



## NORTHWEST ASSOCIATED CONSULTANTS, INC.

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### MEMORANDUM:

To: Sunfish Lake Planning Commission

From: Ryan Grittman

Date: May 13, 2019

RE: 2150 Charlton Road – Major Site Plan Review and Conditional Use Permit

File: 211.02

The applicants of this project have applied for a major site and building plan review and conditional use permit. The application was first accepted on March 12, 2019. Since that time, there has been some changes to the application and requests from the City Engineer for more information on the project.

At this time, Staff cannot make a recommendation on the project due to the significant amount of Engineering data that's still missing from the application. In review of the application submittal date, the City has until July 10, 2019 to make a final decision on the project.

Staff is recommending tabling action on this project to the June Planning Commission meeting to be held on June 19, 2019 so that all the items from the City Engineer can be addressed. Attached to this memo is the latest correspondence from the City Engineer that addresses the updates needed.

c: Sunfish Lake Mayor and City Council  
Catherine Iago, City Clerk  
Tim Kuntz, City Attorney  
Jeff Sandberg and Brandon Movall, City Engineers  
Mike Andrejka, Building Official  
Jim Naves, City Forester  
Ron Wasmund, Septic System Inspector  
Dave Dreelan, Fire Chief

Attached: City Engineer Memos Dated March 26, 2019; April 30, 2019; May 9, 2019; May 13, 2019

## Memorandum

To: Jeff Sandberg, PE – Sunfish Lake City Engineer  
WSB

From: Brandon Movall, EIT, ENV SP – Graduate Engineer  
Kendra Fallon, EIT – Graduate Engineer  
WSB

Date: March 26, 2019

Re: Major Site and Building Plan Review, Submittal 03/18/19  
2150 Charlton Rd  
City of Sunfish Lake, MN  
WSB Project No. 013723-000

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### Project Background

The applicant is proposing to construct a new home, pool, retaining walls and patio along with the necessary grading and stormwater improvements. The following review is only for the engineering, stormwater management, and site grading issues. The building compliance will be handled by the City planners and building inspectors.

The following requirements and comments need to be addressed as the project moves forward:

### General Notes

1. Remove mentions of Orono, Edina, and all other Cities from the plans.
2. Provide a completed SWPPP for review.
3. Show location and sizing of proposed on-site well water system. Well location must be shown on the site plan.
4. Verify location of existing well and septic systems as previously discussed with the applicant Surveyor to be completed after snowmelt.
5. Provide subsurface conditions including soil types, rock and groundwater conditions, water quality and availability, results of percolation tests, and proof that no hydric soils existing in the area of development as previously discussed with the applicant Engineer to be completed after snowmelt.
6. Applicant shall submit documentation that the leaking underground storage tank has been removed and any contamination properly remediated.
7. Applicant shall note in the plans where the proposed floor drains in the garage are being discharged to.

### Stormwater Management

1. Include the following values in the plans in future submittals to verify modeling:
  - a. Existing impervious
  - b. Proposed impervious
  - c. Total land disturbance
2. An operations and maintenance plan for the proposed stormwater management system should be included with future submittals.

3. Surface area inputs for the Pond RC node in the HydroCAD model are not representative of what is shown in the plan (see attached). Applicant should update the HydroCAD model to be consistent with the grading shown in the plan.
4. The underground rock trench will still be required to meet the MPCA's 48-hour drawdown requirement for infiltration BMPs. The bottom of the rock trench is at 976 and the outlet elevation is at 977.8, giving a depth of 1.8 feet. With the proposed 0.2 inch per hour infiltration rate, only a depth 0.8 feet will infiltrate in 48 hours.
5. An MSE 24-hour rainfall distribution should be utilized in the HydroCAD modeling.
6. Only 0.8 feet of freeboard is being provided between the HWL in the center driveway depression and the low opening of the proposed building. The City requires a minimum building opening elevation three feet above the projected 100-year high water level. The City also requires the lowest floor elevation be one foot above the projected 100-year high water level.
7. Applicant should confirm the berm elevation for the southeast channel is being called out at the right elevation. Currently the berm is called out as being 9.5 feet higher than the outlet elevation.
8. Applicant should confirm whether the existing 12" CMP culvert in the southeast is being removed or left in place. If it is being removed it should be taken off the grading and site plan. If it is being left in place invert elevations should be added to the grading and site plan.
9. Roof drain locations should be added to the plan to confirm where the runoff from the roof will be directed.
10. There is a gas line shown to run through the same location as the proposed rock trench. Applicant should confirm there is no conflict between the gas line and proposed rock trench.

#### **Site Grading**

1. All walls over 3 feet in height will require design by a licensed professional engineer.
2. Show either 1-foot or 2-foot contours for both existing and proposed grading for clarity and consistency.

#### **Erosion Control and Restoration**

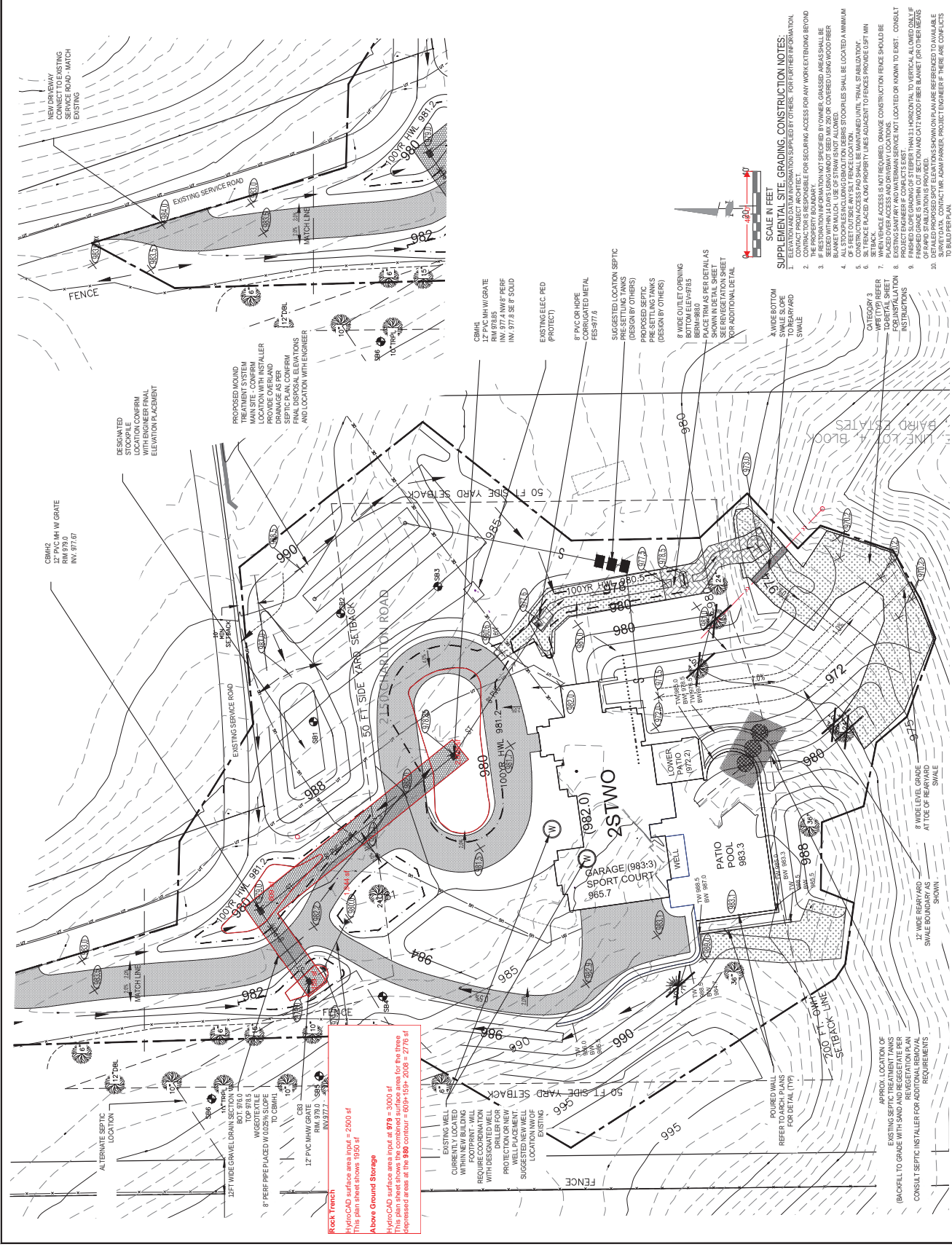
1. A second line of silt fence should be shown on the entire south side of the property closest to the lake for redundant protections.
2. Silt fence should be shown around all stock piles.
3. As the area of disturbance exceeds one acre, a NPDES permit will need to be obtained prior to construction.

#### **Site Access**

1. The Contractor must adhere to axle load limits when delivering material to the site. Any damage to the roadway and City right-of-way shall be repaired to the City's satisfaction by the applicant.
2. It is recommended that the Contractor take pictures of the roadway and driveway prior to construction to document the condition of each. These pictures should be taken at a wide enough angle to verify their location.

**Conclusion and Recommendations**

Based upon our review of the engineering, stormwater management and site grading for 2150 Charlton Road, the proposed site and grading plans appear to be consistent with the City's requirements, with the exception of the above-noted items in this memorandum. Therefore, we hereby find the proposed plans not to be in accordance with City requirements and recommend denial from an engineering standpoint for this project until these items are addressed. We are requesting a new set of plans addressing these comments and new drainage calculations be resubmitted to our office prior to approval. We request that the applicant restate each comment and detail how each comment was addressed.



## Memorandum

To: Jeff Sandberg, PE – Sunfish Lake City Engineer  
WSB

From: Brandon Movall, EIT, ENV SP – Graduate Engineer  
Kendra Fallon, EIT – Graduate Engineer  
WSB

Date: April 30, 2019

Re: Major Site and Building Plan Review, Resubmittal 04/23/19  
2150 Charlton Rd  
City of Sunfish Lake, MN  
WSB Project No. 013723-000

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### Project Background

The applicant is proposing to construct a new home, pool, retaining walls and patio along with the necessary grading and stormwater improvements. The following review is only for the engineering, stormwater management, and site grading issues. The building compliance will be handled by the City planners and building inspectors.

The following requirements and comments need to be addressed as the project moves forward:

### General Notes

1. Applicant has addressed all previous comments from our initial memo dated 03/26/19.
2. The 'Site Details and ESC Notes' Sheet text has an abundance of missing text characters. It is not legible and therefore we are unable to complete a review of these items. Text must be corrected and legible in order to be reviewed.
3. The resubmitted plans now include a vehicular bridge and monument sign. In order to approve these items, structural engineering documentation must be submitted for review.

### Stormwater Management

1. As stated in our initial memo dated 03/26/19, an operations and maintenance plan for the proposed stormwater management system will be required once the design has been approved.
2. As noted in our initial memo dated 03/26/19, the underground rock trench will still be required to meet the MPCA's 48-hour drawdown requirement for infiltration BMPs. The NPDES permit states, "Permittees must design the infiltration system to discharge all stormwater (including stormwater in excess of the water quality volume) routed to the system through the uppermost soil surface or engineered media surface within 48 hours." The bottom of the rock trench is at 962 and the outlet elevation is at 967, giving a depth of 5 feet. With the proposed 0.2 inch per hour infiltration rate, the rock trench would hold water for 12.5 days with the current design.
3. As stated in our initial memo dated 03/26/19, roof drain locations should be added to the plan when finalized to confirm where the runoff from the roof will be directed.
4. Applicant has addressed other previous comments from our initial memo dated 03/26/19.
5. The stormwater summary shows an 0.237 acre increase in impervious however only a 0.178 acre increase in impervious is being modeled in HydroCAD. Applicant should

update the HydroCAD model to be representative of the existing and proposed conditions shown in the plans.

6. Storm sewer sizes/slopes/invert elevations should be added to the plans.
7. The applicant is proposing to lower the freeboard requirement to 2 feet per the City's Engineering Guidelines. Applicant should provide modeling to show that a 25% obstruction of the basin outlet over a 24-hour period would not result in more than one foot of additional bounce in the basin.
8. Applicant should add in the 968-contour surface area for the south treatment area into the HydroCAD model to accurately represent the storage shown on the plans.
  - a. Applicant should similarly add the 976-contour surface area for the north dry basin into the HydroCAD model.
9. The EOF elevation for the south treatment area should be updated in HydroCAD to 968.2 per the plan callout.
10. Applicant should swap the order for the secondary outlet for the north dry basin in the HydroCAD model. The berm EOF should be routed to the two 18" horizontal overflow grates based on what is being shown in the plans.
11. The rim elevation for the OCS structure should be added to the detail.
12. A turf reinforcement mat (TRM) is shown in the plan details however there is no callout for a TRM on the plans. Applicant should add the proposed location for the TRM to the plans.
13. Applicant may want to consider moving storm sewer out from underneath the stairs near the pool in the backyard in case future maintenance is required.

#### **Site Grading**

1. As stated in our initial memo dated 03/26/19, all walls over 3 feet in height will require design by a licensed professional engineer. Retaining wall details provided by the Applicant in this submittal are not legible, as per General Notes comment 2. Text must be corrected and legible in order to be reviewed.
2. Applicant has addressed other previous comment from our initial memo dated 03/26/19.

#### **Erosion Control and Restoration**

1. As stated in our initial memo dated 03/26/19, silt fence should be shown around all stock piles. Neither Phase 1 or Phase 2 on the Applicant's 'SWPPP Plan Sheet' has addressed this comment.
2. Applicant has addressed other previous comments from our initial memo dated 03/26/19.

#### **Site Access**

1. Applicant has addressed other previous comments from our initial memo dated 03/26/19.

#### **Conclusion and Recommendations**

Based upon our review of the engineering, stormwater management and site grading for 2150 Charlton Road, the proposed site and grading plans appear to be consistent with the City's requirements, with the exception of the above-noted items in this memorandum. Therefore, we hereby find the proposed plans not to be in accordance with City requirements and recommend denial from an engineering standpoint for this project until these items are addressed. We are requesting a new set of plans addressing these comments, and new drainage calculations be resubmitted to our office prior to approval. We request that the applicant restate each comment and detail how each comment was addressed.

## Memorandum

To: Jeff Sandberg, PE – Sunfish Lake City Engineer  
WSB

From: Brandon Movall, EIT, ENV SP – Graduate Engineer  
Kendra Fallon, EIT – Graduate Engineer  
WSB

Date: May 10, 2019

Re: Major Site and Building Plan Review, Resubmittal 05/09/19  
2150 Charlton Rd  
City of Sunfish Lake, MN  
WSB Project No. 013723-000

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### Project Background

The applicant is proposing to construct a new home, pool, retaining walls and patio along with the necessary grading and stormwater improvements. The following review is only for the engineering, stormwater management, and site grading issues. The building compliance will be handled by the City planners and building inspectors.

The following requirements and comments need to be addressed as the project moves forward:

### General Notes

1. Applicant has addressed all previous comments from our secondary memo dated 04/30/19.

### Stormwater Management

1. As stated in our initial memo dated 03/26/19, an operations and maintenance plan for the proposed stormwater management system will be required once the design has been approved.
2. As stated in our memo dated 04/30/19, the applicant should rework the infiltration rock trench to get a drawdown time closer to 72 hours. The bottom of the rock trench is at 961.5 and the outlet elevation is at 964.5, giving a depth of 3 feet. With the proposed 0.2 inch per hour infiltration rate, the rock trench would hold water for 7.5 days with the current design. This will not be allowed, as it will not provide the designed storage for back to back storm events. We would recommend the applicant look at changing the design to a filtration system rather than an infiltration system due to the poor soils onsite.
3. As stated in our initial memo dated 03/26/19, roof drain locations should be added to the plan when finalized to confirm where the runoff from the roof will be directed.
4. As stated in our memo dated 04/30/19, the stormwater summary shows an 0.247 acre increase in impervious however only a 0.171 acre increase in impervious is being modeled in HydroCAD. Applicant should update the HydroCAD model to be representative of the existing and proposed conditions shown in the plans.
5. Applicant has addressed other previous comments from our initial memo dated 04/30/19.

**Site Grading**

1. Applicant has addressed all previous comments from our secondary memo dated 04/30/19.

**Erosion Control and Restoration**

1. Applicant has addressed all previous comments from our secondary memo dated 04/30/19.

**Site Access**

1. Applicant has addressed all previous comments from our initial memo dated 03/26/19.

**Conclusion and Recommendations**

Based upon our review of the engineering, stormwater management and site grading for 2150 Charlton Road, the proposed site and grading plans appear to be consistent with the City's requirements, with the exception of the above-noted items in this memorandum. Therefore, we hereby find the proposed plans not to be in accordance with City requirements and recommend denial from an engineering standpoint for this project until these items are addressed. We are requesting a new set of plans addressing these comments and new drainage calculations be resubmitted to our office prior to approval. We request that the applicant restate each comment and detail how each comment was addressed.

## Memorandum

To: Ryan Grittman  
Northwest Associated Consultants

From: Jeff Sandberg, PE  
City Engineer

Date: May 13, 2019

Re: Major Site and Building Plan Review  
2150 Charlton Rd  
City of Sunfish Lake, MN  
WSB Project No. 013723-000

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### Project Background

The applicant is proposing to construct a new home, pool, retaining walls and patio along with the necessary grading and stormwater improvements. WSB performed a review of the engineering, stormwater management, and site grading issues.

Please reference the WSB review memorandum dated May 10, 2019 that outlines our comments on the plans as submitted. While the applicant has addressed most of staff's comments, there are still some significant issues that have not been addressed.

### Conclusion and Recommendations

Based upon our review of the engineering, stormwater management and site grading for 2150 Charlton Road, the proposed site and grading plans appear to be consistent with the City's requirements, with the exception of the items noted items in the attached memorandum. Therefore, we hereby find the proposed plans not to be in accordance with City requirements and recommend denial from an engineering standpoint for this project until these items are addressed. We are requesting a new set of plans addressing these comments and new drainage calculations be resubmitted to our office prior to approval.