



Le Sueur County, MN

Thursday, August 17, 2017

Regular session

Item 1

Loader Packet

Staff Contact: Kathy Brockway or Michelle Mettler

STAFF REPORT

GENERAL INFORMATION

APPLICANT/OWNER: Jerry & Caroline Loader

911 ADDRESS: 16724 Shady Oak Lane, Waterville MN

PROJECT DESCRIPTION: Grading, excavating, and filling of approximately 145 cubic yards of material for the construction of retaining walls for a bluff restoration project in a Recreational Residential "RR" District and a Flood Fringe "FF" Floodplain District on a Recreational Development "RD" lake, Lake Tetonka.

ZONING ORDINANCE SECTIONS: 13.2, 18

DISTRICT PURPOSE:

The intent of the **Recreational Residential (RR) District** is to preserve areas which have natural characteristics suitable for both passive and active recreational usage. Also, it is the intent of this district to manage areas suitable for residential development of varying types, including permanent and seasonal housing. Some non-residential uses with minimal impacts on residential uses are allowed if properly managed under conditional use procedures.

GOALS AND POLICIES: The current Land Use Plan as adopted in 2007 references shoreland development.

Goal 2: Le Sueur County should adopt and enforce land use goals and policies that conserve and restore its natural resources, bring protections to the ecological systems of the natural environment, and prevent the premature development of natural resource areas.

Policy: Utilize shorelands on Recreational Development Lakes (RD) for housing, but with a focus on development design that protects the resource.

DEFINITIONS:

Bluff - A topographic feature such as a hill, cliff, or embankment in which the slope rises at least fifteen (15) feet from the toe of the bluff to the top of the bluff and the grade of the slope from the toe of the bluff to the top of the bluff averages 18 percent or greater. The percent of the slope is defined as the change in elevation (rise) over a distance (run).

Bluff, Toe - The toe of the bluff shall be determined to be the lower end of the lowest ten (10) foot segment that exceeds eighteen (18) percent slope.

Bluff, Top - The top of the bluff shall be determined to the upper end of the highest ten (10) foot segment that exceeds eighteen (18) percent.

Bluff Impact Zone (BIZ) - Land located within 30 feet from the top or toe of a bluff.

Shore Impact Zone (SIZ) - Land located between the ordinary high water level of public waters and a line parallel to it at a setback of fifty (50) percent of the structure setback.

SITE INFORMATION

LOCATION: Lots 14, 15, & 16 Auditor's Subdivision, Section 28, Waterville Township.

ZONING: Recreational Residential "RR"

GENERAL SITE DESCRIPTION: Shoreland, residential

ACCESS: Existing

EXISTING LAND USE WITHIN ¼ MILE:

North:	Lake Tetonka	South:	Residential/Ag Land
East:	Residential	West:	Residential/DNR Fisheries

TOWNSHIP BOARD NOTIFICATION

The applicants contacted Judy Hering, Waterville Township Board member on June 8, 2017.

NATURAL RESOURCES INFORMATION

SHORELAND: The proposal is located within the Shoreland District.

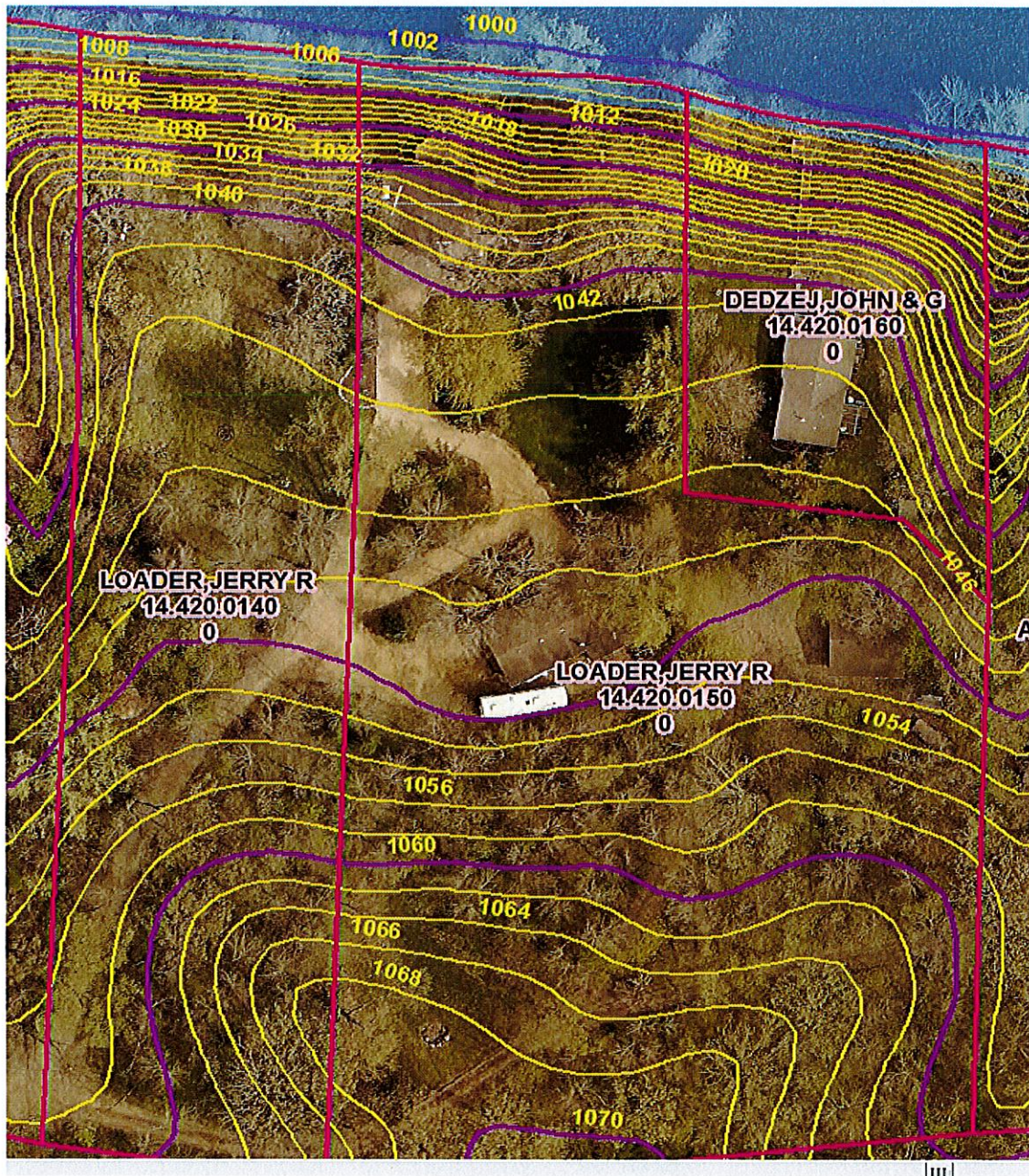
WETLANDS: According to the National Wetlands Inventory, No wetlands located in the quarter-quarter section where the project is proposed.

ATTACHMENTS

Application, Criteria Form, Narrative, Versa Lok Retaining Wall Systems, Erosion Control Plan, Photos, Survey, Letter LSC Resource Specialist

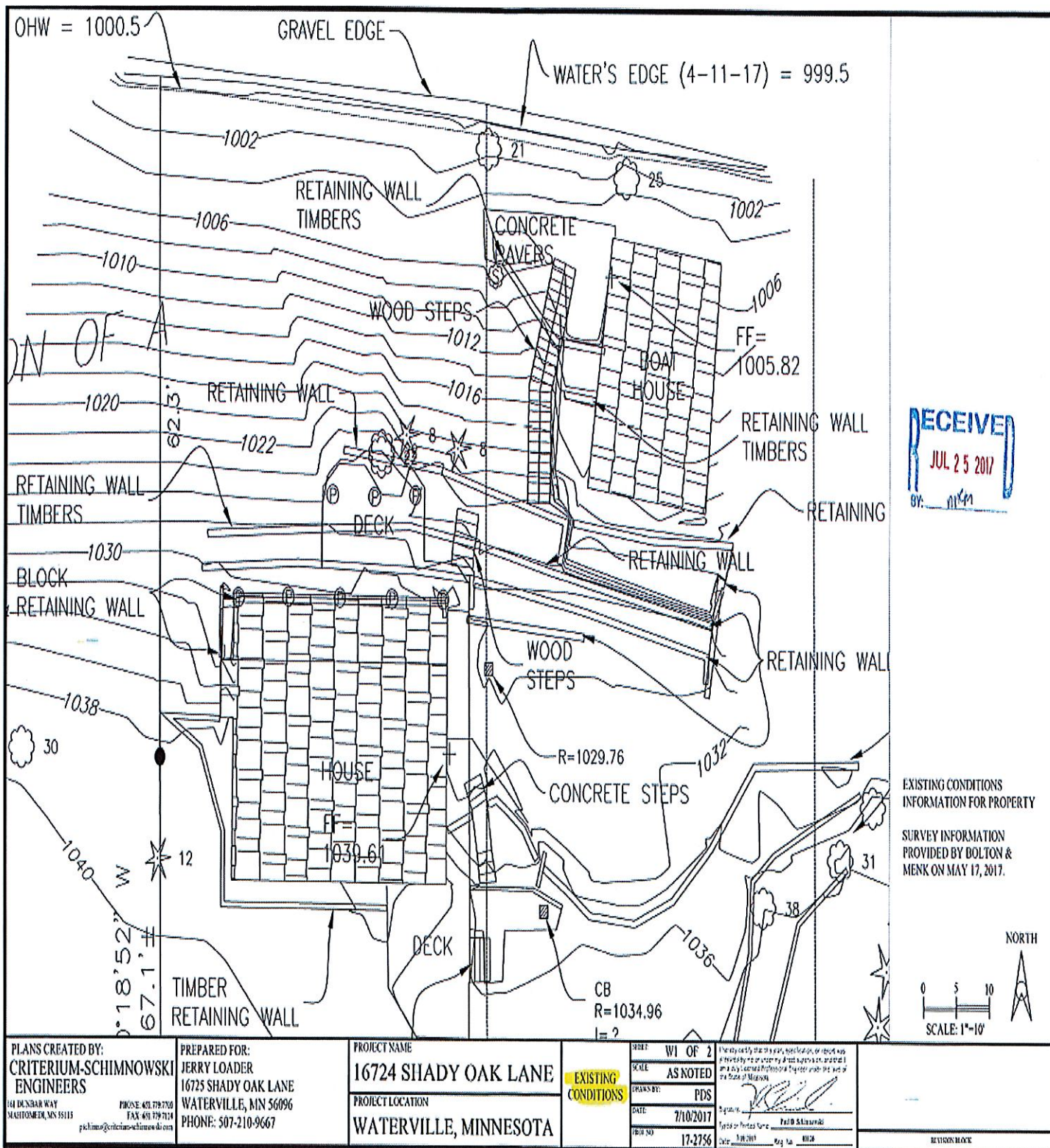
AERIAL PHOTO/SITE PLANS-EXT.PROPOSED

Aerial Photo with 2ft contours

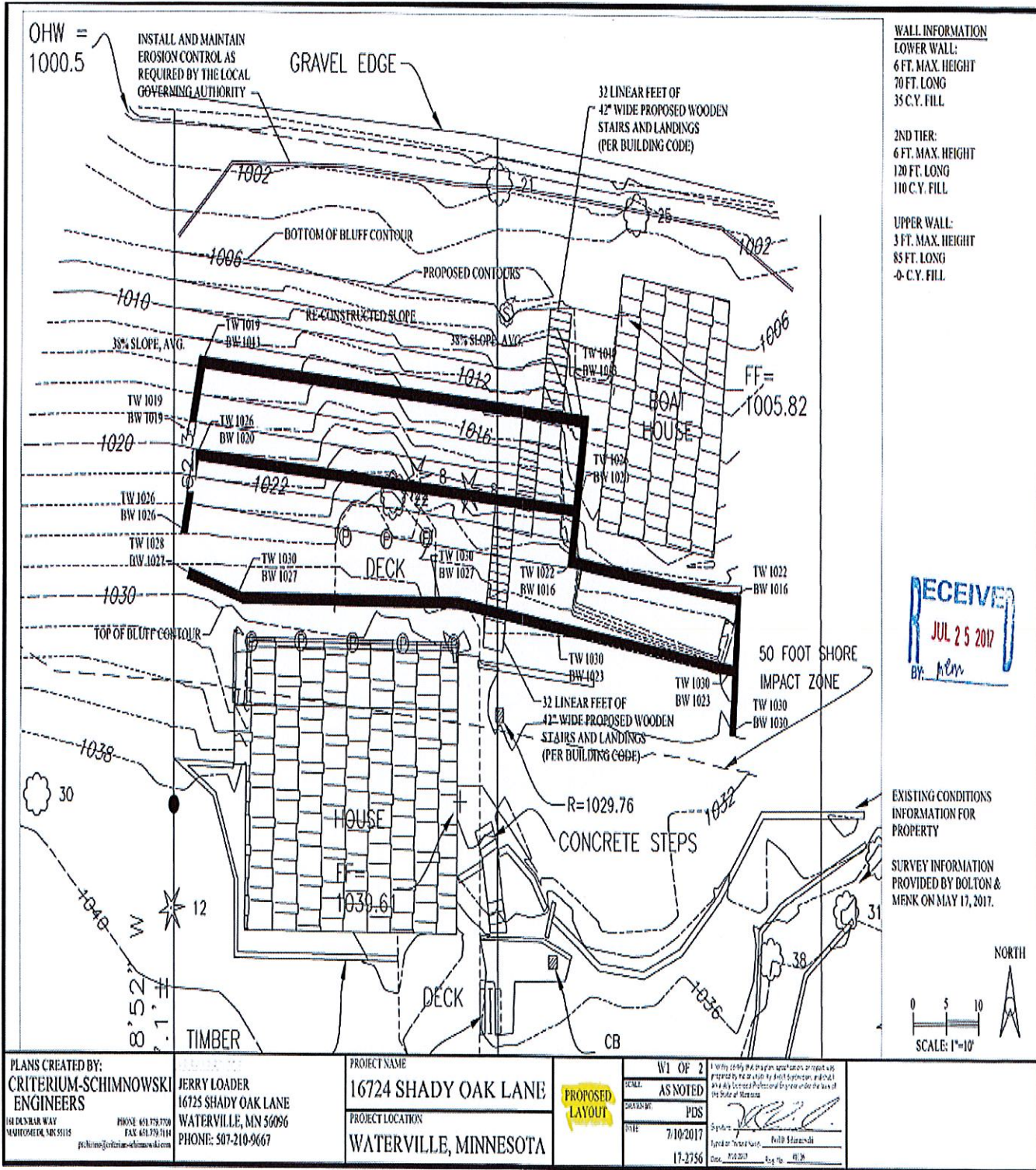




EXISTING CONDITONS:



PROPOSED CONDITIONS:



WALL INFORMATION
 LOWER WALL:
 6 FT. MAX. HEIGHT
 70 FT. LONG
 35 C.Y. FILL

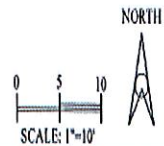
 2ND TIER:
 6 FT. MAX. HEIGHT
 120 FT. LONG
 110 C.Y. FILL

 UPPER WALL:
 3 FT. MAX. HEIGHT
 85 FT. LONG
 0-C.Y. FILL

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 BY: [Signature]

EXISTING CONDITIONS
 INFORMATION FOR
 PROPERTY

 SURVEY INFORMATION
 PROVIDED BY DOLTON &
 MENK ON MAY 17, 2017.



PLANS CREATED BY:
**CRITERIUM-SCHIMNOWSKI
 ENGINEERS**
 64 DUNDAS WAY
 WATVILLE, MN 56185
 PHONE: 612.779.7700
 FAX: 612.779.7114
 pschirm@crits-engineers.com

JERRY LOADER
 16725 SHADY OAK LANE
 WATVILLE, MN 56096
 PHONE: 507-210-9667

PROJECT NAME
16724 SHADY OAK LANE
 PROJECT LOCATION
WATVILLE, MINNESOTA

W1 OF 2
 SCALE: AS NOTED
 DESIGN BY: PDS
 DATE: 7/10/2017
 17-2756

PLANNING AND ZONING COMMISSION CONSIDERATIONS

The Planning Commission and staff shall consider possible adverse effects of the proposed conditional use and what additional requirements may be necessary to reduce such adverse effects. Its judgment shall be based upon the following factors to include, but not limited to:

1. Relationship to County plans.
2. The geographical area involved.
3. Whether such use will negatively affect surrounding properties in the area in which it is proposed.
4. The character of the surrounding area.
5. The demonstrated need for such use.
6. Whether the proposed use would cause odors, dust, flies, vermin, smoke, gas, noise, or vibration or would impose hazards to life or property in the neighborhood.
7. Whether such use would inherently lead to or encourage disturbing influences in the neighborhood.
8. Whether stored equipment or materials would be screened and whether there would be continuous operation within the visible range of surrounding residences.
9. Abatement of Environmental Hazards as regulated in this Ordinance
10. Other factors impacting the public health, safety and welfare.

PLANNING AND ZONING COMMISSION CONDITIONS

The Planning Commission shall recommend such conditions relating to the granting of said Conditional Use Permit, as they deem necessary to carry out the intent and purpose of this Ordinance or recommend that the request be denied. Such recommendation shall be in writing. The conditions may include, but are not limited to the following:

1. Increasing the required lot size or yard dimension.
2. Limiting the height, size, or location of the structures.
3. Controlling the location, size, and number of vehicle access points.
4. Increasing the street width.
5. Increasing the number of required off-street parking space.
6. Limiting the number, size, location, or lighting of signs.
7. Requiring diking, fencing, screening, landscaping or other facilities to protect adjacent or nearby property.
8. Designating sites for open space.

PLANNING AND ZONING COMMISSION FINDINGS

Based on the information submitted by the applicant, contained in this report, and as required by the Le Sueur County Zoning Ordinance, the following findings have been developed for this request:

(Please circle one for each item: Agree, Disagree, Not Applicable.)

1. *The conditional use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminishes and impairs property values within the immediate vicinity.*
2. *The establishment of the conditional use will not impede the normal and orderly development and improvement of surrounding vacant property for uses predominant in the area.*
3. *Adequate utilities, access roads, drainage and other facilities have been or are being provided.*
4. *Adequate measures have been or will be taken to provide sufficient off-street parking and loading space to serve the proposed use.*
5. *Adequate measures have been or will be taken to prevent and control offensive odor, fumes, dust, noise and vibration, so that none of these will constitute a nuisance, and to control lighted signs and other lights in such a manner that no disturbance to neighboring properties will result.*
6. *Is the Conditional Use Permit consistent with and supported by the statement of purposes, policies, goals and objectives in the Ordinance?*
7. *Is the Conditional Use Permit consistent with the Comprehensive Land Use Plan?*

Recommend (circle one) approval / denial / table / of Conditional Use Permit.

LE SUEUR COUNTY CONDITIONAL USE PERMIT CRITERIA

Conditional Use Permit #: 17176

Applicant: JERRY & CAROLINE LOADER

Land Owner: JERRY & CAROLINE LOADER

Conditional Use Permit Request: TO ALLOW THE APPLICANT 145 CY GEF; CONSTRUCT RETAINING WALLS
LOCATED WITHIN THE BLUFF: within SJZ + Bluff

1. The conditional use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminishes and impairs property values within the immediate vicinity.

Al	Don Rk	Don Ry	Jeanne	Doug	Shirley	Pam	TOTAL

Explain _____

2. The establishment of the conditional use will not impede the normal and orderly development and improvement of surrounding vacant property for uses predominant in the area.

Al	Don Rk	Don Ry	Jeanne	Doug	Shirley	Pam	TOTAL

Explain _____

3. Adequate utilities, access roads, drainage and other facilities have been or are being provided.

Al	Don Rk	Don Ry	Jeanne	Doug	Shirley	Pam	TOTAL

Explain _____

4. Adequate measures have been or will be taken to provide sufficient off-street parking and loading space to service the proposed use.

Al	Don Rk	Don Ry	Jeanne	Doug	Shirley	Pam	TOTAL

Explain _____

5. Adequate measures have been or will be taken to prevent and control offensive odor, fumes, dust, noise and vibration, so that none of these will constitute a nuisance, and to control lighted signs and other lights in such a manner that no disturbance to neighboring properties will result.

Al	Don Rk	Don Ry	Jeanne	Doug	Shirley	Pam	TOTAL

Explain _____

6. The conditional use is consistent with and supported by the statement of purposes, policies, goals and objectives in the Ordinance.

Al	Don Rk	Don Ry	Jeanne	Doug	Shirley	Pam	TOTAL

Explain _____

7. The conditional use is consistent with the Comprehensive Land Use Plan.

Al	Don Rk	Don Ry	Jeanne	Doug	Shirley	Pam	TOTAL

Explain _____

If all answers are "YES" by a majority of the Planning Commission, the criteria for granting of the Conditional Use Permit request have been met. The Conditional Use Permit will meet the goals of safety, health and the general welfare of the public.

Date: _____ APPROVED _____ DENIED _____ PZ Chairperson _____

COUNTY BOARD MEETING DATE _____

Le Sueur County

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Conditional Use Application-Grading, Excavating & Filling

Activities that involve topographic alterations in all districts shall conform to the standards in Section 18 of the Le Sueur County Zoning Ordinance. Activities within a shoreland district shall conform to the standards in Section 13 of the Le Sueur County Zoning Ordinance.

In addition any activities in any type wetland shall be evaluated in accordance with the Wetland Conservation Act (WCA) regulations, as administered by the Le Sueur County Soil & Water Conservation District (SWCD).

I. Applicant:

Name JERRY R. LOADER CAROLINE K. LOADER
Mailing Address 16724 SHADY OAK LANE
City WATERVILLE State MN Zip 56096
Phone # 507-210-9666 Phone # 507-210-9667

II. Landowner:

Name JERRY R. LOADER CAROLINE K. LOADER
Mailing Address 16724 SHADY OAK LANE
City WATERVILLE State MN Zip 56096
Property Address 16724 SHADY OAK LANE
City WATERVILLE State MN Zip 56096
Phone # 507-210-9666 Phone # 507-210-9667

III. Parcel Information:

Parcel Number R14.420.0150 Parcel Acreage .4878
Attach Full Legal Description (NOT abbreviated description from tax statement)
Township WATERVILLE 109N Section 28
Subdivision 344 PUD SD Lot 14-15-16 Block _____
- mrm

IV. Township Notification: Township must be notified of proposed use prior to application.

WATERVILLE Township notified on 6-8-2017
(Township Name) (Date)
Board Member JUDY HERING regarding the proposed use.
(Name)

V. Quantities and Submittal Formats:

- a. One (1) reproducible 8.5" x 11" copy of the request and all other supporting documents.
- b. Twenty Three (23) copies must be submitted, if any documents are in color, an aerial, or larger than 8.5" x 11" in size.
- c. Electronic version of any supporting documents *if available*.
- c. Additional copies may be requested as deemed necessary by the Department.
- d. **Application must be made in person** by the applicant and/or landowner no later than 12 P.M. on the date of application deadline.
- e. **Appointment is necessary.**
- f. **Applications will not be accepted by mail.**

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vi. Fees: must be paid at the time of application.

Conditional Use Permit \$ 750 After-The-Fact fee is doubled.
 Filing Fee \$ 46

Additional Fees:

Special Meeting \$ 2,000
 After-The-Fact Penalty \$ 1,500 OR 10% of improvement, whichever is greater

VII. Type of Request: Grading, Excavating or Filling.

Non-Shoreland Cubic yards of material movement: _____
 Within Bluff Impact Zone Cubic yards of material movement: _____
 Within Bluff Cubic yards of material movement: _____
TOTAL cubic yards of material movement: _____

Shoreland- Outside Shore Impact Zone Cubic yards of material movement: _____
 Within Shore Impact Zone Cubic yards of material movement: 145 mem
 Within Bluff Impact Zone Cubic yards of material movement: _____
 Within Bluff Cubic yards of material movement: 50-145 mem
TOTAL cubic yards of material movement: 145 mem

Assurance security shall be required for projects that are >1500 cubic yards.

VIII. Description of Request:

- a. A full description of request with detailed information including what operations are to occur and what general types of equipment may be used in the operation must be attached.
- b. Complete the following in relationship to the proposed Conditional Use Permit.

1. ENVIRONMENTAL IMPACT: _____
2. ADVERSE IMPACT ON SURROUNDING AREAS: _____
3. STORMWATER RUNOFF: _____
4. DOES ANY PART OF THE PROJECT EXTEND BELOW OHWL: _____
5. WETLAND IMPACT: _____
6. SLOPE STABILITY: _____
7. CERTIFICATE OF INSURANCE: _____
8. MEET ALL APPLICABLE COUNTY STATE & FEDERAL REGULATIONS:
 (For example additional licensing and/or permitting) _____

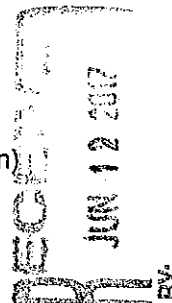
IX. Site Plan: Shall include but not limited to the following:

- Parcels < 5 AC** = 2-foot contours depicting existing and proposed topography.
- **Parcels 5-20 AC** = 5-foot contours depicting existing and proposed topography.
- **Parcels >20 AC** = 10-foot contours depicting existing and proposed topography.
- Location of grading, excavating, and/or filling sites. *SEE SITE PLAN*
- Location of areas for obtaining fill or disposing of excavated materials.
- Tree inventory of all trees, indicating trees to be cut or removed.
 (Caliper of 6 inches or greater measured 4.5 feet from ground level).

- North point
- Setbacks
- Property Lines
- Road Right-Of-Way
- Landscape, screening and buffering
- Lake
- River
- Wetland
- Stream
- Existing Structures
- Proposed Structures
- Lot Dimensions
- Ponds
- Septic system
- Well
- Access (size & location)
- Easements
- Drainage

• Site plan & As-Built must be completed by a surveyor or professional engineer.

Bluff
 Bluff Impact Zone (30')
 OHWL
 Shore impact zone (50')



X. Restoration Plan: Shall include but not limited to the following:

- Areas of restoration shall include the application of a minimum of 4 inches of topsoil or similar material that will support plant growth. *(Must be included in cubic yards calculation of material.)*
- Reseeded areas indicated with type of vegetation. *(Shall meet minimum standards by the SWCD)*
- Tree replacement plan. *(Areas located within the Bluff Impact Zone, Bluff, Shoreland & Conservancy Distircts)*
 - Root zone of existing trees shall be preserved and protected during development.
 - Replace one tree for every tree that is removed.
 - Replacement trees shall have a minimum caliper of 2 inches at 4.5 feet from ground level.

XI. Attachments: Shall include but not limited to:

- NA -
- a. **Description of Request**-See Part VIII for full details and requirements.
 - b. **Site Plan**-See Part IX for full details and requirements.
 - c. **Full Legal Description**-Not abbreviated description from tax statement.
 - d. **Access approval**-Attach approval in writing from proper road authority.
 - e. **Township Notification**-See Part IV for details and requirements.
 - f. **Septic System Compliance Inspection**
 - g. **Erosion Control Plan**-Attach completed and signed plan including map.
 - h. **Restoration Plan**-See Part X for full details and requirements.
 - i. **Approved Stormwater Pollution Prevention Plan**
-Must meet NPDES requirements and prepared by a licensed professional engineer.

XII. Procedure:

The Planning & Zoning Commission shall hold a public hearing on the proposed Conditional Use Permit at a scheduled Planning and Zoning Commission meeting.

The Planning and Zoning Commission is an advisory board to the County Board of Commissioners and will make a recommendation to the County Board.

The Department shall report the findings and recommendations of the Planning Commission to the County Board for final decision.

Action by the County Board shall be a majority vote of its members.

The Department shall notify the applicant and/or landowner in writing of the County Board decision.

A certified copy of the Conditional Use Permit shall be filed with the Le Sueur County Recorder by the Department.



XIII. Signatures:

I hereby certify with my signature that all data contained herein as well as all supporting data are true and correct to the best of my knowledge.

Joseph Leader Carolin K. Hoade
 Applicant signature 6-10-17
 Date

I hereby certify with my signature that all data contained herein as well as all supporting data are true and correct to the best of my knowledge.

Joseph Leader Carolin K. Hoade
 Property Owner signature 6-10-17
 Date

Request: **GRADING, EXCAVATING & FILLING**

Non-Shoreland

- Within Bluff Impact Zone
- Within Bluff

Cubic yards of material movement: _____
 Cubic yards of material movement: _____
 Cubic yards of material movement: _____

TOTAL cubic yards of material movement: _____

Shoreland - Outside Shore Impact Zone

- Within Shore Impact Zone
- Within Bluff Impact Zone
- Within Bluff

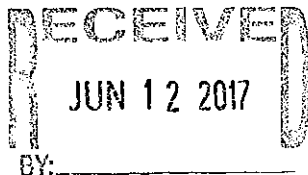
Cubic yards of material movement: _____
 Cubic yards of material movement: 145
 Cubic yards of material movement: _____
 Cubic yards of material movement: 145

TOTAL cubic yards of material movement: 145

Pre-App Date 7-19-17 Lake Classification RD Feedlot 500' 1000' N
 Meeting Date 8-10-17 Lake Teton Co Wetland Type 1-2 3-8 N
 60 Day 8-11-17 FEMA Panel # 27079C0 430 D Water courses Y N
 Zoning District RL Flood Zone AE 100 Bluff Y N

- Request Description 4-20-17 Access Approval Septic Comp Insp Design COC 6-3-16
- Site Plan 7-10-17 Erosion Control Plan Meeting Reg / ATF / Spec
- Full Legal Engineer's Cert 7-10-17 Fee \$ 796-
- Ordinance Other _____ Penalty \$ _____

Application Complete Michelle R Mettler 7-19-17 17176
 Planning & Zoning Department Signature Date Permit #



Description of Request

a. The basis for this conditional use permit application is to replace a substantial retaining wall system that is failing because of age, and most importantly, the catastrophic 11 inch rainfall and flooding of late summer 2016. The failure of the existing retaining wall system is currently threatening the integrity of both our home and boathouse. We will be replacing old railroad tie walls with concrete segmental block in a manner consistent with a survey and an engineered site plan. This project will be completed with use of a skid loader and mini-excavator.

b. Regarding:

1.Environmental Impact:

The environmental impact will be limited to a minimum. All efforts will be undertaken to maintain the integrity of the environment. Silt fencing and other comparable devices will be used to prevent erosion and silting. The intent in this project is to create an improved environmental entity. A sincere effort will be made to follow all guidelines.

2. Adverse Impact on Surrounding Areas:

There will be no adverse impact created as a result of this project. The closest property owner, occasional users, are at a distance of 40 feet from the project. The other adjacent property is in excess of 110 feet. The physical environmental quality will be maintained and improved.

3. Stormwater Runoff:

Stormwater runoff will be very closely monitored. Limited excavation will be accompanied with the use of appropriate erosion control materials including the use of silt fencing and related materials. The construction will be performed on small increments of land as to limit erosion and siltation. Rain gardens and French drain systems will be developed upon demand.

4. Does Any Part of the Project Extend Below OHWL?

No, This Project begins at an elevation 4-5 feet above the OHWL.

5. Wetland Impact

There will be no wetland impact, as there are no wetlands within or near the location of this project.

6. Slope Stability

This project is exclusively about slope stability. Earlier concerns about this project were in reference to being proactive. Following the 11 inch rain of 2016 we find ourselves being more reactive to the situation of bluff erosion and the integrity of our bluff home. This project involves the replacement of old railroad ties installed in the 1970's and 1980's that are failing as discussed earlier. The site has been surveyed by Bolton and Menk Surveyors and the site plan completed by Schimnowski Engineers of Mahtomedi, Mn. The segmental block will be provided by Versa-Lok Concrete Products of Faribault, Mn. Along with the segmental block there will be used geogrid reinforcement along with drainage aggregate and drain tile.

7. Certificate of Insurance

Chris Meskan, DBA Castle Gardens, has provided proof of insurance. A copy is included.

Restoration Plan:



The plan for restoration of the project site will involve the replacement of appropriate top soil that will support plant growth of native types as well as domestic types. The area of concern typically supports lush vegetation and is expected to return to that state. Reseeded areas will be planted with ferns, switchgrass, and other grasses in addition to varieties of hostas and other soil binding types to be determined by the landscape company. Concerning the tree replacement plan, only one or two of any size will be removed and replaced by trees of appropriate size, caliper of 2 inches at 4,5 feet above ground. The roots of those removed will remain for soil binding. Plants chosen, will be of types with both types of root systems, tap and diffuse, and will be efficient at transpiring water. We understand the significance of using plants also to make the segmental block retaining wall less conspicuous.

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b. Regarding:

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Description of Request Addendum

The basis for this conditional use permit application is to replace a substantial retaining wall system that is seriously failing. There are basically 9 walls that are failing. They are as follows:

- A. 16 ft. L X 40" H
- B. 5 ft. L X 30" H
- C. 34 ft. L X 4' H
- D. 24 ft. L X 12' H
- E. 76 ft, L X 16" H
- F. 78 ft. L X 2' H
- G. 18 ft. L X 1' H
- H. 10 ft. L X 6' H
- I. 14 ft. L X 5' H

The failure of the existing retaining wall system is currently threatening the integrity of both our home and boathouse.

The proposal is to remove the old railroad tie walls and replace them with segmental retaining wall block. We will implement this proposal by way of a site survey, and architectural site plan, and the services of a landscape contractor. Versa-Lok Company will be providing the materials for this project.

This project will be completed with the use of a skid loader and a mini-excavator.

The replacement retaining wall system will include the following retaining walls with their descriptions as follows:

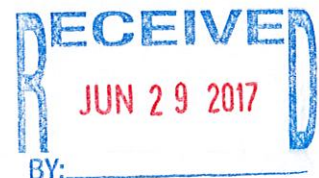
Wall #1 Elevation 1013 ft. will be 70 ft. long & 6 ft. high.

Wall #2 Elevation 1020 ft. will be 120 ft. long and 6 ft. high and extend to a total of 10 ft. in height on the off set extension to the East, behind boathouse.

Wall #3 Elevation 1027 ft. will be 85 ft. long and 3 ft. high.

The badly deteriorated wooden stairs from the house to the boathouse will be replaced with new wooden stairs constructed as follows:

The stringers, treads, and posts will be constructed of a treated wood material. The total length of the stairway will be 32 feet and the width will be 42 inches. The stringers will be constructed of 2' x 12" lumber and there will be 4 used for each staircase. The risers will be 7" in height, and the tread depth will be 11", toe to toe using 2 2X6s X 42" on each set of risers. The 4x4 posts will be anchored to concrete in the sono-tubes using metal brackets and J bolts, and will be placed at a maximum distance of 6 ft. from one another. There will be 10 posts supporting the 3 staircases. There will be 3 landings, the lower 2, with the dimension of 4 ft. deep and 7 ft. wide, and the upper one at a dimension of 4 ft. square. The handrails, located on both sides of stairways with finger recessions, will be mounted



vertically at a height of 34" above the nosing of the stair treads. Spindles, (baluster posts) will be set at a spacing of 5" on center. The 10 sono-tubes will be 12" in diameter by 48" in length and will be filled with concrete requiring the removal of a total of 1.16 cubic yards of soil of the total of 145 cubic yards of soil for the entire project.

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Subject:

7-10-17 Description of Request Addendum 2

Regarding what will be removed in the reconstruction of the retaining walls:

a. Walls: All existing retaining walls as described in the first addendum will be replaced with segmental retaining wall block provided by Versa-Lok Company.

b. Trees: The larger ash tree located off the north end of the deck will be removed as it will compromise the integrity of the proposed walls. There are two spruce trees adjacent to the deck also that may need to be replaced for the same reason. We will attempt to salvage them. Any other small trees that need to be removed will be replaced.

c. Existing Stairs: All existing stairs, because they are failing and unsafe, will be replaced as per addendum #1. There description is as follows:

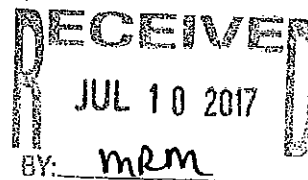
They are a total of 40 feet in length with two sections:

a. Boathouse level to retaining wall labeled "C" on survey equal 29 feet in length, and include 28 risers.

b. Wall labeled "C" to ground level of house on survey equals 11 feet in length, including 9 risers.

These stairs are supported by decaying 4 inch treated posts.

The deck as shown on the survey and site plan will remain, and will be supported by three footings using sonotubes 16 inches in diameter X 48 inches in length using steel brackets and "J" hooks supporting the three steel posts. This system will be integral part of the new retaining wall system with its terraces. Footings will be located at the 1024 foot contour level.



CRITERIUM[®] SCHIMNOWSKI ENGINEERS

CRITERIUM-SCHIMNOWSKI ENGINEERS
161 DUNBAR WAY
MAHTOMEDI, MN 55115
TEL 651 779-7700
FAX 651 779-7114
www.criterium-schimnowski.com

June 12, 2016

Jared Kanz
Versa-Lok Retaining Wall Systems
6348 Highway 36, Suite 1
Oakdale, MN 55128

RE: PRELIMINARY Segmental Retaining Wall Typical Section
17624 Shady Oak Lane
Waterville, Minnesota
Project No. 16-2209

Dear Mr. Kanz:

This letter includes preliminary details regarding the attached design typical engineered section for the segmental retaining walls at the above location. This design is based on a wall layout plan provided by you on June 3, 2016. Additional information requested by Criterium-Schimnowski Engineers but not available includes: geotechnical site survey and soil data.

The attached typical section(s) should be referenced for possible construction details. Special note should be made of the wall embedment depth and the geosynthetic fabric (geogrid) length as measured from the front face of the wall, if applicable. Refer to Versa-Lok Retaining Wall Systems Standard Specifications for installation information and details.

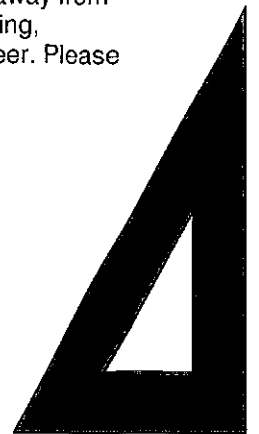
The design of the wall system assumes the following:

- Location: Slope between shoreline and house
- Height: 25 feet, total height change
- Minimum embedment depth = 6" min.
- Soil conditions: Sand, friction angle = 30.0 degrees, unit weight of 120.0 lb/ft³
- Allowable soil bearing capacity = 2,000 psf
- No traffic surcharge loading
- 10:1 maximum slopes at top and bottom
- Block Type: Versa-Lok 6" Standard
- Geosynthetic Fabric Type: Versa-Grid 3.0
- Drainage pipe: Required

This wall has not been designed for ground water surcharge loads. Direct all surface drainage away from the wall. Methods to do so include but are not limited to the following: drainage swale, site grading, retention ponds, etc. Details of water control are left to the wall contractor or the site civil engineer. Please contact Criterium-Schimnowski to provide additional site assessment services if desired.

**LICENSED
PROFESSIONAL
ENGINEERS**

HOME & BUILDING INSPECTIONS
STRUCTURAL EVALUATIONS
ASSOCIATION RESERVE/TRANSITION STUDIES
RESIDENTIAL/COMMERCIAL
RETAINING WALL DESIGN & EVALUATIONS



The preliminary wall design was performed using the design guidelines presented in the third edition of the "Design Manual for Segmental Retaining Walls" (DMSRW) published by NCMA in 2009. If soil conditions, proposed wall layouts, or other design parameters vary from that assumed, a revised analysis may be needed. Please call me if you have any questions or need more information. Thank you.

Sincerely,



Paul Schimnowski

CRITERIUM - SCHIMNOWSKI ENGINEERS
TEL 651 779-7700



DESIGN PROVISIONS:

1. REFER TO VERSA-LOK RETAINING WALL SYSTEMS SPECIFICATIONS FOR SEGMENTAL RETAINING WALL UNITS AS THEY ARE INTEGRAL TO THESE PLANS.
2. SEE PRODUCT MANUFACTURER INSTALLATION RECOMMENDATIONS FOR CONSTRUCTION SEQUENCE AND INSTALLATION NOTES.
3. THE DESIGN OF THIS RETAINING WALL SYSTEM WAS BASED UPON THE EFFECTIVE STRENGTH PARAMETERS SHOWN ON THE "SOIL VALUES" TABLE. UNLESS OTHERWISE NOTED, NO FORMAL SOIL INFORMATION WAS PROVIDED BY THE OWNER OR OWNER'S REPRESENTATIVE. IF SOIL CONDITIONS VARY AT TIME OF CONSTRUCTION, WALL ENGINEER MUST BE CONTACTED TO DETERMINE IF A REVISED DESIGN IS NEEDED.
4. THE WALL DESIGN WAS BASED ON THE INFORMATION NOTED IN THE LETTER ABOVE.
5. REFER TO WALL CALCULATIONS FOR BEARING CAPACITY REQUIREMENTS.
6. NO PRODUCT/MATERIAL SUBSTITUTIONS WILL BE ALLOWED WITHOUT PRIOR WRITTEN PERMISSION OF CRITERIUM-SCHIMNOWSKI ENGINEERS.
7. FINAL SITE GRADES AND ROOF DRAINS SHALL DIRECT RUNOFF AWAY FROM ANY RETAINING WALL(S). UNLESS OTHERWISE NOTED, THE WALL(S) HAS NOT BEEN DESIGNED FOR HYDROSTATIC SURCHARGE LOADING.
8. THE WALL DESIGN WAS PERFORMED USING DESIGN GUIDELINES PRESENTED IN THE THIRD EDITION OF THE "DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS" PUBLISHED BY NCMA.

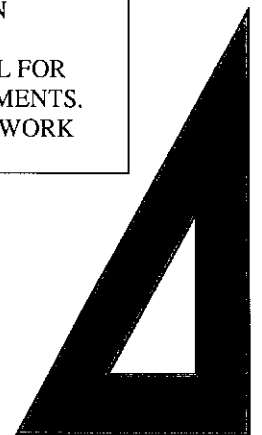
DESIGN LIMITATIONS:

1. THE INFORMATION PROVIDED WITHIN THESE DOCUMENTS IS FOR THE STRUCTURAL DESIGN OF THE PROPOSED RETAINING WALL(S) ONLY. THE REQUIREMENTS FOR AND/OR WORK RELATED TO HANDRAILS, GUARDRAILS, OR OTHER LIFE/SAFETY ISSUES ARE EXCLUDED FROM THESE DOCUMENTS AND ARE TO BE PROVIDED BY OTHERS.
2. SITE LAYOUT AND GRADING DESIGN ARE NOT INCLUDED IN WALL DESIGN SERVICES. THOSE SERVICE ARE THE RESPONSIBILITY OF THE SITE CIVIL ENGINEER.
3. INTERNAL COMPOUND STABILITY (ICS) HAS BEEN CALCULATED FOR THIS PROJECT BY CRITERIUM. HOWEVER, ICS IS NOT A SUBSTITUTE FOR A GLOBAL STABILITY ANALYSIS WHICH SHOULD BE PERFORMED BY A QUALIFIED GEOTECHNICAL ENGINEER. ADDITIONAL SUBSURFACE EXPLORATION MAY BE REQUIRED.

SUGGESTED QUALITY ASSURANCE REQUIREMENTS:

1. A QUALIFIED ENGINEER OR TECHNICIAN SHALL SUPERVISE THE WALL CONSTRUCTION TO VERIFY SITE SOIL CONDITIONS. IF THE PROJECT GEOTECHNICAL ENGINEER DOES NOT PERFORM THIS WORK, A QUALIFIED GEOTECHNICAL ENGINEER/TECHNICIAN SHALL BE HIRED TO ASSURE THE RETAINING WALL IS CONSTRUCTED WITH PROPER SOIL PARAMETERS.
2. A QUALIFIED GEOTECHNICAL ENGINEER SHALL BE CONSULTED TO VERIFY THE SUITABILITY OF DESIGN ASSUMPTIONS MADE BY CRITERIUM.
3. WALL EXCAVATION AND SOILS SHALL BE INSPECTED FOR GROUNDWATER CONDITIONS. THE GEOTECHNICAL ENGINEER SHALL DETERMINE ADDITIONAL DRAINAGE PROVISIONS TO BE INCORPORATED INTO THE WALL DESIGN.
4. THE WALL DESIGN ENGINEER SHALL BE HIRED TO PERFORM A PRE-CONSTRUCTION SITE VISIT.
5. THE WALL DESIGN ENGINEER CAN BE HIRED FOR CONSTRUCTION OBSERVATION SERVICES.
6. THE WALL CONTRACTOR IS RESPONSIBLE FOR MAINTAINING QUALITY CONTROL FOR THE CONSTRUCTION OF THE WALL IN ACCORDANCE WITH CONTRACT REQUIREMENTS.
7. SEE PROJECT CONTRACT DOCUMENTS FOR SPECIFIC DETAILS ON THE SCOPE OF WORK THAT WILL BE PROVIDED BY ALL PARTIES.

CRITERIUM - SCHIMNOWSKI ENGINEERS
TEL 651 779-7700

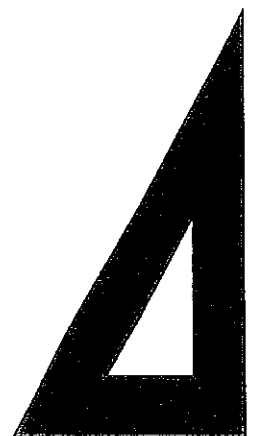


TERMS AND CONDITIONS

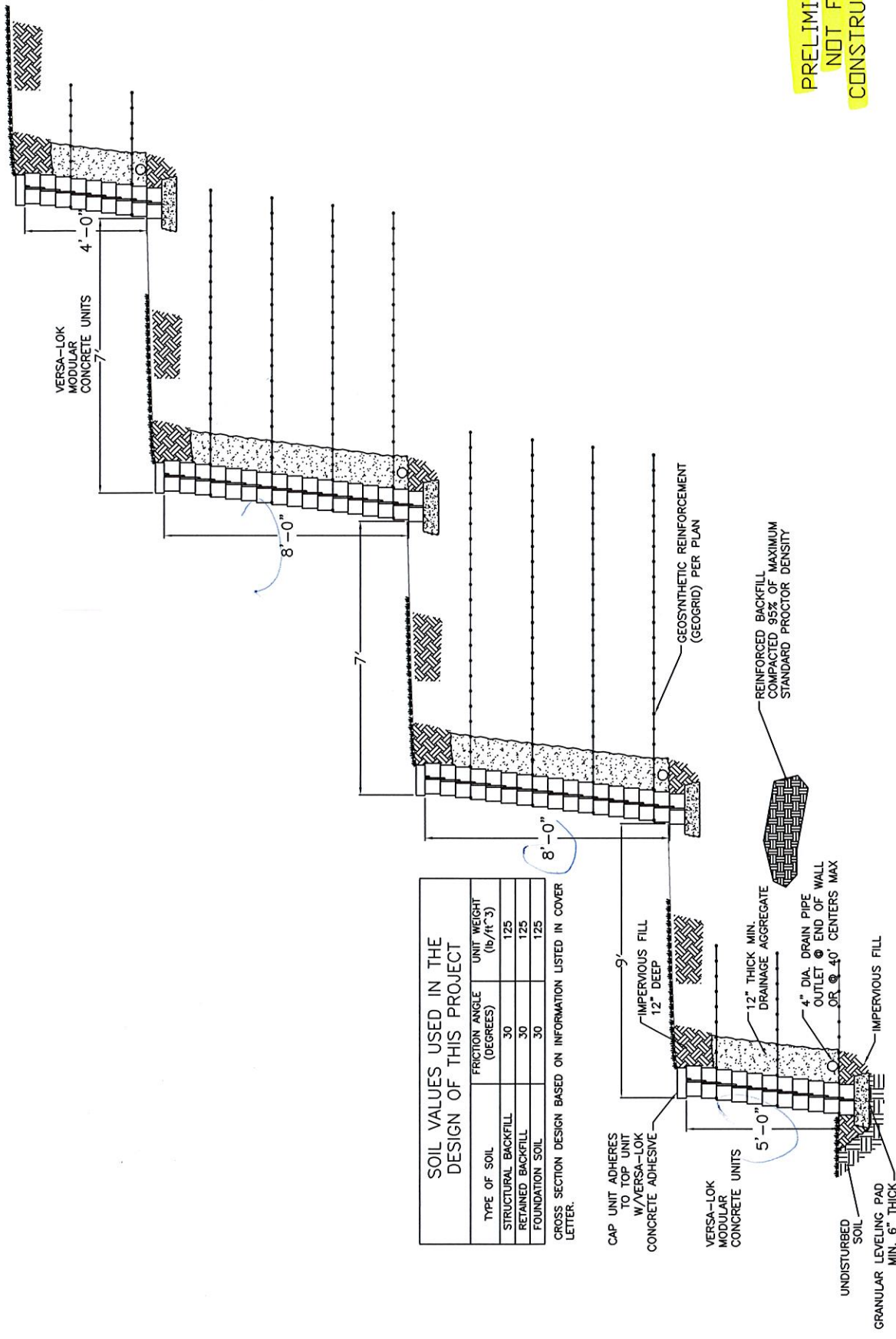
This WALL DESIGN and ensuing recommendations is expressly made subject to the following terms and conditions to which all persons that receive and rely thereon agree:

1. Standard of Service – Services performed by ENGINEER under this agreement shall be performed in a manner consistent with the skill and care ordinarily used by members of the engineering profession practicing under similar conditions at the time and in the locality the services are performed.
 - Client recognizes that interpretations and recommendations of ENGINEER are based solely on the information available to the company.
 - ENGINEER will be responsible for those interpretations and recommendations, but shall not be responsible for the interpretation by others of the information developed
 - Services provided reflect the professional judgment of ENGINEER, to the best of ENGINEER's knowledge, information, and belief as of the date hereof.
 - No other warranty or guarantee, express or implied, is made.
2. Said design is based entirely on and expressly limited by the scope of services ENGINEER has been employed by Client to perform and as described in WALL PROVISIONS and LIMITATIONS.
3. If the ENGINEER is hired for any construction phase services or site visits, it is understood that the Contractor, not the ENGINEER, is responsible for the construction of the project, and that ENGINEER is not responsible for the acts or omissions of any contractor, subcontractor or material supplier; for safety precautions, programs or enforcement; or for construction means, methods, techniques, sequences and procedures employed by the Contractor.
4. OWNERSHIP OF DOCUMENTS: All reports, field data, field notes, calculations, estimates and other documents ('reports') prepared by Engineer, as instruments of service, shall remain the property of Engineer. Client agrees that all reports furnished to Client or his agents, which are not paid for, will be returned upon demand and will not be used by Client for any purpose whatever. Engineer will retain all pertinent records relating to the services performed for a period of five years following submission of the report, during which period the records will be made available to Client at all reasonable times.
5. TERMINATION: This agreement may be terminated by either party by written notice. In the event of termination, ENGINEER shall be paid for services performed and expenses incurred up to the termination notice date. Neither Client nor ENGINEER may delegate, assign, sublet or transfer his/her duties or interest in this Agreement without the written consent of the other party.
6. To the fullest extent permitted by law, Client and ENGINEER (1) waive against each other, and the other's employees, officers, directors, agents, insurers, partners, and consultants, any and all claims for or entitlement to special, incidental, indirect, or consequential damages arising out of, resulting from, or in any way related to this wall design and written report, (2) agree that ENGINEER's total liability to Client shall be limited to the total amount of compensation received by ENGINEER and (3) if an action is brought against the ENGINEER and the ENGINEER prevails, ENGINEER shall be entitled to recover costs and expenses, including reasonable attorneys' fees and costs.

CRITERIUM - SCHIMNOWSKI ENGINEERS
TEL 651 779-7700



**PRELIMINARY
NOT FOR
CONSTRUCTION**



SOIL VALUES USED IN THE DESIGN OF THIS PROJECT

TYPE OF SOIL	FRICITION ANGLE (DEGREES)	UNIT WEIGHT (lb/ft ³)
STRUCTURAL BACKFILL	30	125
RETAINED BACKFILL	30	125
FOUNDATION SOIL	30	125

CROSS SECTION DESIGN BASED ON INFORMATION LISTED IN COVER LETTER.

TYPICAL SECTION TIERED REINFORCED RETAINING WALL
SCALE: NONE

Designed By: PDS	PROJECT NAME/ LOCATION: 17624 SHADY OAK LANE / WATERVILLE, MN	Date: 6/12/2016
Checked By: PDS	CLIENT: CRITERIUM-SCHIMNOWSKI ENGINEERS	Project No: 16-2209
Scale: AS NOTED	PHONE: 651.779.7700 FAX: 651.779.7114 pschimmo@criterium-schimnowski.com	Drawing Name: TIERED WALL SECTION
	VERSALOK® Retaining Wall Systems Solid Solutions™ (800)770-4525 Fax(651)770-4089 6348 Highway 36, Suite 1 Oakdale, MN 55128	

LE SUEUR COUNTY ENVIRONMENTAL SERVICES
88 SOUTH PARK AVE.
LE CENTER, MINNESOTA 56057-1620
(507) 357-2251
FAX (507) 357-8541

Erosion and Sediment Control Plan

Goal: To control erosion and prevent sediment and other pollutants from entering the lakes, streams, wetlands, and storm drain systems during construction.

Property Owner: Jerry + Caroline Loader PID: _____
Mailing Address: 16724 Shady Oak Ln. Waterville, Mn 56096
Property Address: 16724 Shady Oak Ln. Waterville Mn 56096
Phone: (507) 362-8924 Mobile/Cell: (507) 210-9666 or 9667

Responsible party for Implementation/Inspection: Chris Meskan
Address: 115 Herbert St. S. Waterville, Mn 56096
Phone: () Mobile/Cell: (507) 491-9303

Erosion & Sediment Control Measures

1. Maintain existing vegetation whenever possible and minimize the area of disturbance. Retain and protect trees to enhance future landscaping efforts and to reduce raindrop impact. (Vegetation is the best and most cost-effective erosion control practice).
2. Install all erosion and sediment control practices prior to any soil disturbing activities, when applicable.
3. Phase construction activities to minimize the areas disturbed at one time. This will also allow completed areas to be stabilized and re-vegetated before disturbing adjacent sites.
4. Maintain and protect all natural waterways. Retain at least a 20-foot wide strip of natural vegetation along all waterways to filter out sediment and other pollutants.
5. Minimize the use of impermeable surfaces such as roofs, driveways, parking lots and roads. The Environmental Resources staff must approve all storm water runoff plans.
6. Use rock rip-rap at both the outlet and inlet ends of culverts to prevent scour erosion.
7. Limit construction equipment to designated areas to control soil compaction.
8. Install silt fence on the down-slope perimeter of all disturbed areas according to the attached installation instructions. Sensitive areas such as wetlands, drainage swales and shoreland areas should also be protected with silt fence.
9. Install straw bale checks or rock check dams in areas of concentrated flow .
10. Cover any stockpiled topsoil with plastic or other impervious covering. Use stockpiled topsoil as earthen berms to serve as temporary sediment basins.



11. Mulch all disturbed areas at the rate of one 50-pound bale of straw per 500 square feet. On slopes 4:1 or steeper use the following erosion control blankets that have been pinned to the slope according to the manufacturer's instructions:

2:1 slopes or steeper	Straw/Coconut Blanket or High Velocity Wood Blanket
3:1 slopes or steeper	Wood or Straw Blanket with net on both sides
4:1 slopes or steeper	Wood or Straw Mulch blanket with net on one side
Flat areas	Straw Mulch w/disc anchoring

12. Seed all disturbed areas within seven days of final grading and temporary seed/mulch all areas that will be left inactive for more than seven days. Do not seed later than September 1st. Areas that need to be seeded after this date should be dormant seeded in late October or early November. See the attached instruction sheet for recommended mixtures and rates. The use of native plant materials, including trees and shrubs, is encouraged. Native species will provide good vegetative cover that is adapted to our soils and climate.

13. Apply fertilizer according to soil test recommendations.

14. Install water bars on access roads to prevent concentrated water from flowing down the road and eroding gravel.

15. Attach a site map showing the location of all erosion control practices, property lines, roads, lakes, watercourses, wetlands, on-site systems and building locations.

Note: To reduce mud transported onto paved roads, a rock construction entrance may be required. This will require a six-inch layer of 1-2 inch diameter washed rock a minimum of 50 feet in length.

Inspection and Maintenance

16. Inspect the construction site every 7 days and within 24 hours after every rain event to ensure the practices are working properly (i.e. silt fences, water bars).

17. Clean out the silt fences when they are 1/3 full of sediment or replace with functional silt fences within 24 hours.

18. Clean out sediment basins on a regular basis to maintain capacity.

I agree to install, inspect and maintain the above practices to accomplish the goal of preventing erosion.

Josephine Spader

(Property Owner)

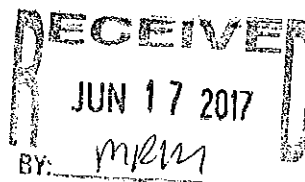
6-10-17
(Date)

Chris Muck

(Person Responsible for Implementation)

6-10-17
(Date)

If you have any questions, please contact Environmental Services, at 507-357-8538.

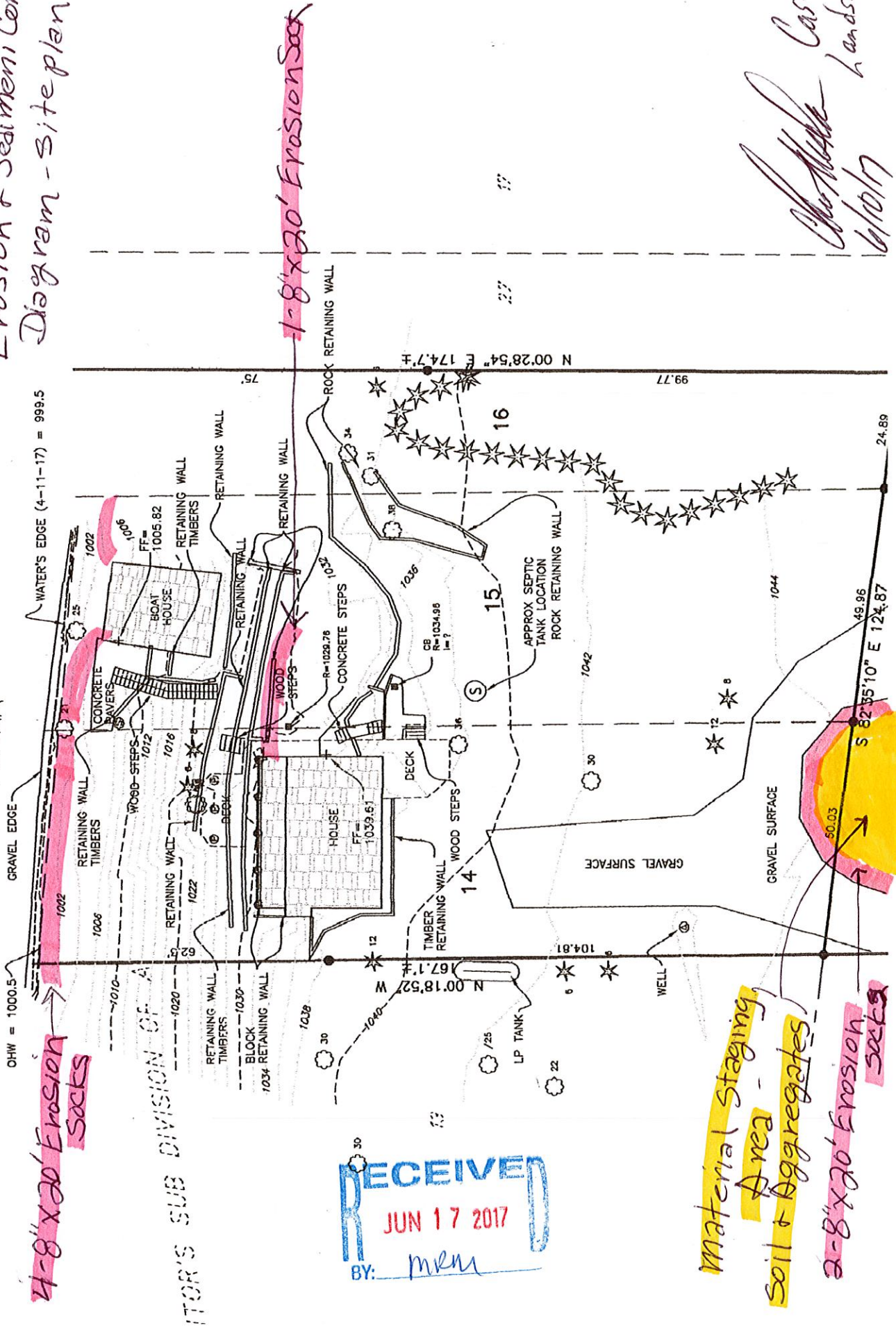


Retaining Wall Restoration Project

Terry & Caroline Loader - 16724 Shady Oak Ln. Waterville, MN 56096

Erosion & Sediment Control
Diagram - Site plan

LAKE TETONKA



Chris Gordon
Castro Garden
Landscaping
6/10/17



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JUN 07 2017
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JUN 07 2017
BY

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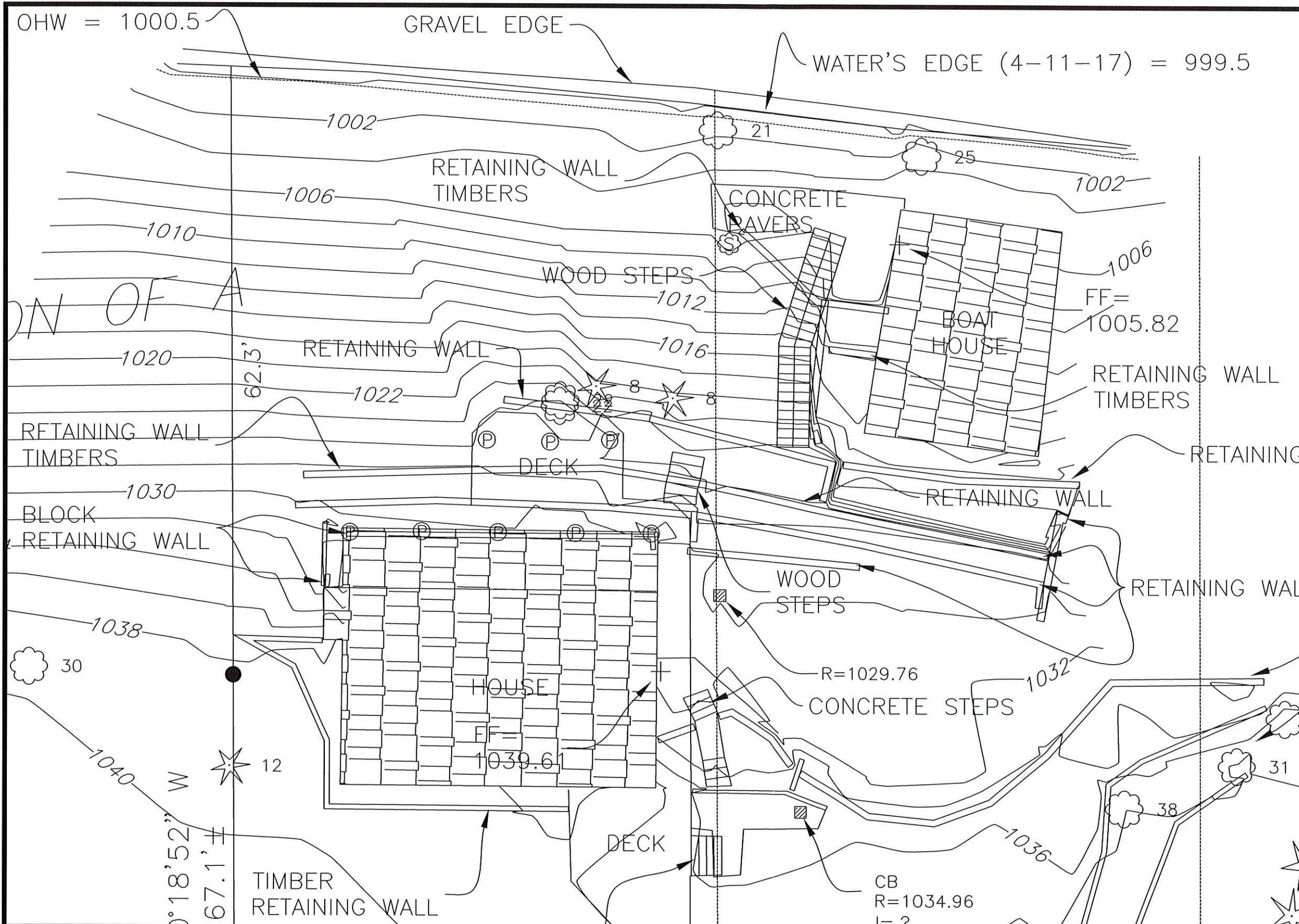
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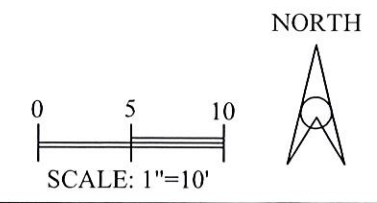
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RECEIVED
 JUL 25 2017
 BY: *mcm*

EXISTING CONDITIONS
 INFORMATION FOR PROPERTY
 SURVEY INFORMATION
 PROVIDED BY BOLTON &
 MENK ON MAY 17, 2017.



PLANS CREATED BY:
CRITERIUM-SCHIMNOWSKI ENGINEERS
 161 DUNBAR WAY
 MAHTOMEDI, MN 55115
 PHONE: 651.779.7700
 FAX: 651.779.7114
 pschimno@criterium-schimnowski.com

PREPARED FOR:
JERRY LOADER
 16725 SHADY OAK LANE
 WATERVILLE, MN 56096
 PHONE: 507-210-9667

PROJECT NAME
16724 SHADY OAK LANE
 PROJECT LOCATION
WATERVILLE, MINNESOTA

EXISTING CONDITIONS

SHEET: **W1 OF 2**
 SCALE: **AS NOTED**
 DRAWN BY: **PDS**
 DATE: **7/10/2017**
 PROJ. NO. **17-2756**

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
 Signature: *[Signature]*
 Typed or Printed Name: **Paul D. Schimnowski**
 Date: **7/10/2017** Reg. No. **40126**

REVISION BLOCK

OHW = 1000.5

INSTALL AND MAINTAIN EROSION CONTROL AS REQUIRED BY THE LOCAL GOVERNING AUTHORITY

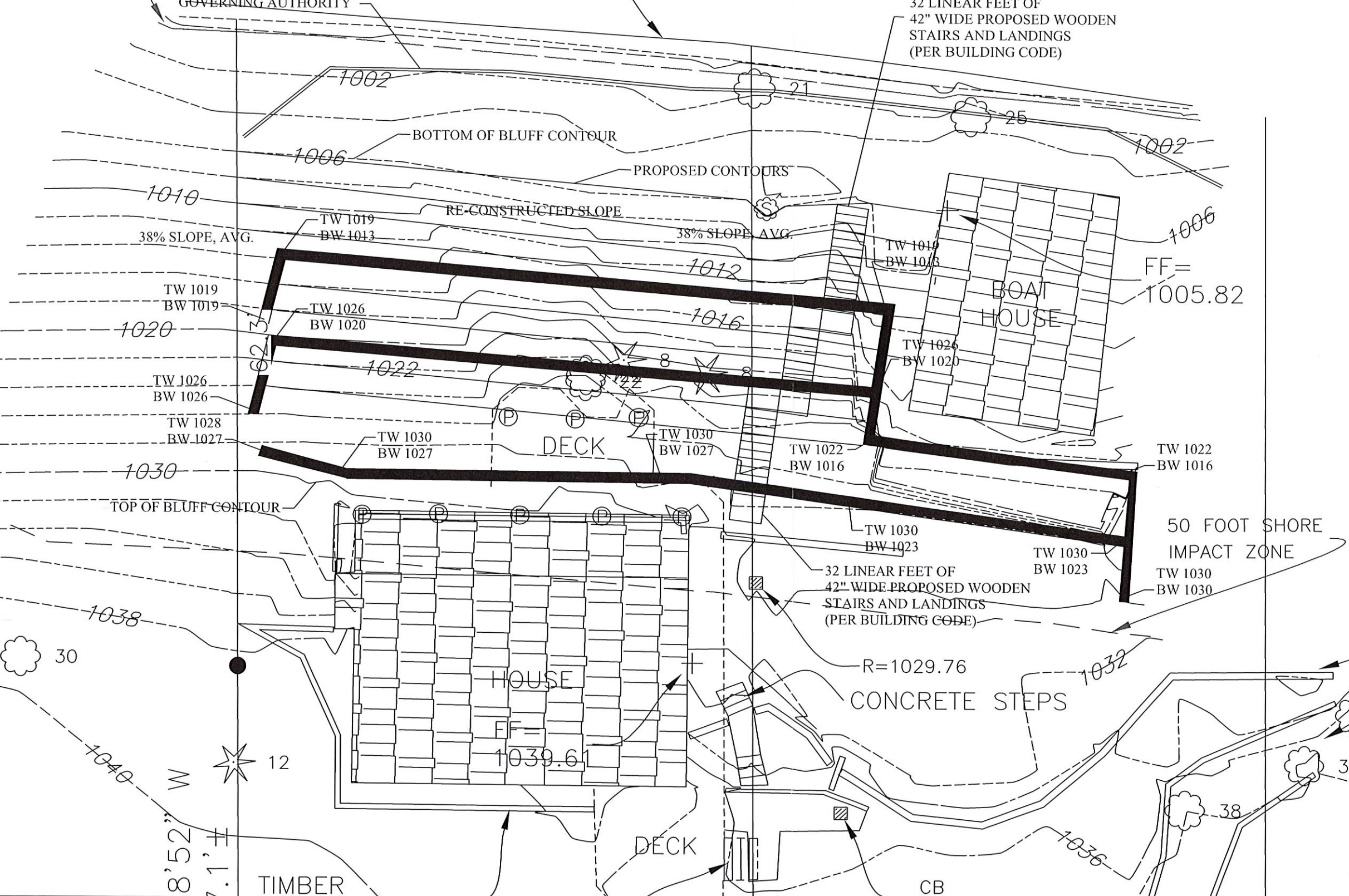
GRAVEL EDGE

32 LINEAR FEET OF 42" WIDE PROPOSED WOODEN STAIRS AND LANDINGS (PER BUILDING CODE)

WALL INFORMATION
LOWER WALL:
6 FT. MAX. HEIGHT
70 FT. LONG
35 C.Y. FILL

2ND TIER:
6 FT. MAX. HEIGHT
120 FT. LONG
110 C.Y. FILL

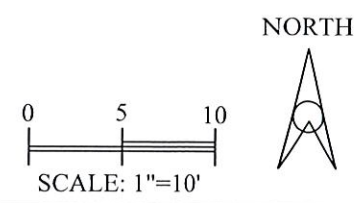
UPPER WALL:
3 FT. MAX. HEIGHT
85 FT. LONG
-0- C.Y. FILL



RECEIVED
JUL 25 2017
BY: mem

EXISTING CONDITIONS INFORMATION FOR PROPERTY

SURVEY INFORMATION PROVIDED BY BOLTON & MENK ON MAY 17, 2017.



PLANS CREATED BY:
CRITERIUM-SCHIMNOWSKI ENGINEERS
161 DUNBAR WAY
MAHTOMEDI, MN 55115
PHONE: 651.779.7700
FAX: 651.779.7114
pschimno@criterium-schimnowski.com

PREPARED FOR:
JERRY LOADER
16724 SHADY OAK LANE
WATERVILLE, MN 56096
PHONE: 507-210-9667

PROJECT NAME
16724 SHADY OAK LANE
PROJECT LOCATION
WATERVILLE, MINNESOTA

W1 OF 2
SCALE: AS NOTED
DRAWN BY: PDS
DATE: 7/10/2017
17-2756

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.
Signature: *[Signature]*
Typed or Printed Name: Paul D. Schimnowski
Date: 7/10/2017 Reg. No. 40126

LE SUEUR COUNTY ENVIRONMENTAL SERVICES
88 SOUTH PARK AVE.
LE CENTER, MINNESOTA 56057-1600

Phone (507) 357-8540 (direct line)

Fax (507) 357-8541

Date: 08/01/2017

To: Le Sueur County Planning and Zoning Commission

From: Joshua Mankowski, Environmental Resources Specialist

Applicant:

Jerry & Caroline Loader

Property owner:

Jerry & Caroline Loader

Property:

14.420.0150

Description:

An application for a Conditional Use Permit to allow the applicant 145 cubic yards of Grading, Excavating, and Filling to construct retaining walls located in a Bluff.


Recommendation:

It would be my recommendation to approve this application with the condition(s) listed below. There are already substantial retaining walls constructed on site and it would be impractical to attempt a plan that is more restoration centered. The use of concrete segmental block, even though it does not provide a natural appearance, would be recommended for this site due to the need to provide a highly engineered solution to site stability.

Condition(s):

1. Use Minnesota, deep-rooted native vegetation to further provide site stability and to provide natural screening of the block walls.
2. Have engineer sign off on certified construction plans and provide a copy to Planning & Zoning prior to beginning work on site.

Sincerely,



Joshua Mankowski
Le Sueur County
Environmental Resources Specialist