 002**

File: \\Wangard\Parsons\15487\Waterdown Plank Rd, Elm Grove\050 CAD\C - Civil\500 Production - Civil Plans\01-Site Preparation & Erosion Control\15487-501-EROSION-P.dwg

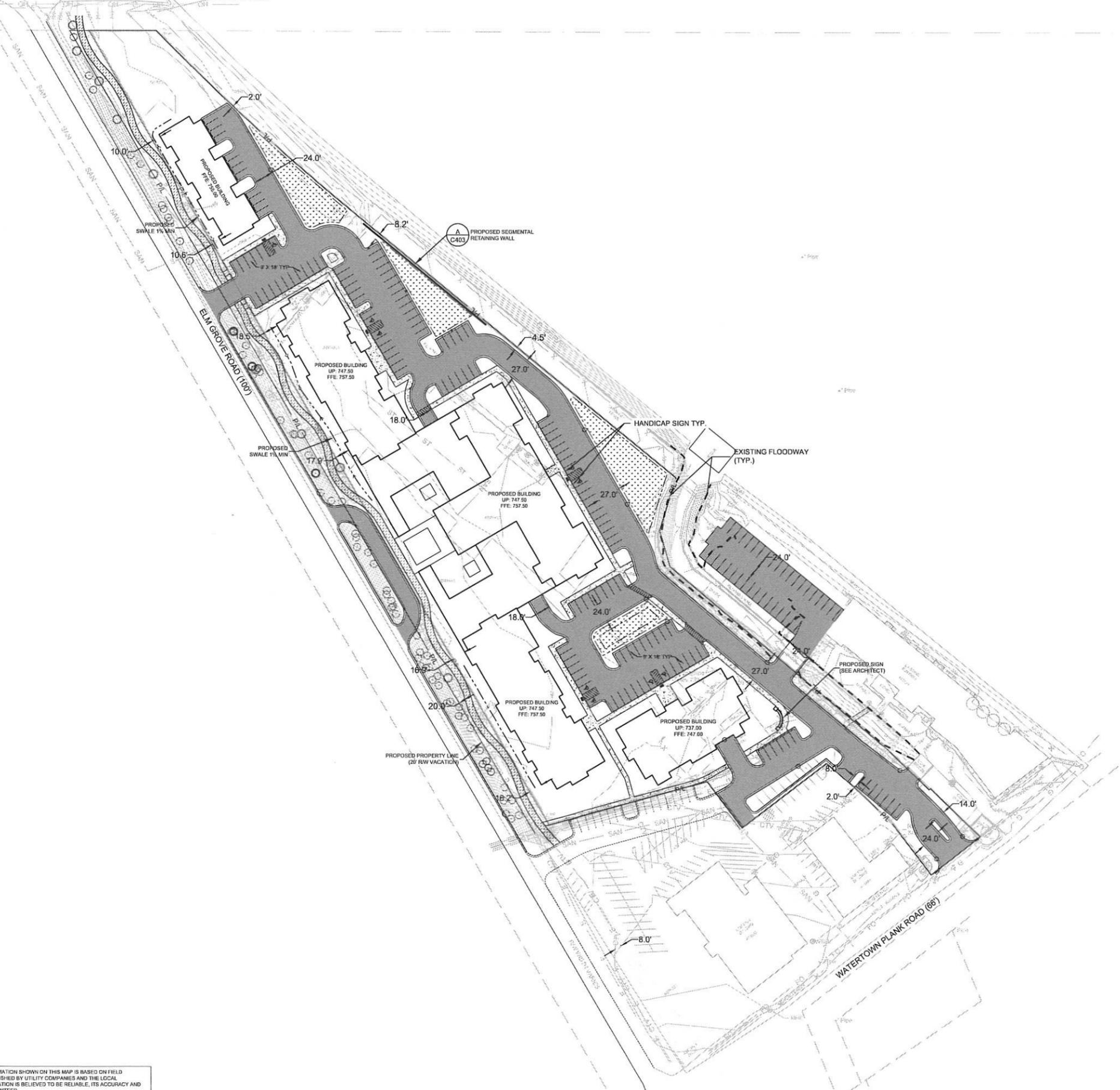


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 TOLL FREE

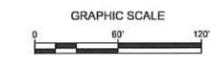
THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.

589° 53' 56" E 1697.17'

JUNEAU BLVD.



**SITE INFORMATION:**  
 EXISTING SITE = 6.37 AC  
 PROPOSED SITE = 6.91 AC  
 EXISTING IMPERVIOUS AREA = 5.25 AC  
 PROPOSED IMPERVIOUS AREA = 4.45 AC  
 INDOOR PARKING =  
 OUTDOOR PARKING =



**LEGEND:**

- 5" THICK CONCRETE WALK (E C401)
- ASPHALT SURFACE (B C401)
- BIKE PATH
- CURB & GUTTER (ACCEPT) (A C401)
- CURB & GUTTER (REJECT) (A C401)
- PROPOSED BIOFILTRATION (B C403)

**GENERAL NOTES:**

1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
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3. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
4. ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
5. DIMENSIONS ARE FROM FACE OF CURB OR EDGE OF PAVEMENT.
6. WORK WITHIN THE PUBLIC RIGHT OF WAY, INCLUDING BUT NOT LIMITED TO DRIVEWAY OPENINGS, SIDEWALK AND RAMPS, PAVING, AND CURB AND GUTTER SHALL BE COMPLETED PER MUNICIPAL AND/OR COUNTY REQUIREMENTS AND STANDARDS.

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 Phone: 414-643-4200  
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MULTI FAMILY DEVELOPMENT  
 WATERTOWN PLANK ROAD  
 ELM GROVE, WISCONSIN

**SITE PLAN**

CITY SUBMITTAL 2-19-2016  
 NO. REVISION DATE BY

DRAWING NO.	15487-503-Site Dim P.dwg
DRAWN BY:	
DATE:	
PROJECT NO.:	
CHECKED BY:	
APPROVED BY:	
SHEET NO.:	

**C 100**

File: I:\Wingard\Partner\15487\Watertown Plank Rd, Elm Grove\080 CAD/C - Civil\500 Production - Civil\Plan\503-Site Dimension Plan\15487-503-Site Dim P.dwg



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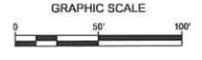
S89° 53' 58"E 1687.17'

JUNEAU BLVD.

ELM GROVE ROAD (100')

WATERTOWN PLANK ROAD (68')

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LEGEND:

-  5" THICK CONCRETE WALK (E C401)
-  ASPHALT SURFACE (B C401)
-  EXISTING CONTOUR
-  PROPOSED CONTOUR
-  PROPOSED CURB & GUTTER SPOT GRADE  
TIC: TOP OF CURB GRADE  
FL: FLOW LINE CURB GRADE
-  PROPOSED ASPHALT SPOT GRADE

GENERAL NOTES:

1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
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3. WORK TO BE COMPLETED IS INDICATED IN BOLD TYPE LINES AND EXISTING CONDITIONS ARE INDICATED BY LIGHT TYPE LINES.
4. ELECTRONIC CIVIL FILES ARE AVAILABLE UPON WRITTEN REQUEST. DO NOT USE ELECTRONIC CIVIL FILES TO LAYOUT FOUNDATIONS, COLUMN LINES, LIGHT POLES, OR OTHER NON CIVIL SITE WORK. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDING AND ARCHITECTURAL FEATURES.
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7. EARTHWORK SHALL BE IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

MULTI FAMILY DEVELOPMENT  
WATERTOWN PLANK ROAD  
ELM GROVE, WISCONSIN

GRADING PLAN

CITY SUBMITTAL 2-19-2016  
NO. REVISION DATE BY

DRAWING NO. 15487-505-GRADING-P.dwg

DRAWN BY:

DATE:

PROJECT NO:

CHECKED BY:

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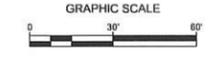
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THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.

File: \\Wangard\Parthena\15487 Watertown Plank Rd, Elm Grove\050-Grading - Civil\Plans\050-Grading-P.dwg

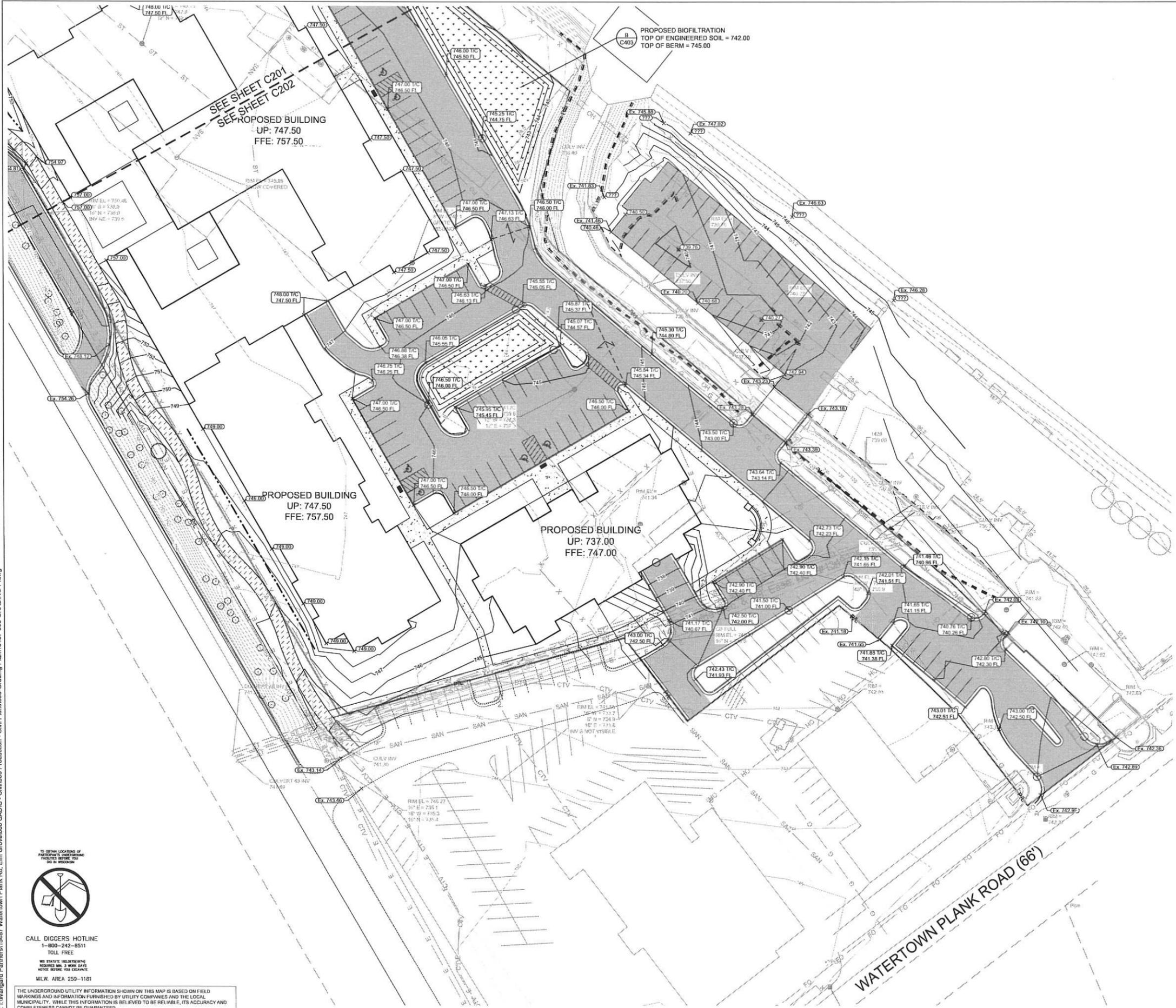




- LEGEND:**
- 5" THICK CONCRETE WALK (E C401)
  - ASPHALT SURFACE (B C401)
  - EXISTING CONTOUR
  - PROPOSED CONTOUR
  - PROPOSED CURB & GUTTER SPOT GRADE  
TIC: TOP OF CURB GRADE  
FL: FLOW LINE CURB GRADE
  - PROPOSED ASPHALT SPOT GRADE

**GENERAL NOTES:**

1. THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS DRAWING IS BASED ON FIELD LOCATIONS AND/OR RECORDS FURNISHED BY MUNICIPALITIES AND UTILITY COMPANIES. THE LOCATION AND ACCURACY OF WHICH CANNOT BE GUARANTEED. THERE MAY BE ADDITIONAL UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
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7. EARTHWORK SHALL BE IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.



File: I:\Wingard\Partner\15487 Watertown Plank Rd, Elm Grove\0505-Grading - Civil Plans\0505-Grading-Plan\15487-505-GRADING-P.dwg

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MULTI FAMILY DEVELOPMENT  
 WATERTOWN PLANK ROAD  
 ELM GROVE, WISCONSIN

**DETAILED GRADING PLAN - SOUTH**

CITY SUBMITTAL 2-19-2016  
 NO. REVISION DATE BY

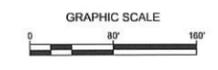
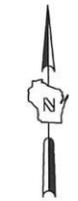
DRAWING NO. 15487-505-GRADING-P.dwg  
 DRAWN BY:  
 DATE:  
 PROJECT NO:  
 CHECKED BY:  
 APPROVED BY:  
 SHEET NO.:

**C 202**

SAP 53° 50' E 1687.17'

JUNEAU BLVD.

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 Milwaukee, WI 53233  
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**LEGEND:**

- SAN --- PROPOSED SANITARY SERVICE
- ST --- PROPOSED STORM SEWER
- W --- PROPOSED WATER SERVICE
- W --- PROPOSED WATER SERVICE 2
- PROPOSED STORM INLET
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE

**GENERAL NOTES:**

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5. ALL UTILITIES WITHIN 5 FEET OF PAVED AREAS SHALL REQUIRE GRANULAR BACKFILL. SLURRY BACKFILL IS REQUIRED FOR ALL WORK IN PUBLIC RIGHT OF WAY.
6. PRIVATE STORM INLETS IN PAVEMENT SHALL REQUIRE DRAIN TILE STUBS OF 10 FEET IN TWO DIRECTIONS FOR SUBDRAINAGE. RIM GRADE FOR STORM INLETS IN CURB AND GUTTER ARE FLOW LINE GRADES.
7. WORK IN PUBLIC RIGHT OF WAY SHALL FOLLOW MATERIAL AND INSTALLATION REQUIREMENTS PER MUNICIPAL AND/OR COUNTY.
8. PRIVATE STORM SEWER 12-INCH DIAMETER OR LARGER SHALL BE HDPE. BELOW 12-INCH DIAMETER SHALL BE PVC SDR-35 ASTM D3034. PRIVATE WATER MAIN SHALL BE CLASS 150 DR 18 PVC CONFORMING TO AWWA C-900. PRIVATE SANITARY SEWER SHALL BE PVC SDR-35 ASTM D3034.
9. COORDINATE FINAL LOCATION AND DESIGN OF PRIVATE UTILITY SERVICES (ELECTRIC, GAS, PHONE, CABLE) WITH UTILITY COMPANIES.

MULTI FAMILY DEVELOPMENT  
 WATERTOWN PLANK ROAD  
 ELM GROVE, WISCONSIN

**UTILITY PLAN**

CITY SUBMITTAL 2-19-2016  
 NO. REVISION DATE BY

DRAWING NO. 15487-UTILITY.dwg  
 DRAWN BY:  
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**C 300**

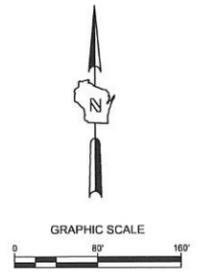
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- LEGEND:**
- W --- PROPOSED WATER SERVICE
  - SAN --- PROPOSED SANITARY SERVICE
  - ST --- PROPOSED STORM SEWER
  - E --- PROPOSED ELECTRICAL SERVICE
  - T --- PROPOSED TELEPHONE SERVICE
  - G --- PROPOSED GAS SERVICE
  - PROPOSED STORM INLET
  - PROPOSED STORM MANHOLE
  - PROPOSED SANITARY MANHOLE

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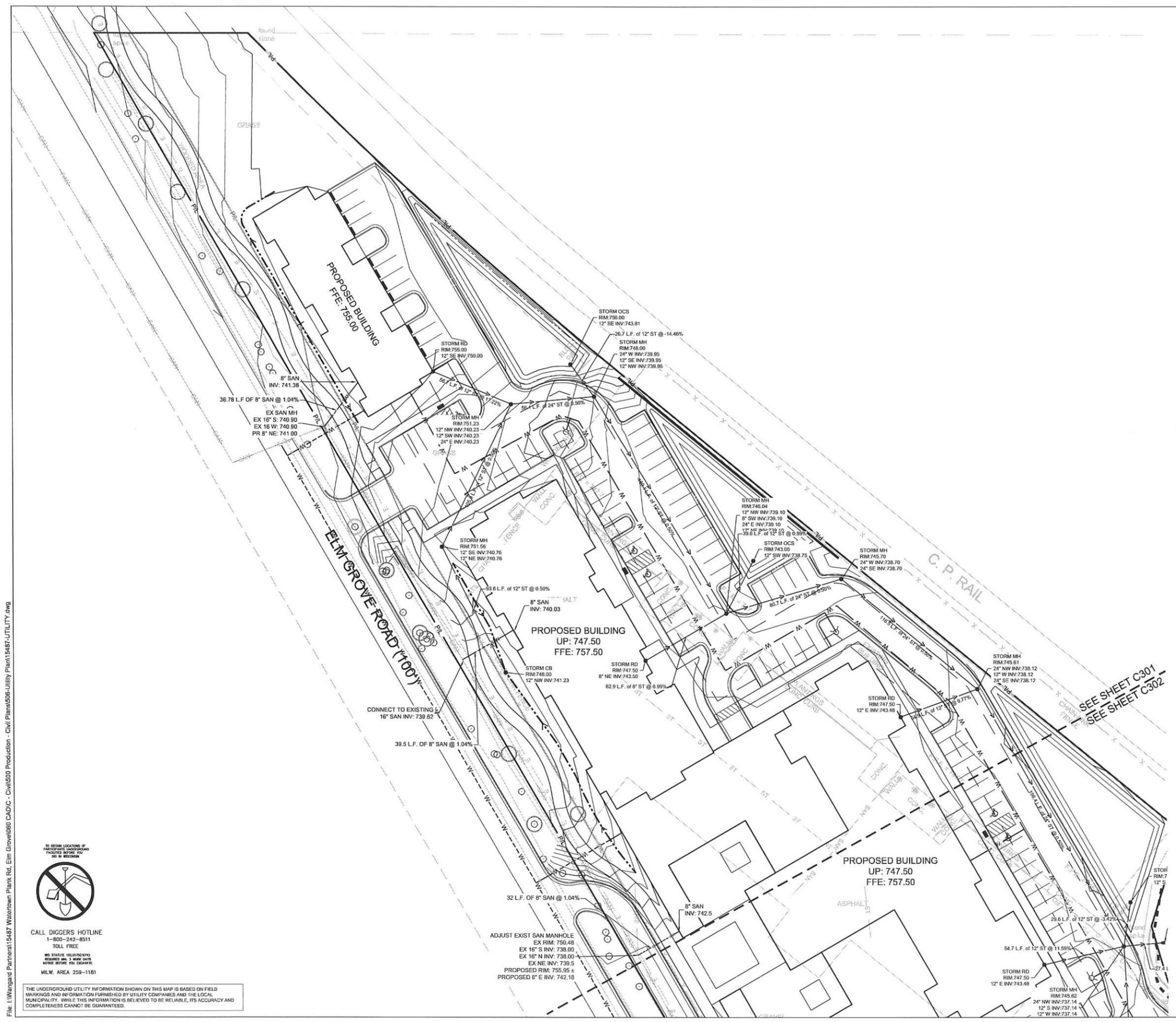
**MULTI FAMILY DEVELOPMENT  
 WATERTOWN PLANK ROAD  
 ELM GROVE, WISCONSIN**

**UTILITY PLAN**

CITY SUBMITTAL 2-19-2016  
 NO. REVISION DATE BY

DRAWING NO. 15487-UTILITY.dwg  
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**C 301**



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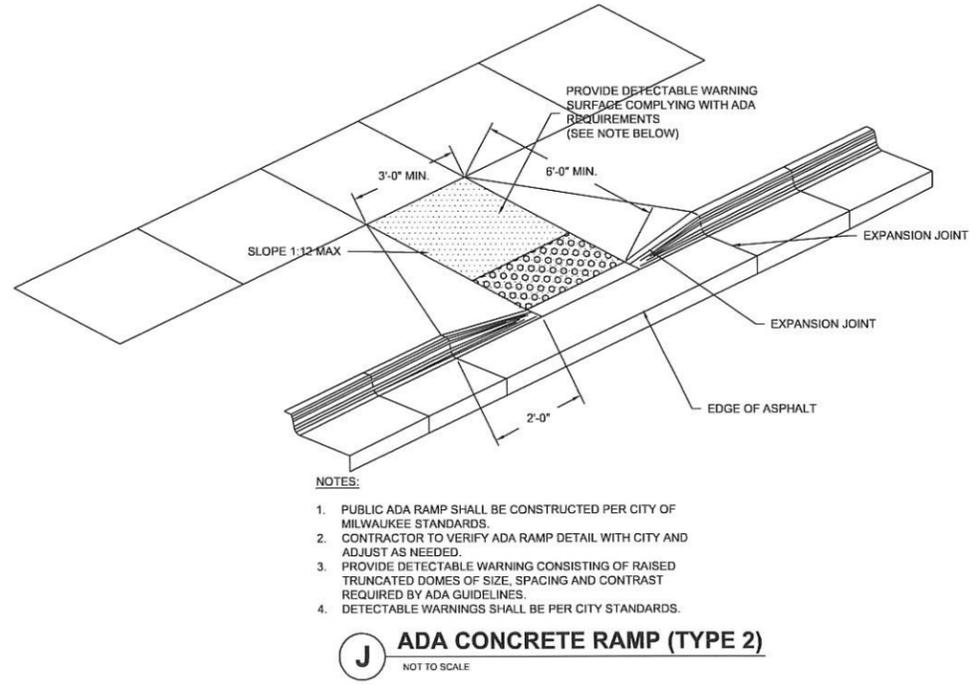
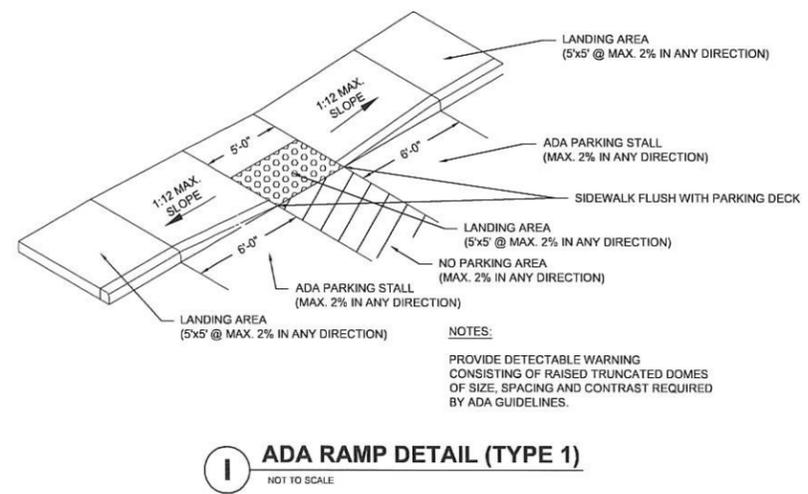
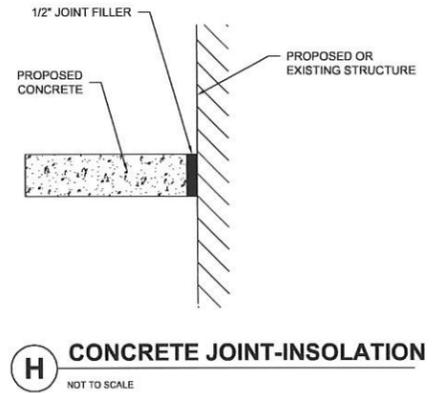
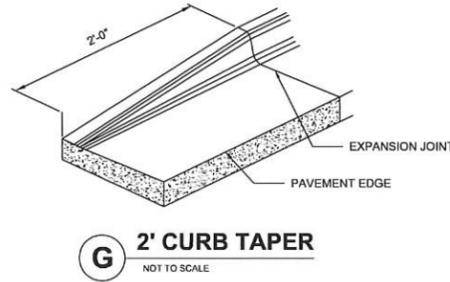
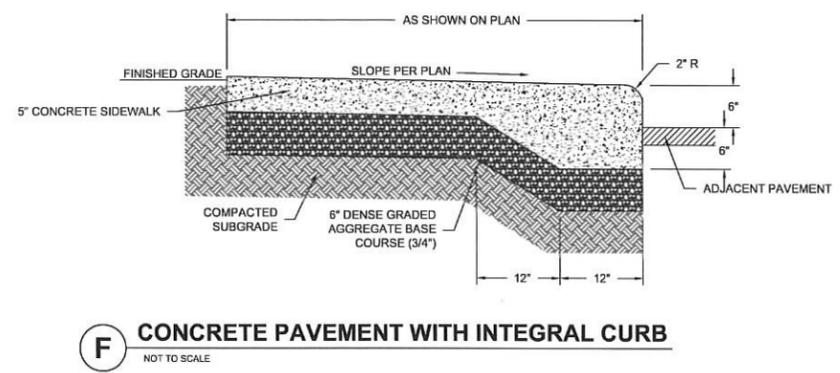
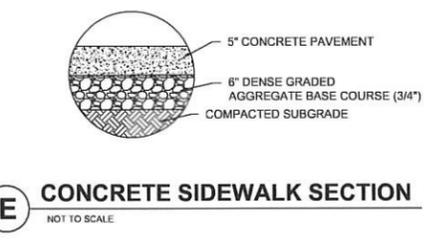
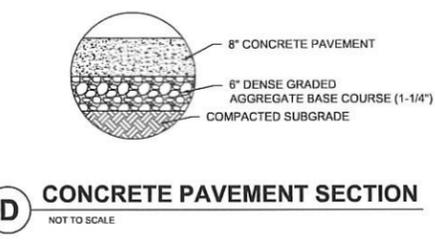
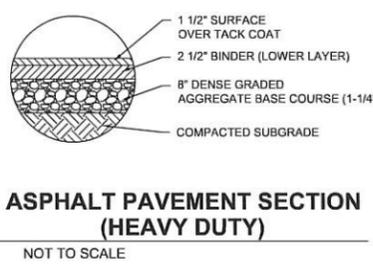
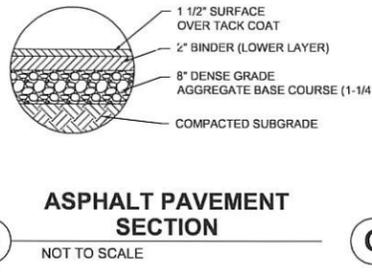
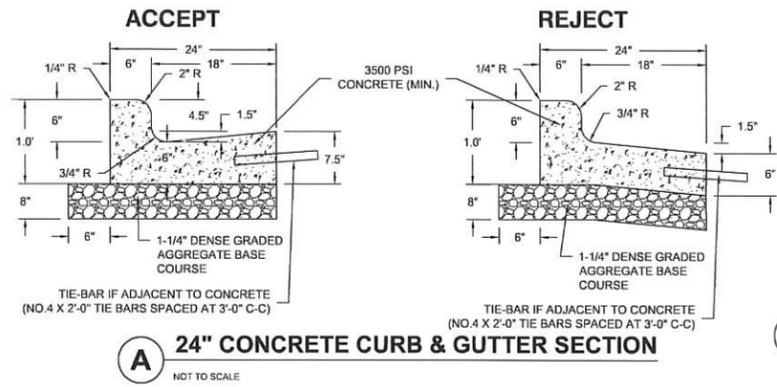


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THE UNDERGROUND UTILITY INFORMATION SHOWN ON THIS MAP IS BASED ON FIELD MARKINGS AND INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED.







- NOTES:**
- PUBLIC ADA RAMP SHALL BE CONSTRUCTED PER CITY OF MILWAUKEE STANDARDS.
  - CONTRACTOR TO VERIFY ADA RAMP DETAIL WITH CITY AND ADJUST AS NEEDED.
  - PROVIDE DETECTABLE WARNING CONSISTING OF RAISED TRUNCATED DOMES OF SIZE, SPACING AND CONTRAST REQUIRED BY ADA GUIDELINES.
  - DETECTABLE WARNINGS SHALL BE PER CITY STANDARDS.

MULTI FAMILY DEVELOPMENT  
 WATERTOWN PLANK ROAD  
 ELM GROVE, WISCONSIN

**DETAILS**

CITY SUBMITTAL 2-19-2016  
 NO. REVISION DATE BY

DRAWING NO. 15487-DETAILS.dwg  
 DRAWN BY:  
 DATE:  
 PROJECT NO:  
 CHECKED BY:  
 APPROVED BY:  
 SHEET NO.:

**GENERAL:**

- 1. EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY, AND NO RESPONSIBILITY IS ASSUMED BY THE OWNER OR ENGINEER FOR THEIR ACCURACY OR COMPLETENESS.
2. CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. CONTRACTOR SHALL HAVE SITE MARKED BY DIGGER'S HOTLINE AND SHALL HAVE PRIVATE UTILITIES MARKED BY A PRIVATE UTILITY LOCATOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL VERIFY ALL ELEVATIONS, LOCATIONS, AND SIZES OF EXISTING UTILITIES AND SHALL CHECK ALL UTILITY CROSSINGS AND PROPOSED CONNECTIONS FOR CONFLICTS/DISCREPANCIES PRIOR TO INITIATING CONSTRUCTION. REPORT ANY CONFLICTS OR DISCREPANCIES TO THE ENGINEER SO REDESIGN MAY OCCUR IF NEEDED.
3. LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLANS. LENGTHS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.

**SITE CLEARING:**

- 1. EXCEPT FOR STRIPPED TOPSOIL OR OTHER MATERIALS INDICATED TO REMAIN ON OWNER'S PROPERTY, CLEARED MATERIALS SHALL BECOME CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM PROJECT SITE.
2. MINIMIZE INTERFERENCE WITH ADJOINING ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES DURING SITE-CLEARING OPERATIONS.
3. SALVAGE IMPROVEMENTS: CAREFULLY REMOVE ITEMS INDICATED TO BE SALVAGED AND STORE ON OWNER'S PREMISES WHERE INDICATED.
4. UTILITY LOCATOR SERVICE: NOTIFY UTILITY LOCATOR SERVICE FOR AREA WHERE PROJECT IS LOCATED BEFORE SITE CLEARING.
5. DO NOT COMMENCE SITE CLEARING OPERATIONS UNTIL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE.
6. PROTECT AND MAINTAIN BENCHMARKS AND SURVEY CONTROL POINTS FROM DISTURBANCE DURING CONSTRUCTION.
7. LOCATE AND CLEARLY FLAG TREES AND VEGETATION TO REMAIN OR TO BE RELOCATED.
8. PROTECT EXISTING SITE IMPROVEMENTS TO REMAIN FROM DAMAGE DURING CONSTRUCTION; RESTORE DAMAGED IMPROVEMENTS TO THEIR ORIGINAL CONDITION, AS ACCEPTABLE TO OWNER.
9. LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF UTILITIES INDICATED TO BE REMOVED; ARRANGE WITH UTILITY COMPANIES TO SHUT OFF INDICATED UTILITIES.
10. EXISTING UTILITIES: DO NOT INTERRUPT UTILITIES SERVING FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED BY THE OWNER AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY UTILITY SERVICES.
11. FILL DEPRESSIONS CAUSED BY CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY SOIL MATERIAL UNLESS FURTHER EXCAVATION OR EARTHWORK IS INDICATED; PLACE FILL MATERIAL IN HORIZONTAL LAYERS NOT EXCEEDING A LOOSE DEPTH OF 8 INCHES, AND COMPACT EACH LAYER TO A DENSITY EQUAL TO ADJACENT ORIGINAL GROUND.
12. REMOVE SOD AND GRASS BEFORE STRIPPING TOPSOIL.
13. STRIP TOPSOIL TO WHATEVER DEPTHS ARE ENCOUNTERED IN A MANNER TO PREVENT INTERMINGLING WITH UNDERLYING SUBSOIL OR OTHER WASTE MATERIALS.
14. STOCKPILE TOPSOIL MATERIALS AWAY FROM EDGE OF EXCAVATIONS WITHOUT INTERMIXING WITH SUBSOIL. GRADE AND SHAPE STOCKPILES TO DRAIN SURFACE WATER. COVER TO PREVENT WINDBLOWN DUST.
15. REMOVE EXISTING ABOVE- AND BELOW-GRADE IMPROVEMENTS AS INDICATED AND AS NECESSARY TO FACILITATE NEW CONSTRUCTION.
16. SAWCUT ALL PAVEMENTS FULL DEPTH PRIOR TO REMOVAL; SAWCUTS SHALL BE IN STRAIGHT LINES PERPENDICULAR AND/OR PARALLEL TO EXISTING PAVEMENT JOINTS AND PAVEMENT EDGES.
17. REMOVE SURPLUS SOIL MATERIAL, UNSUITABLE TOPSOIL, OBSTRUCTIONS, DEMOLISHED MATERIALS, AND WASTE MATERIALS INCLUDING TRASH AND DEBRIS, AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
18. SEPARATE RECYCLABLE MATERIALS PRODUCED DURING SITE CLEARING FROM OTHER NONRECYCLABLE MATERIALS. STORE OR STOCKPILE WITHOUT INTERMIXING WITH OTHER MATERIALS AND TRANSPORT THEM TO RECYCLING FACILITIES.

**SITE WATER SERVICE:**

- 1. COMPLY WITH STANDARDS OF STATE PLUMBING CODE (SPS CH. 382, 384), LOCAL WATER UTILITY REQUIREMENTS AND STANDARDS OF AUTHORITIES HAVING JURISDICTION FOR FIRE-SUPPRESSION AND WATER SERVICE PIPING INCLUDING MATERIALS, FITTINGS, APPURTENANCES, INSTALLATION, TESTING, SERVICE TAPS, ETC. IN CASE OF CONFLICT BETWEEN THESE SPECIFICATIONS AND STATE PLUMBING CODE OR LOCAL JURISDICTIONAL AUTHORITY, STATE PLUMBING CODE AND LOCAL JURISDICTIONAL AUTHORITY REQUIREMENTS GOVERN.
2. DO NOT INTERRUPT SERVICE TO FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED BY OWNERS OF SUCH FACILITIES AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY WATER-DISTRIBUTION SERVICE.
3. WATER SERVICE PIPING MAY BE EITHER DUCTILE IRON WATER PIPE OR PVC WATER PIPE AS ALLOWED BY THE LOCAL WATER UTILITY.
4. DUCTILE IRON WATER PIPE CONFORMING TO THE REQUIREMENTS OF THE AMERICAN NATIONAL STANDARD FOR DUCTILE IRON PIPE, CENTRIFUGALLY CAST, AWWA C151/A21.51 - LATEST REVISION AND REQUIREMENTS OF CHAPTER 8.18.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
a. CLASS 52
b. CEMENT MORTAR LINING AND INTERNAL AND EXTERNAL BITUMINOUS COATS IN ACCORDANCE WITH SECTION 51.8 OF AWWA C151.
c. PUSH-ON GASKET PIPE
d. PLAIN RUBBER GASKETS
e. BONDING STRAPS TO PROVIDE ELECTRICAL CONDUCTIVITY WITHOUT FIELD TESTING
5. JOINTS FOR DUCTILE IRON PIPE: JOINTS SHALL BE RUBBER GASKET JOINTS, CONFORM TO THE REQUIREMENTS OF AMERICAN NATIONAL STANDARD FOR RUBBER GASKET JOINTS FOR DUCTILE IRON PRESSURE PIPE AND FITTINGS (ANSI/AWWA C111/A21.11, LATEST EDITION)
6. FITTINGS FOR DUCTILE IRON PIPE: CONFORM TO THE REQUIREMENTS OF AMERICAN NATIONAL STANDARD FOR DUCTILE IRON AND GRAY IRON FITTINGS, 3" THROUGH 48" FOR WATER ANSI/AWWA C110/A21.10, LATEST EDITION); CLASS 250 MECHANICAL JOINT PIPE FITTINGS; CEMENT LINED; ALL BELLS; ENTIRE FITTING TAPPED; CONDUCTIVE MECHANICAL JOINT (NO LEAD) RUBBER GASKETS, FLANGES, AND BOLTS.
7. PVC AWWA PIPE: AWWA C900, CLASS 200 WITH BELL END WITH GASKET AND WITH SPIGOT END AND MEETING REQUIREMENTS OF CHAPTER 8.20.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN. FITTINGS SHALL BE IN ACCORDANCE WITH CHAPTER 8.22.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN. PUSH-ON-JOINT, DUCTILE IRON FITTINGS: AWWA C110 AND C111. MECHANICAL JOINT, DUCTILE IRON FITTINGS: AWWA C153, DUCTILE-IRON COMPACT PATTERN. GLANDS, GASKETS AND BOLTS: AWWA C111, DUCTILE IRON GLANDS, RUBBER GASKETS AND STEEL BOLTS.
8. GATE VALVES: CONFORM TO AWWA C-500 AND STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN SUITABLE FOR DIRECT BURY.
9. VALVE BOXES: CAST IRON CONFORMING TO ASTM DESIGNATION A-48, CLASS 20 AND STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
10. FIRE HYDRANTS: N/A
11. WATER MAIN CONNECTION: TAP WATER MAIN WITH SIZE AND LOCATION INDICATED ON PLAN IN ACCORDANCE WITH LOCAL WATER UTILITY REQUIREMENTS. COORDINATE CONNECTION WITH LOCAL WATER UTILITY.
12. GENERAL WATER PIPE INSTALLATION: IN ACCORDANCE WITH CHAPTER 4.3.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
13. INSTALL DUCTILE-IRON, WATER-SERVICE PIPING ACCORDING TO AWWA C600 AND CHAPTER 4.4.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
14. ALL DUCTILE IRON PIPE SHALL BE ENCASED IN POLYETHYLENE PER AWWA C105, LATEST EDITION AND IN ACCORDANCE WITH CHAPTER 4.4.4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN. ALL JOINTS AND FITTINGS SHALL HAVE POLYETHYLENE ENCASEMENT INSTALLED PER MANUFACTURER'S REQUIREMENTS AND PROCEDURES.
15. INSTALL PVC AWWA PIPE ACCORDING TO ASTM F645 AND AWWA M23 AND CHAPTER 4.6.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
16. INSTALL THRUST RESTRAINT AT ALL OFFSET FITTINGS USING MECHANICAL JOINT RESTRAINTS. CONCRETE THRUST BLOCKS MAY ONLY BE USED IF ALLOWED BY LOCAL WATER UTILITY.
17. INSTALL WATER SERVICE PIPING SUCH THAT THERE IS A MINIMUM OF 6" OF COVER OVER THE TOP OF THE WATER SERVICE PIPING.
18. BEDDING AND COVER FOR WATER SERVICE PIPING SHALL BE IN ACCORDANCE WITH SECTION 4.3.3 AND FILE NO. 36 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. TRENCH BACKFILL SHALL BE GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION ON-SITE.

**SITE WATER SERVICE CONT.:**

- 19. INSTALL TRACER WIRE FOR NON-METALLIC WATER SERVICES IN ACCORDANCE WITH SPS SECTION 382.40(8)(K). TRACER WIRE INSULATION COLOR SHALL BE BLUE FOR POTABLE WATER SERVICE PIPING.
20. DUCTILE-IRON PIPING, RUBBER GASKETED JOINTS IN ACCORDANCE WITH SECTION 4.4.2 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
21. PVC PIPING GASKETED JOINTS: USING JOINING MATERIALS ACCORDING TO AWWA C900. CONSTRUCT JOINTS WITH ELASTOMERIC SEALS AND LUBRICANTS ACCORDING TO ASTM D2774 OR ASTM D3139 AND PIPE MANUFACTURER'S WRITTEN INSTRUCTIONS.
22. CONDUCT HYDROSTATIC TESTS IN ACCORDANCE WITH CHAPTER 4.15.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
23. CLEAN AND DISINFECT WATER SERVICE PIPING IN ACCORDANCE WITH SPS CHAPTER 82.40(8)(I) AND AWWA C651.

**SANITARY SEWERAGE:**

- 1. ALL PRIVATE SANITARY SEWER WORK SHALL BE IN ACCORDANCE WITH THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES (DPS) PLUMBING CODE - CHAPTERS SPS 382 AND SPS 384 AND LOCAL MUNICIPAL REQUIREMENTS.
2. ALL PUBLIC SANITARY SEWER WORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION (STANDARD SPECIFICATIONS) AND LOCAL MUNICIPAL REQUIREMENTS.
3. PVC SEWER PIPE AND FITTINGS: ASTM D 3034, SDR 35, WITH BELL-AND-SPIGOT ENDS WITH RUBBER GASKETED JOINTS IN ACCORDANCE WITH CHAPTER 8.10.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. JOINTS SHALL CONFORM TO ASTM D-3212.
4. MANHOLES: STANDARD PRECAST REINFORCED CONCRETE MANHOLES CONFORMING TO ASTM C478, SECTION 8.39.0 OF THE STANDARD SPECIFICATIONS AND CONFORMING TO FILE NOS. 12, 13 AND 15 OF THE STANDARD SPECIFICATIONS. DIAMETER AND DEPTH AS INDICATED ON PLANS. MANHOLE SIZES TO BE VERIFIED BY CONTRACTOR AND SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW PRIOR TO ORDERING STRUCTURES.
5. MANHOLES DEEPER THAN FOUR FEET SHALL BE PROVIDED WITH MANHOLE STEPS CONFORMING TO SECTION 8.40.0 OF THE STANDARD SPECIFICATIONS.
6. SEWERS SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 3.2.0 OF THE STANDARD SPECIFICATIONS. INSTALL PROPER SIZE INCREASERS, REDUCERS AND COUPLINGS WHERE DIFFERENT SIZES OR MATERIALS OF PIPES AND FITTINGS ARE CONNECTED. INSTALL TRACER PIPE OVER NON-METALLIC PIPING IN ACCORDANCE WITH SPS SECTION 382.30(11)(H) AND 382.36(7)(D).
7. PIPE JOINT CONSTRUCTION: FOLLOW PIPING MANUFACTURER'S RECOMMENDATIONS; JOIN PVC SEWER PIPE ACCORDING TO ASTM D2321 AND ASTM D 3212 FOR ELASTOMERIC GASKET JOINTS. JOIN DISSIMILAR PIPE MATERIALS WITH NONPRESSURE-TYPE, FLEXIBLE COUPLINGS
8. PROVIDE AND INSTALL CLEANOUTS IN ACCORDANCE WITH SPS CHAPTER 382.35. INSTALL CLEANOUTS AND RISER EXTENSIONS FORM SEWER PIPES TO PROPOSED GRADE. INSTALL PIPING SO CLEANOUTS OPEN IN DIRECTION OF FLOW IN SEWER PIPE. USE LIGHT DUTY, TOP LOADING CLASSIFICATION CLEANOUTS IN EARTH OR UNPAVED FOOT TRAFFIC AREAS; USE MEDIUM DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN PAVED FOOT TRAFFIC AREAS; USE HEAVY DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN VEHICULAR TRAFFIC AREAS. SET CLEANOUT FRAMES AND COVERS IN PAVEMENT AREAS FLUSH WITH PAVEMENT SURFACE.
9. CLASS B COMPACTED TRENCH SECTION (FILE NO. 4 OF STANDARD SPECIFICATIONS) SHALL BE UTILIZED. BEDDING AND COVER MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 8.43.0 OF THE STANDARD SPECIFICATIONS.
10. TRENCH BACKFILL MATERIAL SHALL BE GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF THE STANDARD SPECIFICATIONS BENEATH AND WITHIN FIVE FEET OF PAVEMENT AREAS; COMPACTED SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF THE STANDARD SPECIFICATIONS MAY BE USED BENEATH LANDSCAPE AREAS.
11. MANHOLE INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 3.5.0 OF THE STANDARD SPECIFICATIONS. SET MANHOLE RIMS TO ELEVATIONS INDICATED ON PLANS.
12. AFTER INSTALLATION OF SEWER PIPE CLEAN ALL DEBRIS FROM SEWER AND INSPECT INTERIOR OF PIPING TO DETERMINE WHETHER LINE DISPLACEMENT OR OTHER DAMAGE HAS OCCURRED. CONDUCT DEFLECTION TESTING OF INSTALLED PIPE IN ACCORDANCE WITH SECTION 3.2.6(I)(4) OF THE STANDARD SPECIFICATIONS; REPLACE ANY PIPE SECTION NOT PASSING THE DEFLECTION TESTING USING NEW PIPE MATERIALS. TEST NEW BUILDING SEWER IN ACCORDANCE WITH SECTION 5.4.0 OF THE STANDARD SPECIFICATIONS. REPLACE LEAKING PIPE USING NEW PIPE MATERIALS AAND REPEAT TESTING UNTIL LEAKAGE IS WITHIN ALLOWANCES SPECIFIED.

**STORM DRAINAGE:**

- 1. ALL PRIVATE STORM SEWER WORK SHALL BE IN ACCORDANCE WITH THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES (DPS) PLUMBING CODE - CHAPTERS SPS 382 AND SPS 384 AND LOCAL MUNICIPAL REQUIREMENTS.
2. ALL PUBLIC STORM SEWER WORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION (STANDARD SPECIFICATIONS) AND LOCAL MUNICIPAL REQUIREMENTS.
3. PVC SEWER PIPE AND FITTINGS: ASTM D 3034, SDR 35, WITH BELL-AND-SPIGOT ENDS WITH RUBBER GASKETED JOINTS IN ACCORDANCE WITH CHAPTER 8.10.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. JOINTS SHALL CONFORM TO ASTM D-3212.
4. REINFORCED CONCRETE PIPE: ASTM C75 WITH BELL AND SPIGOT ENDS AND GASKETED JOINTS WITH ASTM C443 RUBBER GASKETS IN ACCORDANCE WITH CHAPTER 8.6.0 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
5. HDPE PIPE: ADS N12 PIPE AS APPROVED ON THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES PLUMBING PRODUCT REGISTER.
6. CATCH BASINS: STANDARD PRECAST CONCRETE CATCH BASINS CONFORMING TO CHAPTER 3.6.0 OF THE STANDARD SPECIFICATIONS AND IN GENERAL CONFORMANCE WITH FILE NO. 26 OF THE STANDARD SPECIFICATIONS. DEPTH AND DIAMETER AS INDICATED ON PLANS. CATCH BASIN SIZES TO BE VERIFIED BY CONTRACTOR AND SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW PRIOR TO ORDERING STRUCTURES.
7. FRAMES AND GRATES: AS INDICATED ON PLANS, CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING SPECIFIED FRAME/GRATE IS COMPATIBLE WITH STRUCTURE; IF NOT, NOTIFY ENGINEER.
8. MANHOLES: STANDARD PRECAST REINFORCED CONCRETE MANHOLES CONFORMING TO ASTM C478, SECTION 8.39.0 OF THE STANDARD SPECIFICATIONS AND CONFORMING TO FILE NOS. 12, 13 AND 15 OF THE STANDARD SPECIFICATIONS. DIAMETER AND DEPTH AS INDICATED ON PLANS. MANHOLE SIZES TO BE VERIFIED BY CONTRACTOR AND SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW PRIOR TO ORDERING STRUCTURES.
9. MANHOLES AND CATCH BASINS DEEPER THAN FOUR FEET SHALL BE PROVIDED WITH MANHOLE STEPS CONFORMING TO SECTION 8.40.0 OF THE STANDARD SPECIFICATIONS.
10. SEWERS SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 3.2.0 OF THE STANDARD SPECIFICATIONS. INSTALL PROPER SIZE INCREASERS, REDUCERS AND COUPLINGS WHERE DIFFERENT SIZES OR MATERIALS OF PIPES AND FITTINGS ARE CONNECTED. INSTALL TRACER PIPE OVER NON-METALLIC PIPING IN ACCORDANCE WITH SPS SECTION 382.30(11)(H) AND 382.36(7)(D).
11. PROVIDE AND INSTALL CLEANOUTS IN ACCORDANCE WITH SPS CHAPTER 382.35. INSTALL CLEANOUTS AND RISER EXTENSIONS FORM SEWER PIPES TO PROPOSED GRADE. INSTALL PIPING SO CLEANOUTS OPEN IN DIRECTION OF FLOW IN SEWER PIPE. USE LIGHT DUTY, TOP LOADING CLASSIFICATION CLEANOUTS IN EARTH OR UNPAVED FOOT TRAFFIC AREAS; USE MEDIUM DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN PAVED FOOT TRAFFIC AREAS; USE HEAVY DUTY, TOP-LOADING CLASSIFICATION CLEANOUTS IN VEHICULAR TRAFFIC AREAS. SET CLEANOUT FRAMES AND COVERS IN PAVEMENT AREAS FLUSH WITH PAVEMENT SURFACE.
12. CLASS B COMPACTED TRENCH SECTION (FILE NO. 4 OF STANDARD SPECIFICATIONS) SHALL BE UTILIZED. BEDDING AND COVER MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 8.43.0 OF THE STANDARD SPECIFICATIONS.
13. TRENCH BACKFILL MATERIAL SHALL BE GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF THE STANDARD SPECIFICATIONS BENEATH AND WITHIN FIVE FEET OF PAVEMENT AREAS; COMPACTED SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF THE STANDARD SPECIFICATIONS MAY BE USED BENEATH LANDSCAPE AREAS.
14. MANHOLE INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 3.5.0 OF THE STANDARD SPECIFICATIONS. SET MANHOLE RIMS TO ELEVATIONS INDICATED ON PLANS.
15. CATCH BASIN INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 3.6 OF THE STANDARD SPECIFICATIONS. CATCH BASIN EXCAVATION AND PREPARATION SHALL BE IN ACCORDANCE WITH SECTION 3.5.4(A) AND (B) OF THE STANDARD SPECIFICATIONS. FRAMES AND GRATES SHALL BE SET TO THE ELEVATIONS SHOWN ON THE PLANS.
16. AFTER INSTALLATION OF SEWER PIPE CLEAN ALL DEBRIS FROM SEWER AND INSPECT INTERIOR OF PIPING TO DETERMINE WHETHER LINE DISPLACEMENT OR OTHER DAMAGE HAS OCCURRED. CONDUCT DEFLECTION TESTING OF INSTALLED PIPE IN ACCORDANCE WITH SECTION 3.2.6(I)(4) OF THE STANDARD SPECIFICATIONS; REPLACE ANY PIPE SECTION NOT PASSING THE DEFLECTION TESTING USING NEW PIPE MATERIALS.

**EARTH MOVING:**

- 1. ALL EARTH WORK SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER AND PROVIDED REPORTS, IN THE FIELD AND THESE SPECIFICATIONS. IN CASE OF CONFLICT BETWEEN THESE SPECIFICATIONS AND THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER, THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER SHALL GOVERN.
2. CONTRACTOR SHALL PROVIDE MATERIAL TEST REPORTS FROM A QUALIFIED TESTING AGENCY INDICATING TEST RESULTS FOR CLASSIFICATION ACCORDING TO ASTM D2487 AND LABORATORY COMPACTION CURVES ACCORDING TO ASTM D 1557 FOR EACH ON-SITE AND OFF-SITE SOIL MATERIAL PROPOSED FOR FILL AND BACKFILL.
3. CONTRACTOR SHALL PROVIDE PREEXCAVATION PHOTOS OR VIDEOS SHOWING EXISTING CONDITIONS OF ADJOINING STRUCTURES AND SITE IMPROVEMENTS THAT MIGHT BE MISCONSTRUED AS DAMAGE CAUSED BY EARTHWORK OPERATIONS.
4. OLD BUILDING FOUNDATIONS, BUILDING REMNANTS OR UNSUITABLE BACKFILL MATERIAL SHALL BE COMPLETELY REMOVED FROM WITHIN AND A MINIMUM OF 10 FEET BEYOND THE NEW BUILDING PAD AREAS. THE RESULTING EXCAVATION SHALL BE BACKFILLED WITH COMPACTED ENGINEERED FILL.
5. FOUNDATIONS, FOUNDATION WALLS OR CONCRETE FLOOR SLABS SHALL BE REMOVED TO A MINIMUM OF TWO FEET BELOW PROPOSED SUBGRADE WITHIN PROPOSED PARKING AND GREENSPACE AREAS. BASEMENT SLABS LOCATED BELOW 2 FEET FROM PLANNED SUBGRADE ELEVATION MAY BE LEFT IN PLACE BUT SHALL BE BROKEN INTO MAXIMUM 6 INCH PIECES TO FACILITATE DRAINAGE.
6. SATISFACTORY SOILS FOR FILL: ASTM D 2487 SOIL CLASSIFICATION GROUPS GW, GP, GM, SW, SP, AND SM OR A COMBINATION OF THESE GROUPS; FREE OF ROCK OR GRAVEL LARGER THAN 3 INCHES IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION, AND OTHER DELETERIOUS MATTER OR ANY SOIL GROUP OR COMBINATION OF GROUPS APPROVED OF BY THE PROJECT GEOTECHNICAL ENGINEER.
7. UNSATISFACTORY SOILS FOR FILL: SOIL CLASSIFICATION GROUPS GC, SC, CL, ML, OL, CH, MH, OH, AND PT ACCORDING TO ASTM D 2487 OR A COMBINATION OF THESE GROUPS UNLESS DEEMED SATISFACTORY BY THE PROJECT GEOTECHNICAL ENGINEER. UNSATISFACTORY SOILS ALSO INCLUDE SOILS NOT MAINTAINED WITHIN 3 PERCENT OF OPTIMUM SOIL MOISTURE CONTENT AT THE TIME OF COMPACTION.
8. AGGREGATE BASE COURSE BENEATH PAVEMENTS: SHALL BE 1-1/4" DENSE GRADED BASE COURSE CONFORMING TO SECTION 305 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.
9. ENGINEERED FILL: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND; ASTM D 2945; WITH AT LEAST 90 PERCENT PASSING A 1-1/2-INCH (37.5-MM) SIEVE AND NOT MORE THAN 12 PERCENT PASSING A NO. 200 SIEVE OR ANY SOIL, DEEMED ACCEPTABLE FOR ENGINEERED FILL BY THE PROJECT GEOTECHNICAL ENGINEER. ENGINEERED FILL SHALL BE FREE OF ORGANIC, FROZEN, OR OTHER DELETERIOUS MATERIAL AND HAVE A MAXIMUM PARTICLE SIZE LESS THAN 3 INCHES. CLAY FILLS SHALL HAVE A LIQUID LIMIT OF LESS THAN 49 AND PLASTICITY INDEX BETWEEN 11 AND 25.
10. BEDDING COURSE FOR SEWERS AND WATER SERVICE: NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, AND NATURAL OR CRUSHED SAND CONFORMING TO THE REQUIREMENTS OF SECTION 8.43.2 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
11. DRAINAGE COURSE BENEATH BUILDING SLABS: NARROWLY GRADED MIXTURE OF WASHED, CRUSHED STONE, OR CRUSHED OR UNCRUSHED GRAVEL; ASTM D 448; COARSE-AGGREGATE GRADING SIZE 57; WITH 100 PERCENT PASSING A 1-1/2-INCH (37.5-MM) SIEVE AND 0 TO 5 PERCENT PASSING A NO. 8 SIEVE.
12. TRENCH BACKFILL MATERIAL SHALL BE GRANULAR BACKFILL IN ACCORDANCE WITH SECTION 8.43.4 OF THE STANDARD SPECIFICATIONS BENEATH AND WITHIN FIVE FEET OF PAVEMENT AREAS; COMPACTED SPOIL BACKFILL IN ACCORDANCE WITH SECTION 8.43.5 OF THE STANDARD SPECIFICATIONS MAY BE USED BENEATH LANDSCAPE AREAS.
13. PIPE COVER MATERIAL: CONFORM TO SECTION 8.43.3 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
14. PREVENT SURFACE WATER AND GROUND WATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUBGRADES, AND FROM FLOODING PROJECT SITE AND SURROUNDING AREA.
15. SHORING, SHEETING AND BRACING: SHORE, BRACE OR SLOPE BANKS OF EXCAVATION TO PROTECT WORKMEN, BANKS, ADJACENT PAVING, STRUCTURES, AND UTILITIES TO MEET OSHA REQUIREMENTS. DESIGN OF TEMPORARY SUPPORT OF EXCAVATION IS THE RESPONSIBILITY OF THE CONTRACTOR.
16. EXCAVATE TO SUBGRADE ELEVATIONS REGARDLESS OF THE CHARACTER OF SURFACE AND SUBSURFACE CONDITIONS ENCOUNTERED. UNCLASSIFIED EXCAVATED MATERIALS MAY INCLUDE ROCK, SOIL MATERIALS, AND OBSTRUCTIONS. NO CHANGES IN THE CONTRACT SUM OR THE CONTRACT TIME WILL BE AUTHORIZED FOR ROCK EXCAVATION OR REMOVAL OF OBSTRUCTIONS.
17. PROOF-ROLL SUBGRADE BELOW THE BUILDING SLABS AND PAVEMENTS WITH FULLY LOADED TANDEM AXLE DUMP TRUCK OR RUBBER Tired VEHICLE OF SIMILAR SIZE AND WEIGHT, TYPICALLY 9 TONS/AXLE, WHERE COHESIVE SOILS ARE ENCOUNTERED OR WITH A SMOOTH DRUMMED VIBRATORY ROLLER WHERE GRANULAR SOILS ARE PRESENT. DO NOT PROOF-ROLL WET OR SATURATED SUBGRADES AND PROOFROLL IN DRY WEATHER. PROOF ROLL IN PRESENCE OF PROJECT GEOTECHNICAL ENGINEER OR TECHNICIAN. SOILS THAT ARE OBSERVED TO RUT OR DEFLECT EXCESSIVELY UNDER THE MOVING LOAD (TYPICALLY 5-1") SHALL BE UNDERCUT AND REPLACED WITH PROPERLY COMPACTED ENGINEERED FILL. IN PAVEMENT AREAS WHERE UNDERCUTS ARE PERFORMED, THE EDGES OF THE OVEREXCAVATIONS SHALL BE FEATHERED INTO THE SURROUNDING SUITABLE SOIL SO THAT EDGE FAILURE OF THE OVEREXCAVATED AREA DOES NOT OCCUR.
18. DUE TO CLAYEY SOILS, IF UNDERCUTS OCCUR WITHIN PAVEMENT AREAS AND THEY ARE BACKFILLED WITH GRANULAR SOILS, THE BOTTOM OF THE OVEREXCAVATION SHALL BE SLOPED TO A DRAINITLE THAT IS IN KIND SLOPED TOWARD THE NEAREST STORM SEWER. MINIMUM SLOPES OF SUCH DRAINITLES SHALL BE 0.5%.
19. CONVENTIONAL DISKING AND AERATION TECHNIQUES SHALL BE USED TO DRY SOILS BEFORE PROOF ROLLING. ALLOT FOR PROPER DRYING TIME IN PROJECT SCHEDULE.
20. ENGINEERED FILL SHALL BE PLACED IN MAXIMUM LIFTS OF EIGHT INCHES OF LOOSE MATERIAL AND COMPACTED WITHIN 3% OF OPTIMUM SOIL MOISTURE CONTENT VALUE AND A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST ASTM D1557. EACH LIFT OF COMPACTED ENGINEERED FILL SHALL BE OBSERVED AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER OR TECHNICIAN.
21. EXISTING OLD FILL MATERIAL SHALL BE REMOVED BELOW FOOTINGS OR FOUNDATION SUPPORTING FILL. ENGINEERED FILL BELOW FOOTINGS SHOULD HAVE AN IN-PLACE DENSITY OF 95% OF THE MAXIMUM DRY DENSITY AND A MOISTURE CONTENT WITHIN 3% OF OPTIMUM AS DETERMINED BY ASTM D1557. ENGINEERED FILL BELOW FOOTINGS SHALL BE EVALUATED BY IN-FIELD DENSITY TESTS DURING CONSTRUCTION.
22. WHERE UNSUITABLE BEARING SOILS ARE ENCOUNTERED IN A FOOTING EXCAVATION, THE EXCAVATION SHALL BE DEEPEENED TO COMPETENT BEARING SOIL AND THE FOOTING LOWERED OR AN OVEREXCAVATION AND BACKFILL PROCEDURE PERFORMED. OVEREXCAVATION AND BACKFILL TREATMENT REQUIRES WIDENING THE DEEPEENED EXCAVATION IN ALL DIRECTIONS AT LEAST 6 INCHES BEYOND THE EDGE OF THE FOOTING FOR EACH 12 INCHES OF OVEREXCAVATION DEPTH. THE OVEREXCAVATION SHALL BE BACKFILLED UP TO FOOTING BASE ELEVATION IN MAXIMUM 8 INCH LOOSE LIFTS WITH SUITABLE GRANULAR FILL MATERIAL AND COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AND A MOISTURE CONTENT WITHIN 3% OF OPTIMUM AS DETERMINED BY ASTM D1557. SOILS AT FOUNDATION BEARING ELEVATION IN THE FOOTING EXCAVATIONS SHALL BE OBSERVED AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER OR TECHNICIAN.
23. A MINIMUM OF FOUR INCHES OF DRAINAGE COURSE MAT SHALL BE PLACED BELOW BUILDING FLOOR SLABS. DRAINAGE COURSE SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION WITH RESPECT TO THE MODIFIED PROCTOR (ASTM D1557)
24. UTILITY TRENCHES FOR SEWER AND WATER SHALL CONFORM TO CLASS B COMPACTED TRENCH SECTION IN ACCORDANCE WITH FILE NO. 4 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION.
25. BACKFILL UTILITY TRENCHES IN 4 TO 6 INCH LOOSE LIFTS COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557. BACKFILL SHALL BE MOISTURE CONDITIONED TO BE WITH 3% OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D1557.
26. UTILITY BEDDING PLACEMENT: CONFORM TO SECTION 3.2.6 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, LATEST EDITION. BEDDING MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 90% COMPACTION WITH RESPECT TO THE MODIFIED PROCTOR (ASTM D1557).
27. COMPACTION TESTING OF UTILITY TRENCHES SHALL BE PERFORMED FOR EVERY 200 CUBIC YARDS OF BACKFILL PLACED OR EACH LIFT WITHIN 200 LINEAR FEET OF TRENCH, WHICHEVER IS LESS.
28. AGGREGATE BASE COURSE BENEATH PAVEMENTS SHALL BE PLACED AND COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN 3% OF OPTIMUM AS DETERMINED BY ASTM D1557. AGGREGATE BASE SHALL BE OBSERVED AND TESTED BY A QUALIFIED GEOTECHNICAL ENGINEER OR TECHNICIAN.
29. GRADING GENERAL: UNIFORMLY GRADE AREAS TO A SMOOTH SURFACE, FREE OF IRREGULAR SURFACE CHANGES. COMPLY WITH COMPACTION REQUIREMENTS AND GRADE TO CROSS SECTIONS, LINES, AND ELEVATIONS INDICATED. SLOPE GRADES TO DIRECT WATER AWAY FROM BUILDINGS AND TO PREVENT PONDING.
30. TESTING AGENCY: CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT GEOTECHNICAL ENGINEERING TESTING AGENCY TO PERFORM FIELD QUALITY-CONTROL TESTING.
31. FOOTING SUBGRADE TESTING: EACH ISOLATED FOOTING SHALL INCLUDE AT LEAST ONE TEST PROBE. TEST PROBES SHALL BE PERFORMED EVERY 20 LINEAR FEET IN CONTINUOUS FOOTINGS.
32. BUILDING SLAB AREA TESTING: AT SUBGRADE AND AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST 1 TEST PER LIFT FOR EVERY 2500 SQ. FT. OR LESS OF BUILDING SLAB, BUT IN NO CASE FEWER THAN 3 TESTS.
33. PAVEMENT AREA TESTING: AT SUBGRADE AND AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST ONE TEST FOR EVERY LIFT FOR EVERY 2,500 SQUARE FEET OF PAVEMENT AREA, BUT IN NO CASES FEWER THAN 3 TESTS.
34. UTILITY TRENCH BACKFILL TESTING: ONE TEST FOR EACH 200 CUBIC YARDS OF FILL BACKFILL PLACED OR ONE TEST PER 200 LINEAR FEET OF TRENCH FOR EACH LIFT; WHICHEVER IS LESS.
35. FOUNDATION WALL BACKFILL: AT EACH COMPACTED BACKFILL LAYER, AT LEAST 1 TEST PER LIFT FOR EACH 50 FEET OR LESS OF WALL LENGTH, BUT NO FEWER THAN 2 TESTS.
36. WHEN TESTING AGENCY REPORTS THAT SUBGRADES, FILLS, OR BACKFILLS HAVE NOT ACHIEVED DEGREE OF COMPACTION SPECIFIED, SCARIFY AND MOISTEN OR AERATE, OR REMOVE AND REPLACE SOIL TO DEPTH REQUIRED; RECOMPACT AND RETEST UNTIL SPECIFIED COMPACTION IS OBTAINED.
37. DISPOSAL: REMOVE SURPLUS SOIL AND WASTE MATERIAL, INCLUDING UNSATISFACTORY SOIL, TRASH, AND DEBRIS, AND LEGALLY DISPOSE OF IT OFF OWNER'S PROPERTY.



MULTI FAMILY DEVELOPMENT  
WATERTOWN PLANK ROAD  
ELM GROVE, WISCONSIN  
SPECIFICATIONS

CITY SUBMITTAL 2-19-2016  
NO. REVISION DATE BY

DRAWING NO. 15487-Specifications.dwg

DRAWN BY:

DATE:

PROJECT NO:

CHECKED BY:

APPROVED BY:

SHEET NO.:

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**CONCRETE PAVING:**

- 1. THE COMPOSITION, PLACING AND CONSTRUCTION OF CONCRETE PAVEMENTS SHALL BE IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF SECTIONS 415, 416, 501, 601, AND 602 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION (WISDOT STANDARD SPECIFICATIONS) AND LOCAL MUNICIPAL REQUIREMENTS AND SPECIFICATIONS.
- 2. CONTRACTOR SHALL PROVIDE PRODUCT DATA FOR EACH TYPE OF PRODUCT INDICATED - INCLUDE TECHNICAL DATA AND TESTED PHYSICAL AND PERFORMANCE PROPERTIES; JOB-MIX DESIGNS: CERTIFICATION THAT MIX MEETS OR EXCEEDS WISDOT STANDARD SPECIFICATIONS; AND MATERIAL CERTIFICATES CERTIFYING COMPLIANCE WITH WISDOT STANDARD SPECIFICATIONS.
- 3. MANUFACTURER QUALIFICATIONS: MANUFACTURER OF READY-MIXED CONCRETE PRODUCTS WHO COMPLIES WITH ASTM C 94/C 94M REQUIREMENTS FOR PRODUCTION FACILITIES AND EQUIPMENT AND APPROVED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.
- 4. CONCRETE GRADE: GRADE A OR GRADE A-2 CONFORMING TO SECTION 501.3.1.3 OF THE WISDOT STANDARD SPECIFICATIONS
- 5. AGGREGATES: CONFORM TO SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS. PROVIDE AGGREGATES FROM A SINGLE SOURCE.
- 6. WATER: ASTM C 94/C 94M AND SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
- 7. AIR-ENTRAINING ADMIXTURE: ASTM C 260 AND SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
- 8. CHEMICAL ADMIXTURES: PER SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
- 9. CURING MATERIALS IN ACCORDANCE WITH SECTION 415.3.12 OF THE WISDOT STANDARD SPECIFICATIONS.
- 10. EXPANSION JOINT MATERIAL: CONFORM TO SECTION 415.2.2 OF THE WISDOT STANDARD SPECIFICATIONS.
- 11. MEASURE, BATCH, AND MIX CONCRETE MATERIALS AND CONCRETE IN ACCORDANCE WITH SECTION 501 OF THE WISDOT STANDARD SPECIFICATIONS.
- 12. GENERAL EXECUTION: CONFORM TO SECTION 415 OF THE WISDOT STANDARD SPECIFICATIONS.
- 13. PROOFROLL SUBGRADE AND AGGREGATE BASE AS OUTLINED IN EARTH MOVING SPECIFICATION PRIOR TO PLACEMENT OF PAVEMENTS.
- 14. SET, BRACE, AND SECURE EDGE FORMS, BULKHEADS, AND INTERMEDIATE SCREED GUIDES FOR PAVEMENT TO REQUIRED LINES, GRADES, AND ELEVATIONS. INSTALL FORMS TO ALLOW CONTINUOUS PROGRESS OF WORK AND SO FORMS CAN REMAIN IN PLACE AT LEAST 24 HOURS AFTER CONCRETE PLACEMENT.
- 15. CLEAN FORMS AFTER EACH USE AND COAT WITH FORM-RELEASE AGENT TO ENSURE SEPARATION FROM CONCRETE WITHOUT DAMAGE.
- 16. JOINTS GENERAL: FORM CONSTRUCTION, ISOLATION, AND CONTRACTION JOINTS AND TOOL EDGINGS TRUE TO LINE WITH FACES PERPENDICULAR TO SURFACE PLANE OF CONCRETE. CONSTRUCT TRANSVERSE JOINTS AT RIGHT ANGLES TO CENTERLINE, UNLESS OTHERWISE INDICATED. CONFORM TO SECTION 415 OF THE WISDOT STANDARD SPECIFICATIONS
- 17. CONSTRUCTION JOINTS: SET CONSTRUCTION JOINTS AT SIDE AND END TERMINATIONS OF PAVEMENT AND AT LOCATIONS WHERE PAVEMENT OPERATIONS ARE STOPPED FOR MORE THAN ONE-HALF HOUR UNLESS PAVEMENT TERMINATES AT ISOLATION JOINTS.
- 18. ISOLATION JOINTS: FORM ISOLATION JOINTS OF PREFORMED JOINT-FILLER STRIPS ABUTTING CONCRETE CURBS, CATCH BASINS, MANHOLES, INLETS, STRUCTURES, WALKS, OTHER FIXED OBJECTS, AND WHERE INDICATED.
- 19. CONTRACTION JOINTS: FORM WEAKENED-PLANE CONTRACTION JOINTS, SECTIONING CONCRETE INTO AREAS AS INDICATED. CONSTRUCT CONTRACTION JOINTS FOR A DEPTH EQUAL TO AT LEAST ONE-FOURTH OF THE CONCRETE THICKNESS TO MATCH JOINTING OF EXISTING ADJACENT CONCRETE PAVEMENT.
- 20. EDGING: TOOL EDGES OF PAVEMENT, GUTTERS, CURBS, AND JOINTS IN CONCRETE AFTER INITIAL FLOATING WITH AN EDGING TOOL TO A 1/4-INCH RADIUS. REPEAT TOOLING OF EDGES AFTER APPLYING SURFACE FINISHES. ELIMINATE TOOL MARKS ON CONCRETE SURFACES.
- 21. CURBING: COMPLY WITH SECTION 601 OF THE WISDOT STANDARD SPECIFICATIONS.
- 22. SIDEWALKS: COMPLY WITH SECTION 602 OF THE WISDOT STANDARD SPECIFICATIONS.
- 23. MOISTEN AGGREGATE TO PROVIDE A UNIFORM DAMPENED CONDITION AT TIME CONCRETE IS PLACED.
- 24. FINISH CURBING IN ACCORDANCE WITH SECTION 601.3.5 OF THE WISDOT STANDARD SPECIFICATIONS.
- 25. FINISH SIDEWALK AND PATIO IN ACCORDANCE WITH SECTION 602.3.2.3 OF THE WISDOT STANDARD SPECIFICATIONS (LIGHT BROOM FINISH).
- 26. FINISH CONCRETE VEHICULAR PAVEMENTS AND PADS IN ACCORDANCE WITH SECTION 415.3.8 OF THE WISDOT STANDARD SPECIFICATIONS (ARTIFICIAL TURF DRAG FINISH).
- 27. PROTECT AND CURE SIDEWALK IN ACCORDANCE WITH SECTION 602.3.2.6 OF THE WISDOT STANDARD SPECIFICATIONS.
- 28. PROTECT AND CURE CURBING IN ACCORDANCE WITH SECTION 601.3.7 OF THE WISDOT STANDARD SPECIFICATIONS.
- 29. PROTECT AND CURE VEHICULAR CONCRETE PAVING IN ACCORDANCE WITH SECTION 415.3.12 OF THE WISDOT STANDARD SPECIFICATIONS.
- 30. REMOVE AND REPLACE CONCRETE PAVEMENT THAT IS BROKEN, DAMAGED, OR DEFECTIVE OR THAT DOES NOT COMPLY WITH REQUIREMENTS IN THIS SECTION.
- 31. PROTECT CONCRETE FROM DAMAGE. EXCLUDE TRAFFIC FROM PAVEMENT FOR AT LEAST 7 DAYS AFTER PLACEMENT.
- 32. MAINTAIN CONCRETE PAVEMENT FREE OF STAINS, DISCOLORATION, DIRT, AND OTHER FOREIGN MATERIAL. SWEEP CONCRETE PAVEMENT NOT MORE THAN TWO DAYS BEFORE DATE SCHEDULED FOR SUBSTANTIAL COMPLETION INSPECTIONS.

**ASPHALTIC PAVING:**

- 1. THE COMPOSITION, PLACING AND CONSTRUCTION OF ASPHALTIC PAVEMENTS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 450, 455, 460, 465, AND 475 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION (WISDOT STANDARD SPECIFICATIONS).
- 2. CONTRACTOR SHALL PROVIDE PRODUCT DATA FOR EACH TYPE OF PRODUCT INDICATED - INCLUDE TECHNICAL DATA AND TESTED PHYSICAL AND PERFORMANCE PROPERTIES; JOB-MIX DESIGNS: CERTIFICATION THAT MIX MEETS OR EXCEEDS WISDOT STANDARD SPECIFICATIONS; AND MATERIAL CERTIFICATES CERTIFYING COMPLIANCE WITH WISDOT STANDARD SPECIFICATIONS.
- 3. MANUFACTURER QUALIFICATIONS: MANUFACTURER SHALL BE REGISTERED WITH AND APPROVED BY THE DOT OF THE STATE IN WHICH PROJECT IS LOCATED.
- 4. ENVIRONMENTAL LIMITATIONS: DO NOT APPLY ASPHALT MATERIALS IF BASE COURSE IS WET OR EXCESSIVELY DAMP OR IF THE FOLLOWING CONDITIONS ARE NOT MET: APPLY TACK COAT WHEN AMBIENT TEMPERATURE IS ABOVE 50 DEGREES FARENHEIGHT AND WHEN TEMPERATURE HAS NOT BEEN BELOW 35 DEGREES FARENHEIGHT FOR 12 HOURS IMMEDIATELY PRIOR TO APPLICATION; PLACE ASPHALTIC CONCRETE SURFACE COURSE WHEN TEMPERATURE IS ABOVE 40 DEGREES FARENHEIGHT; BASE COURSE MAY BE PLACED WHEN AIR TEMPERATURE IS ABOVE 30 DEGREES FARENHEIGHT AND RISING. PROCEED WITH PAVEMENT MARKING ONLY ON CLEAN, DRY SURFACES. DO NOT APPLY BELOW THE MINIMUM PAVEMENT TEMPERATURE AS RECOMMENDED BY THE MANUFACTURER.
- 5. AGGREGATES SHALL BE IN ACCORDANCE WITH SECTION 460.2.2 OF THE WISDOT STANDARD SPECIFICATIONS.
- 6. ASPHALT MATERIALS SHALL BE IN ACCORDANCE WITH CHAPTER 455 OF THE WISDOT STANDARD SPECIFICATIONS.
- 7. PAVEMENT MARKING PAINT: PROVIDE PAINT FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S APPROVED PRODUCTS LIST. COLOR SHALL BE WHITE UNLESS INDICATED OTHERWISE ON PLANS.
- 8. HOT-MIX ASPHALT: ASPHALTIC BINDER COURSE AND SURFACE COURSE SHALL BE MIXTURE E-1 FOR REGULAR DUTY PAVEMENT AND E-1 FOR HEAVY DUTY PAVEMENT COMPLYING WITH THE WISDOT STANDARD SPECIFICATIONS.
- 9. AGGREGATE BASE COURSE BENEATH PAVEMENTS: SHALL BE 1-1/4" DENSE GRADED BASE COURSE CONFORMING TO SECTION 305 OF THE WISDOT STANDARD SPECIFICATIONS.
- 10. PAVEMENT PLACEMENT GENERAL: ASPHALT CONCRETE PAVING EQUIPMENT, WEATHER LIMITATIONS, JOB-MIX FORMULA, MIXING, CONSTRUCTION METHODS, COMPACTION, FINISHING, TOLERANCE AND PROTECTION SHALL CONFORM TO THE REQUIREMENTS OF THE APPROPRIATE SECTIONS OF THE WISDOT STANDARD SPECIFICATIONS.
- 11. PREPARE AND PROOFROLL SUBGRADES AND AGGREGATE BASE COURSE AS OUTLINED IN EARTH MOVING SPECIFICATIONS PRIOR TO PLACEMENT OF ASPHALT PAVEMENTS
- 12. SWEEP LOOSE GRANULAR PARTICLES FROM SURFACE OF AGGREGATE BASE COURSE PRIOR TO PAVEMENT PLACEMENT. DO NOT DISLODGE OR DISTURB AGGREGATE EMBEDDED IN COMPACTED SURFACE OF BASE COURSE.
- 13. SPREAD AND FINISH ASPHALTIC MIXTURE IN ACCORDANCE WITH SECTION 450.3.2.5 OF THE WISDOT STANDARD SPECIFICATIONS. PAVEMENT THICKNESSES SHALL BE AS INDICATED ON THE PLANS.
- 14. PROMPTLY CORRECT SURFACE IRREGULARITIES IN PAVING COURSE BEHIND PAVER. USE SUITABLE HAND TOOLS TO REMOVE EXCESS MATERIAL FORMING HIGH SPOTS. FILL DEPRESSIONS WITH HOT-MIX ASPHALT TO PREVENT SEGREGATION OF MIX; USE SUITABLE HAND TOOLS TO SMOOTH SURFACE.
- 15. COMPACT ASPHALTIC PAVEMENT IN ACCORDANCE WITH SECTION 450.3.2.6 OF THE WISDOT STANDARD SPECIFICATIONS.
- 16. PROTECTION: AFTER FINAL ROLLING, DO NOT PERMIT VEHICULAR TRAFFIC ON PAVEMENT UNTIL IT HAS COOLED AND HARDENED. ERECT BARRICADES TO PROTECT PAVING FROM TRAFFIC UNTIL MIXTURE HAS COOLED ENOUGH NOT TO BECOME MARKED.
- 17. THICKNESS TOLERANCE: COMPACT EACH COURSE TO PRODUCE THE THICKNESS INDICATED WITHIN PLUS/MINUS 1/4 INCH FOR BINDER COURSE AND PLUS 1/4 INCH FOR SURFACE COURSE, NO MINUS.
- 18. SURFACE SMOOTHNESS TOLERANCE: COMPACT EACH COURSE TO PRODUCE A SURFACE SMOOTHNESS WITHIN THE FOLLOWING TOLERANCES AS DETERMINED BY USING A 10-FOOT STRAIGHTEDGE APPLIED TRANSVERSELY OR LONGITUDINALLY TO PAVED AREAS: BINDER COURSE: 1/4 INCH; SURFACE COURSE: 1/8 INCH. REMOVE AND REPLACE ALL HUMPS OR DEPRESSIONS EXCEEDING THE SPECIFIED TOLERANCES.
- 19. DO NOT APPLY PAVEMENT-MARKING PAINT UNTIL LAYOUT, COLORS, AND PLACEMENT HAVE BEEN VERIFIED WITH ENGINEER.
- 20. APPLY MARKINGS TO A DRY SURFACE FREE FROM FROST. REMOVE DUST, DIRT, OIL, GREASE, GRAVEL, DEBRIS OR OTHER MATERIAL THAT MAY PREVENT BONDING TO THE PAVEMENT.
- 21. APPLY PAINT AS THE MANUFACTURER SPECIFIES WITH MECHANICAL EQUIPMENT TO PRODUCE PAVEMENT MARKINGS, OF DIMENSIONS INDICATED, WITH UNIFORM, STRAIGHT EDGES. APPLY AT MANUFACTURER'S RECOMMENDED RATES AT A MINIMUM RATE OF 17.6 GALLONS/MILE FOR A CONTINUOUS 4" LINE.
- 22. TESTING AGENCY: CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO PERFORM FIELD TESTS AND INSPECTIONS AND TO PREPARE TEST REPORTS.

**SEGMENTAL RETAINING WALL:**

- 1. WORK SHALL CONSIST OF FURNISHING DETAILED DESIGN, MATERIALS, LABOR, EQUIPMENT AND SUPERVISION TO INSTALL A SEGMENTAL RETAINING WALL SYSTEM IN ACCORDANCE WITH PLANS AND SPECIFICATIONS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADES, DESIGN AND DIMENSIONS SHOWN ON PLANS.
- 2. MATERIALS SUBMITTALS: THE CONTRACTOR SHALL SUBMIT MANUFACTURERS' CERTIFICATIONS TWO WEEKS PRIOR TO START OF WORK STATING THAT THE SRW UNITS AND GEOSYNTHETIC REINFORCEMENT MEET THE REQUIREMENTS OF SECTION 2 OF THIS SPECIFICATION.
- 3. DESIGN SUBMITTAL: THE CONTRACTOR SHALL SUBMIT TWO SETS OF DETAILED DESIGN CALCULATIONS AND FINAL RETAINING WALL PLANS FOR APPROVAL AT LEAST TWO WEEKS PRIOR TO THE BEGINNING OF WALL CONSTRUCTION. ALL CALCULATIONS AND DRAWINGS SHALL BE PREPARED AND SEALED BY A PROFESSIONAL CIVIL ENGINEER (P.E.) - (WALL DESIGN ENGINEER) EXPERIENCED IN SRW DESIGN AND LICENSED IN THE STATE WHERE THE WALL IS TO BE BUILT.
- 4. SEGMENTAL RETAINING WALL (SRW) UNITS SHALL BE MACHINE FORMED, PORTLAND CEMENT CONCRETE BLOCKS SPECIFICALLY DESIGNED FOR RETAINING WALL APPLICATIONS. SRW UNITS SHALL BE VERSA-LOK STANDARD RETAINING WALL UNITS, KEYSTONE RETAINING WALL UNITS, ROCKWOOD RETAINING WALL UNITS OR APPROVED EQUAL.
- 5. COLOR AND STYLE OF SRW UNITS SHALL BE AS SELECTED BY ARCHITECT AND OWNER FROM MANUFACTURER'S FULL RANGE.
- 6. SRW UNITS SHALL BE CAPABLE OF BEING ERECTED WITH THE HORIZONTAL GAP BETWEEN ADJACENT UNITS NOT EXCEEDING 1/8 INCH.
- 7. SRW UNITS SHALL BE SOUND AND FREE OF CRACKS OR OTHER DEFECTS THAT WOULD INTERFERE WITH THE PROPER PLACING OF THE UNIT OR SIGNIFICANTLY IMPAIR THE STRENGTH OR PERMANENCE OF THE STRUCTURE. ANY CRACKS OR CHIPS OBSERVED DURING CONSTRUCTION SHALL FALL WITHIN THE GUIDELINES OUTLINED IN ASTM C 1372.
- 8. CONCRETE SRW UNITS SHALL CONFORM TO THE REQUIREMENTS OF ASTM 1372 AND HAVE A MINIMUM NET AVERAGE 28 DAYS COMPRESSIVE STRENGTH OF 3000 PSI. COMPRESSIVE STRENGTH TEST SPECIMENS SHALL CONFORM TO THE SAW-CUT COUPON PROVISIONS OF ASTM C140.
- 9. SRW UNITS' MOLDED DIMENSIONS SHALL NOT DIFFER MORE THAN +/- 1/8 INCH FROM THAT SPECIFIED, AS MEASURED IN ACCORDANCE WITH ASTM C 140. THIS TOLERANCE DOES NOT APPLY TO ARCHITECTURAL SURFACES, SUCH AS SPLIT FACES.
- 10. SRW UNITS SHALL BE INTERLOCKED WITH CONNECTION PINS. THE PINS SHALL CONSIST OF GLASS-REINFORCED NYLON MADE FOR THE EXPRESSED USE WITH THE SRW UNITS SUPPLIED.
- 11. GEOSYNTHETIC REINFORCEMENT SHALL CONSIST OF HIGH-TENACITY PET GEOGRIDS, HDPE GEOGRIDS, OR GEOTEXTILES MANUFACTURED FOR SOIL REINFORCEMENT APPLICATIONS. THE TYPE, STRENGTH AND PLACEMENT OF THE GEOSYNTHETIC REINFORCEMENT SHALL BE DETERMINED BY PROCEDURES OUTLINED IN THIS SPECIFICATION AND THE NCMA DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS (3RD EDITION 2009) AND MATERIALS SHALL BE SPECIFIED BY WALL DESIGN ENGINEER IN THEIR FINAL WALL PLANS AND SPECIFICATIONS. THE MANUFACTURERS/SUPPLIERS OF THE GEOSYNTHETIC REINFORCEMENT SHALL HAVE DEMONSTRATED CONSTRUCTION OF SIMILAR SIZE AND TYPES OF SEGMENTAL RETAINING WALLS ON PREVIOUS PROJECTS.
- 12. THE TYPE, STRENGTH AND PLACEMENT OF THE REINFORCING GEOSYNTHETIC SHALL BE AS DETERMINED BY THE WALL DESIGN ENGINEER, AS SHOWN ON THE FINAL, P.E.-STAMPED RETAINING WALL PLANS.
- 13. MATERIAL FOR LEVELING PAD SHALL CONSIST OF COMPACTED SAND, GRAVEL, OR COMBINATION THEREOF (USCS SOIL TYPES GP, GW, SP, & SW) AND SHALL BE A MINIMUM OF 6 INCHES IN DEPTH. LEAN CONCRETE WITH A STRENGTH OF 200-300 PSI AND 3 INCHES THICK MAXIMUM MAY ALSO BE USED AS A LEVELING PAD MATERIAL. THE LEVELING PAD SHOULD EXTEND Laterally AT LEAST A DISTANCE OF 6 INCHES FROM THE TOE AND HEEL OF THE LOWERMOST SRW UNIT.
- 14. DRAINAGE AGGREGATE SHALL BE ANGULAR, CLEAN STONE OR GRANULAR FILL MEETING THE FOLLOWING GRADATION AS DETERMINED IN ACCORDANCE WITH ASTM D422:

SIEVE SIZE	PERCENT PASSING
1 INCH	100
3/4 INCH	75-100
NO. 4	0-60
NO. 40	0-50
NO. 200	0-5
- 15. THE DRAINAGE COLLECTION PIPE SHALL BE A PERFORATED OR SLOTTED PVC, OR CORRUGATED HDPE PIPE. THE DRAINAGE PIPE MAY BE WRAPPED WITH A GEOTEXTILE TO FUNCTION AS A FILTER. DRAINAGE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM F 405 OR ASTM F 758.
- 16. THE REINFORCED SOIL MATERIAL SHALL BE FREE OF DEBRIS. UNLESS OTHERWISE NOTED ON THE FINAL, P.E.-SEALED, RETAINING WALL PLANS PREPARED BY THE WALL DESIGN ENGINEER, THE REINFORCED MATERIAL SHALL CONSIST OF THE INORGANIC USCS SOIL TYPES GP, GW, SW, SP, SM, MEETING THE FOLLOWING GRADATION, AS DETERMINED IN ACCORDANCE WITH ASTM D422:

SIEVE SIZE	PERCENT PASSING
1 INCH	100
NO. 4	20-100
NO. 40	0-50
NO. 200	0-35
- 17. THE MAXIMUM PARTICLE SIZE OF POORLY-GRADED GRAVELS (GP) (NO FINES) SHOULD NOT EXCEED 3/4 INCH UNLESS EXPRESSLY APPROVED BY THE WALL DESIGN ENGINEER AND THE LONG-TERM DESIGN STRENGTH (LTD5) OF THE GEOSYNTHETIC IS REDUCED TO ACCOUNT FOR ADDITIONAL INSTALLATION DAMAGE FROM PARTICLES LARGER THAN THIS MAXIMUM.
- 18. THE PLASTICITY OF THE FINE FRACTION SHALL BE LESS THAN 20.
- 19. THE PH OF THE BACKFILL MATERIAL SHALL BE BETWEEN 3 AND 9 WHEN TESTED IN ACCORDANCE WITH ASTM G 51.
- 20. DRAINAGE GEOTEXTILE SHALL CONSIST OF GEOSYNTHETIC SPECIFICALLY MANUFACTURED FOR USE AS A PREAMBLE SOIL FILTER THAT RETAINS SOIL WHILE STILL ALLOWING WATER TO PASS THROUGHOUT THE LIFE OF THE STRUCTURE. THE TYPE AND PLACEMENT OF THE GEOTEXTILE FILTER MATERIAL SHALL BE AS REQUIRED BY THE WALL DESIGN ENGINEER IN THEIR FINAL WALL PLANS AND SPECIFICATIONS.
- 21. THE DESIGN ANALYSIS FOR THE FINAL, P.E.-STAMPED RETAINING WALL PLANS PREPARED BY THE WALL DESIGN ENGINEER SHALL CONSIDER THE EXTERNAL STABILITY AGAINST SLIDING AND OVERTURNING, INTERNAL STABILITY AND FACIAL STABILITY OF THE REINFORCED SOIL MASS, AND SHALL BE IN ACCORDANCE WITH ACCEPTABLE ENGINEERING PRACTICE AND THESE SPECIFICATIONS. THE INTERNAL AND EXTERNAL STABILITY ANALYSIS SHALL BE PERFORMED IN ACCORDANCE WITH THE "NCMA DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS, 3RD EDITION" USING THE RECOMMENDED MINIMUM FACTORS OF SAFETY IN THIS MANUAL.
- 22. EXTERNAL STABILITY ANALYSIS FOR BEARING CAPACITY, GLOBAL STABILITY, AND TOTAL AND DIFFERENTIAL SETTLEMENT SHALL BE THE RESPONSIBILITY OF THE OWNER AND THE OWNER'S GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL PERFORM BEARING CAPACITY, SETTLEMENT ESTIMATES, AND GLOBAL STABILITY ANALYSIS BASED ON THE FINAL WALL DESIGN PROVIDED BY THE WALL DESIGN ENGINEER AND COORDINATE ANY REQUIRED CHANGES WITH THE WALL DESIGN ENGINEER.
- 23. THE GEOSYNTHETIC PLACEMENT IN THE WALL DESIGN SHALL HAVE 100% CONTINUOUS COVERAGE PARALLEL TO THE WALL FACE. GAPPING BETWEEN HORIZONTALLY ADJACENT LAYERS OF GEOSYNTHETIC (PARTIAL COVERAGE) WILL NOT BE ALLOWED.
- 24. CONTRACTOR'S FIELD CONSTRUCTION SUPERVISOR SHALL HAVE DEMONSTRATED EXPERIENCE AND BE QUALIFIED TO DIRECT ALL WORK AT THE SITE.
- 25. CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE PROJECT GRADING PLANS. CONTRACTOR SHALL TAKE PRECAUTIONS TO MINIMIZE OVER-EXCAVATION. OVER-EXCAVATION SHALL BE FILLED WITH COMPACTED INFILL MATERIAL, OR AS DIRECTED BY THE WALL DESIGN ENGINEER, AT THE CONTRACTOR'S EXPENSE.
- 26. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING STRUCTURES AND UTILITIES PRIOR TO EXCAVATION. CONTRACTOR SHALL ENSURE ALL SURROUNDING STRUCTURES ARE PROTECTED FROM THE EFFECTS OF WALL EXCAVATION. EXCAVATION SUPPORT, IF REQUIRED, IS THE RESPONSIBILITY OF THE CONTRACTOR.
- 27. FOLLOWING THE EXCAVATION, THE FOUNDATION SOIL SHALL BE EXAMINED BY THE OWNER'S ENGINEER TO ASSURE ACTUAL FOUNDATION SOIL STRENGTH MEETS OR EXCEEDS THE ASSUMED DESIGN BEARING STRENGTH. SOILS NOT MEETING THE REQUIRED STRENGTH SHALL BE REMOVED AND REPLACED WITH INFILL SOILS, AS DIRECTED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER.
- 28. FOUNDATION SOIL SHALL BE PROOF-ROLLED AND COMPACTED TO 95% STANDARD PROCTOR DENSITY AND INSPECTED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF LEVELING PAD MATERIALS.
- 29. LEVELING PAD SHALL BE PLACED AS SHOWN ON THE FINAL, P.E.-SEALED RETAINING WALL PLANS WITH A MINIMUM THICKNESS OF 6 INCHES. THE LEVELING PAD SHOULD EXTEND Laterally AT LEAST A DISTANCE OF 6 INCHES FROM THE TOE AND HEEL OF THE LOWERMOST SRW UNIT.
- 30. GRANULAR LEVELING PAD MATERIAL SHALL BE COMPACTED TO PROVIDE A FIRM, LEVEL BEARING SURFACE ON WHICH TO PLACE THE FIRST COURSE OF UNITS. WELL-GRADED SAND CAN BE USED TO SMOOTH THE TOP 1/4 INCH TO 1/2 INCH OF THE LEVELING PAD. COMPACTION WILL BE WITH MECHANICAL PLATE COMPACTORS TO ACHIEVE 95% OF MAXIMUM STANDARD PROCTOR DENSITY (ASTM D 698).
- 31. ALL SRW UNITS SHALL BE INSTALLED AT THE PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE FINAL, P.E.-SEALED WALL PLANS AND DETAILS OR AS DIRECTED BY THE WALL DESIGN ENGINEER. THE SRW UNITS SHALL BE INSTALLED IN GENERAL ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE SPECIFICATIONS AND DRAWINGS SHALL GOVERN IN ANY CONFLICT BETWEEN THE TWO REQUIREMENTS.
- 32. FIRST COURSE OF SRW UNITS SHALL BE PLACED ON THE LEVELING PAD. THE UNITS SHALL BE LEVELED SIDE-TO-SIDE, FRONT-TO-REAR AND WITH ADJACENT UNITS, AND ALIGNED TO ENSURE INTIMATE CONTACT WITH THE LEVELING PAD. THE FIRST COURSE IS THE MOST IMPORTANT TO ENSURE ACCURATE AND ACCEPTABLE RESULTS. NO GAPS SHALL BE LEFT BETWEEN THE FRONT OF ADJACENT UNITS. ALIGNMENT MAY BE DONE BY MEANS OF A STRING LINE OR OFFSET FROM BASE LINE TO THE BACK OF THE UNITS.
- 33. ALL EXCESS DEBRIS SHALL BE CLEANED FROM TOP OF UNITS AND THE NEXT COURSE OF UNITS INSTALLED ON TOP OF THE UNITS BELOW.

**SEGMENTAL RETAINING WALL CONT.:**

- 34. CONNECTION PINS SHALL BE INSERTED THROUGH THE PIN HOLES OF EACH UPPER-COURSE UNIT INTO RECEIVING SLOTS IN LOWER-COURSE UNITS. PINS SHALL BE FULLY SEATED IN THE PIN SLOT BELOW. UNITS SHALL BE PUSHED FORWARD TO REMOVE ANY LOOSENESS IN THE UNIT-TO-UNIT CONNECTION.
  - 35. PRIOR TO PLACEMENT OF NEXT COURSE, THE LEVEL AND ALIGNMENT OF THE UNITS SHALL BE CHECKED AND CORRECTED WHERE NEEDED.
  - 36. LAYOUT OF CURVES AND CORNERS SHALL BE INSTALLED IN ACCORDANCE WITH THE WALL PLAN DETAILS OR IN GENERAL ACCORDANCE WITH TYPICAL MANUFACTURER INSTALLATION GUIDELINES. WALLS MEETING AT CORNERS SHALL BE INTERLOCKED BY OVERLAPPING SUCCESSIVE COURSES.
  - 37. PROCEDURES ABOVE SHALL BE REPEATED UNTIL REACHING TOP OF WALL UNITS, JUST BELOW THE HEIGHT OF THE CAP UNITS. GEOSYNTHETIC REINFORCEMENT, DRAINAGE MATERIALS, AND REINFORCED BACKFILL SHALL BE PLACED IN SEQUENCE WITH UNIT INSTALLATION.
  - 38. ALL GEOSYNTHETIC REINFORCEMENT SHALL BE INSTALLED AT THE PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE FINAL P.E.-SEALED RETAINING WALL PLAN PROFILES AND DETAILS, OR AS DIRECTED BY THE WALL DESIGN ENGINEER.
  - 39. AT THE ELEVATIONS SHOWN ON THE FINAL PLANS, (AFTER THE UNITS, DRAINAGE MATERIAL AND BACKFILL HAVE BEEN PLACED TO THIS ELEVATION) THE GEOSYNTHETIC REINFORCEMENT SHALL BE LAID HORIZONTALLY ON COMPACTED INFILL AND ON TOP OF THE CONCRETE SRW UNITS, TO WITHIN 1 INCH OF THE FRONT FACE OF THE UNIT BELOW. EMBEDMENT OF THE GEOSYNTHETIC IN THE SRW UNITS SHALL BE CONSISTENT WITH SRW MANUFACTURER'S RECOMMENDATIONS. CORRECT ORIENTATION OF THE GEOSYNTHETIC REINFORCEMENT SHALL BE VERIFIED BY THE CONTRACTOR TO BE IN ACCORDANCE WITH THE GEOSYNTHETIC MANUFACTURER'S RECOMMENDATIONS. THE HIGHEST-STRENGTH DIRECTION OF THE GEOSYNTHETIC MUST BE PERPENDICULAR TO THE WALL FACE.
  - 40. GEOSYNTHETIC REINFORCEMENT LAYERS SHALL BE ONE CONTINUOUS PIECE FOR THEIR ENTIRE EMBEDMENT LENGTH. SPLICES OF THE GEOSYNTHETIC IN THE DESIGN STRENGTH DIRECTION (PERPENDICULAR TO THE WALL FACE) SHALL NOT BE PERMITTED. ALONG THE LENGTH OF THE WALL, HORIZONTALLY ADJACENT SECTIONS OF GEOSYNTHETIC REINFORCEMENT SHALL BE BUTTED IN A MANNER TO ASSURE 100% COVERAGE PARALLEL TO THE WALL FACE.
  - 41. TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY ON THE GEOSYNTHETIC REINFORCEMENT. A MINIMUM OF 6 INCHES OF BACKFILL IS REQUIRED PRIOR TO OPERATION OF TRACKED VEHICLES OVER THE GEOSYNTHETIC. TURNING SHOULD BE KEPT TO A MINIMUM. RUBBER-TIRED EQUIPMENT MAY PASS OVER THE GEOSYNTHETIC REINFORCEMENT AT SLOW SPEEDS (LESS THAN 5 MPH).
  - 42. THE GEOSYNTHETIC REINFORCEMENT SHALL BE FREE OF WRINKLES PRIOR TO PLACEMENT OF SOIL FILL. THE NOMINAL TENSION SHALL BE APPLIED TO THE REINFORCEMENT AND SECURED IN PLACE WITH STAPLES, STAKES OR BY HAND TENSIONING UNTIL REINFORCEMENT IS COVERED BY 6 INCHES OF FILL.
  - 43. DRAINAGE AGGREGATE SHALL BE INSTALLED TO THE LINE, GRADES AND SECTIONS SHOWN ON THE FINAL P.E.-SEALED RETAINING WALL PLANS. DRAINAGE AGGREGATE SHALL BE PLACED TO THE MINIMUM THICKNESS SHOWN ON THE CONSTRUCTION PLANS BETWEEN AND BEHIND UNITS (A MINIMUM OF 1 CUBIC FOOT FOR EACH EXPOSED SQUARE FOOT OF WALL FACE UNLESS OTHERWISE NOTED ON THE FINAL WALL PLANS).
  - 44. DRAINAGE COLLECTION PIPES SHALL BE INSTALLED TO MAINTAIN GRAVITY FLOW OF WATER OUTSIDE THE REINFORCED-SOIL ZONE. THE DRAINAGE COLLECTION PIPE SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE CONSTRUCTION DRAWINGS. THE DRAINAGE COLLECTION PIPE SHALL DAYLIGHT INTO A STORM SEWER OR ALONG A SLOPE, AT AN ELEVATION BELOW THE LOWEST POINT OF THE PIPE WITHIN THE AGGREGATE DRAIN. DRAINAGE LATERALS SHALL BE SPACED AT A MAXIMUM 50-FOOT SPACING ALONG THE WALL FACE.
  - 45. THE REINFORCED BACKFILL SHALL BE PLACED AS SHOWN IN THE FINAL WALL PLANS IN THE MAXIMUM COMPACTED LIFT THICKNESS OF 8 INCHES AND SHALL BE COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY (ASTM D 698) AT A MOISTURE CONTENT WITHIN -1% POINT TO +3% POINTS OF OPTIMUM. THE BACKFILL SHALL BE PLACED AND SPREAD IN SUCH A MANNER AS TO ELIMINATE WRINKLES OR MOVEMENT OF THE GEOSYNTHETIC REINFORCEMENT AND THE SRW UNITS.
  - 46. ONLY HAND-OPERATED COMPACTION EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET OF THE BACK OF THE WALL UNITS. COMPACTION WITHIN THE 3 FEET BEHIND THE WALL UNITS SHALL BE ACHIEVED BY AT LEAST THREE PASSES OF A LIGHTWEIGHT MECHANICAL TAMPER, PLATE, OR ROLLER.
  - 47. AT THE END OF EACH DAY'S OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LEVEL OF BACKFILL AWAY FROM THE WALL FACING AND REINFORCED BACKFILL TO DIRECT WATER RUNOFF AWAY FROM THE WALL FACE.
  - 48. AT COMPLETION OF WALL CONSTRUCTION, BACKFILL SHALL BE PLACED LEVEL WITH FINAL TOP OF WALL ELEVATION. IF FINAL GRADING, PAVING, LANDSCAPING AND/OR STORM DRAINAGE INSTALLATION ADJACENT TO THE WALL IS NOT PLACED IMMEDIATELY AFTER WALL COMPLETION, TEMPORARY GRADING AND DRAINAGE SHALL BE PROVIDED TO ENSURE WATER RUNOFF IS NOT DIRECTED AT THE WALL NOR ALLOWED TO COLLECT OR POOL BEHIND THE WALL UNTIL FINAL CONSTRUCTION ADJACENT TO THE WALL IS COMPLETED.
  - 49. SRW CAPS SHALL BE PROPERLY ALIGNED AND GLUED TO UNDERLYING UNITS WITH VERSA-LOK ADHESIVE, A FLEXIBLE, HIGH-STRENGTH CONCRETE ADHESIVE. RIGID ADHESIVE OR MORTAR ARE NOT ACCEPTABLE.
  - 50. CAPS SHALL OVERHANG THE TOP COURSE OF UNITS BY 3/4 INCH TO 1 INCH. SLIGHT VARIATION IN OVERHANG IS ALLOWED TO CORRECT ALIGNMENT AT THE TOP OF THE WALL.
  - 51. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT CONSTRUCTION BY OTHERS ADJACENT TO THE WALL DOES NOT DISTURB THE WALL OR PLACE TEMPORARY CONSTRUCTION LOADS ON THE WALL THAT EXCEED DESIGN LOADS, INCLUDING LOADS SUCH AS WATER PRESSURE, TEMPORARY GRADES, OR EQUIPMENT LOADING. HEAVY PAVING OR GRADING EQUIPMENT SHALL BE KEPT A MINIMUM OF 3 FEET BEHIND THE BACK OF THE WALL FACE. EQUIPMENT WITH WHEEL LOADS IN EXCESS OF 150 PSF LIVE LOAD SHALL NOT BE OPERATED WITHIN 10 FEET OF THE FACE OF THE RETAINING WALL DURING CONSTRUCTION ADJACENT TO THE WALL. CARE SHOULD BE TAKEN BY THE GENERAL CONTRACTOR TO ENSURE WATER RUNOFF IS DIRECTED AWAY FROM THE WALL STRUCTURE UNTIL FINAL GRADING AND SURFACE DRAINAGE COLLECTION SYSTEMS ARE COMPLETED.
- BIOFILTRATION BASIN:**
- 1. BIOFILTRATION BASIN SHALL BE CONSTRUCTED IN GENERAL ACCORDANCE WITH WDNR TECHNICAL STANDARD 1004: BIOTRENTATION FOR INFILTRATION AND THESE SPECIFICATIONS.
  - 2. ENGINEERED SOIL MIX SHALL CONSIST OF A MIX OF 70 TO 85% SAND AND 15 TO 30% COMPOST BASED ON VOLUME. SAND SHALL MEET THE REQUIREMENTS FOR FINE AGGREGATE SAND SPECIFIED SECTION 501.2.5.3.4 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION OR MEET ASTM C33 (FINE AGGREGATE CONCRETE SAND).
  - 3. ENGINEERED SOIL MIX SHALL BE FREE OF ROCKS, STUMPS, ROOTS, BRUSH OR OTHER MATERIAL OVER ONE INCH IN DIAMETER. NO OTHER MATERIALS SHALL BE MIXED WITH THESE PLANTING SOIL THAT MAY BE HARMFUL TO PLANT GROWTH OR BE A HINDRANCE TO PLANTING OR MAINTENANCE.
  - 4. PEA GRAVEL SHALL BE GRADED SUCH THAT MINIMUM PARTICLE SIZE IS LARGE ENOUGH TO PREVENT FALLING THROUGH PERFORATIONS OF THE UNDERDRAIN PIPE.
  - 5. BIOFILTRATION BASIN DRAIN PIPE: 6-INCH SCHEDULE 40 PVC PIPE MEETING PERFORATION REQUIREMENTS OF AASHTO M278 HIGHWAY UNDERDRAIN SPECIFICATIONS WITH 3/8" PERFORATIONS ON 6" CENTERS WITH 4 HOLES PER ROW.
  - 6. BEEHIVE INLET: NEENAH R-258I, OR EQUAL.
  - 7. RISER STRUCTURE: 36" DIAMETER PRECAST CATCH BASIN STRUCTURE WITH 24" TOP OPENING TO ACCOMMODATE BEEHIVE INLET. IN GENERAL ACCORDANCE WITH FILE NO. 26 OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
  - 8. GRAVEL STORAGE LAYER (IF INDICATED ON PLANS): COURSE AGGREGATE #2 IN ACCORDANCE WITH SECTION 501.2.5.3.4 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
  - 9. FILTER FABRIC: GEOTEXTILE FABRIC IN ACCORDANCE WITH SECTION 645.2.4 OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
  - 10. EXCAVATE TO GRADES AS INDICATED ON PLANS.
  - 11. CONSTRUCTION SITE RUNOFF FROM DISTURBED AREAS SHALL NOT BE ALLOWED TO ENTER THE BIOFILTRATION BASIN. RUNOFF FROM PERVIOUS AREAS SHALL BE DIVERTED FROM THE BASIN UNTIL THE PERVIOUS AREAS HAVE UNDERGONE FINAL STABILIZATION.
  - 12. CONSTRUCTION SHALL BE SUSPENDED DURING PERIODS OF RAINFALL OR SNOWMELT. CONSTRUCTION SHALL REMAIN SUSPENDED IF PONDED WATER IS PRESENT OR IF RESIDUAL SOIL MOISTURE CONTRIBUTES SIGNIFICANTLY TO THE POTENTIAL FOR SOIL SMEARING, CLUMPING OR OTHER FORMS OF COMPACTION.
  - 13. COMPACTION AND SMEARING OF THE SOIL BENEATH THE FLOORS AND SIDE SLOPES OF THE BASIN, AND COMPACTION OF THE ENGINEERED SOILS IN THE BASIN SHALL BE MINIMIZED. DURING SITE DEVELOPMENT, THE AREA DEDICATED TO THE BIOFILTRATION BASIN SHALL BE CORDONED OFF TO PREVENT ACCESS BY HEAVY EQUIPMENT. ACCEPTABLE EQUIPMENT FOR CONSTRUCTING THE BIOFILTRATION BASIN INCLUDES EXCAVATION HOES, LIGHT EQUIPMENT WITH TURF-TYPE TIRES, MARSH EQUIPMENT OR WIDE-TRACK LOADERS.
  - 14. IF COMPACTION OCCURS AT THE BASE OF THE BIOFILTRATION BASIN, THE SOIL SHALL BE REFRACTURED TO A DEPTH OF AT LEAST 12 INCHES. IF SMEARING OCCURS, THE SMEARED AREAS OF THE INTERFACE SHALL BE CORRECTED BY RAKING OR ROTO-TILLING.
  - 15. PRIOR TO PLACING IN THE BIOFILTRATION BASIN, THE ENGINEERED SOIL SHALL BE PREMIXED AND THE MOISTURE CONTENT SHALL BE LOW ENOUGH TO PREVENT CLUMPING AND COMPACTION DURING PLACEMENT.
  - 16. THE ENGINEERED SOIL MIX SHALL BE PLACED IN LIFTS NOT EXCEEDING 12 INCHES.
  - 17. STEPS MAY BE TAKEN TO INDUCE MILD SETTling OF THE ENGINEERED SOIL BED AS NEEDED TO PREPARE A STABLE PLANTING MEDIUM AND TO STABILIZE THE PONDING DEPTH. VIBRATING PLATE-STYLE COMPACTORS SHALL NOT BE UTILIZED.
  - 18. ANY SEDIMENT ACCUMULATED IN THE BASIN DUE TO CONSTRUCTION ACTIVITIES SHOULD BE REMOVED AND THE ENGINEERED SOIL SHALL BE DEEP TILLED PRIOR TO PLANTING.



MULTI FAMILY DEVELOPMENT  
WATERTOWN PLANK ROAD  
ELM GROVE, WISCONSIN

**SPECIFICATIONS**

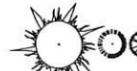
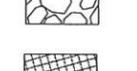
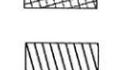
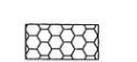
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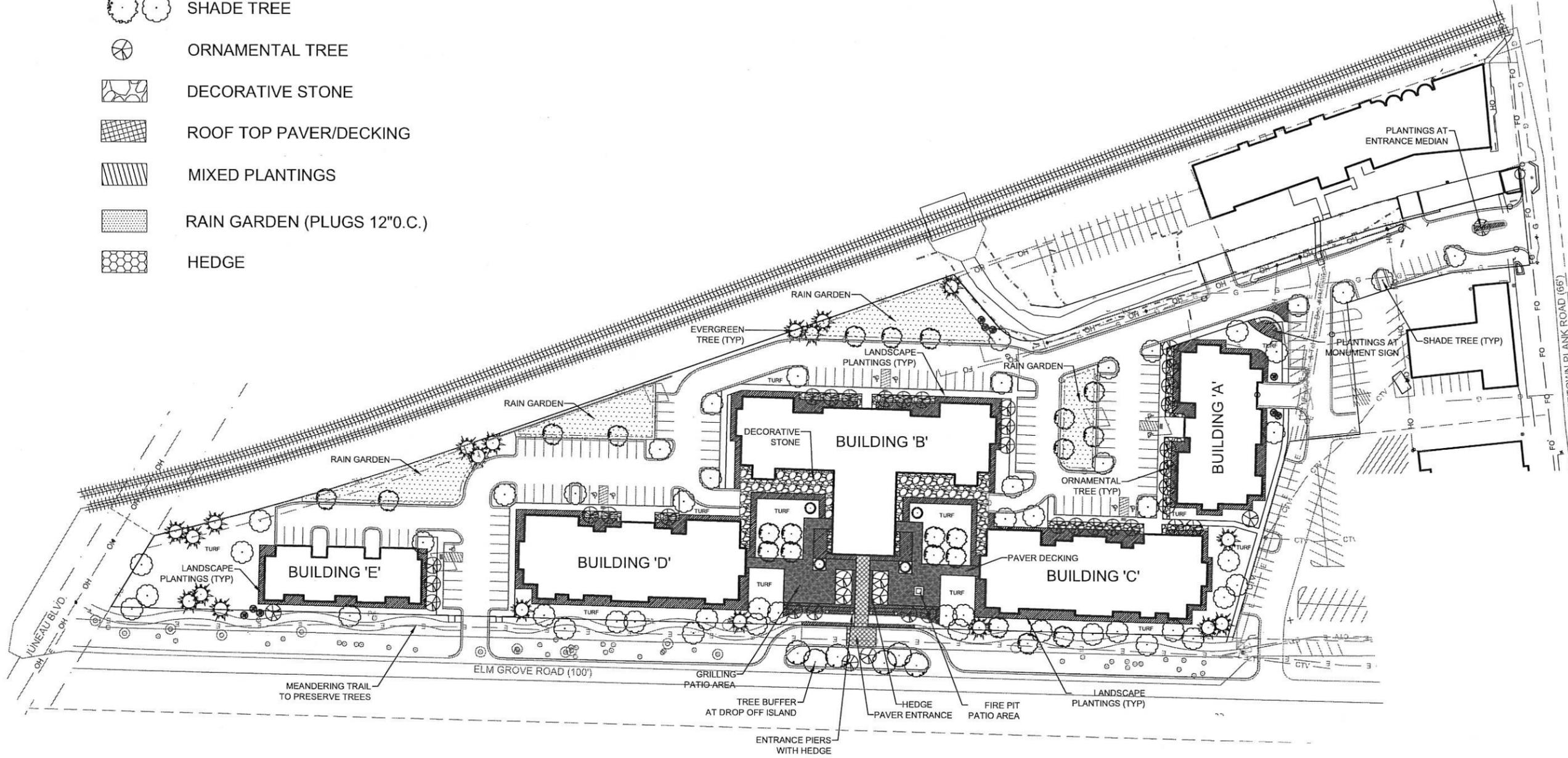
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DATE:  
PROJECT NO:  
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APPROVED BY:  
SHEET NO.:

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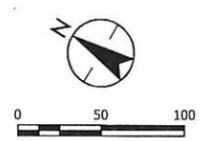
# LEGEND

-  EVERGREEN TREE
-  SHADE TREE
-  ORNAMENTAL TREE
-  DECORATIVE STONE
-  ROOF TOP PAVER/DECKING
-  MIXED PLANTINGS
-  RAIN GARDEN (PLUGS 12"0.C.)
-  HEDGE



MULTI FAMILY DEVELOPMENT  
 WATERTOWN PLANK ROAD  
 ELM GROVE, WISCONSIN

PRELIMINARY LANDSCAPE PLAN



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DRAWN BY:	
DATE:	FEBRUARY 19, 2016
PROJECT NO:	
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SHEET NO.:	

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## Chapter 1 – INTRODUCTION

### ***PART A – Purpose of Report and Study Objectives***

This report is for a Wangard-Reinders planned redevelopment of the property by Wangard Partners and R&R Investments which is bounded by Watertown Plank Road on the south, CP Rail Road on the east, Juneau Blvd on the north and Elm Grove Road (The Cave Road) on the west in Elm Grove, WI. Traffic Engineering Services, Inc. staff has conducted a traffic impact analysis for the defined phase of implementation. A second phase is expected but only defined as retail, office and residential. This site currently has existing warehousing, retail, office and a few apartment uses. The former use was Reinders, Inc. Distribution that used semi-truck shipping and receiving daily for the following: Commercial Mowing Equipment, < Fertilizers, Chemicals, Grass Seed, < Golf Course Irrigation, < Contractor Irrigation, < Parts Department, < Service Department, < Water Softener Salt, < Ice Control & Winter Products, < Landscape Lighting & Water Features, < Holiday Lighting, and < Promotions. < This business relocated to a new facility in Sussex, Wisconsin.

This phase of the site redevelopment provides for residential use on the parcel north and west of the current buildings on the site. New access is proposed to Elm Grove Road (The Cave Road) and to utilize the existing accesses to Watertown Plank Road.

Phase 2 lacks definition to create an analysis. A concept plan is included for reference. There is an expressed desire on the part of the Village staff to connect Elm Gove north and south of Watertown Plank Road. This is an element in the second phase of redevelopment plan for the south portion of the parcel.

Access in Phase 1 is at one point along Elm Grove Road south of Juneau Blvd and utilizing the existing access to Watertown Plank Road., Exhibit 2-3A.

This report documents the procedures, findings and recommendations of the traffic impact analysis for 2016 and 2026 with Phase 1 traffic. The two Watertown Plank Road traffic signals were evaluated as the current operation and optimized with the upgrade of new signal timing for pedestrian crossings. Subsequent analysis was completed for 2016 with projected (background) traffic plus the generated traffic from Phase 1 development. The current two way left turn lane (TWLTL) and left turn lanes approaching the traffic signals were used in the analysis.

### ***PART B – Executive Summary***

The Wangard Partners and R&R Investments redevelopment is bounded by Watertown Plank Road on the south and Juneau Boulevard on the north with N. Elm Grove Road on the west and CP Rail Road tracks along the east in the Village of Elm Grove, Waukesha County, Wisconsin. There are two access driveways to Watertown Plank Road for the

Reinders property. West driveway with 2-way traffic is aligned with the one-way in Park-N-Shop driveway and East driveway with 1-way in is aligned with the one-way out Park-N-Shop driveway.

The Manual of Uniform Traffic Control Devices, MUTCD, adopted in 2009 has revised the design speed for pedestrians crossing the street and the width to be considered in the closing. The changes are as follows:

Pedestrian WALKING SPEED has been revised from 4 FT/SEC to 3.5 FT/SEC  
CROSSING WIDTH was revised from curb to center of furthest most traveled lane was revised to be FACE OF CURB TO FACE OF CURB within the crosswalk.

### **Proposed Development**

The Wangard Partners and R&R Investments property Phase 1 land use will consist of Residential Mid-Rise Apartments. Lower level parking is proposed for each building plus surface parking and a lot at the north end of the Reinders Warehouse building.

In general Phase 1 is the construction of the new road network on the property and all residential housing east of Elm Grove Road (The Cave Road) and north of existing commercial/residential use fronting Watertown Plank Road. This will have minor modification to the existing retail/office space along the railroad tracks know as Mill Place. The northern most part of the building will be raised for parking.

The principal findings of Phase 1 development are that with the upgrade to new timing for pedestrians all traffic movements operate at LOS (Level of Service) C or better for with or without the proposed Phase 1 development.

The only modification to accommodate the development is the same as is needed for current traffic in the AM & PM peak hours of traffic movement.

Two peak traffic time periods have been established. They are the AM peak hour from 7:30 to 8:30AM peak hour from 4:45 to 5:45 PM peak hour

The proposed Phase 1 development will generate new traffic of 729 daily trips with 50% entering and 50% exiting; total generated trips in the AM peak hour of 58 with 50% entering and 50% exiting and total trips in the PM peak hour of 74 with 50% entering and 50% exiting, Exhibit 4-2A.

### **Off-Site Development**

No off-site development has been considered in this study.

**Study Area**

The study area includes the following intersections and driveways for the development:

- Elm Grove Road (N) (The Cave Road) and Juneau Boulevard (STOP controlled northbound), Ref #8
- Elm Grove Road (N) (The Cave Road) and Watertown Plank Road (Southbound STOP controlled) Ref #9
- Watertown Plank Road and West Driveway Ref #17
- Watertown Plank Road and East Driveway Ref #20
- Elm Rove Road (S) and Watertown Plank Road (traffic signal controlled) Ref #15
- Watertown Plank Road and Legion Drive/BP Gas Station Driveway (traffic
- One driveway connecting to Elm Grove Road (The Cave Road) south of Juneau Blvd

**Recommended Improvements**

The following section address the improvements recommended to accommodate the traffic conditions in the study area.

Implement recommended traffic signal timing:

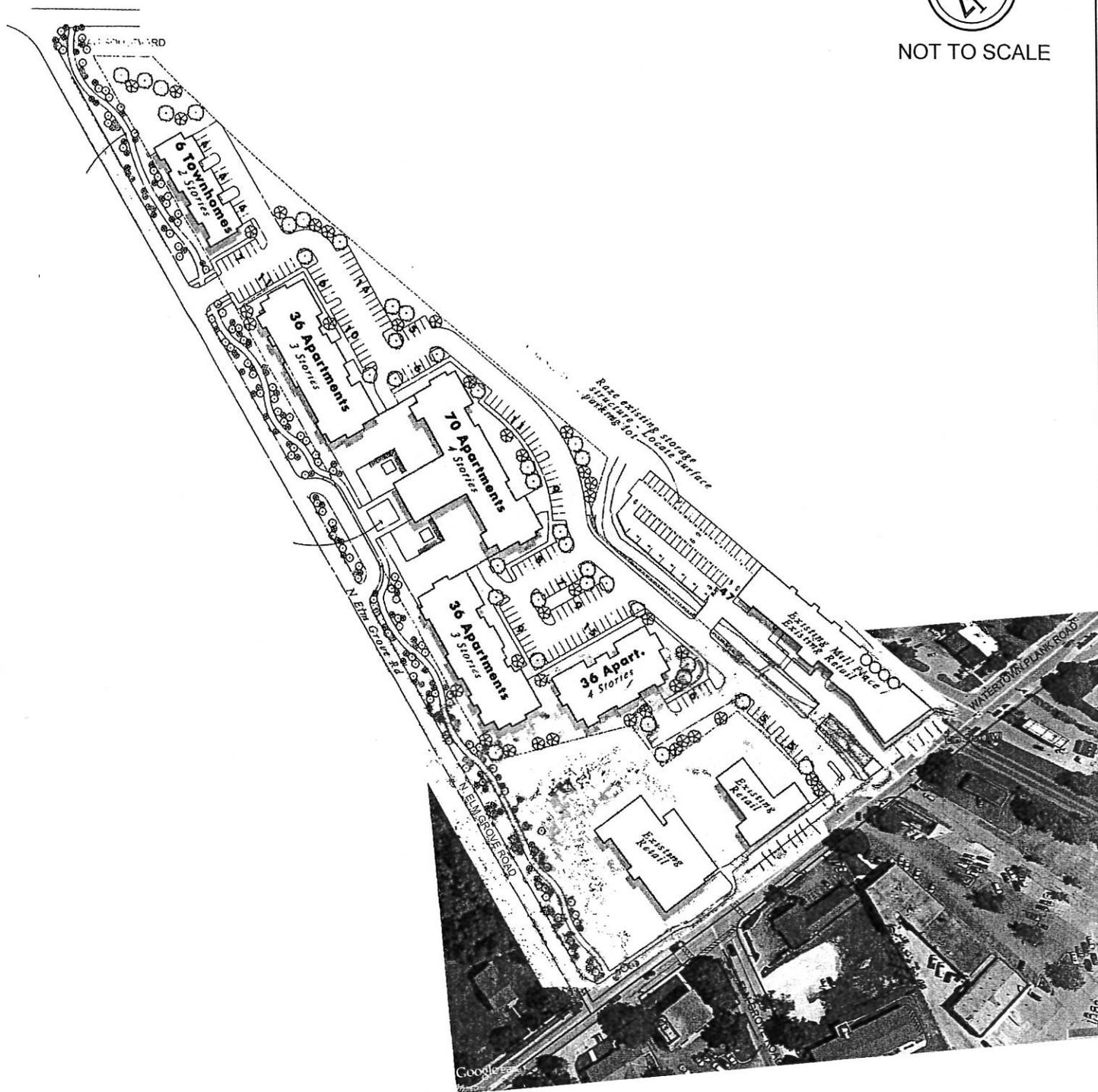
- AM Peak, Off peak and PM Peak with new pedestrian timing and longer cycle length for AM Peak and PM Peak traffic. This existing timing optimized will be appropriate for the completion of Phase 1 and significant occupancy.  
Access points to Wangard-Reinders Property:
- Installation of one access point onto Elm Grove Road (The Cave Road) approximately 425-feet south of Juneau Blvd in Phase 1. The roadway centerline should be in the first 10-feet from the existing east edge of the pavement 2% slope down from the street. Then 2% up for 20-feet. Then 2% down for 20-feet. This creates a swale for drainage to the ditch area for entering and exiting the roadway suitable for winter operation. Then the maximum practical slope of 6% down could be used to the grades for development. A typical plan and cross section are shown in Chapter 5 Exhibits. Core sample of roadway is recommended for final design.
- The current west driveway access to Watertown Plank has two lanes exiting and one lane entering. The existing 42-foot driveway should remain with no median for alignment with the Park N Shop one-way entry drive. The one-way entry along the retail should be maintained with connection to the West driveway over the current river bridge. Parking on the river bridge deck exists and is desirable for the retail uses. This should be reviewed for detail operation on final pan preparation.
- The intersection of Elm Grove Road (The Cave Road) and Juneau Blvd should have radii improvements for right turns. The Phase 1 plan includes a dedicated multipurpose path and should connect with the paths on Watertown Plank Road and Juneau Blvd.
- The extension of Elm Grove Road at Watertown Plank Road for connecting to Elm Grove Road (Cave Road) should be incorporated in planning for Phase 2.

## **Future Considerations**

- Connection of the north leg and south leg of Elm Grove Road at Watertown Plank Road with traffic signal modifications.
- Follow the concept plan to have vehicle access to the north side of the building and remove parking on Watertown Plank Road between the west driveway and Elm Grove Road.
- Monitor eastbound left turn queue at Legion Drive and add time to left turn arrow if queue does not clear each cycle.



NOT TO SCALE



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ENGINEERING  
SERVICES, INC.

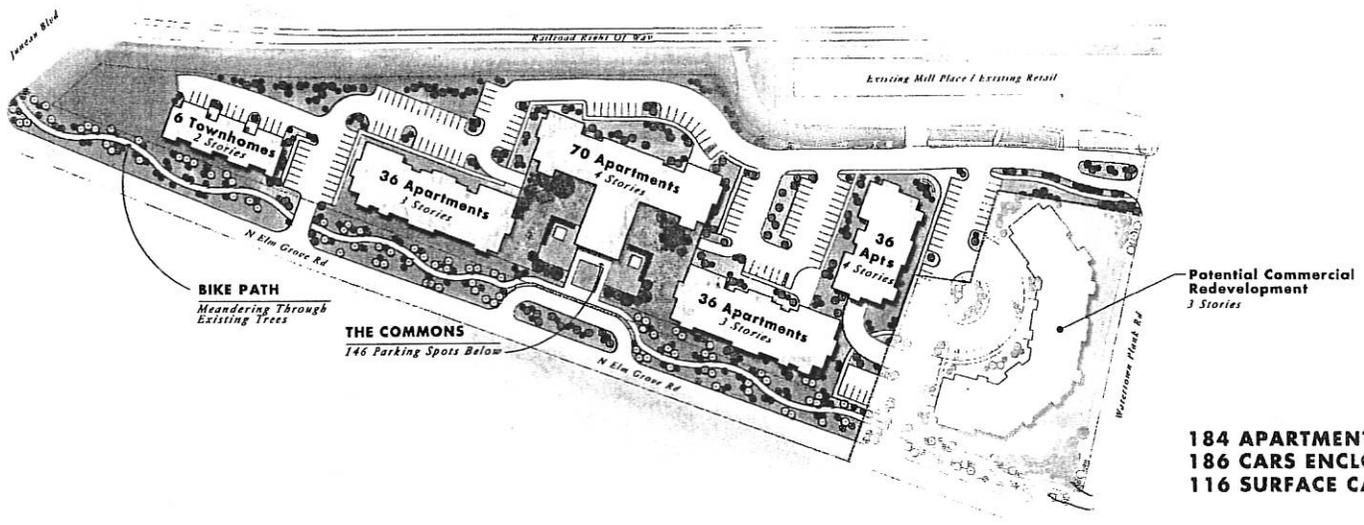
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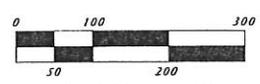
EXHIBIT 1-1A  
SITE PLAN - PHASE 1  
MULTIFAMILY DEVELOPMENT  
REINDERS / WANGARD  
ELM GROVE, WI  
SUBMITTAL DATE: 02-2016



NOT TO SCALE



184 APARTMENTS  
 186 CARS ENCL  
 116 SURFACE CAR



21 Aug 2015



*Reinders / Wangard Elm Grove*  
**MULTIFAMILY DEVELOPMENT**  
 Elm Grove, WI



**TRAFFIC  
 ENGINEERING  
 SERVICES, INC.**

JN# 15E29

Feb 05, 2016, 2:13pm

EXHIBIT 1-1B  
 CONCEPT SITE PLAN - FUTURE  
 MULTIFAMILY DEVELOPMENT  
 REINDERS / WANGARD  
 ELM GROVE, WI  
 SUBMITTAL DATE: 02-2016

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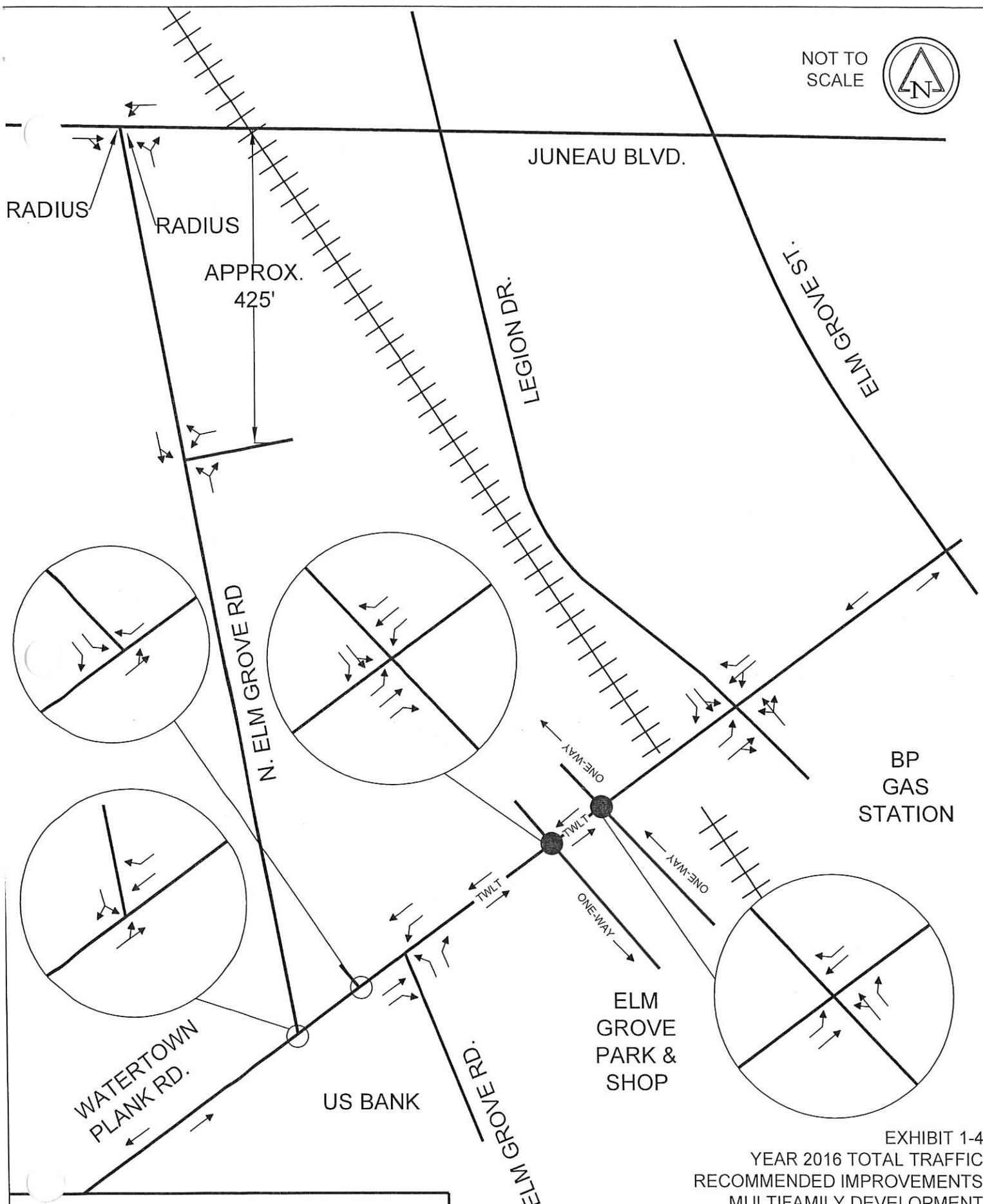


EXHIBIT 1-4  
YEAR 2016 TOTAL TRAFFIC  
RECOMMENDED IMPROVEMENTS  
MULTIFAMILY DEVELOPMENT  
REINDERS / WANGARD  
ELM GROVE, WI  
SUBMITTAL DATE: 02-2016

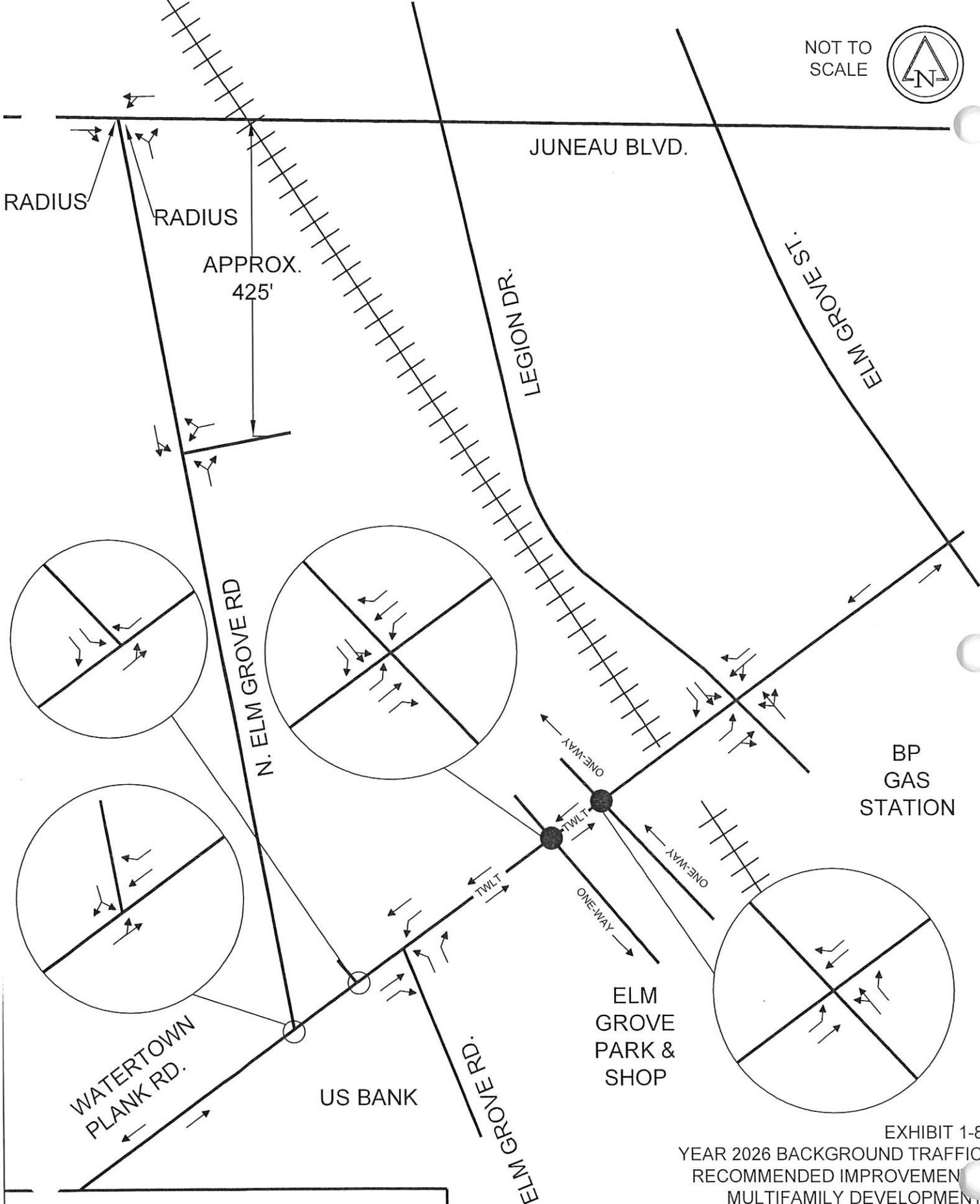


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NOT TO SCALE



BP  
GAS  
STATION

ELM  
GROVE  
PARK &  
SHOP

US BANK

EXHIBIT 1-8

YEAR 2026 BACKGROUND TRAFFIC  
 RECOMMENDED IMPROVEMENTS  
 MULTIFAMILY DEVELOPMENT  
 REINDERS / WANGARD  
 ELM GROVE, WI  
 SUBMITTAL DATE: 02-2016

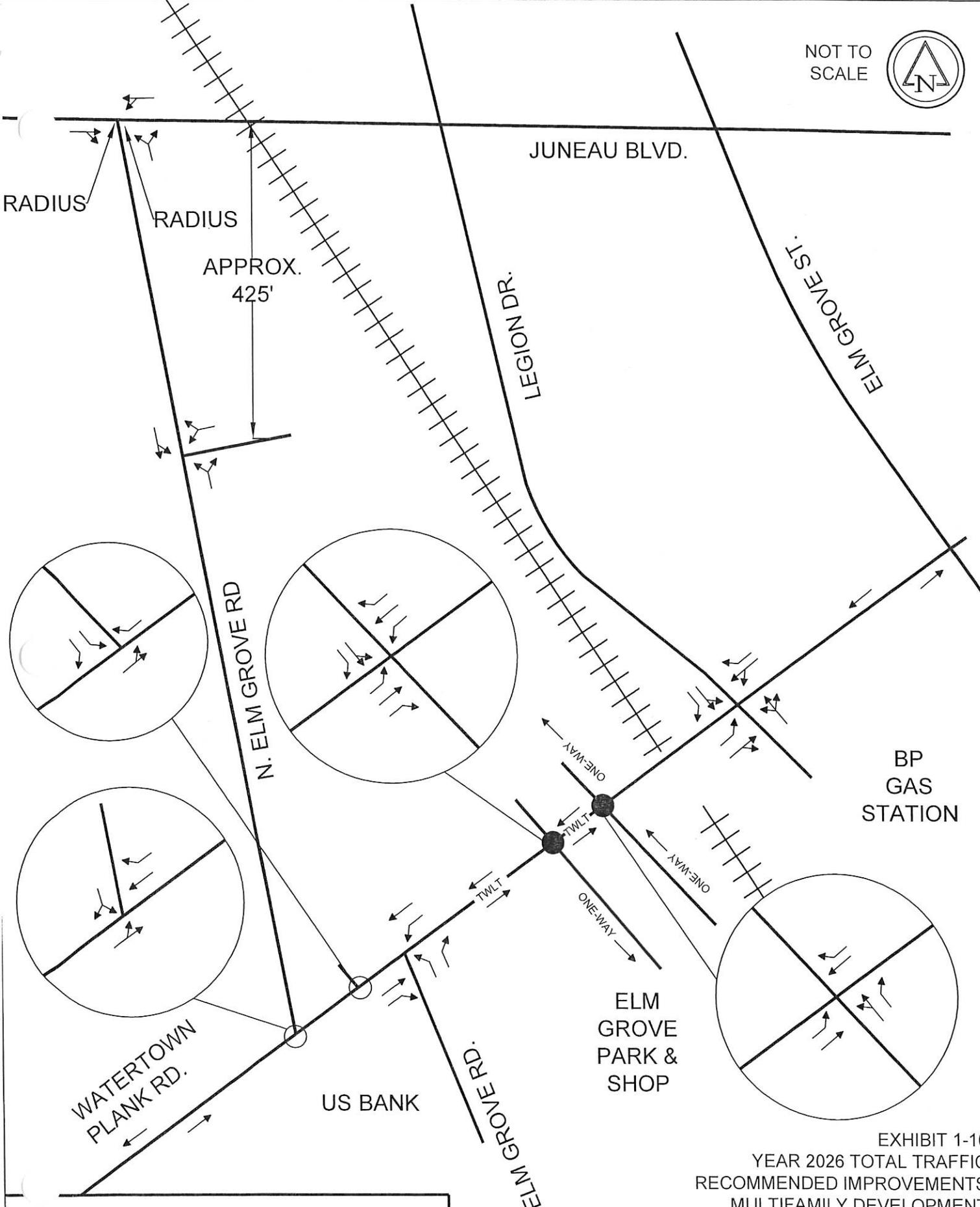


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NOT TO SCALE



BP  
GAS  
STATION

ELM  
GROVE  
PARK &  
SHOP

US BANK

EXHIBIT 1-10  
 YEAR 2026 TOTAL TRAFFIC  
 RECOMMENDED IMPROVEMENTS  
 MULTIFAMILY DEVELOPMENT  
 REINDERS / WANGARD  
 ELM GROVE, WI  
 SUBMITTAL DATE: 02-2016

 **TRAFFIC  
ENGINEERING  
SERVICES, INC.**



RECEIVED

FEB 08 2016

VILLAGE OF ELM GROVE

February 8, 2016

Mr. David De Angelis & Mr. Casey Griffiths  
Village of Elm Grove  
13600 Juneau Blvd.  
Elm Grove, WI 53122

Dear Mr. De Angelis & Mr. Griffiths,

Please find enclosed our submittal for the proposed multi-family development located at 13420 Watertown Plank Road, Elm Grove, WI, tax ID number EGV 1106997 for Conceptual Review at the March 7<sup>th</sup> Plan Commission meeting. Enclosed you will find a proposed site plan, building plans, elevations and a density calculation for a mixed-compatible PDO for your review.

Civil Plans including proposed Surface Water Drainage Plan and Stormwater Management along with a Landscaping Plan and 3D renderings are currently in the design stages and will be provided in the following weeks, prior to the Plan Commission Meeting.

The proposed project includes the development of five, multi-family buildings consisting of a total of 182 units and 238 enclosed parking spaces and an additional 164 surface parking spaces.

It is our understanding that our proposed project will require a comprehensive plan amendment, rezoning, and ordinance amendment. The project will also require financial TIF assistance from the Village for certain components.

The Comprehensive Plan Amendment is for the rezoning of the property to a mixed-compatible PDO. Under Chapter 335: Zoning, § 335-30 Planned Development Overlay District the maximum allowable residential density for the site is 182 units. Please find density calculations enclosed. Included in the calculation is the right of way vacation of Elm Grove road and the Reinders Mill property to the east.

We are requesting an ordinance amendment to allow for a four-story residential building on the site. While this height may exceed the maximum height in Elm Grove, we have been sensitive to the positioning of a four-story building within our plans. For example, the two buildings that front Elm Grove road will be three stories in height, the allowable maximum height. The two four-story buildings are set back farther from Elm Grove road to allow for a gradual change in height to better fit the profile of Elm Grove. Additionally, the clubroom and leasing center will be located at the front branch of the central four-story building, closest to the street. The height of the clubroom will be at most two-stories tall. We also gave considerable attention to the north east end of the site, as it is most visible from the single-family homes nearby. As such, we have proposed a two-story, townhome concept that will match the scale of the surrounding neighborhood. The variation in building heights along with timeless architecture will allow the development to blend seamlessly into the neighborhood and truly enhance what currently exists on the site.

The project will also require Tax Incremental Financing in order for it to be economically viable. We have had initial discussions with Village officials on the matter of TIF. As we fine tune construction budgeting and overall costs, we will work with Village officials on the specific allocation the project will require. The majority of TIF proceeds will be used for items such as curing the identified site conditions, which will include cost of demolition, stormwater management infrastructure, poor soils, environmental remediation and utility extensions. This project will provide a substantial benefit to the businesses in the



central village area by providing a significant increase in population that is within walking distance of the shops in the village, thereby stimulating the local economy. The project anticipates the extension of the municipal water main from further south on Elm Grove Road to the property. We understand this extension will also provide opportunity for service to other properties in the village center area. Our plan also anticipates a right of way vacation. The addition of this right of way to the property allows us to maximize the density for the site.

Please do not hesitate to reach out with any questions regarding any of the items enclosed or described above. We look forward to your comments and working together with the Village and Plan Commission on making this a successful development that benefits the residents and businesses within Elm Grove.

Sincerely,

A handwritten signature in black ink that reads 'Wayne A. Wiertzema'. The signature is written in a cursive style with a large, prominent 'W' at the beginning.

Wayne Wiertzema  
President  
Wangard Partners, Inc.

Reinders/ Wangard Development  
 Elm Grove Density Calculation

# Units	Residential SF	Stories	SF/ Floor	Parking SF	Common Area	15% circulation
36	44,000	4	11,000	11,000	6,000	6,600
36	48,000	3	16,000		1,000	7,200
70	84,000	4	21,000		1,000	12,600
36	48,000	3	16,000		1,000	7,200
6	16,000	2	8,000	82,000	-	
184	240,000					33,600
<b>Common Area Space</b>	6,000					
<b>Reinders Mill Property</b>	27,966.00					

<b>ARU</b>	The average net interior square footage of all residential units (DNI utility space, garage and areas, halls or common areas)	1,089
<b>TNR</b>	The total interior square footage of all space devoted to nonresidential (DNI utility space, garage areas, halls and common areas)	27,966
<b>TRU</b>	Total number of residential units anticipated upon completion of the project	184.00
<b>Land Size</b>	Reinders Mill	1.36
	Reinders Site	6.42
	Elm Grove Road Vacation	0.50
<b>ERD</b>	$ERU = [TRU + (TNR/ARU)] / \text{Land Size}$	25.31
<b># Units *</b>	Total number of residential units	210

\* The enhanced residential density allowable in the PDO District is found under §335-30F(3)(c), which is 22 units per net acre. So the allowable density for this property would be 182 units.





# Memo

To: Plan Commission  
From: Casey Griffiths, Zoning and Planning Administrator/Assistant to the Village Manager  
Date: February 26, 2016  
Re: Reinders Development- 13400 Watertown Plank Road

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The Village has received an application for a redevelopment project for the Reinders property located at 13400- 13430 Watertown Plank Road. Wangard Partners Inc. and R&R Investments of Wisconsin, LLC are proposing to redevelop the north portion of the property to multiple family residential. The proposal includes four apartment buildings and one building with townhomes. The development is a mix-used development as a portion of the existing Mill Place Shop's property will be considered part of the development.

## Units

The proposal includes a mix of type of multi-family housing including apartments and townhomes. The four apartment buildings are proposed to have a mix of different styles of apartments including:

- Studio: 560 sq. ft.
- 1 Bedroom Traditional: 642 sq. ft.
- 1 Bedroom Standard: 747 sq. ft.
- 1 Bedroom Deluxe: 838 sq. ft.
- 1 Bedroom + Den: 978 sq. ft.
- 2 Bedroom Corner 1: 1,217 sq. ft.
- 2 Bedroom Corner 2: 1,132 sq. ft.
- 2 Bedroom Corner Deluxe: 1,258 sq. ft.
- 2 Bedroom + Den: 1,372 sq. ft.

There are two styles of town homes proposed:

- 2 Bedroom: 2,076 sq. ft.
- 3 Bedroom: 2,306 sq. ft.

## Demolition

To facilitate the development the existing warehouse/office building on the rear of the property is to be removed, the Quonset hut and a warehouse building located directly to the north of the Mill Place shops is proposed to be removed.

## Zoning

The existing parcels are currently zoned as M-1 Limited Manufacturing District (Reinders) and B-1 Local Business District (Mill Place Shops). The applicants are requesting a rezoning of 13400 Watertown Plank Road to Rm-1 Multiple Family Residential District and an overlay rezoning for both parcels to a Planned Development Overlay (PDO) District. As this is one development, it would be a mixed compatible use PDO. Under §335-30 of the Village Code, an applicant may petition for the redevelopment of a site utilizing a PDO, which may encompass one or more individual lots, with allowed compatible uses. Allowed uses under the PDO include those uses expressly provided for as permitted, conditional and/or accessory. The Rm-1 district's permitted uses include multiple-family dwellings.

Per Village ordinance, the intent of the PDO overlay district is to allow for development and redevelopment of a property through the use of coordinated site planning and diversification of location of structures and types and the mixing of allowable compatible uses. The PDO district is to allow for design flexibility, while at the same time maintaining use requirements in the underlying zoning district.

The proposed development will require a rezoning of the property from M-1 Limited manufacturing to Rm-1 Multiple Family Residential District and to a Planned Development Overlay District.

## Density

The proposed density the applicants are requesting for the development is 182 units. The overall development parcel size is 8.28 acres. A mixed compatible use PDO District's minimum acreage is 1.5 acres, provided that it is within the Village's Downtown Design Overlay District (defined under §335-12). The primary parcel was removed from the Downtown Design Overlay in 2003, and would need to be placed back into it to allow for this development to meet the PDO acreage requirements. Under the Rm-1 District, the minimum density requirements are 8 units per net acre. Under the PDO overlay, the density may be increased to a maximum density of 12 units through a conditional use. The developer is seeking an enhanced density of 22 units per net acre. This density is also possible under §335-30F(3) provided that the Plan Commission determine that the proposed project uniformly contains exterior and interior materials, design details, workmanship and features of an exceptionally high quality. The factors that allow for an enhanced density to be granted are as follows:

- [1] Whether the project will provide better utilization of the land and better preservation of natural resources than would otherwise be realized if the site were developed either in conformity with the density requirements of the underlying district or as a PDO District without the enhanced density.*
- [2] Whether the project makes adequate provision such that an increase in residential density will not have an unreasonable adverse effect on neighboring properties, existing and/or proposed public rights-of-way and/or municipal and other public services as a result of the type, intensity and frequency of the use(s) associated with the proposed project;*
- [3] Whether the structures proposed for the project are harmonious with existing surrounding structures and land uses.*
- [4] Whether building materials have been selected and are proposed to be utilized in a manner that is harmonious with the natural environment and the general character of other buildings and structures in the vicinity of the proposed development.*
- [5] Whether the proposed project will result in the construction or upgrading of specific public infrastructure improvements that will benefit the public without cost to the Village.*

*[6] Whether the proposed project will enhance an existing structure that is deemed beneficial to the character of the neighborhood where it is situated.*

Under 335-30F(4), the applicants were required to complete a residential density calculation as required for a mixed compatible use PDO. This calculation takes into account the amount of nonresidential use in the proposed project. The applicants have provided the Village with a calculation regarding the density, factoring in the total interior square footage for all residential units and all nonresidential units, the number of anticipated residential units and the total land area. The calculation is provided in the application materials. It was determined that the density calculation would be greater than the density allowed under an enhanced density, which per code means that the maximum allowable density goes back to the 22 units per acre.

### Height

Under Rm-1 zoning the maximum allowable height for principal structures cannot exceed 36 feet. Principal structures that have exposed foundations on side or rear yards cannot exceed 46 feet. Per §335-30D(2), PDO districts may deviate from requirements of the underlying zoning district with respect to maximum building height. The Plan Commission will need to determine if the proposed height of the project's building is acceptable. The four apartment buildings will have exposed foundations on their rear and side elevations, thus there are two different heights shown below.

- Buildings A & B
  - 5 Story Side (exposed foundations): 66 ft. 6 in.
  - 4 Story Side (non-exposed foundations): 55 ft. 8 in.
- Buildings C & D
  - 4 Story Side (exposed foundations): 56 ft. 6 in.
  - 3 Story Side (non-exposed foundations): 45 ft. 6 in.
- Townhomes
  - 32 ft. 10 in.

### Setbacks

The Rm-1 district requires a setbacks of 50 feet from the street right of way, 20 feet side yard setback and 25 feet rear yard. Per §335-30D(2), the PDO overlay allows for a development to deviate from the setback requirements of the underlying zoning district. The applicant has proposed the following setbacks:

- Building A: 51.9 ft. (rear); 11.3 ft. (side)
- Building B: 89.1 ft. (street); 43.9 ft. (rear)
- Building C: 36.2 ft. (street)
- Building D: 37.9 ft. (street); 82.1 ft. (rear)
- Townhomes: 30 ft. (street); 45 ft. (rear)

### Building Footprint & Impervious Surface

The Rm-1 district places the maximum allowable building footprint at 30% of the lot area and maximum impervious surface at 65% of the lot area. The proposed site plan for the residential development shows the proposed lot area and impervious surface for the development. Specific information was not given about proposed building footprints, however staff has was able to estimate footprint based upon the floor plan information given. This does not take into account any common space area. Additional information will need to be obtained from the developer regarding the footprint of the residential buildings. Information will also need to be submitted regarding the proposed area calculations for the B-1 property (Mill Place).

- Lot Area: 300,999 sq. ft.
- Impervious Surface: 193,842 sq. ft. - 64% of lot area

- Estimated Building Footprints:
  - Building A: 11,000 sq. ft.
  - Building B: 21,000 sq. ft.
  - Building C: 16,000 sq. ft.
  - Building D: 16,000 sq. ft.
  - Townhomes: 7,000 sq. ft.
  - Total: 71,000 sq. ft. - 23.5% of lot area

### Parking

§335-32 requires that multiple family dwellings provide 2 parking spaces per dwelling unit. The proposed development is 182 units, which requires a minimum of 364 spaces. The applicants have proposed a total of 402 parking spaces, which includes 238 enclosed and 164 surface parking spaces.

Ordinance requires that all driveways be at a minimum of 20 feet wide, a width measurement was not provided on the site plan for the driveway connecting to Elm Grove Road. The width of the driveway to Watertown Plank Road is 38 feet.

Currently side yard parking is being proposed to the south of Building A. Off street parking is not allowed in a side yard, per code however under §335-32B(3) the Plan Commission may determine that conditions are such that parking in side yards is reasonably necessary to provide adequate parking. A deviation may also be made under the PDO overlay district is provided in §335-30D(2).

Traffic movement in the parking lot was not provided, however it is assumed that the drive lanes are intended for two way traffic. Ordinance allows for two way traffic movement if the provided parking is at a 90 degree angle, which was provided. Curbed end islands are required to be at least 100 sq. ft. in area. Area measurements were not provided on the site plans for the curbed end islands.

Curbs and barriers are required to be a minimum of four feet from a property line. Currently parking show on the south driveway to Watertown Plank Road is a minimum of 2 ft. from the lot line. Again a deviation may be made under §335-30D(2).

### Right of Way Vacation

The applicants will be requesting that the Village vacate 40 feet of the 100 feet of right of way along Elm Grove Road. This vacation would be split evenly between the east and west sides. This right of way vacation would allow for the development to have an additional 0.50 acre. The existing right of way along Elm Grove Road is 100 feet, which is relatively wide for a two lane road in the Village. Typical right of way widths for most Village roads is between 60 and 50 feet. The applicants still need to submit their request for a right of way vacation.

### Emergency Service Comments

Fire Chief Bill Selzer has reviewed the proposed site plan and his comments are attached the application materials. Police Chief Jim Gage has reviewed the plans and does not have any comments at this time. We are currently waiting on EMS Director Dr. Jon Robinsons comments.

### Engineer's Comments

Provided in your packet are preliminary conceptual review comments from Village Engineer Andy Petersen.

### Traffic Impact Analysis

Included in your packet is the executive summary of the traffic impact analysis completed by Traffic Engineering Services, Inc.

Tax Incremental Financing

The applicants are requesting TIF financing. Currently we have not received any information from the applicants in terms of what they will be requesting.

Please do not hesitate to contact me with any questions.