EXHIBIT A

SANDY CITY PUBLIC WORKS

MICHAEL GLADBACH
PUBLIC WORKS DIRECTOR

MONICA ZOLTANSKI
MAYOR

SHANE E. PACE
CHIEF ADMINISTRATIVE OFFICER

City Engineer Recommendation Letter

DATE: April 25, 2023
TO: Melissa Anderson, Zoning Administrator
FROM: Ryan C. Kump, P.E., City Engineer
SUBJECT: **Project Name: 3802 Catamount Ridge**
Case Number: RES03132023-030241
Project Address: 3802 E Catamount Ridge

Lot 8 of the Little Cottonwood View Estates Subdivision was approved in Salt Lake County as a residential lot with 30%+ slopes. This lot was later annexed into Sandy City. Chapter 21-15-5 of Sandy City Code outlines a special exception process to allow construction on 30%+ slopes. The applicant worked with city staff and the Board of Adjustments (BOA) to receive approval to build on this lot.

The applicant worked with staff and BOA on a site plan that contained all disturbances below the upper access road to the water tank. This was a critical consideration, as leaving all terrain above the upper access road undisturbed minimizes geological hazards. Undisturbed native soils uphill of the project reduce both the risk of unstable slopes and rock fall hazard. The upper road also acts as a protective strip, catching or slowing small rockfall debris. A rock fall hazard analysis by IGES (IGES Project No. 04010-001) concluded that the *"…rockfall hazard risk is low for the property, and that rockfall mitigation is not considered necessary for development".*

The geology of this lot is an alluvial fan deposit over an orthoquartzite formation. It is just outside a mapped historic landslide area per the Utah Geological survey. With native plantings being retained uphill, an orthoquartzite formation above the lot, no waterway channels in the vicinity, and having all construction between the existing access roads, the opportunity for any global slope stability issues is constrained and limited to the constructed retaining walls as part of the project. Global slope stability hazards are low.

To access the home from the lower road with a slope of less than 12%, deep cuts into the triangle of land between the roadways are required. The greatest spot difference between existing and finish grades is 18'. This cut is proposed to be retained by a three-tiered retaining wall, with no tier exceeding 10'. Plantings will be included between each tier to add stability to the wall structure and lessen the visual impact of the walls. The unique topography of this lot creates an exceptional circumstance for construction; it is recommended to allow an 18' cut at the deepest point along the proposed driveway.

EXHIBIT B

10000 Centennial Parkway
Sandy, UT 84070
Phone: 801-568-7141

Sandy City, Utah

Minutes Summary

Board of Adjustment

Thursday, February 10, 2022 **5:15 PM** **On-line**

Meeting procedures are found at the end of this agenda.

Electronic Meeting

Board of Adjustment Chairman Statement

In accordance with, Utah Code 52-4-207(4) Open and Public Meeting Act, I have determined that to protect the health and welfare of Sandy citizens, an in person Board of Adjustment meeting, including attendance by the public and the Board of Adjustment is not practical or prudent.

Considering the continued rise of COVID-19 case counts in Utah, meeting in an anchor location presents substantial risk to the health and safety of those in attendance because physical distancing measures may be difficult to maintain in the Sandy City Council Chambers.

The Center for Disease Control states that COVID-19 is easily spread from person to person between people who are in close contact with one another. The spread is through respiratory droplets when an infected person coughs, sneezes or talks and may be spread by people who are non-symptomatic.

It is my intent to safeguard the lives of Sandy residents, business owners, employees and commission members by meeting remotely through electronic means without an anchor location.

Community Development staff are hereby authorized and directed to include a copy of the above notice with each Board of Adjustment agenda.

Tyler Brown, Chair
Sandy City Board of Adjustment

The February 10, 2022 Sandy City Board of Adjustment meeting will be conducted via Zoom Webinar. Public comment may be allowed after the presentation of the particular item by the Staff and Applicant, as directed by the Board of Adjustment Chairperson. Each speaker is allowed two minutes. Citizens wishing to comment must access the meeting via the Zoom Webinar link below and must use the "raise hand" feature. The call-in number is for listening only. If a citizen is unable to attend a meeting via Zoom, he or she may e-mail the Zoning Administrator at mwilcox@sandy.utah.gov by 3:00 PM the day of the Board of Adjustment meeting to have those comments distributed to the Board members and/or have them read into the record at the appropriate time.

Register in advance for this webinar:
https://us02web.zoom.us/s/81444374471

After registering, you will receive a confirmation email containing information about joining the webinar.

Or join by phone:
Dial (for higher quality, dial a number based on your current location):
US : +1 346 248 7799 or +1 669 900 6833 or +1 253 215 8782 or +1 312 626 6799 or +1 929 436 2866 or +1 301 715 8592
Webinar ID: 814 4437 4471
Passcode: 341146

FIELD TRIP

22-039 Field Trip Map for Board Members (Visit Individually)

5:15 PM EXECUTIVE SESSION

Board Member and Open Meetings Act Training

6:30 PM REGULAR SESSION

Welcome

Pledge of Allegiance

Present	4 -	Regular Member Brian Jones Regular Member Bruce Bryner Steven Wrigley Regular Member Burke Staker
Absent	2 -	Matt Hale Regular Member Tyler Brown

Introductions

Public Meeting Item

BOA0117202 2-006252 Rozenfeld Variance Request
3802 E Catamount Ridge Way
[Community #30 - Granite]

Michael Wilcox, Zoning Administrator, presented the staff report to the Board of Adjustment.

Brian Jones, Board of Adjustment Vice Chairperson, opened the meeting to public comment.

Yuri Rozenfeld, applicant, presented his case to the Board of Adjustment regarding his request for a variance.

Kelli Buttars, 3626 Little Cottonwood Lane, is the real estate agent representing the seller. She is in support of granting the variance for the buyer.

Steve Van Maren, 11093 S Lexington Circle, asked that additional requirements be placed on the variance.

Kent Hoggans, developer of land 26 years ago, has some concerns regarding the development of the lot but is in favor of having the lot developed.

Brian Jones closed the meeting to public comment.

Board members discussed the variance between themselves.

Burke Staker asked for some clarification on rock fall protection regarding this lot.

Ryan Kump, City Engineer, answered his concerns regarding rock fall protection.

Burke Staker expressed some concerns regarding the road plans for entrance into this lot.

Yuri Rozenfeld addressed those concerns.

Lynn Pace, City Attorney, discussed the easements and concerns of the roads on this lot for fire and public utility access.

Mike Wilcox explained where the waterline and the public utility easement is located on the lot.

Mike Wilcox asked that two additional conditions be considered with approval of the variance.

Discussion among staff regarding the roads and lot design.

A motion was made by Burke Staker, seconded by Steven Wrigley, that this The Board should approve the Rozenfeld variance regarding the property located at 3802 E Catamount Ridge Way based upon the following findings and conditions to mitigate the negative impacts of said variance:

Findings:

1. Literal enforcement of the zoning ordinance will cause an unreasonable hardship for the applicant that is not necessary to carry out the general purpose of the zoning ordinance. (Literal enforcement of the zoning ordinance would not allow any home to be built on this platted subdivision lot, depriving the lot of nearly all economic value, as nothing else could be built there.)

2. There are special conditions attached to the property that do not generally apply to other properties in the same zone. (The property is severely limited by a difficult and small building envelope. Other homes in this vicinity have been granted similar variances or special exceptions in order to allow construction.

3. Granting the variance is essential to the enjoyment of a substantial property right possessed by other property in the same district . The owner should be allowed to build a home.

4. The variance will not substantially affect the general plan and will not be contrary to the public interest. The plan provides for homes in this area and it was previously approved by the county so people are on notice that a home would be there.

5. The spirit of the zoning ordinance is observed and substantial justice will be done by granting this variance. (Not granting this variance would not allow any construction on this parcel and staff is working to mitigate the intrusion into the hillside.)

Conditions:

1. All proposed retaining walls be designed to follow the City Engineer's recommendations, including rock fall mitigation measures.

2. If the development of the dwelling as proposed creates cuts and fills over 10 feet in height, that they seek a special exception from the Planning Commission prior to issuance of a building permit.

3. That the Planning Commission review a detailed grading plan of the lot prior to issuance of a building permit which shows the proposed grading, cuts, fills, or terracing on the continuous hillside of 30% or greater slope.

4. That a vegetation plan, in accordance with Development Code Section 21-15-4(b)(3) be reviewed and approved by staff prior to issuance of a building permit to ensure the disturbed areas of the lot are properly restored, and drainage and slope stability issues are mitigated.

5. That the proposed home be allowed to be constructed to a footprint no larger than 2,455 square feet (including the garage area) in order to reduce the impact to the hillside and reduce the amount of disturbance to the natural vegetation.

6. That the area behind the home and driveway that is to be disturbed to construct the home be limited to an average of twenty feet (20'). That a limit of disturbance be placed at the existing 5420' elevation contour in order to reduce the impact to the hillside and reduce the amount of disturbance to the natural vegetation.

7. That the driveway width be limited to eighteen-foot (18') maximum and a depth of at least twenty feet (20') before tapering to a minimum twelve-foot (12') wide drive approach, fourteen foot (14') maximum, in order to reduce the impact to the hillside and reduce the amount of disturbance to the natural vegetation.

8. That all reports, plans, studies, and reports required by the City Engineer and

Section 21-15, Sensitive Area Overlay be completed prior to issuance of a building permit and approval of an engineered site plan.

9. That the buildable area be limited to be no closer than ten feet (10') within an existing water line or within a public utility easement.

10. That a conservation easement or restrictive covenant be recorded that restricts any further expansion of the approved building envelope or the construction of any further structures or further disturbance upon the property.

... The motion carried by the following vote:

Yes: 4 - Brian Jones
Bruce Bryner
Steven Wrigley
Burke Staker

Administrative Business

22-040 Election of Chair and Vice Chair for 2022

Motion made for Tyler to remain chair and Brian Vice Chair.

A motion was made by Brian Jones, seconded by Burke Staker, that Tyler Brown remain chairperson and Brian Jones remain vice chairperson for another year.

Yes: 4 - Brian Jones
Bruce Bryner
Steven Wrigley
Burke Staker

Adjournment

A motion was made by Burke Staker, seconded by Brian Jones, that the meeting be Adjourned. The motion carried by the following vote:

Yes: 4 - Brian Jones
Bruce Bryner
Steven Wrigley
Burke Staker

Meeting Procedure
1. Staff Introduction
2. Developer/Project Applicant presentation
3. Staff Presentation
4. Open Public Comment (if item has been noticed to the public)
5. Close Public Comment
6. Planning Commission Deliberation
7. Planning Commission Motion

In order to be considerate of everyone attending the meeting and to more closely follow the published agenda times, public comments will be limited to 2 minutes per person per item. A spokesperson who has been asked by a group to summarize their concerns will be allowed 5 minutes to speak. Comments which cannot be made within these time limits should be submitted in writing to the Community Development Department prior to noon the day before the scheduled meeting.

Planning Commission applications may be tabled if: 1) Additional information is needed in order to take action on the item; OR 2) The Planning Commission feels there are unresolved issues that may need further attention before the Commission is ready to make a motion. No agenda item will begin after 11 pm without a unanimous vote of the Commission. The Commission may carry over agenda items, scheduled late in the evening and not heard, to the next regular scheduled meeting.

In compliance with the Americans With Disabilities Act, reasonable accommodations for individuals with disabilities will be provided upon request. For assistance, or if you have any questions regarding the Planning Commission Agenda or any of the items, please call the Sandy City Planning Department at (801) 568-7256

EXHIBIT C

10000 Centennial Parkway
Sandy, UT 84070
Phone: 801-568-7141

Sandy City, Utah

Minutes Summary

Board of Adjustment

Thursday, August 11, 2022 | **5:30 PM** | **City Hall and On-line**

Meeting procedures are found at the end of this agenda.

This Board of Adjustment meeting will be conducted both in-person, in the Sandy City Council Chambers at City Hall, and via Zoom webinar. Participants may attend and participate in the meeting either in-person or via the webinar link below.

Register in advance for this webinar:
https://us02web.zoom.us/webinar/register/WN_XdirSIrWS3GsD7xMXRl0Ew
After registering, you will receive a confirmation email containing information about joining the webinar.

You can join the meeting with the following link:
https://us02web.zoom.us/s/87291671717

Or join via phone by dialing:
US : + 1 669 900 6833 or +1 253 215 8782 or +1 346 248 7799 or +1 669 444 9171
(for higher quality, dial a number based on your current location):

Webinar ID: 872 9167 1717
Passcode: 544427

Rollcall

Present	4 -	Regular Member Brian Jones Regular Member Bruce Bryner Regular Member Burke Staker Matt Hale
Absent	2 -	Steven Wrigley Regular Member Tyler Brown

5:30 PM REGULAR SESSION

Welcome

Pledge of Allegiance

Introductions

Public Meeting

1. BOA0801202 2-006373 Rozenfeld Variance Request to Amend Condition of Approval
3802 E Catamount Ridge Way

[Community #30 - Granite]

The applicant, Yuri Rozenfeld, presented to the Board of Adjustment his case for the revisions Condition #6 of the previously approved Board of Adjustment requirements.

Jeff Bell, Talisman Civil Consultants, is the engineer for this project. It is his opinion that revisions to Condition #6 is necessary to meet the requirements of the variance. The proposed changes also minimize the amount of material removed from this property.

Melissa Anderson, Zoning Administrator for Sandy City, presented the staff report to the Board of Adjustment. Staff recommended approval of the variance request for Condition #6.

Matt Hale asked for clarification that the Board is only needing to approve the request for the change to Condition #6. He was assured by staff that this is correct.

Brian Jones, Vice-Chairperson, opened the meeting to public comment.

Steve VanMaren, 11039 S Lexington Circle, stated he did not have any comments.

Brian Jones closed the meeting to public comment.

Discussion ensued among the Board members regarding the variance request.

Jeff Bell stated that one of the reasons that the changes are necessary is to allow a six foot terrace between each wall.

Discussion among staff, Board members and applicant regarding the necessity for the change to Condition #6.

Lynn Pace, City Attorney, reiterated that one of the standards for granting a variance is to show that "granting the variance is essential to the enjoyment of the substantial property right possessed by other property owners in the same district". The Board needs to determine that this current variance request is essential for the applicant to build his home.

A motion was made by Burke Staker, seconded by Bruce Bryner, that the Board of Adjustment approve the request to amend Condition #6 of the Variance that was approved under case file BOA01172022-006252 for the property located at 3802 East Catamount Ridge Way. All other conditions of approval would remain as originally approved to mitigate the negative impacts of said variance. If approved, the amended conditions of approval shall be stated as follows:

Conditions of Approval:

6. That the area behind the home and driveway that is to be disturbed to construct the home be limited to an average of twenty-six feet (26'). That a limit of disturbance be placed at the existing 5430' elevation contour in order to reduce the impact to the hillside and reduce the amount of disturbance to the natural vegetation.

This motion is based on the findings and conclusions provided in the staff report dated August 11, 2022, and findings in support of the application made by the Board of Adjustment during deliberations on this matter.

The motion carried by the following vote:

Yes: 4 - Brian Jones
Bruce Bryner
Burke Staker
Matt Hale

Absent: 2 - Steven Wrigley
Tyler Brown

Administrative Business

22-298 Rules of Procedure Amendments

Staff proposed amendments to the Board of Adjustment Rules and Procedures for electronic meetings. This was based of the updates to the Utah State Legislature regarding the open and public meetings act.

A motion was made by Bruce Bryner, seconded by Matt Hale, that the Board approved the 22-298 Rules of Procedure Amendments as presented. The motion carried by the following vote:

Yes: 4 - Brian Jones
Bruce Bryner
Burke Staker
Matt Hale

Absent: 2 - Steven Wrigley
Tyler Brown

Adjournment

Meeting Procedure
1. Staff introduction
2. Presentation by the petitioner or appellant
3. Staff presentation
4. Public comment related to the petition, appeal or request
5. Response by petitioner or appellant
6. Questions of the applicant, staff, and others by the Board
7. Discussion of the issue by the Board
8. Motions and decision by the Board

In order to be considerate of everyone attending the meeting and to more closely follow the published agenda times, public comments will be limited to 2 minutes per person per item. A spokesperson who has been asked by a group to summarize their concerns will be allowed 5 minutes to speak. Comments which cannot be made within these time limits should be submitted in writing to the Community Development Department prior to noon the day before the scheduled meeting.

Board of Adjustment applications may be tabled if: 1) Additional information is needed in order to take action on the item; OR 2) The Board of Adjustment feels there are unresolved issues that may need further attention before the Board is ready to make a motion. No agenda item will begin after 11 pm without a unanimous vote of the Board. The Board may carry over agenda items, scheduled late in the evening and not heard, to the next regular scheduled meeting.

In compliance with the Americans With Disabilities Act, reasonable accommodations for individuals with disabilities will be provided upon request. For assistance, or if you have any questions regarding the Board of Adjustment Agenda or any of the items, please call the Sandy City Planning Department at (801) 568-7256.

EXHIBIT D

Yuri Rozenfeld
125 W. Redman Ave.
Haddonfield, NJ 08033

April 21, 2023

Sandy City Planning Commission
c/o Melissa Anderson,
Zoning Administrator
10000 Centennial Parkway
Sandy, Utah 84070

Re: Planning Commission Review/Permit Application
3802 E. Catamount Ridge Way, Sandy, UT 84092

Dear Ms. Anderson and Members of the Planning Commission:

The subject lot is located at 3802 E. Catamount Ridge Way, Sandy, UT 84092, Parcel Number 28-12-327-030-0000.

Background:

Variance permitting the construction of a residence on the lot was granted by the Sandy Board of Adjustments ("BOA") at a meeting held on February 10, 2022. The BOA approved an amendment to the variance at a meeting held on August 10, 2022.

BOA imposed 10 conditions when granting the variance.

Attachments:

The following documents are attached with this letter:

- Site Plans, prepared by Talisman Civil Consultants, LLC
- Retaining Wall Design Package, prepared IGES, Inc.
- Landscaping Plan Design, prepared by Focus Engineering and Surveying, LLC
- Residence Plan, prepared by Harbor Design

Yuri Rozenfeld
125 W. Redman Ave.
Haddonfield, NJ 08033

Summary of BOA Conditions:

Condition 1:

1. All proposed retaining walls be designed to follow the City Engineer's recommendations, including rock fall mitigation measures.

Comments:

- Since work on this project commenced in Dec. 2021, several iterations of the site plan were reviewed with Ryan Kump, including prior to both BOA meetings.
- The Site Plan presented with this letter is consistent with those previously reviewed and approved.
- A rock fall study was completed by IGES, Inc. in May 2022. The study concluded that there is no rockfall risk at the location of the residence.

Condition 2:

2. If the development of the dwelling as proposed creates cuts and fills over 10 feet in height, that they seek a special exception from the Planning Commission prior to issuance of a building permit.

Comments:

- The table below lists the requirements of Sec. 21-15-4(b)(6) (Grading, Cuts and Fill) and comments on how these items are addressed in the submitted plans and will be addressed during site work:

Sec. 21-15-4(b)(6) (Grading, Cuts and Fill):	**Comments:**
a. Exposed unstable surfaces of a cut or fill shall not be steeper than one vertical to two horizontal.	This condition will be satisfied. This condition will be added to the contract with the selected contractor.

b. All permanent fill shall be stabilized and finished to reduce risk associated with settling, sliding or erosion.	This condition will be satisfied. This condition is a requirement under the Site Plan will be added to the contract with the selected contractor. Further stabilization will be accomplished with the installation of the Landscaping Plan.
c. The top and bottom edges of slopes caused by an excavation or fill up to ten vertical feet shall be at a minimum of five horizontal feet from the property line or public right-of-way lines.	This condition is satisfied under the terms of the Site Plan and will be added to the contract with the selected contractor.
d. The maximum vertical height of all cuts or fills shall be ten feet. Under exceptional circumstances, the Planning Commission may approve cuts or fills in excess of ten feet with a recommendation from the City Engineer. Cuts or fills shall be measured from natural grade to finished grade. The burden of demonstrating exceptional circumstances shall be on the developer of the property, but may include: 1. Cutting or filling of areas designated as anomalies. 2. Cutting to allow for required sight triangles. 3. Areas previously modified, altered or disturbed. 4. Cuts or fills as required by the City Engineer to mitigate any unsafe condition, such as slopes exceeding 50 percent. 5. Unusual topographic features, such as bowls or rises that don't exceed slope limitations but may inhibit sound construction. 6. Other conditions as approved by the Planning Commission.	The BOA approved a variance to construct the proposed dwelling on the subject property, which is a legal lot that has a continuous 30% or greater slope. To construct the new home and driveway in accordance with the variance conditions of approval, the necessary grading and retaining walls result in cuts and fill greater than 10 feet; however, the level of disturbance is the minimum necessary to develop the site and construct the home consistent with the variance approval. The Retaining Wall Design Package contemplates retaining walls no higher than 9 feet.

Yuri Rozenfeld
125 W. Redman Ave.
Haddonfield, NJ 08033

e. All structures, except retaining walls or soil stabilization improvements, shall have a setback from the crest of the fill or base of the cut of a minimum distance equal to the depth of the fill or the height of the cut, unless a structurally sound retaining wall is built for the cut or fill slope.	The Retaining Wall Designed Package contemplates retaining walls to stabilize all cuts and fills.
f. No grading, cuts, fills, or terracing will be allowed on a continuous hillside containing 30 percent or greater slope, crest (upslope or downslope) unless otherwise determined by the Planning Commission upon recommendation of the Director and City Engineer.	The subject lot is located on a continuous hillside containing 30% or greater slope. For this reason, and because the lot was platted and grandfathered for development, the BOA granted a variance to build on this lot, notwithstanding the continuous hillside containing 30% or greater slope. We understand the challenges of developing this lot. All elements of the submitted plan have been reviewed and approved by the City Engineer.

Condition 3:

3. That the Planning Commission review a detailed grading plan of the lot prior to issuance of a building permit which shows the proposed grading, cuts, fills, or terracing on the continuous hillside of 30% or greater slope.

Comments:

- Please see submitted Site Plan, prepared by Talisman Civil Consultants LLC, which shows all proposed grading, cuts, fills, and terracing.
- Please also see comments in response to Condition 2.

Yuri Rozenfeld
125 W. Redman Ave.
Haddonfield, NJ 08033

Condition 4:

4. That a vegetation plan, in accordance with Development Code Section 21-15-4(b)(3) be reviewed and approved by staff prior to issuance of a building permit to ensure the disturbed areas of the lot are properly restored, and drainage and slope stability issues are mitigated.

Comments:

- The Vegetation Plan, prepared by Focus Engineering and Surveying LLC, and the Site Plans, prepared by Talisman Civil Consultants, LLC address the requirements of Sec. 21-15-4(b)(3) (Vegetation and Revegetation).
- The table below listed the requirements of Sec. 21-15-4(b)(3) and comments on how these items are addressed in the submitted plans and will be addressed during site work:

Sec. 21-15-4(b)(3) (Vegetation and Revegetation):	Comments:
a. Vegetation shall be removed only when absolutely necessary for the construction of buildings, roads, and filled areas.	The submitted Site Plan (Sheets C100, C200) anticipates removing only the vegetation that is required to construct the residence, the driveway, and the retaining walls. The area of disturbance was previously reviewed and approved by the BOA.
b. All areas on development sites cleared of natural vegetation in the course of construction of off-site improvements shall be replanted with vegetation which has good erosion control characteristics.	The submitted Vegetation Plan requires replanting of native grass, trees, and shrubs. The Vegetation Plan states that "Native Seed must meet the Utah Seed Law." Further, per the Vegetation Plan, the trees and shrubs that will be replanted are also native to the area.
c. New plantings shall be protected with a mulch material and fertilized in conjunction with the planting and watering schedule described in Subsection (b)(3)(e) of this section.	This condition will be satisfied. This condition is also a requirement noted in the Vegetation Plan and will be added to the contract with the selected contractor.

Yuri Rozenfeld
125 W. Redman Ave.
Haddonfield, NJ 08033

d. The use of persons or firms having expertise in the practice of revegetation (e.g., licensed landscape architects or certified nurserymen) shall supervise the planting and installation of revegetation cover.	The Vegetation Plan was prepared and stamped by a Landscape Architect licensed in the State of Utah. We will ensure that the Architect is also engaged to supervise the planting and installation of revegetation cover, and this condition will be added to the contract with the selected contractor.
e. After the completion of off-site improvements, vegetation should be planted in all disturbed areas during the following time periods only: 1. March 15 through May 15 and September 15 through October 31. 2. If irrigated, planting may be done during summer months.	Under our timeline, vegetation will be replanted during the window between September 13 and October 31.
f. Generally, no vegetation shall be removed on a continuous hillside, crest (upslope or downslope), with a slope 30 percent or greater. However, for uses such as trails and open space improvements, the City Engineer may approve designated areas of vegetation that can be removed or disturbed in conjunction with a Revegetation or Slope Stabilization Plan.	The subject lot is located on a continuous hillside of 30% or greater slope. For this reason, and because the lot was platted and grandfathered for development, the BOA granted a variance to build on this lot. We understand the challenges of developing this lot and we are committed to professionally restoring vegetation as reflected enclosed Vegetation Plan.
g. Topsoil removed during site construction shall be reserved for later use on areas requiring vegetation or landscaping such as cut and fill slopes.	This condition will be satisfied. This condition is a requirement noted in the Vegetation Plan and will be added to the contract with the selected contractor.
h. All disturbed soil surfaces shall be stabilized or covered prior to November 1. If the planned impervious surfaces (e.g., roads, driveways, etc.) cannot be established prior to November 1, a temporary treatment adequate to	Under our timeline, we are committed to stabilizing all disturbed surfaces before November 1.

Yuri Rozenfeld
125 W. Redman Ave.
Haddonfield, NJ 08033

prevent erosion shall be installed on those surfaces.	
i. The property owner and/or developer shall be fully responsible for any destruction or damage of native or applied vegetation identified as necessary for soil retention and shall be responsible to replace such destroyed vegetation. They shall carry the responsibility both for employees and subcontractors from the first day of construction until the final acceptance of improvements. The property owner and developer shall replace all destroyed vegetation with varieties of vegetation approved by the Director.	This condition will be satisfied. This condition is a requirement noted in the Vegetation Plan and will be added to the contract with the selected contractor.

Condition 5:

5. That the proposed home be allowed to be constructed to a footprint no larger than 2,455 square feet (including the garage area) in order to reduce the impact to the hillside and reduce the amount of disturbance to the natural vegetation.

Comment:

- The footprint of the residence meets this requirement.

Condition 6:

6. That the area behind the home and driveway that is to be disturbed to construct the home be limited to an average of twenty-six feet (26'). That a limit of disturbance be placed at the existing 5430' elevation contour in order to reduce the impact to the hillside and reduce the amount of disturbance to the natural vegetation.

Comment:

- The submitted Site Plan meets this requirement.

Condition 7:

7. That the driveway width be limited to eighteen-foot (18') maximum and a depth of at least twenty feet (20') before tapering to a minimum twelve-foot (12') wide drive approach, fourteen-foot (14') maximum, in order to reduce the impact to the hillside and reduce the amount of disturbance to the natural vegetation.

Comment:

- The submitted Site Plan meets this requirement.

Condition 8:

8. That all reports, plans, studies, and reports required by the City Engineer and Section 21-15, Sensitive Area Overlay be completed prior to issuance of a building permit and approval of an engineered site plan.

Comments:

- To date we have provided all reports, plans and studies requested by the City Engineer.
- Furthermore, we have complied with all process requirements of the Sensitive Area Overlay Regulations. For example:
    - Development Review (Sec. 21-15-3(a)): Multiple meetings and plans have been submitted and reviewed by the City Engineer and managers of various City Departments before and after submission of the plan to the BOA.
    - Application (Sec. 21-15-3(b)): All applicable criteria summarized in this Section has been addressed, including:
        - Site Survey
        - Slope Analysis
        - Rock Fall Study/Geo Analysis

- Flood and fault line hazards
- Per discussion with the City Engineer, soil samples, if needed, will be conducted during stie work
- Landscaping Plan (included)
- Grading and Drainage Analysis (included)

- Preliminary Review (Sec. 21-15-3(c)): An in-person/Teams meeting was organized and conducted among all key Sandy City stakeholders and design and construction professionals engaged to build the residence on March 23, 2023.
  - All comments received during and after the Preliminary Review Meeting from the managers of various City Departments have been incorporated into the plans submitted today.

- Development Standards for Sensitive Areas (Sec. 21-15-4):
  - The design and construction professionals engaged to build the residence have extensive experience with the requirements enumerated under Sec. 21-15-4(b) and applicable elements are addressed in the submitted plans.

Condition 9:

9. That the buildable area be limited to be no closer than ten feet (10') within an existing water line or within a public utility easement.

Comment:

- The submitted Site Plan meets this requirement.

Condition 10:

10. That a conservation easement or restrictive covenant be recorded that restricts any further expansion of the approved building envelope or the construction of any further structures or further disturbance upon the property.

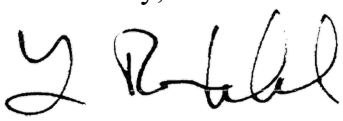
Yuri Rozenfeld
125 W. Redman Ave.
Haddonfield, NJ 08033

Comment:

- We expect to receive proposed language from Sandy and expect to finalize promptly after the language is proposed.

Thank you for your consideration.

Sincerely,



Yuri Rozenfeld

EXHIBIT E

Intermountain GeoEnvironmental Services, Inc.
2702 South 1030 West, Suite 100, Salt Lake City, Utah, 84119
Phone (801) 270-9400 | Fax (801) 270-9401
www.igesinc.com

Rockfall Hazard Assessment

Lot 8 of the Little Cottonwood View Estates Subdivision
3802 E. Catamount Ridge Way
Sandy, Utah

IGES Project No. 04010-001

May 19, 2022

Prepared for:
Mr. Yuri Rozenfeld

Rockfall Hazard Assessment
Lot 8 of the Little Cottonwood View Estates Subdivision
3802 E. Catamount Ridge Way
Sandy, Utah

IGES Project No. 04010-001

May 19, 2022

Prepared by:

Peter E. Doumit, P.G., C.P.G.
Senior Geologist

Reviewed by:

David A. Glass, P.E.
Associate

TABLE OF CONTENTS

APPENDICES

1.0 EXECUTIVE SUMMARY

This report presents the results of a rockfall hazard assessment conducted for Lot 8 of the Little Cottonwood View Estates Subdivision, located at 3802 E. Catamount Ridge Way in Sandy, Utah. Based on the literature reviewed, surficial conditions encountered, and results of the rockfall modeling, **it is our opinion that the rockfall hazard risk is considered to be low for the subject property**. Pertinent findings, conclusions, and recommendations reached as a product of the investigation are as follows:

- The subject property was observed to have steep slopes down to the northwest, with occasional to common boulders scattered across the surface. These boulders were predominantly angular to subangular orthoquartzite of the Big Cottonwood Canyon Formation up to 8½ feet in maximum dimension. These boulders were typically blocky shaped, and many of them were observed to be partially buried.

- The presence of the water tank and the water tank access road immediately upslope of the building envelope made it difficult to differentiate between actual rockfall boulders and boulders that were pushed/rolled onsite during the excavation and construction of the water tank and access road. The closest definitive rockfall boulders to the building envelope were observed to be located upslope approximately 200 feet to the southeast of the southern margin of the building envelope.

- The bedrock outcrops present upslope of the property consist entirely of Big Cottonwood Formation orthoquartzite, which was observed to be very hard, largely unfractured, and subvertically dipping back into the hillslope, indicating a lack of significant dip-slope failure conditions. These bedrock exposures are limited in areal extent immediately upslope of the property such that the small drainages that project toward the property have minor accumulation of rockfall detritus and no talus slopes are present in association with these outcrops. Additionally, there was no observed destruction of existing native vegetation indicative of a recent rockfall pathway in association with these outcrops.

- The rockfall modeling shows that rockfall events from the source outcrops upslope do not reach the building envelope under either vegetation-covered (existing) or vegetation-free (post-fire) conditions, with the closest rockfall boulder stopping approximately 214 feet from the southern margin of the building envelope. These results are consistent with the field observations.

Based on the findings of this study, we recommend the following:

- If the water tank upslope of the building envelope is ever removed or the landscape around the tank modified, it may be prudent to have the rockfall hazard for the property reevaluated at that time.

NOTICE: The executive summary is not intended to replace the information presented in the report, of which the executive summary is an essential part. The executive summary should not be used separately from the report and is only provided as an overview, to summarize the primary conclusions and recommendations. The executive summary may omit a number of details, any one of which could be crucial to the proper interpretation and application of the report and implementation of the recommendations.

2.0 INTRODUCTION

2.1 PURPOSE AND SCOPE OF WORK

This report presents the results of a rockfall hazard assessment performed for Lot 8 of the Little Cottonwood View Estates Subdivision, located at 3802 E. Catamount Ridge Way in Sandy, Utah. The purpose of this rockfall hazard study was to identify and characterize the nature of the rockfall hazard associated with the property, and to provide recommendations to mitigate the rockfall hazard for the property, if necessary.

Specifically, this rockfall hazard assessment was conducted to:

- Assess the surficial and geologic conditions present upslope of the property;
- Provide local geologic mapping of the area upslope of the property; and
- Assess the risk associated with rockfall hazards, identify the areas affected by these hazards, and provide recommendations for rockfall hazard mitigation.

In order to achieve the purpose and scope outlined above, the following services were performed as part of this investigation:

- Review of available published geologic literature, reports, references, and maps of the subject property and surrounding areas;
- Stereoscopic review of aerial photographs and analysis of additional available aerial imagery, including LiDAR;
- Site reconnaissance and site-specific geologic mapping of the project area by an engineering geologist licensed in the state of Utah, to determine site conditions and assess the property for existing rockfall hazard conditions;
- Computer modeling of the rockfall hazard to evaluate affected areas and potential impact parameters; and
- Preparation of this report, based upon the data reviewed and collected in this investigation.

Our services were performed in accordance with our proposal dated April 8, 2022, and your signed authorization. The recommendations presented in this report are subject to the limitations presented in the "Limitations" section of this report (Section 7.1).

2.2 PROJECT DESCRIPTION

The subject property is Lot 8 of the Little Cottonwood View Estates Subdivision, located at 3802 E. Catamount Ridge Way in Sandy, Utah (see Figure A-1, *Site Vicinity Map* and Figure A-2, *Aerial Image*, in Appendix A). The property is an undeveloped 4.45-acre parcel located at the southern end of the mouth of Little Cottonwood Canyon, in the northeastern quarter of the southwestern quarter of Section 12, Township 3 South, Range 1 East (see Figure A-1). The property is bordered by Catamount Ridge Way to the north, and undeveloped land to the west, south, and east of the property (see Figure A-2). The building envelope for the lot is to be located on the northwesternmost portion of the property, straddled between Catamount Ridge Way and a Sandy City water tank access road. The existing water tank is located approximately 175 feet upslope of the southern margin of the building envelope, located within a 0.45-acre square that is excluded from the property (see Figure A-2).

Due to the steep mountainous terrain with some bedrock exposures present upslope of the property, the lot is located within a *Rockfall Special Study Area* for Sandy City. Based on a *Site Plan* produced by Harbor Design dated December 30, 2021, it is our understanding that the proposed development is to consist of the construction of a multi-story, single-family residence, with several tiers of engineered rockeries on the upslope (southeastern) side of the home, and an associated driveway and utilities. The rockeries will be between 6 and 8 feet in height. We anticipate that the residence will be a wood-framed structure founded on conventional spread footings.

3.0 METHODS OF STUDY

3.1 REVIEW OF AVAILABLE GEOLOGIC LITERATURE

McKean and Solomon (2018) provide the most recent 1:24,000 scale geologic mapping that covers the subject property in the Draper Geologic Quadrangle (Figure A-3, *Regional Geology Map*). Bryant (1990) provides older and more regional-scale (1:100,000) geologic mapping that covers the property. The corresponding United States Geological Survey (USGS) topographic map for the Draper Quadrangle (2020) provides physiographic and hydrologic data for the project area (see Figure A-1).

3.2 AERIAL IMAGERY REVIEW

Stereo-paired aerial imagery for the project site, recent and historic Google Earth imagery, and State of Utah lidar data was reviewed to assist in the identification of changes to the property due to rockfall events. The aerial photographs and lidar data reviewed are documented in the *References* section of this report.

3.3 SITE RECONNAISSANCE

An IGES geologist professionally licensed in the State of Utah investigated the geologic conditions across, adjacent to, and upslope of the subject property on April 20, 2022. The purpose of the site reconnaissance was to assess the site and the immediate vicinity for any bedrock outcrops, talus slopes, rockfall boulders, or other conditions indicative of a potential rockfall hazard. Figure A-2 is an aerial image that shows identified rockfall boulders observed during the site reconnaissance. Figure A-4 is a *Local Geology Map* showing the locations of identified potential rockfall hazard source outcrops assessed during the site reconnaissance, and the corresponding cross-section location used in the rockfall modeling (Section A-A'). Figure A-5 provides some select site photographs taken at the time of the site reconnaissance.

3.4 COMPUTER MODELING

Subsequent to the site reconnaissance, geologic parameters observed at the site were incorporated into 2-dimensional modeling of the slope using the RocFall 8.016 program produced by RocScience. The results of the modeling are the basis for the rockfall hazard classification and recommendations contained within this report, and the rockfall modeling results are provided in Appendix B.

4.0 GEOLOGIC CONDITIONS

4.1 GENERAL GEOLOGIC SETTING

The subject property is situated in the western foothills of the central Wasatch Mountains, along the southern margin of the mouth of Little Cottonwood Canyon and the eastern margin of the Salt Lake Valley. The Wasatch Mountains contain a broad depositional history of thick Precambrian and Paleozoic sediments that have been subsequently modified by various tectonic episodes that have included thrusting, folding, intrusion, and volcanics, as well as scouring by glacial and fluvial processes (Stokes, 1987). The uplift of the Wasatch Mountains occurred relatively recently during the Late Tertiary Period (Miocene Epoch) between 12 and 17 million years ago (Milligan, 2000). Since uplift, the Wasatch Front has seen substantial modification due to such occurrences as movement along the Wasatch Fault and associated spurs, the development of the numerous canyons that empty into the current Salt Lake Valley and Utah Valley and their associated alluvial fans, erosion and deposition from Lake Bonneville, and localized mass-movement events (Hintze, 1988).

The near-surface geology of the Salt Lake Valley is dominated by sediments that were deposited within the last 30,000 years predominantly by the Pleistocene-aged glacial Lake Bonneville, which was as much as 1,000 feet deep (Hintze, 1988). The lacustrine and glacial sediments near the mountain front consist mostly of sand and gravel. Sediments toward the center of the valley are predominantly offshore deposits of clay, silt, and fine sand. Post-Bonneville alluvial and colluvial cover and mass-movement deposits are common along the Wasatch Front and in places extend to the central part of the valley.

The Wasatch Fault and its associated segments are part of an approximately 230-mile-long zone of active normal faulting collectively referred to as the *Wasatch Fault Zone* (WFZ), which has well-documented evidence of late Pleistocene and Holocene (though not historic) movement (movement within the past ~15,000 years; Lund, 1990; Hintze, 1988). The faults associated with the WFZ are almost all normal faults, exhibiting block movement down to the west and up to the east. The WFZ is contained within a greater area of active seismic activity known at the Intermountain Seismic Belt (ISB) which runs approximately north-south from northwestern Montana, along the Wasatch Front of Utah and southern Nevada and into northern Arizona. In terms of earthquake risk and potential associated damage, the ISB ranks only second in North America to the San Andreas Fault Zone in California (Stokes, 1987).

According to the Quaternary Fault and Fold Database of the United States (USGS and UGS, 2006), the main trace of the Salt Lake Segment of the WFZ trends north-south

approximately 0.4 miles west of the property and represents the closest mapped active fault to the property (see Figure A-3).

4.2 SITE GEOLOGY FROM LITERATURE

McKean and Solomon (2018) provide the most recent 1:24,000 scale mapping of the general geology of the area and serves as the base map for the *Regional Geology Map* shown in Figure A-3. As seen in Figure A-3, McKean and Solomon (2018) map the material underlying the northern half of the property (including the proposed building envelope) to be entirely undivided younger alluvial fan deposits (map unit Qafy), with the southern half of the property to be underlain by Big Cottonwood Formation bedrock (map unit Zbc). Several lobes of undivided glacial deposits (map unit Qg) are mapped upslope to the southeast of the property. A southeast-northwest trending inactive bedrock thrust fault is mapped to the south of the property as separating undifferentiated Big Cottonwood Formation bedrock (map unit Zbc) from orthoquartzite Big Cottonwood Formation bedrock (map unit Zbcq) approximately halfway up the slope.

The younger alluvial fan deposits (map unit Qafy) are mapped as being derived from a series of north-sloping drainages formed within the east-trending ridge of bedrock (see Figure A-3). These deposits are described as Holocene to upper Pleistocene-aged "Poorly to moderately sorted, pebble to cobble gravel with boulders near bedrock sources, with a matrix of sand, silt, and clay, grading to mixtures of sand, silt, and clay on gentler slopes; clasts subangular to well rounded…thin to thick parallel bedding and cross-bedding; deposited by debris flows, debris floods, and streams at the mouths of small canyons draining the Wasatch Range…thickness variable, probably less than 30 feet (10 m)" (McKean and Solomon, 2018).

The Big Cottonwood Formation (map unit Zbc) is described as Neoproterozoic-aged "Interbedded greenish-gray, gray, and reddish- to bluish-purple, thin-bedded shale and siltstone (Zbcs), and white, greenish-gray, and gray, rusty-weathering orthoquartzite (Zbcq), metamorphosed to argillite, schist, and quartzite; undifferentiated (Zbc) where poorly exposed, altered by metamorphism, or highly fractured…only the lower 7000 feet (2100 m) of the total 16,000 feet (5000 m) are exposed in the Draper quadrangle…" (McKean and Solomon, 2018).

4.3 REVIEW OF AERIAL IMAGERY

Aerial photographs covering the subject property were taken from the Utah Geological Survey Aerial Imagery Collection (UGS, 2022) and analyzed stereoscopically to assess any changes to the nature of the property from a rockfall perspective. This included a review of photos collected from the year 1970 and preceding development in the area of the

subject property (including preceding the installation of the water tank). A table summarizing the details of the aerial photographs reviewed can be found in the *References* section of this report.

In the imagery, dense vegetation was observed across the subject property and extending upslope without any evidence of rockfall pathways. Scattered large boulders were observed across various parts of the slope to the east of the subject property, but few, if any, boulders were observed to be present on the subject property.

Google Earth imagery of the property from between the years of 1993 and 2021 was also reviewed. In the 1993 imagery, the water tank had already been constructed, and Catamount Ridge Way had already been cut in. The site was observed to contain patchy scrub oak, with grassy cover between the trees, with occasional boulders observed at the surface in places. The property appears to have been largely unchanged between 1993 and 2021, and no evidence of rockfall events was observed in the imagery on or upslope of the property across this time frame.

Utah Geological Survey (UGS, 2013) lidar data was reviewed to evaluate the potential drainage pathways to the site from bedrock source areas. In the imagery, no accumulations of large boulders were observed within the any of the three potential drainages that are considered capable of producing rockfall boulders that could reach the subject property. Additionally, at about the location of the water tank on the slope, the individual drainages largely cease to be present. Most notably, the drainages tend to curve slightly to the northwest downslope. For the westernmost drainage, this curve would likely direct a potential rockfall boulder to the west of the subject property. The water tank is cut into a small ridge that separates the central drainage from the eastern drainage; as a result, the presence of the water tank would similarly likely direct a potential rockfall boulder to the west of the tank (and, correspondingly, west of the subject property). The slight northwest curve of the eastern drainage projects across the subject property. However, the presence of the partially above-ground water tank is likely to deflect a potential rockfall boulder to the east of the tank and likely east of the subject property (similar conditions were subsequently observed in the field during the site reconnaissance, as discussed in the following section of this report).

4.4 GEOLOGIC CONDITIONS FROM SITE RECONNAISSANCE

Site reconnaissance and field mapping of the bedrock outcrop and slope immediately south of the property was performed on April 20, 2022. Figure A-2 is an aerial image that displays the surficial conditions and locations of data points collected during the site reconnaissance, and Figure A-5 provides select site photographs from the reconnaissance. At the time of the site reconnaissance, the property and slope south of

the property were observed to be free of snow cover, allowing for a complete reconnaissance to be performed.

The building envelope portion of the property was observed to be entirely native, with steep slopes down to the northwest. Occasional scrub oak was encountered across a portion of this area, but the native vegetation was primarily grasses and some sagebrush. Occasional to common boulders were observed to be scattered across the surface, with many of the boulders observed to be at least partially buried. Those boulders that were partially buried were interpreted to have been deposited by debris-flows as part of the mapped younger alluvial fan deposits (map unit Qafy). Across the building envelope, angular to subangular white to pink orthoquartzite boulders of the Big Cottonwood Formation up to 8½ feet in maximum dimension were observed. These boulders were typically blocky shaped, with lesser equant or platy shapes, and were most commonly between 3 and 5 feet in maximum dimension. Waypoints 1217 through 1222 on Figure A-2 represent locations of interpreted rockfall boulders across and adjacent to the building envelope.

The boulders exposed at the surface that were not buried were interpreted to have been derived from rockfall processes. However, clusters of these surface boulders were observed near the southern end of the building envelope adjacent to the water tank access road. Additionally, some boulders were observed to be leaning up against scrub oak tree trunks, but with no upslope signs of damage from a rockfall rolling or bouncing downslope. Thus, it was interpreted that some, if not most, of the boulders identified on the building envelope were derived from the excavation of the water tank access road and/or the water tank excavation itself. A similar cluster of even larger boulders was observed north of the water tank and south of the water tank road (Waypoint 1223 on Figure A-2), with boulders up to 9 feet in maximum dimension present. Some of these boulders were observed to be standing on end in an orientation that would not be likely from a rockfall origin.

Immediately northeast of the water tank (Waypoint 1224 on Figure A-2), three large boulders were observed that were considered to be definitively of rockfall origin. These angular orthoquartzite boulders were between 6½ and 8 feet in maximum dimension, were all laying on the long end, contained some fresh faces, and had minor lichen growth on the surfaces. These boulders were present within a dense patch of mature scrub oak; given that the scrub oak was undamaged, the boulders were interpreted to have been deposited sometime before the growth of the scrub oak. Most notably, these boulders represent the closest definitive rockfall boulders to the subject property, located approximately 200 feet to the southeast of the southern margin of the building envelope.

Notably, upslope and behind the water tank at the water tank cut slope (Waypoint 1225 on Figure A-2), the fence along the back of the water tank was observed to have accumulated small colluvial boulders and cobbles up to 2 feet in maximum dimension. However, no boulders in excess of 2 feet in maximum dimension or significant impacts to the fence were observed, indicating an absence of rockfall boulders in this area.

Waypoint 1226 on Figure A-2 indicates a location within a dense patch of scrub oak that contained a number of rockfall boulders at the surface, interpreted to be a talus cone of rockfall debris emanating from the central drainage. These boulders were all angular orthoquartzite and up to 5 feet in maximum dimension. Similar to the boulders observed northeast of the water tank, there was no damage to the surrounding vegetation such that these boulders are interpreted to have been deposited before the growth of the existing scrub oak in this area. At approximately the same elevation downslope in the western drainage, a lone rockfall boulder 4 feet in maximum dimension was observed (see Waypoint 1229 on Figure A-2), but this was not in association with a talus cone like in the central drainage.

The closest bedrock outcrop to the property was identified at Waypoint 1227 on Figure A-2, located approximately 450 feet south of the southern margin of the building envelope. This outcrop exposed a pale yellowish orange to white outcrop of Big Cottonwood Formation orthoquartzite that was observed to be very hard, largely unfractured, and thinly bedded with subvertical beds dipping slightly back into the hillslope. The bedrock contained an irregularly weathered outer surface that was generally limited to the outermost approximately one inch of the rock, and was largely unaltered below this weathered depth. This outcrop did not extend more than about 6 feet above the existing ground surface, and did not appear to pose a significant rockfall threat due to the limited exposure, unfractured nature, and absence of dip-slope conditions.

A more prominent bedrock outcrop was observed further upslope at Waypoint 1228 on Figure A-2, extending up to 8 feet above the existing ground surface. This outcrop similarly exposed Big Cottonwood Formation orthoquartzite that was very hard and largely unfractured. However, this outcrop appeared massive to weakly bedded, and dipping back into the hillslope. Common oxidized slickensides along joint faces were present where large slabs had previously slid off the outcrop (presumably as a rockfall event).

Table 4.4 below provides information regarding each of the waypoints collected during the site reconnaissance shown on Figure A-2.

Table 4.4 Rockfall Data Points

Waypoint	Location	Feature	# Boulders	Max Size Range (ft)	Comments
1217	N40.57141° W111.78889°	Rockfall Boulders	14	8.5	Possibly derived from water tank access road excavation.
1218	N40.57148° W111.78873°	Rockfall Boulders	4	5	
1219	N40.57163° W111.78862°	Rockfall Boulders	3	2	
1220	N40.57154° W111.78906°	Rockfall Boulder	1	6	
1221	N40.57140° W111.78942°	Rockfall Boulder	1	3	Lone boulder at surface; several 3-4’ partially buried boulders nearby
1222	N40.57120° W111.78936°	Rockfall Boulders	7	3.5	Possibly derived from water tank access road excavation.
1223	N40.57121° W111.78874°	Rockfall Boulders	5	9	Possibly derived from water tank excavation.
1224	N40.57104° W111.78825°	Rockfall Boulders	3	8	Closest definitive rockfall boulders to building envelope
1225	N40.57063° W111.78850°	Water Tank Cut	Many	2	No damage to water tank back fence
1226	N40.57028° W111.78852°	Rockfall Boulders	Many	5	Talus cone for central drainage
1227	N40.57018° W111.78860°	Bedrock Outcrop	NA	NA	Closest bedrock outcrop to building envelope
1228	N40.56944° W111.78833°	Bedrock Outcrop	NA	NA	Big Cottonwood Formation orthoquartzite outcrop; subvertical
1229	N40.57027° W111.78914°	Rockfall Boulder	1	4	Lone rockfall boulder in middle of western drainage

5.0 ROCKFALL HAZARD ASSESSMENT

Based on the observations made during the rockfall site reconnaissance, it is our opinion that the bedrock outcrops located upslope of the property present a low rockfall hazard due to limited outcrop exposures, the largely unfractured nature of the bedrock, steep bedding dip back into the hillslope, and the absence of associated talus slopes. Nevertheless, large rockfall boulders were observed within 200 feet upslope of the building envelope, and there remains the potential (albeit low) that rockfall events can occur, especially during seismic events.

IGES performed rockfall modeling using the Rocscience program RocFall 8.016 in order to evaluate approximate rockfall runout distances, impact velocity and total kinetic energy, and the projected impact height to the proposed residence. Graphical results of the rockfall hazard modeling can be found in Appendix B.

Rockfall modeling was performed using a single line of section (Section A-A' on Figure A-4), based upon the specific location of identified rockfall source outcrops upslope of the property and anticipated rockfall pathways to the property.

Based upon site observations, the following input parameters were incorporated into the three models for the property:

- The rockfall source areas were bedrock outcrops that were comprised of orthoquartzite of the Big Cottonwood Formation (map unit Zbcq) with an estimated density of 163 lb/ft^3 and modeled under the default setting of "bedrock outcrop." The slope roughness for this material was given an amplitude of 5 feet for every 10-foot spacing, based upon site observation.

- Topography containing the young alluvial fan deposits (map unit Qafy) was modeled as "soil with vegetation." Based on field observations, the slope roughness for this material was given an amplitude of 2 feet for every 10-foot spacing. Due to the presence of significant vegetation across the line of section in this area, a forest damping effect was applied. This consisted of an effective height of 8 feet with a 550 lb/s drag coefficient, based upon an open forest density assumption with an 87 ft^2/acre basal area.

- Three total rockfall seeder[1] locations were established at the variously observed bedrock outcrops to account for different potential rockfall origination points.

[1] Seeder: A rockfall event starting point. In this case, a bedrock outcrop.

- Rockfall boulders were modeled as having super ellipse^4 (5:6), super ellipse^4 (2:3), super ellipse^6 (5:6), and super ellipse^6 (2:3) shapes, based upon the observed shape of boulders encountered in the field.

- An initial horizontal and vertical velocity of 0.5 ft/sec, based on the assumption that initial movement of the boulder was produced by a seismic event and not merely gravity-induced.

- 300 total modeled rockfall events, which included 25 events for each of the four modeled boulder sizes stemming from the three bedrock source areas, based upon dimensions observed in the field. This included boulders with maximum dimensions of 8½ ft, 6 ft, 4 ft, and 2 ft. These events were modeled both with vegetation dampening (existing conditions) and without vegetation dampening (post-fire conditions).

The following is a discussion of the results of the rockfall modeling.

5.1 SECTION A-A'

Section A-A' evaluated the potential for rockfall to impact the property originating from rockfall events within the central drainage (see Figure A-4), since rockfall events from the western and eastern drainages are considered to not have appropriate pathways to the building envelope. Two rockfall collectors were modeled along the line of section, representing the southern end of the building envelope (Collector 1), and the southern end of the water tank (Collector 2).

The modeling was initially run with vegetation dampening effects in place to model existing conditions. However, the vegetation presence significantly limited the downslope movement of rockfall boulders such that no boulders made it downslope to either of the collectors. Therefore, the model was run a second time with the vegetation dampening effects eliminated, to evaluate post-fire conditions. Figure A-6 shows the rockfall runout pathway for Section A-A' under post-fire conditions, and Appendix B provides the graphical results of the modeling for this line of section.

As seen in Figure A-6, none of the 1,000 modeled rockfall events reached Collector 1 at the southern end of the building envelope under post-fire conditions, with the closest boulder stopping approximately 214 feet from the southern margin of the building envelope. Fifteen of the 300 modeled rockfall events (5%) impacted Collector 2 at the southern end of water tank. The maximum impact (total kinetic) energy of a rock hitting the water tank was 66,906 ft-lb (90.7 kJ). The maximum translational velocity upon impact

to the water tank was 28.9 ft/sec (19.7 mph), with the maximum impact height being 5 feet above the existing ground surface.

5.2 DISCUSSION

The rockfall modeling shows that the vegetation presence plays a significant role in precluding rockfall events from traveling downslope, and that even under post-fire conditions, no modeled boulders reach the building envelope and 95% of all such rockfall events do not even reach the water tank location. The closest modeled rockfall boulder stopped approximately 214 feet from the southern margin of the building envelope, which is largely consistent with the observed rockfall boulders to the northeast of the water tank, which were approximately 200 feet from the southern margin of the building envelope.

Existing conditions, including limited bedrock source outcrops upslope of the building envelope, dense vegetation upslope of the building envelope, and the presence of the water tank upslope of the building envelope actively deflecting or deterring any rockfall events, are considered likely to preclude any potential subsequent rockfall events from reaching the area of the proposed residence. Given this data, the rockfall hazard risk is considered to be low for the proposed residence, but should not be considered to be zero.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

Based on the literature reviewed and surficial conditions encountered as part of this rockfall hazard assessment, IGES makes the following conclusions regarding the rockfall hazard present for the subject property:

- I**t is our opinion that the rockfall hazard risk is low for the property, and that rockfall mitigation is not considered necessary for development**.

- The subject property was observed to have steep slopes down to the northwest, with occasional to common boulders scattered across the surface. These boulders were predominantly angular to subangular orthoquartzite of the Big Cottonwood Canyon Formation up to 8½ feet in maximum dimension. These boulders were typically blocky shaped, and many of them were observed to be partially buried.

- The presence of the water tank and the water tank access road immediately upslope of the building envelope made it difficult to differentiate between actual rockfall boulders and boulders that were pushed/rolled onsite during the excavation and construction of the water tank and access road. The closest definitive rockfall boulders to the building envelope were observed to be located upslope approximately 200 feet to the southeast of the southern margin of the building envelope.

- The bedrock outcrops present upslope of the property consist entirely of Big Cottonwood Formation orthoquartzite, which was observed to be very hard, largely unfractured, and subvertically dipping back into the hillslope, indicating a lack of significant dip-slope failure conditions. These bedrock exposures are limited in areal extent immediately upslope of the property such that the small drainages that project toward the property have minor accumulation of rockfall detritus and no talus slopes are present in association with these outcrops. Additionally, there was no observed destruction of existing native vegetation indicative of a recent rockfall pathway in association with these outcrops.

- The rockfall modeling shows that rockfall events from the source outcrops upslope do not reach the building envelope under either vegetation-covered (existing) or vegetation-free (post-fire) conditions, with the closest rockfall boulder stopping approximately 214 feet from the southern margin of the building envelope. These results are consistent with the field observations.

6.2 RECOMMENDATIONS

Given the conclusions listed above, IGES recommends the following:

- If the water tank upslope of the building envelope is ever removed or the landscape around the tank modified, it may be prudent to have the rockfall hazard for the property reevaluated at that time.

7.0 CLOSURE

7.1 LIMITATIONS

The concept of risk is a significant consideration of geotechnical and geologic hazard analyses. The analytical means and methods used in performing geotechnical and geologic hazard analyses and development of resulting recommendations do not constitute an exact science. Analytical tools used by geotechnical engineers and engineering geologists are based on limited data, empirical correlations, engineering judgment and experience. As such the solutions and resulting recommendations presented in this report cannot be considered risk-free and constitute IGES's best professional opinions and recommendations based on the available data and other design information available at the time they were developed. IGES has developed the preceding analyses, recommendations and designs, at a minimum, in accordance with generally accepted professional geotechnical engineering practices and care being exercised in the project area at the time our services were performed. No warrantees, guarantees or other representations are made.

The conclusions and recommendations presented in this report are based on limited geologic literature review, site reconnaissance, and rockfall modeling, and our understanding of the project. It should be noted that rockfall pathways are often unpredictable, and there is no guarantee that a rockfall event will not adversely impact the property, regardless of the implementation of any recommended mitigation practices. Recommended mitigation practices are intended to reduce, but cannot eliminate, the rockfall hazard. Seismic events in particular may cause ground movement that frees boulders, spawning unanticipated rockfall events with unpredictable rockfall pathways.

This report was prepared for our client's exclusive use on the project identified in the foregoing. Use of the data, recommendations or design information contained herein for any other project or development of the site not as specifically described in this report is at the user's sole risk and without the approval of IGES, Inc. It is the client's responsibility to see that all parties to the project including the designer, contractor, subcontractors, etc. are made aware of this report in its entirety. The use of information contained in this report for bidding purposes should be done at the contractor's option and risk.

We appreciate the opportunity to be of service on this project. Should you have any questions regarding the report or wish to discuss additional services, please do not hesitate to contact us at your convenience at (801) 270-9400.

8.0 REFERENCES CITED

Bryant, Bruce, 1990, Geologic Map of the Salt Lake City 30' x 60' Quadrangle, North-Central Utah and Uinta County, Wyoming: Utah Geological Survey Map M-190, 1 Plate, Scale 1:100,000.

Hintze, L.F., 1988, Geologic History of Utah: Brigham Young University Geology Studies Special Publication 7, Provo, Utah, 202 p.

Lund, W.R., 1990, editor, Engineering geology of the Salt Lake City metropolitan area, Utah: Utah Geological Survey Bulletin 126, 66 p.

McKean, A.P., and Solomon, B.J., 2018, Interim Geologic Map of the Draper Quadrangle, Salt Lake and Utah Counties, Utah: Utah Geological Survey Open-File Report 683DM, Plate 1, Scale 1:24,000.

Milligan, M.R., 2000, How was Utah's topography formed? Utah Geological Survey, Survey Notes, v. 32, no.1, pp. 10-11.

Stokes, W.L., 1987, Geology of Utah: Utah Museum of Natural History and Utah Geological and Mineral Survey Department of Natural Resources, Salt Lake City, UT, Utah Museum of Natural History Occasional Paper 6, 280 p.

U.S. Geological Survey, 2020, Topographic Map of the Draper Quadrangle, Draper, Utah: Scale 1:24,000.

U.S. Geological Survey and UGS, 2006, Quaternary fault and fold database for the United States, accessed 5-2-22, from USGS website: https://www.usgs.gov/natural-hazards/earthquake-hazards/earthquakes.

Utah Geological Survey, 2013, State of Utah Acquired Lidar Data-Wasatch Front, 0.5-meter dataset, collected from opentopography.org.

Utah Geological Survey, 2022, Utah Geological Survey Aerial Imagery Collection, https://geodata.geology.utah.gov/imagery/.

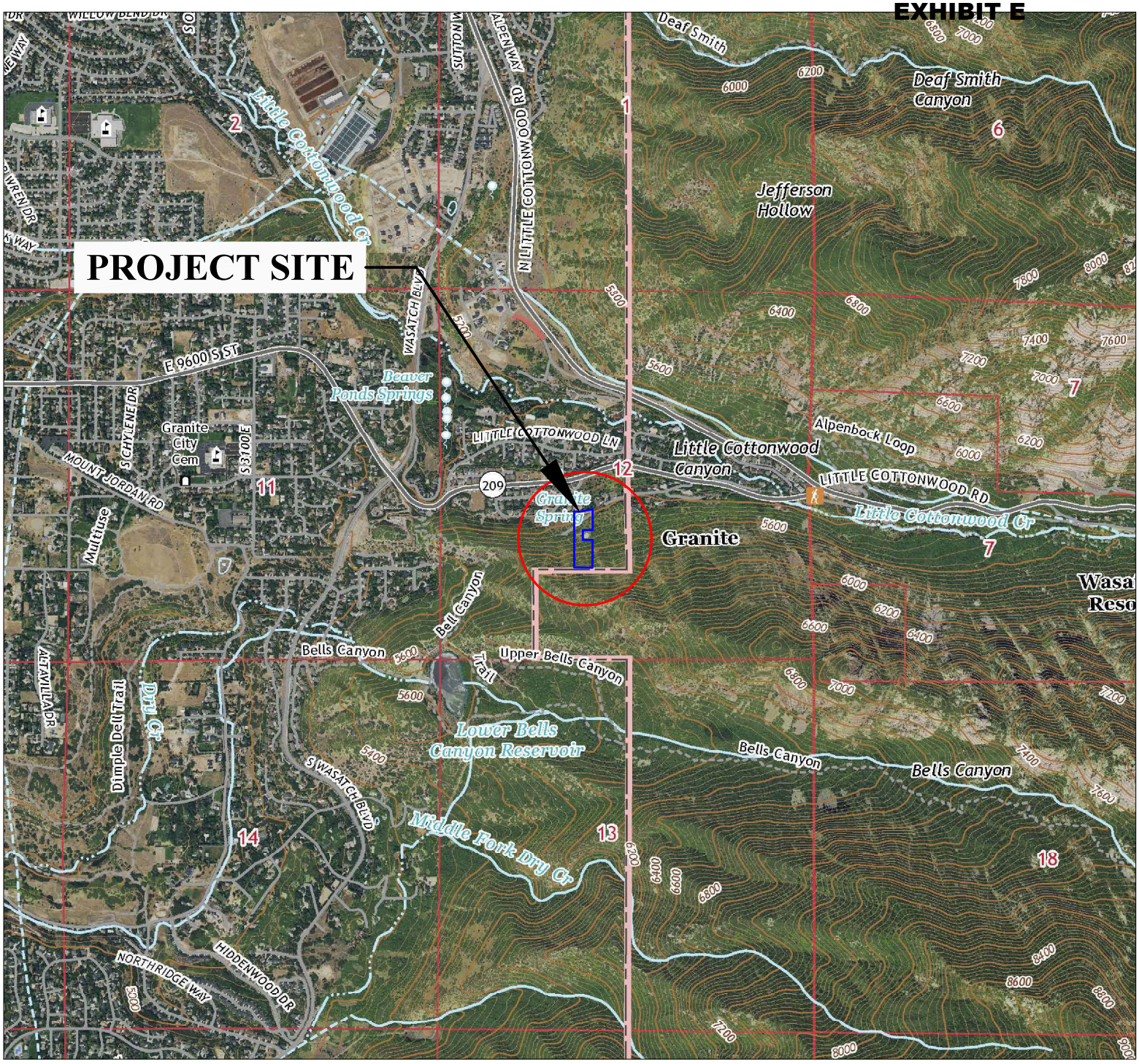
AERIAL PHOTOGRAPHS REVIEWED

Date	Photo ID	Scale	Reference*
1970	WF-N_5-4-59	1:12,000	UGS
1970	WF-N_5-5-84	1:12,000	UGS

*https://geodata.geology.utah.gov/imagery/

APPENDIX A

EXHIBIT E



Base Map:

-USGS *Draper* 7.5-Minute Topographic Quadrangle (2020).

N

0 1000 2000
FEET
1" = 2000'

QUADRANGLE LOCATION

IGES

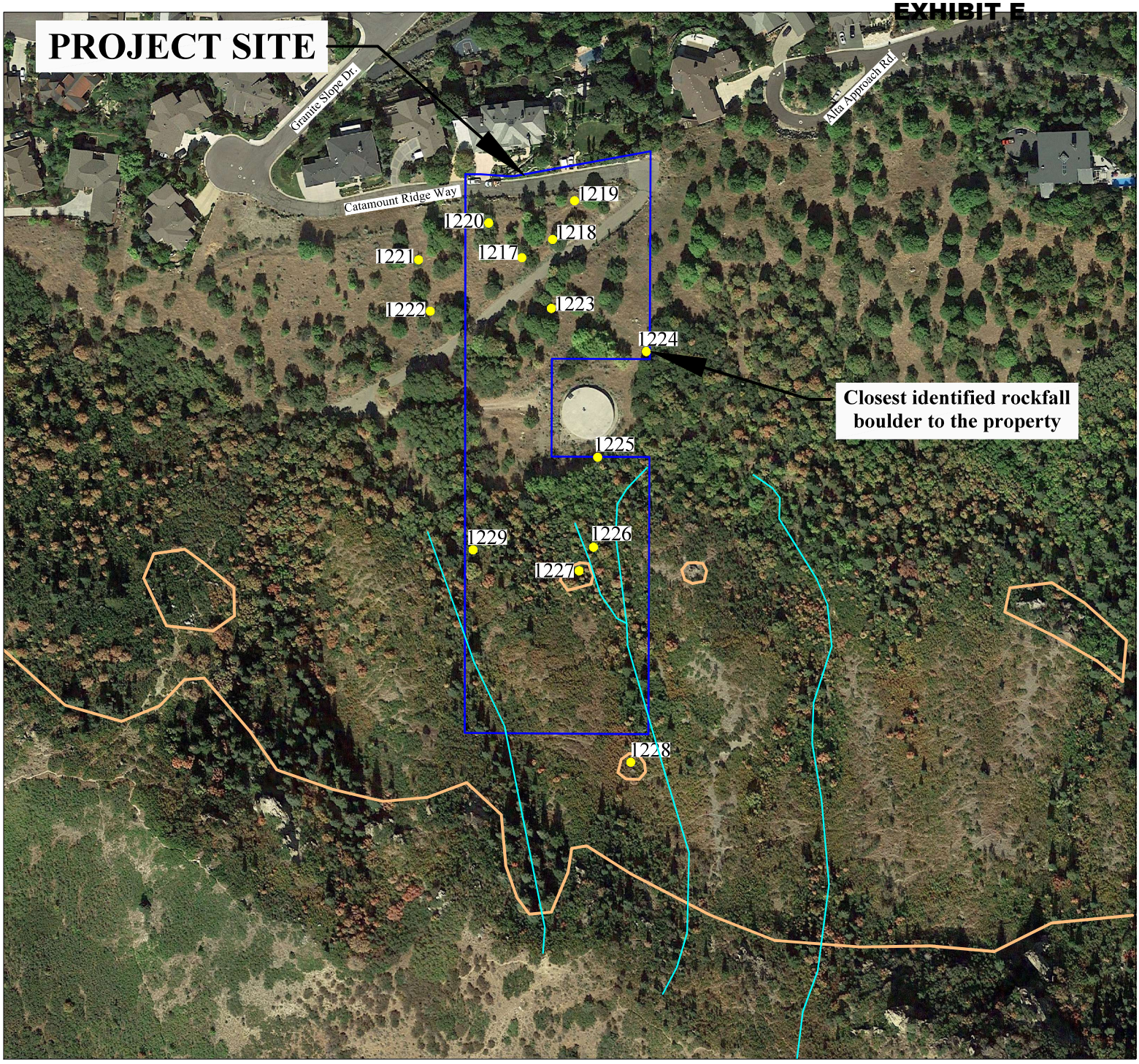
Project No: 04010-001

Rockfall Hazard Study
Lot 8 of the Little Cottonwood View Estates Subdivision
3802 E. Catamount Ridge Way
Sandy, Utah

Site Vicinity Map

Figure A-1

EXHIBIT E



LEGEND

1228 IGES Waypoint

Drainages

Bedrock Outcrop Areas

Base Map:

-Google Earth, Image date: 9-10-2018. Accessed from Utah AGRC.

N

0 100 200
FEET
1" = 200'

IGES

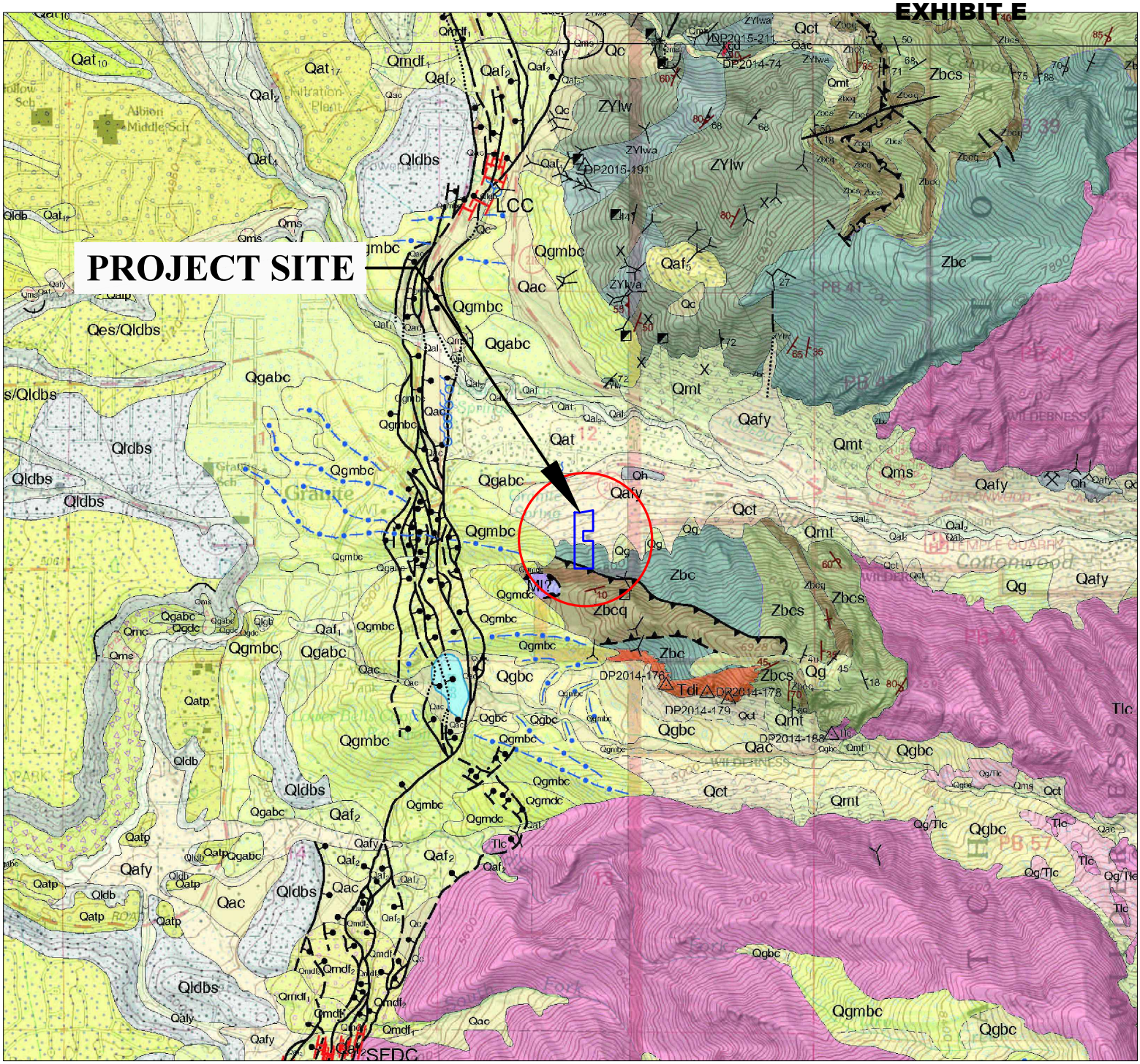
Project No: 04010-001

Rockfall Hazard Study
Lot 8 of the Little Cottonwood View Estates Subdivision
3802 E. Catamount Ridge Way
Sandy, Utah

Aerial Image

Figure

A-2



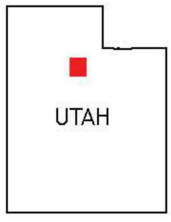
Base Map:

-UGS *Interim Draper* 7.5-Minute Geologic Quadrangle, OFR 683DM, McKean and Solomon (2018).

*Map Legend on Figures A-3b and A-3c.

N

0 1000 2000
FEET
1" = 2000'



QUADRANGLE LOCATION

IGES

Project No: 04010-001

Rockfall Hazard Study
Lot 8 of the Little Cottonwood View Estates Subdivision
3802 E. Catamount Ridge Way
Sandy, Utah

Regional Geology Map

Figure

A-3a

MAP LEGEND

Qafy **Younger alluvial-fan deposits, undivided** (Holocene to upper Pleistocene) – Poorly to moderately sorted, pebble to cobble gravel with boulders near bedrock sources, with a matrix of sand, silt, and clay, grading to mixtures of sand, silt, and clay on gentler slopes; clasts subangular to well-rounded, commonly derived from Lake Bonneville gravel; thin to thick parallel bedding and cross-bedding; deposited by debris flows, debris floods, and streams at the mouths of small canyons draining the Wasatch Range and at the mouth of Corner Canyon in Draper; includes level-1 and level-2 alluvial-fan deposits (Qaf_1 and Qaf_2) that postdate the regression of Lake Bonneville from the Provo shoreline, mapped where these levels cannot be differentiated at map scale and in areas where the specific age of Holocene deposits cannot be determined; no Lake Bonneville shorelines are found on these alluvial fans; thickness variable, probably less than 30 feet (10 m).

Qg **Glacial deposits, undivided** (Holocene? to middle Pleistocene) – Unsorted boulder, cobble, and pebble gravel with a matrix of sand and silt; clasts subangular to subround; non-stratified; mapped along the canyon walls of Little Cottonwood Canyon, and on the ridge between Little Cottonwood and Bells Canyon where till is stranded high on the ridge and may be older; also mapped as a stacked unit (Qg/Tlc) that includes Bells Canyon and Dry Creek age deposits; may locally include mass-movement and colluvial deposits too small to show separately at map scale; exposed thickness less than 30 feet (10 m).

Qgmbc **Glacial moraines of Bells Canyon age** (upper Pleistocene) – Unsorted boulder, cobble, and pebble gravel with a matrix of sand and silt; clasts subangular to subround; non-stratified; mapped at the mouths of Little Cottonwood and Bells Canyons where distinct U-shaped end, lateral, and regressional moraines are visible, and at higher elevations in the Wasatch Range in cirques and canyons; at the mouth of Bells Canyon, end moraine is partially overlapped by a wedge of transgressive Lake Bonneville lacustrine gravel and sand (Qlgb) (Madsen and Currey, 1979); may locally include mass-movement and colluvial deposits too small to show separately at map scale; estimated maximum thickness less than 240 feet (70 m).

Ml? **Limestone** (Mississippian?) – Medium to dark-gray, brecciated, crinoidal limestone remnant; mapped above gently dipping fault at the mouth of Bells Canyon; previously mapped as a Paleozoic limestone klippe (thrust sheet erosional remnant) by Crittenden (1965a); previously mapped as undivided Mississippian Madison and Deseret Formations (Granger and others, 1952; Marsell and Threet, 1960) (Gardison Limestone and Deseret Formation of Bryant, 1990); thickness likely less than 50 feet (15 m).

MAP LEGEND

Zbc, Zbcq, Zbcs

Big Cottonwood Formation (Neoproterozoic) – Interbedded greenish-gray, gray, and reddish- to bluish-purple, thin-bedded shale and siltstone (Zbcs), and white, greenish-gray, and gray, rusty-weathering orthoquartzite (Zbcq), metamorphosed to argillite, schist, and quartzite; undifferentiated (Zbc) where poorly exposed, altered by metamorphism, or highly fractured; in Deaf Smith Canyon the shale is locally highly altered to schist (Crittenden, 1965a); andalusite and pseudomorphs after andalusite are common from Ferguson Canyon to Little Cottonwood Canyon; cross-bedding, mud cracks, ripple marks, rain-drop prints, and tidal rhythmites found in the formation suggest shallow water deposition (Crittenden, 1977; Chan and others, 1994; Ehlers and others, 1997); Crittenden (1965a, 1977) divided the formation into thirds; the lower third is a bluish-purple, thin-bedded shale or siltstone interbedded with gray orthoquartzite; the middle third is a greenish-gray or gray shale interbedded with gray and greenish orthoquartzite; the upper third is a variegated greenish-gray and red shale and siltstone interbedded with white quartzite; quartzites may be geologically distinct enough to map across quadrangle boundaries; the top of the unit is not exposed in the quadrangle, but is unconformably overlain by the Mineral Fork Tillite and Mutual Formation (Crittenden, 1977); the base of the unit is marked by an unconformity with the higher grade metamorphosed Little Willow Formation below; however, the contact is difficult to map where both units have been contact-metamorphosed next to the Little Cottonwood stock.

In Little Cottonwood Canyon, Neff (1962) and Kohlmann (1980) mapped the rocks in contact with the Little Cottonwood stock as a migmatite of the Little Willow Formation. However, Crittenden (1965a) and Pak (1999) mapped the migmatite as Big Cottonwood Formation undivided and we agree with them because the quartzite and pelite units of the Big Cottonwood Formation can be mapped north of the migmatite in Little Cottonwood Canyon, and rocks within the migmatite zone are metapelitic and 90 percent quartzite, like the Big Cottonwood Formation (Wohlers and Baumgartner, 2013).

Likely Neoproterozoic in age, and possibly correlative with the <770 Ma Uinta Mountain Group strata, based on U-Pb data from detrital zircon (Mueller and others, 2007; Dehler and others, 2010); only the lower 7000 feet (2100 m) of the total 16,000 feet (5000 m) are exposed in the Draper quadrangle (Crittenden, 1965a, 1977), and these thicknesses may be inflated by complex folding and faulting.

Contact – Dashed where very approximately located, queried where uncertain

Thrust fault – Dashed where approximately located; sawteeth on upper plate; queried where location speculative; arrows on cross section indicate direction of relative movement

Glacial moraine crest, symmetry uncertain

Structural measurements – red symbols and dips are from Crittenden (1965a)

65 65 Strike and dip of inclined bedding

Prospect

Shaft

IGES

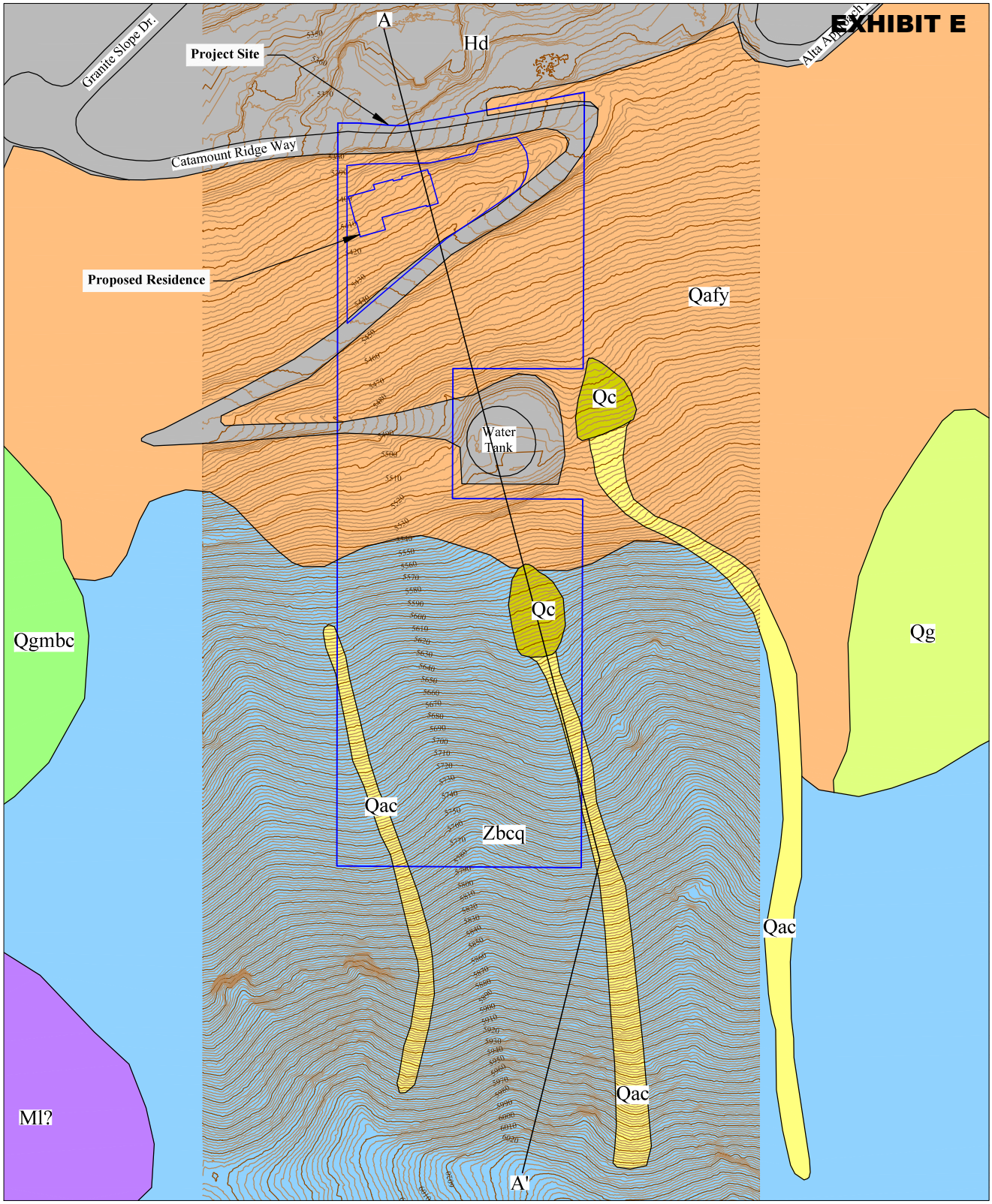
Project No: 04010-001

Rockfall Hazard Study
Lot 8 of the Little Cottonwood View Estates Subdivision
3802 E. Catamount Ridge Way
Sandy, Utah

Regional Geology Map

Figure

A-3c



Base Map:

-State of Utah Acquired LiDAR Data - Wasatch Front. Distributed by OpenTopography. https://doi.org/10.5069/G9TH8JNQ . Accessed: 05-03-2022.

Contour Interval: 2'

*All Geologic Contacts Approximately Located; modified from McKean and Solomon (2018).

Legend

- Hd — Human disturbed areas overlying native deposits
- Qafy — Younger Alluvial-Fan Deposits (Holocene to Upper Pleistocene)
- Qac — Alluvium and Colluvium (Holocene to Pleistocene)
- Qc — Colluvium (Holocene to Pleistocene)
- Qti — Glacial Deposits (Holocene? to Middle Pleistocene)
- Qgmbc — Glacial Moraines of Bells Canyon (Upper Pleistocene)
- Zbcq — Big Cottonwood Formation, Orthoquartzite (Neoproterozoic)
- MP — Limestone (Mississippian?)
- A / A' — Rockfall Modeling Line of Section

N

0 100 200
FEET
1" = 100'

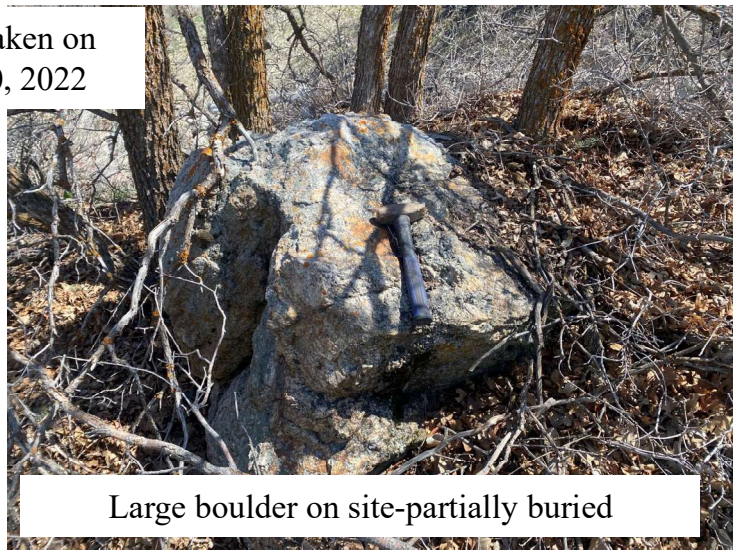
IGES
Project No: 04010-001

Rockfall Hazard Study
Lot 8 of the Little Cottonwood View Estates Subdivision
3802 E. Catamount Ridge Way
Sandy, Utah
Local Geology Map

Figure A-4

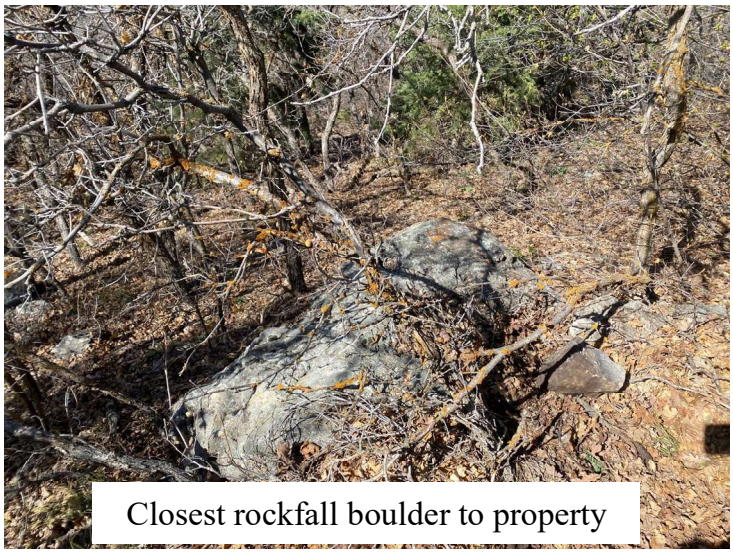
Photos taken on April 20, 2022

Site overview-view north

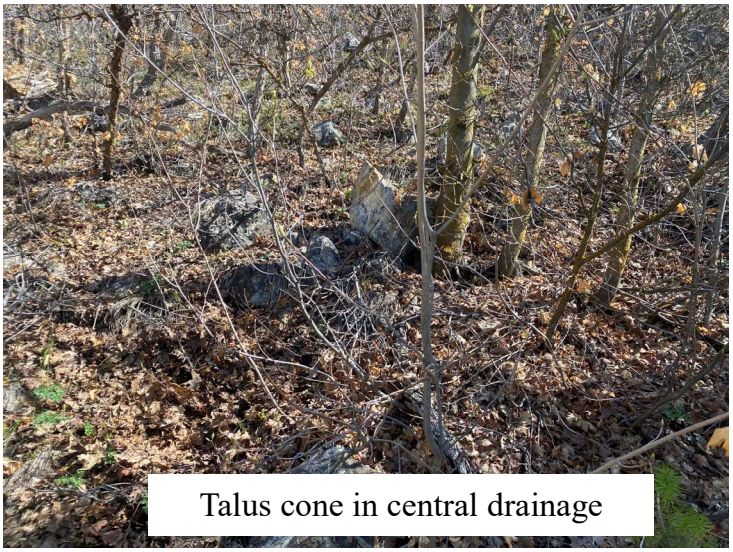


Large boulder on site-partially buried

Large boulder on site-no damage to trees



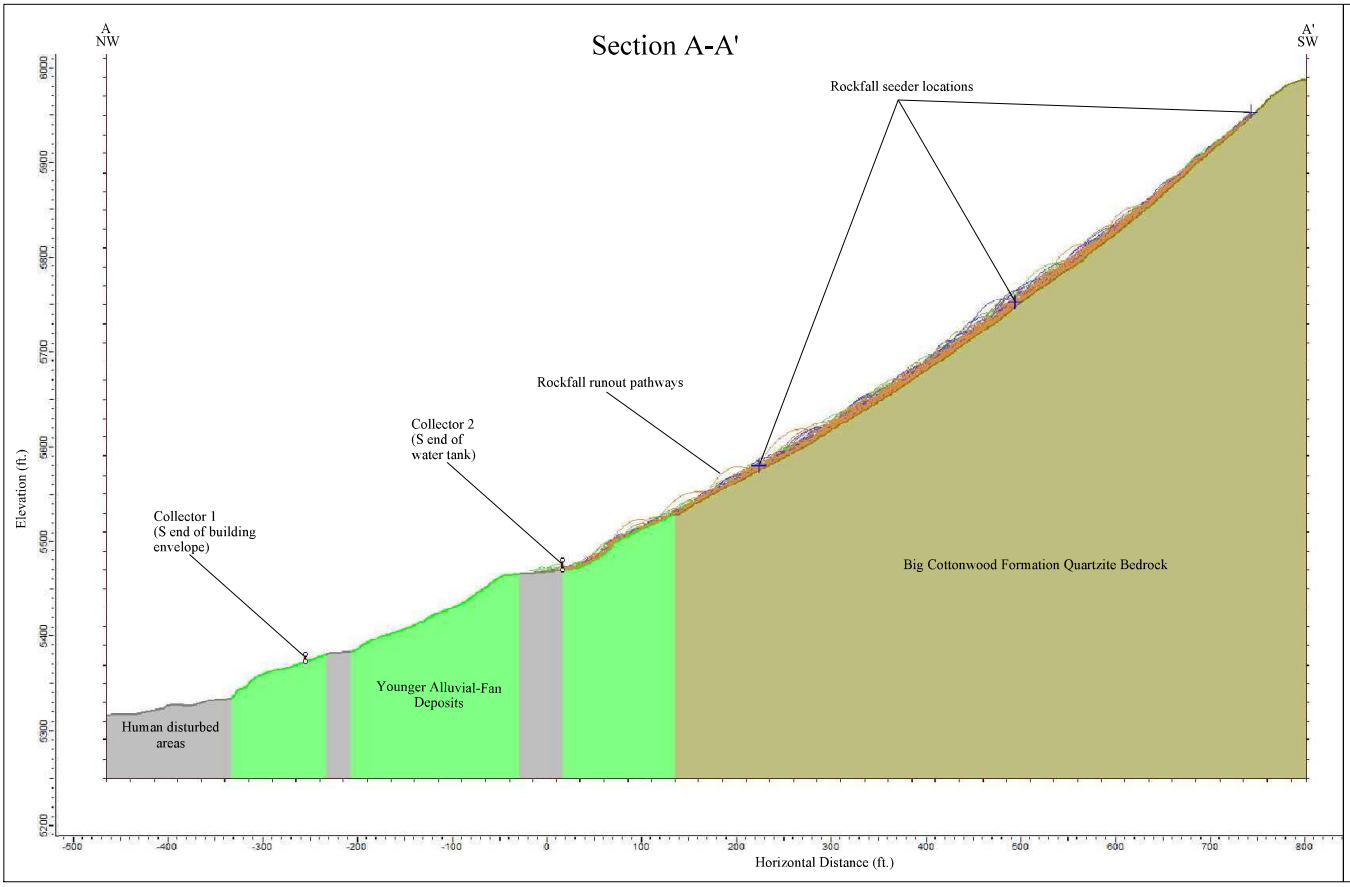
Closest rockfall boulder to property



Talus cone in central drainage

Big Cottonwood Formation quartzite outcrop

EXHIBIT E



Modeled from RocFall 8.016

100 modeled events from each seeder, 25 events per rock type at each seeder.

Project No: 04010-001

Rockfall Hazard Study
Lot 8 of the Little Cottonwood View Estates Subdivision
3802 E. Catamount Ridge Way
Sandy, Utah

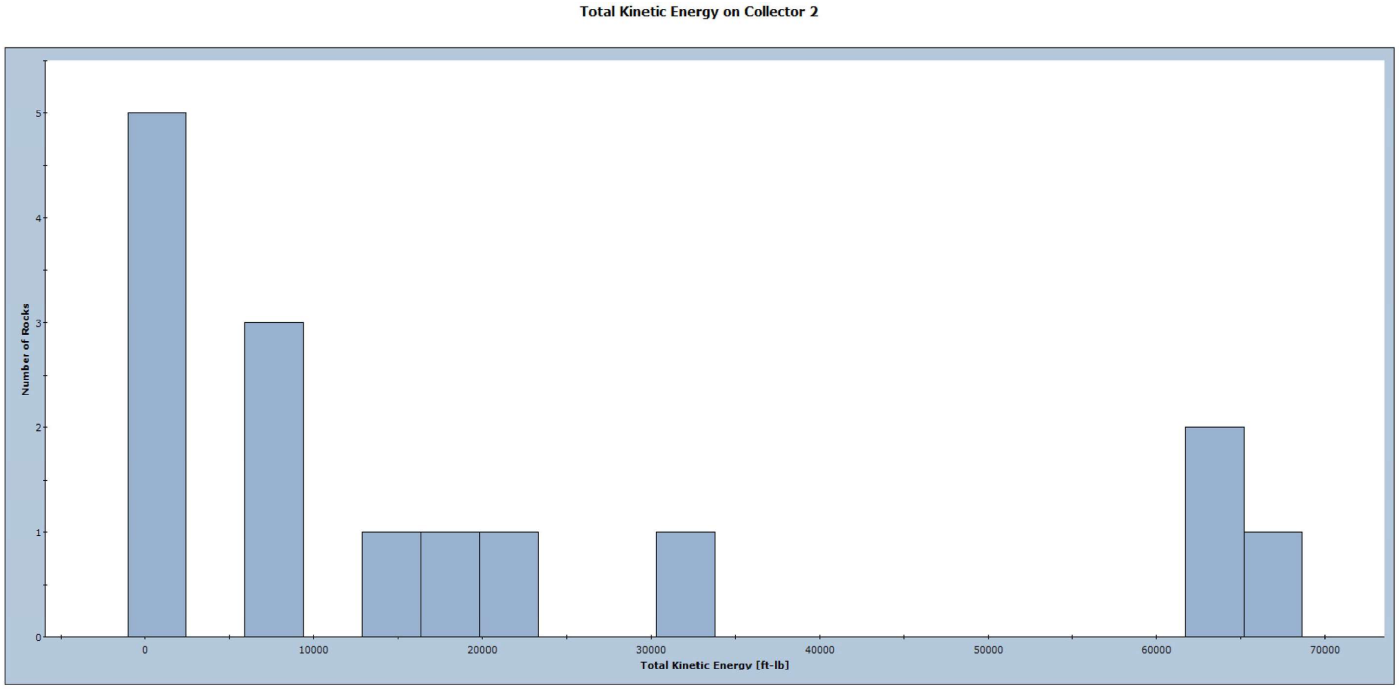
Rockfall Modeling Pathway Section A-A'

Figure

A-6

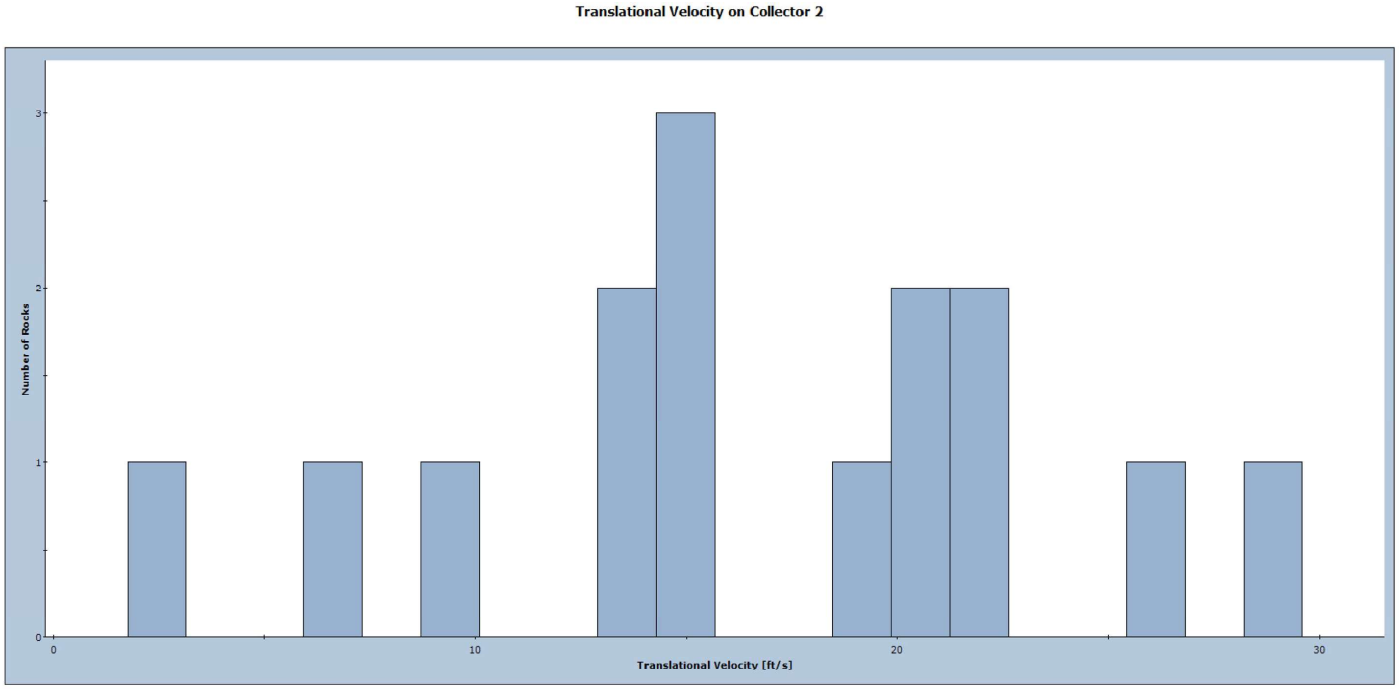
APPENDIX B

EXHIBIT E



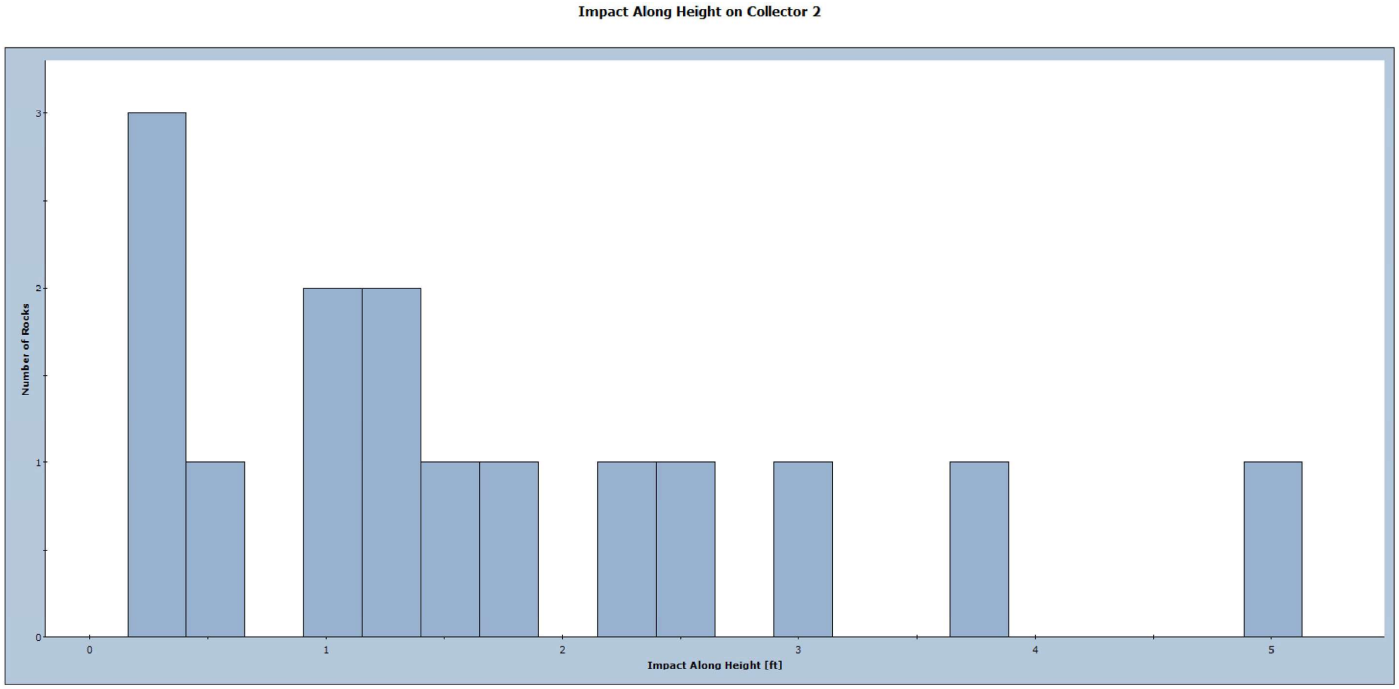
Total number of rocks on Collector 2: 15
Total Kinetic Energy: min = 684.098, max = 66906.3

EXHIBIT E

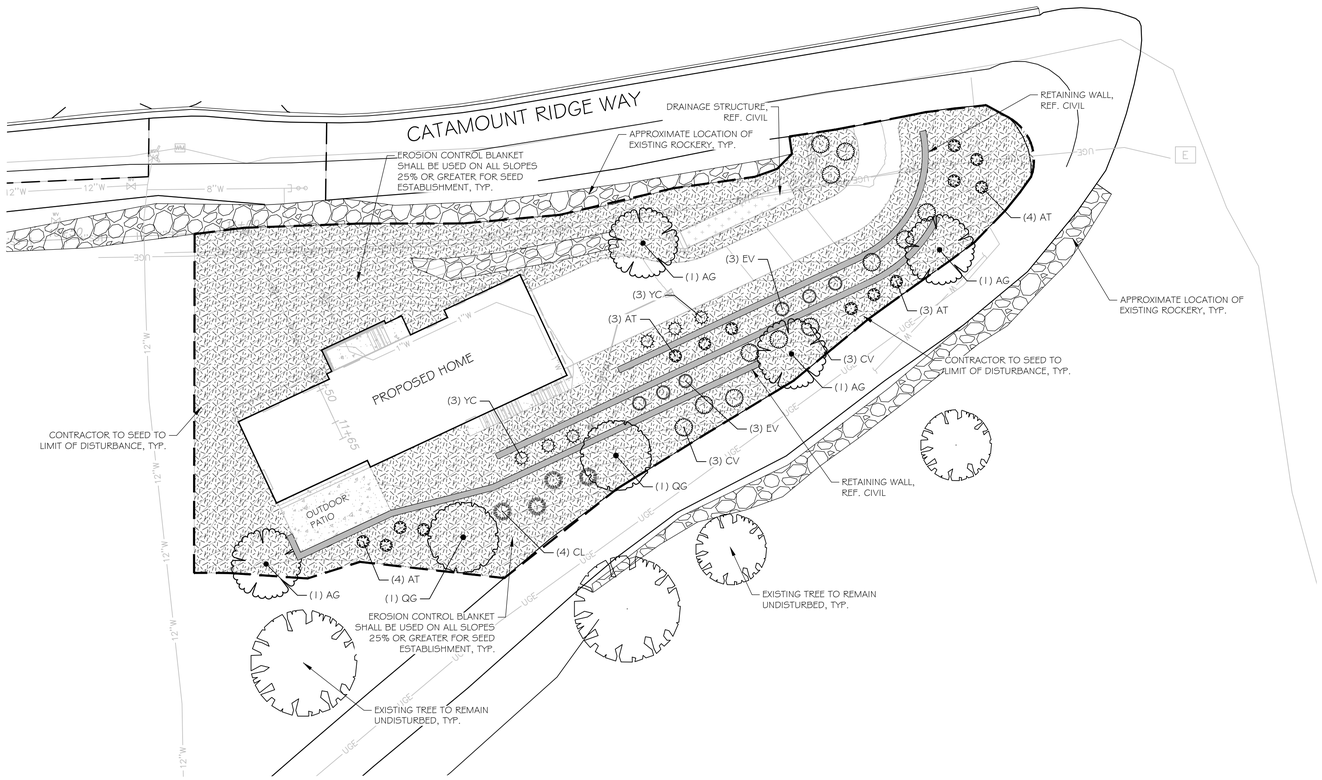


Total number of rocks on Collector 2: 15
Translational Velocity: min = 2.44717, max = 28.8983

EXHIBIT E



Total number of rocks on Collector 2: 15
Impact Along Height: min = 0.283872, max = 5.0062



PLANT SCHEDULE

TREES	BOTANICAL NAME	COMMON NAME	SIZE	QTY
AG	Acer grandidentatum	Bigtooth Maple	2" Cal.	4
QG	Quercus gambelii	Gambel Oak	2" Cal.	2

SHRUBS	BOTANICAL NAME	COMMON NAME	SIZE	QTY
AT	Artemisia cana	Silver Sagebrush	3 gal.	14
CL	Cercocarpus ledifolius intricatus	Little-leaf Mountain Mahogany	3 gal.	4
CV	Chrysothamnus viscidiflorus	Yellow Rabbitbrush	3 gal.	12
EV	Ephedra viridis	Mormon Tea	3 gal.	6
YC	Yucca filamentosa 'Color Guard'	Color Guard Adam's Needle	3 gal.	6

GROUND COVERS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	QTY
	NR	NATIVE GRASS SEED		HYDROMULCH	12,175 sf

NATIVE SEED MIX

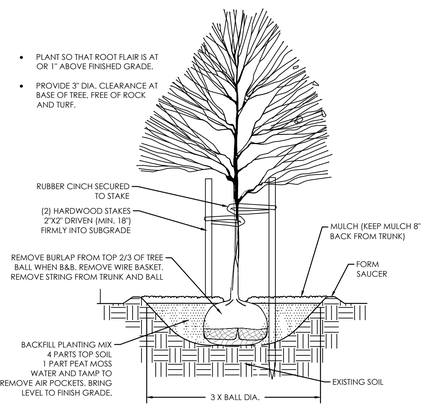
CANANDA WILD RYE	20%
WHEATGRASS	25%
SLENDER WHEATGRASS	20%
INDIAN RICEGRASS	25%
SAND DROPSEED	10%

APPLY 4 INCHES OF NATIVE TOP SOIL FROM THE LOCAL AREA. NO SUBSURFACE SOIL SHALL BE USED. IT IS IMPORTANT TO USE SOIL THAT HAS MINIMAL AMOUNT OF WEED SEED. HYDROSEEDING APPLICATION SHALL RECEIVE 25-30 LBS PLS/SF. ULTIMATELY QUANTITY OF SEED SHALL BE AS REQUIRED TO ESTABLISH ACCEPTABLE STAND OF NATIVE GRASS. EROSION CONTROL BLANKET TO BE PLACED ON SLOPES 35% AND GREATER.

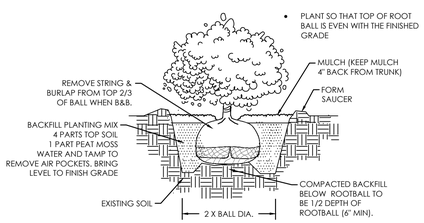
A. NATIVE SEED MUST MEET THE UTAH SEED LAW.
B. SUPPLY SEED ON A PURE LIVE SEED BASIS.
C. OBTAIN SEED FROM LOTS THAT HAVE BEEN TESTED BY A STATE CERTIFIED SEED TESTING LABORATORY. (ASSOSCIATION OF SEED ANALYST (AOSA) OR SOCIETY OF COMMERCIAL SEED TECHNOLOGISTS (SCST). SEED GERMINATION TESTS OLDER THAN 18 MONTHS FOR GRASS SEED ARE NOT ACCEPTABLE.
D. DO NOT USE WET, MOLDY OR OTHERWISE DAMAGED SEED.

SANDY CITY RE-VEGETATION CODE: (21)-15-4 (b)(3)

1. VEGETATION SHALL BE REMOVED ONLY WHEN ABSOLUTELY NECESSARY FOR THE CONSTRUCTION OF BUILDINGS, ROADS, AND FILLED AREAS.
2. ALL AREAS ON DEVELOPMENT SITES CLEARED OF NATURAL VEGETATION IN THE COURSE OF CONSTRUCTION OF OFF-SITE IMPROVEMENTS SHALL BE REPLANTED WITH VEGETATION WHICH HAS GOOD EROSION CONTROL CHARACTERISTICS.
3. AFTER THE COMPLETION OF OFF-SITE IMPROVEMENTS, VEGETATION SHOULD BE PLANTED IN ALL DISTURBED AREAS DURING THE FOLLOWING TIME PERIODS ONLY:
   MARCH 15 THROUGH MAY 15 AND SEPTEMBER 15 THROUGH OCTOBER 31.
   IF IRRIGATED, PLANTING MAY BE DONE DURING SUMMER MONTHS.
4. TOPSOIL REMOVED DURING SITE CONSTRUCTION SHALL BE RESERVED FOR LATER USE ON AREAS REQUIRING VEGETATION OR LANDSCAPING SUCH AS CUT AND FILL SLOPE.
5. ALL DISTURBED SOIL SURFACES SHALL BE STABILIZED OR COVERED PRIOR TO NOVEMBER 1. IF THE PLANNED IMPERVIOUS SURFACE(EG., ROAD, DRIVEWAYS, ETC.)CANNOT BE ESTABLISHED PRIOR TO NOVEMBER 1, A TEMPORARY TREATMENT ADEQUATE TO PREVENT EROSION SHALL BE INSTALLED ON THOSE SURFACE.
6. THE PROPERTY OWNER AND/OR DEVELOPER SHALL BE FULLY RESPONSIBLE FOR ANY DESTRUCTION OR DAMAGE OF NATIVE OR APPLIED VEGETATION IDENTIFIED AD NECESSARY FOR SOIL RETENTION AND SHALL BE RESPONSIBLE TO REPLACE SUCH DESTROYED VEGETATION. THEY SHALL CARRY THE RESPONSIBILITY BOTH FOR EMPLOYEES AND SUBCONTRACTORS FROM THE FIRST DAY OF CONSTRUCTION UNTIL THE FINAL ACCEPTANCE OF IMPROVEMENT. THE PROPERTY OWNER AND DEVELOPER SHALL REPLACE ALL DESTROYED VEGETATION WITH VARIETIES OF VEGETATION APPROVED BY THE DIRECTOR.



A TREE PLANTING & STAKING
NOT TO SCALE



B SHRUB PLANTING
NOT TO SCALE

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

FOCUS©
ENGINEERING AND SURVEYING, LLC
6949 S. HIGH TECH DRIVE SUITE 200
MIDVALE, UTAH 84047 PH: (801) 352-0075
www.focusutah.com

LICENSED LANDSCAPE ARCHITECT
No. 103994
ALAN K WEAVER
04/14/2023
STATE OF UTAH

ROSENFELD RESIDENCE

3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

LANDSCAPE PLAN

REVISION BLOCK

#	DATE	DESCRIPTION
1	####	
2	####	
3	####	
4	####	
5	####	
6	####	

LANDSCAPE PLAN

Scale:	1"=10'	Drawn:	DW
Date:	04/14/2023	Job #:	23-0028

Sheet: L1.0

Rozenfeld Residence

3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

A. GENERNAL NOTES
1. ALL CONSTRUCTION TO BE DONE IN ACCORDANCE WITH THE CURRENT ADOPTED EDITION OF THE IRC AND ALL STATE AND LOCAL CODES.
2. GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO VERIFY ALL DIMENSIONS AND NOTES ON SITE AND REPORT ANY DISCREPANCIES TO THE DESIGNER PRIOR TO ANY CONSTRUCTION.
3. SEE STRUCTURAL CALCULATIONS AND PLANS FOR ADDITIONAL GENERAL STRUCTURAL NOTES AND REQUIREMENTS. ANY NOTES AND/OR REQUIREMENTS FROM ENGINEER OF RECORD SHALL GOVERN EXCEPT WHEN REQUIREMENTS SET FORTH IN THIS SPECIFICATION EXCEED ENGINEER'S REQUIREMENTS.
4. ALL TRIM, FINISH MATERIALS, COLORS, HARDWARE, FIXTURES, APPLIANCES, ETC. ARE TO BE SELECTED BY THE OWNER.
5. ALL WORK PERFORMED SHALL COMPLY WITH ALL CURRENT NATIONAL AND LOCAL BUILDING CODES.
6. ALL WORK SHALL BE PERFORMED BY A LICSENCED CONTRATOR.

B. EXCAVATION, BACKFILL, AND GRADING
1. ALL EXCAVATIONS FOR FOOTINGS SHALL BE PLACED ON NATURAL, UNDISTURBED SOIL.
2. ALL FOOTING SHALL BE PLACED BELOW THE FROST LINE OF THE LOCALITY.
3. THE TOP OF THE FOUNDATION SHALL BE PLACED A MINIMUM OF 6" ABOVE FINISHED GRADE.
4. FINISH GRADING SHALL SLOPE AWAY FROM ALL BUILDING FOUNDATIONS. GRADE SHALL SLOPE AWAY 6" FOR THE FIRST 10' AWAY FROM THE BUILDING.

C. MOISTURE PROTECTION
1. INSTALL (1) LAYER OF GRADE 'D' (15 LB.) FELT UNDER ASPHALT ROOF SHINGLES.
2. INSTALL (1) LAYER OF GRADE 'D' (15 LB.) TYVEK HOUSEWRAP OVER ALL EXTERIOR WALLS.
3. INSTALL (2) LAYERS OF GRADE 'D' (15 LB.) FELT UNDER SYNTHETIC STUCCO SYSTEM.
4. ALL EXPOSED BEAMS TO BE FLASHED AND CAULKED OR MUST BE PRESERVATIVE TREATED OR NATURAL DECAY RESISTANT SPECIES

D. CONCRETE
1. ALL MATERIALS, MIXING, FORMING AND REINFORCEMENT SHALL COMPLY WITH ACI 318, ACI 347 PUBLICATION APPLICABLE ASTM PUBLICATIONS AND LOCAL CODES.
2. INSTALL FOUNDATION AND FOOTING REINFORCEMENT AS FOLLOWS
3. REINFORCEMENT SCHEDULE AS NOTED ON FOUNDATION PLAN AND PER STATE AMENDMENT OR ENGINEER OF RECORD.

E. WINDOWS
1. ALL WINDOWS SHALL BE U-35 OR BETTER, ALUMINUM OR VINYL, THERMAL BREAK TYPE.
2. ALL WINDOW TOPS SHALL BE AT DOOR HEADER HEIGHT. I.E. 6'-8" (UNLESS OTHERWISE NOTED).
3. WINDOWS LOCATED 24" OR CLOSER TO ANY EXTERIOR DOOR MUST BE TEMPERED.
4. HABITABLE ROOMS REQUIRE 8% LIGHT, AND 5% VENTILATION.
5. ALL WINDOWS IN SLEEPING ROOMS SHALL HAVE SILLS LOCATED NO MORE THAN 44" ABOVE FLOOR WITH AN OPERABLE OPENING NOT LESS THAN 5.7 SQ. FT. THE WINDOW HEIGHT SHALL NOT BE LESS THAN 24", WITH A NET CLEAR WIDTH OF NO LESS THAN 20".
6. BASEMENTS, SLEEPING ROOMS AND HABITABLE ATTICS SHALL HAVE AT LEAST ONE OPERABLE EGRESS WINDOW.
7. WINDOW WELLS SERVING AS REQUIRED EGRESS WINDOWS SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF STANDARD EGRESS WINDOW AND:
   A. WINDOW WELLS SHALL HAVE A NET CLEAR OPENING OF 9 SQ. FT. MIN.
   B. GUARDRAILS OR GRATES PROTECTING WINDOW WELLS SHALL BE EASILY REMOVABLE OR BE DESIGNED NOT TO HINDER EGRESS.
   C. 44" MAX. DEPTH OR PROVIDE STEPS OR LADDER RUNGS. LADDER MUST BE MIN. 12" WIDE, 3" FROM WELL WITH RUNGS NO MORE THAN 18" APART.
   D. 36" VERTICAL CLEARANCE REQUIRED FROM ANY PROJECTION IN HORIZONTAL CLEARANCE STARTED ABOVE (I.E. FLOOR CANTILEVERS).

F. VENTILATION
1. VENTILATION SHALL BE PROVIDED IN ALL CRAWL SPACES BY MEANS OF SCREENED VENTS PLACED TO PROVIDE CROSS VENTILATION PER I.R.C 408.1, 408.2 OR SECTION 408 IRC.
2. ATTICS WILL HAVE ONE SQUARE FOOT OF VENTILATION FOR EVERY 150 SQ. FT. OF LIVING SPACE FOR GABLE VENTS, 1/300 FOR GABLE/EAVE COMBO'S.
3. ENCLOSED ATTICS AND SPACES BETWEEN RAFTERS SHALL HAVE CLEAR VENTILATION TO OUTSIDE.
4. THERE SHALL BE NO GAS CONNECTIONS ALLOWED IN ANY ROOMS USED FOR SLEEPING OR IN ANY CORRIDORS LEADING TO OR THROUGH ANY SLEEPING ROOM.
5. ALL DUCTS IN UNCONDITIONED SPACES I.E,(ATTIC, CRAWLSPACE) WILL BE INSULATED TO AN R8 MINIMUM.
6. DRYER VENT TO TERMINATE AT A LOCATION MORE THAN 3' FROM ANY OPENINGS BACK INTO THE HOME.
7. ALLOW FOR .35 AIR CHANGES PER HOUR IN ALL THEATER/SPORT COURT SPACES
8. BATHROOM EXHAUST FAN DUCTS MUST CONTINUE AND DISCHARGE DIRECTLY OUTSIDE THE STRUCTURE. CLOSE PROXIMITY TO ATTIC VENTS OR TO SOFFIT AREAS ARE SPECIFICALLY PROHIBITED. FLEXIBLE DUCTS ARE ALLOWED FOR BATHROOM EXHAUST FANS, BUT MUST BE TESTED TO UL 181 AND INSTALLED IN ACCORDANCE WITH THE LISTING. IRC CH 16 ALSO CANNOT TERMINATE IN SOFFIT, ATTIC CRAWL SPACE OR RIDGE VENTS.
9. DUCTS USED FOR KITCHEN RANGE, DRYER, BATHROOM & LAUNDRY ROOM VENTILATION SHALL HAVE A SMOOTH, NONCOMBUSTIBLE, NON-ABSORBENT SURFACE. DUCTS SHALL TERMINATE OUTSIDE THE BUILDING AND SHALL BE EQUIPPED WITH BACK DRAFT DAMPERS.
10. THE MINIMUM DIAMETER OF A DRYER EXHAUST DUCT SHALL BE PER MANUFACTURERS RECOMMENDATION, BUT AT LEAST THE DIAMETER OF THE OUTLET. MAXIMUM LENGTH IS 25' TO BE REDUCED 2 1/2' FOR EACH 45 DEGREE BEND AND 5' FOR EACH 90 DEGREE BEND.

G. STAIRWAYS & RAILINGS
1. A FLIGHT OF STAIRS SHALL NOT HAVE MORE THAN 12'-0" OF VERTICAL RISE BETWEEN FLOOR LEVELS OR LANDINGS.
2. ALL STAIRS SHALL BE PROVIDED WITH ILLUMINATION PER IRC R303.6.
3. MAX. RISE = 7 3/4" AND MIN. TREAD = 10". MIN. HEADROOM = 6'-8" AND MIN. WIDTH = 36".
4. EVERY STAIRWAY LANDING SHALL BE AS LONG AS ITS WIDTH. (UNLESS OTHERWISE NOTED).
5. ANY DOOR OPENING AT THE TOP OF ANY INTERIOR FLIGHT OF STAIRS MUST SWING AWAY FROM THE STAIRS.
6. ENCLOSED SPACE UNDER STAIRS SHALL BE PROTECTED ON THE ENCLOSED SIDE WITH 1/2" SHEET ROCK.
7. HANDRAILS ARE REQUIRED AT ALL STAIRWAYS THAT HAVE MORE THAN 2 RISERS. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OFTHE STAIRS. ENDS SHALL BE RETURNED OR SHALL TERMINATE IN NEWEL POSTS OR SAFETY TERMINALS.
8. TOPS OF HANDRAILS SHALL BE PLACED NOT LESS THAN 34" AND NOT MORE THAN 38" ABOVE THE NOSING OF THE STAIR TREADS.
9. GUARDRAILS SHALL BE AT A MINIMUM OF 36" ABOVE FLOOR. HANDRAILS TO BE BETWEEN 1 1/4" TO 2 5/8" IN SIZE.
10. HANDRAILS DEEPER THAN 2 1/4" SHALL HAVE FINGER GROOVES 3/4" X 1/4" DEEP. THE FULL LENGTH OF ONE SIDE OF THE RAIL.
11. BALUSTERS FOR HANDRAILS AND GUARDRAILS SHALL BE SPACED SO THAT A 4" SPHERE CANNOT PASS THROUGH.
12. HANDRAILS SHALL NOT PROJECT MORE THAN 4.5" ON EITHER SIDE & SHALL HAVE A SPACE OF NOT LESS THAN 1 1/2" BETWEEN THE WALL & HANDRAIL

H. PLUMBING
1. PLUMBING SYSTEMS ARE DESIGN BUILD. THE CONTRACTOR SHALL CONSULT A LICENSED ENGINEER DURING DESIGN OF THESE SYSTEMS.
2. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO ASSURE REQUIRED PLUMBING SERVICES TO ALL FIXTURES AS INDICATED ON PLANS AND AS REQUIRED BY BUILDING CODES AND OWNER.
3. ALL PLUMBING VENTS THROUGH THE ROOF SHALL BE A MIN. 3" PIPE.
4. AN EXPANSION TANK SHALL BE INSTALLED ON THE WATER SUPPLY LINE TO THE WATER HEATER WITH AN ANTI-SCALD DEVICE SHALL BE INSTALLED.
5. ALL BASEMENT FIXTURES MUST PASS THROUGH A BACKWATER VALVE. UPPER LEVELS MUST CONNECT TO THE MAIN DRAIN LINE AFTER THE BACKWATER VALVE (P3008).
6. TOILETS SHALL HAVE A 1.6 GAL. PER FLUSH.
7. SHOWER HEAD SHALL HAVE A FLOWRATE OF 2.5 GPM AT 80 PSI.
8. SINK FAUCETS SHALL HAVE A FLOWRATE OF 2.2 GPM AT 60 PSI.
9. PROVIDE PRESSURE REGULATOR AND SHUT OFF VALVES.
10. WATER HEATERS SHALL BE ANCHORED OR STRAPPED AT THE UPPER AND LOWER THIRDS OF THE APPLIANCE.

I. MECHANICAL
1. MECHANICAL SYSTEMS ARE DESIGN-BUILD U.N.O. THE CONTRACTOR SHALL CONSULT A LICENSED ENGINEER DURING DESIGN OF THESE SYSTEMS.
2. MECHANICAL CHASE CONSTRUCTION TO BE ONE HOUR FIRE RATED AS REQUIRED BY IRC.
3. INSULATE ALL HEATING TRUNK AND BRANCH SUPPLY DUCTS IN UNFINISHED AREAS, UNHEATED GARAGES, AND ANY OTHER COLD AREAS WITH R-8 MIN. (IEEC 503.3.3.3)
4. GAS SERVICE LINES SHALL BE NO LESS THAN 1 INCH IN DIAMETER.

J. ELECTRICAL
1. PROVIDE AN UFER GROUND ELECTRODE ENCASED IN CONCRETE LOCATED WITHIN AND NEAR THE BOTTOM OF A CONCRETE FOUNDATION OR FOOTING THAT IS IN DIRECT CONTACT WITH THE EARTH.
2. GROUND-FAULT CIRCUIT-INTERUPPERTOR PROCTECTION SHALL BE INSTALLED AT ALL RECEPTACLES LOCATED IN BATHROOMS, GARAGES, CRAWLSPACES WHERE THE SPACE IS AT OR BELOW GRADE LEVEL. LOCATIONS THAT SERVICE A COUNTERTOP, LAUNDRY AREAS, AND AREAS WHERE THE RECEPTACLE IS LOCATED WITHIN 6'-0" OF A SINK.
3. GROUND-FAULT CIRCUIT INTERUPPTERS SHALL BE INSTALLED IN A READILY ACCESSIBLE AREA.
4. ALL RECEPTACLES SHALL BE INSTALLED SO THAT NO POINT MEASURED HORIZONTALLY ALONG THE FLOOR LINE OF ANY WALL SPACE IS MORE THAN 6'-0" AWAY FROM A RECEPTABLE OUTLET.
5. COUNTER SPACES WIDER THAN 12" SHALL HAVE A RECEPTACLE OUTLET.
6. RECEPTACLE OUTLETS THAT SERVICE A COUNTER SPACE SHALL BE INSTALLED SO THAT NO POINT ALONG THE WALL LINE IS MORE THAN 24" AWAY FROM A RECEPTACLE OUTLET.
7. FOR KITCHEN ISLAND COUNTERTOP SPACES WITH A LONG DIMENSION OF 24" OR GREATER AND A SHORT DIMENSION 12" OR GREATER PROVIDE (1) RECEPTACLE OUTLET.
8. SMOKE ALARMS SHALL BE INSTALLED IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA (IN THE IMMEDIATE VICINITY OF THE BEDROOMS), ON EACH LEVEL (INCLUDING BASEMENTS AND HABITABLE ATTICS).
9. RECEPTACLE OUTLETS SHALL BE TAMPER PROOF. ALL SMOKE ALARMS SHALL BE WIRED IN SERIES.

ALL BRANCH CIRCUITS THAT SUPPLY 120V, SINGLE PHASE, 15 & 20 AMP OUTLETS IN LIVING SPACES SHALL BE PROTECTED BY A COMBINATION TYPE ARC-FAULT CIRCUIT INTERRUPTER.

PROJECT CONTACTS

PROJECT DESIGNER:

HARBOR DESIGN COMPANY
10424 SOUTH 2700 WEST
SOUTH JORDAN, UTAH 84095

CONTACT:
MILAN MUHLESTEIN
p. 801.472.0857
e. milan@harbordesigncompany.com

STRUCTURAL ENGINEER:

ACUTE ENGINEERING
8679 S SANDY PKWY, SUITE B
SANDY, UTAH 84070

CONTACT
ALISON SIMPSON
p. 801.229.9020
e. alison@acuteengineering.com

CODES:
- 2018 INTERNATIONAL RESIDENTIAL CODE
- 2018 INTERNATIONSL FUEL GAS CODE
- 2017 NATIONAL ELECTRICAL CODE

DEFFERED SUBMITALS:
- FACTORY-BUILT FIREPLACE PRODUCT INFORMATION

AREA SCHEDULE

NAME	AREA
MAIN	1720 SF
LOWER LEVEL	1436 SF
GARAGE	1019 SF
TOTAL	4175 SF

SHEET LIST

#	SHEET	SHEET NAME
1	A 0.0	COVER
2	A 1.0	ELEVATIONS
3	A 1.1	ELEVATIONS
4	A 1.2	3D PERSPECTIVE VIEWS
5	A 2.0	FOOTING & FOUNDATION PLAN
6	A 3.0	LOWER LEVEL PLAN
7	A 4.0	MAIN FLOOR PLAN
8	A 5.0	ROOF PLAN
9	D 1.0	BUILDING SECTIONS
10	D 1.1	BUILDNG SECTIONS
11	D 2.0	WALL SECTIONS & DETAILS
12	D 2.1	WALL SECTIONS & DETAILS
13	D 2.2	TYPICAL DETAILS
14	E 1.0	LOWER LEVEL ELECTRICAL PLAN
15	E 2.0	MAIN FLOOR ELECTRICAL PLAN
16	SN1	STRUCTURAL NOTES
17	S0-0	FOOTING & FOUNDATION PLAN
18	S0-1	BASEMENT SHEAR WALL PLAN
19	S1-0	MAIN FLOOR FRAMING PLAN
20	S1-1	MAIN FLOOR SHEAR WALL PLAN
21	S 3.0	ROOF FRAMING PLAN
22	SD1	STRUCTURAL DETAILS
23	SD2	STRUCTURAL DETAILS
24	SD3	STRUCTURAL DETAILS

COVER

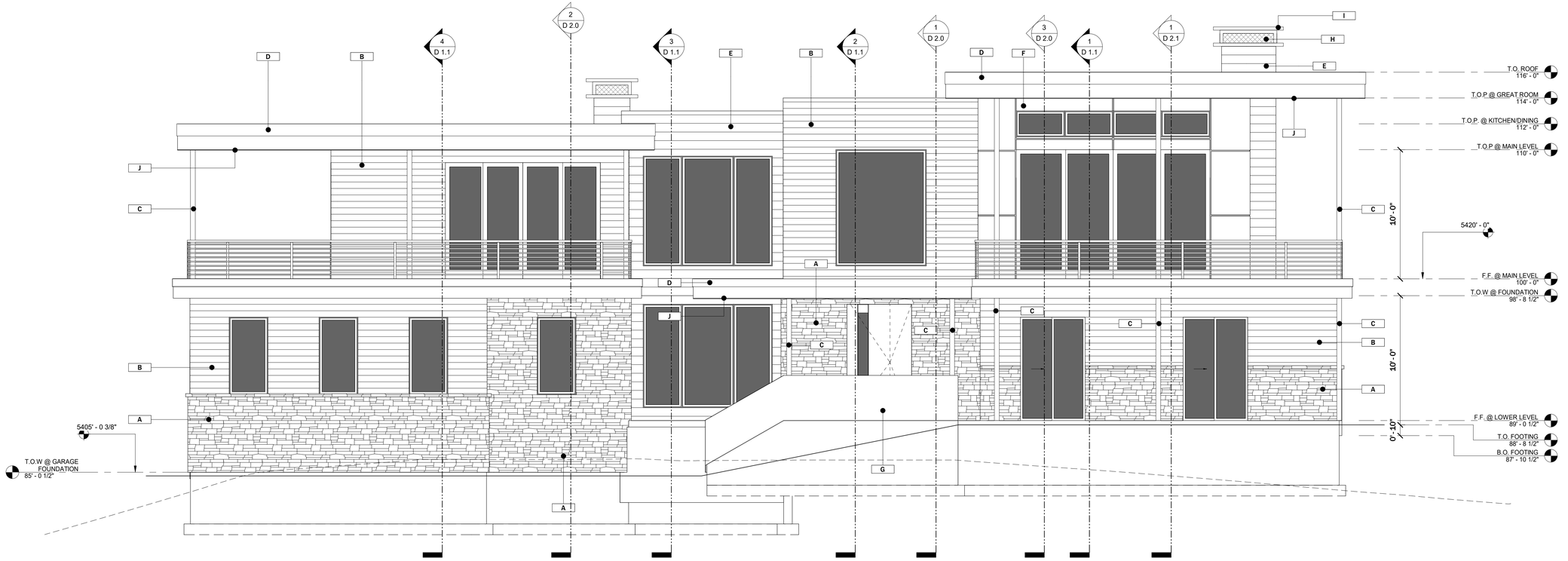
A 0.0

Drawn by: MM
Checked by: MM
Project Date: 2022-12-02
Project #: 21-039

Rosenfeld Residence
3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

Harbor Design
HOME DESIGN & PLANS
E. milan@harbordesigncompany.com
P. 801.472.0857

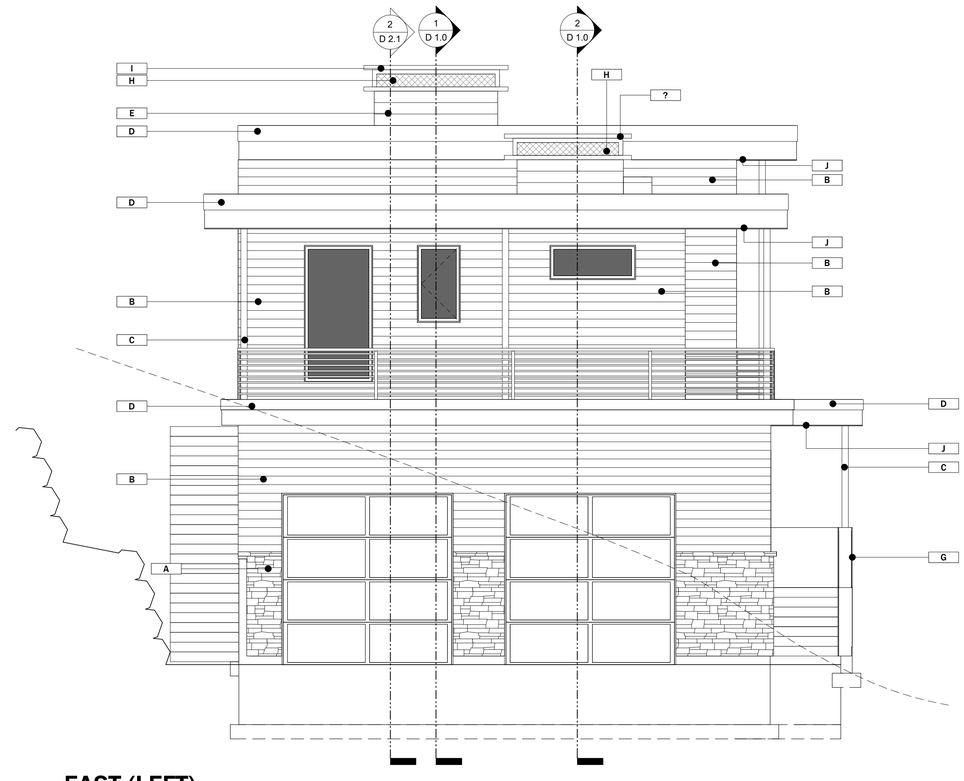
A 0.0
1/4" = 1'-0"



1 NORTH (FRONT)
1/4" = 1'-0"

ELEVATION FINISH KEYNOTES

A	2" STONE VENEER AS SELECTED BY OWNER
B	6" WOOD LAP SIDING AS SELECTED BY OWNER
C	STEEL PIPE POST PAINTED AS SELCTED BY OWNER - SEE STRUCT FOR SIZE
D	ZINC METAL FASCIA AS SELECTED BY OWNER
E	STAINLESS STEEL SIDING AS SELECTED BY OWNER
F	ACM METAL SIDING AS SELECTED BY OWNER
G	STAINLESS STEE PLANTER BOXEX
H	CHIMNEY FLUE w/ SPARK ARRESTOR
I	METAL CHIMNEY CAP AS SELECTED BY OWNER
J	1x6 T&G SOFFIT



2 EAST (LEFT)
1/4" = 1'-0"

ELEVATIONS

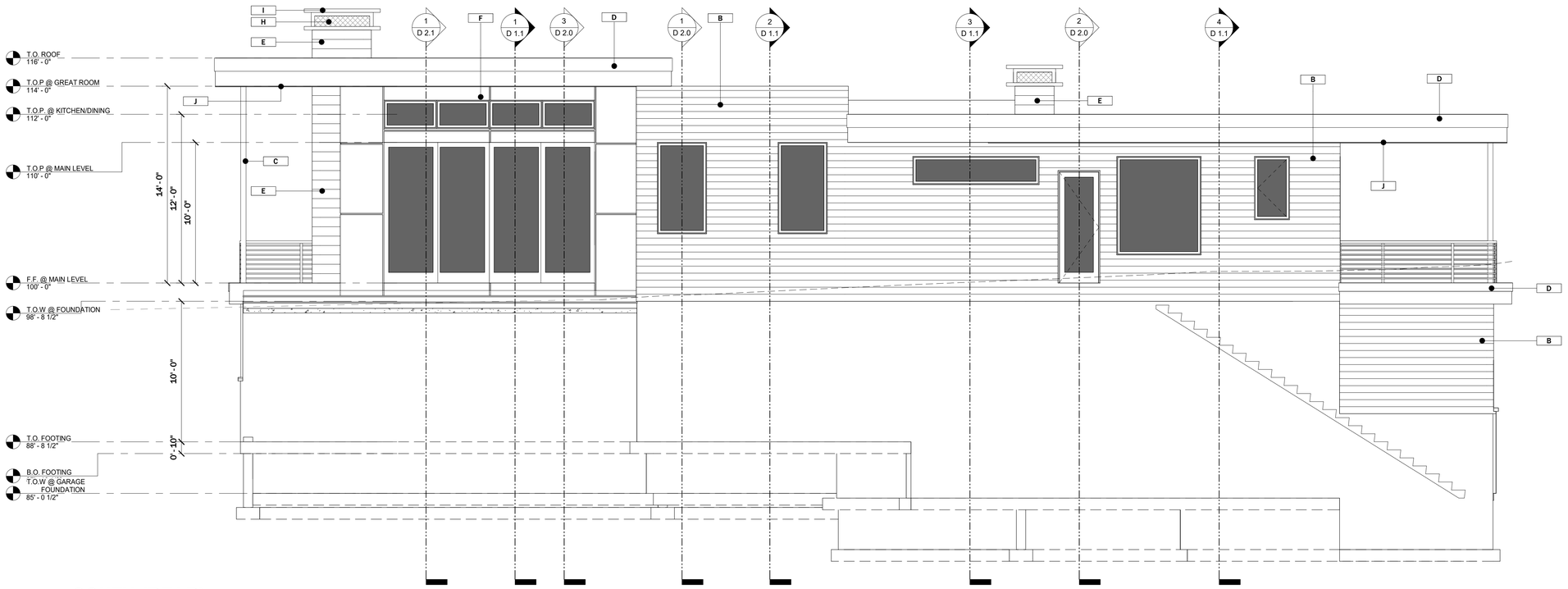
A 1.0

Drawn by: MM
Checked by: MM
Project Date: 2022-12-02
Project #: 21-039

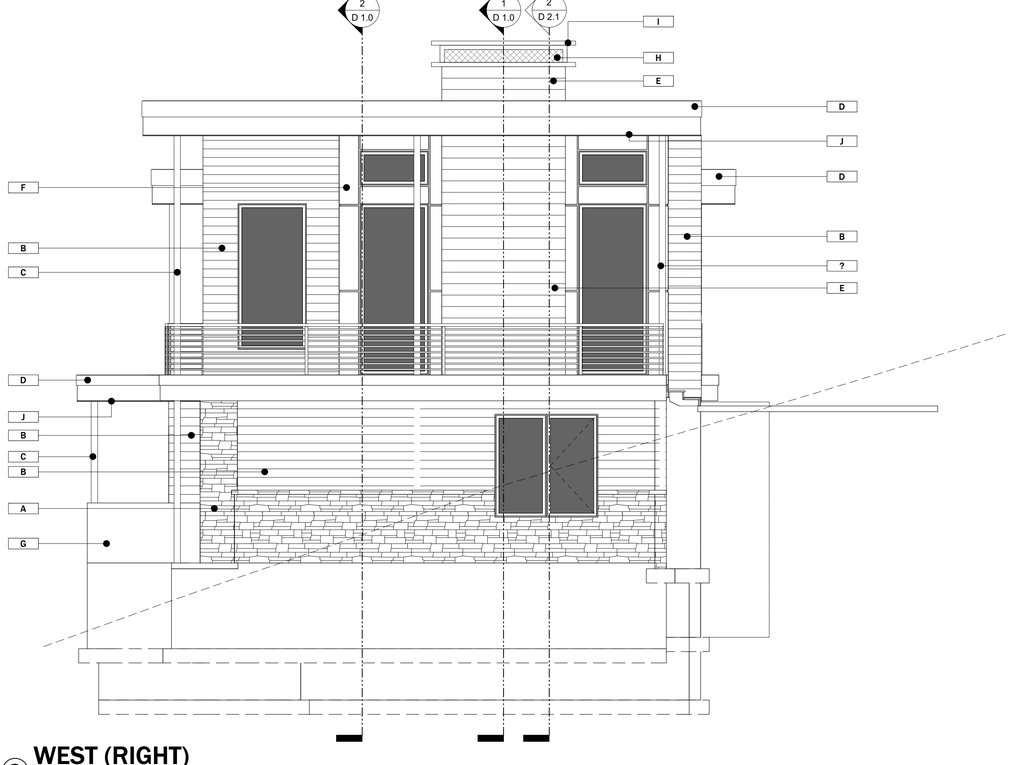
Rosenfeld Residence
3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

Harbor Design
HOME DESIGN & PLANS
E. milan@harbordesigncompany.com
P. 801.472.0857

A 1.0
1/4" = 1'-0"



1 SOUTH (REAR)
1/4" = 1'-0"



2 WEST (RIGHT)
1/4" = 1'-0"

ELEVATION FINISH KEYNOTES

A	2' STONE VENEER AS SELECTED BY OWNER
B	6" WOOD LAP SIDING AS SELECTED BY OWNER
C	STEEL PIPE POST PAINTED AS SELCTED BY OWNER - SEE STRUCT FOR SIZE
D	ZINC METAL FASCIA AS SELECTED BY OWNER
E	STAINLESS STEEL SIDING AS SELECTED BY OWNER
F	ACM METAL SIDING AS SELECTED BY OWNER
G	STAINLESS STEE PLANTER BOXEX
H	CHIMNEY FLUE w/ SPARK ARRESTOR
I	METAL CHIMNEY CAP AS SELECTED BY OWNER
J	1x6 T&G SOFFIT

ELEVATIONS

A 1.1

Drawn by: MM
Checked by: MM
Project Date: 2022-12-02
Project #: 21-039

Rosenfeld Residence
3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

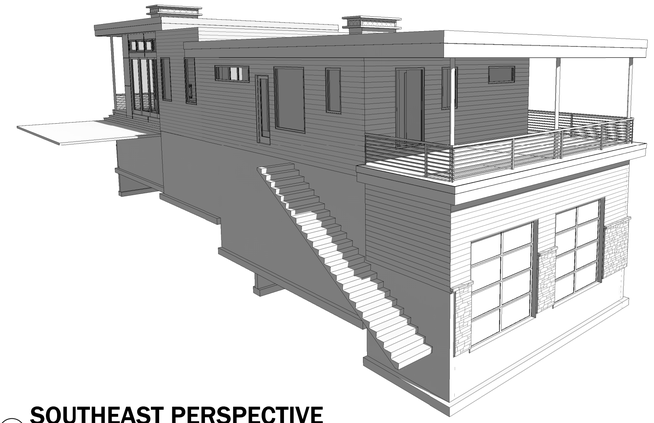
Harbor Design
HOME DESIGN & PLANS
E. milan@harbordesigncompany.com
P. 801.472.0857

A 1.1
1/4" = 1'-0"

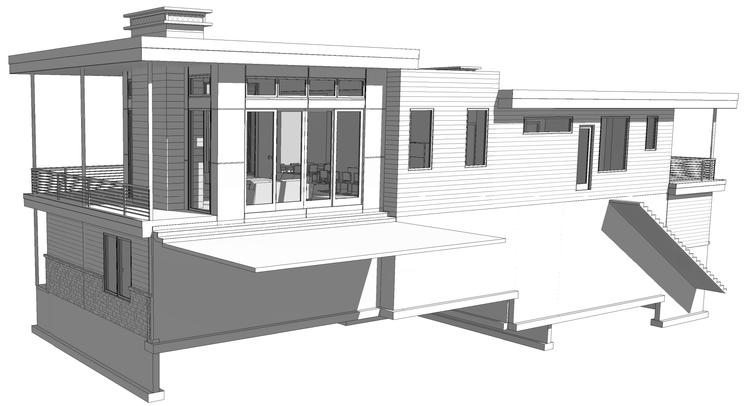
1 NORTH PERSPECTIVE

2 NORTHEAST PERSPECTIVE

3 NORTHWEST PERSPECTIVE



4 SOUTHEAST PERSPECTIVE



5 SOUTHWEST PERSPECTIVE

3D PERSPECTIVE VIEWS

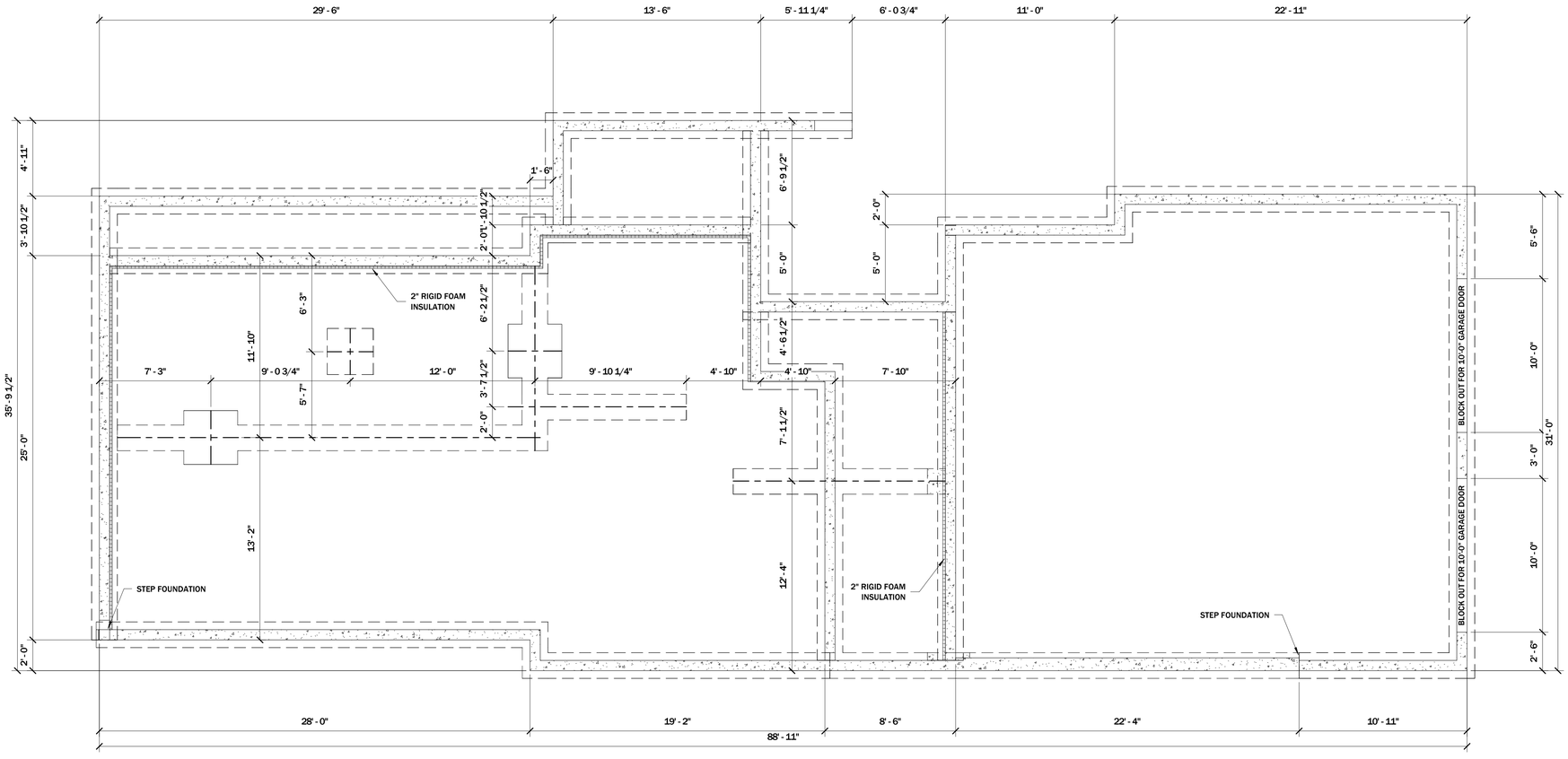
A 1.2

Drawn by: MM
Checked by: MM
Project Date: 2022-12-02
Project #: 21-039

Rosenfeld Residence
3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

Harbor Design
HOME DESIGN & PLANS
E. milan@harbordesigncompany.com
P. 801.472.0857

A 1.2



SEE STRUCTURAL PLANS AND DETAILS FOR FOORING SIZES AND REINFORCEMENT

FOOTING & FOUNDATION PLAN

A 2.0

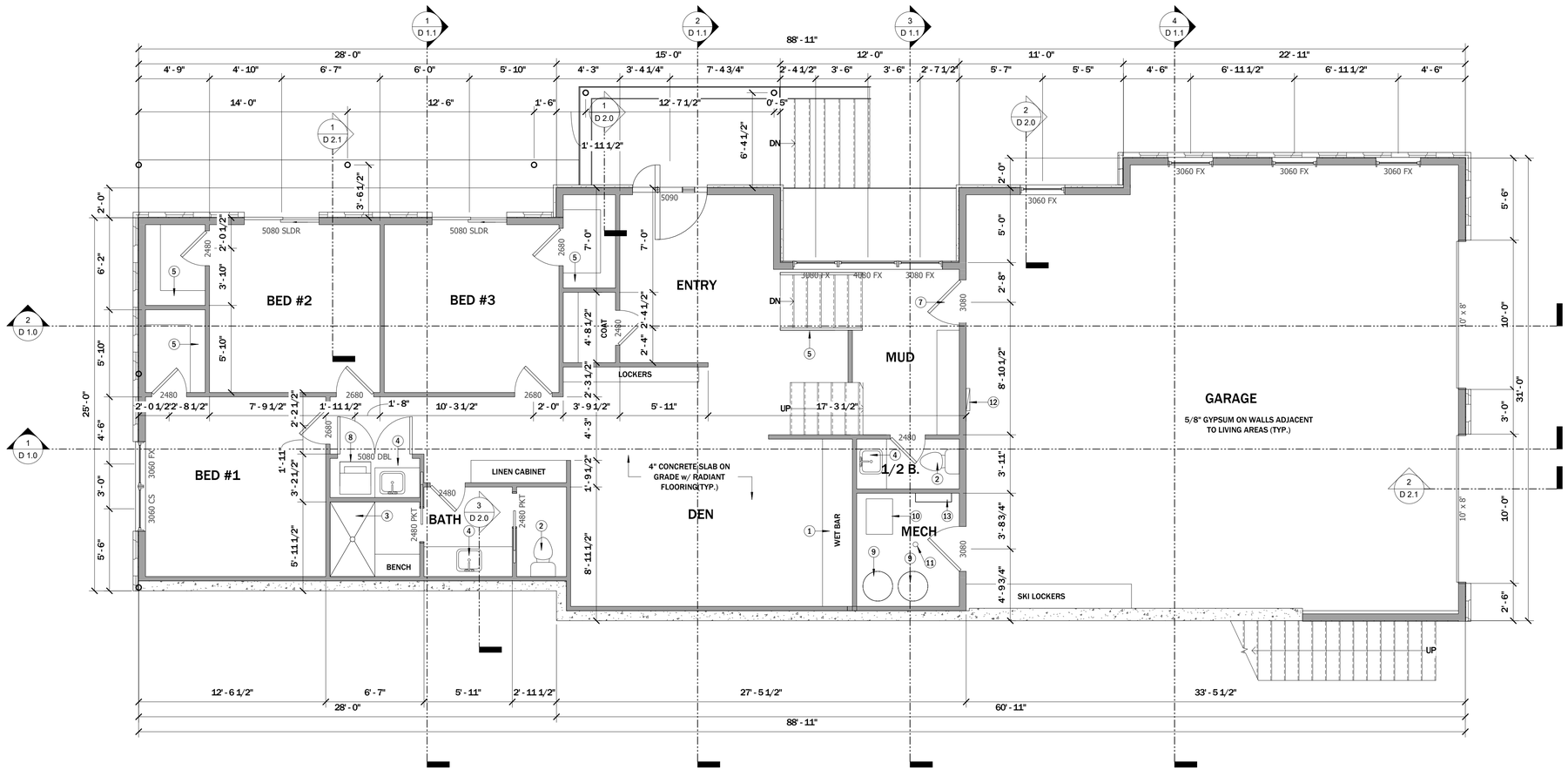
Drawn by: MM
Checked by: MM
Project Date: 2022-12-02
Project #: 21-039

Rosenfeld Residence

3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

Harbor Design
HOME DESIGN & PLANS
E. milan@harbordesigncompany.com
P. 801.472.0857

A 2.0
1/4" = 1'-0"



PLAN NOTES

1. ALL DIMENSIONS ON FLOOR PLANS ARE TO ROUGH FRAMING U.N.O. CONTRACTOR TO VERIFY ALL DIMENSIONS
2. IT IS RESPONSIBILITY OF CONTRACTOR AND EACH SUB-CONTRACTOR TO CHECK AND UNDERSTAND ALL DIMENSIONS, NOTES, AND ANY OTHER ASPECTS OF THIS PROJECT THAT ARE APPLICABLE OT THEIR TRADE PRIOR TO CONSTRUCTION.
3. EXTERIOR WALL FRAMING TO BE 2x6, INTERIOR WALL FRAMING TO BE 2x4 U.N.O.
4. PROVIDE 5/8" TYPE 'X' GYPSUM BOARD ON GARAGE CEILING, WALLS, BEAMS, ETC.
5. PROVIDE 1/2" GYPSUM BOARD AT ENCLOSED SPACE UNDER STAIRS.
6. PROVIDE INSULATION ON WATER LINES INSTALLED IN EXTERIOR WALLS TO PREVENT FREEZING.
7. ALL CONCRETE STEPS TO HAVE A MINIMUM RUN OF 11"
8. PROVIDE 36" x 36" MIN. LANDING w/ 1 1/2" MAX. (7 3/4" IF DOOR SWINGS INTO THE RESIDENCE) DROP BETWEEN THRESEHOLD AND LANDING.
9. PROVIDE 20 MIN. RATED DOOR w/ CLOSER FOR THE DOOR BETWEEN GARAGE AND THE HOUSE.
10. PROVIDE MIN. 36" TALL GUARDRAIL w/ VERT BALUSTERS SPACE SUCH THAT A 4" DIA. BALL CAN NOT PASS THROUGH AT ALL BALCONIES, PORCHES OR ANY RAISE FLOOR SURFACES 30" ABOVE THE FLOOR OR GRADE.
11. EXTERIOR DECKS OR BALCONIES, PORCHES, SPECIALLY THEIR GIRDERS, BEAMS, JOISTS AND DECKING SHALL BE OF A NATURALLY DURABLE OR PRESSURE-PRESERVATIVE TREATED WOOD.
12. FASTENERS AND CONNECTORS FOR PRESSURE-PRESERVATIVE WOOD SHALL BE HOT DIPPED ZINC COATED (ASTM A 653 TYPE G185 ZINC COATED) OR STAINLESS STEEL.
13. PROVIDE FLASHING OVER ALL EXPOSED WOOD CONNECTIONS AND ANY WOOD PROJECTIONS FROM THE HOME. CONTRACTOR TO COMPLETE AND CERTIFY A BLOWER DOOR TEST AS PER N1102.4.1.2.
14. CONTRACTOR IS TO ASSUME RESPONSIBILITY FOR ANY REQUIRED SPECIAL INSPECTIONS AS DETERMINED BY THE DESIGN ENGINEER.
15. RANGE HOODS EXHAUSTING IN EXCESS OF 400 CFM SHALL BE MECHANICALLY OR NATURALLY PROVIDED w/ MAKEUP AIR AT A RATE APPROXIMATELY EQUAL TO THE EXHAUST AIR RATE PER IRC M1503.4.

KEY NOTES

1. 24" BASE CABINETS w/ SOLID SURFACE COUNTERTOP
2. 1.6 GAL./PER FLUSH TOILET
3. SHOWER w/ 2.5 GPM SHOWER HEAD
4. 24" BASE CABINET w/ VANITY SINK
5. 12" DEEP SHELVING
6. NEWEL POST & HANDRAIL PER OWNER. BALUSTER SPACING SHALL BE SO A 4" SPHERE CANNOT PASS THROUGH. TOP OF RAILING TO BE 36" MIN. ABOVE FLOOR
7. PROVIDE 1-3/8" THICK SOLID CORE OR 20 MIN. FIRE RATED DOOR.
8. WASHER/DRYER (VENT DRYER TO EXTERIOR w/ 4" DIA. VENT)
9. (1) 50 GAL. GAS WATER HEATER w/ EXPANSION TANK, ONE WAY CHECK VALVES, AND 1/2" FOAM INSULATION AT HOT WATER LINES. PROVIDE SEISMIC STRAPS PLACED A 3rd WAY DOWN AND UP
10. FURNACE. REFER TO RESCHECK AND/OR MANUAL D/J REPORT FOR EFFICIENCY AND BTU'S. PROVIDE COMBUSTION AIR FROM OUTSIDE.
11. 4" FLOOR DRAIN
12. 200A ELECTRICAL SUBPANEL
13. RADIANT FLOORING WALL MOUNTED BOILER

LOWER LEVEL	1436 SF
GARAGE	1019 SF

LOWER LEVEL PLAN

A 3.0

1/4" = 1'-0"

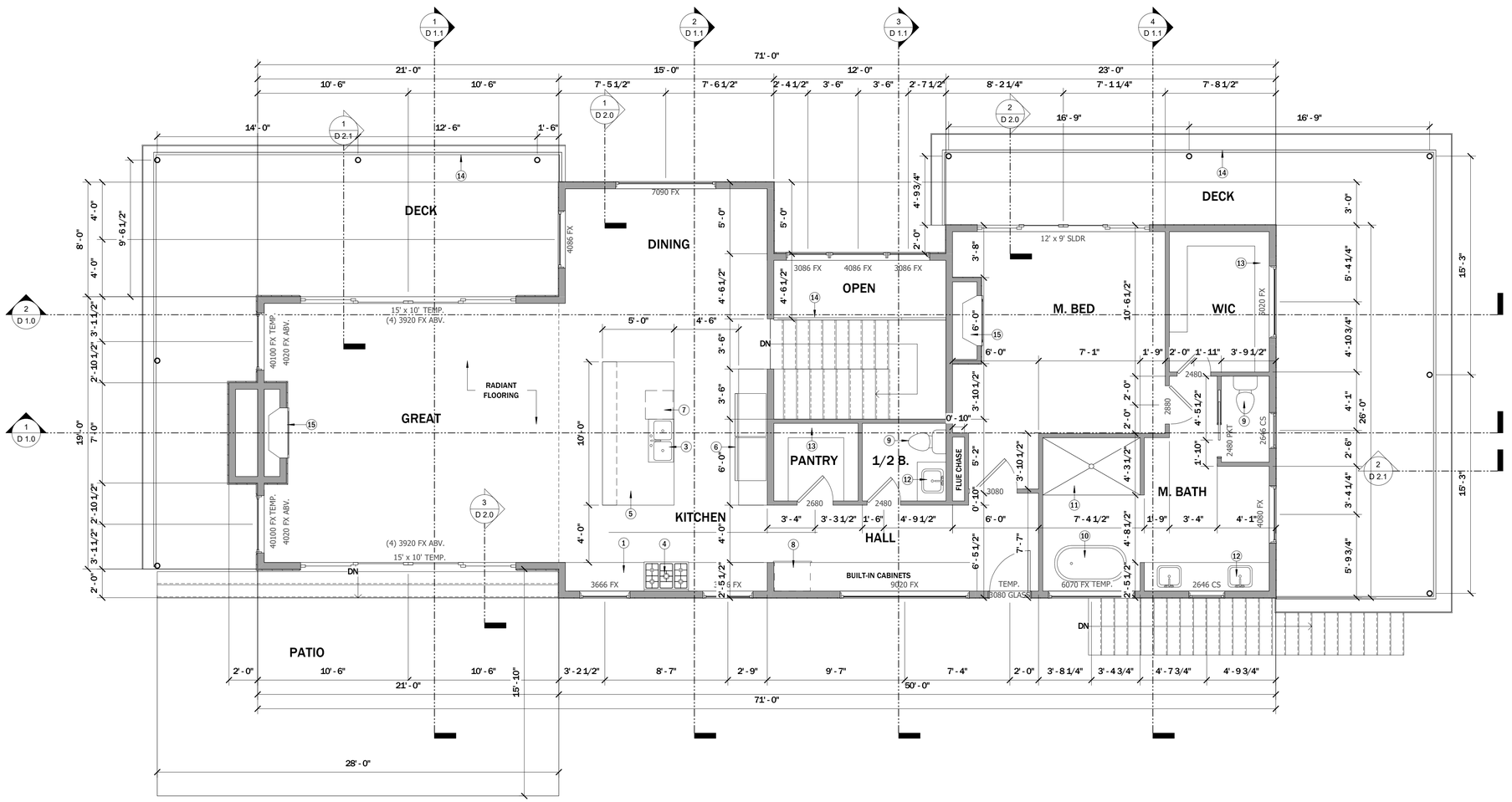
Drawn by: MM
Checked by: MM
Project Date: 2022-12-02
Project #: 21-039

Rosenfeld Residence

3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

Harbor Design
HOME DESIGN & PLANS
E. milan@harbordesigncompany.com
P. 801.472.0857

FINISHED FLOOR ELEVATION SHALL BE BASED ON AN ASSUMED ELEVATION OF 100'-0" AT MAIN FLOOR LEVEL AND CORRESPONDS TO AN ABSOLUTE ELEVATION OF 5420'-0" AT MAIN FLOOR LEVEL.



PLAN NOTES

1. ALL DIMENSIONS ON FLOOR PLANS ARE TO ROUGH FRAMING U.N.O. CONTRACTOR TO VERIFY ALL DIMENSIONS
2. IT IS RESPONSIBILITY OF CONTRACTOR AND EACH SUB-CONTRACTOR TO CHECK AND UNDERSTAND ALL DIMENSIONS, NOTES, AND ANY OTHER ASPECTS OF THIS PROJECT THAT ARE APPLICABLE OT THEIR TRADE PRIOR TO CONSTRUCTION.
3. EXTERIOR WALL FRAMING TO BE 2x6, INTERIOR WALL FRAMING TO BE 2x4 U.N.O.
4. PROVIDE 5/8" TYPE 'X' GYPSUM BOARD ON GARAGE CEILING, WALLS, BEAMS, ETC.
5. PROVIDE 1/2" GYPSUM BOARD AT ENCLOSED SPACE UNDER STAIRS.
6. PROVIDE INSULATION ON WATER LINES INSTALLED IN EXTERIOR WALLS TO PREVENT FREEZING.
7. ALL CONCRETE STEPS TO HAVE A MINIMUM RUN OF 11"
8. PROVIDE 36" x 36" MIN. LANDING w/ 1 1/2" MAX. (7 3/4" IF DOOR SWINGS INTO THE RESIDENCE) DROP BETWEEN THRESEHOLD AND LANDING.
9. PROVIDE 20 MIN. RATED DOOR w/ CLOSER FOR THE DOOR BETWEEN GARAGE AND THE HOUSE.
10. PROVIDE MIN. 36" TALL GUARDRAIL w/ VERT BALUSTERS SPACE SUCH THAT A 4" DIA. BALL CAN NOT PASS THROUGH AT ALL BALCONIES, PORCHES OR ANY RAISE FLOOR SURFACES 30" ABOVE THE FLOOR OR GRADE.
11. EXTERIOR DECKS OR BALCONIES, PORCHES, SPECIALLY THEIR GIRDERS, BEAMS, JOISTS AND DECKING SHALL BE OF A NATURALLY DURABLE OR PRESSURE-PRESERVATIVE TREATED WOOD.
12. FASTENERS AND CONNECTORS FOR PRESSURE-PRESERVATIVE WOOD SHALL BE HOT DIPPED ZINC COATED (ASTM A 653 TYPE G185 ZINC COATED) OR STAINLESS STEEL.
13. PROVIDE FLASHING OVER ALL EXPOSED WOOD CONNECTIONS AND ANY WOOD PROJECTIONS FROM THE HOME. CONTRACTOR TO COMPLETE AND CERTIFY A BLOWER DOOR TEST AS PER N1102.4.1.2.
14. CONTRACTOR IS TO ASSUME RESPONSIBILITY FOR ANY REQUIRED SPECIAL INSPECTIONS AS DETERMINED BY THE DESIGN ENGINEER.
15. RANGE HOODS EXHAUSTING IN EXCESS OF 400 CFM SHALL BE MECHANICALLY OR NATURALLY PROVIDED w/ MAKEUP AIR AT A RATE APPROXIMATELY EQUAL TO THE EXHAUST AIR RATE PER IRC M1503.4.

KEY NOTES

1. 24" BASE CABINETS w/ SOLID SURFACE COUNTERTOP
2. 12" UPPER CABINETS
3. DOUBLE SINK w/ DISPOSAL & SPRAYER
4. RANGE/COOK TOP w/ HOOD ABOVE
5. KITCHEN ISLAND w/ 12" SNACK BAR HANGOVER w/ SOLID SURFACE COUNTERTOP
6. REFRIGERATOR/FREEZER
7. DISHWASHER
8. DOUBLE OVENS
9. 1.6 GAL./PER FLUSH TOILET
10. FREE STANDING TUB
11. SHOWER w/ 2.5 GPM SHOWER HEAD
12. 24" BASE CABINET w/ VANITY SINK
13. 12" DEEP SHELVING
14. NEWEL POST & HANDRAIL PER OWNER. BALUSTER SPACING SHALL BE SO A 4" SPHERE CANNOT PASS THROUGH. TOP OF RAILING TO BE 36" MIN. ABOVE FLOOR.
15. DRIECT VENT FIREPLACE

MAIN 1720 SF

MAIN FLOOR PLAN

A 4.0

Drawn by: MM
Checked by: MM
Project Date: 2022-12-02
Project #: 21-039

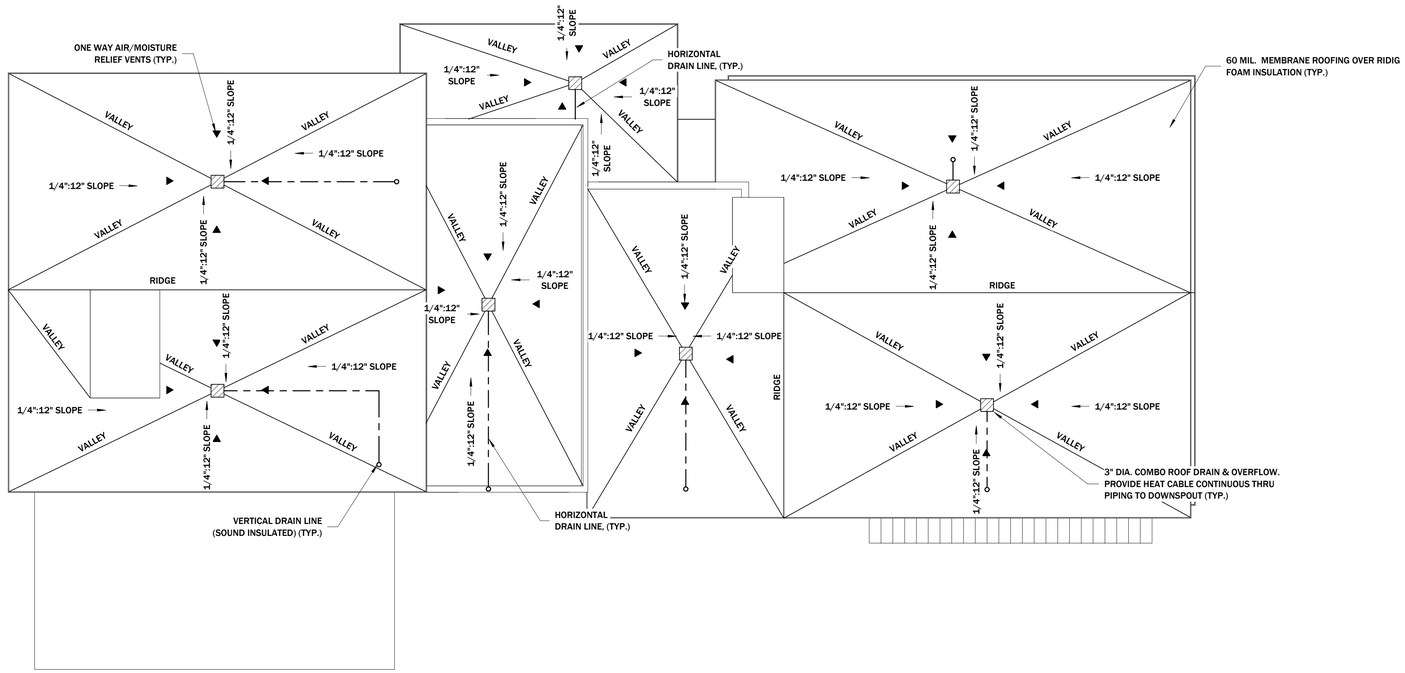
THE CONTRACTOR/OWNER SHALL CAREFULLY AND THOUROGHLY REVIEW & VERIFY ALL INFORMATION PERTAINING TO THIS SET OF PLANS. IN THE EVENT OF ANY DISCREPENCY, PRIOR TO CONSTRUCTION, HARBOR DESIGN COMPANY, LLC SHALL BE CONTACTED FOR CLARIFICATION.

Rosenfeld Residence

3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

Harbor Design
HOME DESIGN & PLANS
E. milan@harbordesigncompany.com
P. 801.472.0857

A 4.0
1/4" = 1'-0"



ROOF PLAN

A 5.0
3/16" = 1'-0"

A 5.0

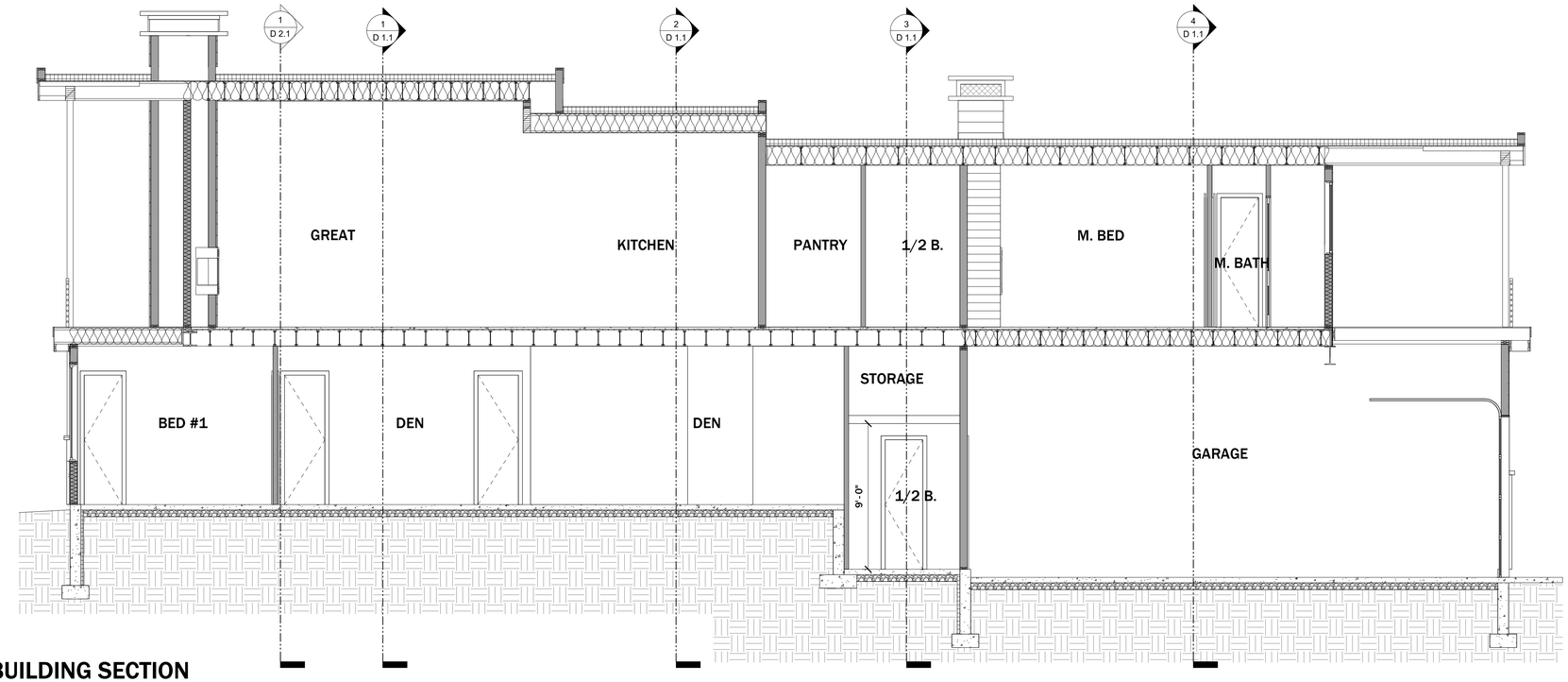
Drawn by: MM
Checked by: MM
Project Date: 2022-12-02
Project #: 21-039

THE CONTRACTOR/OWNER SHALL CAREFULLY AND THOUROUGHLY REVIEW & VERIFY ALL INFORMATION PERTAINING TO THIS SET OF PLANS. IN THE EVENT OF ANY DISCREPENCY, PRIOR TO CONSTRUCTION, HARBOR DESIGN COMPANY, LLC SHALL BE CONTACTED FOR CLARIFICATION.

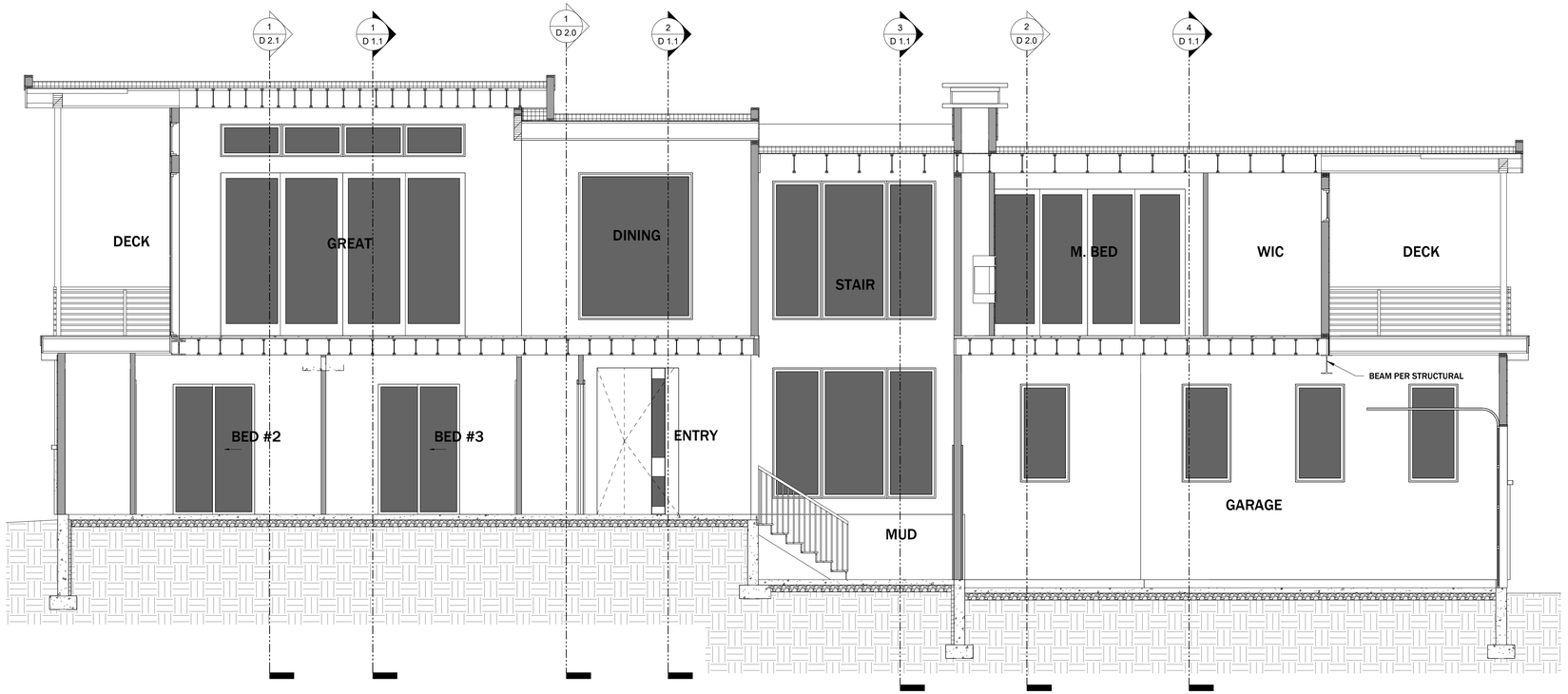
Rosenfeld Residence
3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

Harbor Design
HOME DESIGN & PLANS
E. milan@harbordesigncompany.com
P. 801.472.0857

EXHIBIT G



1 **BUILDING SECTION**
1/4" = 1'-0"



2 **BUILDING SECTION**
1/4" = 1'-0"

BUILDING SECTIONS

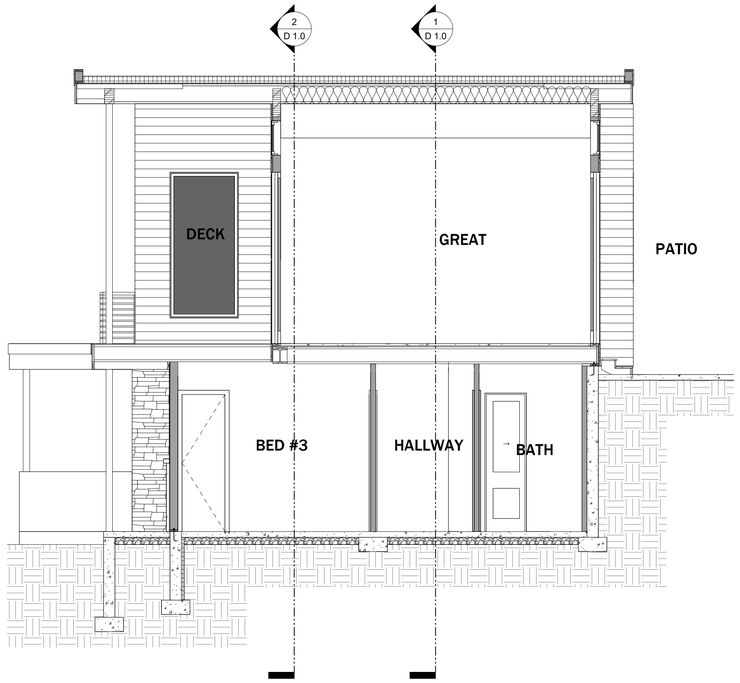
D 1.0

Drawn by: MM
Checked by: MM
Project Date: 2022-12-02
Project #: 21-039

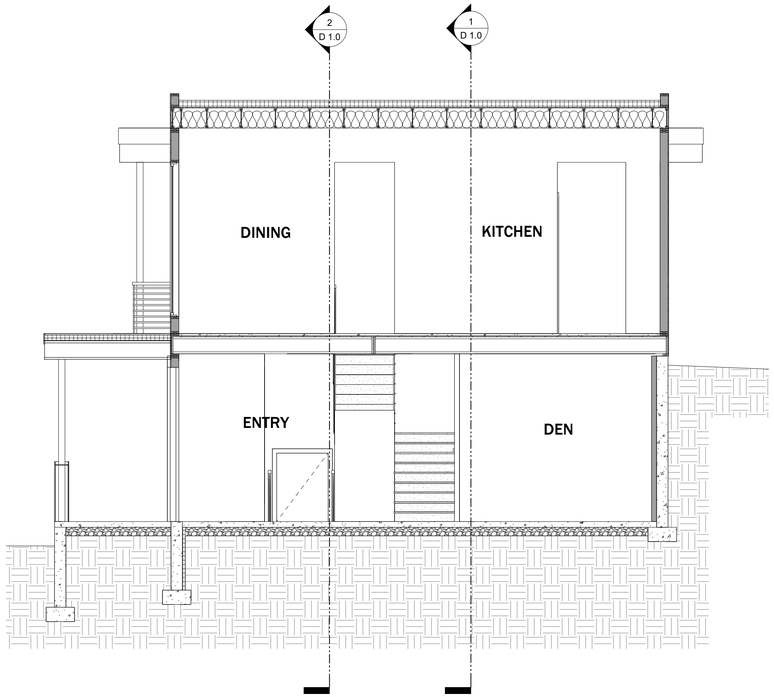
Rosenfeld Residence
3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

Harbor Design
HOME DESIGN & PLANS
E. milan@harbordesigncompany.com
P. 801.472.0857

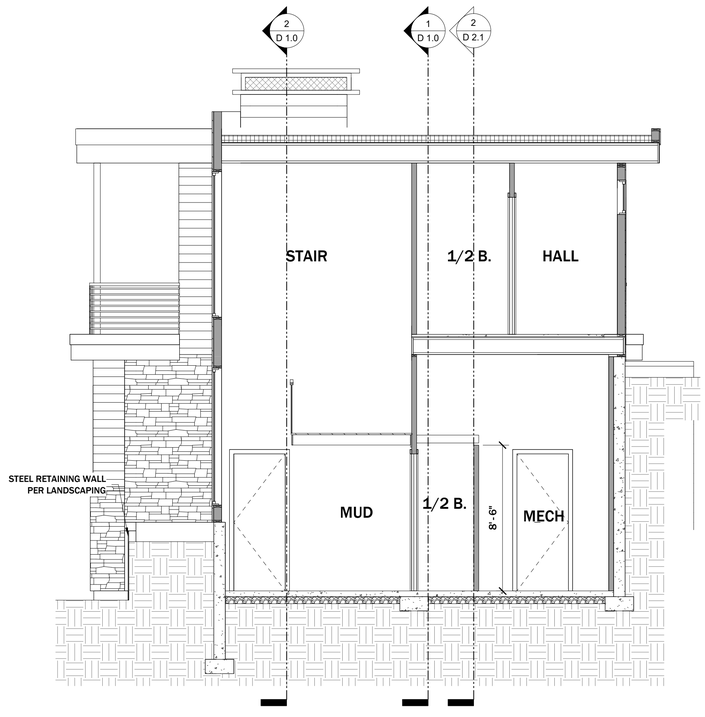
D 1.0
1/4" = 1'-0"



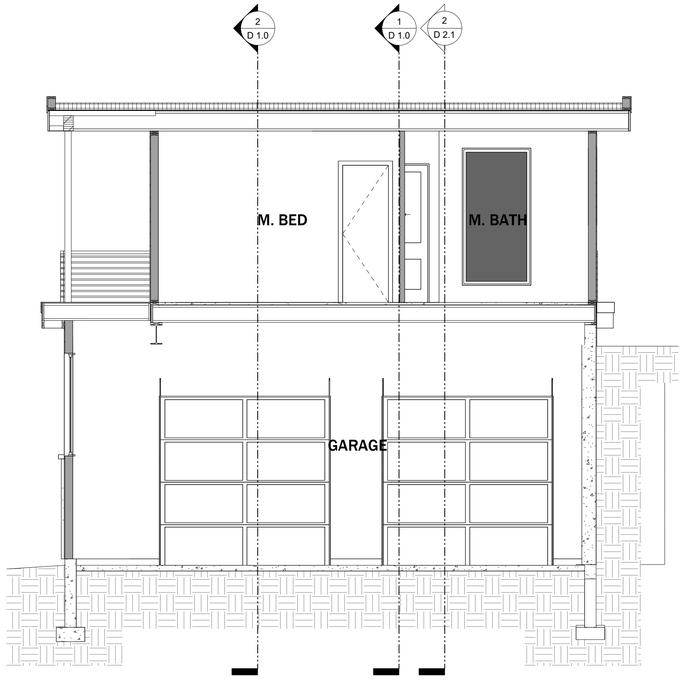
1 **BUILDING SECTION**
1/4" = 1'-0"



2 **BUILDING SECTION**
1/4" = 1'-0"



3 **BUILDING SECTION**
1/4" = 1'-0"



4 **BUILDING SECTION**
1/4" = 1'-0"

BUILDNG SECTIONS

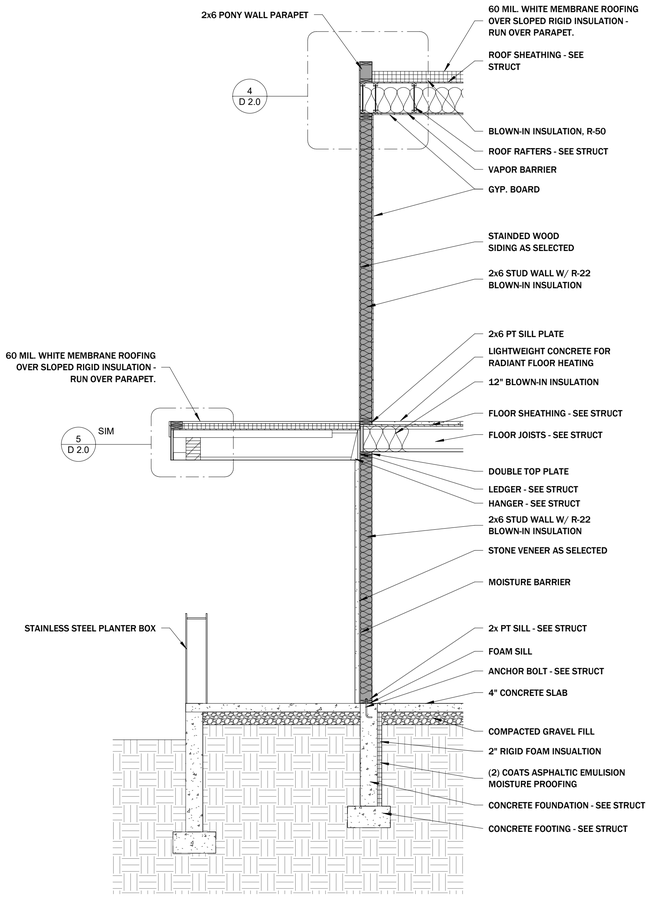
D 1.1

Drawn by: MM
Checked by: MM
Project Date: 2022-12-02
Project #: 21-039

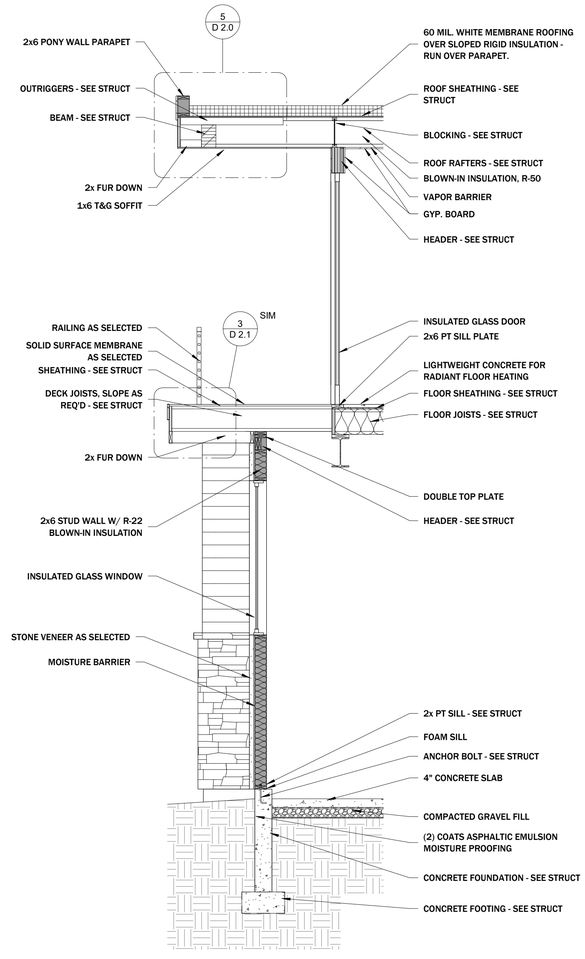
Rosenfeld Residence
3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

Harbor Design
HOME DESIGN & PLANS
E. milan@harbordesigncompany.com
P. 801.472.0857

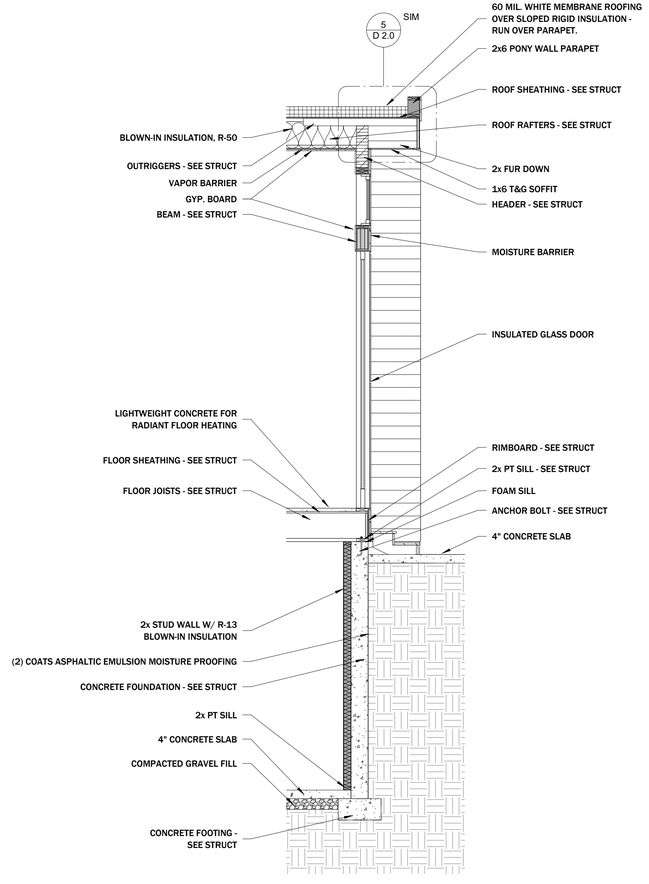
D 1.1
1/4" = 1'-0"



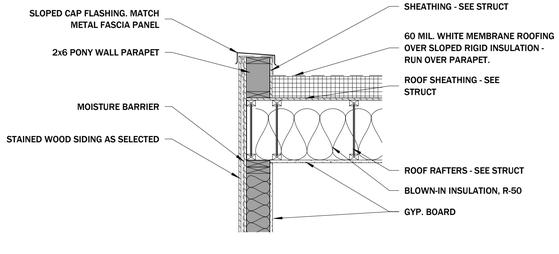
1 WALL SECTION @ ENTRY
3/8" = 1'-0"



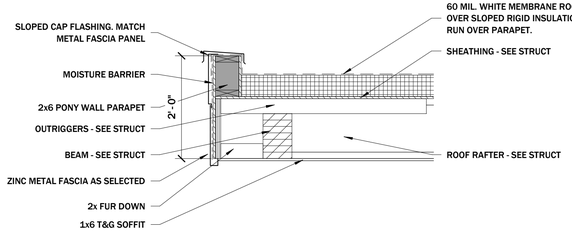
2 WALL SECTION @ GARAGE
3/8" = 1'-0"



3 WALL SECTION @ GREAT ROOM
3/8" = 1'-0"



4 PARAPET DETAIL
3/4" = 1'-0"



5 TYPICAL EAVE DETAIL
3/4" = 1'-0"

WALL SECTIONS & DETAILS

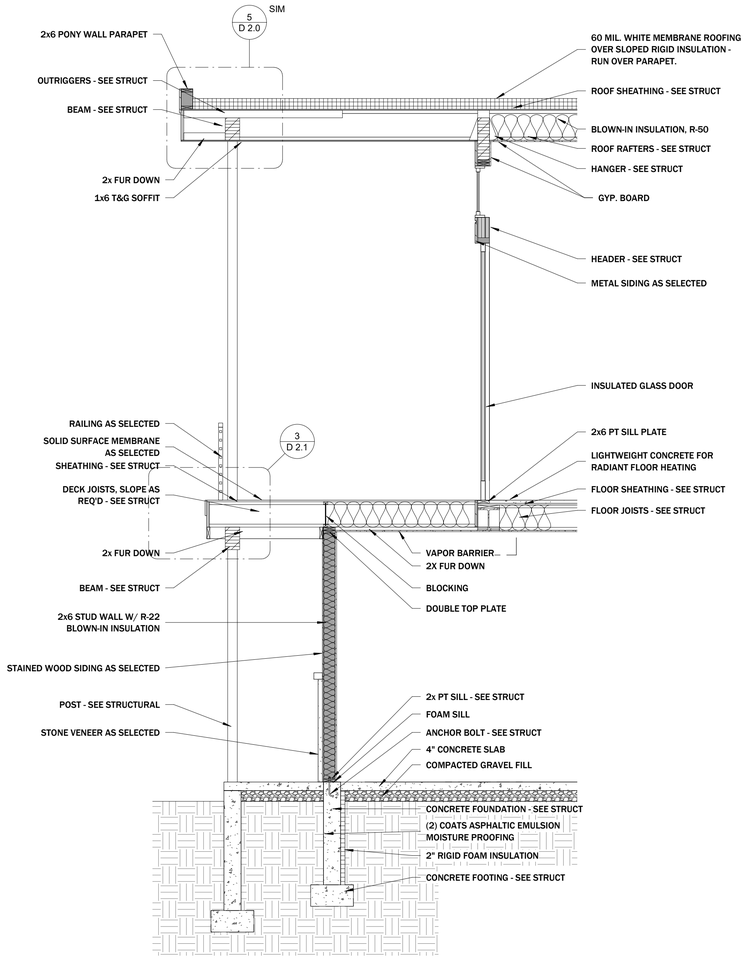
D 2.0

Drawn by: MM
Checked by: MM
Project Date: 2022-12-02
Project #: 21-039

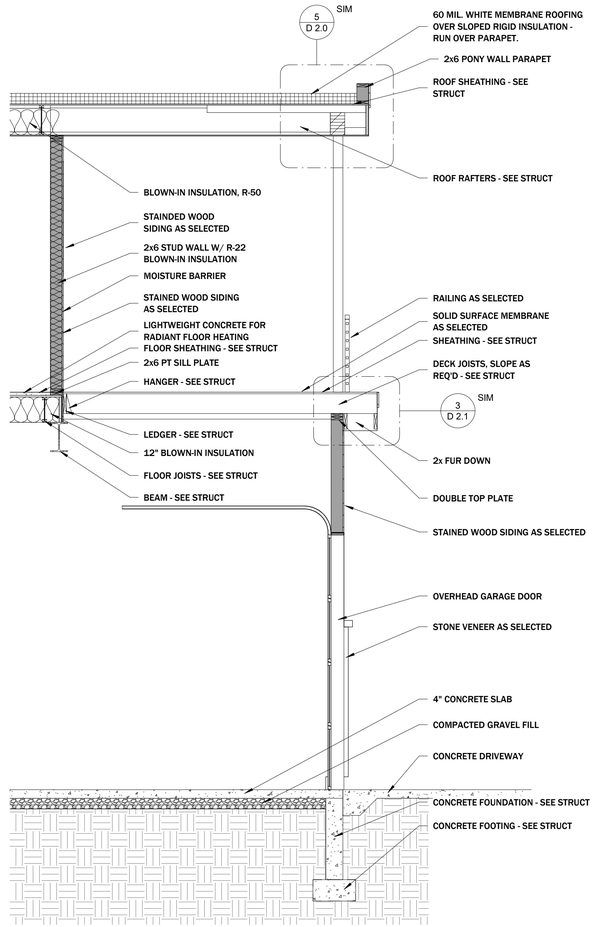
Rosenfeld Residence
3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

Harbor Design
HOME DESIGN & PLANS
E. milan@harbordesigncompany.com
P. 801.472.0857

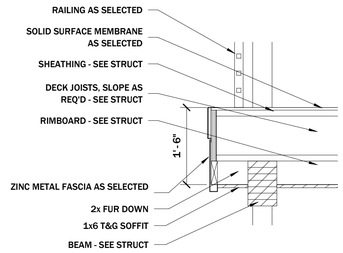
D 2.0
As indicated



1 WALL SECTION @ GREAT ROOM
3/8" = 1'-0"



2 WALL SECTION @ GARAGE
3/8" = 1'-0"



3 TYPICAL DECK EAVE DETAIL
3/4" = 1'-0"

WALL SECTIONS & DETAILS

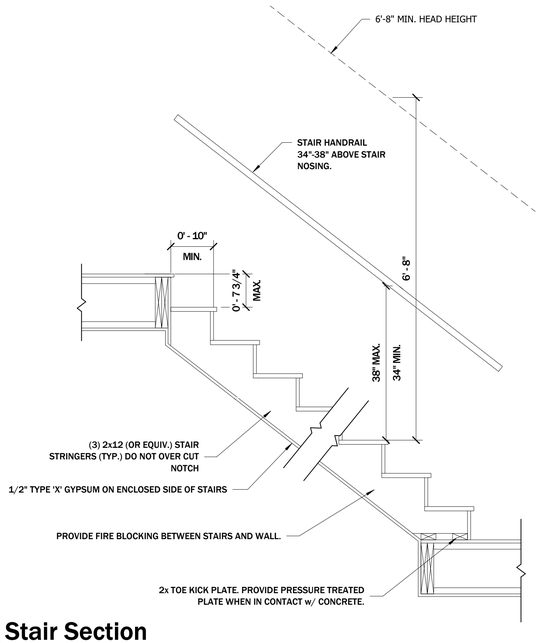
D 2.1

Drawn by: MM
Checked by: MM
Project Date: 2022-12-02
Project #: 21-039

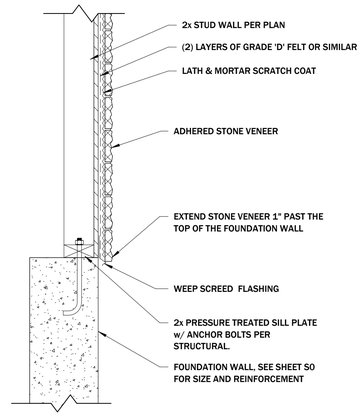
Rosenfeld Residence
3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

Harbor Design
HOME DESIGN & PLANS
E. milan@harbordesigncompany.com
P. 801.472.0857

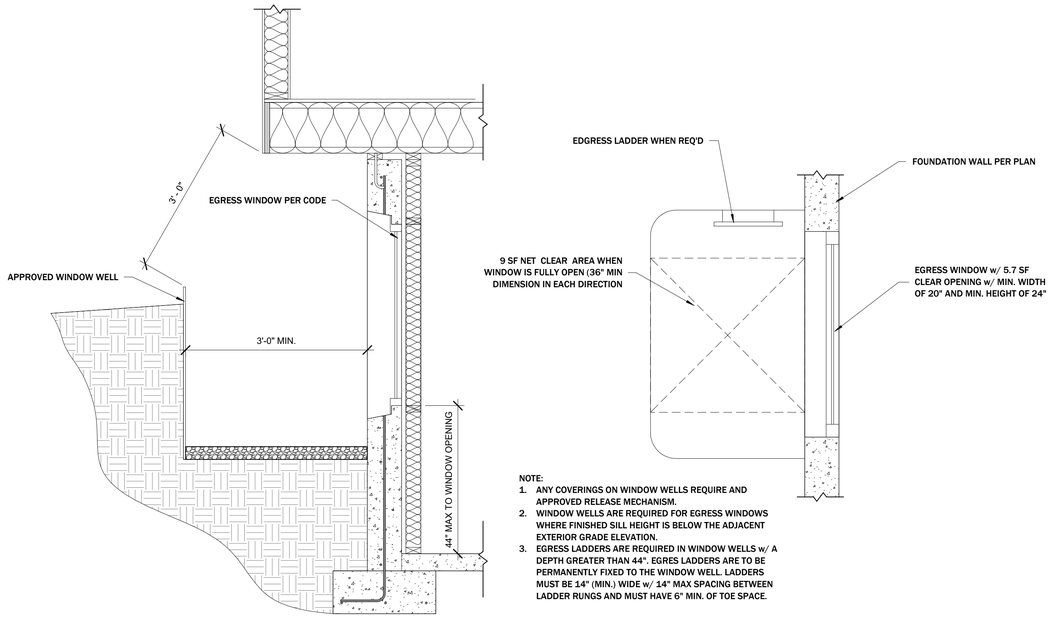
D 2.1
As indicated



1 Stair Section
3/4" = 1'-0"

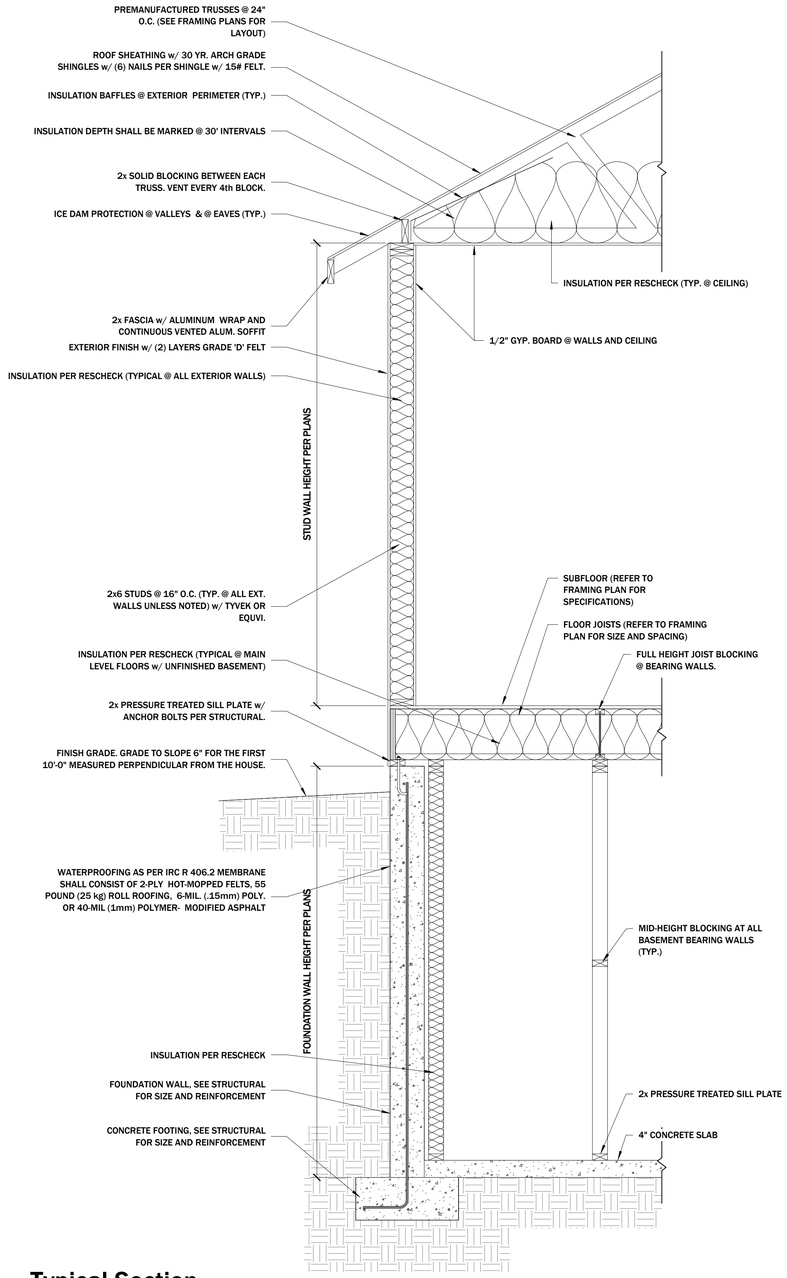


2 Stone Veneer
1 1/2" = 1'-0"



NOTE:
1. ANY COVERINGS ON WINDOW WELLS REQUIRE AND APPROVED RELEASE MECHANISM.
2. WINDOW WELLS ARE REQUIRED FOR EGRESS WINDOWS WHERE FINISHED SILL HEIGHT IS BELOW THE ADJACENT EXTERIOR GRADE ELEVATION.
3. EGRESS LADDERS ARE REQUIRED IN WINDOW WELLS w/ A DEPTH GREATER THAN 44". EGRES LADDERS ARE TO BE PERMANENTLY FIXED TO THE WINDOW WELL. LADDERS MUST BE 14" (MIN.) WIDE w/ 14" MAX SPACING BETWEEN LADDER RUNGS AND MUST HAVE 6" MIN. OF TOE SPACE.

3 Typical Egress Window Well
3/4" = 1'-0"



4 Typical Section
3/4" = 1'-0"

TYPICAL DETAILS

D 2.2

Drawn by: MM
Checked by: MM
Project Date: 2022-12-02
Project #: 21-039

Rosenfeld Residence
3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

Harbor Design
HOME DESIGN & PLANS
E. milan@harbordesigncompany.com
P. 801.472.0857

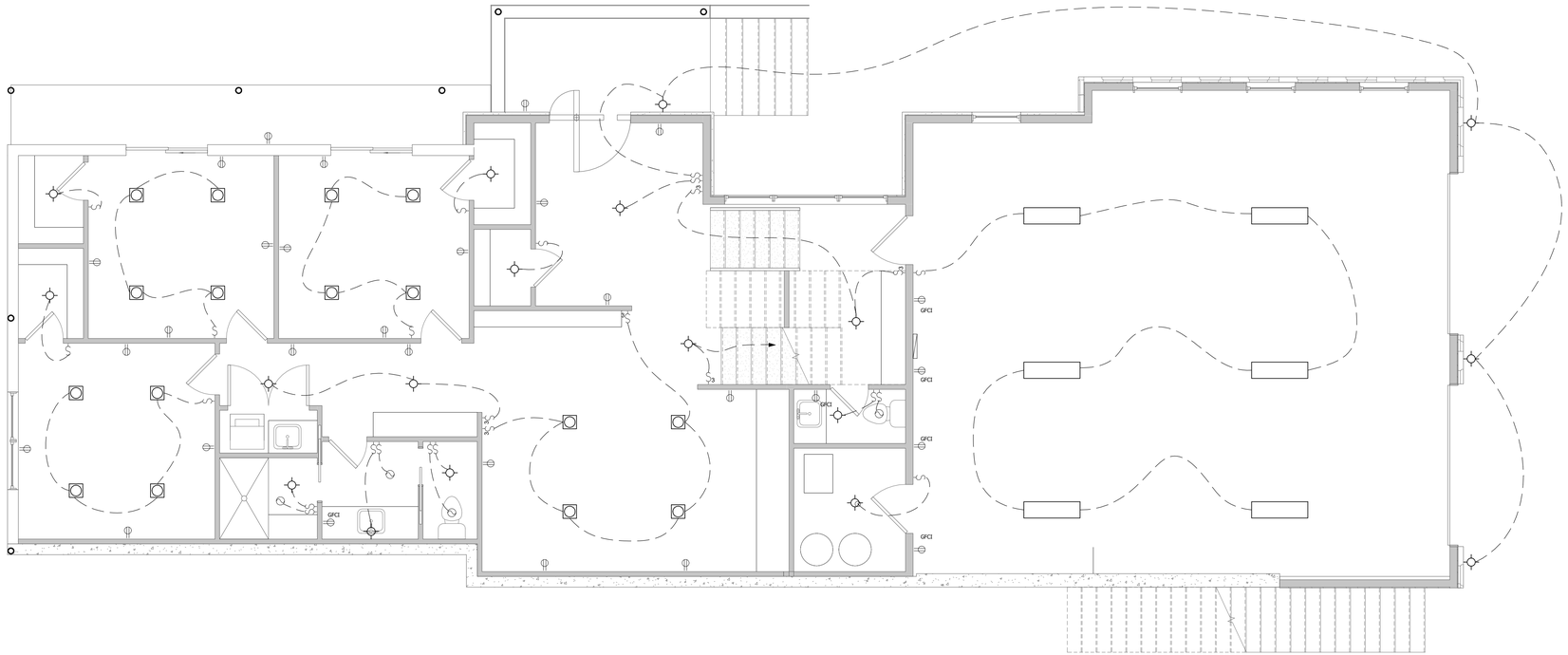
D 2.2
As indicated

ELECTRICAL NOTES

1. ALL OUTLETS MUST BE TAMPER RESISTANT PER 2017 NEC.
2. ALL BEDROOM OUTLETS, LIGHTS, SWITCHES & SMOKE DETECTORS SHALL BE ARC-FAULT PROTECTED.
3. FIELD DETERMINE LOCATION OF ALL SWITCHES.
4. PLASTIC ELECTRICAL BOXES IN GARAGE FIRE WALLS TO BE A MINIMUM 2 HOUR LISTING.
5. PROVIDE BUBBLE COVERS ON ALL EXTERIOR OUTLETS.
6. INSTALL 110V/120V OUTLET WITHIN 25' OF A/C UNIT.
7. INSTALLATION OF ALL ELECTRICAL COMPONENTS SHALL COMPLY WITH THE 2011 NEC REQUIREMENTS INCLUDING THE PLACEMENT OF OUTLETS AS SPECIFIED IN CHAPTER 2 AND WIRING METHODS AS SPECIFIED IN CHAPTER 3 (I.E. RECEPTACLES ARE REQUIRED WITHIN 6' OF WALL ENDS AND VERTICAL EDGES OF DOORWAYS AND ON ALL WALL SECTIONS AT LEAST 2' WIDE).
8. PROVIDE GFCI CIRCUITS FOR: BATHROOMS, KITCHEN, UNFINISHED BASEMENT, GARAGE, EXTERIOR OUTLETS, MECHANICAL ROOM.
9. PROVIDE AN UFER GROUND ELECTRODE ENCASED IN CONCRETE LOCATED WITHIN AND NEAR THE BOTTOM OF A CONCRETE FOUNDATION OR FOOTING THAT IS IN DIRECT CONTACT WITH THE EARTH.
10. GROUND-FAULT CIRCUIT-INTERUPPERTOR PROCTECTION SHALL BE INSTALLED AT ALL RECEPTACLES LOCATED IN BATHROOMS, GARAGES, CRAWLSPACES WHERE THE SPACE IS AT OR BELOW GRADE LEVEL, LOCATIONS THAT SERVICE A COUNTERTOP, LAUNDRY AREAS, AND AREAS WHERE THE RECEPTACLE IS LOCATED WITHIN 6'-0" OF A SINK.
11. GROUND-FAULT CIRCUIT INTERUPPTERS SHALL BE INSTALLED IN A READILY ACCESSIBLE AREA.
12. ALL RECEPTACLES SHALL BE INSTALLED SO THAT NO POINT MEASURED HORIZONTALLY ALONG THE FLOOR LINE OF ANY WALL SPACE IS MORE THAN 6'-0" AWAY FROM A RECEPTABLE OUTLET.
13. COUNTER SPACES WIDER THAN 12" SHALL HAVE A RECEPTACLE OUTLET.
14. RECEPTACLE OUTLETS THAT SERVICE A COUNTER SPACE SHALL BE INSTALLED SO THAT NO POINT ALONG THE WALL LINE IS MORE THAN 24" AWAY FROM A RECEPTACLE OUTLET.
15. FOR KITCHEN ISLAND COUNTERTOP SPACES WITH A LONG DIMENSION OF 24" OR GREATER AND A SHORT DIMENSION 12" OR GREATER PROVIDE (1) RECEPTACLE OUTLET.
16. SMOKE ALARMS SHALL BE INSTALLED IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA (IN THE IMMEDIATE VICINITY OF THE BEDROOMS), ON EACH LEVEL (INCLUDING BASEMENTS AND HABITABLE ATTICS).
17. RECEPTACLE OUTLETS SHALL BE TAMPER PROOF. ALL SMOKE ALARMS SHALL BE WIRED IN SERIES.
18. ALL BRANCH CIRCUITS THAT SUPPLY 120V, SINGLE PHASE, 15 & 20 AMP OUTLETS IN LIVING SPACES SHALL BE PROTECTED BY A COMBINATION TYPE ARC-FAULT CIRCUIT INTERRUPTER.
19. PROVIDE A MINIMUM OF (2) 20 AMP APPLIANCE CIRCUITS FOR KITCHEN.
20. BATHROOM RECEPTACLE OUTLETS SHALL BE SUPPLIED BY A DEDICATED 20 AMP CIRCUIT.

LEGEND

- 110 DUPLEX OUTLET
- 110 SWITCHED DUPLEX OUTLET
- 220 OUTLET
- LIGHT FIXTURE
- RECESSED LIGHT
- SWITCH
- SMOKE DETECTOR
- SMOKE DETECTOR/CARBON MONOXIDE COMBO
- TV COAX OUTLET
- EXHAUST FAN
- CEILING FAN
- FLUORESCENT LIGHT



LOWER LEVEL ELECTRICAL PLAN

E 1.0
1/4" = 1'-0"

Drawn by: MM
Checked by: MM
Project Date: 2022-12-02
Project #: 21-039

THE CONTRACTOR/OWNER SHALL CAREFULLY AND THOUROUGHLY REVIEW & VERIFY ALL INFORMATION PERTAINING TO THIS SET OF PLANS. IN THE EVENT OF ANY DISCREPENCY, PRIOR TO CONSTRUCTION, HARBOR DESIGN COMPANY, LLC SHALL BE CONTACTED FOR CLARIFICATION.

Rosenfeld Residence
3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

Harbor Design
HOME DESIGN & PLANS
E. milan@harbordesigncompany.com
P. 801.472.0857

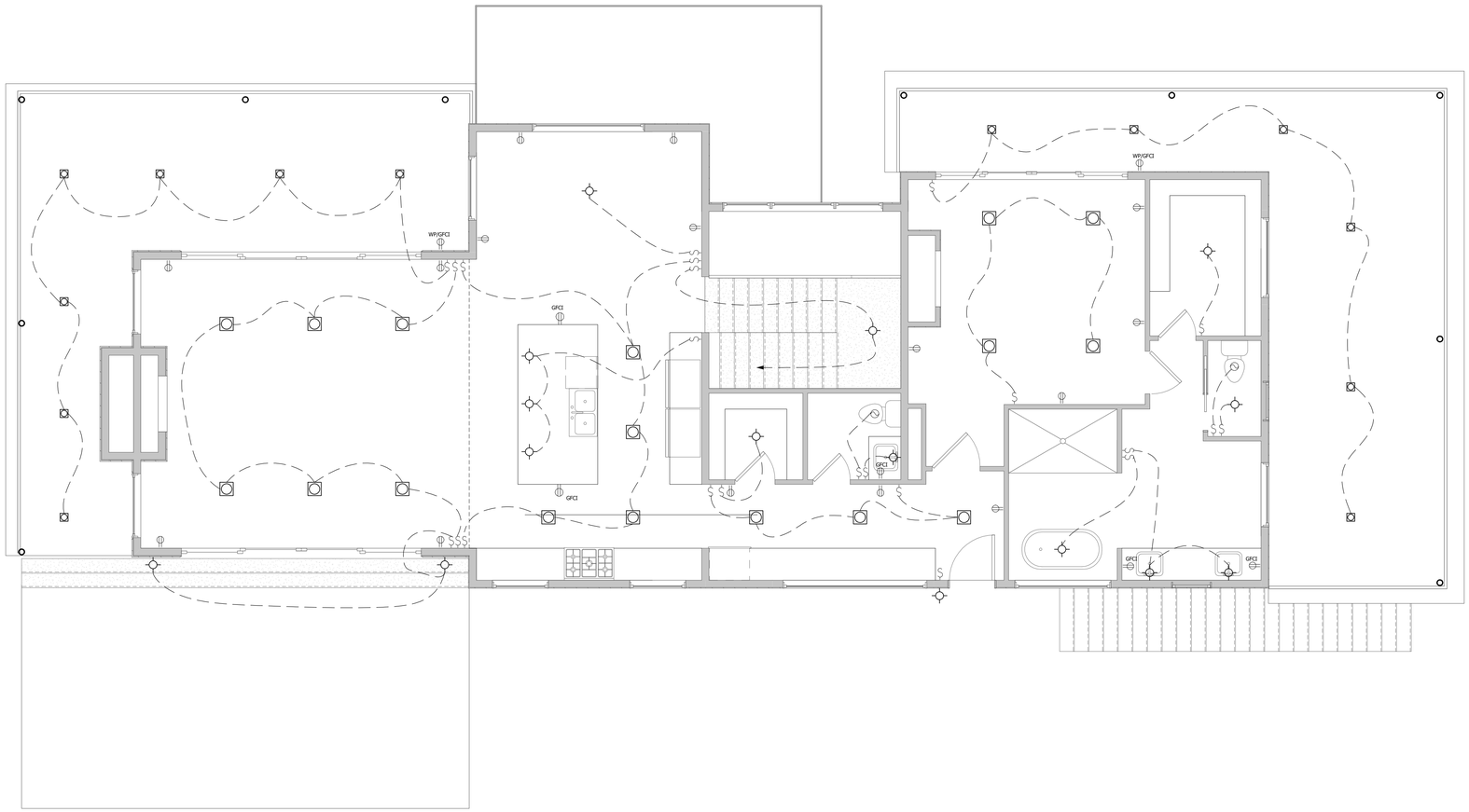
E 1.0

ELECTRICAL NOTES

1. ALL OUTLETS MUST BE TAMPER RESISTANT PER 2017 NEC.
2. ALL BEDROOM OUTLETS, LIGHTS, SWITCHES & SMOKE DETECTORS SHALL BE ARC-FAULT PROTECTED.
3. FIELD DETERMINE LOCATION OF ALL SWITCHES.
4. PLASTIC ELECTRICAL BOXES IN GARAGE FIRE WALLS TO BE A MINIMUM 2 HOUR LISTING.
5. PROVIDE BUBBLE COVERS ON ALL EXTERIOR OUTLETS.
6. INSTALL 110V/120V OUTLET WITHIN 25' OF A/C UNIT.
7. INSTALLATION OF ALL ELECTRICAL COMPONENTS SHALL COMPLY WITH THE 2011 NEC REQUIREMENTS INCLUDING THE PLACEMENT OF OUTLETS AS SPECIFIED IN CHAPTER 2 AND WIRING METHODS AS SPECIFIED IN CHAPTER 3 (I.E. RECEPTACLES ARE REQUIRED WITHIN 6' OF WALL ENDS AND VERTICAL EDGES OF DOORWAYS AND ON ALL WALL SECTIONS AT LEAST 2' WIDE).
8. PROVIDE GFCI CIRCUITS FOR: BATHROOMS, KITCHEN, UNFINISHED BASEMENT, GARAGE, EXTERIOR OUTLETS, MECHANICAL ROOM.
9. PROVIDE AN UFER GROUND ELECTRODE ENCASED IN CONCRETE LOCATED WITHIN AND NEAR THE BOTTOM OF A CONCRETE FOUNDATION OR FOOTING THAT IS IN DIRECT CONTACT WITH THE EARTH.
10. GROUND-FAULT CIRCUIT-INTERUPPERTOR PROCTECTION SHALL BE INSTALLED AT ALL RECEPTACLES LOCATED IN BATHROOMS, GARAGES, CRAWLSPACES WHERE THE SPACE IS AT OR BELOW GRADE LEVEL, LOCATIONS THAT SERVICE A COUNTERTOP, LAUNDRY AREAS, AND AREAS WHERE THE RECEPTACLE IS LOCATED WITHIN 6'-0" OF A SINK.
11. GROUND-FAULT CIRCUIT INTERUPPTERS SHALL BE INSTALLED IN A READILY ACCESSIBLE AREA.
12. ALL RECEPTACLES SHALL BE INSTALLED SO THAT NO POINT MEASURED HORIZONTALLY ALONG THE FLOOR LINE OF ANY WALL SPACE IS MORE THAN 6'-0" AWAY FROM A RECEPTABLE OUTLET.
13. COUNTER SPACES WIDER THAN 12" SHALL HAVE A RECEPTACLE OUTLET.
14. RECEPTACLE OUTLETS THAT SERVICE A COUNTER SPACE SHALL BE INSTALLED SO THAT NO POINT ALONG THE WALL LINE IS MORE THAN 24" AWAY FROM A RECEPTACLE OUTLET.
15. FOR KITCHEN ISLAND COUNTERTOP SPACES WITH A LONG DIMENSION OF 24" OR GREATER AND A SHORT DIMENSION 12" OR GREATER PROVIDE (1) RECEPTACLE OUTLET.
16. SMOKE ALARMS SHALL BE INSTALLED IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA (IN THE IMMEDIATE VICINITY OF THE BEDROOMS), ON EACH LEVEL (INCLUDING BASEMENTS AND HABITABLE ATTICS).
17. RECEPTACLE OUTLETS SHALL BE TAMPER PROOF. ALL SMOKE ALARMS SHALL BE WIRED IN SERIES.
18. ALL BRANCH CIRCUITS THAT SUPPLY 120V, SINGLE PHASE, 15 & 20 AMP OUTLETS IN LIVING SPACES SHALL BE PROTECTED BY A COMBINATION TYPE ARC-FAULT CIRCUIT INTERRUPTER.
19. PROVIDE A MINIMUM OF (2) 20 AMP APPLIANCE CIRCUITS FOR KITCHEN.
20. BATHROOM RECEPTACLE OUTLETS SHALL BE SUPPLIED BY A DEDICATED 20 AMP CIRCUIT.

LEGEND

- 110 DUPLEX OUTLET
- 110 SWITCHED DUPLEX OUTLET
- 220 OUTLET
- LIGHT FIXTURE
- RECESSED LIGHT
- SWITCH
- SMOKE DETECTOR
- SMOKE DETECTOR/CARBON MONOXIDE COMBO
- TV COAX OUTLET
- EXHAUST FAN
- CEILING FAN



MAIN FLOOR ELECTRICAL PLAN

E 2.0

Drawn by: MM
Checked by: MM
Project Date: 2022-12-02
Project #: 21-039

Rosenfeld Residence

3802 E CATAMOUNT RIDGE WAY, SANDY, UTAH

Harbor Design
HOME DESIGN & PLANS
E. milan@harbordesigncompany.com
P. 801.472.0857

E 2.0
1/4" = 1'-0"

GENERAL STRUCTURAL NOTES

DESIGN CRITERIA Harbor Design Rozenfeld Residence (Sandy) 7640922

1. Building code: Utah Code, Title 15A
   - 1.1 Model building code: 2015 IRC
   - 1.2 Use and occupancy classification: R (Residential - 1-unit dwelling)
   - 1.3 Risk Category: II (Not occupancy categories I, III, IV)
2. Dead loads
   - 2.1 Roof = 20 psf (15 psf top chord, 5 psf bottom chord)
   - 2.2 Floor = 12 psf
   - 2.3 Walls = 10 psf (interior walls), 12 psf (exterior walls)
3. Live loads
   - -- Roofs (ordinary construction) = 20 psf (or 300 lb point load)
   - -- Residential (1-2 unit dwelling) = 40 psf
   - -- Stairs and exits (residential 1-2 unit dwelling) = 40 psf (or 300 lb point load)
   - -- Decks = 60 psf
4. Rain load
   - 4.1 Median 15-minute duration rainfall intensity = 4.57 in/hr
   - 4.2 Median 60-minute duration rainfall intensity = 1.9 in/hr
5. Snow load
   - 5.1 Ground snow load, Pg = 59 psf (elevation 5631 ft)
   - 5.2 Exposure factor, Ce = 1
   - 5.3 Thermal factor, Ct = 1
   - 5.4 Snow importance factor, Is = 1
   - 5.5 Flat roof snow load, Pf = 41 psf
   - 5.6 Roof slope factor, Cs = 1
6. Earthquake design data
   - 6.1 Mapped acceleration parameters
     - 6.1.1 Latitude, Longitude: 40.572, -111.788
     - 6.1.2 MCE short period Ss = 1.41 SDS = 1.13
     - 6.1.3 MCE 1.0 sec. period S1 = 0.49 SD1 = 0.59
   - 6.2 Seismic design category: D2
   - 6.3 Seismic importance factor, Ie = 1
   - 6.4 Basic structural system: Bearing wall systems
   - 6.5 Seismic force-resisting system: Light-frame wood walls (wood sheathing)
     - 6.5.1 Response modification factor R = 6.5
     - 6.5.2 System overstrength factor Omega = 3
     - 6.5.3 Deflection amplification factor Cd = 4
   - 6.6 Equivalent Lateral Force Procedure
     - 6.6.1 Seismic response coefficient Cs = 0.17
     - 6.6.2 Seismic base shear (LRFD) V = 28129 lb
7. Wind design data
   - 7.1 Exposure category: C
   - 7.2 Basic design wind speed, V = 105 mph
   - 7.3 Components and cladding pressure = 26 psf (end), 22 psf (interior)
   - 7.4 Internal pressure coeff., Gcpi = 0.18
8. Geotechnical design basis:
   - Presumptive values, 2018 IBC Table 1806.2
   - 8.2 Site class = D-Default
   - 8.3 Soil notes: None
   - 8.4 Lateral earth pressure
     - 8.4.1 Active = 30 psf/ft
     - 8.4.2 At-rest = 60 psf/ft
   - 8.5 Allowable foundation parameters
     - 8.5.1 Allowable soil bearing, Qa = 1500 psf
     - 8.5.2 Allowable lateral bearing = 150 psf/ft
     - 8.5.3 Coefficient of friction = 0.25
   - 8.6 Minimum frost cover = 0 in.

DEFERRED SUBMITTALS

1. The following items are to submitted subsequent to the time of application (deferred submittals):
   - -- None
2. Deferred submittals shall have the prior approval of the building official (2018 IBC 107.3.4.1).
3. Deferred submittal documents shall be submitted to the registered design professional in responsible charge who shall review and forward them to the building official with a notation indicating that the documents have been reviewed and found to be in general conformance to the design of the building (2018 IBC 107.3.4.1).
4. Deferred submittal items shall not be installed until the design and submittal documents have been approved by the building official (2018 IBC 107.3.4.1).

GENERAL

1. Construction documents are valid for a single use at the project location and shall not be reused, copied, or reproduced without written approval of the registered design professional in responsible charge.
2. General notes and typical details are provided as a supplement to the construction documents and apply where specific notes and details are not available. Specific notes and structural details shall take precedence over general notes and typical details. Structural requirements shown in the framing plans and in structural details shall take precedence over structural notes indicated in architectural sections.
3. Printed dimensions shall take precedence over scales shown on construction documents. The registered design professional in responsible charge does not warrant the accuracy of scaled dimensions.
4. Approval by the inspector does not imply approval by the registered design professional in responsible charge. Structural specifications that are unclear or ambiguous shall be referred to the registered design professional in responsible charge for interpretation or clarification.
5. The registered design professional in responsible charge assumes no liability for the accuracy, completeness, or code compliance of architectural, electrical, mechanical, drainage, or other non-structural specifications.
6. Omissions in and conflicts between the various elements of the construction documents shall be brought to the immediate attention of the registered design professional in responsible charge and shall be resolved by the same before proceeding with any work involved.
7. Requests for substitutions shall be submitted in writing to the registered design professional in responsible charge and shall include the reasons for the request and any cost differentials. Substitutions are not allowed unless approved in writing by the registered design professional in responsible charge.
8. The contractor shall become familiar with all portions of the construction documents and shall ensure that all subcontractors are familiar with those portions pertaining to their area of work. The contractor shall verify all site conditions, dimensions, elevations, coordinate all doors, windows, non-bearing interior and exterior walls, elevations, slopes, stairs, curbs, drains, recesses, depressions, railings, waterproofing, finishes, chamfer, kerfs, and so forth, and immediately notify the registered design professional in responsible charge regarding actual conditions which are not in agreement with the construction documents.
9. The contractor is responsible for the method, means, and sequence of all structural erection except when specifically noted otherwise in the construction documents. The contractor shall provide temporary shoring and bracing, providing adequate vertical and lateral support during erection. Shoring and bracing shall remain in place until all permanent members are placed and all final connections are completed.
10. The contractor is responsible for standard connections, unless noted otherwise. The contractor shall obtain additional assistance from the registered design professional in responsible charge for non-standard connections.

SOIL AND FOUNDATIONS

1. Geotechnical investigations shall conform to 2018 IBC 1803. Excavation, grading and fill shall conform to 2018 IBC 1804. Footings and foundations shall be constructed in accordance with 2018 IBC 1807 through 1810.
2. Where required, the owner shall submit a geotechnical investigation report to the building official in accordance with 2018 IBC 1803. The contractor shall inform the registered design professional in responsible charge if the soil conditions are not consistent with the investigation report and the foundation design data.
3. Excavations for any purpose shall not remove lateral support from any footing or foundation without first underpinning or protecting the footing or foundation against settlement or lateral translation (2018 IBC 1804.1).
4. Excavation outside the foundation shall be backfilled with soil that is free of organic material, construction debris, cobbles and boulders or with a controlled low-strength material (CLSM). The backfill shall be placed in lifts and compacted, in a manner that does not damage the foundation or the waterproofing or dampproofing material (2018 IBC 1804.3).
5. The ground immediately adjacent to the foundation shall have a 5-percent slope away from the building for a minimum distance of 10 feet measured perpendicular to the face of the foundation wall. If physical obstructions or lot lines prohibit 10 feet of horizontal distance, a 5-percent slope shall be provided to an approved alternative method of diverting water away from the foundation. Impervious surfaces within 10 feet of the building foundation shall have a minimum 2-percent slope (2018 IBC 1804.4).
6. Footings and foundations shall be built on undisturbed soil, compacted fill material or CLSM. Compacted fill material and CLSM shall conform to 2018 IBC 1804.6 and 2018 IBC 1804.7, respectively (2018 IBC 1809.2).
7. The top surface of the footings shall be level. The bottom surface of footings is permitted to have a maximum 10-percent slope. Footings shall be stepped where it is necessary to change the elevation of the top surface of the footing or where the surface of the ground has more than a 10-percent slope (2018 IBC 1809.3).
8. The minimum depth of footings below the undisturbed ground surface shall be 12 inches (2018 IBC 1809.4). Foundation walls, piers and other permanent supports shall be extended below the frost line, except where otherwise protected from frost (2018 IBC 1809.5).
9. The placement of footings on or adjacent to 33-percent slopes and steeper shall conform to 2018 IBC 1808.7.
10. Floors of basements shall be placed over base course not less than 4 inches in thickness and a drain shall be installed around the foundation perimeter that consists of gravel or crushed stone containing not more than 10-percent material that passes through a No. 4 sieve (2018 IBC 1805.4.1, 1805.4.2).
11. Backfill shall not be placed against a foundation wall until the wall has sufficient strength and is anchored to the floor above, or is sufficiently braced to prevent damage by the backfill, except bracing is not required for walls supporting less than 4 feet of unbalanced backfill (R404.1.7).

CONCRETE

1. Concrete materials, quality control, and construction shall comply with 2018 IBC Chapter 19 and ACI 318-14.
2. Compressive strength (minimum specified at 28 days)
   - 2.1. Footings: 3,000 psi (2018 IBC 1808.8.1) (2,500 psi used in design)
   - 2.2. Interior floor slabs on grade: 3,000 psi
   - 2.3. Exterior floor slabs on grade: 4,000 psi
   - 2.4. Suspended slabs: 4,000 psi
   - 2.5. Walls: 3,000 psi (2018 IBC 1904.1) for R-2, R-3 occupancies and appurtenances
     4,000 psi for other occupancies
3. Materials
   - 3.1. Cements (ASTM C 150). Concrete exposed to freezing and thawing or deicing chemicals shall conform to the maximum water-cementitious material ratios and minimum compressive strength requirements of ACI 318-14 table 19.3.1.1 & 19.3.2.1
   - 3.2. Aggregates (ASTM C 33): nominal maximum size of coarse aggregate shall not be larger than 1/5 the narrowest dimension between forms, nor 1/3 the depth of slabs, nor 3/4 the minimum clear spacing between reinforcing bars or wires, tendons, or ducts (ACI 318-14 26.4.2.1).
   - 3.3. Water used in mixing concrete shall be potable, clean and free from injurious amounts of oils, acids, alkalis, salts, organic materials, or other substances deleterious to concrete or reinforcement (ACI 318-14 26.4.1.3.1.b).
   - 3.4. Admixtures shall be subject to prior approval by the registered design professional in responsible charge (ACI 318-14 26.4.1.4.1.b).
   - 3.5. Concrete exposed to freezing and thawing or deicing chemicals shall be air-entrained with air content indicated in ACI 318-14 Table 19.3.3.1. Tolerance on air content as delivered shall be plus/minus 1.5 percent (ACI 318-14 R26.4.2.1(a)(5)).
4. Steel Reinforcement
   - 4.1. Deformed bars: fy = 60 ksi (ASTM A615)
   - 4.2. Welded plain wire: fy = 60 ksi (ASTM A1064)
   - 4.3. Deformed Bar Anchors (DBA) (ASTM A1064)
   - 4.4. Headed Stud Anchors (HSA) (ASTM A108)
   - 4.5. At the time concrete is placed, reinforcement shall be free from ice, mud, oil, or other nonmetallic coatings that decrease bond (ACI 318-14 26.6.1.2).
   - 4.6. Reinforcement shall be accurately placed and adequately supported before concrete is placed, and shall be secured against displacement (ACI 318-14 26.6.2.2).
   - 4.7. Details of reinforcement shall conform to ACI 318-14 Chapter 25.
5. Minimum concrete cover (ACI 318-14 Table 20.6.1.3.1)
   - 5.1. Concrete cast against and exposed to earth: 3 inches
   - 5.2. Concrete exposed to earth or weather:
     - 5.2.1. No. 6 through No. 18 bars: 2 inches
     - 5.2.2. No. 5 bar, W31 wire, and smaller: 1.5 inches
   - 5.3. Concrete not exposed to earth or weather:
     - 5.3.1. Slabs, walls, joists No. 11 bar and smaller: 0.75 inches
     - 5.3.2. Beams, columns primary reinf., ties, stirrups: 1.5 inches
6. Formwork shall conform to ACI 318-14 Sections 26.11 and 26.12 and ACI 347. Forms shall be removed in a manner as not to impair safety and serviceability of the structure. Concrete exposed by form removal shall have sufficient strength not to be damaged by removal operation (ACI 318-14 26.11.2).
7. Conduits, pipes, and sleeves of any material not harmful to concrete and within the limitations of ACI 318-14 20.7 shall be approved by the registered design professional in responsible charge (ACI 318-14 20.7).
8. Construction joints shall be so made and located as not to impair the strength of the structure (ACI 318-14 18.10.9). Sawcut or tooled joint 25% of slab thickness within 12 hours of pour or provide expansion strips with #4x48" @ 16" O.C. crossing the joint. Max spacing between joints shall not exceed 36 times the slab thickness or 15'-0".
9. The thickness of concrete floor slabs on grade shall not be less than 3.5 inches. A 6-mil polyethylene vapor retarder with joints lapped not less than 6 inches (or an equivalent material) shall be placed between the base course or subgrade and the concrete floor slab, except a vapor retarder is not required in detached utility buildings or other unheated facilities (2018 IBC 1907).

MASONRY

1. Masonry materials, construction, and quality shall conform to 2018 IBC 2103-2105, TMS 402/602-16
   - 1.1. Compressive strength: f'c = 2,000 psi (TMS 602-16 1.4B.2 TABLE 2)
2. Concrete masonry units (CMU) (ASTM C 90)
   - 2.1. Grade N
   - 2.2. Compressive strength: f'm = 2,000 psi (TMS 602-16 1.4B.2 TABLE 2)
3. Mortar (ASTM C 270)
   - 3.1. Type S Portland cement (TMS 402-16 7.4.4.2.2)
   - 3.2. Compressive strength: f'c = 2,000 psi (TMS 602-16 1.4B.2 TABLE 2)
4. Grout (ASTM C 476)
   - 4.1. Type: fine or coarse (2018 IBC 2103.3)
   - 4.2. Compressive strength (minimum specified at 28 days): f'c = 2,000 psi (ASTM C 1019)
5. Steel reinforcement
   - 5.1. Deformed bars: fy = 60 ksi (ASTM A 615 Gr. 60)
6. Bed joint thickness shall be 5/8 inch maximum (TMS 602-16 1.4B.2)
7. Grout shall have an 8"-11" slump using a 3/8" maximum aggregate. Grout lifts shall not exceed 5 feet in height unless noted otherwise. Consolidate by mechanical vibration pours that exceed 12 inches in height.
8. The clear distance between parallel bars shall not be less than the nominal diameter of the bars, nor less than 1 inch (TMS 402-16 6.1.3). Joint reinforcement shall have cover not less than 5/8". (TMS 402-16 6.1.4.2)
9. The diameter of bend measured on the inside of reinforcing bars, other than for stirrups and ties, shall not be less than specified in table 6.1.8 (TMS 402-16 6.1.8.2)
10. All masonry below grade shall be solid grouted.
11. Control joint spacing not to exceed 30'-0". See Architectural for locations.

MASONRY AND STONE VENEER

1. Masonry veneer materials, construction, and quality shall conform to 2018 IBC 2103-2105 and TMS 402-16 Chap. 6.
2. Lintels
   - 2.1. Veneer shall not support any vertical load other than the dead load of the veneer above. Veneer above openings shall be supported on lintels of noncombustible materials. Lintels shall have 1 inch of bearing for each 1 foot of span, but not less than 4 inches of bearing.
3. Anchorage
   - 3.1. Veneer shall be anchored to the supporting wall framing with hot-dipped galvanized metal ties. (Strand wire or corrugated sheet metal)
   - 3.2. Engage all anchor ties with a No. 9 gage wire in the center of the veneer and embedded in the mortar joint. (R703.8.4.1)
   - 3.3. Each tie shall be spaced not more than 16 inches on center horizontally and vertically and shall support not more than 2 square feet of wall area. Additional metal ties shall be provided around all wall openings greater than 16 inches in either dimension. (R703.8.4.1)

WOOD

1. Wood materials, quality, and construction shall conform to 2018 IBC Chapter 23 and Table 2304.10.
2. Structural lumber (2018 IBC 2303.1.1-9, 2018 NDS)
   - 2.1. Bearing walls: Douglas-Fir Larch (DF) Stud (ASTM D 1990, DOC PS 20)
   - 2.2. Posts: Douglas-Fir Larch (DF) Stud (ASTM D 1990, DOC PS 20)
   - 2.3. Beams and headers: Douglas-Fir Larch (DF) No. 2 (ASTM D 1990, DOC PS 20)
   - 2.4. Heavy timber: Douglas-Fir Larch (DF) No. 1 (ASTM D 1990, DOC PS 20)
   - 2.5. Sill plates: Preservative-treated wood, redwood (AWPA U1 M4)
   - 2.6. Naturally durable or preservative-treated wood shall be used where structural lumber is 18 inches or closer to exposed ground; where structural lumber is in contact with exterior masonry or concrete walls below grade; where sleepers, sills, posts, and columns are on a concrete or masonry slab or footing that is in direct contact with earth; and where structural lumber is attached directly to exterior masonry or concrete walls, unless a 0.5 inch air space on top, sides, and end is provided (2018 IBC 2304.12).
3. Structural logs (ASTM D 3957) - ICC - 400 standard for the design and construction of log structures
4. Structural glued-laminated timber (2018 IBC 2303.1.3, 2018 NDS 5.1.1)
   - 4.1. Single span: 24F-1.8E (24F-V4) (ASTM D 3737, ANSI/AITC A190.1)
   - 4.2. Multiple span: 24F-1.8E Balanced layup (24F-V8) (ASTM D 3737, ANSI/AITC A190.1)
   - 4.3. Cantilever span: 24F-1.8E Balanced layup (24F-V8) (ASTM D 3737, ANSI/AITC A190.1)
5. Structural composite lumber and engineered wood (2018 IBC 2303.1.10, 2018 NDS 8.1.1)
   - 5.1. Laminated strand lumber (LSL)
     - 5.1.1. Ex = 1.3E (ASTM D 5456)
     - 5.1.2. Ex = 1.5E (ASTM D 5456)
     - 5.1.3. Ex = 1.55E (ASTM D 5456)
     - 5.1.4. 1,125 inch APA Performance-Rated (or equivalent) rim board - (2018 IBC 2303.1.13, ASTM 7672, ANSI/APA PRR410)
   - 5.2. Laminated veneer lumber (LVL)
     - 5.2.1. Ex = 2.0E (ASTM D 5456)
   - 5.3. Parallel strand lumber (PSL)
     - 5.3.1. Ex = 2.0E (beams) (ASTM D 5456)
     - 5.3.2. Ex = 1.8E (columns) (ASTM D 5456)
   - 5.4. Prefabricated wood I-joist (2018 IBC 2303.1.2, 2018 NDS 7.1.1) (ASTM D 5055)
6. Wood structural panels (2018 IBC 2304.8, 2018 NDS 9.1.3)
   - 6.1. Roof, floor, and wall sheathing: oriented strand board (OSB) (DOC PS 1,2).
   - 6.2. Sheathing shall be manufactured with exterior glue and not less than 4X8 feet, except at boundaries and at changes in framing (2018 IBC 2305.1, AWC SDPWS-2015).
   - 6.3. Wall sheathing
     - 6.3.1. Oriented strand board (OSB) (DOC PS 1,2)
     - 6.3.2. All panel joints in walls shall occur over studs or blocking using a minimum of 8d common nails spaced a maximum of 6 inches at panel edges and 12 inches at intermediate framing (2018 IBC 2306.3).
   - 6.4. Roof and floor sheathing shall be placed perpendicular to supporting framing. Stagger sheathing joints.
7. Fasteners
   - 7.1. Nails (2018 IBC 2303.6, 2018 NDS Table L4) (ASTM F 1667)

	Pennyweight	Common	Box	Sinker
7.1.1.	8d =	0.131" X 2.5"	0.113" X 2.5"	0.113" X 2.375"
7.1.2.	10d =	0.148" X 3.0"	0.128" X 3.0"	0.120" X 2.875"
7.1.3.	16d =	0.162" X 3.5"	0.135" X 3.5"	0.148" X 3.250"

   - 7.2. Staples (2018 IBC 2303.6)
     - 7.2.1. 16 gage = 1.5X0.4375 inch crown (ASTM F 1667)
   - 7.3. Bolts (2018 NDS 12.1.3, Table L1)
     - 7.3.1. Connector bolts (A307)
     - 7.3.2. Anchor bolts (A307) with a 3X3X0.229 inch washer (2018 IBC 2308.3.1) and 7" min embedment.
     - 7.3.3. Bolt holes shall be drilled with a bit 1/32 inch to 1/16 inch larger than the nominal bolt diameter.
   - 7.4. Lag Screws (2018 NDS 12.1.4, Table L2) (A307)
     - 7.4.1. Lag screws shall be inserted in a drilled pilot hole that is 60%-75% of the shank diameter by turning with a wrench. Do not drive screws with a hammer. Lag screws shall be provided with an oversized washer.
   - 7.5. Fasteners in preservative-treated and fire-retardant-treated wood shall be of hot dipped zinc-coated galvanized steel, silicon bronze or copper (2018 IBC 2304.10.5).
   - 7.6. Sheathing fasteners shall be driven so the head or crown is flush with the sheathing surface (2018 IBC 2304.10.2).
8. Joist hangers and connectors (2018 IBC 2303.5)
   - 8.1. Hanger hardware and other wood connections shall be designed to carry the capacity of the supporting members.
9. Floor framing (2018 IBC 2308.4.2)
   - 9.1. Joists shall not have less than 1.5 inches of bearing on wood or metal, or less than 3 inches on masonry (2018 IBC 2308.4.2.2). Pre-fabricated wood I-joists shall have minimum bearing according to the manufacturer's recommendations and specifications.
   - 9.2. Joists shall be supported laterally at the ends and at each support by full-depth solid blocking, except where nailed to a header or band or rim joist. Solid blocking shall not be less than 2 inches thick (2018 IBC 2308.4.2.3).
   - 9.3. Notches on the ends of joists shall not exceed one-fourth the joist depth. Holes bored in joists shall not be within 2 inches of the top or bottom of the joist. Notches in the top or bottom of joists shall not exceed one-sixth the depth and shall not be located in the middle third of the span (2018 IBC 2308.4.2.4).
   - 9.4. The diameter of holes bored or cut into structural floor members shall not exceed one-third the depth of the member. Holes shall not be closer than 2 inches to the top or bottom of the member, or to any other hole located in the member. Where the member is also notched, the hole shall not be closer than 2 inches to the notch (R502.8.1).
10. Wall construction (2018 IBC 2308.5)
    - 10.1. Studs shall be placed with their wide dimension perpendicular to the wall. Not less than three studs shall be installed at each corner of an exterior wall (2018 IBC 2308.5.2).
    - 10.2. Bearing and exterior wall studs shall be capped with 2-inch thick nominal double top plates, have a width at least equal to the width of the studs, and shall be installed to provide overlapping at corners and intersections with other partitions. End joints in partitions shall be offset at least 48 inches, and shall be nailed with not less than eight 16d common face nails on each side of the joint. (2018 IBC 2308.5.3.2).
    - 10.3. Studs shall have full bearing on a 2-inch thick nominal (or larger) bottom plate or sill having a width at least equal to the width of the stud (2018 IBC 2308.5.3.1).
    - 10.4. In exterior walls and bearing partitions, any wood stud is permitted to be cut or notched to a depth not exceeding 25 percent of its width. In nonbearing partitions, cutting or notching of studs to a depth of not greater than 40 percent of the width is permitted (2018 IBC 2308.5.9).
    - 10.5. A hole with a diameter not greater than 40 percent of the stud width is permitted to be bored in any wood stud. In no case shall the edge of the bored hole be nearer than 0.625 inches to the edge of the stud. Bored holes shall not be located at the same section of stud as a cut or notch (2018 IBC 2308.5.10).
    - 10.6. Bearing walls without wood sheathing or gypsum wall board on either side shall have blocking between wall studs at mid-height.
    - 10.7. Studs shall be spaced at 16 inches on center for exterior walls, interior bearing walls, and shear walls, unless noted otherwise on the plans.
    - 10.8. For exterior and interior bearing walls, where wind speeds are 105mphs or less, studs may be spaced and graded as follows:
      For 2x4 walls (only supporting one floor and roof, or two interior floors, or less):
      stud height < 9'-1" - 2x4 @ 16" O.C.
      stud height < 10'-1" - 2x4 (#2 grade) @ 16" O.C.
      stud height < 12'-1" - 2x4 (#2 grade) @ 12" O.C.
      For 2x6 walls:
      stud height < 14'-1" - 2x6 @ 16" O.C.
      See structural for taller studs or for approved wider spacings.
11. Posts and columns
    - 11.1. Columns shall be as wide as the member they support, laterally supported at all floor levels, and extend down through the structure to the foundation. Provide squash blocking at rim joist below all columns, trimmers, and posts.
    - 11.2. Wood columns and posts shall be framed to provide full end bearing (2018 IBC 2304.10.7).
    - 11.3. Posts and columns shall be supported by concrete piers or metal pedestals projecting above concrete or masonry floors or decks exposed to weather or water splash, or in basements, and which support permanent structures, unless naturally durable or preservative-treated wood is used. The pedestal shall project at least 6 inches above exposed earth and at least 1 inch above floors.
    - 11.4. Built-up 2x posts/columns shall have plies face nailed together with (2) rows 16d common @ 12" O.C.
12. Roof and ceiling framing (2018 IBC 2308.7).
    - 12.1. Roof rafters and ceiling joists shall be supported laterally to prevent rotation and lateral displacement in accordance with 2018 IBC 2308.7.8.
    - 12.2. Rafters and joists over three feet long shall be supported using hanger hardware if not supported by bearing.
    - 12.3. Panel edge clips at unsupported roof sheathing edges are recommended for improved performance (APA N335).

PREFABRICATED METAL PLATE WOOD TRUSSES

1. Prefabricated metal plate wood trusses shall be designed in accordance with 2018 IBC 2303.4 and shall conform to the structural specifications and design criteria.
2. The truss designer shall provide a truss package that includes the following items:
   - 2.1. Design drawings of each individual truss (2018 IBC 2303.4.3).
   - 2.2. Truss placement diagram for the project (2018 IBC 2303.4.2).
   - 2.3. Truss member permanent bracing specification (2018 IBC 2303.4.1.2).
3. Transfer of loads and anchorage of each truss to the supporting structure shall be approved by the registered design professional in responsible charge (2018 IBC 2303.4.4).
4. Truss members and components shall not be cut, notched, drilled, spliced or otherwise altered in any way without written concurrence and approval of the registered design professional in responsible charge. Alterations resulting in the addition of loads to any member (e.g. HVAC equipment) shall not be permitted without verification that the truss is capable of supporting such additional loading (2018 IBC 2303.4.5).

STEEL

1. Structural steel work shall conform to 2018 IBC 2205, AISC 341-16, AISC 358-16, and AISC 360-16.
2. Structural shapes
   - 2.1. W: fy = 50 ksi (ASTM A992)
   - 2.2. M,S,C,MC, and L: fy = 36 ksi (ASTM A36)
   - 2.3. HSS Rectangular: fy = 46 ksi (ASTM A500 Gr.B)
   - 2.4. HSS Round: fy = 42 ksi (ASTM A500 Gr.B)
   - 2.5. Pipe: fy = 35 ksi (ASTM A53 Gr.B)
3. Plates and bars: fy = 36 ksi (ASTM A36)
4. Structural fasteners
   - 4.1. High-strength bolts: fu = 120-150 ksi (ASTM F3125)
   - 4.2. Common bolts: fu = 60 ksi (ASTM A307 Gr. A)
     - 4.2.1. Nuts (ASTM A563)
     - 4.2.2. Washers (ASTM F436)
     - 4.2.3. Steel to steel bolted connections shall be made with high strength-bolts, unless noted otherwise. Bolts shall carry the identifying mark of three radial lines. All other bolted connections shall be made with bolts and nuts conforming to ASTM A307 unless note otherwise. Bolted connections shall be tightened and shall have washers as required by AISC unless noted otherwise. Enlarging holes shall be accomplished by means of reaming. Do not use a torch on any bolt holes.
   - 4.3. Shear studs: fu = 65 ksi (ASTM A108)
   - 4.4. Threaded rods: fy = 36 ksi (ASTM A36)
   - 4.5. Anchor rods: fy = 36 ksi (ASTM F1554 Gr. 36)
5. Steel deck fy = 36 ksi (ASTM A1008)
6. Welding fu = 70 ksi.
   - 6.1. Welding work shall comply with the American Welding Society (AWS) "Structural Welding Code," excluding items conflicting with AISC requirements.

POST-INSTALLED ANCHORS

1. Epoxy adhesive anchoring systems:
   - 1.1. Concrete: Hilti HIT-RE 500 V3 (ICC ES ESR-3814) or Simpson SET-XP (ICC ES ESR-2508) or USP/Mitek CIA-GEL 7000-C (IAMPO ER-473)
   - 1.2. Masonry (grouted): Hilti HIT RE100 (ICC ES ESR-3829) or Simpson SET (ICC ES ESR-1772) or USP/Mitek CIA-GEL 7000 (ICC ES ESR-1702)
   - 1.3. The calculated strength of anchorage assumes the following conditions for installation: 21 day minimum age of concrete, maximum short term concrete temperature= 150° F, maximum long term concrete temperature= 110° F, dry concrete surface, and normal weight concrete. See adhesive manufacturer notes for minimum temperature requirements. If conditions are otherwise, contact engineer for anchor specifications.
   - 1.4. Steel reinforcement and rods shall be embedded 10 bar diameters unless noted otherwise in the structural drawings and details.
   - 1.5. Embedded portions of steel reinforcement and rods shall be clean, straight, and free of mill scale, rust and other coatings that impair the bond with the adhesive. Reinforcement must not be bent after installation (ICC ES ESR-3829).
   - 1.6. Installation of adhesive anchors shall be performed by personnel trained to install adhesive anchors.
2. Mechanical expansion anchors:
   - 2.1. Concrete: Hilti KWIK BOLT TZ (ICC ES ESR-1917)
   - 2.2. Masonry: Hilti KWIK BOLT 3 (ICC ES ESR-1385)
   - 2.3. Expansion anchors shall not be used in tensile load applications (e.g. hold-downs, moment frames).
3. Post-installed anchoring systems shall be installed according to the Manufacturer's Printed Installation Instructions (MPII). Hole cleaning method shall be based on drilling method and borehole conditions and shall conform to the manufacturer's instructions.

STRUCTURAL OBSERVATIONS

1. Where required by the Provisions of Section 1704.6.1 or 1704.6.2, the owner shall employ a registered design professional to perform structural observations as defined in 2018 IBC 202. Prior to the commencement of observations, the structural observer shall submit to the building official a written statement identifying the frequency and extent of the structural observations. At the conclusion of the work, the structural observer shall submit to the building official a written statement that the site visits have been made and identify any reported deficiencies which have not been resolved (2018 IBC 1704.6).

ACUTE ENGINEERING, INC.
Phone 801.229.9020
Fax 801.224.0050
info@acuteengineering.com

ORIGINAL PROJECT #
7640922
DATE:
01 NOV 2022

HARBOR DESIGN ROZENFELD RESIDENCE (SANDY)

GENERAL STRUCTURAL NOTES

ISSUES / REVISIONS

-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

SN1

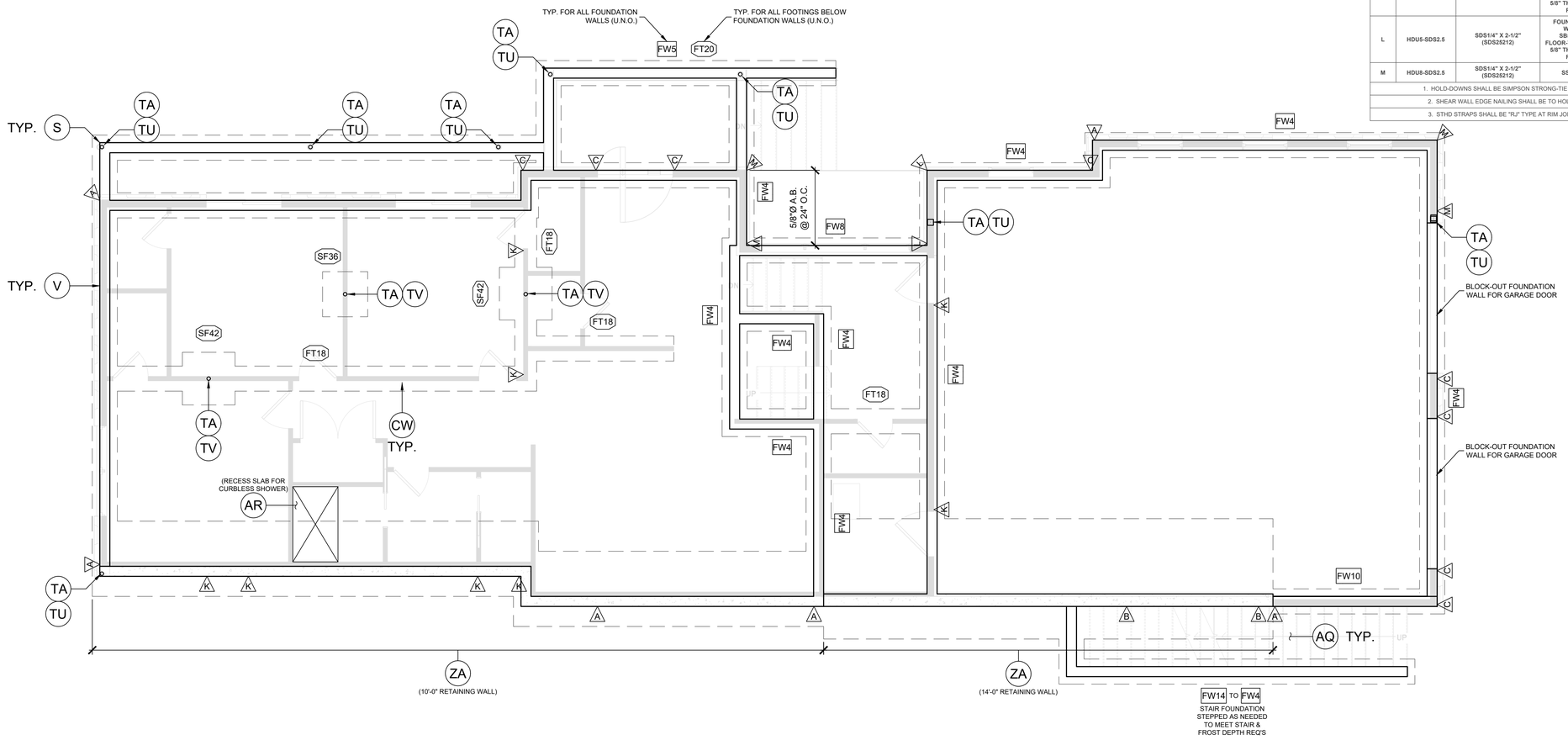
FOUNDATION WALL SCHEDULE					
			REINFORCEMENT		
MARK	HEIGHT	WIDTH	VERTICAL	HORIZONTAL	PLACEMENT
FW4	4'	8"	#4 @ 24"	(4) #4	CENTER
FW5	5'	8"	#4 @ 24"	(5) #4	CENTER
FW6	6'	8"	#4 @ 24"	(5) #4	CENTER
FW8	8'	8"	#4 @ 24"	(6) #4	CENTER
FW10	10'	8"	#5 @ 10"	(10) #4	CENTER
FW12	12'	8"	#5 @ 5"	(12) #4	CENTER
FW14	14'	8"	#5 @ 5"	(14) #4	CENTER
1. DOWEL VERTICAL BARS INTO FOOTING.					
2. PLACE TOP AND BOTTOM BARS WITHIN 4" OF TOP AND BOTTOM OF WALL.					
3. PLACE REINFORCEMENT IN CENTER OF WALL OR NEAR EACH FACE, AS NOTED.					

FOOTING SCHEDULE					
				REINFORCEMENT	
MARK	WIDTH	LENGTH	THICKNESS	TRANSVERSE	LENGTHWISE
FT18	18 "	CONT.	10 "	-	(2) #4
FT20	20 "	CONT.	10 "	-	(2) #4
SF36	36 "	36 "	12 "	(4) #4	(4) #4
SF42	42 "	42 "	12 "	(5) #4	(5) #4
1. CONTINUOUS FOOTINGS SHALL BE CENTERED UNDER WALLS AND SPOT FOOTINGS SHALL BE CENTERED UNDER COLUMNS UNLESS NOTED OTHERWISE.					
2. FOOTINGS AND FOUNDATIONS, EXCAVATIONS, GRADING, AND FILL SHALL COMPLY WITH THE PROVISIONS OF THE GEOTECHNICAL REPORT (SEE GSN)					

HDU HOLD-DOWN ANCHORAGE IS TO BE CAST-IN-PLACE AT THE TIME OF THE FOUNDATION INSTALLATION, UNLESS NOTED OTHERWISE.

RETROFIT OF HDU HOLD-DOWN ANCHORAGE MAY NOT BE POSSIBLE AFTER FOUNDATION HAS BEEN INSTALLED & ADDITIONAL DESIGN CONSIDERATIONS MAY BE NECESSARY TO ADDRESS MISSED OR INCORRECTLY INSTALLED HOLD-DOWN ANCHORAGE.

HOLD-DOWN SCHEDULE				
MARK	HOLD-DOWN	MINIMUM FASTENERS	ANCHOR	POST
A	LSTHD8 (SEE NOTE 3)	10d X 2-1/2" (.148 X 2-1/2")	STRAP 8" EMBED.	(2) 2X POST
B	STHD10 (SEE NOTE 3)	10d X 2-1/2" (.148 X 2-1/2")	STRAP 10" EMBED.	(2) 2X POST
C	STHD14 (SEE NOTE 3)	10d X 2-1/2" (.148 X 2-1/2")	STRAP 14" EMBED.	(2) 2X POST
D	CS16 (11" END LENGTHS)	10d X 2-1/2" (.148 X 2-1/2")	(FLOOR STRAP)	(2) 2X POST
E	MST37	10d X 2-1/2" (.148 X 2-1/2")	(FLOOR STRAP)	(2) 2X POST
F	MST48	10d X 2-1/2" (.148 X 2-1/2")	(FLOOR STRAP)	(2) 2X POST
G	MST60	10d X 2-1/2" (.148 X 2-1/2")	(FLOOR STRAP)	(2) 2X POST
J	HDU2-SDS2.5	SDS1/4" X 2-1/2" (SDS25212)		(2) 2X POST
K	HDU4-SDS2.5	SDS1/4" X 2-1/2" (SDS25212)	FOUNDATION WALL: SBS/8X24 FOOTING: 5/8" A.B. 5" EMBED. (DRILL & EPOXY) FLOOR-TO-FLOOR: 5/8" THREADED ROD	(2) 2X POST
L	HDU5-SDS2.5	SDS1/4" X 2-1/2" (SDS25212)	FOUNDATION WALL: SBS/8X24 FLOOR-TO-FLOOR: 5/8" THREADED ROD	(2) 2X POST
M	HDU8-SDS2.5	SDS1/4" X 2-1/2" (SDS25212)	SSTB28	(2) 2X POST
1. HOLD-DOWNS SHALL BE SIMPSON STRONG-TIE OR EQUIVALENT.				
2. SHEAR WALL EDGE NAILING SHALL BE TO HOLD-DOWN POST.				
3. STHD STRAPS SHALL BE "RJ" TYPE AT RIM JOIST LOCATIONS.				



FOOTING AND FOUNDATION PLAN
1/4" = 1'-0"

ACUTE ENGINEERING, INC.
Phone 801.229.9020
Fax 801.224.0050
info@acuteengineering.com

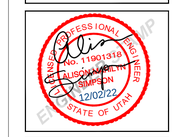
ORIGINAL PROJECT #
7640922
DATE:
01 NOV 2022

HARBOR DESIGN ROZENFELD RESIDENCE (SANDY)

FOOTING AND FOUNDATION PLAN

ISSUES / REVISIONS

-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-



S0-0

HOLD-DOWN SCHEDULE				
MARK	HOLD-DOWN	MINIMUM FASTENERS	ANCHOR	POST
A	LSTHD8 (SEE NOTE 3)	10d X 2-1/2" (.148 X 2-1/2")	STRAP 8" EMBED.	(2) 2X POST
B	STHD10 (SEE NOTE 3)	10d X 2-1/2" (.148 X 2-1/2")	STRAP 10" EMBED.	(2) 2X POST
C	STHD14 (SEE NOTE 3)	10d X 2-1/2" (.148 X 2-1/2")	STRAP 14" EMBED.	(2) 2X POST
D	CS16 (11" END LENGTHS)	10d X 2-1/2" (.148 X 2-1/2")	(FLOOR STRAP)	(2) 2X POST
E	MST37	10d X 2-1/2" (.148 X 2-1/2")	(FLOOR STRAP)	(2) 2X POST
F	MST48	10d X 2-1/2" (.148 X 2-1/2")	(FLOOR STRAP)	(2) 2X POST
G	MST60	10d X 2-1/2" (.148 X 2-1/2")	(FLOOR STRAP)	(2) 2X POST
J	HDU2-SDS2.5	SDS1/4" X 2-1/2" (SDS25212)		(2) 2X POST
K	HDU4-SDS2.5	SDS1/4" X 2-1/2" (SDS25212)	FOUNDATION WALL: SB8/8X24 FOOTING: 5/8" A.B. 5" EMBED. (DRILL & EPOXY) FLOOR-TO-FLOOR: 5/8" THREADED ROD	(2) 2X POST
L	HDU5-SDS2.5	SDS1/4" X 2-1/2" (SDS25212)	FOUNDATION WALL: SB8/8X24 FLOOR-TO-FLOOR: 5/8" THREADED ROD	(2) 2X POST
M	HDU8-SDS2.5	SDS1/4" X 2-1/2" (SDS25212)	SSTB28	(2) 2X POST

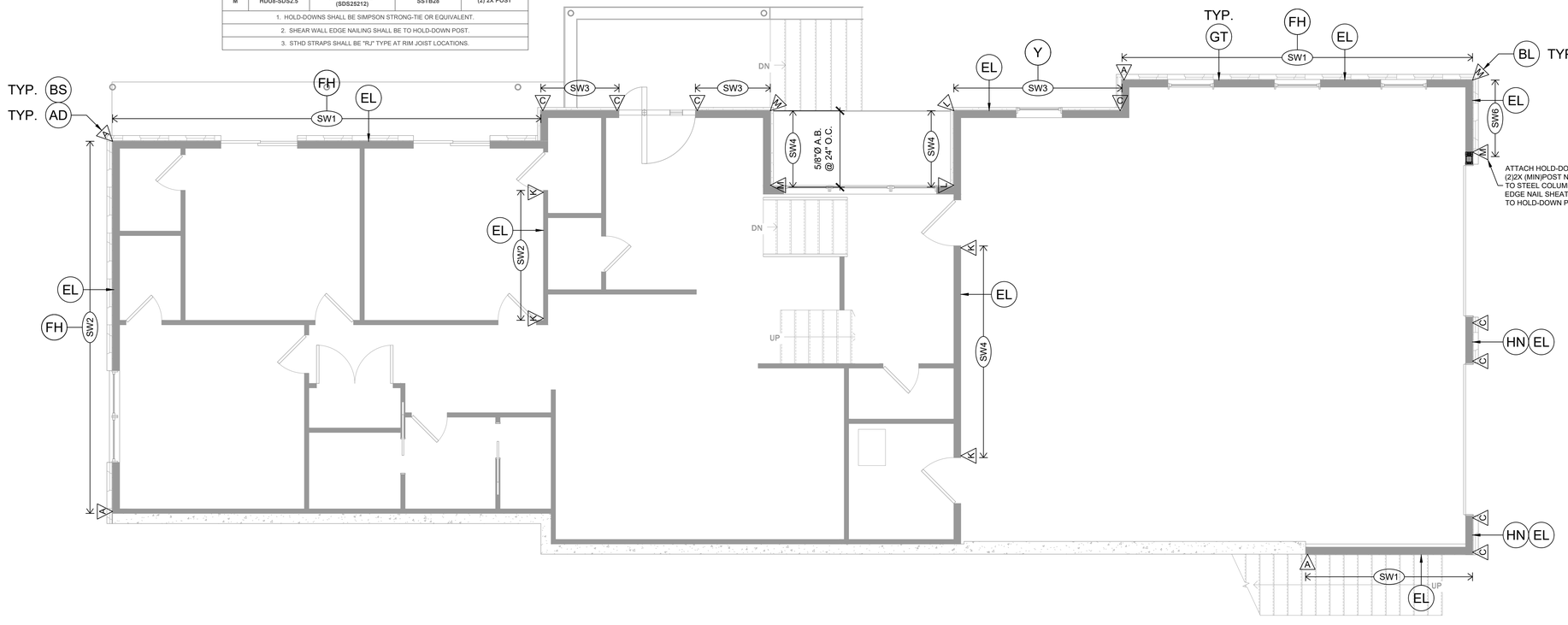
1. HOLD-DOWNS SHALL BE SIMPSON STRONG-TIE OR EQUIVALENT.
2. SHEAR WALL EDGE NAILING SHALL BE TO HOLD-DOWN POST.
3. STHD STRAPS SHALL BE "RJ" TYPE AT RIM JOIST LOCATIONS.

SHEAR WALL SCHEDULE					
MARK	SHEATHING	EDGE NAILING	ABUTTING PANEL EDGE FRAMING	ANCHORAGE	
				SOLE PLATE	SILL PLATE
SW1	7/16"	8d @ 6"	2X	10d @ 8"	5/8" A.B. @ 32"
SW2	7/16"	8d @ 4"	2X	10d @ 12"	5/8" A.B. @ 32"
SW3	7/16"	8d @ 3"	3X or (2)2X	10d @ 4"	5/8" A.B. @ 32"
SW4	7/16"	8d @ 2"	3X or (2)2X	10d @ 6"	5/8" A.B. @ 32"
SW6	7/16" BOTH SIDES	8d @ 4"	2X	10d @ 12"	5/8" A.B. @ 32"
SW8	7/16" BOTH SIDES	8d @ 2"	3X or (2)2X	10d @ 6"	5/8" A.B. @ 32"

1. SHEATHING SHALL CONSIST OF WOOD STRUCTURAL PANELS (SEE GSN).
2. UNLESS NOTED ON DRAWINGS, EXTERIOR STUDS SHALL BE SPACED AT 16" O.C.
3. SHEATHING NAILS SHALL BE COMMON OR GALVANIZED BOX NAILS. - FIELD NAIL SPACING SHALL BE 12" FOR STUDS SPACED 16" O.C. OR LESS AND 6" O.C. FOR STUDS SPACED AT 24" O.C.
4. FOR SW1 ONLY, EDGE NAILS MAY BE SUBSTITUTED WITH 1-1/2" 16 GAGE STAPLES SPACED AT 3" O.C. AND FIELD NAILS MAY BE SUBSTITUTED WITH 16 GAGE STAPLES AT 12" O.C.
5. ANCHORAGE NAILS SHALL BE COMMON NAILS.
6. ANCHOR BOLTS SHALL HAVE A 3X3X0.229" WASHER AND 7" MIN EMBEDMENT. THE WASHER SHALL EXTEND TO WITHIN 1/2" FROM THE SHEATHING.
7. ANCHOR BOLTS MAY BE SUBSTITUTED WITH TITEN HD BOLTS AT SAME DIAMETER AND SPACING. PROVIDE MIN. 4-1/4" EMBEDMENT FOR 1/2-DIA. BOLTS AND MIN. 4-3/4" EMBEDMENT FOR 5/8-DIA. BOLTS.
8. FOR SW3, SW4, SW7, AND SW8, (2) 2" NOMINAL FRAMING STITCH-NAILED TOGETHER WITH (2) 10d NAILS @ 6" MAY BE USED AT ABUTTING PANEL EDGES IN PLACE OF 3" NOMINAL FRAMING.

HDU HOLD-DOWN ANCHORAGE IS TO BE CAST-IN-PLACE AT THE TIME OF THE FOUNDATION INSTALLATION, UNLESS NOTED OTHERWISE.

RETROFIT OF HDU HOLD-DOWN ANCHORAGE MAY NOT BE POSSIBLE AFTER FOUNDATION HAS BEEN INSTALLED & ADDITIONAL DESIGN CONSIDERATIONS MAY BE NECESSARY TO ADDRESS MISSED OR INCORRECTLY INSTALLED HOLD-DOWN ANCHORAGE.



BASEMENT SHEAR WALL PLAN
1/4" = 1'-0"

ACUTE ENGINEERING, INC.
Phone 801.229.9020
Fax 801.224.0050
info@acuteengineering.com

ORIGINAL PROJECT #
7640922
DATE:
01 NOV 2022

HARBOR DESIGN ROZENFELD RESIDENCE (SANDY)

BASEMENT SHEAR WALL PLAN

ISSUES / REVISIONS

-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

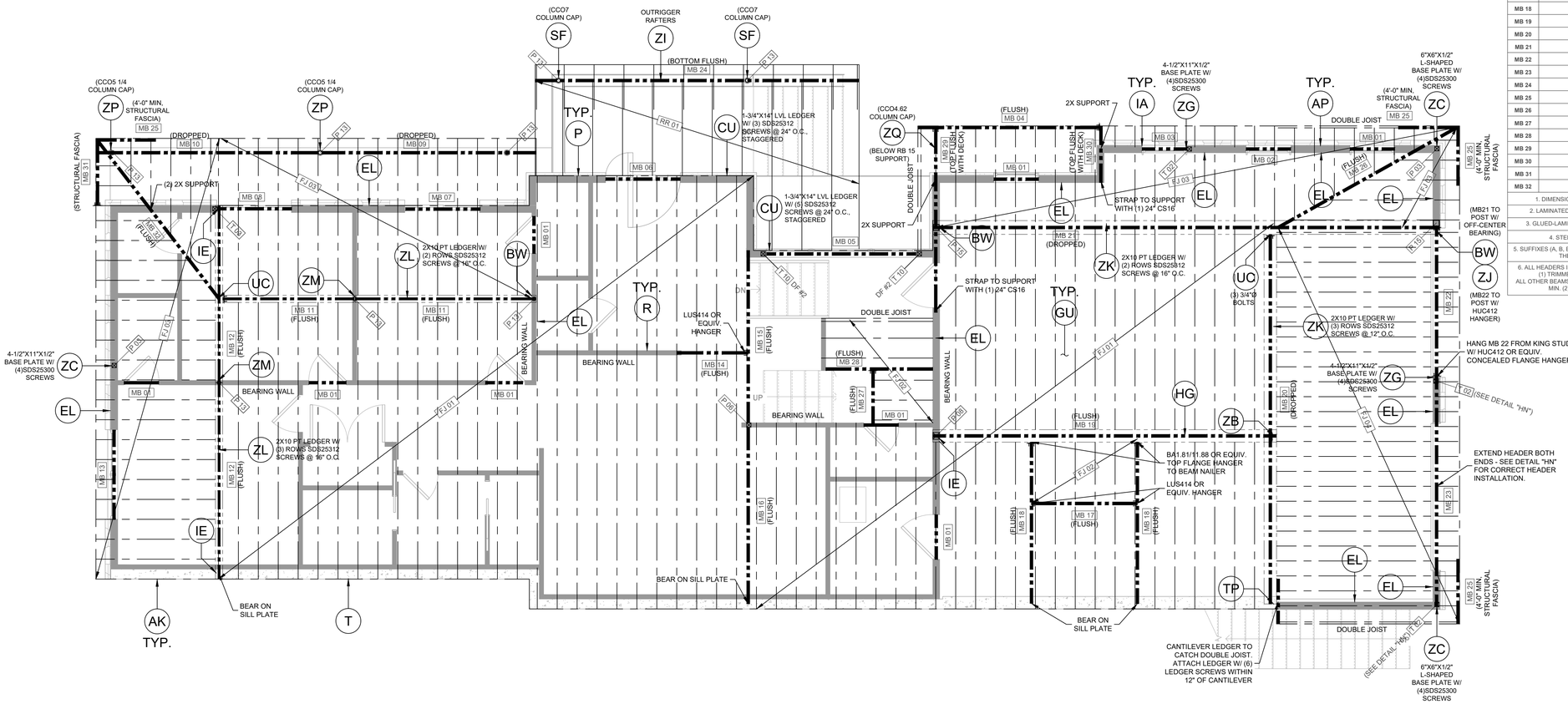
S0-1

SHEATHING SCHEDULE	
TYPE	THICKNESS
MAIN FLOOR	3/4" OSB (48/24 SPAN RATING)
UPPER FLOOR	3/4" OSB (48/24 SPAN RATING)
ROOF	5/8" OSB (40/20 SPAN RATING)
1. SHEATHING PERPENDICULAR TO SUPPORTS.	
2. FLOOR SHEATHING NAILED & GLUED TO SUPPORT	
3. 8d COMMON NAILS 6" O.C. (EDGES) 12" O.C. (FIELD)	
4. NAILING NO CLOSER THAN 3/8" FROM PANEL EDGE	

FLOOR JOIST SCHEDULE	
MARK	TYPE
FJ 01	11-7/8" TJI 210 @ 16" O.C.
FJ 02	2 X 8 @ 16" O.C.
FJ 03	2 X 10 DF (PT) #2 @ 16" O.C.
FJ 04	2 X 10 DF (PT) #2 @ 16" O.C.
1. DIMENSIONAL LUMBER DF #2 U.N.O.	
2. SUFFIXES (A, B, ETC.) DENOTE ALTERNATIVES FOR THE SPECIFIED JOIST	

POST SCHEDULE	
MARK	TYPE
P 03	(3) 2X POST
P 06	4 X 6 POST
P 08	(5) 2X POST
P 13	PIPE 3 STD
P 15	HSS 5 X 5 X 1/4
T 02	(2) TRIM
T 03	(3) TRIM
T 06	(2) TRIM (2) KING
T 10	(2) TRIM (3) KING
1. PARALLEL STRAND LUMBER (PSL) 1.8E	
2. STEEL PIPE (PIPE STD) A53	
3. STEEL HOLLOW SECTION (HSS) A500	
4. STEEL COLUMNS REQUIRE BEARING PLATES	
5. CONTINUE POSTS TO FDN / STRUCT MEMBER	

BEAM SCHEDULE	
MARK	TYPE
MB 01	(2) 2 X 6
MB 02	(2) 2 X 6
MB 03	(3) 2 X 6
MB 04	(2) 2 X 10 DF (PT) #2
MB 05	(2) 1-3/4 X 9-1/2 LVL
MB 06	(3) 2 X 6
MB 07	(3) 2 X 6
MB 08	(3) 2 X 6
MB 09	5-1/8 X 10-1/2 GLB (PT)
MB 10	5-1/8 X 10-1/2 GLB (PT)
MB 11	W10X26
MB 12	W10X26
MB 13	(3) 2 X 6
MB 14	(2) 1-3/4 X 11-7/8 LVL
MB 15	(2) 1-3/4 X 11-7/8 LVL
MB 16	(2) 1-3/4 X 11-7/8 LVL
MB 17	(2) 1-3/4 X 11-7/8 LVL
MB 18	1-3/4 X 11-7/8 LVL
MB 19	W10X77
MB 20	W14X90
MB 21	W18X97
MB 22	(3) 1-3/4 X 11-7/8 LVL
MB 23	(2) 1-3/4 X 11-7/8 LVL
MB 24	6-3/4 X 10-1/2 GLB
MB 25	2 X 10
MB 26	(3) 2 X 10
MB 27	(2) 2 X 8
MB 28	(2) 2 X 8
MB 29	5-1/8 X 9 GLB
MB 30	(2) 2 X 10 DF (PT) #2
MB 31	(1) 2 X 10 DF (PT) #2
MB 32	(2) 2 X 10 DF (PT) #2
1. DIMENSIONAL LUMBER DF #2 U.N.O.	
2. LAMINATED VENEER LUMBER (LVL) 2.0E	
3. GLUED-LAMINATED TIMBER (GLB) 24F-1.8E	
4. STEEL W-SHAPES A992-50	
5. SUFFIXES (A, B, ETC.) DENOTE ALTERNATIVES FOR THE SPECIFIED BEAM	
6. ALL HEADERS IN BEARING WALLS TO HAVE MIN. (1) TRIMMER & (1) KING STUD U.N.O. ALL OTHER BEAMS AND GIRDER TRUSSES TO HAVE MIN. (2) 2X SUPPORTS U.N.O.	



MAIN FLOOR FRAMING PLAN
1/4" = 1'-0"

ACUTE ENGINEERING, INC.
Phone 801.229.9020
Fax 801.224.0050
info@acuteengineering.com

ORIGINAL PROJECT #
7640922
DATE:
01 NOV 2022

HARBOR DESIGN ROZENFELD RESIDENCE (SANDY)

MAIN FLOOR FRAMING PLAN

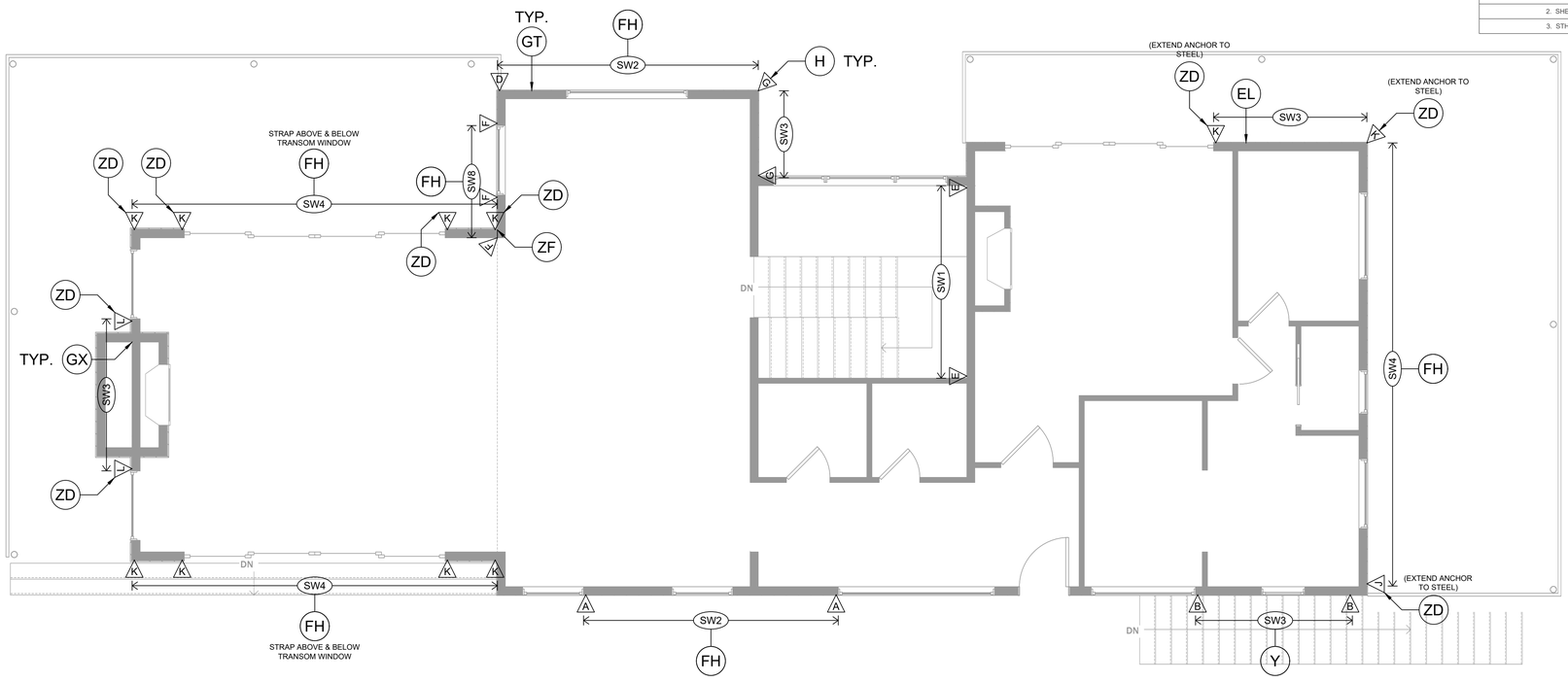
ISSUES / REVISIONS

-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

S1-0

SHEAR WALL SCHEDULE					
MARK	SHEATHING	EDGE NAILING	ABUTTING PANEL EDGE FRAMING	ANCHORAGE	
				SOLE PLATE	SILL PLATE
SW1	7/16"	8d @ 6"	2X	10d @ 8"	5/8" A.B. @ 32"
SW2	7/16"	8d @ 4"	2X	10d @ 12"	5/8" A.B. @ 32"
SW3	7/16"	8d @ 3"	3X or (2)2X	10d @ 4"	5/8" A.B. @ 32"
SW4	7/16"	8d @ 2"	3X or (2)2X	10d @ 6"	5/8" A.B. @ 32"
SW6	7/16" BOTH SIDES	8d @ 4"	2X	10d @ 12"	5/8" A.B. @ 32"
SW8	7/16" BOTH SIDES	8d @ 2"	3X or (2)2X	10d @ 6"	5/8" A.B. @ 32"
1. SHEATHING SHALL CONSIST OF WOOD STRUCTURAL PANELS (SEE GSN).					
2. UNLESS NOTED ON DRAWINGS, EXTERIOR STUDS SHALL BE SPACED AT 16" O.C.					
3. SHEATHING NAILS SHALL BE COMMON OR GALVANIZED BOX NAILS. - FIELD NAIL SPACING SHALL BE 12" FOR STUDS SPACED 16" O.C. OR LESS AND 6" O.C. FOR STUDS SPACED AT 24" O.C.					
4. FOR SW1 ONLY, EDGE NAILS MAY BE SUBSTITUTED WITH 1-1/2" 16 GAGE STAPLES SPACED AT 3" O.C. AND FIELD NAILS MAY BE SUBSTITUTED WITH 16 GAGE STAPLES AT 12" O.C.					
5. ANCHORAGE NAILS SHALL BE COMMON NAILS.					
6. ANCHOR BOLTS SHALL HAVE A 3X3X0.229" WASHER AND 7" MIN EMBEDMENT. THE WASHER SHALL EXTEND TO WITHIN 1/2" FROM THE SHEATHING.					
7. ANCHOR BOLTS MAY BE SUBSTITUTED WITH TITEN HD BOLTS AT SAME DIAMETER AND SPACING. PROVIDE MIN. 4-1/4" EMBEDMENT FOR 1/2-DIA. BOLTS AND MIN. 4-3/4" EMBEDMENT FOR 5/8-DIA. BOLTS.					
8. FOR SW3, SW4, SW7, AND SW8, (2) 2" NOMINAL FRAMING STITCH-NAILED TOGETHER WITH (2) 10d NAILS @ 6" MAY BE USED AT ABUTTING PANEL EDGES IN PLACE OF 3" NOMINAL FRAMING.					

HOLD-DOWN SCHEDULE				
MARK	HOLD-DOWN	MINIMUM FASTENERS	ANCHOR	POST
A	LSTHD8 (SEE NOTE 3)	10d X 2-1/2" (.148 X 2-1/2")	STRAP 8" EMBED.	(2) 2X POST
B	STHD10 (SEE NOTE 3)	10d X 2-1/2" (.148 X 2-1/2")	STRAP 10" EMBED.	(2) 2X POST
C	STHD14 (SEE NOTE 3)	10d X 2-1/2" (.148 X 2-1/2")	STRAP 14" EMBED.	(2) 2X POST
D	CS16 (11" END LENGTHS)	10d X 2-1/2" (.148 X 2-1/2")	(FLOOR STRAP)	(2) 2X POST
E	MST37	10d X 2-1/2" (.148 X 2-1/2")	(FLOOR STRAP)	(2) 2X POST
F	MST48	10d X 2-1/2" (.148 X 2-1/2")	(FLOOR STRAP)	(2) 2X POST
G	MST60	10d X 2-1/2" (.148 X 2-1/2")	(FLOOR STRAP)	(2) 2X POST
J	HDU2-SDS2.5	SDS1/4" X 2-1/2" (SDS25212)		(2) 2X POST
K	HDU4-SDS2.5	SDS1/4" X 2-1/2" (SDS25212)	FOUNDATION WALL: SBS/8X24 FOOTING: 5/8" A.B. 5" EMBED. (DRILL & EPOXY) FLOOR-TO-FLOOR: 5/8" THREADED ROD	(2) 2X POST
L	HDU5-SDS2.5	SDS1/4" X 2-1/2" (SDS25212)	FOUNDATION WALL: SBS/8X24 FLOOR-TO-FLOOR: 5/8" THREADED ROD	(2) 2X POST
M	HDU8-SDS2.5	SDS1/4" X 2-1/2" (SDS25212)	SSTB28	(2) 2X POST
1. HOLD-DOWNS SHALL BE SIMPSON STRONG-TIE OR EQUIVALENT.				
2. SHEAR WALL EDGE NAILING SHALL BE TO HOLD-DOWN POST.				
3. STHD STRAPS SHALL BE "RJ" TYPE AT RIM JOIST LOCATIONS.				



MAIN FLOOR SHEAR WALL PLAN
1/4" = 1'-0"

ACUTE ENGINEERING, INC.
Phone 801.229.9020
Fax 801.224.0050
info@acuteengineering.com

ORIGINAL PROJECT #
7640922
DATE:
01 NOV 2022

HARBOR DESIGN ROZENFELD RESIDENCE (SANDY)
MAIN FLOOR SHEAR WALL PLAN

ISSUES / REVISIONS

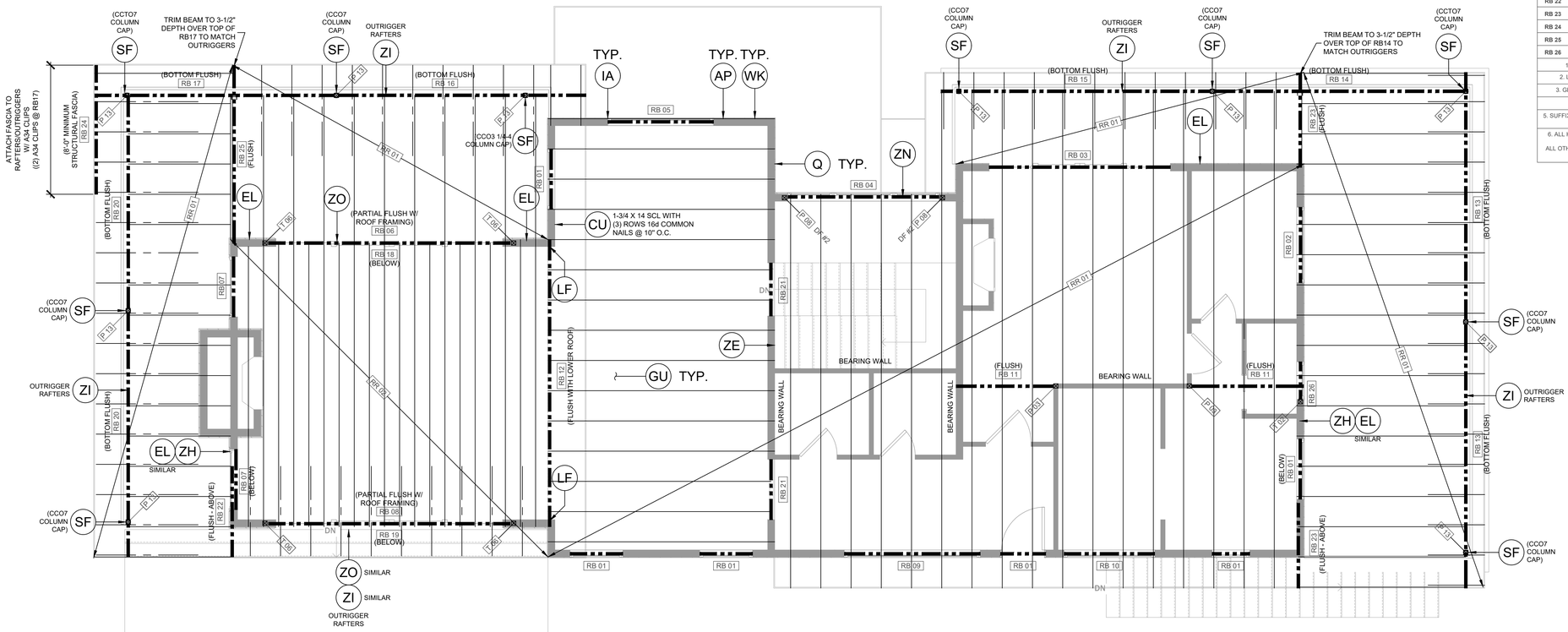
S1-1

SHEATHING SCHEDULE	
TYPE	THICKNESS
MAIN FLOOR	3/4" OSB (48/24 SPAN RATING)
UPPER FLOOR	3/4" OSB (48/24 SPAN RATING)
ROOF	5/8" OSB (40/20 SPAN RATING)
1. SHEATHING PERPENDICULAR TO SUPPORTS.	
2. FLOOR SHEATHING NAILED & GLUED TO SUPPORT	
3. 8d COMMON NAILS 6" O.C. (EDGES) 12" O.C. (FIELD)	
4. NAILING NO CLOSER THAN 3/8" FROM PANEL EDGE	

ROOF RAFTER SCHEDULE	
MARK	TYPE
RR 01	14" TJI 210 @ 24" O.C.
RR 02	14" TJI 210 @ 12" O.C.
1. DIMENSIONAL LUMBER DF #2 U.N.O.	
2. SUFFIXES (A, B, ETC.) DENOTE ALTERNATIVES FOR THE SPECIFIED RAFTER	

POST SCHEDULE	
MARK	TYPE
P 03	(3) 2X POST
P 06	4 X 6 POST
P 08	(5) 2X POST
P 13	PIPE 3 STD
P 15	HSS 5 X 5 X 1/4
T 02	(2) TRIM
T 03	(3) TRIM
T 06	(2) TRIM (2) KING
T 10	(2) TRIM (3) KING
1. PARALLEL STRAND LUMBER (PSL) 1.8E	
2. STEEL PIPE (PIPE STD) A53	
3. STEEL HOLLOW SECTION (HSS) A500	
4. STEEL COLUMNS REQUIRE BEARING PLATES	
5. CONTINUE POSTS TO FDN / STRUCT MEMBER	

BEAM SCHEDULE	
MARK	TYPE
RB 01	(2) 2 X 6
RB 02	(2) 2 X 6
RB 03	(3) 1-3/4 X 11-7/8 LVL
RB 04	1-3/4 X 14 LVL
RB 05	(2) 2 X 6
RB 06	5-1/8 X 19-1/2 GLB
RB 07	(2) 2 X 6
RB 08	5-1/8 X 19-1/2 GLB
RB 09	(3) 2 X 10
RB 10	(3) 2 X 6
RB 11	1-3/4 X 14 LVL
RB 12	(3) 1-3/4 X 14 LVL
RB 13	6-3/4 X 10-1/2 GLB
RB 14	6-3/4 X 10-1/2 GLB
RB 15	6-3/4 X 10-1/2 GLB
RB 16	6-3/4 X 10-1/2 GLB
RB 17	6-3/4 X 10-1/2 GLB
RB 18	(3) 1-3/4 X 9-1/2 LVL
RB 19	(3) 1-3/4 X 9-1/2 LVL
RB 20	6-3/4 X 10-1/2 GLB
RB 21	(2) 2 X 6
RB 22	1-3/4 X 14 LVL
RB 23	1-3/4 X 14 LVL
RB 24	1-3/4 X 14 LVL
RB 25	(2) 1-3/4 X 14 LVL
RB 26	(3) 2 X 8
1. DIMENSIONAL LUMBER DF #2 U.N.O.	
2. LAMINATED VENEER LUMBER (LVL) 2.0E	
3. GLUED-LAMINATED TIMBER (GLB) 24F-1.8E	
4. STEEL W-SHAPES A992-50	
5. SUFFIXES (A, B, ETC.) DENOTE ALTERNATIVES FOR THE SPECIFIED BEAM	
6. ALL HEADERS IN BEARING WALLS TO HAVE MIN. (1) TRIMMER & (1) KING STUD U.N.O. ALL OTHER BEAMS AND GIRDER TRUSSES TO HAVE MIN. (2) 2X SUPPORTS U.N.O.	



ROOF FRAMING PLAN
1/4" = 1'-0"

ACUTE ENGINEERING, INC.
Phone 801.229.9020
Fax 801.224.0050
info@acuteengineering.com

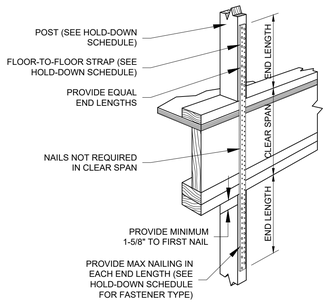
ORIGINAL PROJECT #
7640922
DATE:
01 NOV 2022

HARBOR DESIGN ROZENFELD RESIDENCE (SANDY)

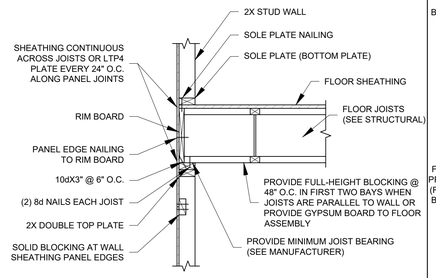
ROOF FRAMING PLAN

ISSUES / REVISIONS

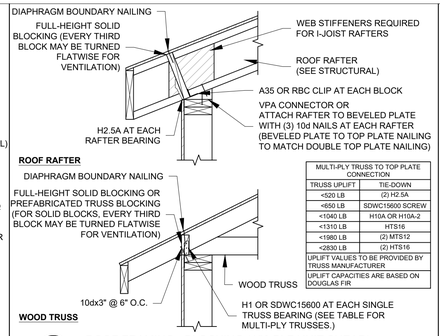
S2-0



H HOLD-DOWN - FLOOR STRAP
NO SCALE

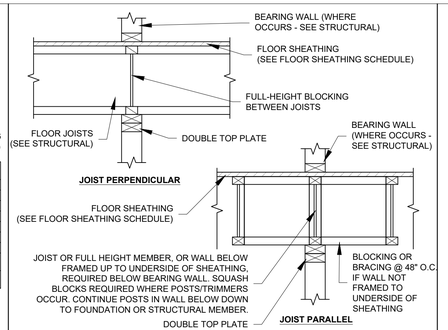


P BEARING WALL - EXTERIOR TO FLOOR (150 PLF UNIT SHEAR)
NO SCALE

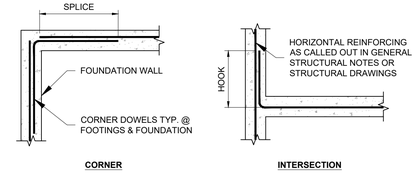


MULTI-PLY TRUSS TO TOP PLATE CONNECTION	
TRUSS UPLIFT	TIE-DOWN
<520 LB	(2) H2.5A
<650 LB	SDWC15600 SCREW
<1040 LB	H10A OR H10A-2
<1310 LB	HTS16
<1980 LB	(2) MTS12
<2630 LB	(2) HTS16
UPLIFT VALUES TO BE PROVIDED BY TRUSS MANUFACTURER	
UPLIFT CAPACITIES ARE BASED ON DOUGLAS FIR	

Q ROOF FRAMING - BLOCKING (150 PLF UNIT SHEAR)
NO SCALE

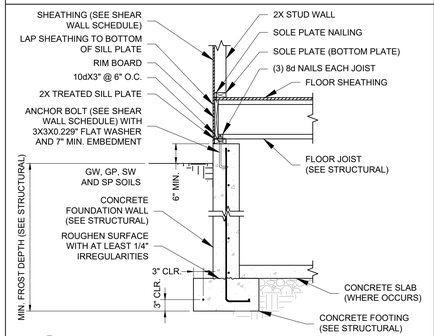


R BEARING WALL - INTERIOR TO FLOOR
NO SCALE

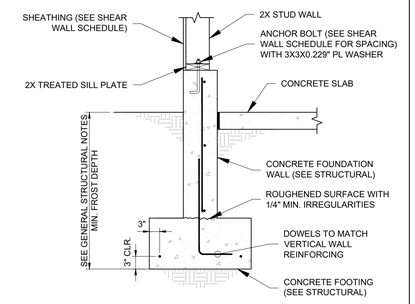


REQUIRED LAP LENGTH			
TYPE	CONCRETE	MASONRY	MIN.
SPLICE	40 BAR DIA.	48 BAR DIA.	24"
HOOK	12 BAR DIA.	20 BAR DIA.	12"

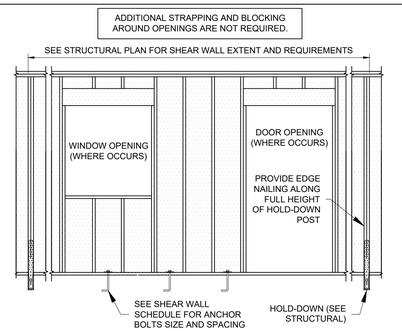
S FOUNDATION WALL - CORNER & INTERSECTION REINFORCING
NO SCALE



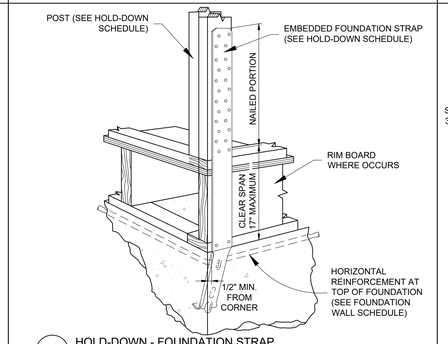
T FOUNDATION WALL - FLOOR JOIST (PERPENDICULAR)
NO SCALE



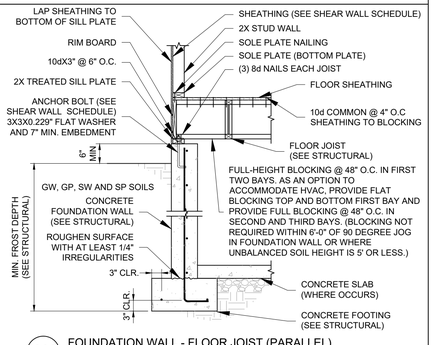
V FOUNDATION WALL - SLAB ON GRADE
NO SCALE



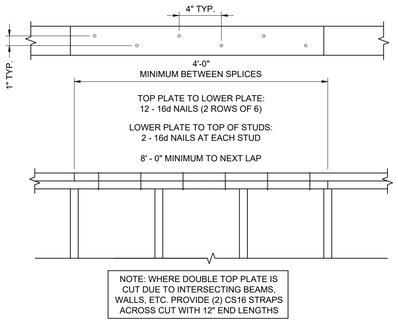
Y SHEAR WALL - PERFORATED
NO SCALE



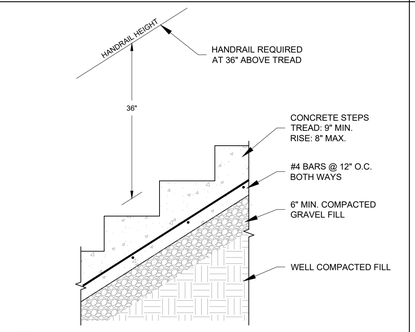
AD HOLD-DOWN - FOUNDATION STRAP
NO SCALE



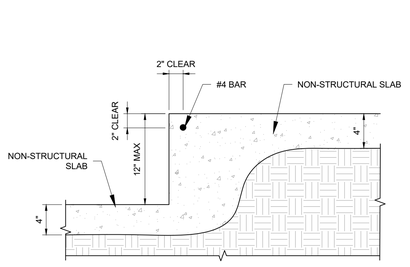
AK FOUNDATION WALL - FLOOR JOIST (PARALLEL)
NO SCALE



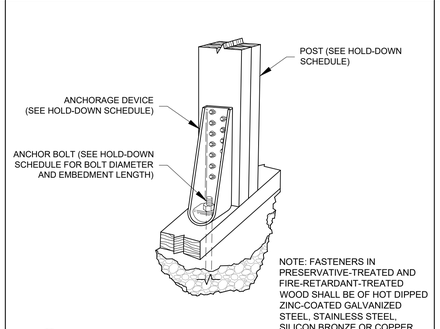
AP DIAPHRAGM - TOP PLATE SPLICE
NO SCALE



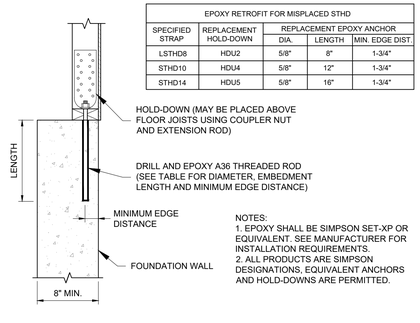
AQ CONCRETE STEPS
NO SCALE



AR 12" CONCRETE SLAB DROP
NO SCALE

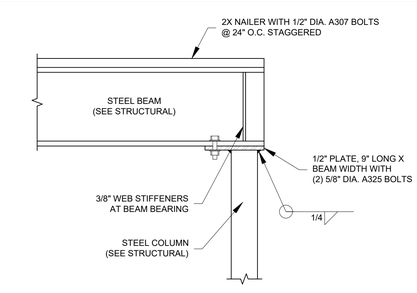


BL HOLD-DOWN
NO SCALE

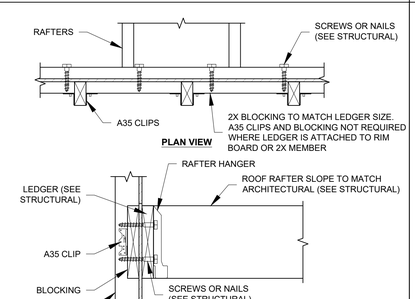


EPOXY RETROFIT FOR MISPLACED STHD				
SPECIFIED STRAP	REPLACEMENT HOLD-DOWN	REPLACEMENT EPOXY ANCHOR		
		DIA.	LENGTH	MIN. EDGE DIST.
LSTHD8	HDU2	5/8"	8"	1-3/4"
STHD10	HDU4	5/8"	12"	1-3/4"
STHD14	HDU5	5/8"	16"	1-3/4"

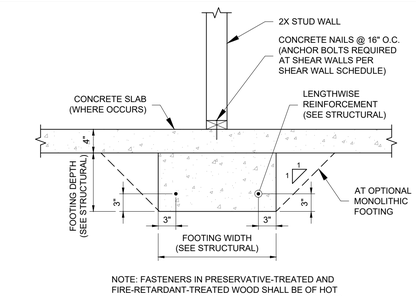
BS RETROFIT EPOXY ANCHOR IN FOUNDATION WALL
NO SCALE



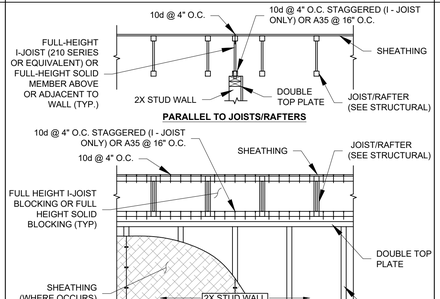
BW STEEL BEAM - STEEL COLUMN (SUPPORTED END)
NO SCALE



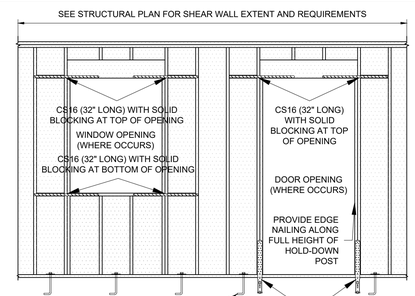
CU LEDGER - RAFTER TO FRAMED WALL
NO SCALE



CW BEARING WALL - INTERIOR FOOTING
NO SCALE



EL SHEAR WALL - JOIST/RAFTER DIAPHRAGM CONNECTION
NO SCALE



FH SHEAR WALL - FORCE TRANSFER AROUND OPENINGS
NO SCALE

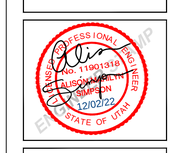
ACUTE ENGINEERING, INC.
Phone 801.229.9020
Fax 801.224.0050
info@acuteengineering.com

ORIGINAL PROJECT #
7640922
DATE:
01 NOV 2022

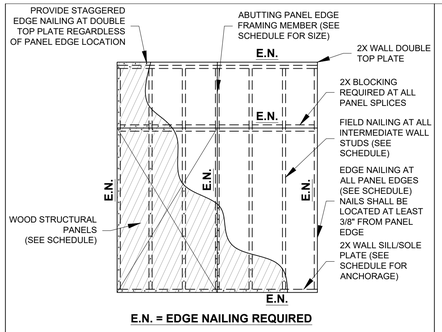
HARBOR DESIGN ROZENFELD RESIDENCE (SANDY)

STRUCTURAL DETAILS

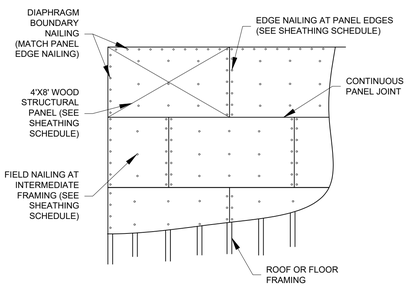
ISSUES / REVISIONS



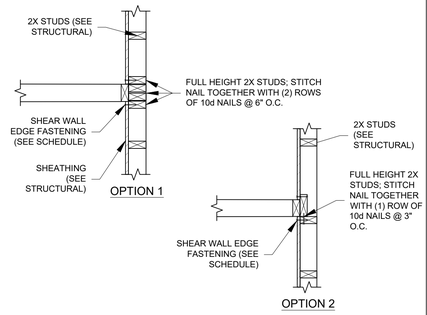
SD1



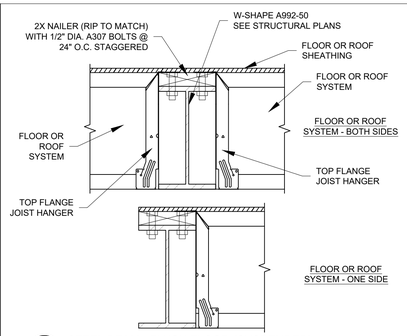
GT WOOD STRUCTURAL PANEL SHEAR WALL
NO SCALE



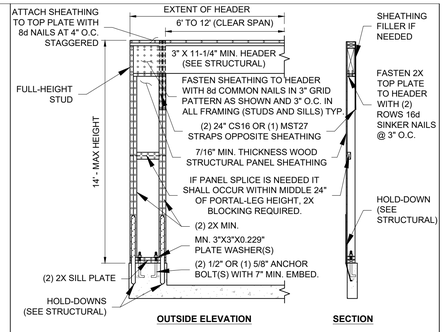
GU WOOD STRUCTURAL PANEL DIAPHRAGM - UNBLOCKED
NO SCALE



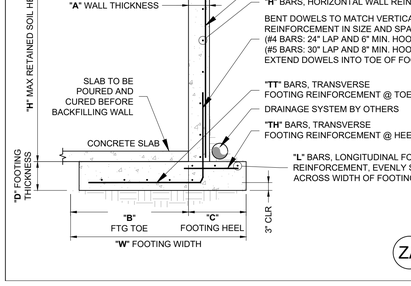
GX SHEAR WALL TRANSFER - WALL INTERSECTION
NO SCALE



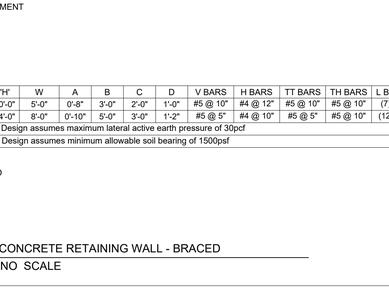
HG STEEL BEAM - FLUSH FLOOR (SUSPENDED)
NO SCALE



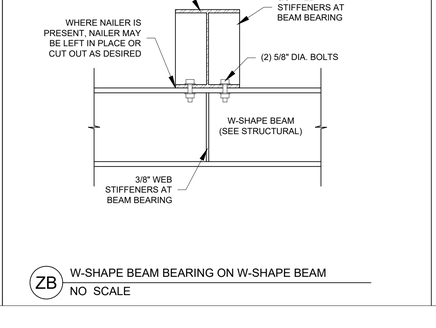
HN PORTAL FRAME - CONCRETE FOUNDATION (TALL)
NO SCALE



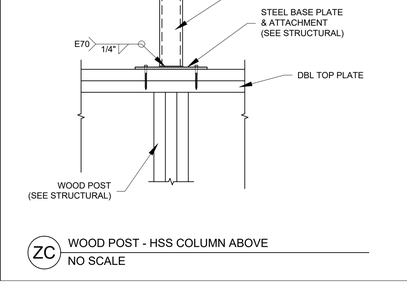
IA WOOD BEAM - WALL HEADER FRAMING
NO SCALE



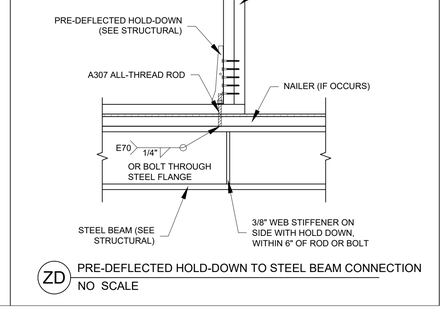
IE STEEL BEAM TO WOOD COLUMN CONNECTION
NO SCALE



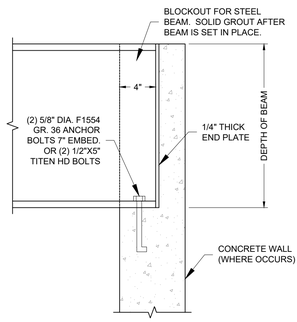
LF DIAPHRAGM - CHORD / COLLECTOR STRAP
NO SCALE



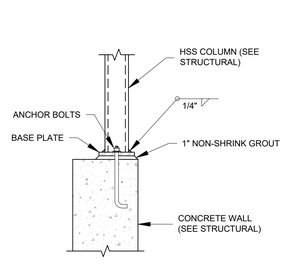
SF WOOD BEAMS - HSS COLUMN (INTERMEDIATE)
NO SCALE



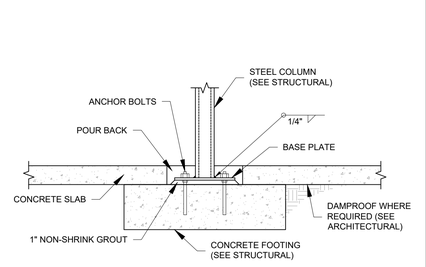
TA STEEL COLUMN -BASE PLATE
NO SCALE



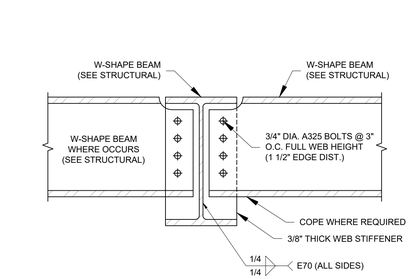
TP STEEL BEAM - CONCRETE COLUMN (BEAM POCKET)
NO SCALE



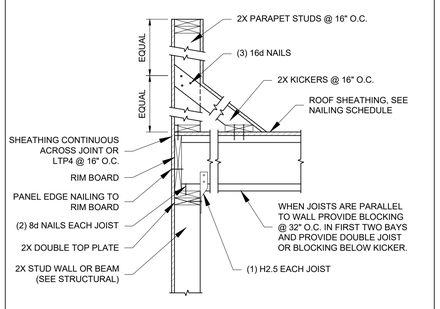
TU HSS COLUMN - CONCRETE WALL
NO SCALE



TV CONCRETE FOOTING - STEEL COLUMN
NO SCALE



UC W-SHAPE BEAM - SHEAR CONNECTION
NO SCALE



WK ROOF SYSTEM - PARAPET WALL
NO SCALE

"H"	W	A	B	C	D	V BARS	H BARS	TT BARS	TH BARS	L BARS
10'-0"	5'-0"	0'-8"	3'-0"	2'-0"	1'-0"	#5 @ 10"	#4 @ 12"	#5 @ 10"	#5 @ 10"	(7) #4
14'-0"	8'-0"	0'-10"	5'-0"	3'-0"	1'-2"	#5 @ 5"	#4 @ 10"	#5 @ 5"	#5 @ 10"	(12) #4
1. Design assumes maximum lateral active earth pressure of 30pcf										
2. Design assumes minimum allowable soil bearing of 1500psf										

ZA CONCRETE RETAINING WALL - BRACED
NO SCALE

ZB W-SHAPE BEAM BEARING ON W-SHAPE BEAM
NO SCALE

ZC WOOD POST - HSS COLUMN ABOVE
NO SCALE

ZD PRE-DEFLECTED HOLD-DOWN TO STEEL BEAM CONNECTION
NO SCALE

ACUTE ENGINEERING, INC.
Phone 801.229.9020
Fax 801.224.0050
info@acuteengineering.com

ORIGINAL PROJECT #
7640922
DATE:
01 NOV 2022

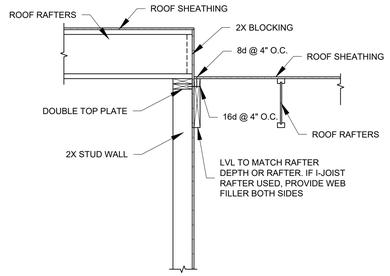
HARBOR DESIGN ROZENFELD RESIDENCE (SANDY)

STRUCTURAL DETAILS

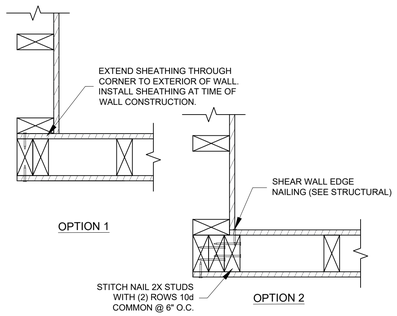
ISSUES / REVISIONS

-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

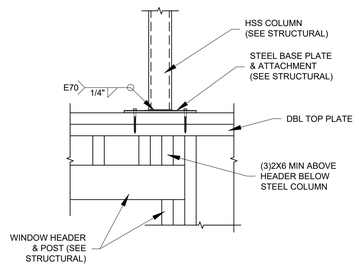
SD2



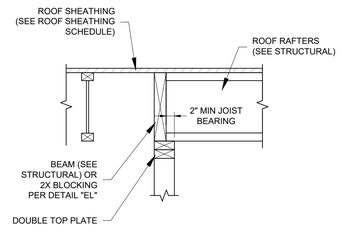
ZE DIAPHRAGM TRANSFER (RAFTER PARALLEL)
NO SCALE



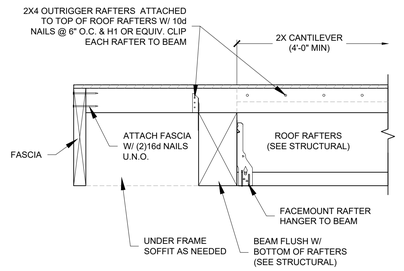
ZF DOUBLE SHEATHED SHEAR WALL - CORNER
NO SCALE



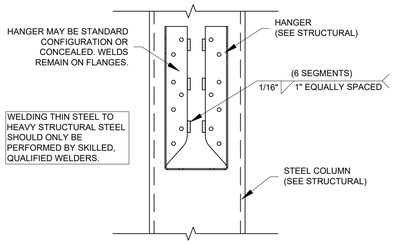
ZG WOOD HEADER - HSS COLUMN ABOVE
NO SCALE



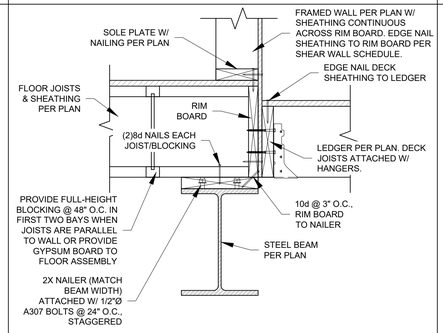
ZH EXTERIOR WALL - ROOF RAFTERS
NO SCALE



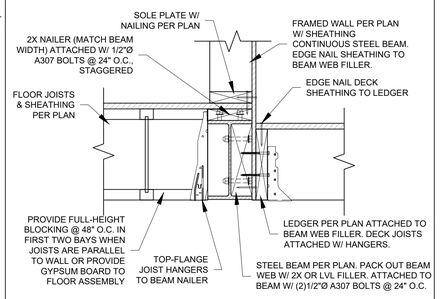
ZI FLUSH BEAM - ROOF RAFTERS
NO SCALE



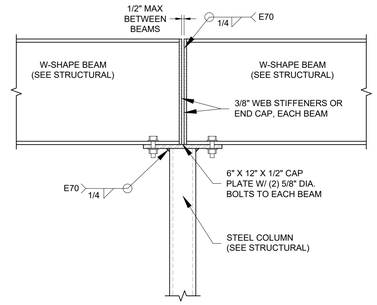
ZJ WELDED HANGER - STEEL COLUMN
NO SCALE



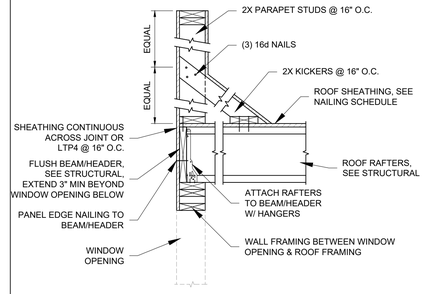
ZK STEEL BEAM - BEARING WALL & LEDGER (DROPPED)
NO SCALE



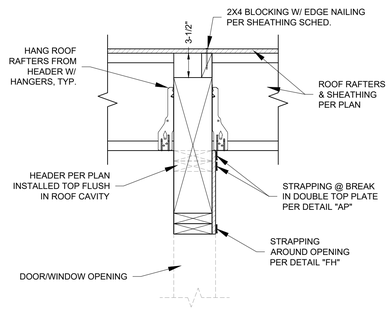
ZL STEEL BEAM - BEARING WALL & LEDGER (FLUSH)
NO SCALE



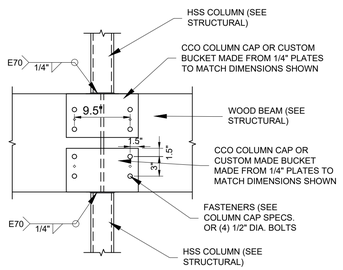
ZM STEEL BEAMS - HSS COLUMNS (INTERMEDIATE)
NO SCALE



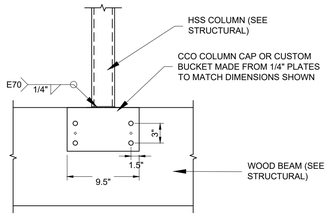
ZN ROOF SYSTEM - FLUSH HEADER - PARAPET WALL
NO SCALE



ZO TOP FLUSH DOOR HEADER
NO SCALE



ZP WOOD BEAMS - HSS COLUMN (INTERMEDIATE)
NO SCALE



ZQ WOOD BEAM - HSS COLUMN ABOVE
NO SCALE

ACUTE ENGINEERING, INC.
Phone 801.229.9020
Fax 801.224.0050
info@acuteengineering.com

ORIGINAL PROJECT #
7640922
DATE:
01 NOV 2022

HARBOR DESIGN ROZENFELD RESIDENCE (SANDY)

STRUCTURAL DETAILS

ISSUES / REVISIONS

-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

SD3

EXHIBIT H

CATAMOUNT RIDGE - ROZENFELD RESIDENCE

SANDY, UTAH

CIVIL PLAN SET- CONSTRUCTION DOCUMENTS

APPLICATION NO. RES03132023-030241

SHEET INDEX

CIVIL DRAWINGS

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS

ROZENFELD RESIDENCE
3802 E CATAMOUNT RIDGE WAY, SANDY, UT
COVER SHEET

DATE SUBMITTED: 04.14.2023

TCC JOB NUMBER: 22-001

REGISTERED PROFESSIONAL ENGINEER
STATE OF UTAH
4/14/23

SCALE
HORIZONTAL: 1" = 100
0 25 50 100 150

SHEET NUMBER
C000
1 OF 10

CALL 811 BEFORE YOU DIG
SAFE DIGGING PARTNER

DATE: 4/14/2023 11:11 AM

PATH: N:\22-001 - Yuri Rozenfeld - Catamount Ridge\Cadd\Plan\C000 COVER SHEET.dwg

EXHIBIT H

GENERAL NOTES

1. ALL CONSTRUCTION MUST STRICTLY FOLLOW THE STANDARDS AND SPECIFICATIONS SET FORTH BY: APWA, GOVERNING UTILITY MUNICIPALITY, GOVERNING CITY, INDIVIDUAL PRODUCT MANUFACTURERS, THE DESIGN ENGINEER. IF A CONSTRUCTION PRACTICE IS NOT SPECIFIED BY ANY OF THE LISTED SOURCES, CONTRACTOR MUST CONTACT DESIGN ENGINEER FOR DIRECTION.
2. TRAFFIC CONTROL, STRIPING & SIGNAGE TO CONFORM TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
3. ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO OWNER.
4. CONSULT ALL OF THE DRAWINGS AND SPECIFICATIONS FOR COORDINATION REQUIREMENTS BEFORE COMMENCING CONSTRUCTION.
5. AT ALL LOCATIONS WHERE EXISTING PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING PAVEMENT SHALL BE SAWCUT TO A CLEAN, SMOOTH EDGE.
6. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MOST RECENT, ADOPTED EDITION OF ADA ACCESSIBILITY GUIDELINES.
7. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED THOROUGHLY REVIEWED PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
8. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND NOTIFYING ENGINEER OR INSPECTING AUTHORITY 48 HOURS IN ADVANCE OF COVERING UP ANY PHASE OF CONSTRUCTION REQUIRING OBSERVATION.
9. ANY WORK IN THE PUBLIC RIGHT-OF-WAY WILL REQUIRE PERMITS FROM THE APPROPRIATE, CITY, COUNTY OR STATE AGENCY CONTROLLING THE ROAD, INCLUDING OBTAINING REQUIRED INSPECTIONS.
10. ALL DIMENSIONS, GRADES & UTILITY DESIGNS SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES.
11. CONTRACTOR MUST VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING AND BRING UP ANY QUESTIONS BEFOREHAND.
12. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH BY THE GEOTECHNICAL ENGINEER.
13. CATCH SLOPES SHALL BE GRADED AS SPECIFIED ON GRADING PLANS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FLAGGING, CAUTION SIGNS, LIGHTS, BARRICADES, FLAGMEN, AND ALL OTHER DEVICES NECESSARY FOR PUBLIC SAFETY.
15. CONTRACTOR SHALL, AT THE TIME OF BIDDING AND THROUGHOUT THE PERIOD OF THE CONTRACT, BE LICENSED IN THE STATE OF UTAH AND SHALL BE BONDABLE FOR AN AMOUNT EQUAL TO OR GREATER THAN THE AMOUNT BID AND NECESSARY TO COMPLETE THE TYPE OF WORK CONTEMPLATED IN THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL BE SKILLED AND REGULARLY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK CALLED FOR IN THE PLANS AND SPECIFICATIONS.
16. CONTRACTOR SHALL INSPECT THE SITE OF THE WORK PRIOR TO BIDDING TO SATISFY THEMSELVES BY PERSONAL EXAMINATION OR BY SUCH OTHER MEANS AS THEY MAY PREFER OF THE LOCATION OF THE PROPOSED WORK AND OF THE ACTUAL CONDITIONS OF AND AT THE SITE OF WORK. IF, DURING THE COURSE OF THE EXAMINATION, A BIDDER FINDS FACTS OR CONDITIONS WHICH APPEAR TO BE IN CONFLICT WITH THE LETTER OR INTENT OF THE PROJECT PLANS AND SPECIFICATIONS, THEY SHALL CONTACT THE ENGINEER FOR ADDITIONAL INFORMATION AND EXPLANATION BEFORE SUBMITTING THEIR BID. SUBMISSION OF A BID BY THE CONTRACTOR SHALL CONSTITUTE ACKNOWLEDGMENT THAT, IF AWARDED THE CONTRACT, THEY HAVE RELIED AND IS RELYING ON THEIR OWN EXAMINATION OF (1) THE SITE OF THE WORK, (2) ACCESS TO THE SITE, AND (3) ALL OTHER DATA AND MATTERS REQUISITE TO THE FULFILLMENT OF THE WORK AND ON THEIR OWN KNOWLEDGE OF EXISTING FACILITIES ON AND IN THE VICINITY OF THE SITE OF THE WORK TO BE CONSTRUCTED UNDER THIS CONTRACT. THE INFORMATION PROVIDED BY THE ENGINEER IS NOT INTENDED TO BE A SUBSTITUTE FOR, OR A SUPPLEMENT TO, THE INDEPENDENT VERIFICATION BY THE CONTRACTOR TO THE EXTENT SUCH INDEPENDENT INVESTIGATION OF SITE CONDITIONS IS DEEMED NECESSARY OR DESIRABLE BY THE CONTRACTOR. CONTRACTOR SHALL ACKNOWLEDGE THAT THEY HAVE NOT RELIED SOLELY UPON OWNER- OR ENGINEER-FURNISHED INFORMATION REGARDING SITE CONDITIONS IN PREPARING AND SUBMITTING THEIR BID.
17. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL WATER, POWER, SANITARY FACILITIES AND TELEPHONE SERVICES AS REQUIRED FOR THE CONTRACTOR'S USE DURING CONSTRUCTION.
18. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE OWNER, ENGINEER, AND/OR GOVERNING AGENCIES.
19. CONTRACTOR SHALL EXERCISE DUE CAUTION AND SHALL CAREFULLY PRESERVE BENCH MARKS, CONTROL POINTS, REFERENCE POINTS AND ALL SURVEY STAKES, AND SHALL BEAR ALL EXPENSES FOR REPLACEMENT AND/OR ERRORS CAUSED BY THEIR UNNECESSARY LOSS OR DISTURBANCE.
20. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOBSITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
21. CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SCHEDULING INSPECTION AND TESTING OF ALL FACILITIES CONSTRUCTED UNDER THIS CONTRACT. ALL TESTING SHALL CONFORM TO THE REGULATORY AGENCY'S STANDARD SPECIFICATIONS. ALL TESTING AND INSPECTION SHALL BE PAID FOR BY THE OWNER; ALL RE-TESTING AND/OR RE-INSPECTION SHALL BE PAID FOR BY THE CONTRACTOR.
22. IF EXISTING IMPROVEMENTS NEED TO BE DISTURBED AND/OR REMOVED FOR THE PROPER PLACEMENT OF IMPROVEMENTS TO BE CONSTRUCTED BY THESE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE. COST OF REPLACING OR REPAIRING EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS REQUIRING REMOVAL AND/OR REPLACEMENT. THERE WILL BE NO EXTRA COST DUE TO THE CONTRACTOR FOR REPLACING OR REPAIRING EXISTING IMPROVEMENTS.
23. WHENEVER EXISTING FACILITIES ARE REMOVED, DAMAGED, BROKEN, OR CUT IN THE INSTALLATION OF THE WORK COVERED BY THESE PLANS OR SPECIFICATIONS, SAID FACILITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE WITH MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL EXISTING FACILITIES. THE FINISHED PRODUCT SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER, THE ENGINEER, AND THE RESPECTIVE REGULATORY AGENCY.
24. CONTRACTOR SHALL MAINTAIN A NEATLY MARKED SET OF FULL-SIZE AS-BUILT RECORD DRAWINGS SHOWING THE FINAL LOCATION AND LAYOUT OF ALL STRUCTURES AND OTHER FACILITIES. AS-BUILT RECORD DRAWINGS SHALL REFLECT CHANGE ORDERS, ACCOMMODATIONS, AND ADJUSTMENTS TO ALL IMPROVEMENTS CONSTRUCTED. WHERE NECESSARY, SUPPLEMENTAL DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR. PRIOR TO ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL DELIVER TO THE ENGINEER ONE SET OF NEATLY MARKED AS-BUILT RECORD DRAWINGS SHOWING THE INFORMATION REQUIRED ABOVE. AS-BUILT RECORD DRAWINGS SHALL BE REVIEWED AND THE COMPLETE AS-BUILT RECORD DRAWING SET SHALL BE CURRENT WITH ALL CHANGES AND DEVIATIONS REDLINED AS A PRECONDITION TO THE FINAL PROGRESS PAYMENT APPROVAL AND/OR FINAL ACCEPTANCE.
25. WHERE THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE FIRST QUALITY ARE TO BE USED.

GENERAL NOTES CONT.

26. CONTRACTOR SHALL BE SKILLED AND REGULARLY ENGAGED IN THE GENERAL CLASS AND TYPE OF WORK CALLED FOR IN THE PROJECT PLANS AND SPECIFICATIONS. THEREFORE, THE OWNER IS RELYING UPON THE EXPERIENCE AND EXPERTISE OF THE CONTRACTOR. PRICES PROVIDED WITHIN THE CONTRACT DOCUMENTS SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY AND PROPER FOR THE WORK CONTEMPLATED AND THAT THE WORK BE COMPLETED IN ACCORDANCE WITH THE TRUE INTENT AND PURPOSE OF THESE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE COMPETENT, KNOWLEDGEABLE AND HAVE SPECIAL SKILLS IN THE NATURE, EXTENT AND INHERENT CONDITIONS OF THE WORK TO BE PERFORMED. CONTRACTOR SHALL ALSO ACKNOWLEDGE THAT THERE ARE CERTAIN PECULIAR AND INHERENT CONDITIONS EXISTENT IN THE CONSTRUCTION OF THE PARTICULAR FACILITIES WHICH MAY CREATE, DURING THE CONSTRUCTION PROGRAM, UNUSUAL OR UNSAFE CONDITIONS HAZARDOUS TO PERSONS, PROPERTY AND THE ENVIRONMENT. CONTRACTOR SHALL BE AWARE OF SUCH PECULIAR RISKS AND HAVE THE SKILL AND EXPERIENCE TO FORESEE AND TO ADOPT PROTECTIVE MEASURES TO ADEQUATELY AND SAFELY PERFORM THE CONSTRUCTION WORK WITH RESPECT TO SUCH HAZARDS.
27. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL STRIPING AND/OR PAVEMENT MARKINGS NECESSARY TO TIE EXISTING STRIPING INTO FUTURE STRIPING. METHOD OF REMOVAL SHALL BE BY GRINDING OR SANDBLASTING.
28. CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, SLOPING OR OTHER PROVISIONS NECESSARY TO PROTECT WORKERS FOR ALL AREAS TO BE EXCAVATED TO A DEPTH OF 4' OR MORE. FOR EXCAVATIONS 4 FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL COMPLY WITH INDUSTRIAL COMMISSION OF UTAH SAFETY ORDERS SECTION 68 - EXCAVATIONS, AND SECTION 69 - TRENCHES, ALONG WITH ANY LOCAL CODES OR ORDINANCES.
29. ALL EXISTING GATES AND FENCES TO REMAIN UNLESS OTHERWISE NOTED ON PLANS. PROTECT ALL GATES AND FENCES FROM DAMAGE.
30. UNCLASSIFIED EXCAVATION SHALL BE PROPERLY DISPOSED OF PER GOVERNMENT REGULATIONS.
31. THE IMPROVEMENTS SHOULD BE CONSTRUCTED BASED ON SURVEY OF EXISTING CONDITION USED AS BASIS OF DESIGN. CONTRACTOR TO ENSUE STANDARD RFI PROCESS IF THEY DISCOVER A DISCREPANCY IN THE ACTUAL CONDITION OR NOT AS SURVEYED.

UTILITY NOTES

1. EXISTING UTILITIES HAVE BEEN SHOWN ON THE PLANS USING A COMBINATION OF ON-SITE SURVEYS. PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE, IN THE FIELD, THEIR MAIN AND SERVICE LINES. THE CONTRACTOR SHALL NOTIFY BLUE STAKES AT 1-800-662-4111 48 HOURS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK. THE CONTRACTOR SHALL RECORD THE BLUE STAKES ORDER NUMBER AND FURNISH ORDER NUMBER TO OWNER AND ENGINEER PRIOR TO ANY EXCAVATION. IT WILL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO DIRECTLY CONTACT ANY OTHER UTILITY COMPANIES THAT ARE NOT MEMBERS OF BLUE STAKES. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF THIS CONTRACT. ANY REPAIRS NECESSARY TO DAMAGED UTILITIES SHALL BE PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICE TO THE PROJECT.
2. CONTRACTOR SHALL POT HOLE ALL UTILITIES TO DETERMINE IF CONFLICTS EXIST PRIOR TO BEGINNING ANY EXCAVATION. NOTIFY ENGINEER OF ANY CONFLICTS. CONTRACTOR SHALL VERIFY LOCATION AND INVERTS OF EXISTING UTILITIES TO WHICH NEW UTILITIES WILL BE CONNECTED. PRIOR TO COMMENCING ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH THE REQUIRED PROCEDURES.
3. CARE SHOULD BE TAKEN IN ALL EXCAVATIONS DUE TO POSSIBLE EXISTENCE OF UNRECORDED UTILITY LINES. EXCAVATION REQUIRED WITHIN PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT THEIR EXPENSE.
4. ALL VALVES AND MANHOLE COVERS IN THE IMPROVEMENT AREA SHALL BE RAISED OR LOWERED TO MEET FINISHED GRADE.
5. CONTRACTOR SHALL CUT PIPES OFF FLUSH WITH THE INSIDE WALL OF THE BOX OR MANHOLE.
6. CONTRACTOR SHALL GROUT AT CONNECTION OF PIPE TO BOX WITH NON-SHRINKING GROUT, INCLUDING PIPE VOIDS LEFT BY CUTTING PROCESS, TO A SMOOTH FINISH.
7. CONTRACTOR SHALL GROUT WITH NON-SHRINK GROUT BETWEEN GRADE RINGS AND BETWEEN BOTTOM OF INLET LID FRAME AND TOP OF CONCRETE BOX.
8. SILT AND DEBRIS IS TO BE CLEANED OUT OF ALL STORM DRAIN BOXES. CATCH BASINS ARE TO BE MAINTAINED IN A CLEANED CONDITION AS NEEDED UNTIL AFTER THE FINAL BOND RELEASE INSPECTION.
9. CONTRACTOR SHALL CLEAN ASPHALT, TAR OR OTHER ADHESIVES OFF OF ALL MANHOLE LIDS AND INLET GRATES TO ALLOW ACCESS.
10. EACH TRENCH SHALL BE EXCAVATED SO THAT THE PIPE CAN BE LAID TO THE ALIGNMENT AND GRADE AS REQUIRED. THE TRENCH WALL SHALL BE SO BRACED THAT THE WORKERS MAY WORK SAFELY AND EFFICIENTLY. ALL TRENCHES SHALL BE DRAINED SO THE PIPE LAYING MAY TAKE PLACE IN DEWATERED CONDITIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COST OF DEWATERING AND NO COST CHANGE WILL BE PROVIDED.
11. CONTRACTOR SHALL PROVIDE AND MAINTAIN AT ALL TIMES AMPLE MEANS AND DEVICES WITH WHICH TO REMOVE PROMPTLY AND TO PROPERLY DISPOSE OF ALL WATER ENTERING THE TRENCH EXCAVATION.
12. MAINTAIN A MINIMUM 18" VERTICAL SEPARATION DISTANCE BETWEEN ALL UTILITY CROSSINGS.
13. CONTRACTOR SHALL START INSTALLATION AT LOW POINT OF ALL NEW GRAVITY UTILITY LINES.
14. ALL BOLTED FITTINGS MUST BE GREASED AND WRAPPED.
15. UNLESS SPECIFICALLY NOTED OTHERWISE, MAINTAIN AT LEAST 2 FEET OF COVER OVER ALL STORM DRAIN LINES AT ALL TIMES (INCLUDING DURING CONSTRUCTION).
16. ALL SEWER LINES SHALL BE INSTALLED A MINIMUM OF 5' OF COVER TO TOP OF PIPE BELOW FINISHED GRADE.
17. ALL SEWER LINES AND SEWER SERVICES SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF 10 FEET, PIPE EDGE TO PIPE EDGE, FROM THE WATER LINES.
18. CONTRACTOR SHALL INSTALL THRUST BLOCKING AT ALL WATERLINE ANGLE POINTS AND TEES.
19. ALL UNDERGROUND UTILITIES SHALL BE IN PLACE PRIOR TO INSTALLATION OF CURB, GUTTER, SIDEWALK AND STREET PAVING.
20. CONTRACTOR SHALL INSTALL MAGNETIC LOCATING TAPE CONTINUOUSLY OVER ALL NONMETALLIC PIPE.
21. UNDER NO CIRCUMSTANCE SHALL THE PIPE OR ACCESSORIES BE DROPPED INTO THE TRENCH
22. ALL IRRIGATION SYSTEMS ARE TO REMAIN FUNCTIONAL DURING CONSTRUCTION. CAP BROKEN LINES UNTIL REPAIRED, SO THAT SYSTEM IS FUNCTIONAL.

LEGEND:

- LIMITS OF DISTURBANCE
- W — EXISTING WATER LINE
- S — EXISTING SEWER MANHOLE
- E — EXISTING ELECTRICAL BOX
- TE — EXISTING TELEPHONE BOX
- WM — PROPOSED WATER METER
- PROPOSED SEWER CLEANOUT
- W — PROPOSED WATER LINE
- UGE — PROPOSED WATER LINE
- SS — PROPOSED SEWER LINE
- PROPOSED SAWCUT LINE
- EXISTING EASEMENT
- EXISTING PROPERTY LINE
- EXISTING ASPHALT PAVEMENT
- EXISTING ASPHALT TO BE REMOVED
- EXISTING ROCKERY WALL
- PROPOSED LANDSCAPING
- PROPOSED CONCRETE WALL
- PROPOSED ASPHALT PAVEMENT
- CLEAR AND GRUB

SANDY CITY - SENSITIVE AREA OVERLAY GENERAL NOTES & REQUIREMENTS

1. PROTECTED HILLSIDE AREA-TO REMAIN IN ITS NATURAL CONDITION. NO GRADING, CUTTING, FILLING OR CONSTRUCTION OF ANY KIND IS ALLOWED, EXCEPT AS APPROVED BY THE SANDY CITY ENGINEER.
2. NO SINGLE-FAMILY DWELLING STRUCTURE SHALL BE CONSTRUCTED CLOSER THAN AN AVERAGE OF 20 FEET, WITH NO POINT BEING CLOSER THAN 10 FEET, FROM ANY PROTECTED HILLSIDE AREA.
3. DURING CONSTRUCTION OF THE DRIVEWAY, CARE SHOULD BE TAKEN TO ADHERE PRECISELY TO THE DESIGN ELEVATIONS AND DIMENSIONS OF THE APPROVED GRADING PLAN. IF THE DRIVEWAY IS INSTALLED AT A SLOPE LESS THAN 2% OR GREATER THAN 12% (SLOPING AWAY FROM THE STRUCTURE), THE DRIVEWAY SHALL BE REMOVED AND RE-INSTALLED, AT THE OWNER'S COST.
4. DUST, MUD, AND EROSION SHALL BE CONTROLLED BY WHATEVER MEANS NECESSARY, AND THE ROADWAY SHALL BE KEPT FREE OF MUD AND DEBRIS, AT ALL TIMES.
5. GRADE THE PROPERTY OR INSTALL STRUCTURES SO THAT DRAINAGE IS PREVENTED FROM FLOWING ONTO ANY ADJACENT PROPERTIES, EXCEPT THE ROADWAY.
6. PROPERTIES ARE TO BE GRADED SUCH THAT STORM WATER RUNOFF WILL DRAIN AWAY FROM STRUCTURES AND TOWARDS PROPERTY BOUNDARIES. HOWEVER, NEW DEVELOPMENT OR REDEVELOPMENT SHALL NOT INCREASE THE BURDEN OF STORM WATER ON NEIGHBORING AND/OR DOWNSTREAM PROPERTIES. STORM WATER RUNOFF SHALL BE ENTIRELY CONTROLLED WITHIN THE LIMITS OF PROJECT SITE. PERPETRATING PROPERTY OWNERS MAY BE LIABLE FOR DAMAGES IN CIVIL COURTS DUE TO DAMAGES CAUSED TO ADJACENT PROPERTIES FROM RUNOFF (INCLUDING FLOWS THAT EXISTED BEFORE THE NEW DEVELOPMENT OR REDEVELOPMENT OCCURRED). ANY CONCENTRATED FLOWS LEAVING A SITE SHALL HAVE AN AGREEMENT/EASEMENT WITH THE AFFECTED PROPERTY OWNERS.
7. FOR RETAINING WALLS THAT WILL BE 4.0 FEET HIGH OR HIGHER (FROM BOTTOM OF WALL FOOTING TO TOP OF WALL), OBTAIN A PERMIT FROM THE SANDY CITY BUILDING DIVISION (801-568-7251).
8. RETAINING WALLS ALONG PROPERTY LINES SHALL HAVE A
9. MAXIMUM HEIGHT OF 5.0 FEET FROM FINISH GRADE AT BOTTOM OF WALL TO TOP OF WALL, WITH A MINIMUM OF 5.0 FEET BETWEEN WALL TIERS FROM BACK OF LOWER WALL TO FACE OF UPPER WALL.
10. OFFSET RETAINING WALLS FROM 30%-OR-GREATER-SLOPE AREA (THE PROTECTED HILLSIDE AREA) SUFFICIENTLY TO AVOID DISTURBING THE PROTECTED HILLSIDE DURING CONSTRUCTION AND BACKFILLING OF THE RETAINING WALL.
11. A PROFESSIONAL ENGINEER, CURRENTLY LICENSED IN UTAH, SHALL INSPECT DURING CONSTRUCTION, AND APPROVE AFTER CONSTRUCTION, ANY RETAINING WALLS THAT ARE 4.0 FEET HIGH OR HIGHER, FROM TOP OF WALL TO BOTTOM OF FOOTING. SAID ENGINEER SHALL SUBMIT A LETTER, STAMPED, WITH THE STAMP SIGNED AND DATED, AND INDICATING THAT THE WALL WAS INSTALLED ACCORDING TO THE APPROVED DESIGN, TO THE SANDY CITY ENGINEER.
12. OBTAIN A PERMIT FROM THE SANDY CITY BUILDING DIVISION (801-568-7251) PRIOR TO CONSTRUCTING ANY RETAINING WALL THAT WILL BE 4.0 FEET HIGH OR HIGHER (FROM BOTTOM OF WALL FOOTING TO TOP OF WALL).
13. BUILDER/OWNER SHALL REPLACE ANY EXISTING SIDEWALK OR CURB & GUTTER ALONG THE FRONTAGE OF THIS PROJECT, THAT IS FOUND TO BE LIFTED, CHIPPED, CRACKED, SPALLED, OR NOT PROPERLY DRAINING, AS DIRECTED BY THE SANDY CITY INSPECTOR.
14. ALL PUBLIC IMPROVEMENTS WITHIN SANDY CITY'S JURISDICTION SHALL BE CONSTRUCTED ACCORDING TO THE SANDY CITY STANDARD SPECIFICATIONS AND DETAILS FOR MUNICIPAL CONSTRUCTION (LATEST EDITION). THE SPECIFICATIONS CAN BE FOUND IN .PDF FORMAT ON-LINE AT www.sandy.utah.gov (CLICK ON DEPARTMENT, PUBLIC WORKS, THEN STANDARD SPECIFICATIONS.
15. BUILDER/OWNER SHALL SECURE AN EXCAVATION PERMIT FROM SANDY CITY PUBLIC WORKS DEPARTMENT (MONICA PETERSEN, 8775 SOUTH 700 WEST, 801-568-2964.) PRIOR TO DOING ANY WORK IN THE SANDY CITY RIGHT-OF-WAY. TRAFFIC PLAN, BONDING & INSURANCE WILL BE REQUIRED.
16. WITH NATIVE PLANTS CURRENTLY HAVING BEEN REMOVED, EROSION CONTROL MEASURES ARE REQUIRED UNTIL RESEEDING OCCURS.
17. EXCAVATED SOILS TO BE HAULED OFFSITE.
18. IF SOILS ARE INTENDED TO BE USED ONSITE,
19. LANDSCAPE/GRADING PLAN REQUIRED TO SHOW
20. PLACEMENT AND FINAL GRADES. GRADING PLAN TO SHOW:
    - 20.1. MINIMUM 5% SLOPE AWAY FROM THE STRUCTURE FOR MINIMUM 10'.
    - 20.2. ALL STORM RUNOFF RETAINED ON SITE.
    - 20.3. ANY POTENTIAL RETAINING WALLS WITH TOW/BOW FINISH GRADE SPOT ELEVATIONS CALLED OUT.

WATER NOTES

1. NOTIFY SANDY CITY PUBLIC UTILITIES INSPECTOR (801-568-7280), AT LEAST ONE BUSINESS DAY (24 HOURS) PRIOR TO BEGINNING CONSTRUCTION.
2. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REVISION OF THE SANDY CITY STANDARD SPECIFICATIONS AND DETAILS FOR MUNICIPAL CONSTRUCTION AND/OR OTHER REQUIREMENTS AS SET FORTH IN THE PUBLIC UITILITIES FINAL REVIEW AND APPROVAL LETTER ESTABLISHED FOR THE DEVELOPMENT. SPECIFICATIONS AND DETAILS CAN BE OBTAINED ON THE SANDY CITY WEBSITE.
3. CONSTRUCTION WORK SHALL BE CONDUCTED IN ACCORDANCE WITH THE UTAH POLLUTION DISCHARGE ELIMINATION SYSTEM (UPDES) REGULATIONS.
4. WATER LINES SHALL BE INSTALLED 4-FEET OFF LIP OF GUTTER ON THE NORTH AND/OR REAST SIDE OF THE ROADWAY. WATER LINES SHALL NOT BE INSTALLED WITHIN OR THROUGH PARKING STALLS OR UNDER CONCRETE PAVEMENT, UNLESS WATER LINE IS TO BE MAINTAINED BY PRIVATE PROPERTY OWNER.
5. A MINIMUM OF 48-INCHES ANDA MAXIMUM OF 60" OF COVER FROM THE TOP OF THE PIPE TO THE FINISH GRADE IS REQUIRED. FOR CONSTRUCTION EAST OF THE UTAH TRAX LINE, USE DUCTILE IRON PIPE, USE THICKNESS OF CLASS 52 OR BETTER.
6. ALL MECHANICAL JOINTS MUST BE RESTRAINED USING MEGA LUGS FOR DIP AND ROMAC GRIP RINGS FOR PVC OR APPROVED EQUAL. MEGA LUGS SHALL NOT BE ALLOWED ON PVC PIPE.
7. ALL DUCTILE IRON WATER LINES, FITTINGS, AND VALVES SHALL BE POLY-BAGGED IN ACCORDANCE WITH SANDY CITY STANDARDS AND SPECIFICATIONS.
8. ALL WATER LINES SHALL BE BEDDED WITH SAND (6-INCHES MINIMUM BELOW AND 12-INCHES MINIMUM ON EACH SIDE AND ON TOP OF THE PIPE).
9. THE ROAD TO THE TANK SHALL NOT BE ALTERED AND SHALL NOT BE BLOCKED AT ANY TIME.

ABBREVIATIONS :

APWA	AMERICAN PUBLIC WORKS ASSOCIATION	FH	FIRE HYDRANT	PR	PROPOSED
AC	ASPHALTIC CONCRETE	FL	FLOWLINE	PRC	POINT OF REVERSE CURVE
&	AND	FT	FEET	PRV	PRESSURE REDUCING VALVE
APPR.	APPROXIMATELY	HP	HIGH POINT	PSI	POUNDS PER SQUARE INCH
ARV	AIR RELEASE VALVE	HORIZ	HORIZONTAL	PT	POINT OF TANGENT
@	AT	HT	HIGH TEMPERATURE	PVC	POLYVINYL CHLORIDE
BDRY	BOUNDARY	HTW	HIGH TEMPERATURE WATER	PUE	PUBLIC UTILITY EASEMENT
BG	FINISH GRADE AT BUILDING	HV	HIGH VOLTAGE	PVT	POINT OF VERTICAL TANGENT
BVC	BEGIN VERTICAL CURVE	HYD	HYDRANT	PVI	POINT OF VERTICAL INTERSECTION
BRG	BEARING	ID	INSIDE DIAMETER	R	RADIUS
BW	BOTTOM OF WALL	IE	INVERT ELEVATION	RCP	REINFORCED CONCRETE PIPE
CAV	COMBINATION AIR VALVE	IRR	IRRIGATION	REF	REFRENCE
CB	CATCH BASIN	L	LENGTH	ROW	RIGHT-OF-WAY
CL	CENTERLINE	LF	LINEAR FEET	SS	SANITARY SEWER
CMP	CORRUGATED METAL PIPE	LP	LOW POINT	SD	STORM DRAIN
COB	CLEANOUT BOX	MAX	MAXIMUM	SCH	SCHEDULE
CONC	CONCRETE	MH	MANHOLE	SF	SQUARE FEET
CULV	CULVERT	MIN	MINIMUM	SSMH	SANITARY SEWER MANHOLE
DET	DETAIL	MJ	MECHANICAL JOINT	STA	STATION
DIA	DIAMETER	N	NORTH	STD	STANDARD
DIP	DUCTILE IRON PIPE	NIC	NOT IN CONTRACT	SW	SIDEWALK
DIST	DISTRICT	NTS	NOT TO SCALE	TA	TOP OF ASHPALT
DWG	DRAWING	OAE	OR APPROVED EQUAL	TBC	TOP BACK OF CURB
EA	EACH	OC	ON CENTER	TC	TOP OF CURB
EG	EXISTING GRADE	OH	OVERHEAD	TEMP	TEMPORARY
EP	EDGE OF PAVEMENT	P	POWER	TG	TOP OF GRATE
ELEV	ELEVATION	PC	POINT OF CURVATURE	TW	TOP OF WALL
ESMT	EASEMENT	PI	POINT OF INTERSECTION	TYP	TYPICAL
EX	EXISTING	PL	PROPERTY LINE	VAR	VARIES
FF	FINISH FLOOR	POC	POINT OF CURVE	W	WATER
FG	FINISH GRADE	PP	POWER POLE	W/	WITH

811 DIG SAFE BEFORE YOU DIG

TALISMAN CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS:

ROZENFELD RESIDENCE
3802 E CATAMOUNT RIDGE WAY, SANDY, UT
GENERAL NOTES

DATE SUBMITTED: 04.14.2023

TCC JOB NUMBER: 22-001

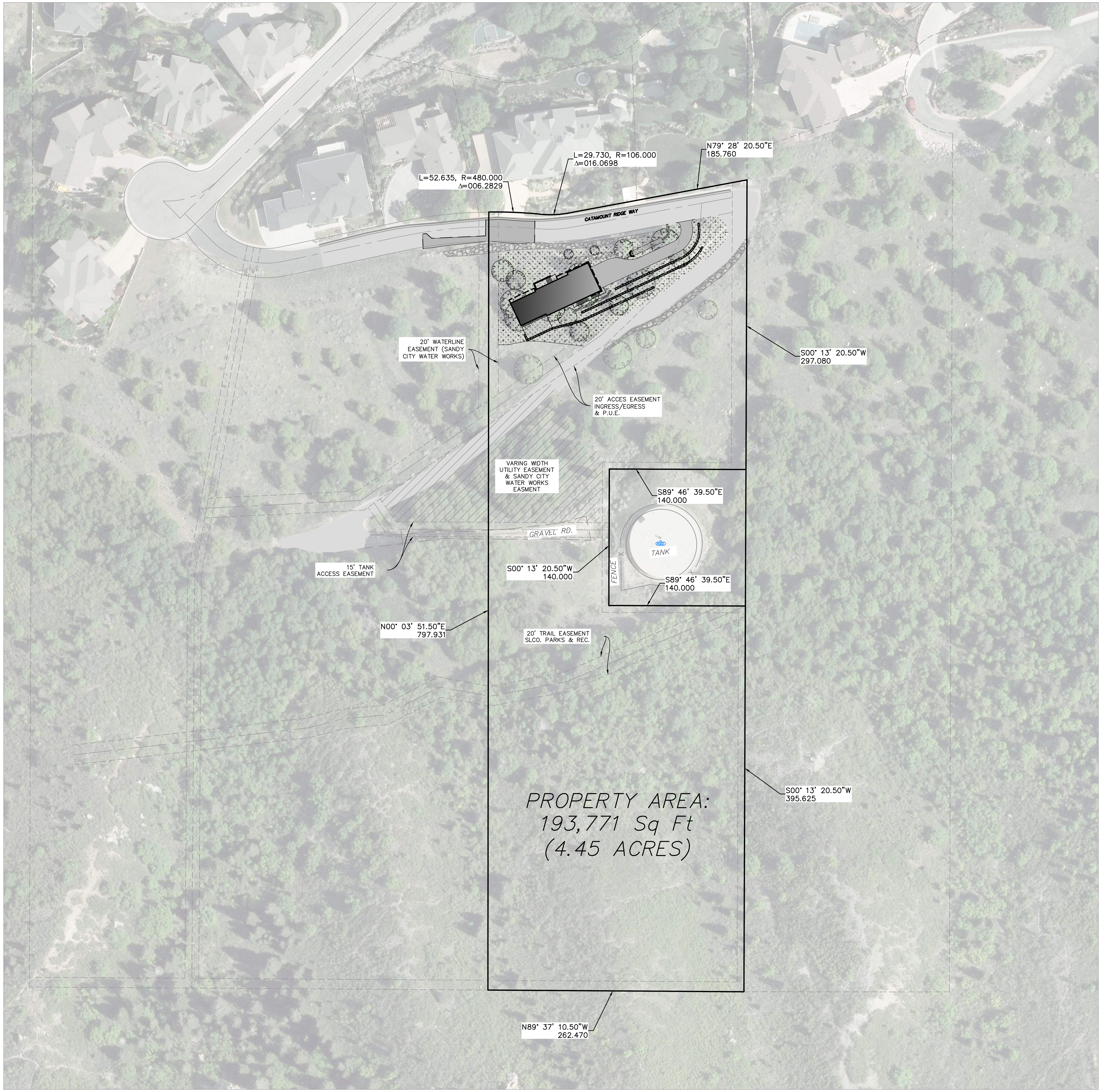
REGISTERED PROFESSIONAL ENGINEER
JASON T. TALISMAN
4/14/23
STATE OF UTAH

SHEET NUMBER
C002
2 OF 10

DATE: 4/14/2023 11:11 AM

PATH: N:\22-001 - Yuri Rozenfeld - Catamount Ridge Code\Jb\C002 GENERAL NOTES.dwg

EXHIBIT H



DATE: 4/14/2023 11:11 AM

PATH: N:\22-001 - Yuri Rozenfeld - Catamount Ridge\Cadd\lp\C003 OVERALL SITE AND MAPPING.dwg

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS:

ROZENFELD RESIDENCE
3802 E CATAMOUNT RIDGE WAY, SANDY, UT
OVERALL SITE AND MAPPING

TCC JOB NUMBER: 22-001

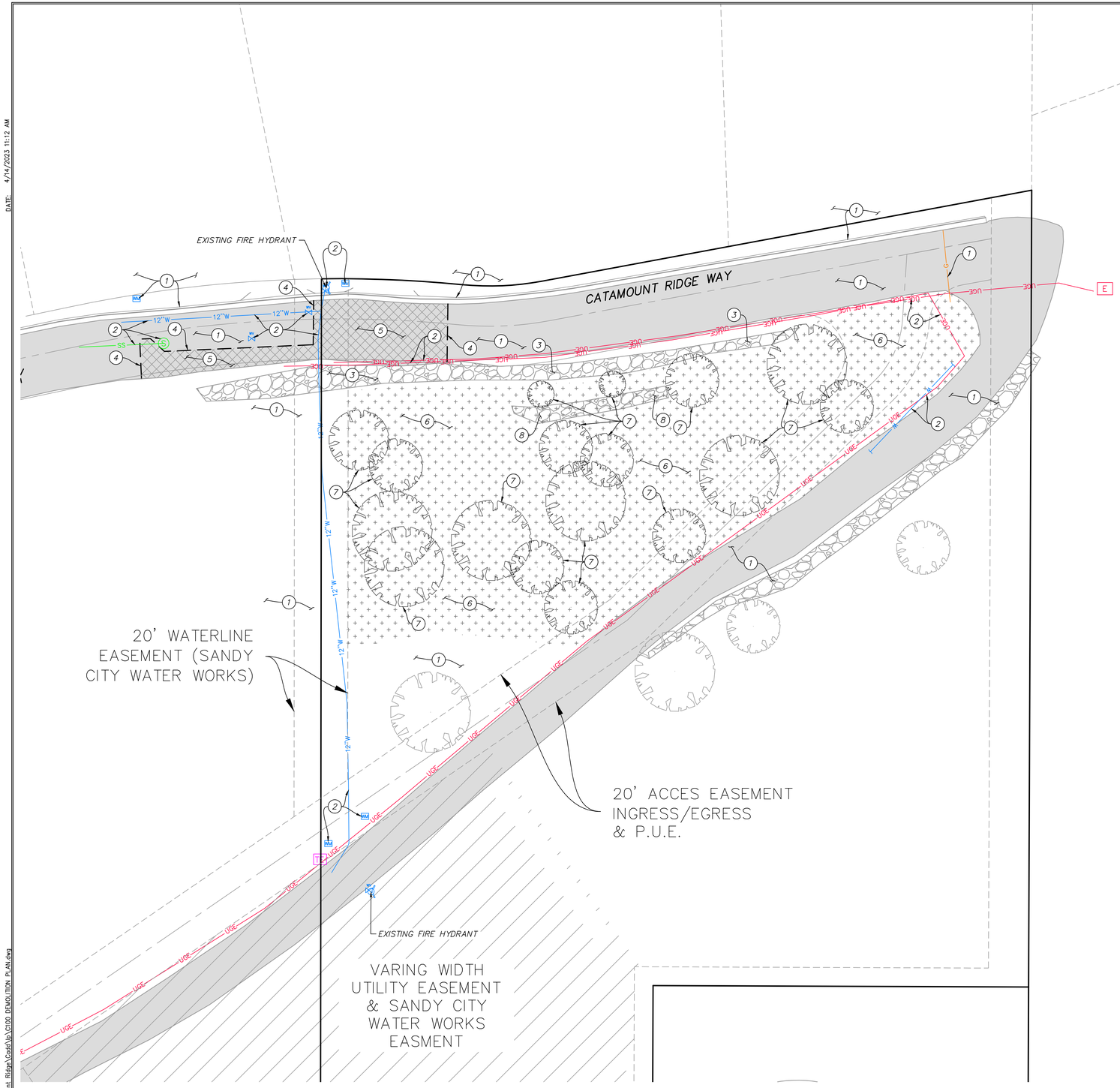
DATE SUBMITTED: 04.14.2023

REGISTERED PROFESSIONAL ENGINEER
JEFFERSON BELL
4/14/23
STATE OF UTAH

CALL 811 BEFORE YOU DIG
SAFE DIGGING PARTNER

SHEET NUMBER
C003
3 OF 10

EXHIBIT H



GENERAL NOTES:

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR LOCATING AND PROTECTING FROM DAMAGE ALL EXISTING UTILITIES AND IMPROVEMENTS WHETHER OR NOT SHOWN ON THESE PLANS. THE FACILITIES AND IMPROVEMENTS ARE BELIEVED TO BE CORRECTLY SHOWN BUT THE CONTRACTOR IS REQUIRED TO SATISFY THEMSELVES AS TO THE COMPLETENESS AND ACCURACY OF THE LOCATIONS. ANY CONTRACTOR PERFORMING WORK ON THIS PROJECT SHALL FAMILIARIZE THEMSELVES WITH THE SITE AND SHALL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING FACILITIES RESULTING DIRECTLY, OR INDIRECTLY, FROM THEIR OPERATIONS, WHETHER OR NOT SAID FACILITIES ARE SHOWN ON THESE PLANS.

SCOPE OF WORK:

1. PRESERVE AND PROTECT EXISTING IMPROVEMENTS/VEGETATION BEYOND LIMITS OF CONSTRUCTION.
2. PROTECT IN PLACE EXISTING UTILITIES.
3. PRESERVE AND PROTECT EXISTING ROCKERY WALL. REMOVE AND REPLACE BOULDERS AS NEEDED TO ALLOW FOR UTILITY CONNECTIONS. SEE UTILITY PLAN.
4. SAWCUT ASPHALT PAVEMENT.
5. REMOVE AND DISPOSE OF EXISTING ASPHALT PAVEMENT.
6. CLEAR AND GRUB.
7. REMOVE AND DISPOSE OF EXISTING TREE.
8. REMOVE AND DISPOSE OF EXISTING STACKED ROCK WALL.

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS:

ROZENFELD RESIDENCE
3802 E CATAMOUNT RIDGE WAY, SANDY, UT
DEMOLITION PLAN

DATE SUBMITTED: 04.14.2023

TCC JOB NUMBER: 22-001

REGISTERED PROFESSIONAL ENGINEER
STATE OF UTAH
JASON D. BELL
4/14/23

SCALE
HORIZONTAL: 1" = 20
0 5 10 20 30

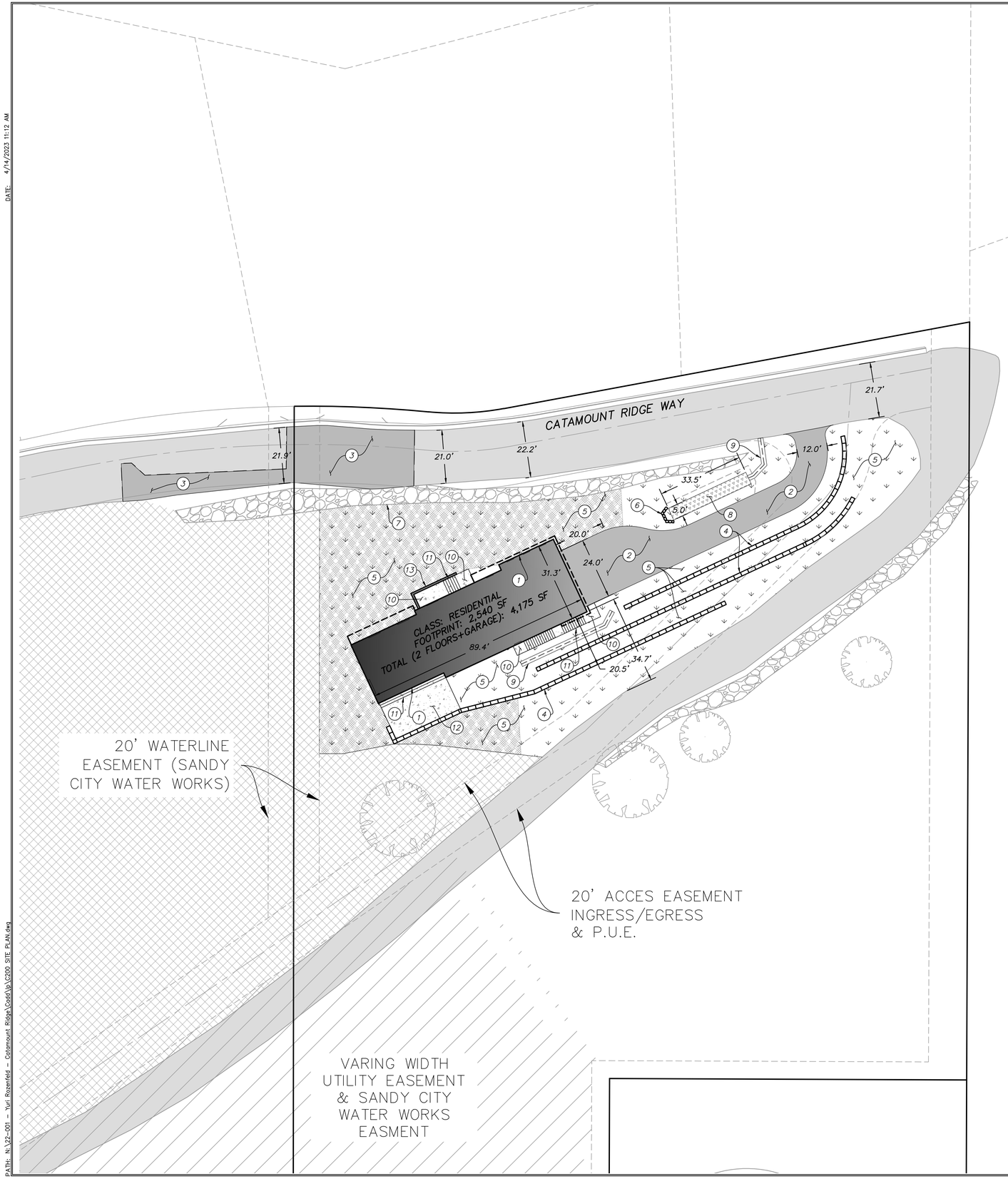
SHEET NUMBER
C100
4 OF 10

CALL 811 BEFORE YOU DIG
IT'S DIGGING PARTNER

DATE: 4/14/2023 11:12 AM

PATH: N:\22-001 - Yuri Rozenfeld - Catamount Ridge\Cadd\lp\C100 DEMOLITION PLAN.dwg

EXHIBIT H



GENERAL NOTES:

THE CONTRACTOR TO USE BEST MANAGEMENT PRACTICES FOR PROVIDING EROSION CONTROL FOR CONSTRUCTION OF THIS PROJECT. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO SALT LAKE COUNTY ORDINANCES AND ALL WORK SHALL BE SUBJECT TO INSPECTION BY WEBER COUNTY. ALSO, INSPECTORS WILL HAVE THE RIGHT TO REQUEST CHANGES TO THE FACILITIES AS NEEDED.

DUST MUST BE KEPT TO A MINIMUM. CONTRACTOR SHALL KEEP THE SITE WATERED TO CONTROL DUST. CONTACT SANDY CITY TO LOCATE A NEARBY HYDRANT FOR USE AND TO INSTALL TEMPORARY METER.

THE CONTRACTOR SHALL MODIFY EROSION CONTROL MEASURES TO ACCOMMODATE PROJECT PLANNING.

ALL ACCESS TO PROPERTY WILL BE FROM PUBLIC RIGHT-OF-WAYS.

THE CONTRACTOR IS REQUIRED BY STATE AND FEDERAL REGULATIONS TO PREPARE A STORM WATER POLLUTION PREVENTION PLAN AND FILE A "NOTICE OF INTENT" WITH THE UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER QUALITY.

ENSURE ALL GRADING SLOPES AWAY FROM STRUCTURE PER IRC R401.3

SITE KEY NOTES:

1. PROPOSED BUILDING FOOTPRINT. SEE ARCHITECTURAL PLANS.
2. ASPHALT PAVEMENT PER DETAIL A/SHEET C701.
3. REINSTALL ASPHALT PAVEMENT REMOVED FOR CONSTRUCTION OF UTILITIES. MATCH EXISTING ROADWAY PAVEMENT SECTION.
4. INSTALL CONCRETE WALL. SEE IGES RETAINING WALL DESIGN PACKAGE.
5. INSTALL LANDSCAPING. SEE LANDSCAPE PLANS.
6. STACKED ROCK FOR DRAINAGE OUTLET STRUCTURE. SEE UTILITY AND GRADING PLANS.
7. REBUILD EXISTING ROCK WALL AS NEEDED FOR CONSTRUCTION OF UTILITIES PER GEOTECHNICAL RECOMMENDATIONS.
8. LID RAIN GARDEN PER DETAIL B/SHEET C701.
9. 24" WIDE RIP-RAP DITCH PER DETAIL C/SHEET C701.
10. CONCRETE PAVEMENT. SEE ARCHITECTURAL PLANS.
11. CONCRETE STAIRS. SEE ARCHITECTURAL PLANS.
12. CONCRETE PATIO. SEE ARCHITECTURAL PLANS.
13. ARCHITECTURAL WALL. SEE ARCHITECTURAL PLANS.

LEGEND:

PROTECTED HILLSIDE AREA TO REMAIN IN ITS NATURAL CONDITION. NO GRADING, CUTTING, FILLING OR CONSTRUCTION OF ANY KIND IS ALLOWED, EXCEPT AS APPROVED BY THE SANDY CITY ENGINEER.

MAN-MADE-30%-OR-GREATER HILLSIDE AREA - NOT PROTECTED - CONSTRUCTION ALLOWED IN THIS AREA. NOTE: DESIGNATION OF A 30% OR GREATER SLOPE AREA AS "MAN MADE...NOT PROTECT" REQUIRES PLANNING COMMISSION APPROVAL, PER SEC. 21-15-5 (b).

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS:

ROZENFELD RESIDENCE

3802 E CATAMOUNT RIDGE WAY, SANDY, UT

SITE PLAN

DATE SUBMITTED: 04.14.2023

TCC JOB NUMBER: 22-001

REGISTERED PROFESSIONAL ENGINEER
JEFFERSON
4/14/23
STATE OF UTAH

SCALE

HORIZONTAL: 1" = 20

0 5 10 20 30

SHEET NUMBER

C200

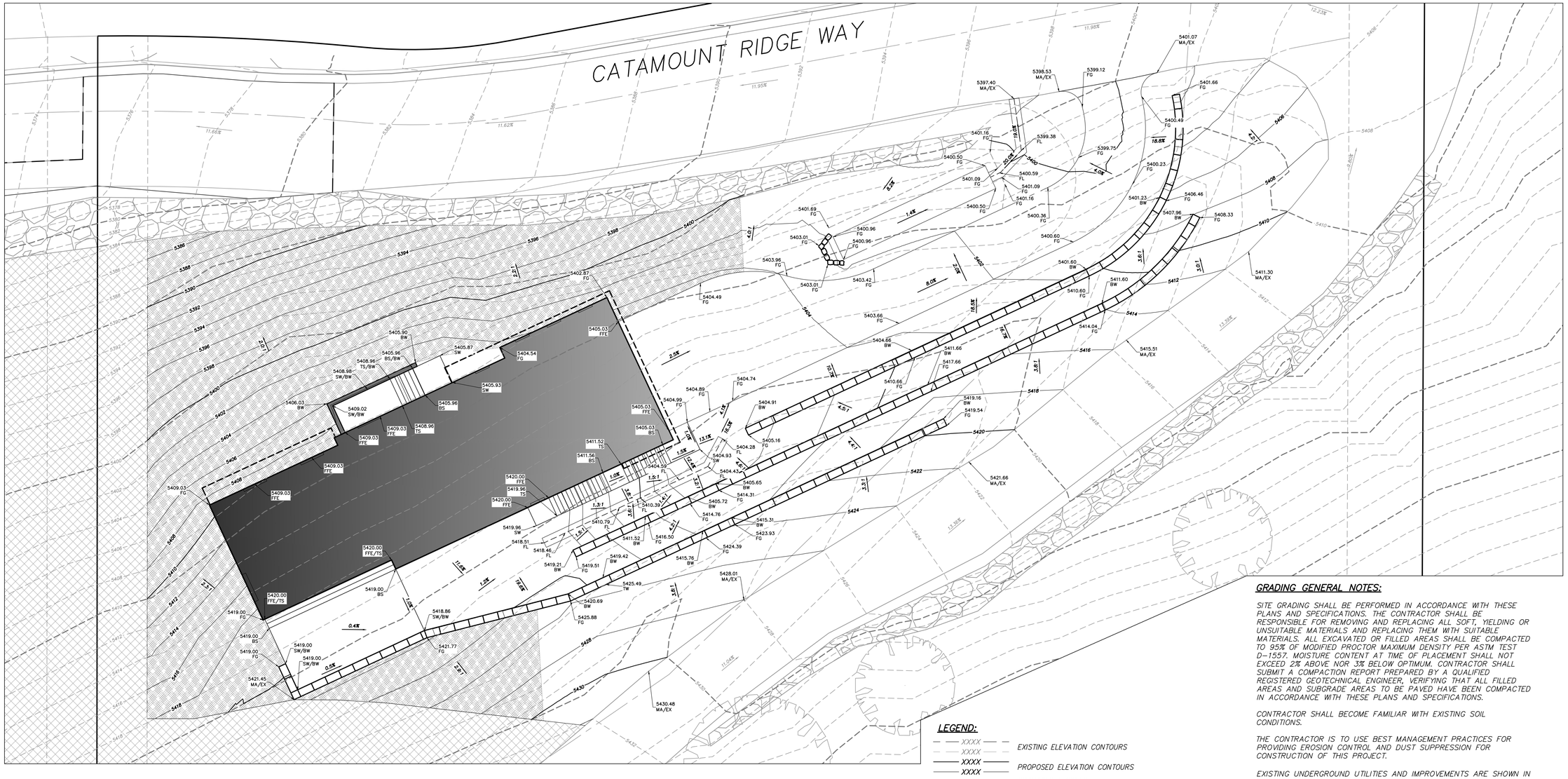
5 OF 10

CALL 811 BEFORE YOU DIG
SAFE DIGGING PARTNER

DATE: 4/14/2023 11:12 AM

PATH: N:\22-001 - Yuri Rozenfeld - Catamount Ridge\Cadd\Xs\C200 SITE PLAN.dwg

EXHIBIT H



LEGEND:

- XXXX — EXISTING ELEVATION CONTOURS
- XXXX — PROPOSED ELEVATION CONTOURS
- PROPOSED FLOWLINE
- PROTECTED HILLSIDE AREA TO REMAIN IN ITS NATURAL CONDITION. NO GRADING, CUTTING, FILLING OR CONSTRUCTION OF ANY KIND IS ALLOWED, EXCEPT AS APPROVED BY THE SANDY CITY ENGINEER.
- MAN-MADE-30%-OR-GREATER HILLSIDE AREA – NOT PROTECTED – CONSTRUCTION ALLOWED IN THIS AREA. NOTE: DESIGNATION OF A 30% OR GREATER SLOPE AREA AS "MAN MADE...NOT PROTECT" REQUIRES PLANNING COMMISSION APPROVAL, PER SEC. 21-15-5 (b).

SANDY PUBLIC UTILITIES REQUIREMENTS:

1. NO DRIVEWAY SHALL BE CONSTRUCTED TO CONVEY STORM WATER RUNOFF TOWARD ANY BUILDING.

2. EACH RESIDENTIAL LOT IS REQUIRED TO RETAIN STORM WATER ON SITE, EXCEPT FOR THE PORTION OF THE LOT THAT DRAINS TOWARD THE STREET AND/OR TO SUBDIVISION STORM WATER FLOW CONTROL FEATURE(S) AS LONG AS THE DOWNSTREAM STORM WATER SYSTEM CAN ACCOMMODATE THE FLOWS, DURING AND AFTER CONSTRUCTION. THIS CAN BE ACCOMPLISHED BY USE OF SWALES, RETENTION AREAS, BERMS, PLANTER BEDS, UNDERGROUND FILTRATION, ETC.

3. PROPERTIES ARE TO BE GRADED SUCH THAT STORM WATER RUNOFF WILL DRAIN AWAY FROM STRUCTURES TOWARDS PROPERTY BOUNDARIES. HOWEVER, NEW DEVELOPMENT OR REDEVELOPMENT SHALL NOT INCREASE THE BURDEN OF STORM WATER ON NEIGHBORING AND/OR DOWNSTREAM PROPERTIES. STORM WATER RUNOFF SHALL BE ENTIRELY CONTROLLED WITHIN THE LIMITS OF PROJECT SITE. PERPETRATING PROPERTY OWNERS MAY BE LIABLE FOR DAMAGES IN CIVIL COURTS DUE TO DAMAGES CAUSED TO ADJACENT PROPERTIES FROM RUNOFF (INCLUDING FLOWS THAT EXISTED BEFORE THE NEW DEVELOPMENT OR REDEVELOPMENT OCCURRED). ANY CONCENTRATED FLOWS LEAVING A SITE SHALL HAVE AN AGREEMENT/EASEMENT WITH THE AFFECTED PROPERTY OWNERS.

GRADING GENERAL NOTES:

SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING THEM WITH SUITABLE MATERIALS. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM TEST D-1557. MOISTURE CONTENT AT TIME OF PLACEMENT SHALL NOT EXCEED 2% ABOVE NOR 3% BELOW OPTIMUM. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED REGISTERED GEOTECHNICAL ENGINEER, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS.

CONTRACTOR SHALL BECOME FAMILIAR WITH EXISTING SOIL CONDITIONS.

THE CONTRACTOR IS TO USE BEST MANAGEMENT PRACTICES FOR PROVIDING EROSION CONTROL AND DUST SUPPRESSION FOR CONSTRUCTION OF THIS PROJECT.

EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THOSE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF CONTRACTOR'S FAILURE TO VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT.

LOCATIONS OF ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR IS TO VERIFY CONNECTION POINTS WITH EXISTING UTILITIES. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN.

ALL SURFACE IMPROVEMENTS DISTURBED BY CONSTRUCTION SHALL BE RESTORED OR REPLACED, INCLUDING TREES, DECORATIVE SHRUBS, SOD, FENCES, WALLS AND STRUCTURES, WHETHER OR NOT THEY ARE SPECIFICALLY SHOWN ON THE CONTRACT DOCUMENTS.

ABBREVIATIONS:

EX	EXISTING GRADE
FG	FINISHED GRADE
FL	FLOWLINE
MA	MATCH
SW	EDGE OF SIDEWALK
TBC	TOP BACK OF CURB
TG	TOP OF GRATE
CL	CENTERLINE
TW	TOP OF WALL
BW	BOTTOM OF WALL
LP	LOW POINT
FFE	FINISHED FLOOR ELEVATION
GB	GRADE BREAK
TS	TOP OF STAIRS
BS	BOTTOM OF STAIRS

CALL 811 BEFORE YOU DIG — IT'S DIGGING PARTNERS

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS:

ROZENFELD RESIDENCE

3802 E CATAMOUNT RIDGE WAY, SANDY, UT

GRADING PLAN

DATE SUBMITTED: 04.14.2023

TCC JOB NUMBER: 22-001

REGISTERED PROFESSIONAL ENGINEER — STATE OF UTAH — Myron Bell — 4/14/23

SCALE

HORIZONTAL: 1" = 20

0 5 10 20 30

SHEET NUMBER

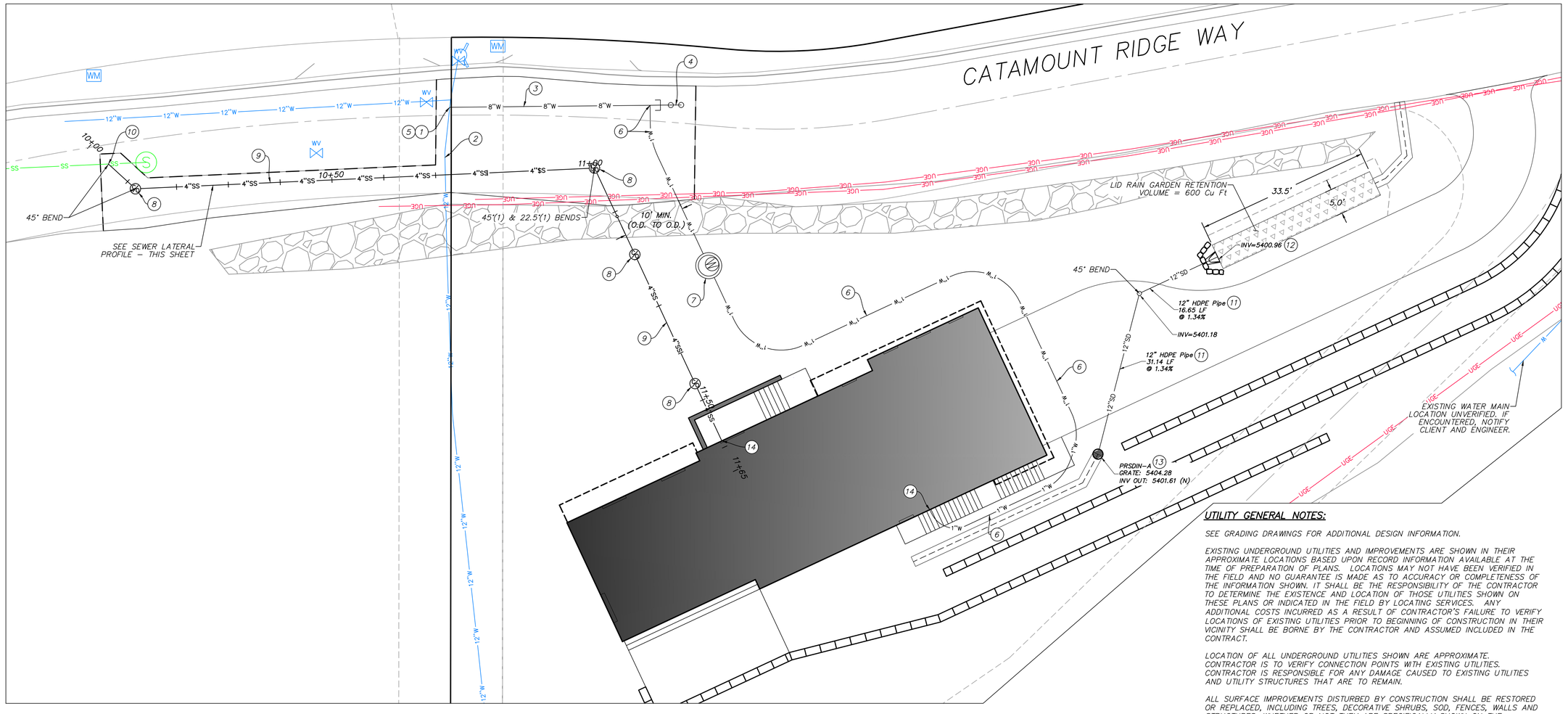
C300

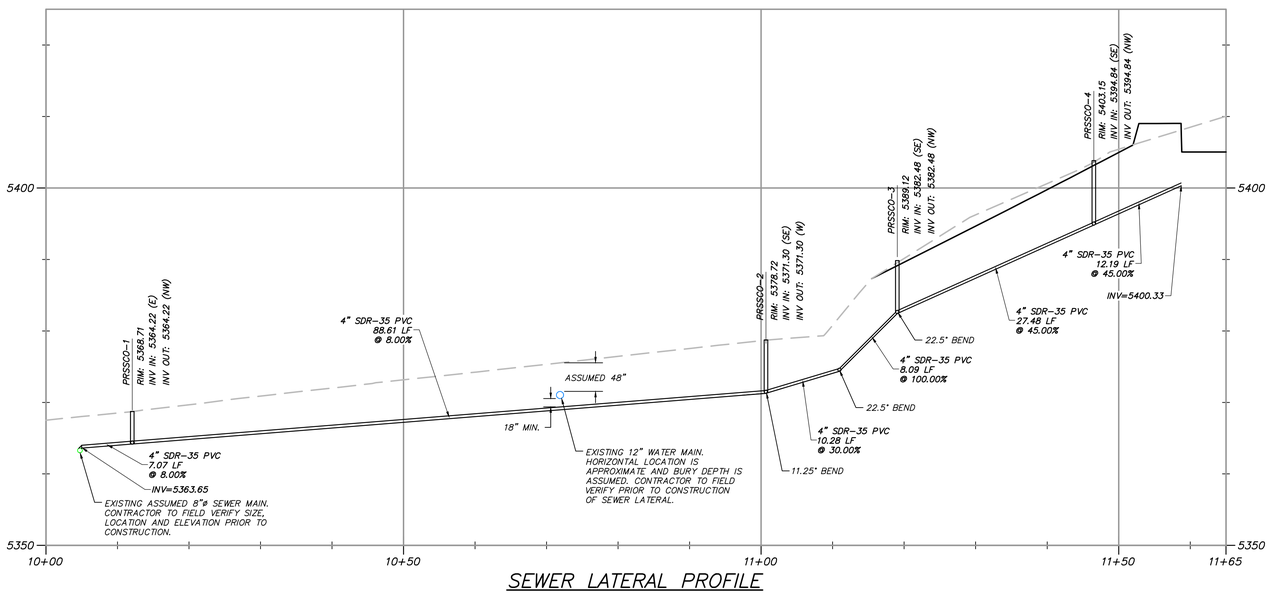
6 OF 10

DATE: 4/14/2023 11:12 AM

PATH: N:\22-001 - Yuri Rozenfeld - Catamount Ridge\Cadd\lp\C300 GRADING PLAN.dwg

EXHIBIT H





SEWER LATERAL PROFILE

UTILITY GENERAL NOTES:

SEE GRADING DRAWINGS FOR ADDITIONAL DESIGN INFORMATION.

EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THOSE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF CONTRACTOR'S FAILURE TO VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT.

LOCATION OF ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. CONTRACTOR IS TO VERIFY CONNECTION POINTS WITH EXISTING UTILITIES. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN.

ALL SURFACE IMPROVEMENTS DISTURBED BY CONSTRUCTION SHALL BE RESTORED OR REPLACED, INCLUDING TREES, DECORATIVE SHRUBS, SOD, FENCES, WALLS AND STRUCTURES, WHETHER OR NOT THEY ARE SPECIFICALLY SHOWN ON THE CONTRACT DOCUMENTS.

WATER LINES ARE TO MAINTAIN MINIMUM 18" VERTICAL CLEARANCE FROM OTHER UTILITIES.

SITE SCOPE OF WORK:

PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

1. CONNECT TO EXISTING 12" WATER PIPE PER SANDY CITY STANDARDS.
2. EXISTING WATER MAIN LOCATION UNKNOWN. CONTRACTOR TO VERIFY LOCATION & DEPTH OF EXISTING WATER MAIN RELATIVE TO FINISHED GRADE. NOTIFY ENGINEER IF DEPTH IS LESS THAN 4'
3. INSTALL 8"ø DUCTILE IRON PIPE PER DETAIL PB-01/SHEET C700.
4. INSTALL WASHOUT VALVE ASSEMBLY PER DETAIL WTR-02/SHEET C700.
5. INSTALL 12"x8"x12" TEE. THRUST BLOCKING PER DETAIL WTR-08/SHEET C700.
6. INSTALL 1" TYPE K COPPER SERVICE LATERAL PER DETAIL WTR-09/SHEET C700. MINIMUM 5' BELOW FINISHED GRADE.
7. INSTALL 1-1/2" WATER METER AND VAULT PER DETAIL WTR-10/SHEET C700.
8. INSTALL 4" SDR 35 PVC CLEAN OUT PER COTTONWOOD IMPROVEMENT DISTRICT DETAIL D4A/SHEET C700.
9. INSTALL 4" SDR 35 PVC SEWER LATERAL MINIMUM 5' BELOW FINISH GRADE. SEE COTTONWOOD IMPROVEMENT DISTRICT DETAIL D7/SHEET C700.
10. SERVICE LINE CONNECTION PER COTTONWOOD IMPROVEMENT DISTRICT DETAIL D8/SHEET C700.
11. INSTALL 12"ø HDPE STORM DRAIN PIPE. TRENCHING AND BACKFILL PER DETAIL PB-01/SHEET C700.
12. INSTALL 12"ø PIPE OUTFALL PER APWA PLAN NO. 323. SEE SHEET C701.
13. INSTALL 18" NYLOPLAST CATCH BASIN PER DRAWING/SHEET C701.
14. UTILITY CONNECTION TO BUILDING. SEE PLUMBING PLANS.

CALL 811 BEFORE YOU DIG – IT'S DIGGING PARTNER

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS:

ROZENFELD RESIDENCE
3802 E CATAMOUNT RIDGE WAY, SANDY, UT
UTILITY PLAN

DATE SUBMITTED: 04.14.2023

TCC JOB NUMBER: 22-001

REGISTERED PROFESSIONAL ENGINEER
STATE OF UTAH
4774123

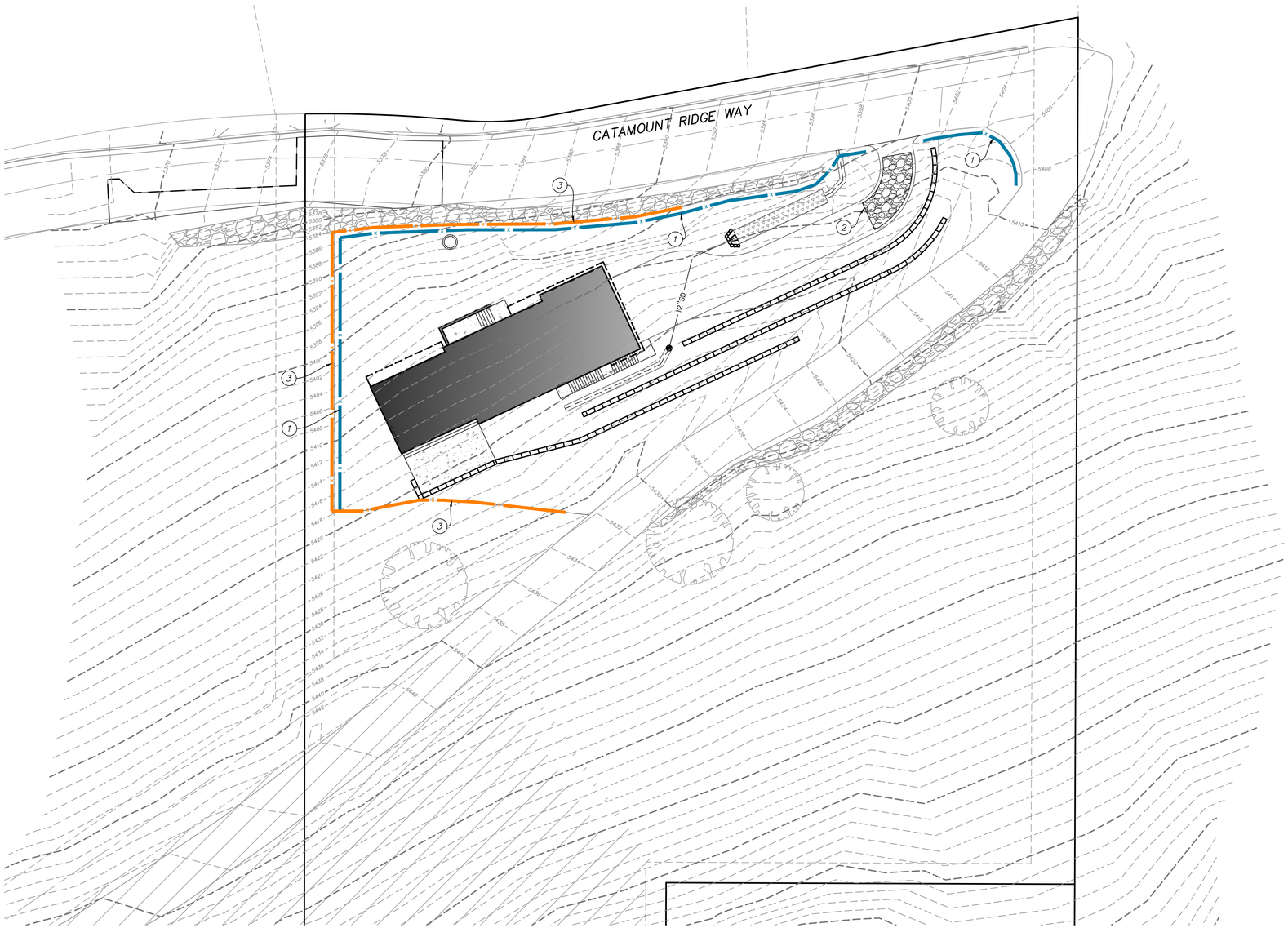
SCALE
HORIZONTAL: 1" = 10'
0 2.5' 5' 10' 15'

SHEET NUMBER
C400
7 OF 10

DATE: 4/14/2023, 12:31 PM

PATH: N:\22-001 - Yuri Rozenfeld - Catamount Ridge\Cadd\lp\C400 UTILITY PLAN.dwg

EXHIBIT H



GENERAL NOTES:

THE CONTRACTOR TO USE BEST MANAGEMENT PRACTICES FOR PROVIDING EROSION CONTROL FOR CONSTRUCTION OF THIS PROJECT. SPECIFIC DETAILS SHOWN ON THIS SHEET SHALL BE USED IN COMBINATION WITH OTHER ACCEPTED LOCAL PRACTICES.

ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE SANDY CITY EROSION CONTROL STANDARDS AND SPECIFICATIONS AND ALL WORK SHALL BE SUBJECT TO INSPECTION.

THE CONTRACTOR SHALL PROVIDE ADEQUATE DUST CONTROL.

WHEN GRADING OPERATIONS ARE COMPLETED AND THE DISTURBED GROUND IS LEFT "OPEN" FOR 30 DAYS OR MORE, THE AREA SHALL BE FURROWED PARALLEL TO THE CONTOURS.

THE CONTRACTOR SHALL MODIFY EROSION CONTROL MEASURES TO ACCOMMODATE PROJECT PLANNING.

ALL BEST MANAGEMENT PRACTICES (BMP'S) SHOWN ON THIS PLAN MUST BE MAINTAINED AT ALL TIMES UNTIL A CERTIFICATE OF OCCUPANCY IS ISSUED.

ALL ACCESS TO PROPERTY WILL BE FROM PUBLIC RIGHT-OF-WAYS.

MAINTENANCE:

THE OWNER'S RESPONSIBILITY SHALL INCLUDE MAKING ROUTINE CHECKS ON ALL EROSION CONTROL MEASURES TO DETERMINE IF REPAIR OR SEDIMENT REMOVAL IS NECESSARY. CHECKS SHALL BE MADE BASED ON CONDITIONS THAT MAY ARISE IN THE FIELD OR ADDITIONAL CONTROL AS DEEMED NECESSARY.

SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF BARRIER.

NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF FIBER ROLL SHALL BE ACCOMPLISHED PROMPTLY.

CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED FIBER ROLL, END RUNS, AND UNDERCUTTING BENEATH FIBER ROLL.

FIBER ROLL BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.

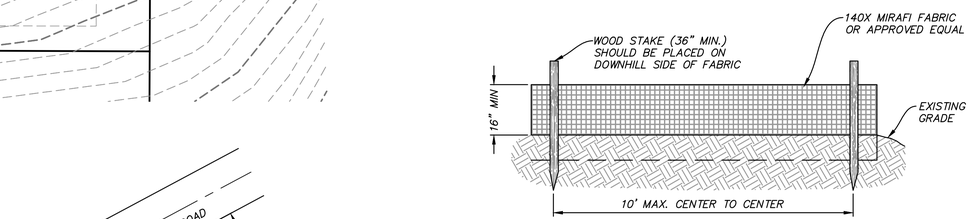
SCOPE OF WORK:

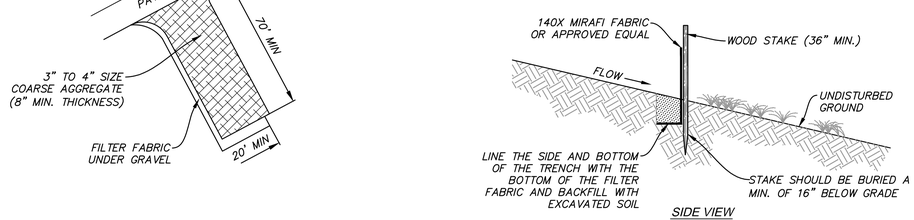
PROVIDE, INSTALL AND/OR CONSTRUCT THE FOLLOWING PER THE SPECIFICATIONS GIVEN OR REFERENCED, THE DETAILS NOTED, AND/OR AS SHOWN ON THE CONSTRUCTION DRAWINGS:

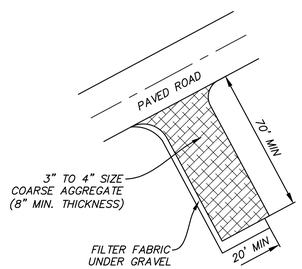
1. INSTALL SILT FENCE – SEE DETAIL A THIS SHEET
2. STABILIZED CONSTRUCTION ENTERANCE/TRACK OUT AREA. SEE DETAIL B THIS SHEET.
3. TEMPORARY LIMIT OF DISTURBANCE FENCING (ORANGE IN COLOR) IS TO BE INSTALLED, ALONG THE BOUNDARY OF THE 30% OR GREATER NATURAL SLOPE AREA(S). THE LOCATION OF THE FENCING IS TO BE ESTABLISHED UNDER THE DIRECTION OF A LICENSED LAND SURVEYOR. THE FENCING IS TO REMAIN INSTALLED UNTIL THE CERTIFICATE OF OCCUPANCY IS ISSUED BY SANDY CITY OR UNTIL THE FINAL APPROVAL INSPECTION HAS BEEN MADE BY SANDY CITY AND ALL THE IMPROVEMENTS, INCLUDING LANDSCAPING, ARE INSTALLED [DEVELOPMENT CODE, SEC. 21-15-6 (b)].

LEGEND:

- SILT FENCE – SEE DETAIL A THIS SHEET
- STABILIZED CONSTRUCTION ENTRANCE – SEE DETAIL B THIS SHEET
- TEMPORARY LIMIT OF DISTURBANCE FENCING







B — STABILIZED ROADWAY ENTRANCE DETAIL
SCALE: N.T.S.

A — SILT FENCE
NOT TO SCALE

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS:

ROZENFELD RESIDENCE
3802 E CATAMOUNT RIDGE WAY, SANDY, UT
EROSION CONTROL PLAN

DATE SUBMITTED: 04.14.2023

TCC JOB NUMBER: 22-001

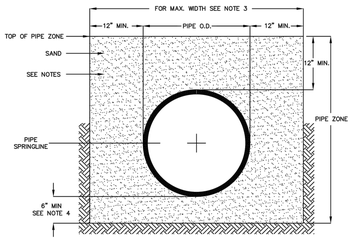
REGISTERED PROFESSIONAL ENGINEER
JEFFERSON
PETERSON
4/14/23
STATE OF UTAH

SCALE
HORIZONTAL: 1" = 20
0 5 10 20 30

SHEET NUMBER
C600
8 OF 10

DATE: 4/14/2023 11:14 AM

PATH: N:\22-001 - Yuri Rozenfeld - Catamount Ridge\Cadd\dwg\C600 EROSION CONTROL PLAN.dwg



GENERAL NOTES

1. PIPE ZONE BACKFILL SHALL BE IN LIFTS EQUAL TO 1/3 THE DIAMETER OR NO MORE THAN 8" LIFT OF THE PIPE AND COMPACTED TO 95% PER SECTION 02240.
2. "O.D." MEANS OUTSIDE DIAMETER OF PIPE BARREL. "I.D." MEANS INSIDE DIAMETER OF PIPE BARREL.
3. MAXIMUM WIDTH OF TRENCH MEASURED AT THE TOP OF THE PIPE, INCLUDING ANY NECESSARY SHEATHING IS AS FOLLOWS:

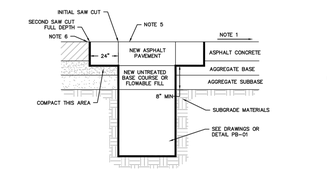
PIPE I.D.	MAX. TRENCH WIDTH
LESS THAN 33"	O.D. + 24"
GREATER THAN 33"	O.D. + 30"

4. FOR FOUNDATION STABILIZATION USE 6" MINIMUM OF SAND BEDDING. WHEN DIRECTED BY THE ENGINEER, SEWER AGGREGATE CONFORMING TO SANDY CITY SPECIFICATIONS, SECTION 02230, 2.07 SHALL BE ALLOWED.
5. FOR CULINARY WATER PIPE INSTALLATION, COMPLY WITH SECTION 02669.
6. FOR CULINARY WATER AND STORM WATER PIPE INSTALLATION AND AROUND WATER VALVES USE SAND BEDDING MATERIAL CONFORMING TO SECTION 02230, 2.02.
7. ALL CULINARY WATER AND STORM WATER PIPE INSTALLATION SHALL MAINTAIN 12" MIN. BEDDING COVER OVER TOP OF PIPE AND SHALL BE BEDDED WITH 6" MIN. SAND AND 12" OF SAND OVER THE PIPE (SEE SECTION 02230, 2.02).
8. NATIVE (TRENCH RUN) MATERIAL SHALL BE ALLOWED FOR PIPE ZONE BACKFILL IF APPROVED BY THE PUBLIC UTILITIES AND IF IT MEETS SECTION 02230, 2.01.
9. ALL CONCRETE ELLIPTICAL PIPE INSTALLATION SHALL BE BACKFILLED WITH FLOWABLE FILL TO THE SPRINGLINE (AT A MINIMUM).

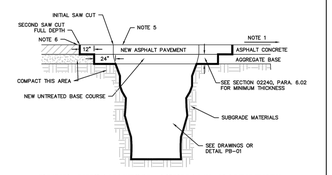
NOT TO SCALE

NO.	AUTHORIZED BY	REVISIONS	DATE
1	TS	CREATED	6/2017
1	TS	REVISED	1/2018

STANDARD DETAIL
PUBLIC UTILITIES
PB–01
PIPE BEDDING



A SHALLOW EXCAVATION ASPHALT PAVEMENT
(42" OR LESS FROM PAVEMENT SURFACE TO BOTTOM OF EXCAVATION)



B DEEP EXCAVATION ASPHALT PAVEMENT
(MORE THAN 42" FROM PAVEMENT SURFACE TO BOTTOM OF EXCAVATION)

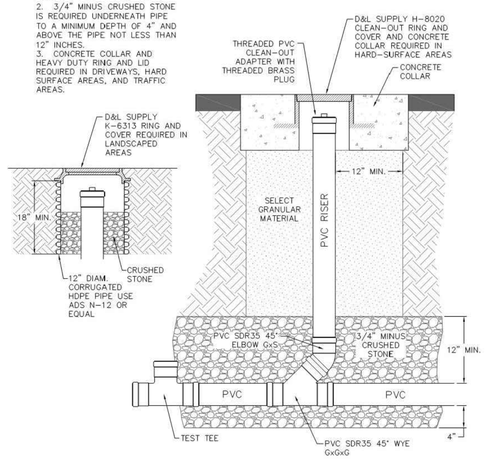
GENERAL NOTES

1. ADDITIONAL PAVEMENT REMOVAL: Remove additional pavement to a painted lane stripe, a lip of gutter, a curb, an existing pavement patch, or an edge of the pavement if such a feature is within 2-feet of the second saw-cut. If more than 50% of the permanent surfacing of a traveled lane is impacted by the excavation, the entire lane width shall be sawcut, removed, and replaced. Jagged, saw tooth edges are not allowed.
2. UNTREATED BASE COURSE: Provide material specified in Section 02230. Place and compact per Section 02240 and Section 02575. Maximum lift thickness is 8-inches before compaction.
3. SHORING: Shore in conformance with Section 02214.
4. TACK COAT: Full tack coat coverage on all vertical surfaces.
5. ASPHALT PAVEMENT: Use asphalt concrete specified in Section 02513.
   A. Install in lifts no greater than 3-inches after compaction.
   B. Compact each lift in conformance with Section 02503
   C. Plane off surface distortions that exceed 1/4 inch deviation in 10 feet. Coat planed surfaces with a cationic or anionic emulsion as approved by City Engineer.
   D. Asphalt pavement thickness depth shall equal existing plus 1-inch, 4" minimum, 6" maximum
   E. Use ¾" gradation per Section 02513.
   F. Finished surface of restored trench not to exceed ½" +/– of existing.
6. JOINT REPAIR: If a crack occurs at the "T" patch connection to existing pavement or at any street fixture, seal the crack per Section 02511.
7. PATCH REPAIR: Repair the asphalt pavement patch if any of the following conditions within the patch occur.
   A. Cracks at least 1-foot long and 1/4-inch wide occur more often than 1 in 10 square feet.
   B. Pavement surface distortion exceeds 1/4-inch deviation in 10-feet.
   C. Asphalt raveling is greater than 1 square foot per 100 square feet.
   D. If slurry seal within 1 year, re-slurry seal full lane width for each lane affected
8. EQUIPMENT: All asphalt pavement shall be installed with mechanical paving equipment unless otherwise approved by the City Engineer.
9. COMPLY WITH ALL REQUIREMENTS OF SECTION 02575.
10. Plant Mix Seal Coat: For plant mix seal coat comply with UDOT Specification, Section 02786. Mill and replace existing plant mix seal coat 10 feet from edge of second cut in all directions.

NO.	AUTHORIZED BY	REVISIONS	DATE
1	R. KUMP	DWG REVISION	5/24/17

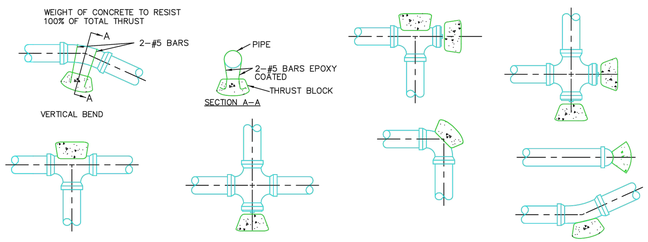
STANDARD DETAIL
PUBLIC WORKS
RC–02
RESTORATION OF ASPHALT CONCRETE IN TRENCHES

NOTES:
1. ONLY SELECT GRANULAR MATERIAL SHALL BE PLACED AROUND RISER PIPE TO A THICKNESS OF 12". NO PARTICLES LARGER THAN 1.5" IN DIAMETER SHALL BE ALLOWED.
2. 3/4" MINUS CRUSHED STONE IS REQUIRED UNDERNEATH PIPE TO A MINIMUM DEPTH OF 4" AND ABOVE THE PIPE NOT LESS THAN 12" INCHES.
3. CONCRETE COLLAR AND HEAVY DUTY RING AND LID REQUIRED IN DRIVEWAYS, HARD SURFACE AREAS, AND TRAFFIC AREAS.



DETAIL – PVC SDR35
CLEAN–OUT

COTTONWOOD IMPROVEMENT DISTRICT	DATE: 2/3/2014	DWG. NO.
	REVISIONS:	
PVC SDR35 CLEAN-OUT	SCALE: NO SCALE	D4A



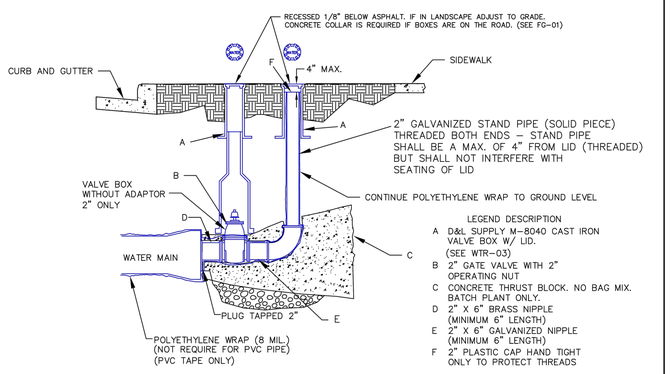
Horizontal Bend		Soft Clay	Silt		Sandy Silt		Sandy		Sandy Clay		Vertical Bend		
ID (in)	OD (in)	Ab (SF)	Ab (SF)		Ab (SF)		Ab (SF)		Ab (SF)		ID (in)	OD (in)	Vol (CY)
3	3.96	5.23	3.48		1.74		1.31		0.87		3	3.96	0.83
4	4.80	7.68	5.12		2.56		1.92		1.28		4	4.80	1.22
6	6.90	15.86	10.58		5.29		3.97		2.64		6	6.90	2.52
8	9.05	27.29	18.19		9.10		6.82		4.55		8	9.05	4.33
10	11.10	41.06	27.37		13.69		10.26		6.84		10	11.10	6.52
12	13.20	58.06	38.71		19.35		14.51		9.68		12	13.20	9.22
14	15.30	78.00	52.00		26.00		19.50		13.00		14	15.30	12.38
16	17.40	100.88	67.26		33.63		25.22		16.81		16	17.40	16.01

NOTES:
1. BEARING SURFACE (Ab) SHOULD, WHERE POSSIBLE, BE PLACED AGAINST UNDISTURBED SOIL. WHERE NOT POSSIBLE, FILL BETWEEN THE BEARING SURFACE AND UNDISTURBED SOIL SHOULD BE COMPACTED TO 90% STD. PROCTOR DENSITY, MIN.
2. BLOCK WIDTH SHOULD BE BETWEEN ONE AND TWO TIMES THE BLOCK HEIGHT.
3. CONCRETE TO HAVE UNIT WT. OF 165 PCF AND TO COMPLY WITH SANDY STANDARDS AND SPECIFICATIONS

NOT TO SCALE

NO.	AUTHORIZED BY	REVISIONS	DATE
1	CC	CREATED	6/2017

STANDARD DETAIL
PUBLIC UTILITIES
WTR–08
THRUST BLOCK INSTALLATIONS



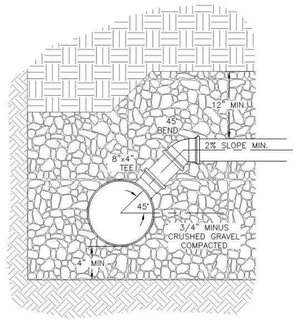
LEGEND DESCRIPTION
- A D&L SUPPLY M–8040 CAST IRON VALVE BOX W/ LID. (SEE WTR–03)
- B 2" GATE VALVE WITH 2" OPERATING NUT
- C CONCRETE THRUST BLOCK. NO BAG MIX. BATCH PLANT ONLY.
- D 2" X 6" BRASS NIPPLE (MINIMUM 6" LENGTH)
- E 2" X 6" GALVANIZED NIPPLE (MINIMUM 6" LENGTH)
- F 2" PLASTIC CAP HAND TIGHT ONLY TO PROTECT THREADS

NOT TO SCALE

NO.	AUTHORIZED BY	REVISIONS	DATE
1	CC	CREATED	6/2017

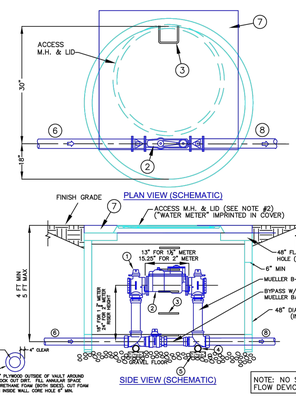
STANDARD DETAIL
PUBLIC UTILITIES
WTR–02
WASHOUT

NOTES:
1. "INSERTA–TEE" MAY BE USED FOR CONNECTION OF NEW SERVICE LINE TO EXISTING MAIN EXCEPT IN CASE WHERE A 6" SERVICE LINE IS TO BE CONNECTED TO AN 8" MAIN. A FACTIRY TEE MUST BE USED IN ALL OTHER CASES.
2. IF SPECIAL CIRCUMSTANCES SUGGEST DEVIATING FROM THIS DETAIL, THE DISTRICT INSPECTOR OR ENGINEER MUST APPROVE CHANGES.
3. SLICE UNDER HAUNCHES OF PIPE TO FILL VOIDS. MECHANICALLY COMPACT GRAVEL.



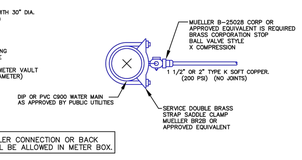
SECTION

COTTONWOOD IMPROVEMENT DISTRICT	DATE: 2/17/2000	DWG. NO.
	REVISIONS:	
SERVICE LINE CONNCETION	SCALE: NO SCALE	D8



NOTES:
1. SERVICE LINE FROM MAIN TO METER SHALL BE TYPE K SOFT COPPER WITH NO JOINTS.
2. ALL METER BOXES TO BE STRUCTURALLY DESIGNED FOR HS 20 LOADING 24" RING.
   3."LID TO BE D&L A1180–UNIV (W/ 2" HOLE) W/ HS 20 LOADING, W/ "WATER METER" IMPRINTED ON LID (SEE FG–01). LID TO BE OFFSET FOR LATTER RUNG. NO GRADE RINGS WILL BE ALLOWED TO ADJUST ELEVATION. LID SHALL NOT BE THE LOW POINT IN LANDSCAPING.
4. GRAVEL FLOOR SHALL BE A MIN. OF 18" THICK.
5. TAPS IN DIP MUST BE 24" FROM ANY TAPS, BELL, OR MJ
6. TAPS IN PVC MUST BE 36" FROM ANY TAPS, BELL, OR MJ

① MUELLER B–2423N SETTER, 18" RISER HEIGHT FOR 1" METER & 24" RISER HEIGHT FOR 2" METER, WITH LOCK MUELLER 300 BALL ANGLE METER VALVE, WITH METER FLANGE X LOCK WING BALL ANGLE METER VALVE, WITH METER FLANGE. BYPASS WITH LOCK WING MUELLER BALL VALVE.
② SENSUS OMNI C² METER WITH ELECTRONIC AMR REGISTER, PROGRAMED TO READ IN 1 GALLON. METER IS NOT PROVIDED BY THE CITY.
③ ACCESS STEPS @ 12" O.C. M.A. INDUSTRIES, INC. PSS–PF OR APPROVED EQUAL
④ 1"x18" PVC SCH 80 W/ END CAPS ON BOTH SIDE
⑤ 18"x18"x4" CONCRETE PAD
⑥ TYPE K SOFT COPPER
⑦ CONCRETE APRON: 12" MIN, 15' MAX, 6" MIN. THICK (SEE FG–01)
⑧ BLUE C.T.S. POLY PIPE 12" MIN. OUTSIDE OF BOX

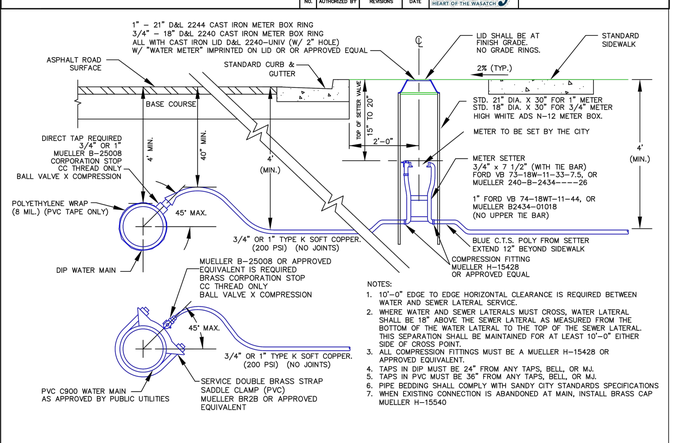


NOTE: NO SPRINKLER CONNECTION OR BACK FLOW DEVICES WILL BE ALLOWED IN METER BOX.

NOT TO SCALE

NO.	AUTHORIZED BY	REVISIONS	DATE
1	CC	CREATED	6/2017
2	CC	REVISED	12/2018

STANDARD DETAIL
PUBLIC UTILITIES
WTR–10
1 1/2 –2" WATER METER AND METER VAULT



NOTES:
1. 10'–0" EDGE TO EDGE HORIZONTAL CLEARANCE IS REQUIRED BETWEEN WATER AND SEWER LATERAL SERVICE.
2. WHERE WATER AND SEWER LATERALS MUST CROSS, WATER LATERAL SHALL BE 18" ABOVE THE SEWER LATERAL AS MEASURED FROM THE BOTTOM OF THE WATER LATERAL TO THE TOP OF THE SEWER LATERAL. THIS SEPARATION SHALL BE MAINTAINED FOR AT LEAST 10'–0" EITHER SIDE OF CROSS POINT.
3. ALL COMPRESSION FITTINGS MUST BE A MUELLER H–15428 OR APPROVED EQUIVALENT.
4. TAPS IN DIP MUST BE 24" FROM ANY TAPS, BELL, OR MJ.
5. TAPS IN PVC MUST BE 36" FROM ANY TAPS, BELL, OR MJ.
6. PIPE BEDDING SHALL COMPLY WITH SANDY CITY STANDARDS SPECIFICATIONS WHEN EXISTING CONNECTION IS ABANDONED AT MAIN, INSTALL BRASS CAP MUELLER H–15540

NOT TO SCALE

NO.	AUTHORIZED BY	REVISIONS	DATE
1	CC	CREATED	6/2017
2	CC	REVISED	12/2018

STANDARD DETAIL
PUBLIC UTILITIES
WTR–09
3/4" AND 1" WATER SERVICE

811 CALL 811 BEFORE YOU DIG — SAVE DIGGING PANTHER

TALISMAN
CIVIL CONSULTANTS
1588 SOUTH MAIN STREET
SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS:

ROZENFELD RESIDENCE
3802 E CATAMOUNT RIDGE WAY, SANDY, UT
DETAILS

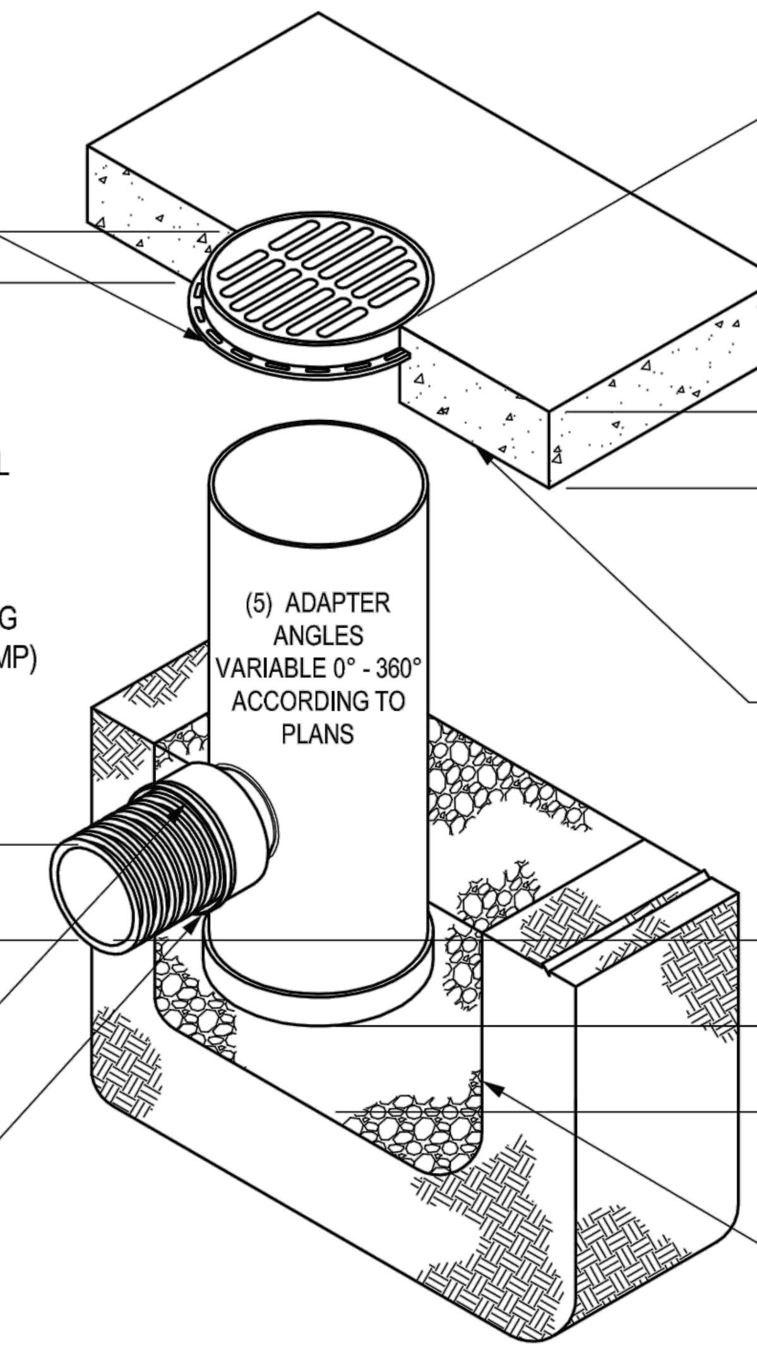
DATE SUBMITTED: 04.14.2023
TCC JOB NUMBER: 22-001

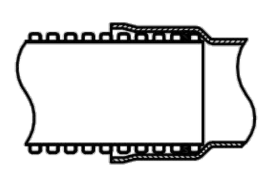
REGISTERED PROFESSIONAL ENGINEER — JEFFREY R. JOHNSON — 479423 — STATE OF UTAH

SHEET NUMBER
C700
8 OF 10

DATE: 4/14/2023 11:14 AM
PATH: N:\22-001 – Yuri Rozenfeld – Catamount Ridge\Cad\Plt\C700 DETAILS.dwg

NYLOPLAST 18" DRAIN BASIN: 2818AG _ _ X

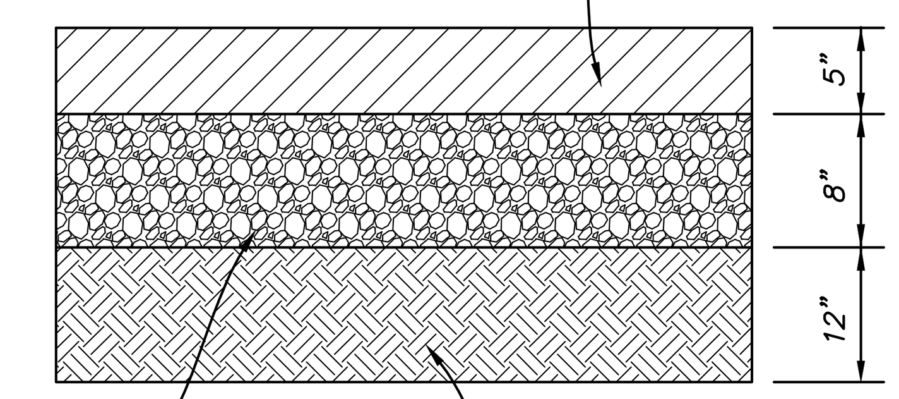




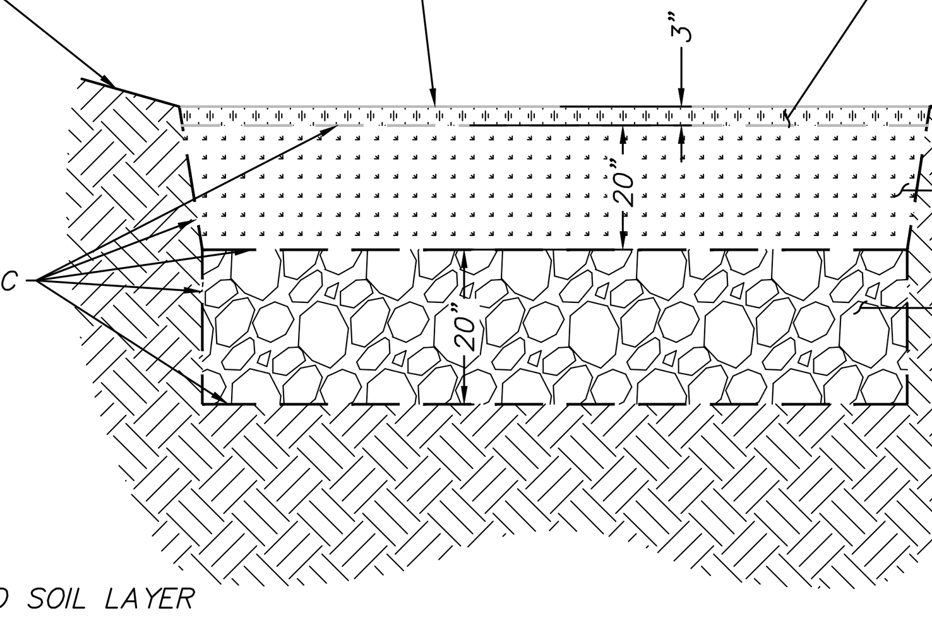
GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	1899CGP	7001-110-212
STANDARD	MEETS H-20	1899CGS	7001-110-213
SOLID COVER	MEETS H-20	1899CGC	7001-110-214
DOME	N/A	1899CGD	7001-110-215
DROP IN GRATE	LIGHT DUTY	1801DI	7001-110-074

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

DRAWN BY EBC	MATERIAL	ADS Nyloplast	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
DATE 04-03-06			
REVISED BY NMH	PROJECT NO./NAME	TITLE	18 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL
DATE 03-14-16			
DWG SIZE A	SCALE 1:30 SHEET 1 OF 1	DWG NO. 7001-110-191	REV E

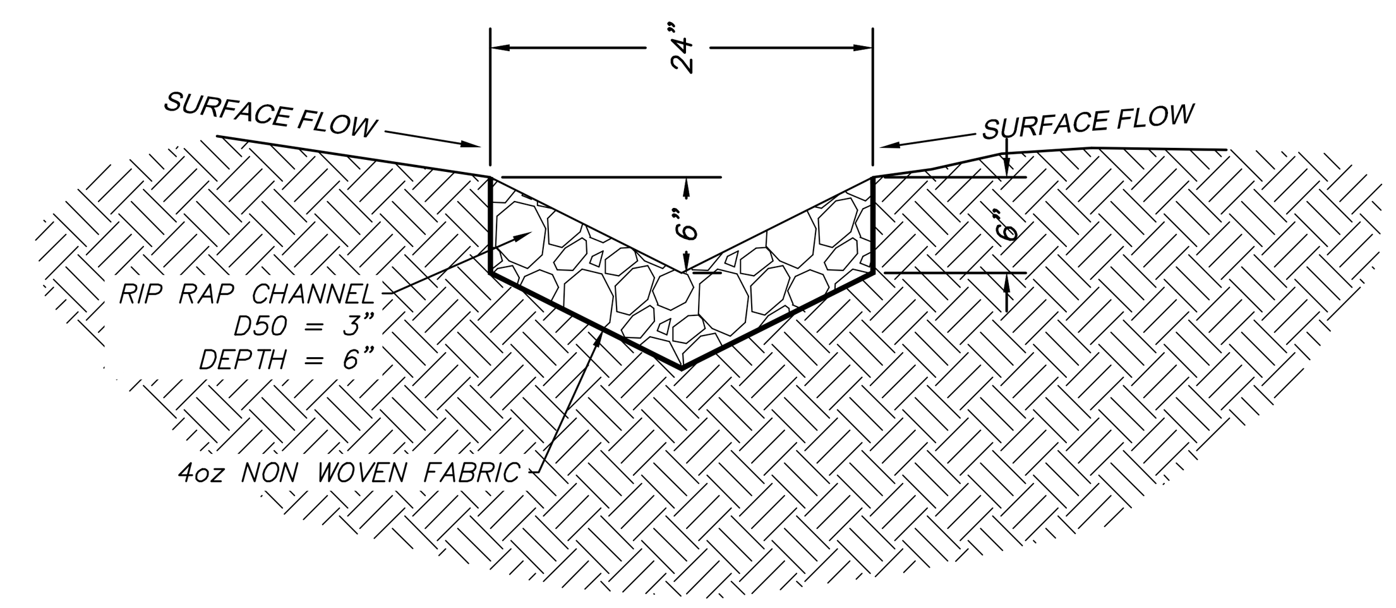


A — ASPHALT PAVEMENT SECTION
SCALE: N.T.S.



NOTES:
BIORETENTION_ENGINEERED SOIL LAYER SHALL BE MINIMUM 18" DEEP SANDY LOAM SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH AND 20-30% TOPSOIL.

B — LID RAIN GARDEN
SCALE: N.T.S.



C — 24" RIP RAP DITCH
SCALE: N.T.S.

Pipe outfall

1. **GENERAL**
   A. Round concrete pipe application.
   B. Additional requirements are specified in APWA Section 33 05 02.
2. **PRODUCTS**
   A. Use the same quality of precast end section as the pipe.
   B. Use the joint material and connection that is the same as the joints in the pipeline.
3. **EXECUTION**
   A. General dimensions and geometric shapes may vary from manufacturer to manufacturer.
   B. Steel reinforcement is not required in the concrete end section shown.
   C. Provide joint restraint connectors if required by ENGINEER.

ROUND WITH FLARE

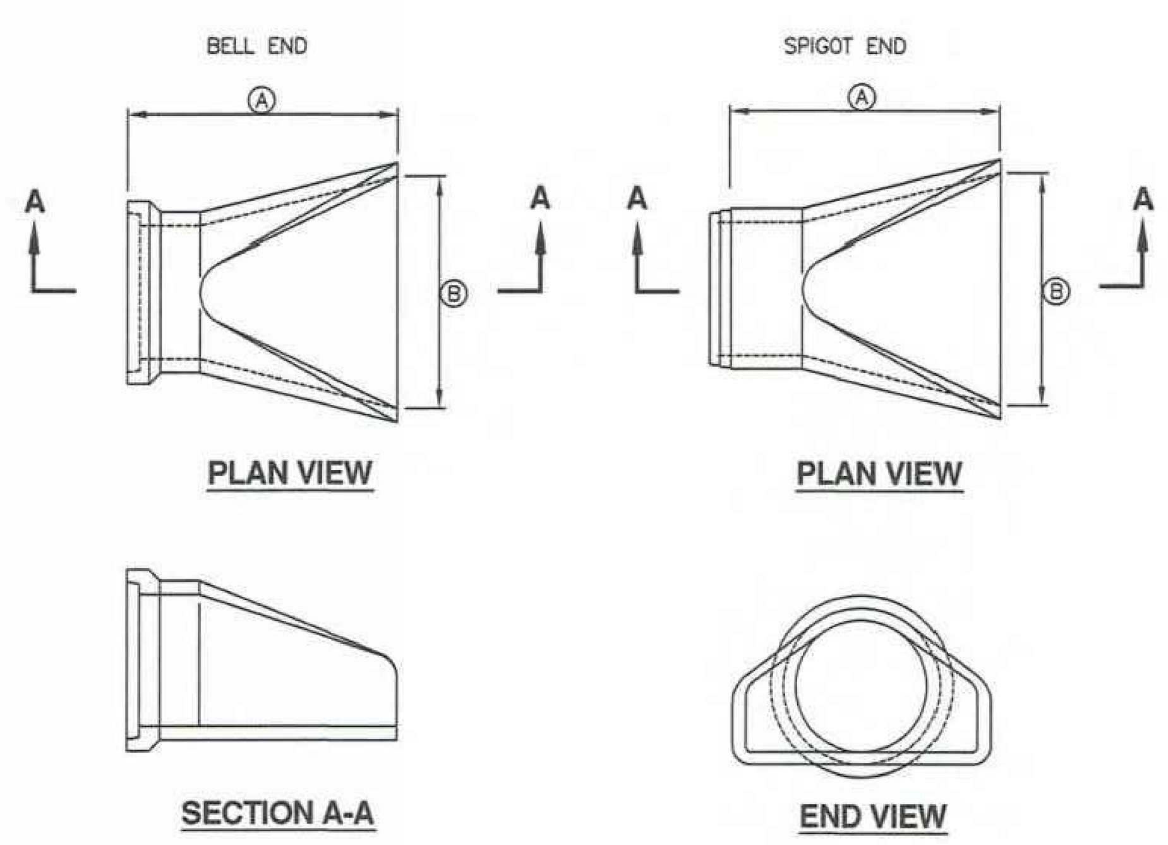


TABLE OF DIMENSION		
PIPE SIZE	DIMENSION Ⓐ	DIMENSION Ⓑ
18"	73"	36"
24"	73"	48"
30"	73"	60"
36"	97"	72"
42"	98"	78"
48"	98"	84"

NOTE:
MINIMUM DIMENSIONS ARE SHOWN. ACTUAL SIZES MAY BE SLIGHTLY LARGER

323.1

APWA Utah Chapter

Pipe outfall

Plan
323.1
November 2010

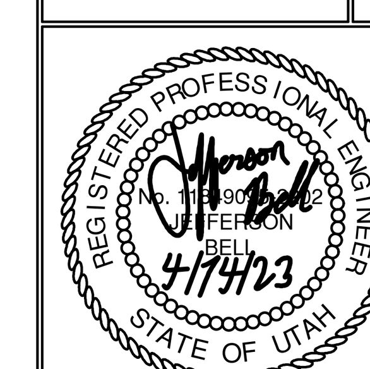
TALISMAN CIVIL CONSULTANTS
1588 SOUTH MAIN STREET SUITE 200
SALT LAKE CITY, UT 84115
801.743.1300

NO.	BY	DATE	REVISIONS:

ROZENFELD RESIDENCE
3802 E CATAMOUNT RIDGE WAY, SANDY, UT
DETAILS

DATE SUBMITTED: 04.14.2023

TCC JOB NUMBER: 22-001



SHEET NUMBER
C701
10 OF 10

DATE: 4/14/2023 11:14 AM
PATH: N:\22-001 - Yuri Rozenfeld - Catamount Ridge\Cadd\lp\C701 DETAILS.dwg

EXHIBIT I

CONCRETE AND REDI-ROCK RETAINING WALL DESIGN PACKAGE
ROZENFELD RESIDENCE
3802 EAST CATAMOUNT RIDGE WAY
SANDY, UTAH

DESIGN PACKAGE CONTENTS		
	SHEET NO.	DESCRIPTION
SHOP DRAWINGS	1	COVER SHEET
	2	PLAN VIEW
	3	WALL 1 - ELEVATION VIEW
	4	WALL 2 - ELEVATION VIEW
	5	WALL 3 - ELEVATION VIEW
	6	WALL 4 - ELEVATION VIEW
	7	TYPICAL SECTION VIEW - WALLS 1, 2 & 3
	8	TYPICAL SECTION VIEW - WALL 4
	9 - 10	CONSTRUCTION SPECIFICATIONS & NOTES
	11	REDI-ROCK DETAILS
	12	DESIGN CRITERIA
DESIGN CALCULATION PACKAGE	SECTION 2	STABILITY CALCULATIONS
	SECTION 3	GLOBAL STABILITY RESULTS
	SECTION 4	SEISMIC CRITERIA

NOTE: THIS PLAN SET HAS BEEN PREPARED WITH COLOR LINE-TYPES TO MAKE SOME DETAILS AND SPECIFICATIONS MORE CLEAR. ANY COPIES OF THESE PLANS SHOULD BE MADE IN COLOR.

PROJECT AERIAL VIEW
REFERENCE IMAGE FROM GOOGLE EARTH PRO,
IMAGE TAKEN MAY 24, 2022.

N

0 50 100 150 250 500
SCALE: 1" = 250'

PREPARED FOR:
YURI ROZENFELD
3802 EAST CATAMOUNT RIDGE WAY
SANDY, UTAH 84092

PREPARED BY: TYLER B. LOERTSCHER, P.E.

PROFESSIONAL ENGINEER
R. 11101269-2202
TYLER B. LOERTSCHER
04/13/2023
ELECTRONIC SEAL
STATE OF UTAH

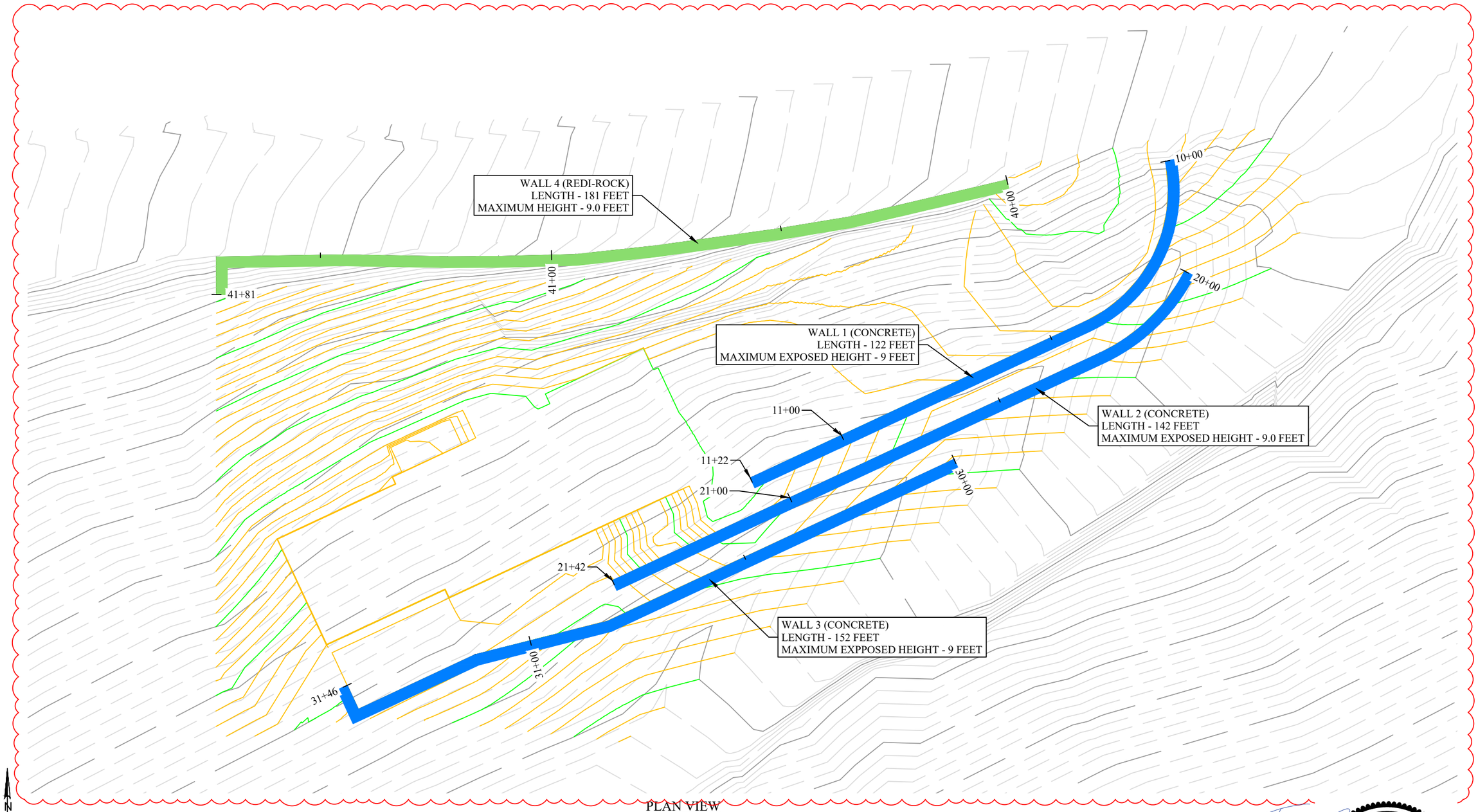
REV	REVISION DESCRIPTION	DATE	BY	CHK

REVISIONS

IGES EST. 1998
12429 SOUTH 300 EAST
DRAPER, UTAH 84020
(801) 748-4044

CONCRETE AND REDI-ROCK RETAINING WALLS
ROZENFELD RESIDENCE
3802 EAST CATAMOUNT WAY
SANDY, UTAH
COVER SHEET

DESIGNED BY: TBL	4-13-2023	PLOT SCALE	
DRAWN BY: TBL	4-13-2023	1=1	
CHECKED BY: KAH	4-13-2023	DWG SCALE	
APPROVED BY: TBL	4-13-2023	1"=250'	
IGES PROJECT NO: 04010-002	SHEET NO: 1	REV N/A	



PLAN VIEW

REFERENCE CONTOURS PROVIDED TALISMAN.

PROFESSIONAL ENGINEER
11101269–2202
TYLER B. LOERTSCHER
04/13/2023
ELECTRONIC SEAL
STATE OF UTAH

REV	REVISION DESCRIPTION	DATE	BY	CHK
	REVISIONS			

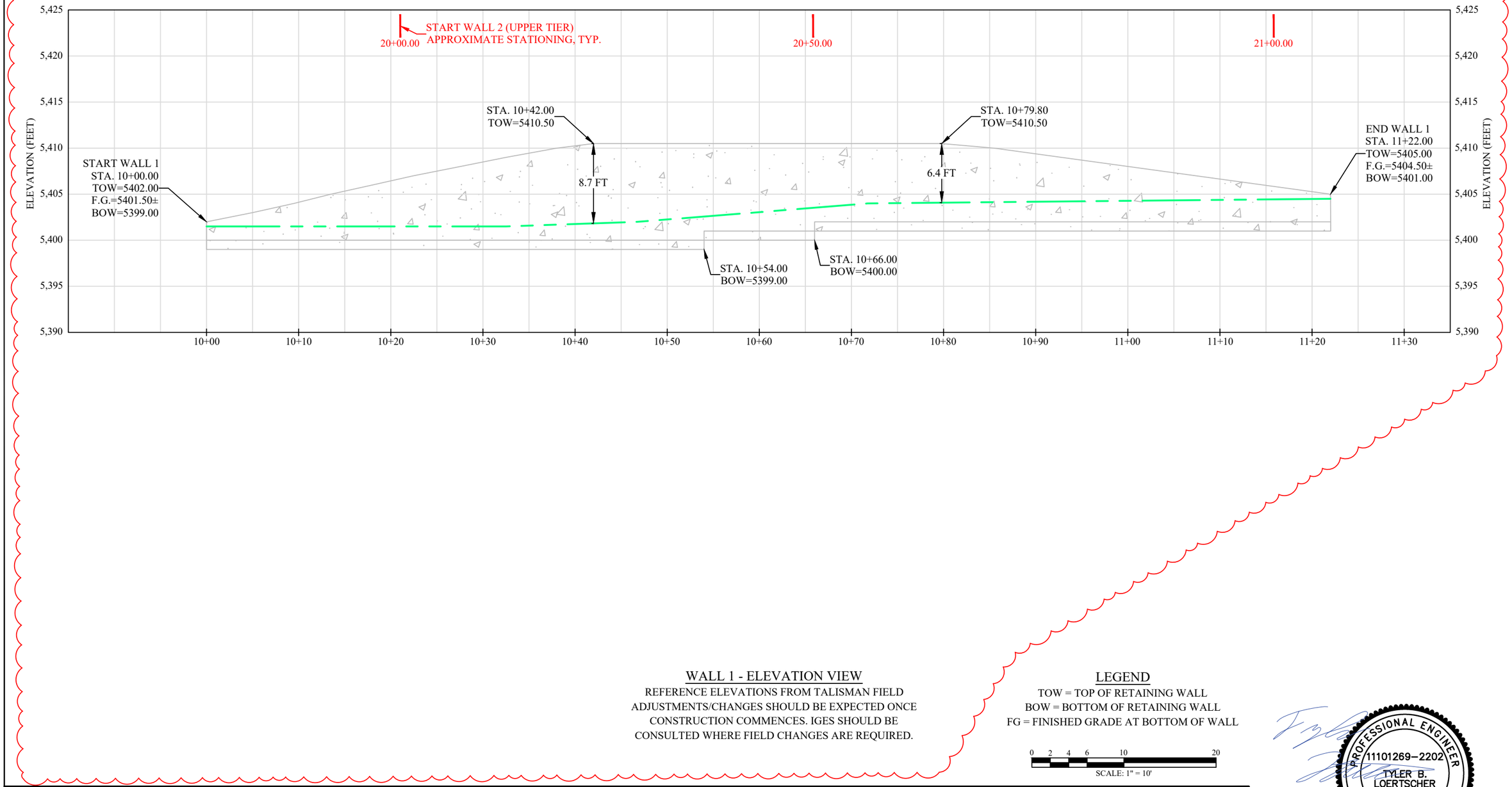
IGES EST. 1998
12429 SOUTH 300 EAST
DRAPER, UTAH 84020
(801) 748-4044

CONCRETE AND REDI-ROCK RETAINING WALLS
ROZENFELD RESIDENCE
3802 EAST CATAMOUNT WAY
SANDY, UTAH

PLAN VIEW

DESIGNED BY:	TBL	4-13-2023	PLOT SCALE 1=1
DRAWN BY:	TBL	4-13-2023	
CHECKED BY:	KAH	4-13-2023	DWG SCALE 1"=20'
APPROVED BY:	TBL	4-13-2023	
IGES PROJECT NO: 04010-002		SHEET NO: 2	REV N/A

EXHIBIT I



WALL 1 - ELEVATION VIEW

REFERENCE ELEVATIONS FROM TALISMAN FIELD ADJUSTMENTS/CHANGES SHOULD BE EXPECTED ONCE CONSTRUCTION COMMENCES. IGES SHOULD BE CONSULTED WHERE FIELD CHANGES ARE REQUIRED.

LEGEND

TOW = TOP OF RETAINING WALL
BOW = BOTTOM OF RETAINING WALL
FG = FINISHED GRADE AT BOTTOM OF WALL

0 2 4 6 10 20
SCALE: 1" = 10'

PROFESSIONAL ENGINEER
11101269-2202
TYLER B. LOERTSCHER
04/13/2023
ELECTRONIC SEAL
STATE OF UTAH

REV	REVISION DESCRIPTION	DATE	BY	CHK

REVISIONS

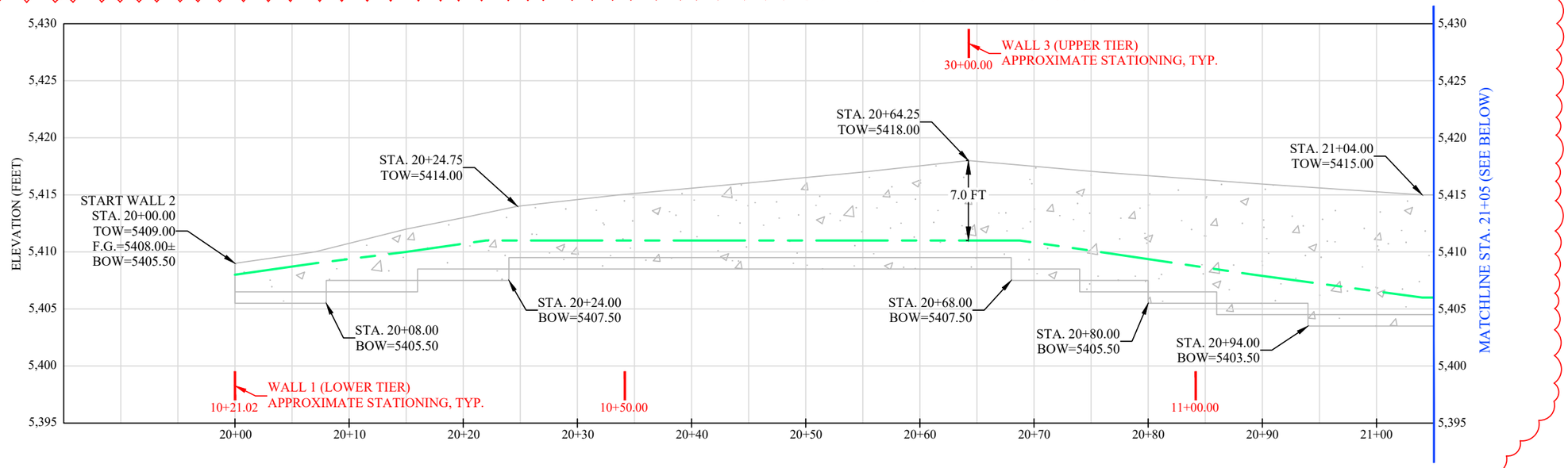
IGES EST. 1998
12429 SOUTH 300 EAST
DRAPER, UTAH 84020
(801) 748-4044

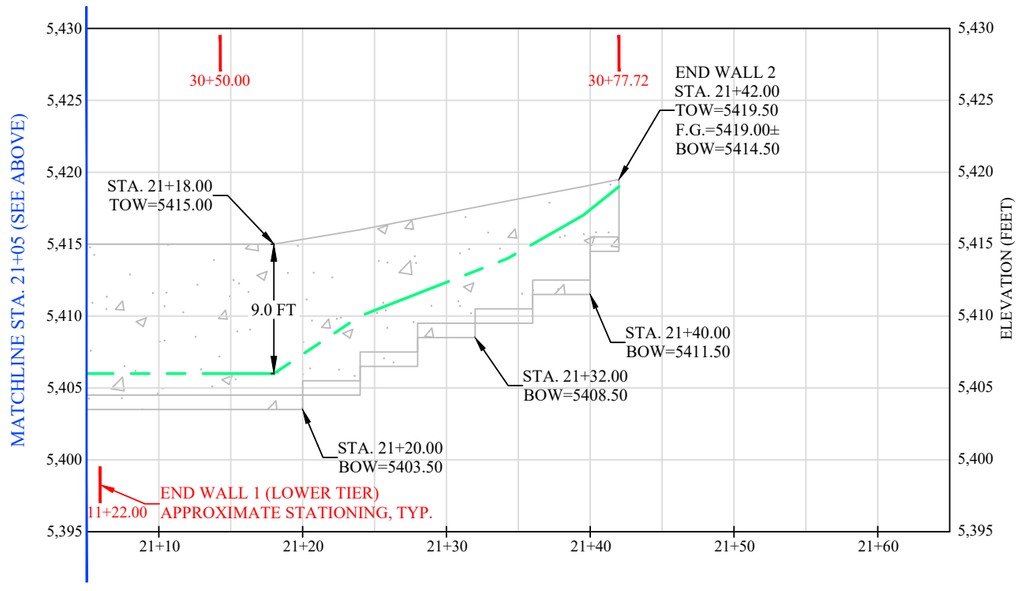
CONCRETE AND REDI-ROCK RETAINING WALLS
ROZENFELD RESIDENCE
3802 EAST CATAMOUNT WAY
SANDY, UTAH

WALL 1 - ELEVATION VIEW

DESIGNED BY: TBL	4-13-2023	PLOT SCALE	
DRAWN BY: TBL	4-13-2023	1=1	
CHECKED BY: KAH	4-13-2023	DWG SCALE	
APPROVED BY: TBL	4-13-2023	1"=10'	
IGES PROJECT NO: 04010-002	SHEET NO: 3	REV N/A	

EXHIBIT I





WALL 2 - ELEVATION VIEW

REFERENCE ELEVATIONS FROM TALISMAN FIELD ADJUSTMENTS/CHANGES SHOULD BE EXPECTED ONCE CONSTRUCTION COMMENCES. IGES SHOULD BE CONSULTED WHERE FIELD CHANGES ARE REQUIRED.

LEGEND

TOW = TOP OF RETAINING WALL
BOW = BOTTOM OF RETAINING WALL
FG = FINISHED GRADE AT BOTTOM OF WALL

0 2 4 6 10 20
SCALE: 1" = 10'

PROFESSIONAL ENGINEER
11101269-2202
TYLER B. LOERTSCHER
04/13/2023
ELECTRONIC SEAL
STATE OF UTAH

REV	REVISION DESCRIPTION	DATE	BY	CHK

REVISIONS

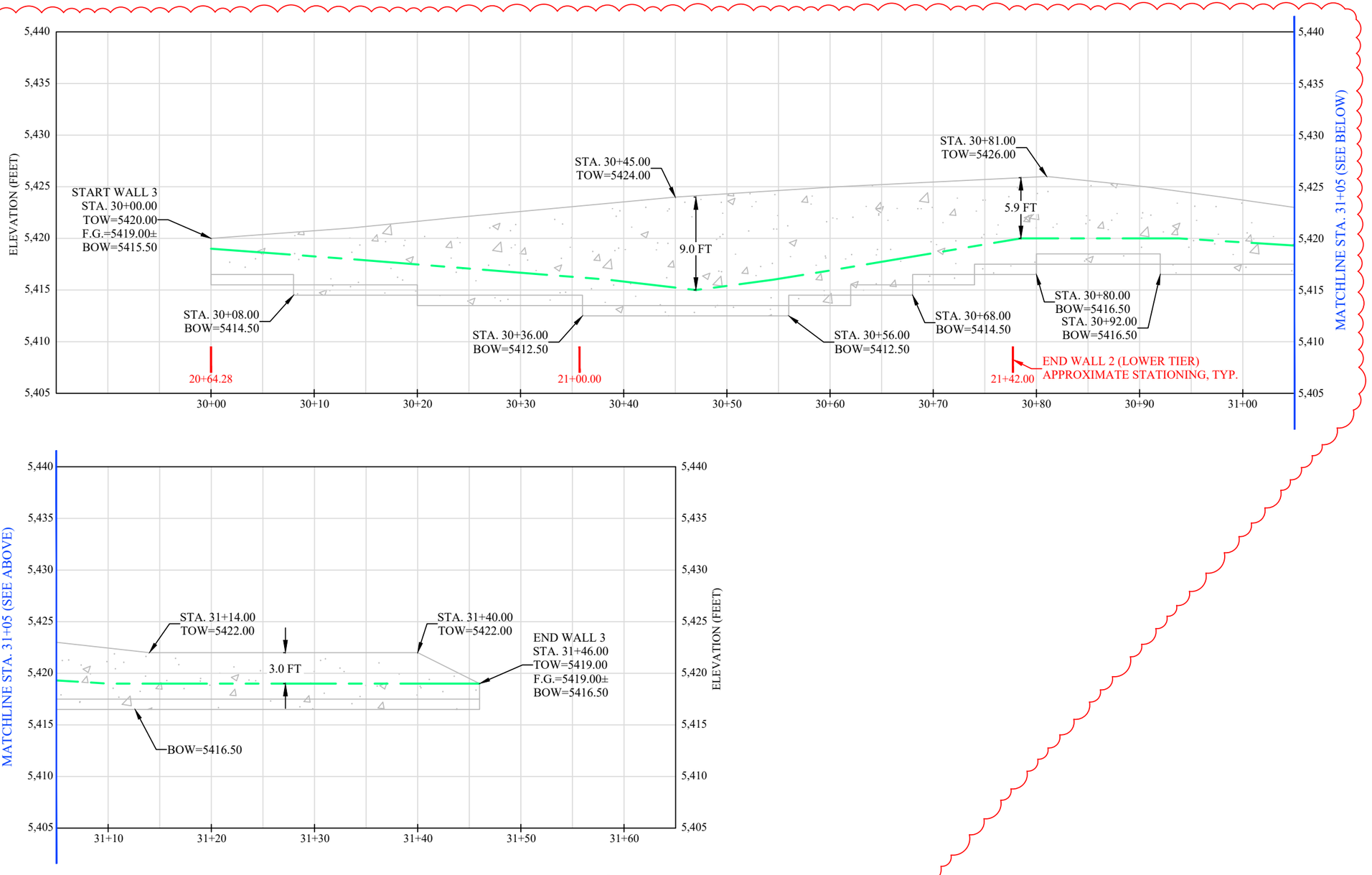
IGES EST. 1998
12429 SOUTH 300 EAST
DRAPER, UTAH 84020
(801) 748-4044

CONCRETE AND REDI-ROCK RETAINING WALLS
ROZENFELD RESIDENCE
3802 EAST CATAMOUNT WAY
SANDY, UTAH

WALL 2 - ELEVATION VIEW

DESIGNED BY: TBL	4-13-2023	PLOT SCALE	1=1
DRAWN BY: TBL	4-13-2023		
CHECKED BY: KAH	4-13-2023	DWG SCALE	1"=10'
APPROVED BY: TBL	4-13-2023		
IGES PROJECT NO: 04010-002	SHEET NO: 4	REV	N/A

EXHIBIT I



WALL 3 - ELEVATION VIEW

REFERENCE ELEVATIONS FROM TALISMAN. FIELD ADJUSTMENTS/CHANGES SHOULD BE EXPECTED ONCE CONSTRUCTION COMMENCES. IGES SHOULD BE CONSULTED WHERE FIELD CHANGES ARE REQUIRED.

LEGEND

TOW = TOP OF RETAINING WALL
BOW = BOTTOM OF RETAINING WALL
FG = FINISHED GRADE AT BOTTOM OF WALL

0 2 4 6 10 20
SCALE: 1" = 10'

PROFESSIONAL ENGINEER
11101269–2202
TYLER B. LOERTSCHER
04/13/2023
ELECTRONIC SEAL
STATE OF UTAH

REV	REVISION DESCRIPTION	DATE	BY	CHK

REVISIONS

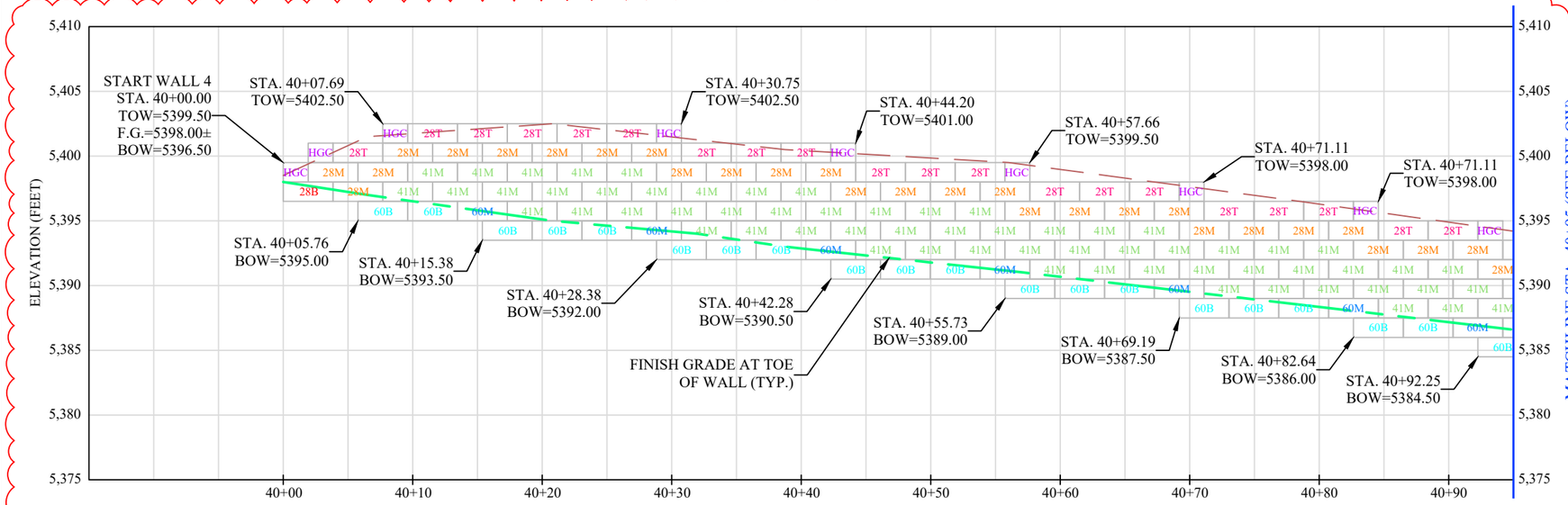
IGES EST. 1998
12429 SOUTH 300 EAST
DRAPER, UTAH 84020
(801) 748-4044

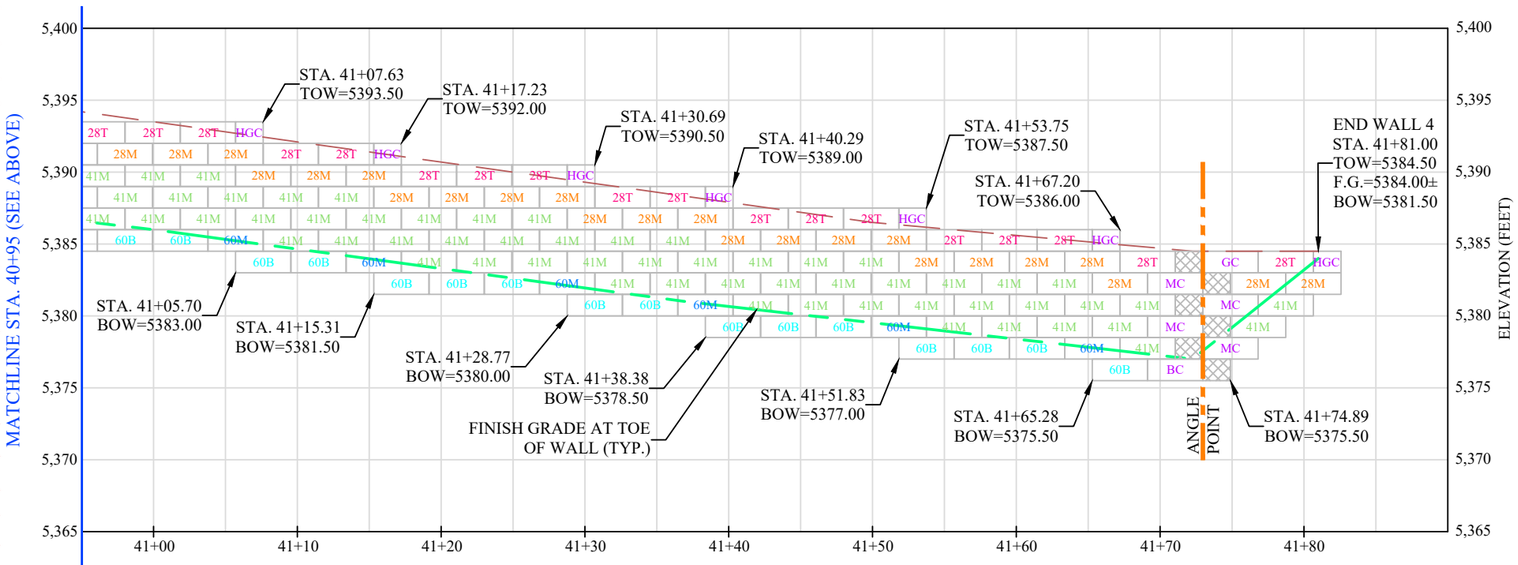
CONCRETE AND REDI-ROCK RETAINING WALLS
ROZENFELD RESIDENCE
3802 EAST CATAMOUNT WAY
SANDY, UTAH

WALL 3 - ELEVATION VIEW

DESIGNED BY:	TBL	4-13-2023	PLOT SCALE	1=1
DRAWN BY:	TBL	4-13-2023		
CHECKED BY:	KAH	4-13-2023	DWG SCALE	1"=10'
APPROVED BY:	TBL	4-13-2023		
IGES PROJECT NO: 04010-002		SHEET NO: 5	REV	N/A

EXHIBIT I





REDI-ROCK RETAINING WALL MATERIAL QUANTITY ESTIMATES	
MATERIAL	WALL 4
TOTAL WALL AREA (ft²)	1,600
28-INCH TOP REDI-ROCK BLOCKS	38
28-INCH MIDDLE REDI-ROCK BLOCKS	53
28-INCH BOTTOM REDI-ROCK BLOCKS	1
41-INCH MIDDLE REDI-ROCK BLOCKS	120
60-INCH MIDDLE REDI-ROCK BLOCKS	13
60-INCH BOTTOM REDI-ROCK BLOCKS	36
GARDEN CORNER REDI-ROCK BLOCKS	1
MIDDLE CORNER REDI-ROCK BLOCKS	4
BOTTOM CORNER REDI-ROCK BLOCKS	1
HALF GARDEN CORNER REDI-ROCK BLOCKS	16
UNIT FILL AND DRAINAGE GRAVEL (yd³)	60
CRUSHED STONE LEVELING PAD (yd³)	50
6-OZ NON-WOVEN GEOTEXTILE FABRIC (yd²)	250
4-INCH PERFORATED DRAINAGE PIPE (ft)	190

28T	28-INCH TOP REDI-ROCK BLOCK	60M	60-INCH MIDDLE REDI-ROCK BLOCK
28M	28-INCH MIDDLE REDI-ROCK BLOCK	60B	60-INCH BOTTOM REDI-ROCK BLOCK
28B	28-INCH BOTTOM REDI-ROCK BLOCK	41M	41-INCH MIDDLE REDI-ROCK BLOCK
HGC	HALF GARDEN CORNER REDI-ROCK BLOCK		
GC	GARDEN CORNER REDI-ROCK BLOCK		
MC	MIDDLE CORNER REDI-ROCK BLOCK		
BC	BOTTOM CORNER REDI-ROCK BLOCK		

WALL 4 - ELEVATION VIEW

REFERENCE ELEVATIONS FROM TALISMAN. FIELD ADJUSTMENTS/CHANGES SHOULD BE EXPECTED ONCE CONSTRUCTION COMMENCES. IGES SHOULD BE CONSULTED WHERE FIELD CHANGES ARE REQUIRED.

LEGEND

TOW = TOP OF RETAINING WALL
BOW = BOTTOM OF RETAINING WALL
FG = FINISHED GRADE AT BOTTOM OF WALL

0 2 4 6 10 20
SCALE: 1" = 10'

PROFESSIONAL ENGINEER
11101269-2202
TYLER B. LOERTSCHER
04/13/2023
ELECTRONIC SEAL
STATE OF UTAH

REV	REVISION DESCRIPTION	DATE	BY	CHK
	REVISIONS			

IGES EST. 1998
12429 SOUTH 300 EAST
DRAPER, UTAH 84020
(801) 748-4044

CONCRETE AND REDI-ROCK RETAINING WALLS
ROZENFELD RESIDENCE
3802 EAST CATAMOUNT WAY
SANDY, UTAH

WALL 4 - ELEVATION VIEW

DESIGNED BY: TBL	4-13-2023	PLOT SCALE	1=1
DRAWN BY: TBL	4-13-2023		
CHECKED BY: KAH	4-13-2023	DWG SCALE	1"=10'
APPROVED BY: TBL	4-13-2023		
IGES PROJECT NO: 04010-002	SHEET NO: 6	REV	N/A

NOTES:

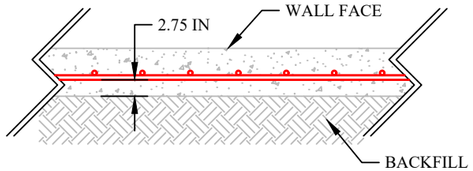
1. MAXIMUM SECTION SHOWN, ALL OTHER SECTIONS TO MEET THESE SAME SPECIFICATIONS, UNLESS NOTED OTHERWISE.
2. SOIL CUT SHOULD BE BENCHED AS NEEDED TO PROTECT WORKERS AND TO COMPLY WITH OSHA REQUIREMENTS.
3. RETAINING WALLS ARE VULNERABLE TO EROSION AND HYDROSTATIC PRESSURES IMMEDIATELY AFTER INSTALLATION BUT PRIOR TO THE PLACEMENT OF LANDSCAPING/FINISHING ELEMENTS (E.G. LANDSCAPING, HARDSCAPE, CURB & GUTTER, PAVEMENT, ETC.). TO PREVENT DAMAGE TO THE WALL DURING ADDITIONAL SITE WORK, ALL SURFACE DRAINAGE SHOULD BE DIRECTED AWAY FROM THE WALL. EXCESS WATER DURING HEAVY PRECIPITATION EVENTS, IF NOT DRAINED PROPERLY, CAN CAUSE WASHOUTS AT WALL ENDS AND 'BLOWOUTS' OF INTERIOR SECTIONS. THESE PRECAUTIONS SHOULD BE TAKEN DURING WALL CONSTRUCTION, AND AFTER, UNTIL THE FINAL SITE DRAINAGE, LANDSCAPING AND/OR PAVING ARE COMPLETE.
4. WE RECOMMEND THAT AN APPROPRIATE SAFETY FENCE/BARRICADE BE CONSIDERED BY THE OWNER ABOVE THE RETAINING WALL.
   - 4.1. IF FENCING SYSTEM WILL BE A CHAIN LINK, WROUGHT IRON FENCE OR RAILING, FENCE POSTS MAY BE INSTALLED A MINIMUM OF 24-IN INTO WALL.
   - 4.2. THE FENCE POSTS OR SLEEVES SHOULD BE PLACED DURING INSTALLATION OF THE RETAINING WALL. SONOTUBES OR SIMILAR SHOULD BE INSTALLED TO RECEIVE THE FENCE POSTS.
   - 4.3. IF FENCING SYSTEM WILL BE A PRIVACY FENCE (E.G. VINYL, WOOD, PRECAST), FENCE SHOULD BE ATTACHED TO THE WALL IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES.

CONCRETE WALL SCHEDULE - TOP/SINGLE TIER

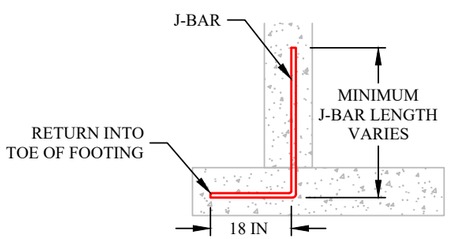
RETAINED WALL HEIGHT (FT)	STEM-VERTICAL REBAR (J-BAR)	STEM-HORIZONTAL REBAR	FOOTING TOE & HEEL TRANSVERSE REBAR	FOOTING LONGITUDINAL REBAR	FOOTING WIDTH (FT)
9.0	#6 @ 8" O.C.	#5 @ 12" O.C.	#6 @ 8" O.C.	#5 @ 12" O.C.	6.5
8.0	#6 @ 8" O.C.	#5 @ 12" O.C.	#5 @ 10" O.C.	#5 @ 12" O.C.	6.0
6.0	#5 @ 8" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	4.5
4.0 OR LESS	#4 @ 12" O.C.	#4 @ 12" O.C.	#4 @ 12" O.C.	#4 @ 12" O.C.	3.5

CONCRETE WALL SCHEDULE - BOTTOM/MIDDLE TIER

RETAINED WALL HEIGHT (FT)	STEM-VERTICAL REBAR (J-BAR)	STEM-HORIZONTAL REBAR	FOOTING TOE & HEEL TRANSVERSE REBAR	FOOTING LONGITUDINAL REBAR	FOOTING WIDTH (FT)
9.0	#6 @ 10" O.C.	#5 @ 12" O.C.	#5 @ 10" O.C.	#5 @ 12" O.C.	5.0
8.0	#5 @ 8" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	4.5
6.0	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	4.0
4.0 OR LESS	#4 @ 12" O.C.	#4 @ 12" O.C.	#4 @ 12" O.C.	#4 @ 12" O.C.	3.0

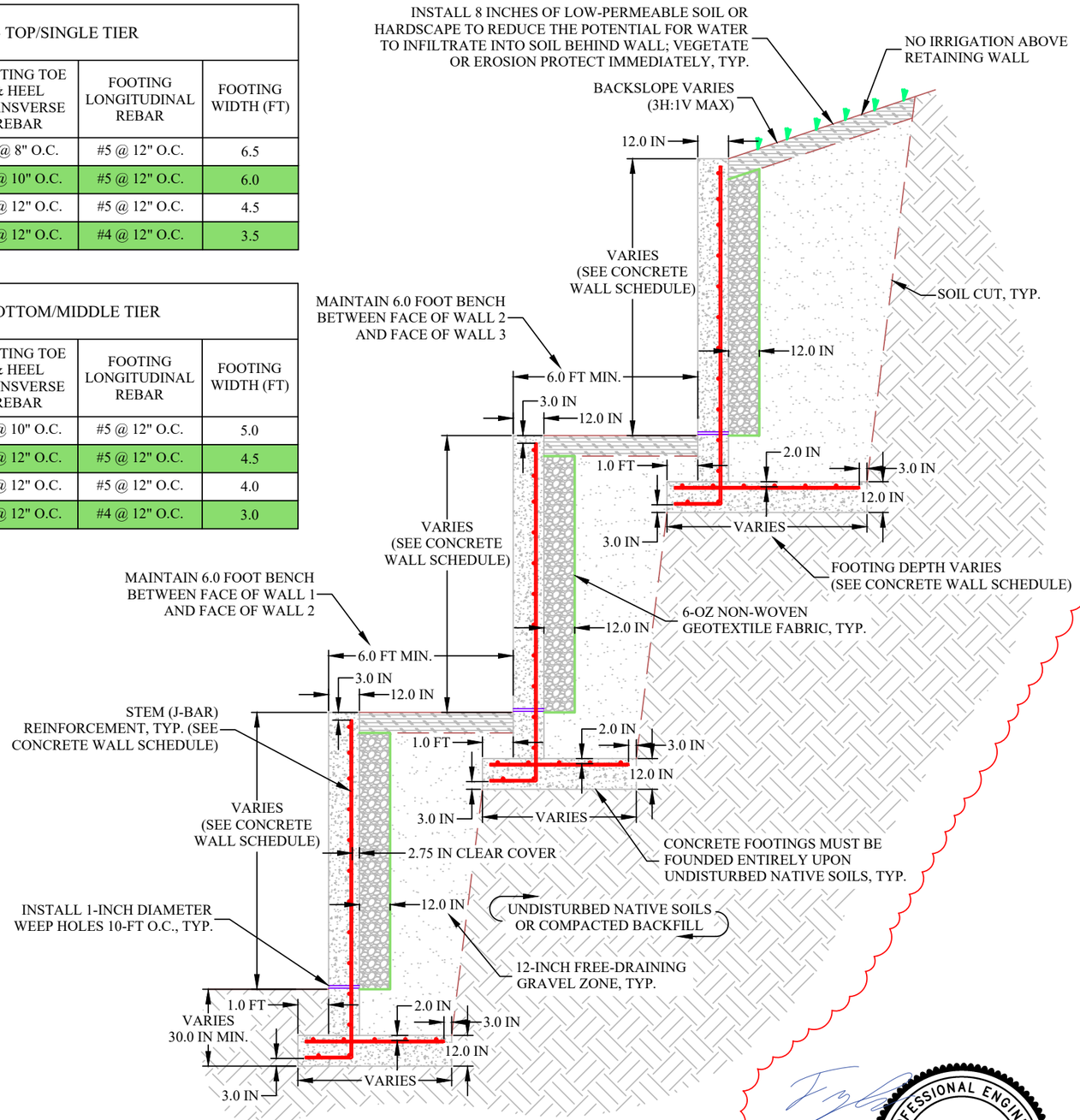


STEM WALL PLAN VIEW DETAIL
SCALE: 1"=2'



REBAR	J-BAR LENGTH (IN)
#4	29
#5	34
#6	39

J-BAR DETAIL (STEM REINFORCEMENT)
SCALE: 1"=2'



TYPICAL SECTION VIEW - WALLS 1, 2 & 3
SCALE: 1"=4'

0 2 4 8
SCALE: 1" = 4'

REV	REVISION DESCRIPTION	DATE	BY	CHK

REVISIONS

IGES EST. 1998
12429 SOUTH 300 EAST
DRAPER, UTAH 84020
(801) 748-4044

CONCRETE AND REDI-ROCK RETAINING WALLS
ROZENFELD RESIDENCE
3802 EAST CATAMOUNT WAY
SANDY, UTAH
TYPICAL SECTION VIEW - WALLS 1, 2 & 3

DESIGNED BY:	TBL	4-13-2023	PLOT SCALE 1=1
DRAWN BY:	TBL	4-13-2023	
CHECKED BY:	KAH	4-13-2023	DWG SCALE 1"=4'
APPROVED BY:	TBL	4-13-2023	
IGES PROJECT NO: 04010-002	SHEET NO: 7		REV N/A

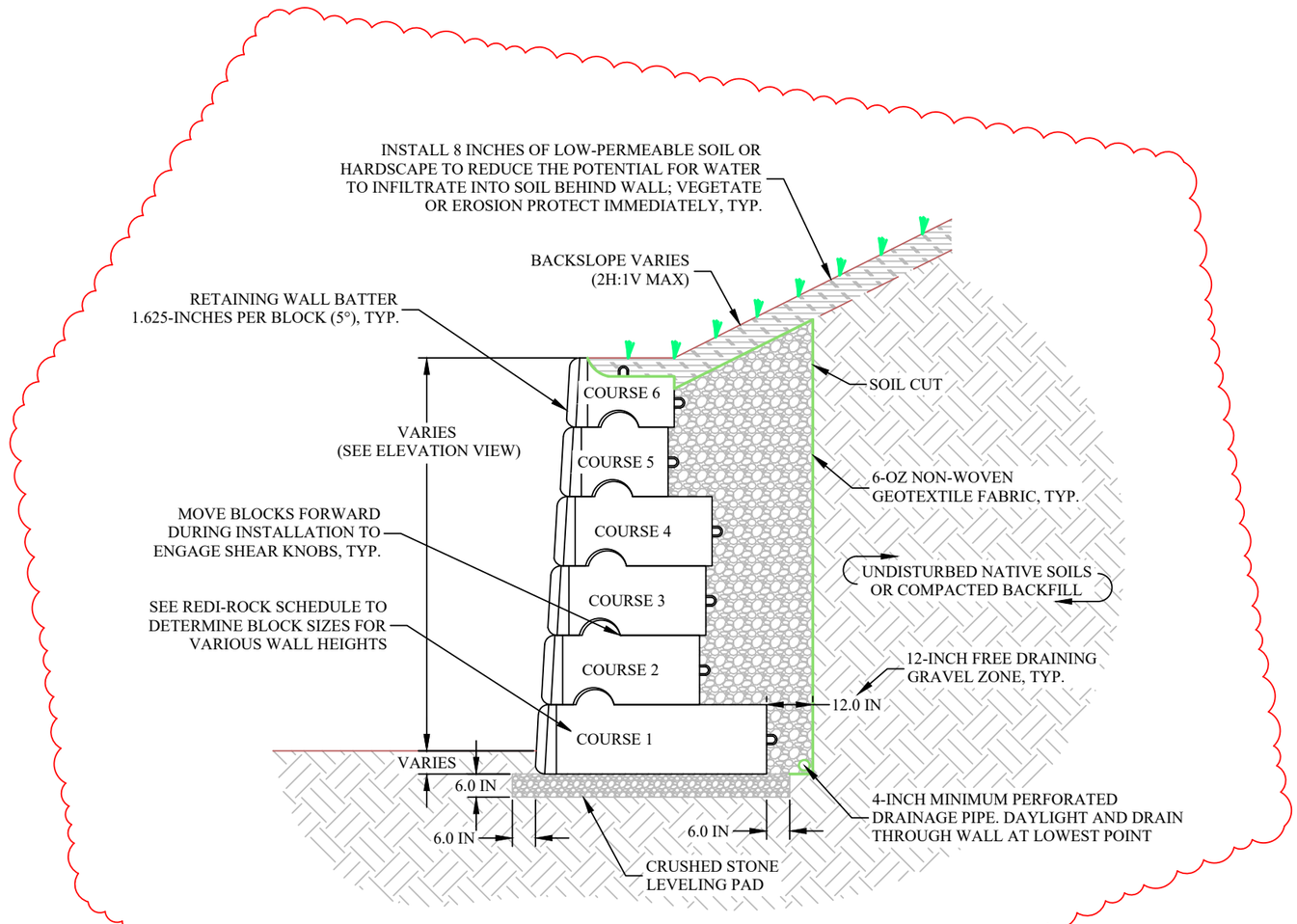
PROFESSIONAL ENGINEER
11101269-2202
TYLER B. LOERTSCHER
04/13/2023
ELECTRONIC SEAL
STATE OF UTAH

NOTES:

1. MAXIMUM SECTION SHOWN, ALL OTHER SECTIONS TO MEET THESE SAME SPECIFICATIONS, UNLESS NOTED OTHERWISE.
2. SOIL CUT SHOULD BE BENCHED AS NEEDED TO PROTECT WORKERS AND TO COMPLY WITH OSHA REQUIREMENTS.
3. RETAINING WALLS ARE VULNERABLE TO EROSION AND HYDROSTATIC PRESSURES IMMEDIATELY AFTER INSTALLATION BUT PRIOR TO THE PLACEMENT OF LANDSCAPING/FINISHING ELEMENTS (E.G., LANDSCAPING, HARDSCAPE, CURB & GUTTER, PAVEMENT, ETC.). TO PREVENT DAMAGE TO THE WALL DURING ADDITIONAL SITE WORK, ALL SURFACE DRAINAGE SHOULD BE DIRECTED AWAY FROM THE WALL. EXCESS WATER DURING HEAVY PRECIPITATION EVENTS, IF NOT DRAINED PROPERLY, CAN CAUSE WASHOUTS AT WALL ENDS AND 'BLOWOUTS' OF INTERIOR SECTIONS. THESE PRECAUTIONS SHOULD BE TAKEN DURING WALL CONSTRUCTION, AND AFTER, UNTIL THE FINAL SITE DRAINAGE, LANDSCAPING AND/OR PAVING ARE COMPLETE.
4. WE RECOMMEND THAT AN APPROPRIATE SAFETY FENCE/BARRICADE BE CONSIDERED BY THE OWNER ABOVE THE RETAINING WALL.
   - 4.1. IF FENCING SYSTEM WILL BE A CHAIN LINK, WROUGHT IRON FENCE OR RAILING, FOLLOW MANUFACTURER'S GUIDELINES.
   - 4.2. IF FENCING SYSTEM WILL BE A PRIVACY FENCE (E.G., VINYL, WOOD, PRECAST), IGES SHOULD BE CONTACTED TO PROVIDE CONSTRUCTION RECOMMENDATIONS FOR THE FENCE POST LOCATION.
   - 4.3. THE FENCE POSTS SHOULD BE PLACED DURING INSTALLATION OF THE RETAINING WALL. SONOTUBES OR SIMILAR SHOULD BE INSTALLED TO RECEIVE THE FENCE POSTS.
   - 4.4. WE RECOMMEND THAT ONCE FENCING SYSTEM IS DETERMINED IGES BE CONTACTED TO ASSESS THE IMPACT OF THE FENCE ON THE RETAINING WALL.

REDI-ROCK SCHEDULE - WALL 4						
COURSE	BLOCK SIZE FOR EACH COURSE (COURSE 1 IS BOTTOM COURSE) FOR VARIOUS WALL HEIGHTS					
	1 BLOCK (1.5-FT)	2 BLOCKS (3-FT)	3 BLOCKS (4.5-FT)	4 BLOCKS (6-FT)	5 BLOCKS (7.5-FT)	6 BLOCKS (9-FT)
6	-	-	-	-	-	28T
5	-	-	-	-	28T	28M
4	-	-	-	28T	28M	41M
3	-	-	28T	28M	41M	41M
2	-	28T	28M	28M	41M	41M
1	28T	28B	28B	41B	60B	60B

WHERE:
- 28T = 28-INCH TOP BLOCK
- 28M = 28-INCH MIDDLE BLOCK
- 28B = 28-INCH BASE BLOCK
- 41M = 41-INCH MIDDLE BLOCK
- 41B = 41-INCH BASE BLOCK
- 60B = 60-INCH BASE BLOCK



TYPICAL SECTION VIEW - WALL 4
SCALE: 1"=3'

0 1.5 3 6
SCALE: 1" = 3'

REV	REVISION DESCRIPTION	DATE	BY	CHK

REVISIONS

IGES EST. 1998
12429 SOUTH 300 EAST
DRAPER, UTAH 84020
(801) 748-4044

CONCRETE AND REDI-ROCK RETAINING WALLS
ROZENFELD RESIDENCE
3802 EAST CATAMOUNT WAY
SANDY, UTAH

TYPICAL SECTION VIEW - WALL 4

DESIGNED BY:	TBL	4-13-2023	PLOT SCALE 1=1
DRAWN BY:	TBL	4-13-2023	
CHECKED BY:	KAH	4-13-2023	DWG SCALE 1"=3"
APPROVED BY:	TBL	4-13-2023	
IGES PROJECT NO: 04010-002	SHEET NO: 8		REV N/A

PROFESSIONAL ENGINEER
11101269-2202
TYLER B. LOERTSCHER
04/13/2023
ELECTRONIC SEAL
STATE OF UTAH

CAST-IN-PLACE CONCRETE WALL
CONSTRUCTION SPECIFICATIONS & NOTES:

1. INTRODUCTION

1.1. THE CONCRETE WALL IS TO BE INSTALLED AS INDICATED IN THESE DRAWINGS SUBJECT TO FIELD VERIFICATION BY THE CONTRACTOR.

1.2. DESIGN AND CONSTRUCTION INFORMATION IS BASED ON GEOTECHNICAL INFORMATION OBTAINED FROM SITE TOPOGRAPHY, SOIL DESCRIPTIONS, SITE GEOMETRY, SITE OBSERVATIONS, DISCUSSIONS WITH THE CLIENT AND THE ENGINEERING ANALYSIS PERFORMED AS PART OF THE SCOPE OF WORK FOR THIS PROJECT BY IGES, INC.

1.3. LOCATE ALL EXISTING UTILITIES PRIOR TO RETAINING WALL CONSTRUCTION.

1.4. COMPLY WITH ALL ASPECT OF OSHA 1926 SUBPART P APP B, SLOPING AND BENCHING FOR ALL EXCAVATED SLOPES.

1.5. THE DESIGN HAS IMPLEMENTED THE FOLLOWING MEASURES TO REDUCE THE POTENTIAL FOR HYDROSTATIC PRESSURES TO BUILD UP BEHIND THE RETAINING WALL:

1.5.1. VEGETATION/EROSION CONTROL MEASURES SHALL BE ESTABLISHED ABOVE AND BELOW THE RETAINING WALL IMMEDIATELY FOLLOWING CONSTRUCTION.

1.5.2. A 12-INCH WIDE GRAVEL ZONE INSTALLED BEHIND THE RETAINING WALL WITH A 3-INCH DIAMETER PERFORATED DRAIN PIPE DAYLIGHTING AT THE LOW END OF THE WALL.

1.6. CONDITIONS SUCH AS LEAKY OR BROKEN IRRIGATION LINES AND/OR UNCONTROLLED RUNOFF FROM IMPROPER SITE GRADING (E.G., ALLOWING WATER TO POND ABOVE RETAINING WALL) CAN LEAD TO UNDERMINING OR HYDROSTATIC PRESSURES BUILDING UP BEHIND THE WALL, WHICH CAN LEAD TO SLOPE OR WALL MOVEMENT.

1.6.1. HYDROSTATIC CONDITIONS WERE NOT CONSIDERED IN THE ANALYSIS OF THE RETAINING WALL AND MUST BE AVOIDED.

1.6.2. THE OWNER SHALL BE AWARE OF THE RISKS IF THESE OR OTHER CONDITIONS OCCUR THAT COULD ERODE THE SOIL OR ALLOW HYDROSTATIC PRESSURES TO BUILD UP BEHIND THE WALL, OR IF THE FINISHING/LANDSCAPING ELEMENTS ARE NOT INSTALLED IMMEDIATELY FOLLOWING THE INSTALLATION OF THE RETAINING WALL MATERIALS.

1.6.3. RETAINING WALLS ARE VULNERABLE TO EROSION AND HYDROSTATIC PRESSURES IMMEDIATELY AFTER INSTALLATION OF THE RETAINING WALL, AND PRIOR TO THE PLACEMENT OF THE LANDSCAPING OR FINISHING ELEMENTS AT THE SITE (E.G., 8-INCHES OF LOW PERMEABLE SOIL/HARDSCAPE, INSTALLATION OF CURB & GUTTER, VEGETATION OF SLOPES, ETC.). AS THESE ARE CRITICAL COMPONENTS TO THE OVERALL STABILITY OF THE RETAINING WALL, THE WALL IS NOT CONSIDERED COMPLETE UNTIL THE LANDSCAPING/FINISHING ELEMENTS ARE FINISHED. WE RECOMMEND THESE ELEMENTS BE INSTALLED IMMEDIATELY FOLLOWING THE INSTALLATION OF THE WALL.

2. CONCRETE RETAINING WALL MATERIALS

2.1. CONCRETE

2.1.1. USE CONCRETE WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI (CLASS AA (AE).

2.2. REINFORCING STEEL

2.2.1. USE REINFORCEMENT BARS THAT ARE NEW, STRAIGHT, AND UNDAMAGED CONSISTING OF #4, #5 & #6 REBAR AS SHOWN IN THE SECTION VIEW DRAWINGS.

2.2.2. USE REBAR THAT CONFORMS WITH ASTM A615 GRADE 60.

2.2.3. USE REINFORCING STEEL THAT IS FREE OF HEAVY CORROSION THAT WOULD EFFECT THE AREA OF THE STEEL, THE STRENGTH OF THE STEEL, OR THE CONCRETE BOND. REINFORCING STEEL SHALL ALSO BE FREE OF RUST, DUST, OR DIRT.

2.3. BACKFILL SOILS (IF ANY)

2.3.1. APPROVED, IMPORTED, GRANULAR BACKFILL BORROW OR APPROVED GRANULAR NATIVE SOILS THAT HAVE BEEN SCREENED AND PROCESSES COMPLYING WITH THE FOLLOWING CRITERIA:

2.3.1.1. GRANULAR MATERIALS CONTAINING LESS THAN 35% FINES

2.3.1.2. MAXIMUM NOMINAL PARTICLE SIZE OF 4 INCHES

2.3.1.3. PI OF 6 OR LESS

2.3.1.4. PH GREATER THAN 3 BUT LESS THAN 9

2.3.1.5. REASONABLY FREE FROM ORGANIC OR OTHER DELETERIOUS MATERIALS

2.3.1.6. MINIMUM EFFECTIVE FRICTION ANGLE OF 36 DEGREES

2.4. DRAINAGE GRAVEL

2.4.1. A CLEAN 1-INCH MINUS CRUSHED STONE OR CRUSHED GRAVEL THAT COMPLIES WITH THE FOLLOWING CRITERIA:

2.4.1.1.

SIEVE SIZE	% PASSING
2"	100
1"	75-100
⅜"	0-15
NO. 4	0-10
NO. 200	0-5

3. CONCRETE RETAINING WALL INSTALLATION

3.1. FIELD-VERIFY PROPOSED FINISHED GRADE AT BOTTOM OF WALL TO PROVIDE THE MINIMUM WALL EMBEDMENT SHOWN ON THE ELEVATION AND SECTION VIEW DRAWINGS.

3.2. GRADE AND COMPACT THE FOUNDATION SUBGRADE SOILS FOR THE FULL LENGTH OF THE WALL PRIOR TO PLACEMENT OF THE CONCRETE OR ANY BACKFILL.

3.2.1. THE LESSEN POTENTIAL SETTLEMENT REMOVE AND REPLACE ANY FOUNDATION SOILS FOUND TO BE UNSUITABLE OR UNSTABLE WITH APPROVED GRANULAR FILL COMPLYING WITH THE CRITERIA OUTLINED IN THE SECTIONS ABOVE.

3.2.2. SET CONCRETE FORMS SUCH THAT THE MINIMUM CONCRETE WALL WIDTH SHOWN ON THE TYPICAL SECTION VIEW WILL BE MAINTAINED FOR THE ENTIRE STEM WALL AS SHOWN IN THE SECTION VIEW DRAWING.

3.3. PLACE REINFORCING STEEL IN THE POSITIONS SPECIFIED IN THE SECTION VIEW DRAWING

3.3.1. PROVIDE A MINIMUM OF 3 INCHES CLEAR COVER FOR REINFORCING STEEL IN THE FOOTING IF CAST AGAINST SOIL.

3.3.2. PROVIDE A MINIMUM OF 2 INCHES CLEAR COVER FOR REINFORCING STEEL IN THE FOOTING IF CAST AGAINST FORMS.

3.3.3. PROVIDE A MINIMUM OF 2.75 INCHES CLEAR COVER FOR REINFORCING STEEL IN THE STEM.

3.4. PLACE DRAINAGE GRAVEL BETWEEN THE SOIL CUT AND BACK OF THE WALL.

3.4.1. PLACE WALL BACKFILL MATERIAL IN 12-INCH MAXIMUM LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95 PERCENT ASTM D1557 (MODIFIED PROCTOR) IN STRUCTURAL AREAS AND 90 PERCENT ASTM D1557 IN LANDSCAPE AREAS. THINNER LIFTS MAY BE NECESSARY TO ACHIEVE REQUIRED COMPACTION.

3.4.1. USE ONLY SMALL, WALK-BEHIND TYPE COMPACTION EQUIPMENT WITHIN 3 FEET OF THE BACK OF THE RETAINING WALL.

4. CONSTRUCTION OBSERVATION

4.1. TO FULFILL ANY APPLICABLE CITY, COUNTY AND/OR STATE AGENCY REQUIREMENTS, AND TO PROTECT THE CONTRACTOR AND DESIGN ENGINEER, IGES, INC. MUST PERFORM PERIODIC CONSTRUCTION OBSERVATIONS.

4.1.1. IF IGES, INC. DOES NOT OBSERVE THE RETAINING WALL DURING CONSTRUCTION, A FINAL LETTER REGARDING COMPLIANCE OF THE WALL CONSTRUCTION WITH THE DESIGN CRITERIA AND RECOMMENDATIONS CANNOT BE PROVIDED. IF IGES, INC. DOES NOT PERFORM THE PERIODIC CONSTRUCTION OBSERVATIONS OUTLINED BELOW, THE WALL CONTRACTOR/OWNER ASSUMES ALL RESPONSIBILITY FOR THE RETAINING WALL.

4.2. WALL OBSERVATION SCHEDULE:

4.2.1. OBSERVE THE EXCAVATION OF THE FOUNDATION SOILS.

4.2.1.1. ASSESS THE SUITABILITY OF THE FOUNDATIONS SOILS.

4.2.2. OBSERVE THE INSTALLATION OF THE CONCRETE RETAINING WALL.

4.2.2.1. ASSESS MINIMUM EMBEDMENT REQUIREMENTS, DEPTH OF GRAVEL DRAINAGE ZONE, TYPE, ASSESS REBAR PLACEMENT AND POSITIONING FOR COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN THE SECTIONS ABOVE..

4.2.2.2. OBSERVE THE INSTALLATION OF ANY BACKFILL MATERIAL.

4.2.3. OBSERVE THE FINISHED RETAINING WALL

4.2.3.1. OBSERVE THE FINISHED WALL HEIGHT AND BATTER.

4.2.3.2. OBSERVE THE BACKSLOPE AND TOESLOPE GRADING CONDITIONS AND VERIFY THAT CONDITIONS DO NOT EXCEED DESIGN GEOMETRY TOLERANCES.

4.2.3.3. OBSERVE SUITABILITY OF EROSION CONTROL MEASURES AND/OR HARDSCAPE INSTALLED ABOVE THE RETAINING WALL.

PROFESSIONAL ENGINEER
11101269-2202
TYLER B. LOERTSCHER
04/13/2023
ELECTRONIC SEAL
STATE OF UTAH

REV	REVISION DESCRIPTION	DATE	BY	CHK
	REVISIONS			

IGES EST. 1998
12429 SOUTH 300 EAST
DRAPER, UTAH 84020
(801) 748-4044

CONCRETE AND REDI-ROCK RETAINING WALLS
ROZENFELD RESIDENCE
3802 EAST CATAMOUNT WAY
SANDY, UTAH
CONSTRUCTION SPECIFICATIONS & NOTES

DESIGNED BY: TBL	4-13-2023	PLOT SCALE	
DRAWN BY: TBL	4-13-2023	1=1	
CHECKED BY: KAH	4-13-2023	DWG SCALE	
APPROVED BY: TBL	4-13-2023	NTS	
IGES PROJECT NO: 04010-002	SHEET NO: 9	REV N/A	

REDI-ROCK CONSTRUCTION SPECIFICATIONS:

1. INTRODUCTION

1.1. FOLLOW THE GUIDANCE PRESENTED IN THE REDI-ROCK CONSTRUCTION MANUAL UNLESS SPECIFICALLY SUPERSEDED BY MORE STRINGENT SPECIFICATION OR MATERIAL PROPERTIES PROVIDED HEREIN OR ON THE DRAWINGS.

1.1.1. IN THE EVENT THERE IS ANY CONFLICT OR AMBIGUITY BETWEEN THE FOLLOWING SPECIFICATIONS AND THE REFERENCED GUIDANCE, BRING ALL SUCH ISSUES IMMEDIATELY TO THE ATTENTION OF IGES, INC. FOR WRITTEN CLARIFICATION.

1.2. DESIGN AND CONSTRUCTION INFORMATION IS BASED ON GEOTECHNICAL INFORMATION OBTAINED FROM SITE OBSERVATIONS, DISCUSSIONS WITH THE CLIENT AND THE ENGINEERING ANALYSIS PERFORMED AS PART OF THE SCOPE OF WORK FOR THIS PROJECT BY IGES, INC.

1.3. LOCATE ALL EXISTING UTILITIES PRIOR TO RETAINING WALL CONSTRUCTION.

1.4. IMPLEMENT THE FOLLOWING MEASURES TO REDUCE THE POTENTIAL FOR HYDROSTATIC PRESSURES TO BUILD UP BEHIND THE RETAINING WALL:

1.4.1. ESTABLISH VEGETATION OR EROSION CONTROL MEASURES ABOVE AND BELOW THE RETAINING WALLS IMMEDIATELY FOLLOWING CONSTRUCTION.

1.4.2. A 12-INCH MINIMUM DRAINAGE GRAVEL ZONE WITH A 4-INCH MINIMUM PERFORATED DRAINAGE PIPE DRAINING TO A SUITABLE LOCATION.

1.5. CONDITIONS SUCH AS LEAKY OR BROKEN IRRIGATION LINES AND/OR UNCONTROLLED RUNOFF FROM IMPROPER SITE GRADING (E.G., ALLOWING WATER TO POND ABOVE RETAINING WALL) CAN LEAD TO UNDERMINING OR HYDROSTATIC PRESSURES BUILDING UP BEHIND THE WALLS, WHICH CAN LEAD TO SLOPE OR WALL MOVEMENT.

1.5.1. HYDROSTATIC CONDITIONS WERE NOT CONSIDERED AND MUST BE PREVENTED.

1.5.2. RETAINING WALLS ARE VULNERABLE TO EROSION AND HYDROSTATIC PRESSURES IMMEDIATELY AFTER INSTALLATION OF THE RETAINING WALL BLOCKS, BUT PRIOR TO THE PLACEMENT OF THE LANDSCAPING OR FINISHING ELEMENTS AT THE SITE (E.G., 8-INCHES OF LOW PERMEABLE SOIL/HARDSCAPE, VEGETATION OF SLOPES, ETC.). AS THESE ARE CRITICAL COMPONENTS TO THE OVERALL STABILITY OF THE RETAINING WALLS, THE RETAINING WALLS ARE NOT CONSIDERED COMPLETELY INSTALLED UNTIL THE LANDSCAPING/FINISHING ELEMENTS ARE COMPLETED. WE RECOMMEND THAT THESE ELEMENTS BE INSTALLED IMMEDIATELY FOLLOWING THE INSTALLATION OF THE BLOCKS.

1.5.2.1. THE OWNER SHALL BE AWARE OF THE RISK IF THESE OR OTHER CONDITIONS OCCUR THAT COULD SATURATE OR ERODE THE SOIL BEHIND THE WALL OR IF THE FINISHING/LANDSCAPING ELEMENTS ARE NOT INSTALLED IMMEDIATELY FOLLOWING THE INSTALLATION OF THE RETAINING WALL BLOCK.

1.6. COMPLY WITH ALL ASPECTS OF OSHA 1926 SUBPART P APP B, SLOPING AND BENCHING FOR ALL EXCAVATED SLOPES.

2. RETAINING WALL MATERIALS

2.1. RETAINED BACKFILL SOILS

2.1.1. APPROVED, IMPORTED, GRANULAR BACKFILL BORROW OR APPROVED GRANULAR NATIVE SOILS THAT HAVE BEEN SCREENED AND PROCESSED COMPLYING WITH THE FOLOWING CRITERIA:

2.1.1.1. GRANULER MATERIALS CONTAINING LESS THAN 35% FINES

2.1.1.2. MAXIMUM NOMINAL PARTICLE SIZE OF 4 INCHES

2.1.1.3. PI OF 6 OR LESS

2.1.1.4. PH GREATER THAN 3 BUT LESS THAN 9

2.1.1.5. REASONABLY FREE FROM ORGANIC OR OTHER DELETERIOUS MATERIALS

2.1.1.6. MINIMUM EFFECTIVE FRICTION ANGLE OF 36 DEGREES

2.1. LEVELING PAD

2.1.1. 6 INCHES MINIMUM CRUSHED STONE

2.2. USE NEW BLOCK MATERIALS IN GOOD CONDITION MEETING THE SPECIFICATIONS OF REDI-ROCK INTERNATIONAL.

2.3. DRAINAGE GRAVEL FILL

2.3.1. CLEAN 1-INCH MINUS CRUSHED STONE OR CRUSHED GRAVEL THAT COMPLIES WITH THE FOLLOWING CRITERIA:

2.3.2.

SIEVE SIZE	% PASSING
2"	100
1"	75-100
⅜"	0-15
NO. 4	0-10
NO. 200	0-5

2.4. DRAINAGE PIPE

2.4.1. 4-INCH MINIMUM PERFORATED PIPE (NO SOCK REQUIRED).

3. RETAINING WALL INSTALLATION

3.1. FIELD-VERIFY PROPOSED FINISHED GRADE AT BOTTOM OF WALL TO PROVIDE A MINIMUM WALL EMBEDMENT SHOWN ON THE ELEVATION AND SECTION DRAWINGS.

3.2. GRADE AND COMPACT FOUNDATION SUBGRADE SOILS FOR THE FULL LENGTH OF THE LEVELING PAD PRIOR TO PLACEMENT OF THE LEVELING PAD.

3.2.1. REMOVE ANY FOUNDATION SOILS FOUND TO BE UNSUITABLE OR UNSTABLE AND REPLACE WITH APPROVED COMPACTED BACKFILL MEETING THE SPECIFICATIONS ABOVE.

3.3. SET THE LEVELING PAD LEVEL SIDE TO SIDE AND FRONT TO BACK.

3.3.1. INSTALL LEVELING PAD TO A MINIMUM OF 6 INCHES THICK AND EXTEND LATERALLY A MINIMUM OF 6 INCHES BEYOND THE END OF THE BLOCKS BOTH FRONT AND BACK AS SHOWN ON THE SECTION VIEWS.

3.4. SET AND CHECK THE FIRST ROW OF BLOCKS FOR LEVEL AND ALIGNMENT.

3.4.1. INSTALL ALL BLOCK ELEMENTS IN ACCORDANCE WITH MANUFACTURER GUIDELINES.

3.5. PLACE DRAINAGE GRAVEL TO FILL THE VOIDS BETWEEN ADJACENT BLOCKS AND EXTEND A MINIMUM DISTANCE OF 12 INCHES BEHIND THE BACK OF THE REDI-ROCK BLOCKS.

3.5.1. SET THE DRAINAGE PIPE AT THE BASE OF THE GRAVEL ZONE (OR A LOCATION THAT WILL ENSURE POSITIVE DRAINAGE) AND SLOPE TO DAYLIGHT AT THE WALL ENDS AND AT EACH LOW POINT ALONG THE WALL ALIGNMENT.

3.6. INSTALL REDI-ROCK BLOCKS WITH A SETBACK OF 1.625 INCHES PER BLOCK (5° BATTER)

3.6.1. CHECK EACH BLOCK COURSE FOR PROPER ALIGNMENT AND LEVEL.

3.7. PLACE WALL BACKFILL MATERIAL IN 12-INCH MAXIMUM LOOSE LIFTS AND COMPACT TO A MINIMUM OF 95 PERCENT OF ASTM D1557 (MODIFIED PROCTOR). THINNER LIFTS MAY BE NECESSARY TO ACHIEVE REQUIRED COMPACTION.

3.7.1. PERFORM DENSITY TESTING OF THE RETAINED BACKFILL SOILS AT 50-FOOT INTERVALS ALONG THE WALL FACE FOR EVERY LIFT.

3.7.2. USE ONLY SMALL, WALK-BEHIND TYPE COMPACTION EQUIPMENT WITHIN 3 FEET OF THE BACK OF THE RETAINING WALL BLOCK.

3.7.3. IF ANY LOCATIONS EXIST WHERE THE RETAINING WALL WILL NOT BE PLACED UPON NATIVE SOILS, COMPACT THE FILL TO A MINIMUM OF 95 PERCENT OF ASTM D1557 (MODIFIED PROCTOR).

4. CONSTRUCTION OBSERVATION

4.1. TO FULFILL ANY APPLICABLE CITY, COUNTY AND/OR STATE AGENCY REQUIREMENTS, AND TO PROTECT THE CONTRACTOR AND DESIGN ENGINEER, IGES, INC. MUST PERFORM PERIODIC CONSTRUCTION OBSERVATIONS.

4.1.1. IF IGES, INC. DOES NOT OBSERVE THE RETAINING WALLS DURING CONSTRUCTIONS, A FINAL LETTER REGARDING COMPLIANCE OF THE WALL CONSTRUCTION WITH THE DESIGN CRITERIA AND RECOMMENDATIONS CANNOT BE PROVIDED. IF IGES, INC. DOES NOT PERFORM THE PERIODIC CONSTRUCTION OBSERVATIONS OUTLINED BELOW, THE WALL CONTRACTOR/OWNER ASSUMES ALL RESPONSIBILITY FOR THE RETAINING WALLS.

4.2. WALL OBSERVATIONS SCHEDULE:

4.2.1. OBSERVE THE EXCAVATION OF THE LEVELING PAD FOUNDATION SOILS.

4.2.1.1. ASSESS THE SUITABILITY OF THE FOUNDATIONS SOILS.

4.2.2. OBSERVE THE INSTALLATION OF THE RETAINING WALL BLOCK AT VARIOUS STAGES OF CONSTRUCTION.

4.2.2.1. ASSESS MINIMUM EMBEDMENT REQUIREMENTS, DEPTH OF GRAVEL DRAINAGE ZONE, TYPE, LOCATION AND DIAMETER OF DRAINAGE PIPE, ASSESS BLOCK PLACEMENT AND POSITIONING FOR COMPLIANCE WITH THE REQUIREMENTS SET FORTH IN THE SECTIONS ABOVE.

4.2.3. OBSERVE THE INSTALLATION OF THE RETAINED BACKFILL.

4.2.3.1. OBSERVE FILL PLACEMENT AND COMPACTION.

4.2.3.1.1. ASSESS LOOSE LIFT THICKNESS, OBSERVE OPERATION OF COMPACTION EQUIPMENT.

4.2.3.1.1.1. NOTE OUT-OF-TOLERANCE BEHAVIOR REGARDING MINIMUM ALLOWABLE OPERATING DISTANCE BEHIND BACK OF RETAINING WALL BLOCKS.

4.2.3.2. ASSESS COMPACTED BACKFILL MATERIAL FOR COMPLIANCE WITH REQUIREMENTS SET FORTH IN THE SECTIONS ABOVE.

4.2.4. OBSERVE THE COMPLETED RETAINING WALL SYSTEM.

4.2.4.1. ASSESS THE FINISHED RETAINING WALL HEIGHT AND BATTER.

4.2.4.2. VERIFY THAT BACKSLOPE AND TOESLOPE GRADING CONDITIONS DO NOT EXCEED DESIGN GEOMETRY TOLERANCES.

4.2.4.3. ASSESS SUITABILITY OF EROSION CONTROL MEASURES INSTALLED ABOVE THE RETAINING WALL.

PROFESSIONAL ENGINEER
11101269-2202
TYLER B. LOERTSCHER
04/13/2023
ELECTRONIC SEAL
STATE OF UTAH

REV	REVISION DESCRIPTION	DATE	BY	CHK

REVISIONS

IGES EST. 1998
12429 SOUTH 300 EAST
DRAPER, UTAH 84020
(801) 748-4044

CONCRETE AND REDI-ROCK RETAINING WALLS
ROZENFELD RESIDENCE
3802 EAST CATAMOUNT WAY
SANDY, UTAH

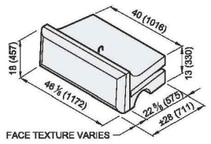
CONSTRUCTION SPECIFICATIONS & NOTES

DESIGNED BY:	TBL	4-13-2023	PLOT SCALE 1=1
DRAWN BY:	TBL	4-13-2023	
CHECKED BY:	KAH	4-13-2023	DWG SCALE NTS
APPROVED BY:	TBL	4-13-2023	

IGES PROJECT NO: 04010-002 | SHEET NO: 10 | REV N/A

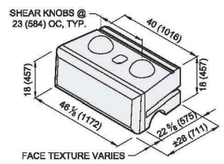
R-28T 28" (710mm) TOP

Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	1229 lb (557 kg)	1158 lb (525 kg)
Block Volume:	8.57 ft³ (0.243 m³)	8.07 ft³ (0.229 m³)
Center of Gravity:	14.9" (378mm)	14.2" (362mm)



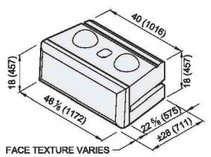
R-28M 28" (710mm) MIDDLE

Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	1613 lb (732 kg)	1542 lb (699 kg)
Block Volume:	11.28 ft³ (0.319 m³)	10.78 ft³ (0.305 m³)
Center of Gravity:	13.9" (354 mm)	13.4" (340 mm)



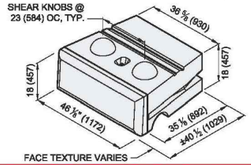
R-28B 28" (710mm) BOTTOM

Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	1744 lb (791 kg)	1672 lb (758 kg)
Block Volume:	12.19 ft³ (0.345 m³)	11.70 ft³ (0.331 m³)
Center of Gravity:	14.0" (355 mm)	13.5" (343 mm)



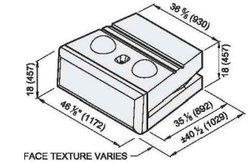
R-41M 41" (1030mm) MIDDLE

Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	2309 lb (1047 kg)	2237 lb (1015 kg)
Block Volume:	16.14 ft³ (0.457 m³)	15.65 ft³ (0.443 m³
Center of Gravity:	20.4" (518 mm)	19.8" (504 mm)



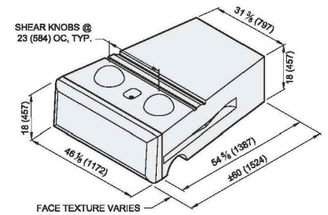
R-41B 41" (1030mm) BOTTOM

Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	2439 lb (1106 kg)	2368 lb (1074 kg)
Block Volume:	17.06 ft³ (0.483 m³)	16.56 ft³ (0.469 m³
Center of Gravity:	20.7" (527 mm)	20.2" (514 mm)



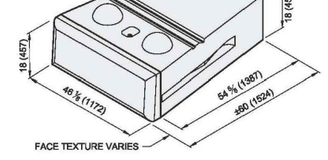
R-60M 60" (1520mm) MIDDLE

Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	3287 lb (1491 kg)	3216 lb (1458 kg)
Block Volume:	23.00 ft³ (0.651 m³)	22.49 ft³ (0.637 m³)
Center of Gravity:	31.0" (786 mm)	30.4" (772 mm)



R-60B 60" (1520mm) BOTTOM

Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	3418 lb (1550 kg)	3346 lb (1518 kg)
Block Volume:	23.90 ft³ (0.677 m³)	23.40 ft³ (0.663 m³)
Center of Gravity:	31.6" (802 mm)	31.0" (788 mm)

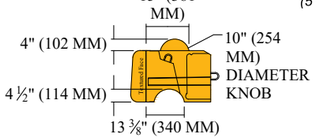


DETAILS PROVIDED BY
REDI-ROCK INTERNATIONAL

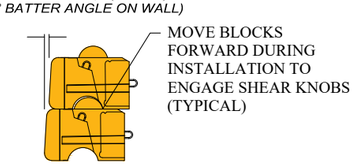
BLOCK-TO-BLOCK SETBACK OPTIONS

NO SCALE

FIVE DEGREE (5°) SETBACK
(STANDARD)



SETBACK = 1 ⅝" (41 MM)
(5° BATTER ANGLE ON WALL)



AVAILABLE WITH:

- 28" (710 MM) BLOCKS, 41" (1030 MM) BLOCKS, and 60" (1520 MM) BLOCKS
- 28" (710 MM) PC BLOCKS (WHOEN HERE) AND 41" (1030 MM) PC BLOCKS

PROFESSIONAL ENGINEER
11101269–2202
TYLER B. LOERTSCHER
04/13/2023
ELECTRONIC SEAL
STATE OF UTAH

REV	REVISION DESCRIPTION	DATE	BY	CHK

REVISIONS

IGES EST. 1998
12429 SOUTH 300 EAST
DRAPER, UTAH 84020
(801) 748-4044

CONCRETE AND REDI-ROCK RETAINING WALLS
ROZENFELD RESIDENCE
3802 EAST CATAMOUNT WAY
SANDY, UTAH

REDI-ROCK DETAILS

DESIGNED BY:	TBL	4-13-2023	PLOT SCALE	
DRAWN BY:	TBL	4-13-2023	1=1	
CHECKED BY:	KAH	4-13-2023	DWG SCALE	
APPROVED BY:	TBL	4-13-2023	NTS	
IGES PROJECT NO: 04010-002		SHEET NO: 11		REV N/A

RETAINING WALL ANALYSIS USED IN DESIGN	
ANALYSIS	DESIGN REFERENCES/SOFTWARE
EXTERNAL STABILITY (CONCRETE)	ENERCALC RP 20, STRUCTURAL ENGINEERING LIBRARY, COPYRIGHT 1983-2021, VERSION 20.23.2.14
EXTERNAL STABILITY (REDI-ROCK)	FINE CIVIL ENGINEERING SOFTWARE, REDI-ROCK WALL+- REDI-ROCK WALL ANALYSIS PROGRAM VERSION 2023.33
GLOBAL STABILITY	SLIDE 2: ROCSCIENCE, INC., 1998-2022, VERSION 9.024, BUILD DATE AUGUST 5, 2022

SOIL CONDITIONS USED IN DESIGN (ASSUMED)			
EARTH MATERIALS	FRICTION ANGLE	COHESION	UNIT WEIGHT
RETAINED SOIL	36°	100 PSF	135 PCF
FOUNDATION SOIL	36°	100 PSF	135 PCF

SOURCES & NOTES:
1. IGES, INC., 2022 FIELD OBSERVATIONS ON APRIL 20, 2022.
2. COHESION USED ONLY DURING GLOBAL STABILITY ANALYSES.

GENERAL NOTES:
1. THE ENGINEERING PRESENTED IN THIS DESIGN PACKAGE IS BASED ON SPECIFIC PRODUCTS (E.G. #4, #5 & 6 REBAR, REDI-ROCK BLOCKS, SOIL STRENGTHS GIVEN ABOVE, ETC.). ANY SUBSTITUTION OF THE SPECIFIED PRODUCTS WILL INVALIDATE THIS ENGINEERING. ANY CHANGES IN WALL LOCATION, ELEVATIONS OF LEVELING PAD, GRADES AT THE TOE OR TOP OF THE WALL, AND SOIL PARAMETERS AT THE SITE WILL ALSO INVALIDATE THE ENGINEERING. FIELD ADJUSTMENTS/CHANGES MAY BE NEEDED TO MEET ACTUAL CONDITIONS ONCE CONSTRUCTION COMMENCES. IGES SHOULD BE CONSULTED WHERE FIELD CHANGES ARE REQUIRED.
2. THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND SHALL REMAIN THE INTELLECTUAL PROPERTY OF IGES, INC. THE DESIGN PACKAGE HAS BEEN FURNISHED FOR THIS SPECIFIC PROJECT ONLY. ANY PARTY ACCEPTING THIS DOCUMENT DOES SO IN CONFIDENCE AND AGREES THAT NO USE OR RE-USE OF THESE DOCUMENTS (EITHER IN WHOLE OR IN PART) SHALL BE PERMITTED UNLESS EXPRESSLY AUTHORIZED IN WRITING BY IGES, INC.
3. RETAINING WALLS ARE VULNERABLE TO EROSION AND HYDROSTATIC PRESSURES IMMEDIATELY AFTER INSTALLATION BUT PRIOR TO THE PLACEMENT OF LANDSCAPING/FINISHING ELEMENTS AT THE SITE (E.G., LANDSCAPING, HARDSCAPE, CURB & GUTTER, PAVEMENT, ETC.). TO PREVENT DAMAGE TO THE WALL DURING ADDITIONAL SITE WORK, ALL SURFACE DRAINAGE SHOULD BE DIRECTED AWAY FROM THE WALL. EXCESS WATER DURING HEAVY RAIN EVENTS, IF NOT DRAINED PROPERLY, CAN CAUSE WASHOUTS AT WALL ENDS AND 'BLOWOUTS' OF INTERIOR SECTIONS. THESE PRECAUTIONS SHOULD BE TAKEN DURING WALL CONSTRUCTION, AND AFTER, UNTIL THE FINAL SITE DRAINAGE, LANDSCAPING AND PAVING ARE COMPLETE.
4. MINIMUM EMBEDMENT OF THE WALL VARIES AS SHOWN ON THIS ELEVATION VIEW SHEET. EMBEDMENT AT THE WALL TOE MUST BE MAINTAINED THROUGHOUT THE LIFE OF THE RETAINING WALL.
5. WE RECOMMEND THAT AN APPROPRIATE SAFETY FENCE/BARRICADE BE CONSIDERED BY THE OWNER ABOVE THE RETAINING WALL. DESIGN OF THE FENCE/BARRICADE IS SPECIFICALLY EXCLUDED FROM THE ENGINEERING OF THIS WALL.

RETAINING WALL GEOMETRY AND LOADING CONDITIONS				
WALL	LENGTH (FT)	MAXIMUM EXPOSED HEIGHT (FT)	BACKSLOPE CONDITIONS	SURCHARGE LOADING
1 CONCRETE	122	9.0	VARIES (3H:1V MAX)	1,200 PSF (UPPER TIER) 250 PSF ROADWAY
2 CONCRETE	142	9.0	VARIES (3H:1V MAX)	1,200 PSF (UPPER TIER) 250 PSF ROADWAY
3 CONCRETE	146	9.0	VARIES (3H:1V MAX)	1,200 PSF (UPPER TIER) 250 PSF ROADWAY
4 REDI-ROCK	181	8.5	VARIES (2H:1V MAX)	2,000 PSF (BUILDING)

SEISMIC PARAMETERS USED IN DESIGN					
SEISMIC CRITERIA	MCE_G PGA	SITE CLASS	F_{PGA}	PGA_M	HORIZONTAL COEFFICIENT (k_h)
ASCE 7-16	0.607g	D	1.10	0.67g	0.177g (EXTERNAL) 0.228g (GLOBAL)

SOURCES & NOTES:
1. SEISMIC PARAMETERS DEVELOPED FOLLOWING THE CRITERIA OUTLINED IN ASCE 7-16. THE *ASCE 7 HAZARD TOOL* WAS USED TO DETERMINE THE MAPPED MCE_G PEAK GROUND ACCELERATION (MCE_G PGA) FOR THE SITE. SITE CLASS IS A PARAMETER THAT ACCOUNTS FOR SITE AMPLIFICATION EFFECTS OF SOFT SOILS AND IS BASED ON THE AVERAGE SHEAR WAVE VELOCITY OF THE UPPER 100 FEET. BASED ON OUR ENGINEERING JUDGEMENT, THE SITE SOIL CLASS IS REPRESENTED BY A SITE CLASS D. USING A SITE CLASS D, THE MCE_G PEAK GROUND ACCELERATION WAS ADJUSTED FOR SITE CLASS EFFECTS (PGA_M).
2. HORIZONTAL SEISMIC COEFFICIENT (k_h)
   2.1. TO DETERMINE THE EXTERNAL SEISMIC COEFFICIENT ($k_{h\text{-}ext}$), THE BRAY ET AL (2010) METHODOLOGY WAS APPLIED. (SEE SECTION 4).
      2.1.1. LACKING ANY CRITICAL STRUCTURES OF FACILITIES WITHIN THE INFLUENCE ZONE OF THE WALLS, AN ALLOWABLE DISPLACEMENT OF 15 CENTIMETERS (~6 INCHES) WAS CONSIDERED ACCEPTABLE FOR THE WALLS ON THIS PROJECT.
   2.2. THE BRAY METHOD WAS ALSO COUPLED WITH A NEWMARK DISPLACEMENT BLOCK MODEL TO ESTIMATE DISPLACEMENT FOR THE WALLS (SEE SECTION 4 FOR RESULTS). BASED ON OUR ANALYSIS, WE ESTIMATE THAT THE ANTICIPATED MEAN DISPLACEMENT FOR THE MAXIMUM SECTION WILL BE APPROXIMATELY 1.2 INCHES (OR 2.4 INCHES WITH AN 84% CONFIDENCE LEVEL) WHICH IS WITHIN THE TOLERABLE LIMITS FOR THIS WALL TYPE.
3. SEISMIC GLOBAL STABILITY WAS ASSESSED USING A PSEUDO-STATIC APPROACH. A SEISMIC COEFFICIENT (k_h) WAS SELECTED USING THE GUIDELINES PRESENTED IN BLAKE AND OTHERS (2002) WHICH RECOMMENDS A SEISMIC SCREENING COEFFICIENT BE OBTAINED USING THE STEWART AND OTHERS (2003) METHODOLOGY.
   3.1. LACKING ANY CRITICAL STRUCTURES OF FACILITIES WITHIN THE ASSUMED SLIDE MASS, A THRESHOLD DISPLACEMENT OF 15 CENTIMETERS WAS CONSIDERED ACCEPTABLE.
4. REFERENCES:

   4.1. ANDERSON, D.G., MARTIN, G.R., LAM, I., WANG, J.N., 2008, SEISMIC ANALYSIS AND DESIGN OF RETAINING WALLS, BURIED STRUCTURES, SLOPES, AND EMBANKMENTS, NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 611.
   4.2. BLAKE, T.F., HOLLINGSWORTH, R.A., AND STEWART, J.P. (EDITORS), 2002, "RECOMMENDED PROCEDURES FOR IMPLEMENTATION OF DMG SPECIAL PUBLICATION 117 GUIDELINES FOR ANALYZING AND MITIGATING LANDSLIDE HAZARDS IN CALIFORNIA," PUBLISHED BY SOUTHERN CALIFORNIA EARTHQUAKE CENTER (SCEC), DATED JUNE 2002.
   4.3. BRAY, J.D., TRAVASAROU, T., AND ZUPAN, J., 2010, SEISMIC DISPLACEMENT DESIGN OF EARTH RETAINING STRUCTURES, ASCE EARTH RETENTION CONFERENCE 3, BELLEVUE, WA. AMERICAN SOCIETY OF CIVIL ENGINEERS, RESTION, VA, pp. 638-655.
   4.4. STEWART, J.P., BLAKE, T.F., AND HOLLINGSWORTH, R.A., 2003, A SCREEN ANALYSIS PROCEDURE FOR SEISMIC SLOPE STABILITY, IN EARTHQUAKE SPECTRA, 19(3), 697-712.

PROFESSIONAL ENGINEER
11101269-2202
TYLER B. LOERTSCHER
04/13/2023
ELECTRONIC SEAL
STATE OF UTAH

REV	REVISION DESCRIPTION	DATE	BY	CHK

REVISIONS

IGES EST. 1998
12429 SOUTH 300 EAST
DRAPER, UTAH 84020
(801) 748-4044

CONCRETE AND REDI-ROCK RETAINING WALLS
ROZENFELD RESIDENCE
3802 EAST CATAMOUNT WAY
SANDY, UTAH

DESIGN CRITERIA

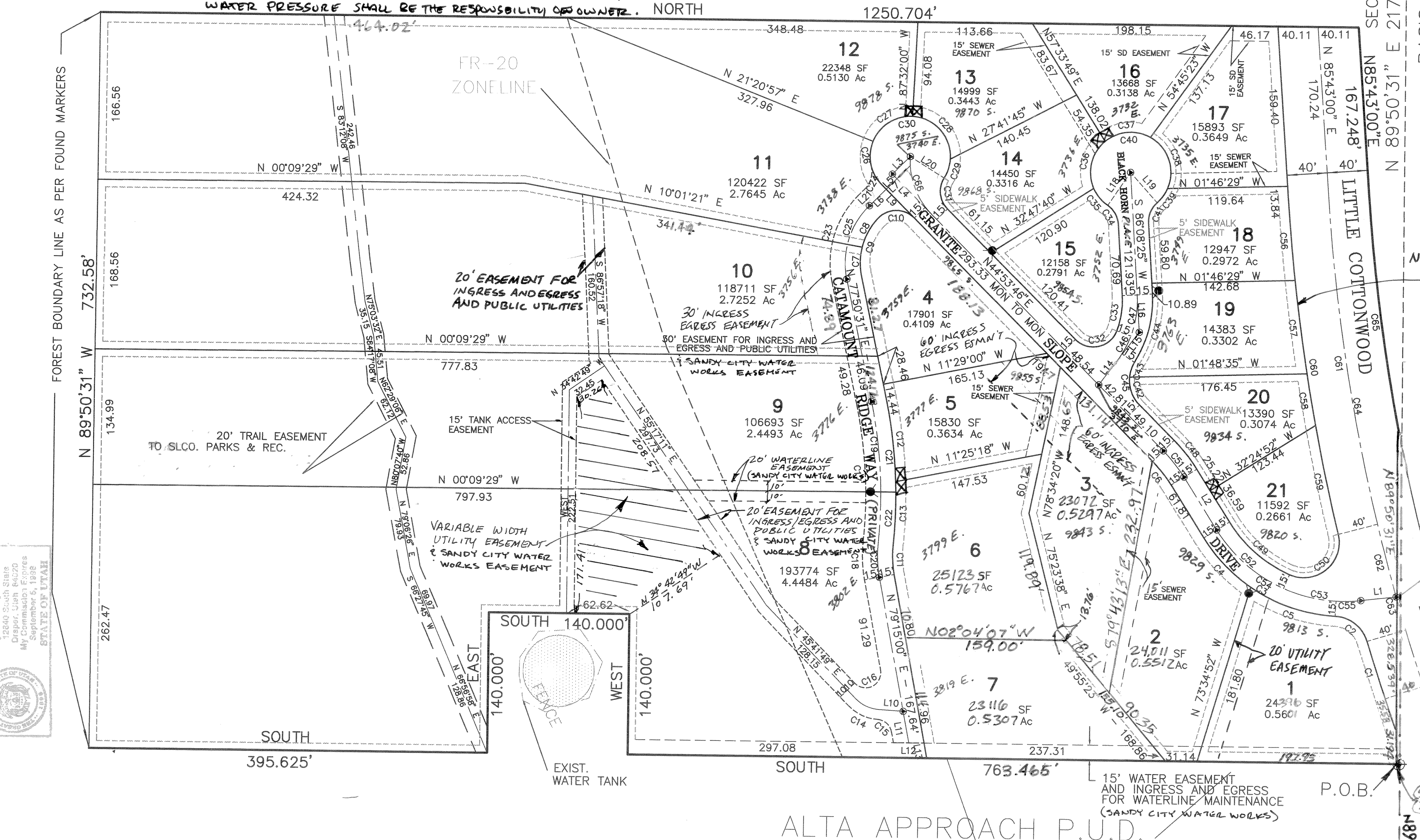
DESIGNED BY:	TBL	4-13-2023	PLOT SCALE 1=1
DRAWN BY:	TBL	4-13-2023	
CHECKED BY:	KAH	4-13-2023	DWG SCALE NTS
APPROVED BY:	TBL	4-13-2023	
IGES PROJECT NO: 04010-002		SHEET NO: 12	REV N/A

LITTLE COTTONWOOD VIEW ESTATES SUBDIVISION

LOCATED IN SECTION 12 TOWNSHIP 3 SOUTH RANGE 1 EAST SLB & M

WATER NOTE:

THE CURRENT SANDY CITY WATER SYSTEM CONFIGURATION PROVIDES FOR LESS THAN IDEAL WATER PRESSURE FOR RESIDENTIAL USES ABOVE 5390'. THERE MAY BE A NEED FOR THE PROPERTY OWNERS TO BOOST THE WATER PRESSURE WITHIN THE PROPERTY. ALL COST ASSOCIATED WITH BOOSTING THE WATER PRESSURE SHALL BE THE RESPONSIBILITY OF OWNER.



NOTE: LOTS 1, 17 THRU 21 ARE NON-ACCESS TO LITTLE COTTONWOOD ROAD.

CURVE	DELTA	RADIUS	ARC	TANGENT
C1	01°44'45"	1973.00	60.12	30.06
C2	70°06'02"	35.00	42.82	24.55
C3	54°56'25"	165.00	158.22	85.78
C4	23°42'24"	165.00	68.27	34.63
C5	31°14'01"	165.00	89.95	46.12
C6	12°41'22"	135.00	29.90	15.01
C7	25°31'28"	65.00	28.96	14.68
C8	29°04'39"	65.00	32.99	16.86
C9	54°36'07"	65.00	61.94	33.50
C10	92°27'08"	25.00	40.34	26.13
C11	16°04'03"	106.00	29.73	14.96
C12	09°57'56"	480.00	83.49	41.85
C13	07°30'37"	480.00	62.92	31.50
C14	42°05'14"	45.00	33.06	17.31
C15	75°38'25"	15.00	19.80	11.64
C16	146°26'49"	15.00	38.34	49.76
C17	17°28'33"	450.00	137.25	69.16
C18	16°04'03"	136.00	38.14	19.20
C19	17°28'33"	465.00	141.83	71.47
C20	16°04'03"	121.00	33.93	17.08
C21	11°11'30"	480.00	93.76	47.03
C22	06°17'03"	480.00	52.65	26.35
C23	57°03'15"	95.00	94.60	51.64
C24	58°57'47"	25.00	25.73	14.13
C25	57°03'15"	80.00	79.66	43.49
C26	35°24'56"	40.00	24.73	12.77
C27	71°07'05"	40.00	49.65	28.59
C28	90°18'40"	40.00	63.05	40.22
C29	28°46'33"	40.00	20.09	10.26
C30	225°31'15"	40.00	157.52	--
C31	76°39'27"	25.00	33.45	19.76
C32	114°45'40"	25.00	50.07	39.06
C33	23°59'41"	85.00	35.60	18.06
C34	52°01'12"	25.00	22.70	12.20
C35	31°51'58"	40.00	22.25	11.42
C36	73°53'47"	40.00	51.59	30.09
C37	68°49'48"	40.00	48.05	27.40
C38	84°13'16"	40.00	58.80	36.16
C39	25°13'37"	40.00	17.61	8.95
C40	284°02'25"	40.00	198.30	−31.23
C41	52°01'12"	25.00	22.70	12.20
C42	49°47'17"	35.00	30.41	16.24
C43	26°40'03"	35.00	16.29	8.30
C44	35°12'41"	115.00	70.67	36.49
C45	76°27'20"	35.00	46.70	27.57
C46	16°55'25"	100.00	29.54	14.88
C47	23°56'10"	100.00	41.78	21.20
C48	12°41'22"	165.00	36.54	18.35
C49	34°20'17"	135.00	80.91	41.71
C50	127°18'13"	35.00	77.77	70.67
C51	12°41'22"	150.00	33.22	16.68
C52	34°20'17"	150.00	89.90	46.34
C53	29°58'18"	150.00	78.47	40.15
C54	54°56'25"	150.00	143.83	77.99
C55	09°22'10"	150.00	24.53	12.29
C56	02°19'28"	1973.00	80.05	40.03
C57	02°43'00"	1973.00	93.55	46.78
C58	01°31'02"	1973.00	52.25	26.12
C59	03°12'52"	1973.00	110.69	55.36
C60	09°46'22"	1973.00	336.53	168.67
C61	09°44'45"	1933.00	328.80	164.80
C62	02°12'46"	1933.00	74.65	37.33
C63	00°09'56"	1933.00	5.58	2.79
C64	12°24'17"	1933.00	418.50	210.07
C65	07°15'18"	1893.00	239.698	120.01
C66	48°11'23"	75.00	63.08	33.54

LINE	BEARING	DISTANCE
L1	N 06°43'27" W	35.23
L2	N 57°35'08" E	61.81
L3	N 45°06'14" W	25.00
L4	N 44°53'46" E	46.52
L5	N 45°06'14" W	56.87
L6	N 45°06'14" W	23.29
L7	N 45°06'14" W	15.00
L9	N 44°53'46" E	40.04
L10	N 03°36'35" E	24.57
L11	N 79°15'00" E	32.00
L12	NORTH	30.54
L13	N 79°15'00" E	15.27
L14	N 53°00'00" W	28.88
L15	N 53°00'00" W	37.25
L16	S 86°08'25" W	37.25
L18	N 55°52'48" W	40.00
L19	N 48°09'37" E	40.00
L20	N 31°33'13" E	40.00
L21	N 45°06'14" W	7.59

LEGEND

- MONUMENT TO BE SET
- FIRE HYDRANT
- P.U. AND DRAINAGE EASEMENTS FRONT LOT LINE EASEMENT IS 15' REAR LOT LINE EASEMENT IS 10' SIDE LOT LINE EASEMENT IS 7'
- 4'x4' POSTAL EASEMENT

NOTES

1/2" x 24" RE-BAR W/PLASTIC CAP OR LEAD PLUG IN CURB TO BE SET AT ALL INTERIOR PROPERTY CORNERS

GRAPHIC SCALE 80 40 0 80 160 — 1" = 80 '-0"

PROJECT NAME AND STREET NAMES APPROVED 9-23-96 DATE COUNTY ... DEVELOPMENT SERVICES DIVISION

CHECKED FOR ZONING
ZONE: R-1-10
80 10,000
Width Area Setback
Signed Date 5-4-95

PL93-1155

SURVEYOR'S CERTIFICATE

I, JAMES G. WEST do hereby certify that I am a Registered Civil Engineer, and or Land Surveyor, and that I hold certificate No. 3082 as prescribed under laws of the State of Utah. I further certify that by authority of the owners, I have made a survey of the tract of land shown on this plat and described below, and have subdivided said tract of land into lots and streets, hereafter to be known as LITTLE COTTONWOOD VIEW ESTATES SUBDIVISION and that the same has been correctly surveyed and staked on the ground as shown on this plat. I further certify that all lots meet frontage width and area requirements of the applicable zoning ordinances.

BOUNDARY DESCRIPTION

Beginning at a point N 89°50'31" E along the Center of Section 1/4 line, 2172.60 feet, AND SOUTH 2.67 FEET FROM THE WEST 1/4 Corner of Section 12, Township 3 South, Range 1 East, S.L.B.& M.; Said point of beginning being on the West Boundary line of the Alta Approach P.U.D.; said point also being located S 89°50'31" W 456.43' AND SOUTH 2.67' from the Center of said Section 12, and being the Point of Beginning; thence South 00°00'00" West a distance of 763.465 feet to the Northeast corner of property conveyed to Sandy City Corporation in that Warranty Deed recorded August 4, 1982 as Entry No. 3699319, in Book 5401, at Page 347 of the Official Records; thence along said Sandy City property N 90°00'00" W, a distance of 140.000 feet to the Northwest corner of said Sandy City property; thence S 00°00'00" W, a distance of 140.000 feet to the Southwest corner of said Sandy City property; thence S 90°00'00" E, a distance of 140.000 feet to the Southeast corner of said Sandy City property; thence S00°00'00"W a distance of 395.625 feet to a point on the Forest Boundary; thence N 89°50'31" W 732.580 feet along said Forest Bdy; thence North 1250.704 feet to the North ROW of Little Cottonwood Rd; thence N85°43'00"E 167.248 feet to the beginning of a 1893.000 foot radius curve, concave to the North; thence easterly along said curve 239.698 feet through a central angle of 07°15'18" (chord bears N82°05'21"E 239.538 feet) thence N 89°50'31" E 328.539 FEET TO THE POINT OF BEGINNING

Containing 21.110 acres, or 919,769 square feet.
SAID PARCEL CONTAINS 21 LOTS

Signature: James G. West
JAMES G. WEST
Date: 8/24/95

Surveyor's Stamp

OWNER'S DEDICATION

Know all men by these presents that I, the undersigned owner ( ) of the above described tract of land having caused same to be subdivided into lots and streets to be hereafter known as the

LITTLE COTTONWOOD VIEW ESTATES SUBDIVISION

do hereby dedicate for perpetual use of the public all parcels of land shown on this plat as intended for public use.

In witness whereof I have hereunto set my hand this 24th day of August A.D., 1995.
Little Cottonwood View Estates Development Company LLC., a Utah Limited Liability Company
by Don S Powell Managing member
Key Bank of Utah, ... , V.P.

ACKNOWLEDGEMENT

Prisbrey Investment Company a Utah Limited Partnership
by Karl M Prisbrey General Partner

West Star Funding L.C.
by Alan Knudson

Newport Holding, Inc.
By Kent A. Hoggan Pres.

STATE OF UTAH)
:ss.
COUNTY OF SALT LAKE)

On the 19 day of June, 1996 personally appeared before me, Karl M. Prisbrey, the signer(s) of the within instrument who duly acknowledged to me that he executed the same as General Partner of Prisbrey Investment Company
Lori A. Pymm
NOTARY PUBLIC

STATE OF UTAH
COUNTY OF SALT LAKE
On June 24 1995 personally appeared before me Alan Knudson who, being by me duly sworn, did say that such person is the Managing Member of West Star Funding L.C. a LC and that said instrument was signed in behalf of said LC by authority of its by-laws and the said Alan Knudson acknowledged to me that the said Corporation executed the same.
Lori A. Pymm
Notary Public

NOTARY PUBLIC LORI A. PYMM NOTARY PUBLIC - STATE of UTAH SUPERIOR TITLE CO. 7050 SO. UNION PARK CNTR #110 MIDVALE, UT 84047 COMM. EXPIRES 8-29-99

STATE OF UTAH) ss. County of Salt Lake)
On this 8th day of October, 1996, personally appeared before me Kent A. Hoggan, who being by me duly sworn, did say that s/he is the President of Newport Holding, Inc., and that the within Owners Dedication was signed in behalf of said corporation by authority of its Board of Directors and s/he acknowledged to me that said Newport Holding, Inc. executed the same.
Reiko Tateoka
NOTARY PUBLIC Residing at Salt Lake County, Utah
My Commission Expires: 8-20-96

NOTARY PUBLIC REIKO TATEOKA 2001 So. State S-3600 Salt Lake City, Utah 84190 My Commission Expires August 20, 1996 STATE OF UTAH

STATE OF UTAH COUNTY OF SALT LAKE
On August 24, 1995 personally appeared before me Don S. Powell who, being by me duly sworn, did say that such person is the Managing Member of Little Cottonwood View Estates * a corporation, and that said instrument was signed in behalf of said corporation by authority of its by-laws and the said Don S. Powell acknowledged to me that the said Corporation executed the same.
Michelle ...
Notary Public
My Commission Expires: 07-17-96
Residing at: SLC, Utah
* Development Company LLC, a Utah Limited liability Company

STATE OF UTAH COUNTY OF SALT LAKE
On Sept 14 1995 personally appeared before me Cyril E. Sims who, being by me duly sworn, did say that such person is the V.P. of Key Bank of Utah a corporation, and that said instrument was signed in behalf of said Corporation by authority of its by-laws and the said Cyril E. Sims acknowledged to me that the said Corporation executed the same.
Notary Public
My Commission Expires:
Residing at:

ACKNOWLEDGMENT
STATE OF Utah : ss.
COUNTY OF Utah :
ON THE 2 DAY OF February A.D., 1996 PERSONALLY APPEARED BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC, IN AND FOR SAID COUNTY OF ... IN SAID STATE OF UTAH, THE SIGNER ( ) OF THE ABOVE, WHO DULY ACKNOWLEDGED TO ME THAT Ron Vance SIGNED IT FREELY AND VOLUNTARILY AND FOR THE USES AND PURPOSES THEREIN MENTIONED.
MY COMMISSION EXPIRES: 4/26/98 Marilyn S. Goble
NOTARY PUBLIC RESIDING IN Salt Lake

NOTARY PUBLIC MARILYN S. GOBLE UP & L Employees Credit Union 1407 West North Temple Salt Lake City, Utah 84116 My Commission Expires 4/26/98 STATE OF UTAH

KNOWN TO ALL MEN BE THESE PRESENTS THAT SOUTH DESPAIN DITCH COMPANY, THE UNDERSIGNED OWNER OF AN EASEMENT OR RIGHT OF WAYS WHICH TRANSVERSES THE PROPERTY HEREIN SUBDIVIDED HEREBY SUBORDINATES TO SALT LAKE COUNTY ITS INTEREST IN ROADS, RIGHT OF WAYS, OR OTHER PUBLIC USES DESCRIBED IN THE SUBDIVISION PLAT, PROVIDED THAT IF IT BECOMES NECESSARY TO RELOCATE SAID EASEMENT AT THE INSISTENCE OR REQUEST OF ANY PUBLIC ENMITY, THAT THE COST AND EXPENSES INCURRED ALONG WITH A NEW EASEMENT THEREBY WILL BE BORNE BY THE ENTITY REQUESTING AND REQUIRING THE SAME, IT BEING SPECIFICALLY UNDERSTOOD AND AGREED THAT SAID EASEMENT IS NOT SUBORDINATED TO THE SUBDIVIDER OR THE PURCHASER OF LOTS OR ANY OTHER PERSON OR ENTITY.
2nd DAY OF February 1996
M Ronald Vance, President SDD

ACKNOWLEDGMENT
STATE OF UTAH : SS.
COUNTY OF ... :
ON THE 30th DAY OF Jan A.D., 1996 PERSONALLY APPEARED BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC, IN AND FOR SAID COUNTY OF Salt Lake IN SAID STATE OF UTAH, THE SIGNER ( ) OF THE ABOVE, WHO DULY ACKNOWLEDGED TO ME THAT Alan ... SIGNED IT FREELY AND VOLUNTARILY AND FOR THE USES AND PURPOSES THEREIN MENTIONED.
MY COMMISSION EXPIRES:
NOTARY PUBLIC RESIDING IN

Maylon Ray Hansen 12840 South State Draper, Utah 84020 My Commission Expires September 5, 1998 STATE OF UTAH

KNOWN TO ALL MEN BE THESE PRESENTS THAT UTAH POWER AND LIGHT, THE UNDERSIGNED OWNER OF AN EASEMENT OR RIGHT OF WAYS WHICH TRANSVERSES THE PROPERTY HEREIN SUBDIVIDED HEREBY SUBORDINATES TO SALT LAKE COUNTY ITS INTEREST IN ROADS, RIGHT OF WAYS, OR OTHER PUBLIC USES DESCRIBED IN THE SUBDIVISION PLAT, PROVIDED THAT IF IT BECOMES NECESSARY TO RELOCATE SAID EASEMENT AT THE INSISTENCE OR REQUEST OF ANY PUBLIC ENMITY, THAT THE COST AND EXPENSES INCURRED ALONG WITH A NEW EASEMENT THEREBY WILL BE BORNE BY THE ENTITY REQUESTING AND REQUIRING THE SAME, IT BEING SPECIFICALLY UNDERSTOOD AND AGREED THAT SAID EASEMENT IS NOT SUBORDINATED TO THE SUBDIVIDER OR THE PURCHASER OF LOTS OR ANY OTHER PERSON OR ENTITY.
30 DAY OF Jan, 1996

PLANNING COMMISSION	BOARD OF HEALTH	DEVELOPMENT SERVICES	APPROVAL AS TO FORM	SL. CO. FLOOD CONTROL	COUNTY COMMISSION
APPROVED THIS 30th DAY OF October A.D., 1996 BY THE SALT LAKE CNTY PLANNING COMMISSION. Kevin C. Nakamura CHAIRMAN, SALT LAKE CO. PLANNING COMM.	APPROVED THIS 18th DAY OF July A.D., 1995 ... DIRECTOR, S.L. CO. BOARD OF HEALTH	I HEREBY CERTIFY THAT THIS OFFICE HAS EXAMINED THIS PLAT AND IT IS CORRECT IN ACCORDANCE WITH INFORMATION ON FILE IN THIS OFFICE. 23 Sept 96 DATE B. ... DIRECTOR	APPROVED AS TO FORM THIS 14th DAY OF November A.D., 1996 Paul Maughan SALT LAKE CNTY. ATTORNEY	APPROVED THIS ___ DAY OF ___ A.D., 19__ DIRECTOR, S.L. CO. FLOOD CONTROL	PRESENTED TO THE BOARD OF COMISSIONERS THIS 20th DAY OF November A.D., 19 96, AT WHICH TIME THIS SUBDIVISION WAS APPROVED AND ACCEPTED. Mary A. Callaghan ATTEST: Sherrie Swensen

28-12-32
28-12-327-007-4002
28-12-327-008 & -009 utep's

RECORDED # 6519414

STATE OF UTAH, COUNTY OF SALT LAKE, RECORDED AND FILED AT THE REQUEST OF LANDMARK TITLE
DATE 12-03-96 TIME 1:37 pm BOOK 96-12P PAGE 395
FEE $ $51.00
Nancy Workman
SALT LAKE COUNTY RECORDER

$51.00

96-12P-395

DRAWING NUMBER 96-12P-395
PLAN HOLD CORPORATION • IRVINE, CALIFORNIA REORDER BY NUMBER 075AR