

**MUNICIPAL PLANNING COMMISSION AGENDA  
SUMMER VILLAGE OF BIRCHCLIFF  
SUMMER VILLAGES ADMINISTRATION OFFICE  
SEPTEMBER 30, 2021 @ 9:00 a.M.**

- A. CALL TO ORDER**
- B. ADOPTION OF AGENDA**
- C. DEVELOPMENT ITEMS**
  - 1) 361 Birchcliff Road
- D. ADJOURNMENT**

**Summer Village of Birchcliff – Municipal Planning Commission****September 30, 2021****Agenda Item****361 Birchcliff Road (Lot 12PT, Block -, Plan 6333KS)****Development Permit Application****Background:**

The homeowners of 361 Birchcliff Road (Lot 12PT, Block -, Plan 6333KS) in the Summer Village of Birchcliff submitted an application for a deck on the escarpment. This property is in the R1 District (Lakeshore Residential). There was a previous deck that was on the escarpment was recently removed as it was encroaching onto adjacent land that is now being developed. The new location of the deck on the escarpment will be on an escarpment area with a more gradual slope with minimal vegetation to be impacted and no trees to be removed. The proposed deck will be constructed with screw piles to support the deck.

**Discussion:**

This application is before MPC for the following reason:

- Land located below the top of escarpment should be in a natural state, so a variance is required.

**Recommendation:**

The Land Use Bylaw states the importance of the retention, in their natural state of unstable land, escarpment or slope areas with a gradient of fifteen percent or greater and land located below the top of bank of any water body or water course. The Municipal Development Plan states that the Summer Village still strongly desires that banks abutting the shoreline remain as natural as possible to retain natural ecosystems. After viewing the application and all relevant planning documents, it is the recommendation of administration to deny the application and the variance requested.

**Conditions:**

If approved, Administration would recommend the following conditions:

- Completions Deposit of \$500.00
- Zero trees to be removed.
- A minimum 1m no mow zone required adjacent to lake.

September 21, 2021

**Authorities:**

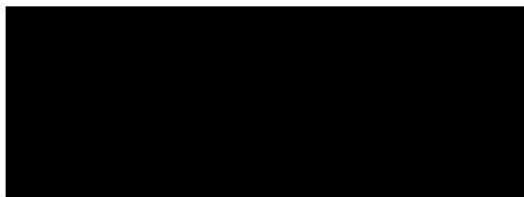
The MPC may:

- Grant a variance to reduce the requirements of any use of the LUB and that use will be deemed to comply with LUB.
- Approve application even though the proposed development does not comply or is a non-conforming building if:
  - It would not unduly interfere with the amenities of the neighborhood, or
  - Materially interfere with or affect the use, enjoyment, or value of neighboring parcels of land, And
  - It conforms with the use prescribed for that land or building in the bylaw.
- Consider a Variance only where warranted by the merits or the proposed development and in response to irregular lot lines, parcel shapes or site characteristics which create difficulties in siting structures within the required setback or in meeting the usual bylaw requirements, except there shall be no variance for Parcel Coverage or Building Height.

**Decision:**

In order to retain transparency of the Commission, Administration recommends one of the following:

1. Approve the application with or without conditions (*Section 642 of the MGA*), or
2. Deny the application stating reasons why (*Section 642(4) of the MGA*).



August 6, 2021

Re: 361 Birchcliff Road, application to move lake-front deck

To Whom it may concern

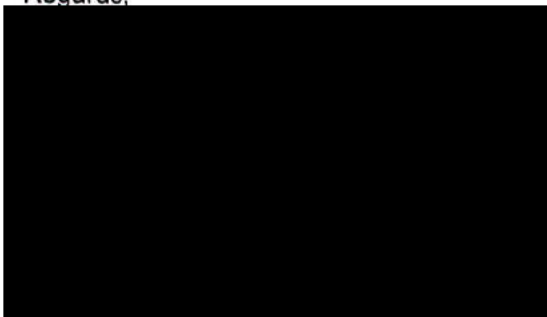
As owners of 361 Birchcliff Road in the Summer Village of Birchcliff we are applying for permission to re-locate our lake-front deck as it was encroaching on the neighbors' property. They asked that it be moved so they could develop & remediate their shoreline.

The new location for the deck, and dimensions, are in kind with adjacent properties in both directions and on a more gradual slope than the previous location with minimal vegetation to be impacted – no trees need removal.

At the request of the Summer Village a geotechnical engineer was engaged to provide an opinion on the impact of the deck to the proposed new location. The opinion is that the deck, as proposed, would not negatively impact the slope stability but rather that the use of helix screw piles would provide some additional stability.

The removal of the deck has a major impact on our ability to enjoy the lake as we have for the last 11 years. Given some of the recent approved development along the Birchcliff shoreline we feel that this application to re-locate a modest deck is reasonable and should be approved also.

Regards,







30<sup>th</sup> July, 2021  
File No. USG1264  
Revision No. 1

██████████  
361 Birchcliff Road  
Birchcliff, Alberta  
T4S 1R6

ATTENTION: ██████████

Dear ██████████

**SUBJECT:** Slope Assessment  
Screw Pile Installation  
361 Birchcliff Road  
Birchcliff, Alberta

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## 1 INTRODUCTION

Union Street Geotechnical Ltd. (Union Street) was retained by ██████████ the client and property owner, to perform a site visit and provide a slope assessment specifically pertaining to the installation of screw piles on the slope located at 361 Birchcliff Road in Birchcliff, Alberta. A historic deck was recently removed, due to property line infringement, and the client would like to rebuild it at a location further to the east. As part of the process, the local authority has requested a letter from a geotechnical engineer commenting on the suitability of the proposed development in regards to slope stability.

## 2 DESCRIPTION OF THE PROJECT AND SITE

Union Street personnel performed a site visit on the 16<sup>th</sup> July, 2021. The slope is located near the southern portion of the property, extends along the southern property line, and leads down the lake shore. The slope is approximately 6.1 m from water surface to the crest and is relatively steep at approximately 0.5H to 1.5H:1V. The site is mostly vegetated with a mix of deciduous trees, bushes, and

4726 - 78A Street Close  
Red Deer, Alberta  
T4P 2J2

Bus: 403-350-9688  
[www.unionstreetgeo.ca](http://www.unionstreetgeo.ca)

grasses, however, remnants of a historic deck, which was undergoing demolition at the time of the site visit, was located on the western portion of the slope. Portions of the slope in and around the historic deck are not vegetated. A wooden retaining wall structure was observed and some evidence of slope failure, believed to be on the neighbouring property, was visible to the west of the wall.

Based on our observation and location of the slope relative to the lake, toe erosion is, or was, undercutting the slope (west of the historic deck), leading to failure and soil movement. It is understood that due to movement and erosion, the homeowner to the west recently re-armoured the toe.

Photographs showing the site are attached.

### 3 DISCUSSION & CONCLUSION

A slope's stability is dependent on a variety of factors, including soil type, loading conditions, grade, groundwater conditions, and vegetation, to name several. It is possible to find oversteepened slopes composed of weak soil and failed slopes composed of more competent material. Oversteepened slopes exist in ideal conditions and will fail over time when conditions change. It is likely the slope observed will continue to fail unless maintained and actively managed. It should be noted however, that some oversteepened slopes, although managed and maintained, can still fail due to changing environmental conditions.

The client has requested we comment on the suitability of screw piles to support the proposed deck and this letter is limited to how deep foundations impact slopes. A typical screw pile gains the majority of its resistance from the helix and it's not uncommon for the skin friction resistance to be considered negligible. Relative to the slope's stability, a screw pile with its upper helix installed well below the toe of the slope/slip plane, will negligibly load the slope, as the bearing surface will be installed below the toe/slip plane. It is our opinion that any skin friction resistance and disturbance to the slope caused during pile installation will be offset by the stabilization offered by the screw pile shaft. As such, a large helix to pile shaft ratio is recommended.



A detailed geotechnical investigation, or detailed foundation design, has not been performed and determining the slope's Factor of Safety was not included, or requested, in the scope of this assessment. Should the client require one, to determine the slopes existing Factor of Safety and/or to aid in the screw pile design, a detailed geotechnical investigation could be performed.

Some evidence of slope failure was observed on the neighbouring slope to the west but it is understood the property owner is in process of implemented a remedial plan with the intent of stabilize that portion of the slope.

#### 4 CLOSURE

Union Street Geotechnical Ltd. prepared this report for the exclusive use of [REDACTED] and his agents, to provide comment on installing screw piles on the slope located at 361 Birchcliff Road in Birchcliff, Alberta. The content reflect Union Street's best judgement available to it at the time of preperation. Any use which a third party makes of this report, or any reliance on, or decisions to be made based on it, are the responsibility of such third party and Union Street accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Our recommendations and conclusions are based upon the information obtained from a surficial observation. The interpretation of subsurface conditions provided is a professional opinion of encountered conditions and is not a certification or guarantee of site conditions. If variations, or other latent conditions become evident, Union Street should be notified immediately so that our conclusions and recommendations can be re-evaluated. We have not conducted investigations, sampling, field or laboratory testing, evaluations, or modelling of the site or subsurface conditions with respect to the presence of contaminated soil or groundwater.

This report contains the results of our geotechnical assessment as well as certain observations arising from our site visit. The general recommendations herein do not constitute a design, in whole or in part, of any of the structural elements of the proposed work. Incorporation of any or all of our general recommendations into the





design of any such element does not constitute us as designers or co-designers of such elements, nor does it mean that such design is appropriate in geotechnical terms. The designers of such elements must consider the appropriateness of our general recommendations in light of all design criteria known to them, many of which are not known by us. Our mandate has been to perform a geotechnical assessment and provide general, preliminary recommendations, which we have completed by means of this letter. We have had no mandate to design, or review the design of any elements of the proposed work and accept no responsibility for such design or design review.

This letter has been prepared in accordance with generally accepted geotechnical engineering practice common to the local area. No other warranty, expressed or implied, is made.

This document, and the information contained within, are the confidential property of [REDACTED] and any disclosure of same is governed by the provisions of each of the applicable provincial or territorial Freedom of Information legislation, the Privacy Act (Canada) 1980-81-82-83, c.111, Sch. II "2", and the Access to Information Act (Canada) 1980-81-82-83, c.111, Sch. I "1", as such legislation may be amended or replaced from time to time.


Yours truly,

Union Street Geotechnical Ltd.

Prepared By:

Union Street Geotechnical Ltd.

APEGA Permit No. P12644

  
Joshua Wilson, P.Eng.  
Geotechnical Manager

*[Signature]*  
30<sup>th</sup> July, 2021  
APEGA ID 80317



**ATTACHMENTS**

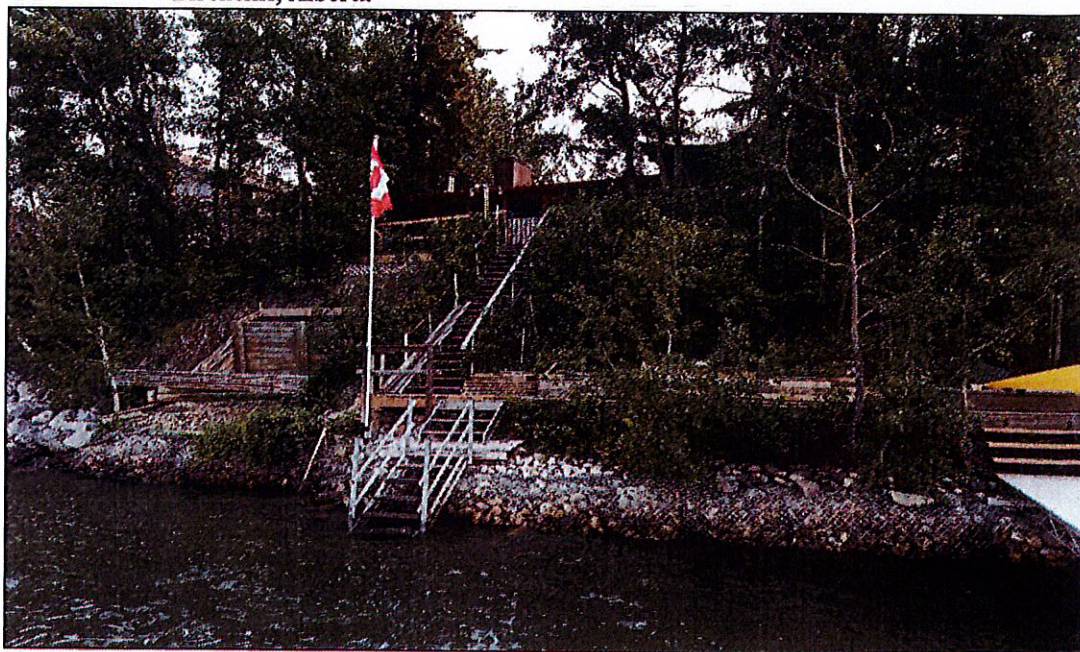
**PHOTOGRAPHS**

Photographs No. 1 to 3, inclusive

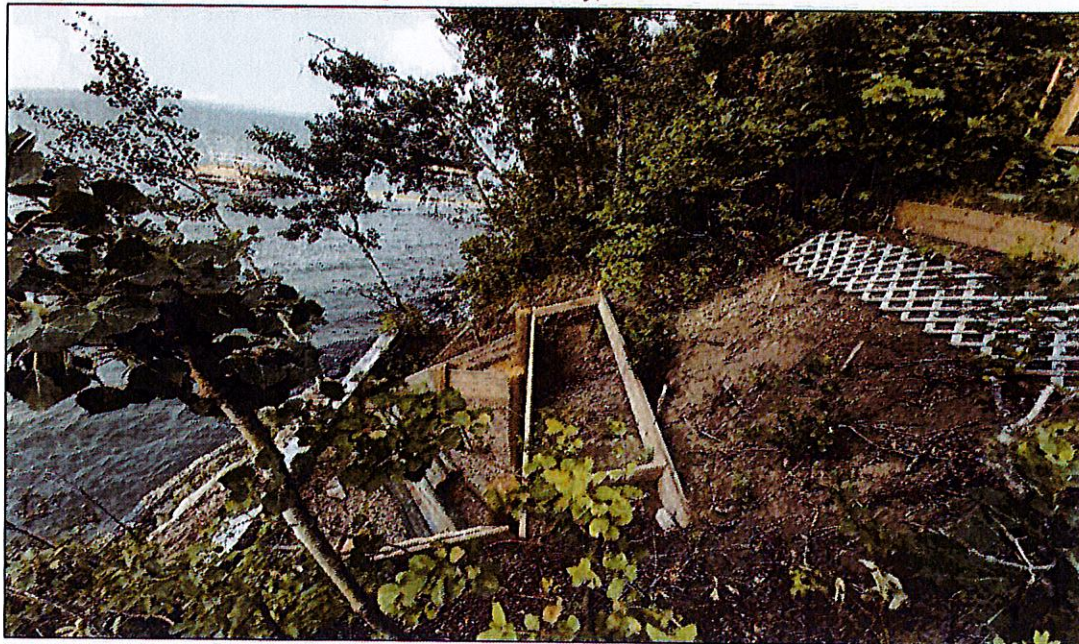




**Photographs - Slope Assessment**  
**361 Birchcliff Road**  
**Birchcliff, Alberta**



**Photograph No. 1:** Photograph taken from Sylvan Lake, facing north, showing the lakefront portion of 361 Birchcliff Road, the slope, remains of the historic deck, residence, stairwell, and existing conditions at the time of the site visit. Photograph taken on 16<sup>th</sup> July, 2021.



**Photograph No. 2:** Photograph taken from approximately midway up the existing stairwell, facing west, showing the slope, remains of historic deck, non-vegetated area below historic deck, vegetation to the east and west, and general site conditions observed. Photograph taken on 16<sup>th</sup> July, 2021.

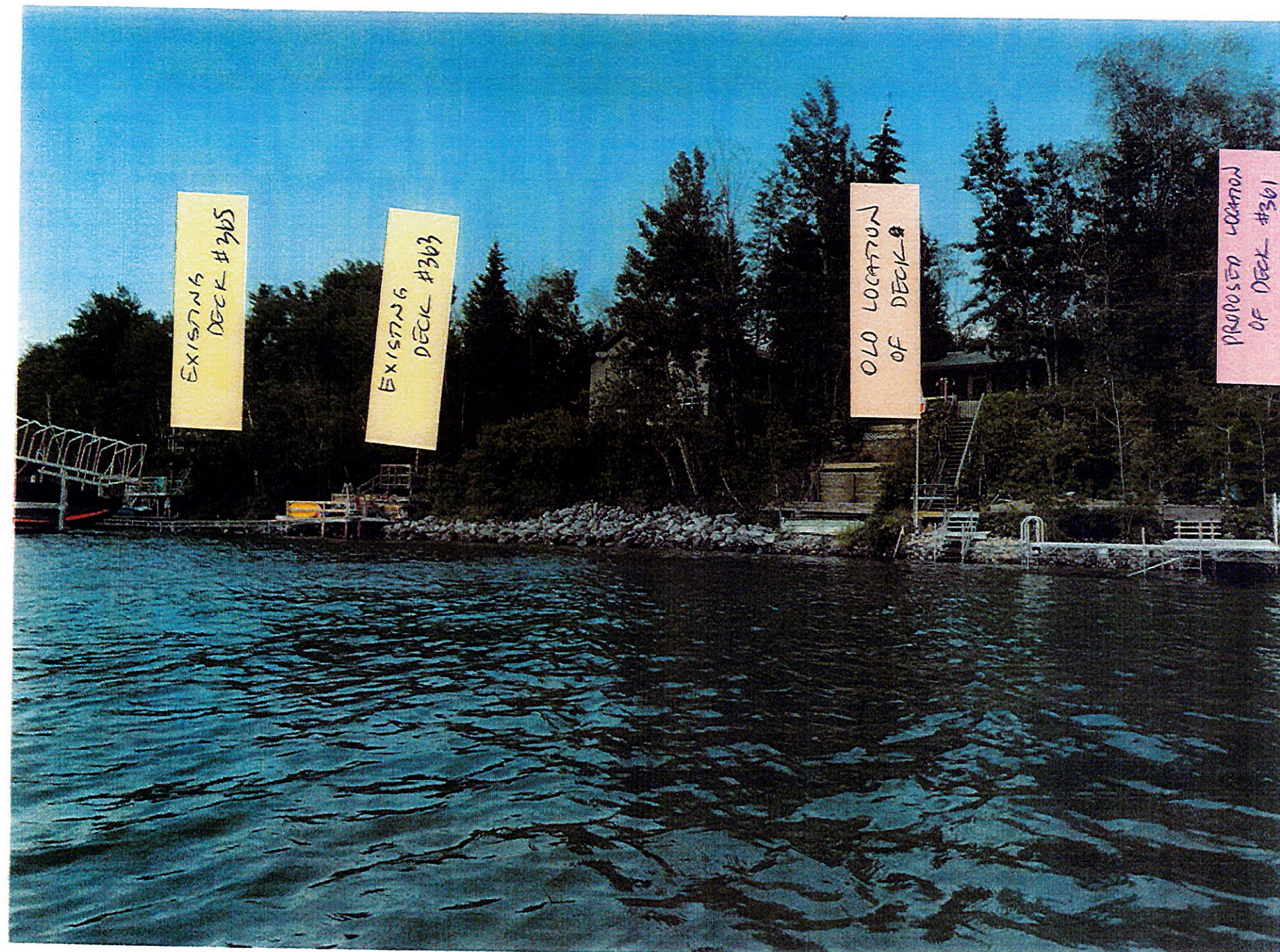


**Photographs Cont'd - Slope Assessment**  
**361 Birchcliff Road**  
**Birchcliff, Alberta**

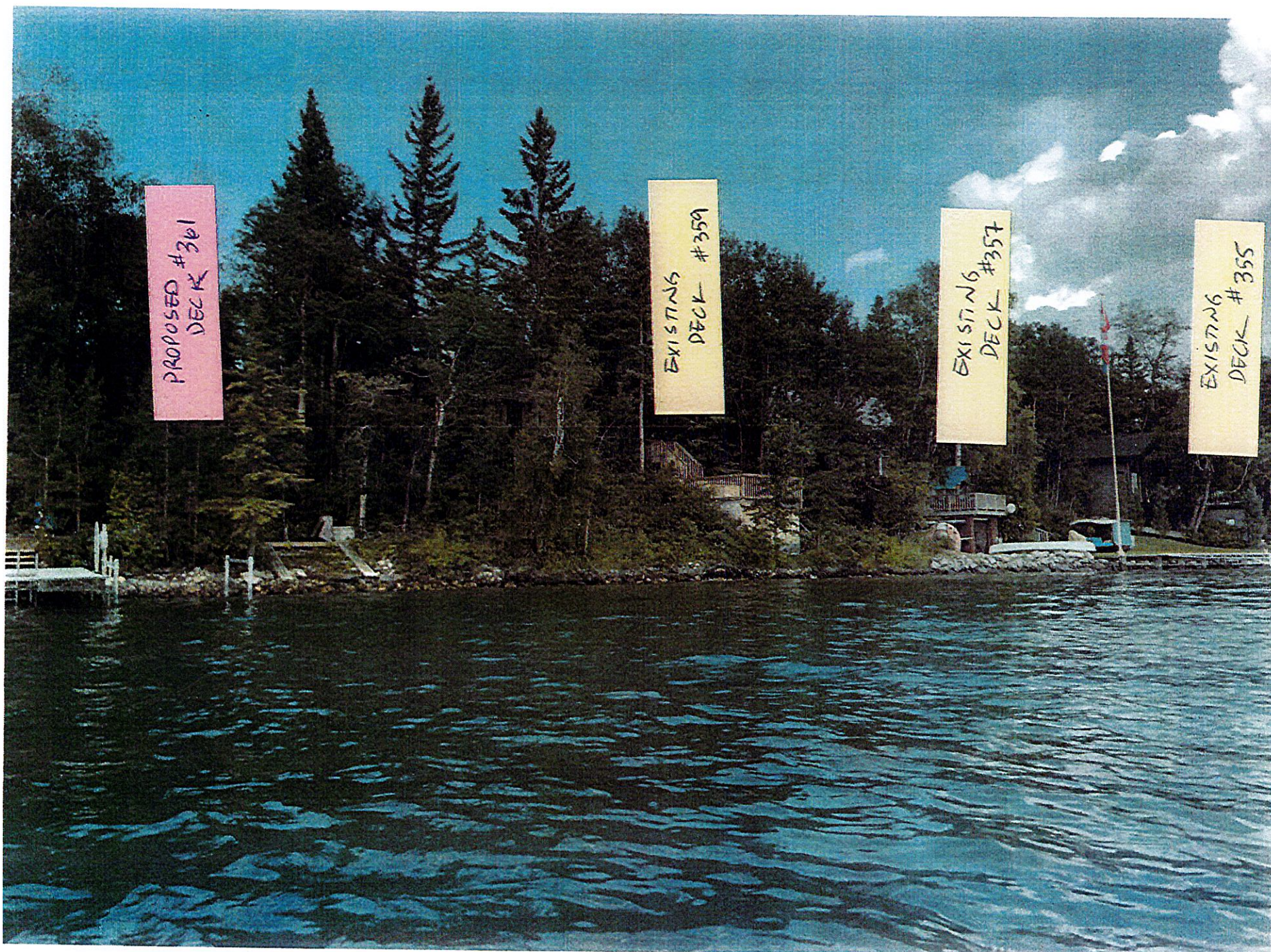


**Photograph No. 3:** Photograph taken from near the toe of the slope, within the historic deck footprint, facing northwest, showing evidence of recent slope movement. Photograph taken on the 16<sup>th</sup> July, 2021.

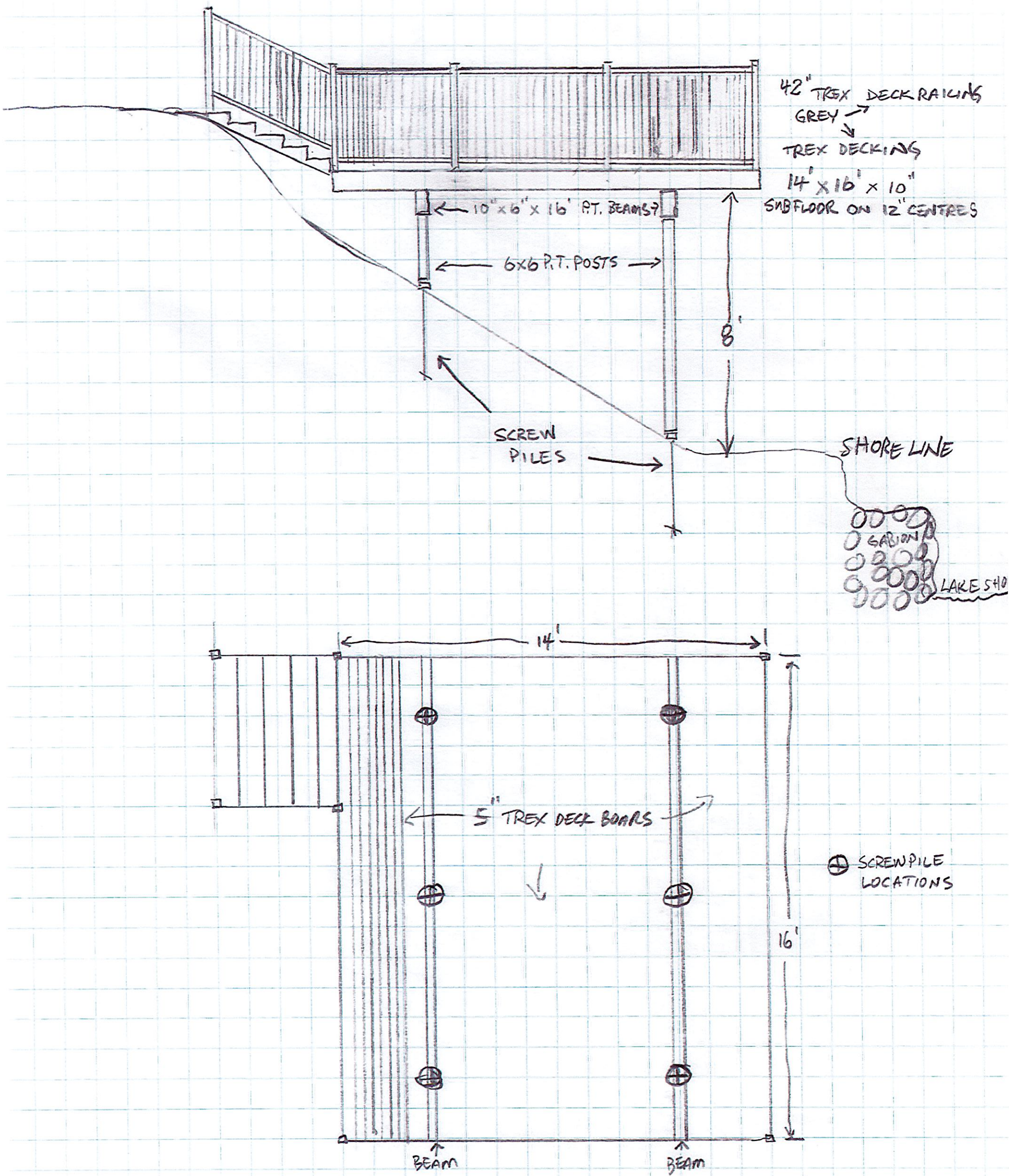




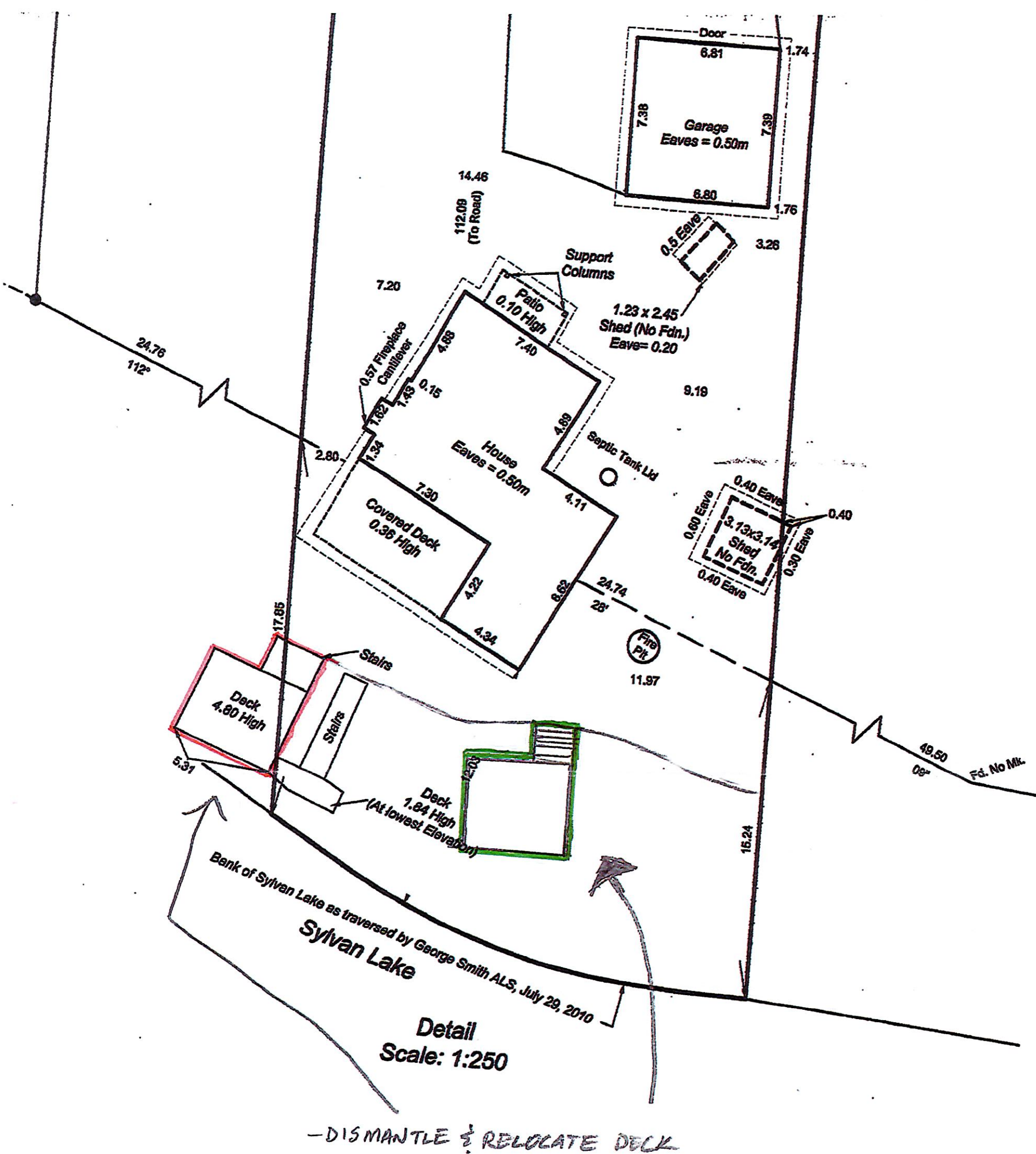


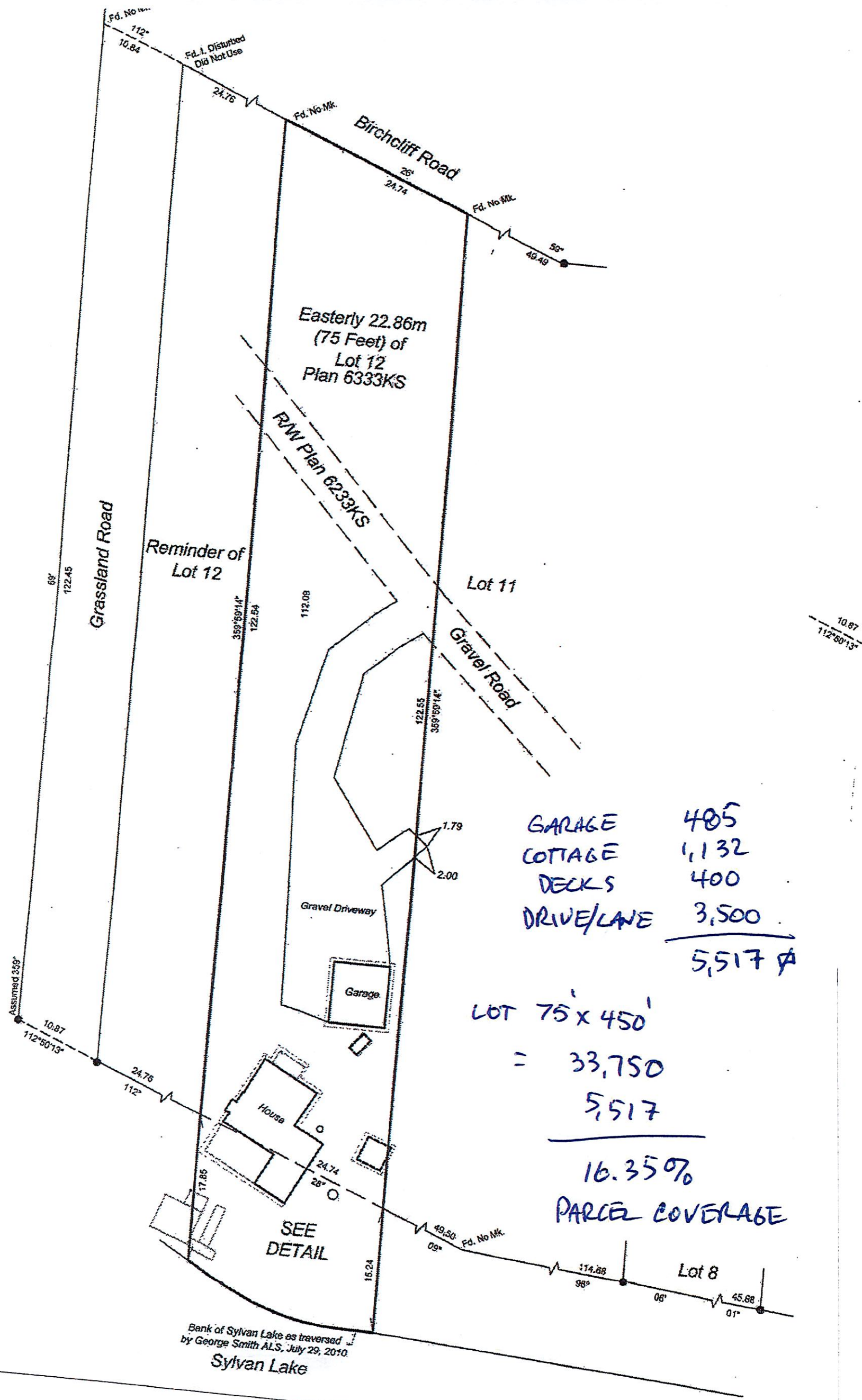














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