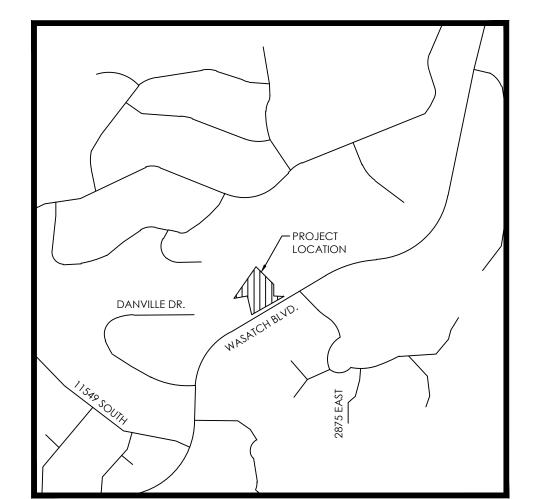
FALLS CREEK ESTATES

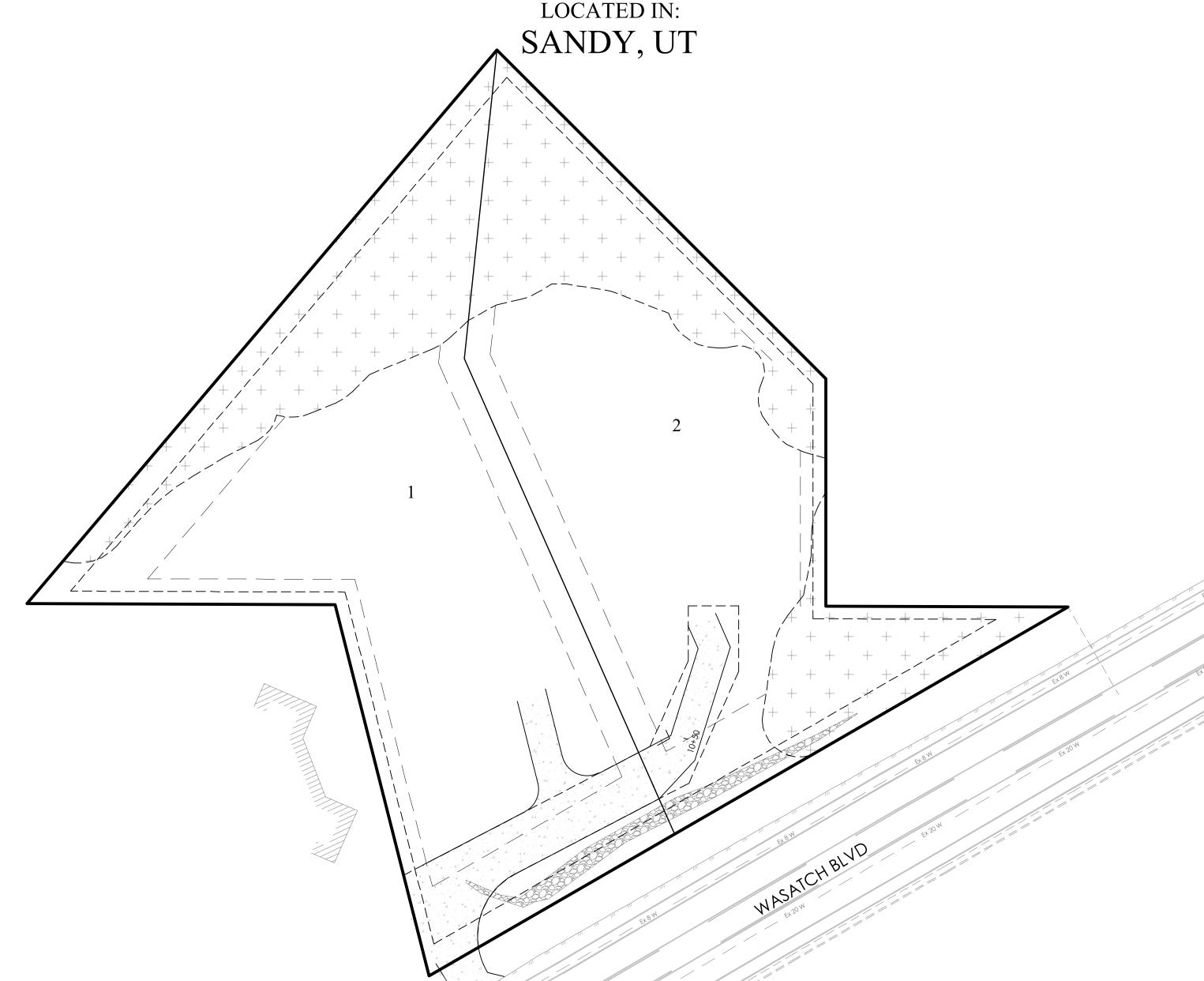
PREPARED FOR:

IVORY HOMES





VICINITY MAP



SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
C1	COVER
C2	PRELIMINARY PLAT
C3	SITE AND UTILITY PLAN
C4	GRADING AND DRAINAGE PLAN
	SHEET NUMBER C1 C2 C3

SITE MAP

GENERAL NOTES

1. CONTRACTOR TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION, AND REPORT ANY DISCREPANCIES TO THE ENGINEER.

2. ANY AND ALL DISCREPANCIES IN THESE PLANS ARE TO BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO COMMENCEMENT OF CONSTRUCTION.

3. ALL CONSTRUCTION SHALL ADHERE TO SANDY CITY STANDARD PLANS

4. ALL UTILITIES AND ROAD IMPROVEMENTS SHOWN ON THE PLANS HEREIN SHALL BE CONSTRUCTED USING REFERENCE TO SURVEY CONSTRUCTION STAKES PLACED UNDER THE SUPERVISION OF A PROFESSIONAL LICENSED SURVEYOR WITH A CURRENT LICENSE ISSUED BY THE STATE OF UTAH. ANY IMPROVEMENTS INSTALLED BY ANY OTHER VERTICAL OR HORIZONTAL REFERENCE WILL NOT BE ACCEPTED OR CERTIFIED BY THE ENGINEER OF RECORD.

5. THIS DRAWING SET IS SCALED TO BE PRINTED ON A 24" X 36" SIZE OF PAPER (ARCH. D). IF PRINTED ON A SMALLER PAPER SIZE, THE DRAWING WILL NOT BE TO SCALE AND SHOULD NOT BE USED TO SCALE MEASUREMENTS FROM THE PAPER DRAWING. ALSO USE CAUTION, AS THERE MAY BE TEXT OR DETAIL THAT MAY BE OVERLOOKED DUE TO THE SMALL SIZE OF THE DRAWING.

NOTICE

BEFORE PROCEEDING WITH THIS WORK, THE CONTRACTOR SHALL CAREFULLY CHECK AND VERIFY ALL CONDITIONS, QUANTITIES, DIMENSIONS, AND GRADE ELEVATIONS, AND SHALL REPORT ALL DISCREPANCIES TO THE ENGINEER.

ENGINEER'S NOTES TO CONTRACTOR

1. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS, TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN ON THESE DRAWINGS. THE CONTRACTOR FURTHER ASSUMES ALL LIABILITY AND RESPONSIBILITY FOR THE UTILITY PIPES, CONDUITS OR STRUCTURES SHOWN OR NOT SHOWN ON THESE DRAWINGS. IF UTILITY LINES ARE ENCOUNTERED DURING CONSTRUCTION THAT ARE NOT IDENTIFIED BY THESE PLANS, CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY.

2. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE CITY, THE OWNER, AND THE 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.

3. UNAUTHORIZED CHANGES & USES: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

4. ALL CONTOUR LINES SHOWN ON THE PLANS ARE AN INTERPRETATION BY CAD SOFTWARE OF FIELD SURVEY WORK PERFORMED BY A LICENSED SURVEYOR. DUE TO THE POTENTIAL DIFFERENCES IN INTERPRETATION OF CONTOURS BY VARIOUS TYPES OF GRADING SOFTWARE BY OTHER ENGINEERS OR CONTRACTORS, FOCUS DOES NOT GUARANTEE OR WARRANTY THE ACCURACY OF SUCH LINEWORK. FOR THIS REASON, FOCUS WILL NOT PROVIDE ANY GRADING CONTOURS IN CAD FOR ANY TYPE OF USE BY THE CONTRACTOR. SPOT ELEVATIONS AND PROFILE ELEVATIONS SHOWN IN THE DESIGN DRAWINGS GOVERN ALL DESIGN INFORMATION ILLUSTRATED ON THE APPROVED CONSTRUCTION SET. CONSTRUCTION EXPERTISE AND JUDGMENT BY THE CONTRACTOR IS ANTICIPATED BY THE ENGINEER TO COMPLETE BUILD-OUT OF THE INTENDED IMPROVEMENTS.

CONTACTS

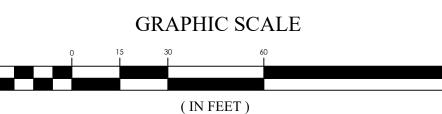
FOCUS ENGINEERING & SURVEYING, LLC 6949 S. HIGH TECH DRIVE SUITE 200 MIDVALE, UTAH 84047 (801) 352-0075 PROJECT MANAGER: MAT WANGSGAARD, PE SURVEY MANAGER: JUSTIN LUNDBERG, PLS

Know what's **below.**

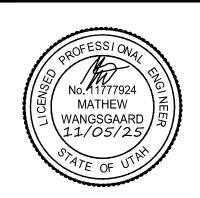
Call 811 before you dig.

IVORY DEVELOPMENT 978 WOODOAK LANE SALT LAKE CITY, UTAH 84117 (385) 522-4859 **CONTACT: GREG TIMOTHY**



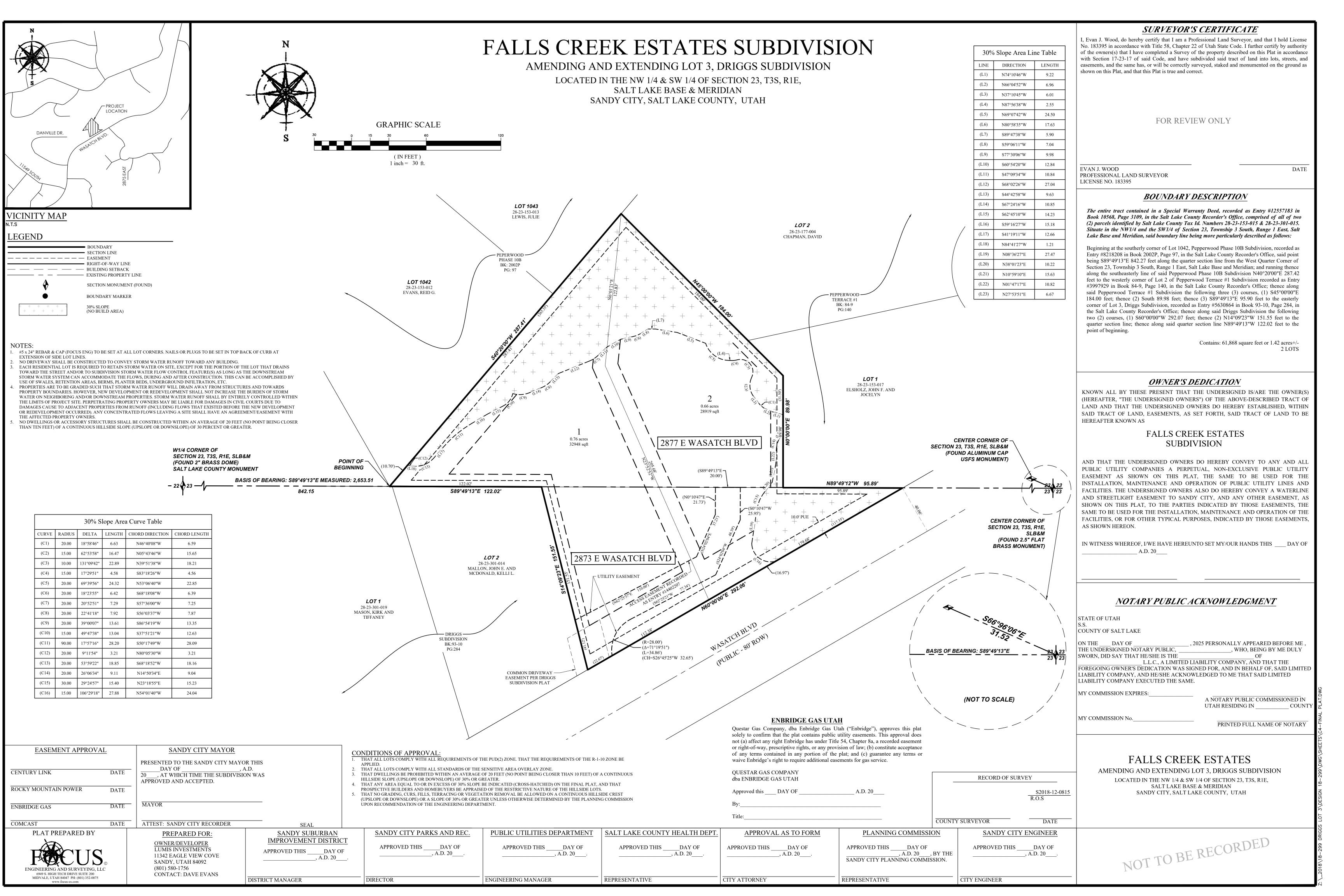


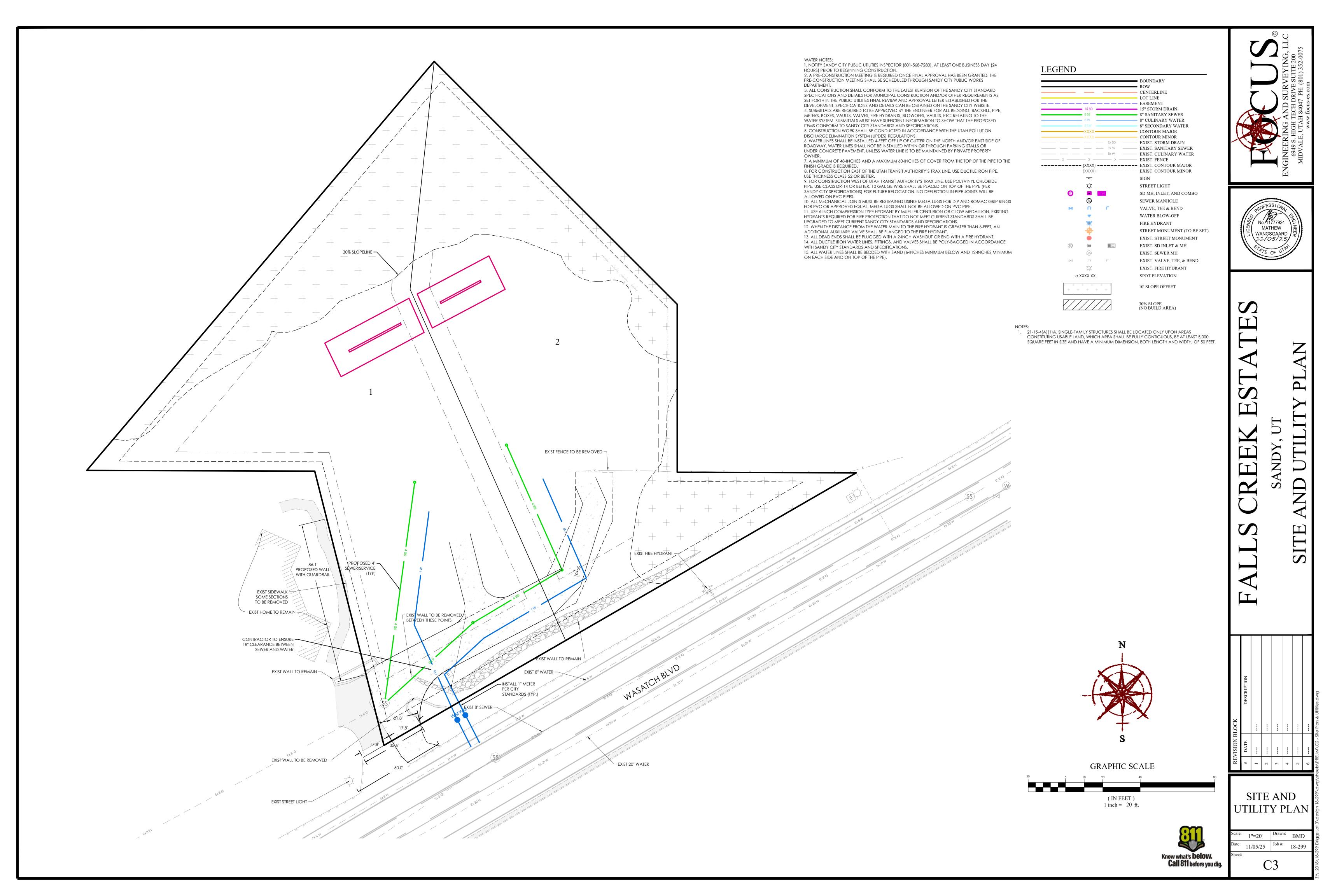
1 inch = 30 ft.

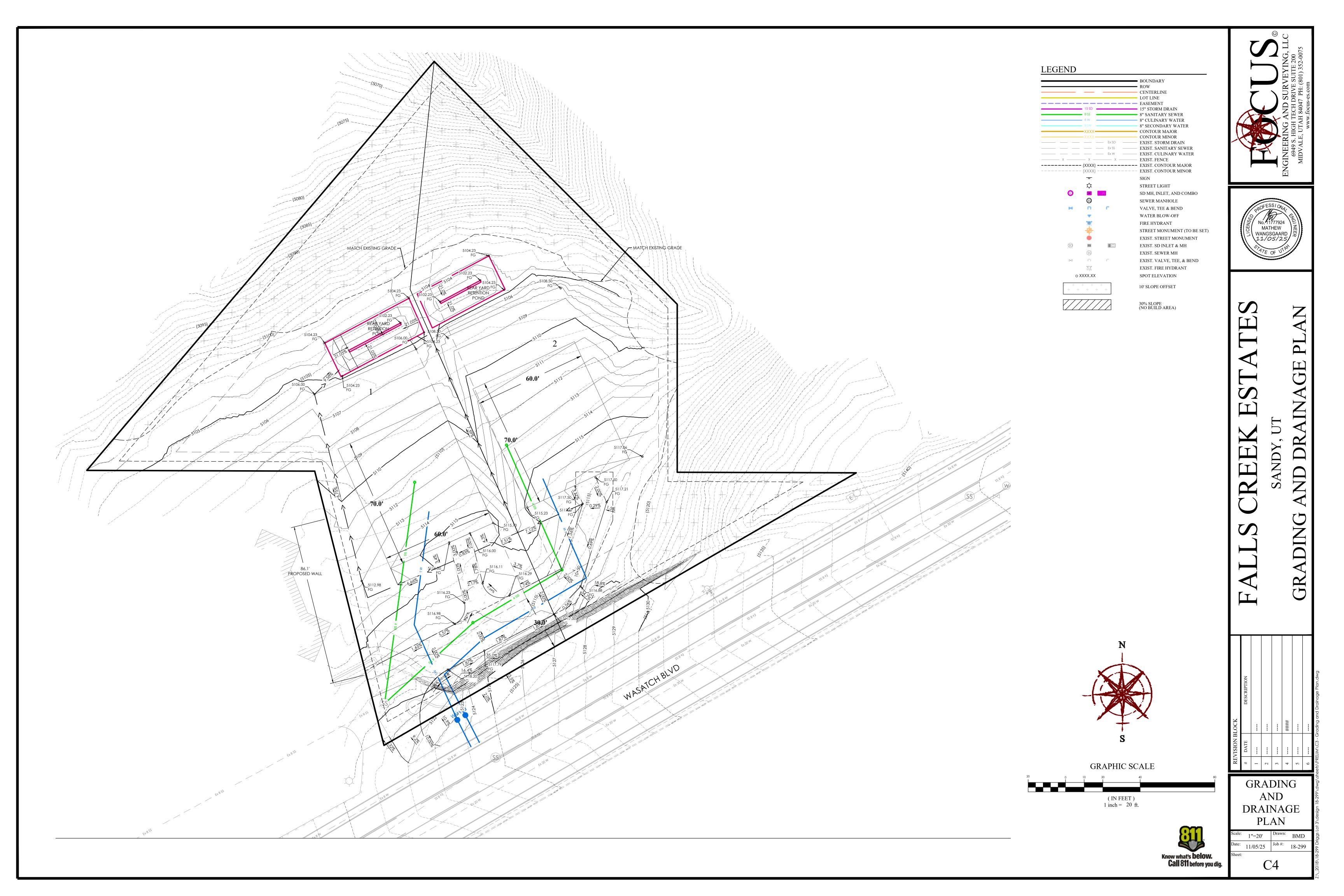


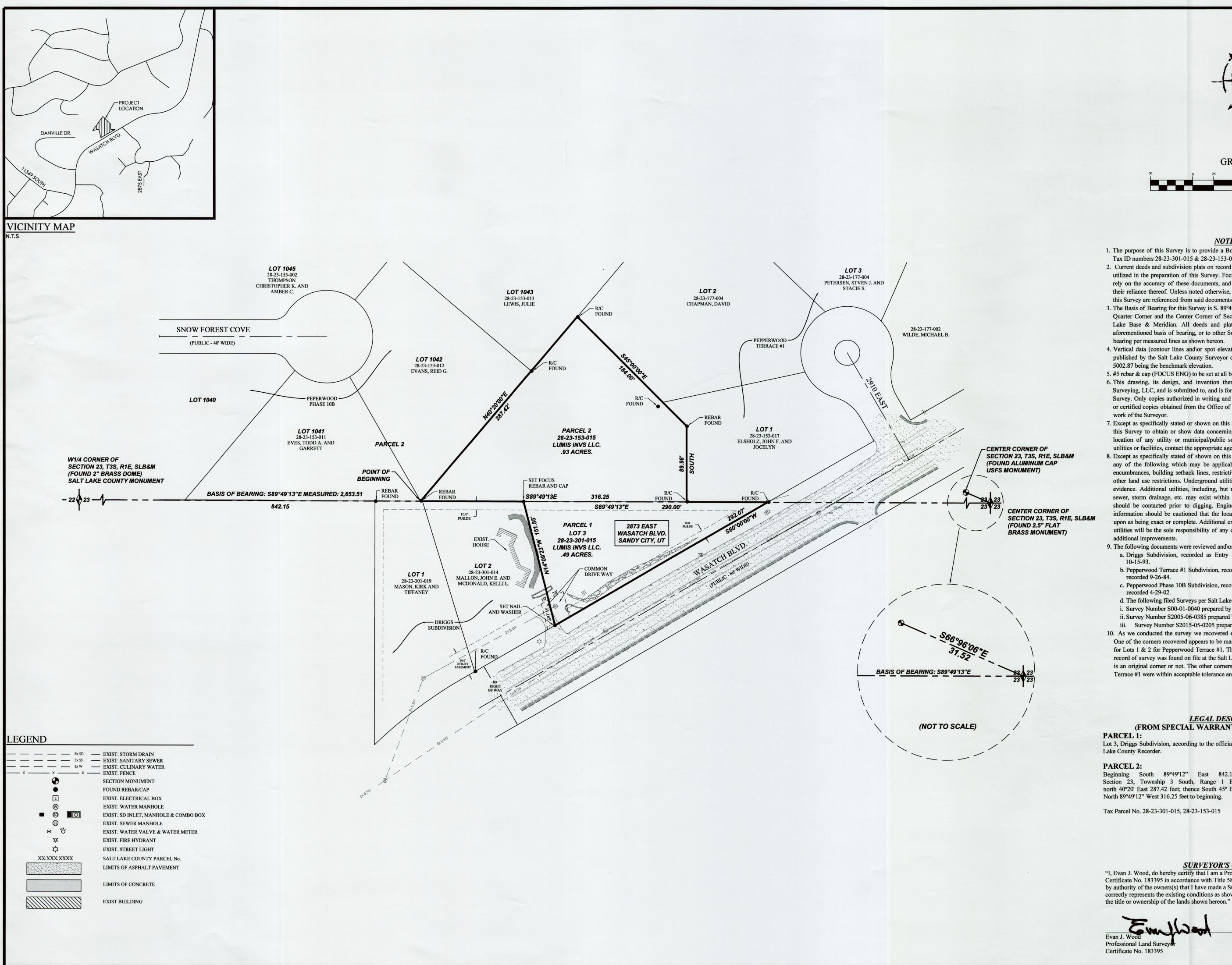
COVER

11/05/25 | Job #: 18-299

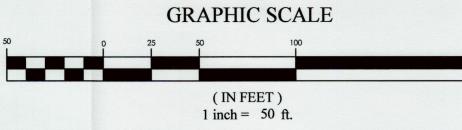












NOTES

- 1. The purpose of this Survey is to provide a Boundary Survey on two (2) parcels identified by Tax ID numbers 28-23-301-015 & 28-23-153-015 as shown hereon.
- 2. Current deeds and subdivision plats on record at the Salt Lake County Recorder's Office were utilized in the preparation of this Survey. Focus Engineering & Surveying, LLC is entitled to rely on the accuracy of these documents, and is not liable for errors and omissions based on their reliance thereof. Unless noted otherwise, all record parcels and title exceptions noted on this Survey are referenced from said documents.
- 3. The Basis of Bearing for this Survey is S. 89°49'13" E. along the Section line between the West Quarter Corner and the Center Corner of Section 23, Township 3 South, Range 1 East, Salt Lake Base & Meridian. All deeds and plats of record have been rotated to match the aforementioned basis of bearing, or to other Sectional\monument lines relative to said basis of bearing per measured lines as shown hereon.
- 4. Vertical data (contour lines and/or spot elevations, etc.) is based on the NAVD 88 elevation published by the Salt Lake County Surveyor on the West Quarter Corner of Section 23, with 5002.87 being the benchmark elevation.
- 5. #5 rebar & cap (FOCUS ENG) to be set at all boundary corners unless noted otherwise.
- 6. This drawing, its design, and invention thereof, is the property of Focus Engineering & Surveying, LLC, and is submitted to, and is for the exclusive use of the client referenced on the Survey. Only copies authorized in writing and individually signed and sealed by the Surveyor, or certified copies obtained from the Office of the County Surveyor may be used as the official work of the Surveyor.
- 7. Except as specifically stated or shown on this drawing, no attempt has been made as a part of this Survey to obtain or show data concerning existence, size, depth, condition, capacity, or location of any utility or municipal/public service facility. For information regarding these utilities or facilities, contact the appropriate agency.
- 8. Except as specifically stated of shown on this drawing, this Survey does not purport to reflect any of the following which may be applicable to the properties shown hereon: easements, encumbrances, building setback lines, restrictive covenants, subdivision restriction, zoning, or other land use restrictions. Underground utilities have been shown hereon based on observed evidence. Additional utilities, including, but not limited to: power, phone, cable TV, water, sewer, storm drainage, etc. may exist within the boundaries of this Survey and Blue Stakes should be contacted prior to digging. Engineers, Contractors, and others that rely on this information should be cautioned that the locations of the existing utilities may not be relied upon as being exact or complete. Additional exploration, verification and relocation of existing utilities will be the sole responsibility of any contractor prior to, or during construction of any additional improvements.
- 9. The following documents were reviewed and\or utilized in the preparation of this Survey:
- a. Driggs Subdivision, recorded as Entry #5630864 in Book 93-10 Page 284, recorded
- b. Pepperwood Terrace #1 Subdivision, recorded as Entry #3997929 in Book 84-9 Page 140,
- c. Pepperwood Phase 10B Subdivision, recorded as Entry #8218208 in Book 2002P Page 97, recorded 4-29-02.
- d. The following filed Surveys per Salt Lake County Surveyor:
- i. Survey Number S00-01-0040 prepared by Hubble Engineering, signed 12-23-99.
- ii. Survey Number S2005-06-0385 prepared by Contract Surveyors, signed 6-03-05. iii. Survey Number S2015-05-0205 prepared by Sandy City Surveyor, signed 4-01-15.
- 10. As we conducted the survey we recovered existing rebars and caps as noted on the survey. One of the corners recovered appears to be marking the corner of the adjoining property corners for Lots 1 & 2 for Pepperwood Terrace #1. The corner lands almost 6 feet into Parcel 2, as no record of survey was found on file at the Salt Lake County Surveyors office it is not know if this is an original corner or not. The other corners marking the southerly line of said Pepperwood Terrace #1 were within acceptable tolerance and accepted.

LEGAL DESCRIPTIONS (FROM SPECIAL WARRANTY DEED: Entry #12557183)

Lot 3, Driggs Subdivision, according to the official plat thereof as recorded in the office of the Salt

Beginning South 89°49'12" East 842.15 feet from the west 1/4 Corner Section 23, Township 3 South, Range 1 East, Salt Lake Base and Meridian; thence north 40°20' East 287.42 feet; thence South 45° East 184.00 feet; thence South 89.98 feet; thence North 89°49'12" West 316.25 feet to beginning.

Tax Parcel No. 28-23-301-015, 28-23-153-015

SURVEYOR'S CERTIFICATE

"I, Evan J. Wood, do hereby certify that I am a Professional Land Surveyor, and that I hold Certificate No. 183395 in accordance with Title 58, Chapter 22 of Utah State Code. I further certify by authority of the owners(s) that I have made a Survey of the lands shown on this Plan and that it correctly represents the existing conditions as shown. This Plan does not represent a certification to

SETT. 5, 2018

BOUNDAR

V1/2 SEC EAST, SANDY ARED F

ATION: W 2873]

1"=50' | Drawn: DJC te: 07/18/2018 Job #: 18-299

1 OF 1

CONDITIONS OF APPROVAL

W 1/4 COENER SECTION 23 T. 3 S., R, IE S. L. B. & M

- 1. That street dedications and improvements be carried out according to plan and profiles stamped and approved by the Sandy City Engineer, and specifically: a: That the private road be paved to City standards with a 20-foot width and the
- radius approved by the Fire Marshall. b. That for safety reasons there only be a 3% grade allowed for 25 feet at either end of the private road.
- 2. That the developer comply with the Sandy City Water Policy, i.e., water line extensions, water rights, fire protection.
- 3. That all lots comply with all requirements of the PUD(2) zone. That the
- requirements of the R-1-10 zone be applied. That in lieu of a residential street lighting system that a \$100 street light fee be paid with building permits.
- That as many trees as possible be saved during site preparation. That a home placement plan be submitted for lot 3 prior to building permits.
- That all lots comply with all standards of the Sensitive Area Overlay Zone. 8. That dwellings be prohibited within an average of 20 feet (no point being
- closer than 10 feet) of a continuous hillside slope (upslope or downslope) 9. That any area equal to or in excess of 30% slope be indicated (cross-hatched)
- on the final plat, and that prospective builders and homebuyers be appraised of the restrictive nature of the hillside lots.

1:4400034" R=180.00

138.26

1:48°38.07..(R=130.00

mark & Hansen

III. FULL COFFEE CO.

BOARD OF HEALTH

5-11-92

10. That all restrictive hillside requirements be included in the restrictive covenants and that a copy be made available to the City prior to final approval

S 89° 49 12"E 787.68

86

DANVILLE DRIVE

87

11. That no grading, cuts, fills, terracing or vegetation removal be allowed on a continuous hillside crest (upslope or downslope) or a slope of 30% or greater unless otherwise determined by the Planning Commission upon recommendation of the Engineering Department.

5 89°49'13"E 466.61

(2873 E)

21290 SF

12. That fencing be prohibited from the 30% slope area. 13. That the fault be labeled on the plat and a disclosure be signed for fault

120.00

(2859E)

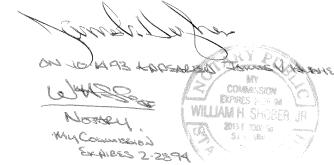
20146 SF

56.61

2845 E)

19545 SF

- rupture and debris flow.
- 14. That if a fence is constructed in the front setback areas of these lots, it needs to match the Rockhampton fence and be included in the restrictive
- 15. That the triangular lot remnant in the southwest corner of the property be quit claimed to the Thomas property.



TIO PU & DRAIN, EASE.

290.000

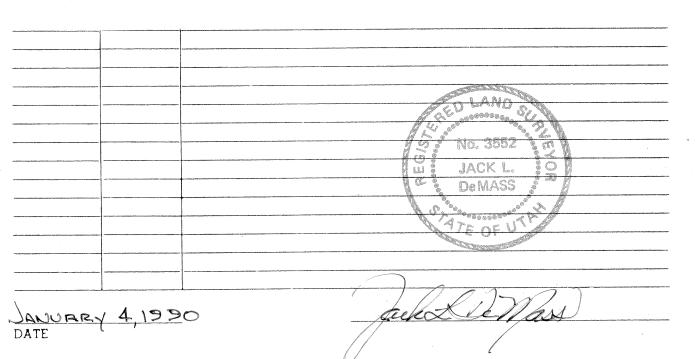
SURVEYOR'S CERTIFICATE I Jack L. De Mass

do hereby certify that I am a Registered Civil Engineer, and or Land Surveyor, and that I hold as prescribed under the laws of the certificate No. 3552 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 **Driggs Subdivision**

and that same has been correctly surveyed and staked on the ground as shown on this plat.

BOUNDARY DESCRIPTION

BEGINNING AT A POINT WHICH IS S89°49'12"E, 787.68 FEET FROM THE WEST OUARTER CORNER OF SECTION 23, TOWNSHIP 3 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN; AND RUNNING THENCE S89°49'13"E, 466.61 FEET TO THE WESTERLY RIGHT-OF-WAY LINE OF WASATCH BOULEVARD; THENCE S60°00'00"W, 419.602 FEET ALONG SAID WESTERLY RIGHT-OF-WAY LINE OF WASATCH BOULEVARD; THENCE SOUTHWESTERLY, 130.489 FEET ALONG THE ARC OF A 540.00 FOOT RADIUS CURVE TO THE LEFT, (CHORD BEARS S53°04'38"W, 130.172 FEET); THENCE N00°10'00"E, 289.463 FEET TO THE POINT OF BEGINNING. CONTAINS 1.467 ACRES



OWNER'S DEDICATION

Know all men by these presents that the <u>undersigned</u> owner (5) of the above described tract of land, having caused same to be subdivided into lots and streets to be hereafter known as the

DRIGGS 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 we have hereunto set our hands this 25th day of June A.D., 1993

PAUL DRIGGS Quentin J. Erekson QJE Winited JAMES V. HUGHES

ACKNOWLEDGMENT

STATE OF UTAH) S.S. County of Salt Lake

On the 35th day of June A.D., 1993, personally appeared before me, the undersigned Notary Public, in and for said County of Salt Lake in said State of Utah, the signer(5) of the above Owner's dedication, _____in number, who duly acknowledged to me that ______they

signed it freely and voluntarily and for the uses and purposes therein MY COMMISSION EXPIRES: 9-8-94

NOTARY PUBLIC
RESIDING IN SALT LAKE COUNTY

DRIGGS SUBDIVISION

A SUBDIVISION LOCATED IN THE SW 1/4 OF SECTION 23 T. 3 S., R. IE., S.L.B. & M.

RECORDED # 5630864

STATE OF UTAH, COUNTY OF SALT LAKE, RECORDED AND FILED AT THE RE-

PAUL DRIGGS

DATE 10-15-93 TIME 11:51 A.M. BOOK 93-10 PAGE 284 DEPUTY SALT LAKE COUNTY RECORDER FEE \$

CURVE DATA DRAIN EASE SCALE No. DELTA RADIUS LENGTH TANGENT CHORD 1 2°20'14" 540.00 22.03 11.02 22.03 2 5°18'46" 540.00 50.07 25.05 50.05 3 6°11'43" 540.00 58.39 29.22 58.36 4 4°37'30" 180.00 14.53 7.27 14.53 SALT LAKE COUNTY SEWER IMPROVEMENT DISTRICT NO. 1 ACKNOWLEDGMENT STATE OF UTAH } S.S. COUNTY OF.... AN EASEMENT AND PERPETUAL RIGHT OF WAY TO LAY, MAINTAIN, ON THE _____ DAY OF ______, 19____, PERSONALLY OPERATE, REPAIR, INSPECT, PROTECT, INSTALL, REMOVE AND REPLACE SEWER PIPELINES, VALVES, VALVE BOXES AND OTHER SEWER TRANSMISSION APPÉARED BEFORE ME ____ AND DISTRIBUTION AND STRUCTURES AND FACILITIES, HEREINAFTER CALLED THE FACILITIES, SAID RIGHT OF WAY AND EASEMENT BEING SITUATED IN SALT LAKE COUNTY, STATE OF UTAH, OVER AND THROUGH ALL WHO BEING BY ME DULY SWORN OR AFFIRMED, DID SAY THAT ____ PRIVATE ROADWAYS AND ANY OTHER LOCATIONS AS SHOWN ON THE OFFICIAL PLAT AND ENGINEERING DRAWINGS FOR DRIGGS SUBDIVISION, ON FILE IN __ IS/ARE THE ____ THE DISTRICT OFFICE AND AS RECORDED IN THE OFFICE OF THE SALT LAKE COUNTY RECORDER, STATE OF UTAH. TO HAVE AND TO HOLD THE SAME UNTO THE SEWER DISTRICT NO. 1, ITS SUCCESSORS AND ASSIGNS, SO LONG AS SUCH FACILLTIES SHALL BE , AND THAT THE WITHIN OWNER'S MAINTAINED, WITH THE RIGHT OF INGRESS AND EGRESS OF ITS OFFICERS, EMPLOYEES, AGENTS AND ASSIGNS TO ENTER UPON THE ABOVE REFERENCED DEDICATION WAS SIGNED IN BEHALF OF SAID PROPERTY WITH SUCH EQUIPMENT AS IS NECESSARY TO INSTALL, MAINTAIN, OPERATE, REPAIR, INSPECT, PROTECT, REMOVE AND REPLACE SAID FACILITIES. THE CONTRACTOR PERFORMING THE WORK SHALL RESTORE ALL PROPERTY, THROUGH WHICH THE WORK TRAVERSES, TO AS NEAR ITS ORIGINAL CONDITION AS IS REASONABLY POSSIBLE. THE OWNER SHALL HAVE THE RIGHT TO USE SAID PREMISES EXCEPT FOR THE PURPOSE FOR WHICH THIS RIGHT OF WAY AND EASEMENT IS GRANTED, PROVIDED SUCH ACKNOWLEDGED TO ME THAT SAID ___ USE SHALL NOT INTERFERE WITH THE FACILITIES OR WITH THE DISCHARGE AND CONVEYANCE OF SEWAGE THROUGH SAID FACILITIES, OR ANY OTHER RIGHTS GRANTED HEREUNDER. THE OWNER SHALL NOT BUILD OR CONSTRUCT OR PERMIT TO BE BUILT EXECUTED THE SAME. R CONSTRUCTED ANY BUILDING OR OTHER IMPROVEMENT OVER OR ACROSS SAID RIGHT OF WAY OR EASEMENT NOR CHANGE THE CONTOUR THEREOF WITHOUT THE WRITTEN CONSENT OF THE DISTRICT NO. 1. MY COMMISSION EXPIRES THIS RIGHT OF WAY AND EASEMENT GRANT SHALL BE BINDING UPON NOTARY PUBLIC AND INURE TO THE BENEFIT OF THE SUCCESSORS AND ASSIGNS OF THE

SEWER DISTRICT NO. 1 APPROVED THIS ______ DAY OF Aug A.D. 1991 DIRECTOR, S. L. CO. SEWER DIST. NO. I

All J. Pags

PLANNING COMMISSION

APPROVED THIS _____ DAY OF QULLY A.D., 19 92 BY THE SANDY CITY PLANNING COMMISSION

FORM APPROVED BY BOARD OF SALT LAKE COUNTY COMMISSIONERS JULY 12, 1967

OF _______ A.D., 199/ CHAIRMAN, SANDY CITY PLANNING COMM.

FLOOD CONTROL DEPT. APPROVED THIS _ , A.D., 19

FLOOD CONTROL COORDINATOR

ENGINEER'S CERTIFICATE I HEREBY CERTIFY THAT THIS OFFICE HAS EXAMINED THIS PLAT AND IT IS CORRECT IN ACCORDANCE WITH INFORMATION ON FILE

SANDY CITY ENGINEER

ASSIGNED IN WHOLE OR IN PART BY GRANTEE.

GRANTOR AND THE SUCCESSORS AND ASSIGNS OF THE GRANTEE, AND MAY BE

APPROVED AS TO FORM THIS 200 DAY OF _ / whe

APPROVAL AS TO FORM

_A.D., 1993

SANDY CITY ATTORNEY

A.D., 19 93, AT WHICH TIME THIS SUBDIVISION WAS APPROVED AND ACCEPTED. ATJEST: SANDY CITY CLERK MAYOR, SANDY CITY

28-23-31

MAYOR'S CABINET

28-23-301-010,-014:015

PRESENTED TO THE SANDY CITY MAYOR'S CABINET

"The DAY OF July

RESIDING IN _

0

284

ROCKERY DESIGN PACKAGE FALLS CREEK ESTATES LOT 3 2873 & 2877 EAST WASATCH BOULEVARD SANDY, UTAH



DESIGN PACKAGE CONTENTS		
	SHEET NO.	DESCRIPTION
	1	COVER SHEET
	2	PLAN VIEW
	3	TYPICAL SECTION VIEW
SHOP DRAWINGS	4	CONSTRUCTION SPECIFICATIONS & NOTES
	5	DRAINAGE ROCK DETAILS
	6	DESIGN CRITERIA
	7	SITE PHOTOS
DESIGN CALCULATION PACKAGE	SECTION 2	STABILITY CALCULATIONS
	SECTION 3	GLOBAL STABILITY RESULTS

COLOR LINE-TYPES TO MAKE SOME DETAILS AND SPECIFICATIONS MORE CLEAR. ANY COPIES OF THESE PLANS SHOULD BE MADE IN COLOR.

REFERENCE AERIAL IMAGE FROM GOOGLE EARTH PRO, IMAGE TAKEN JUNE 26, 2025.

12429 SOUTH 300 EAST DRAPER, UTAH 84020 (801) 748-4044

ROCKERY FALLS CREEK ESTATES LOT 3 2873 & 2877 EAST WASATCH BOULEVARD SANDY, UTAH **COVER SHEET**

DESIGNED BY: TBL	10-30-2025	PLOT SCALE
DRAWN BY: TBL	10-30-2025	1=1
CHECKED BY: BMJ	10-31-2025	DWG SCALE
APPROVED BY: TBL	10-31-2025	1"=70'
IGES PROJECT NO:	SHEET NO:	1 REV
00114 150		NT/A

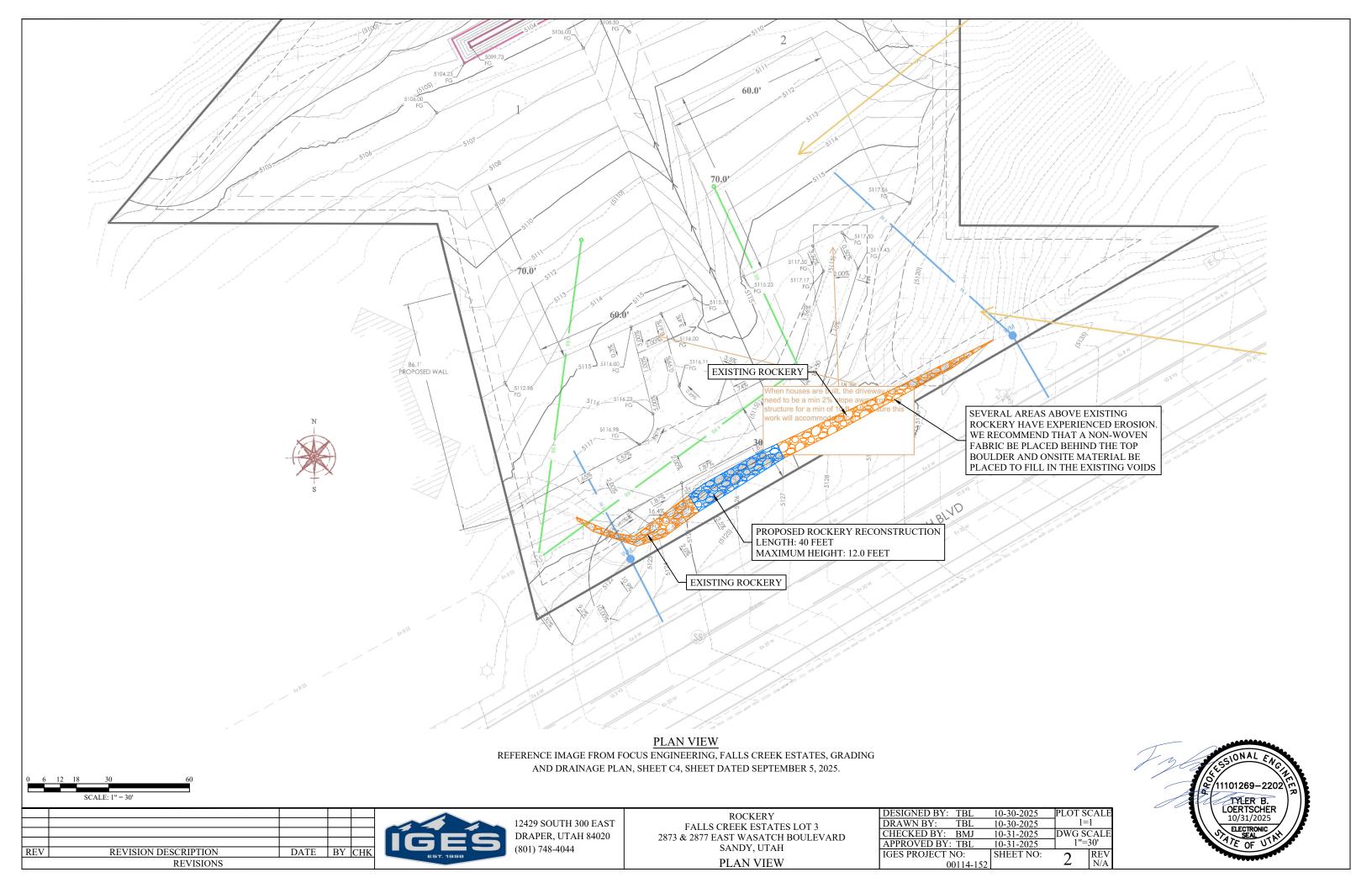
PREPARED FOR: **IVORY HOMES** 978 WOODOAK LANE SALT LAKE CITY, UTAH 84117 ATTN: GREG TIMOTHY

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



REVISION DESCRIPTION REVISIONS

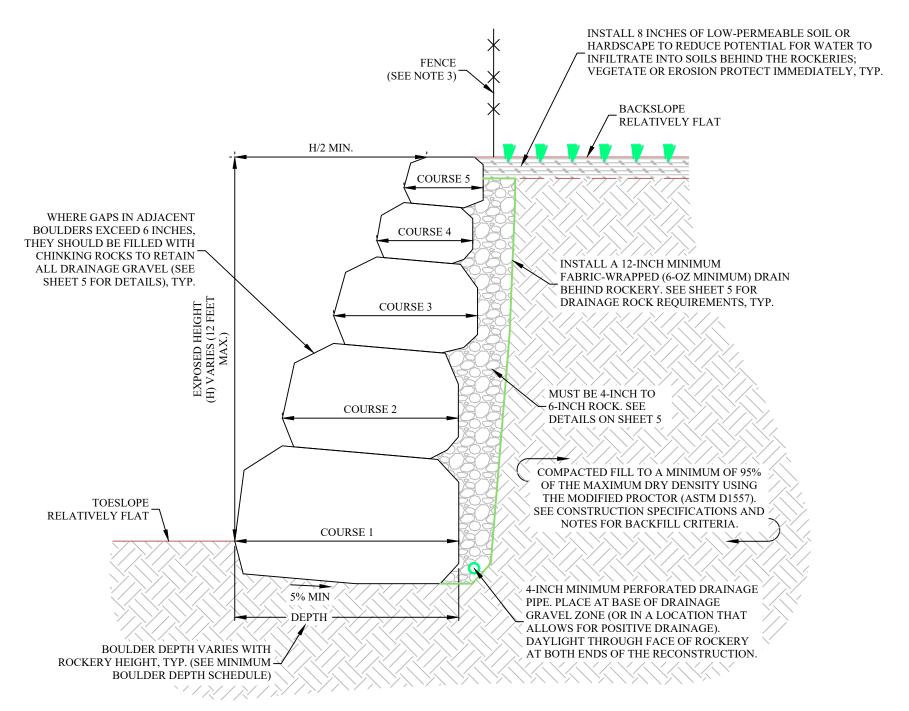




NOTES:

- 1. SOIL CUT SHOULD BE BENCHED AS NEEDED TO PROTECT WORKERS AND TO COMPLY WITH OSHA REQUIREMENTS.
- ROCKERIES ARE VULNERABLE TO EROSION AND HYDROSTATIC PRESSURES IMMEDIATELY AFTER INSTALLATION BUT PRIOR TO THE PLACEMENT OF LANDSCAPING/FINISHING ELEMENTS (E.G., LANDSCAPING, HARDSCAPE, ETC.). TO MINIMIZE THE RISK OF DAMAGE TO THE ROCKERIES DURING ADDITIONAL SITE WORK, ALL SURFACE DRAINAGE SHOULD BE DIRECTED AWAY FROM THE ROCKERIES. EXCESS WATER DURING HEAVY PRECIPITATION EVENTS, IF NOT DRAINED PROPERLY, CAN CAUSE WASHOUTS AT ROCKERY ENDS AND 'BLOWOUTS' OF INTERIOR SECTIONS. THESE PRECAUTIONS SHOULD BE TAKEN DURING AND AFTER ROCKERY CONSTRUCTION, UNTIL THE FINAL SITE DRAINAGE AND LANDSCAPING ARE COMPLETE.
- B. WE RECOMMEND THAT AN APPROPRIATE SAFETY FENCE/BARRICADE BE CONSIDERED BY THE OWNER ABOVE THE ROCKERIES. DESIGN OF THE FENCE/BARRICADE IS SPECIFICALLY EXCLUDED FROM THIS ENGINEERING. IF THE FENCE POST WILL BE PLACED WITHIN 3 FEET OF THE BACK OF THE BOULDERS, COMPLY WITH THE FOLLOWING RECOMMENDATIONS:
- 3.1. IF CHAIN LINK FENCE OR RAILING, EXTEND POST A MINIMUM DEPTH OF 36 INCHES.
- 3.2. IF VINYL, WOOD, PRECAST (OR SIMILAR), WE RECOMMEND THAT ONCE THE FENCING SYSTEM IS DETERMINED THAT IGES, INC. BE CONTACTED TO ACCESS THE IMPACT OF THE FENCE ON THE ROCKERIES.

MINIMUM BOULDER DEPTH SCHEDULE					
BOULDER SIZE (DEPTH) FOR EACH COURSE (COURSE 1 IS BOTTOM COURSE) FOR VARIOUS EXPOSED WALL HEIGHTS (H [ADD 1-FOOT MINIMUM EMBEDMENT FOR ALL ROCKERY SECTIONS]				IEIGHTS (H)	
	12-FOOT ROCKERY	10-FOOT ROCKERY	8-FOOT ROCKERY	6-FOOT ROCKERY	4 FOOT ROCKERY OR LESS
5	2.0 FEET	2.0 FEET	-	-	-
4	3.0 FEET	2.5 FEET	2.0 FEET	2.0 FEET	-
3	4.5 FEET	4.0 FEET	3.0 FEET	2.0 FEET	2.0 FEET
2	5.5 FEET	4.5 FEET	4.0 FEET	3.0 FEET	2.0 FEET
1	7.0 FEET	5.5 FEET	4.5 FEET	3.5 FEET	3.0 FEET



TYPICAL SECTION VIEW

APPROXIMATE GRAPHICAL SCALE: 1 INCH = 3 FEET (11x17 ONLY)



					Г
]
]
					1
REV	REVISION DESCRIPTION	DATE	BY	CHK]
	REVISIONS				



12429 SOUTH 300 EAST DRAPER, UTAH 84020 (801) 748-4044 ROCKERY
FALLS CREEK ESTATES LOT 3
2873 & 2877 EAST WASATCH BOULEVARD
SANDY, UTAH
TYPICAL SECTION VIEW

DESIGNED BY: TBL	10-30-2025	PLOT S	CALE
DRAWN BY: TBL	10-30-2025	1=	1
CHECKED BY: BMJ	10-31-2025	DWG S	
APPROVED BY: TBL	10-31-2025	1"=	-3'
IGES PROJECT NO:	SHEET NO:	2	REV
00114-152		3	N/A



ROCKERY CONSTRUCTION SPECIFICATIONS:

1. GENERAL

- 1.1. DESIGN AND CONSTRUCTION INFORMATION IS BASED ON SITE GEOMETRY, THE REFERENCED CONSTRUCTION PLAN AND THE ENGINEERING ANALYSIS PERFORMED AS PART OF THE SCOPE OF WORK FOR THIS PROJECT.
- 1.2. LOCATE AND FULLY RESOLVE ALL CONFLICTS WITH EXISTING AND/OR PROPOSED UTILITIES PRIOR TO ROCKERY
- 1.3. COMPLY WITH ALL ASPECTS OF OSHA 1926 SUBPART P APP B, SLOPING AND BENCHING FOR ALL EXCAVATED SLOPES.
- 1.4. IMPLEMENT THE FOLLOWING MEASURES TO REDUCE THE POTENTIAL FOR HYDROSTATIC PRESSURES TO BUILDUP BEHIND THE ROCKERY:
- 1.4.1. ESTABLISH HARDSCAPE OR LOW-PERMEABLE SOIL ABOVE ROCKERY AS SHOWN ON TYPICAL SECTION VIEW. BEFORE FINAL LANDSCAPING ELEMENTS ARE COMPLETED AT THE SITE, VEGETATION OR EROSION CONTROL MEASURES MUST BE INSTALLED ABOVE AND BELOW THE ROCKERY IMMEDIATELY FOLLOWING CONSTRUCTION.
- 1.4.2. INSTALL 6-OZ (MINIMUM) NON-WOVEN GEOTEXTILE FABRIC AS SHOWN IN THE TYPICAL SECTION VIEWS TO REDUCE POTENTIAL FOR EROSION AND DRAINAGE CHANNELS TO FORM.
- 1.5. CONDITIONS SUCH AS LEAKY OR BROKEN IRRIGATION LINES AND/OR UNCONTROLLED RUNOFF FROM IMPROPER SITE GRADING CAN LEAD TO UNDERMINING OR HYDROSTATIC PRESSURES BUILDING UP BEHIND THE ROCKERY, WHICH CAN LEAD TO SLOPE OR BOLILDER MOVEMENT
- 1.5.1. HYDROSTATIC PRESSURES WERE NOT CONSIDERED IN THE ANALYSIS OF THE ROCKERY AND MUST BE AVOIDED.
- 1.5.2. ROCKERIES ARE VULNERABLE TO EROSION AND HYDROSTATIC PRESSURES IMMEDIATELY AFTER INSTALLATION BUT PRIOR TO THE PLACEMENT OF THE FINISHING LANDSCAPING ELEMENTS (E.G., LOW-PERMEABLE SOIL OR HARDSCAPE). AS THESE ELEMENTS ARE CRITICAL TO THE OVERALL STABILITY OF THE ROCKERY, THE ROCKERY IS NOT CONSIDERED COMPLETE UNTIL THEY ARE IN PLACE.
- 1.5.3. THE OWNER SHALL BE AWARE OF THE RISKS IF THESE OR OTHER CONDITIONS OCCUR THAT COULD SATURATE OR ERODE THE SOIL BEHIND THE ROCKERY OR IF THE FINISHING/LANDSCAPING ELEMENTS ARE NOT INSTALLED IMMEDIATELY FOLLOWING THE INSTALLATION OF THE ROCKERY.

2. MATERIALS

- 2.1. REINFORCED BACKFILL SOILS
- 2.1.1. APPROVED IMPORTED GRANULAR BACKFILL BORROW OR APPROVED NATIVE SOILS THAT HAVE BEEN SCREENED AND PROCESSED COMPLYING WITH THE FOLLOWING CRITERIA:
- 2.1.1.1. GRANULAR MATERIALS CONTAINING LESS THEN 25% FINES
- 2.1.1.2. MAXIMUM NOMINAL PARTICLE SIZE OF 4 INCHES
- 2.1.1.3. PI OF 6 OR LESS, pH GREATER THAN 3 BUT LESS THAN 9
- 2.1.1.4. REASONABLY FREE FROM ORGANIC OR OTHER DELETERIOUS MATERIALS
- 2.1.1.5. MINIMUM EFFECTIVE FRICTION ANGLE OF 34 DEGREES
- 2.2. USE DURABLE ANGULAR BOULDERS WITH A MINIMUM NOMINAL DIAMETER OF 24 INCHES. MEET ALL MINIMUM DIAMETERS IN ACCORDANCE WITH DESIGN DRAWINGS. ROCKS SHOULD FOLLOW FHWA GUIDELINES:
- 2.2.1. USE ROCKS THAT ARE HARD, ANGULAR, DURABLE, AND ABLE TO RESIST PHYSICAL, CLIMATIC, AND CHEMICAL DECOMPOSITION.
- 2.2.2. USE ROCKS THAT ARE ROUGHLY RECTANGULAR, TABULAR, OR CUBIC IN SHAPE; ROUNDED ROCKS AND COBBLES SHOULD NOT BE USED.
- 2.2.3. ROCKS SHOULD CONSIST OF INTACT BLOCKS WITHOUT OPEN FRACTURES, FOLIATION, OR OTHER PLANES OF WEAKNESS 2.3. GEOTEXTILE FABRIC
- 2.3.1. 6-OZ. MINIMUM NON-WOVEN
- 2.4. DRAINAGE ROCK
- 2.4.1. IF DRAINAGE ROCK WILL ONLY HAVE GEOTEXTILE PLACED BETWEEN SOIL CUT AND DRAINAGE ROCK, USE A 4-INCH TO 6-INCH ROCK COMPLYING WITH THE FOLLOWING CRITERIA: (% PASSING 6" SIEVE: 100; % PASSING 4" SIEVE: 0-25; % PASSING THE \$\frac{3}{4}"\$ SIEVE: 0-15; % PASSING THE NO.4 SIEVE: 0-5; % PASSING THE NO.200 SIEVE: 0-2)

3. INSTALLATION

- 3.1. ROCKS SHOULD BE STACKED IN GENERAL ACCORDANCE WITH THE ASSOCIATED ROCKERY CONTRACTORS (ARC) AND FHWA ROCKERY CONSTRUCTION GUIDELINES. ARC GUIDELINES ARE GIVEN ON THIS SHEET (SEE GUIDELINES TO THE RIGHT). FHWA GUIDELINES ARE SUMMARIZED AS FOLLOWS:
- 3.1.1. EACH ROCK SHOULD BEAR ON AT LEAST TWO OTHER ROCKS
- 3.1.2. EACH ROCK SHOULD HAVE AT LEAST THREE BEARING POINTS TWO IN FRONT AND ONE IN BACK
- 3.1.3. THE FRONT-MOST BEARING POINTS FOR EACH ROCK SHOULD BE WITHIN 6 INCHES OF THE AVERAGE FACE OF THE ROCKERY
- 3.1.4. THE REAR OF THE ROCKS SHOULD BE ALIGNED ALONG AN IMAGINARY VERTICAL PLANE. IF ROCKS LARGER THAN THE MINIMUM SPECIFIED DIAMETERS ARE USED, THEY CAN EXTEND BEYOND THIS IMAGINARY PLANE PROVIDED THEY DO NOT INTERFERE WITH ROCKERY DRAINAGE
- 3.1.5. THE TOPS OF EACH ROCK SHOULD BE SLOPED BACK AT LEAST 5% TOWARDS THE BACK OF THE ROCKERY
- 3.1.6. ROCK FACING SHOULD BE STACKED AT A MAXIMUM STEEPNESS OF 1 HORIZONTAL TO 2 VERTICAL
- 3.1.7. THE BOTTOM ROW OF ROCKS SHOULD BE BURIED (EMBEDDED) A MINIMUM DEPTH OF 12 INCHES FOR ALL ROCKERIES.
- 3.2. PLACE ROCKERY BACKFILL MATERIAL IN 12-INCH MAXIMUM LOOSE LIFTS AND COMPACT TO A MINIMUM OF 95 PERCENT OF ASTM D1557 (MODIFIED PROCTOR) IN STRUCTURAL AREAS AND 90 PERCENT IN LANDSCAPE AREAS. THINNER LIFTS MAY BE NECESSARY TO ACHIEVE REQUIRED COMPACTION.
- 3.2.1. PERFORM DENSITY TESTING OF THE BACKFILL SOILS AT 50-FOOT INTERVALS ON EVERY LIFT.
- 3.2.2. USE ONLY SMALL, WALK-BEHIND TYPE COMPACTION EQUIPMENT WITHIN 3 FEET OF THE BACK OF THE ROCKERY BOULDERS.
- 3.2.3. IF ANY LOCATIONS EXIST WHERE THE ROCKERY WILL NOT BE PLACED UPON NATIVE SOILS, COMPACT THE FILL TO A MINIMUM OF 95 PERCENT OF ASTM D1557.
- 3.3. INSTALL 6-OZ NON-WOVEN GEOTEXTILE FABRIC BEHIND THE UPPER BOULDER AS SHOWN ON THE TYPICAL SECTION VIEW SHEET.

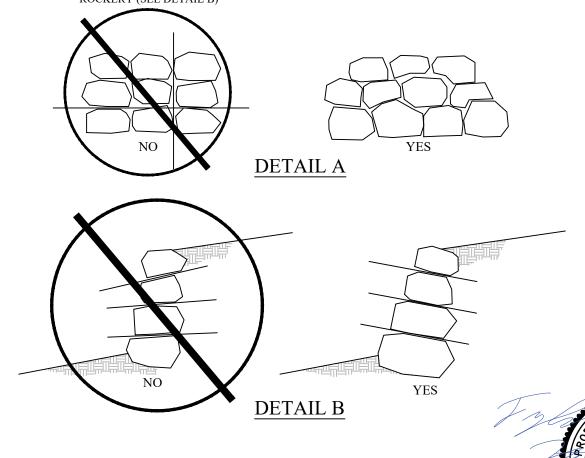
4. CONSTRUCTION OBSERVATION

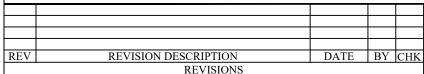
- 4.1. TO FULFILL ANY APPLICABLE CITY, COUNTY AND/OR STATE AGENCY REQUIREMENTS, AND TO PROTECT THE CONTRACTOR AND DESIGN ENGINEER, IGES, INC., MUST PERFORM PERIODIC CONSTRUCTION OBSERVATIONS.
- 4.1.1. IF IGES, INC. DOES NOT OBSERVE THE ROCKERY DURING CONSTRUCTION, A FINAL LETTER REGARDING COMPLIANCE OF THE ROCKERY CONSTRUCTION WITH THE DESIGN CRITERIA AND RECOMMENDATIONS CANNOT BE PROVIDED. IF IGES, INC., DOES NOT PERFORM THE PERIODIC CONSTRUCTION OBSERVATIONS OUTLINED ON THIS SHEET, THE ROCKERY CONTRACTOR/OWNER ASSUMES ALL RESPONSIBILITY FOR THE ROCKERY.
- 4.2. ROCKERY OBSERVATION SCHEDULE:
- 4.2.1. OBSERVE AND ASSESS THE SUITABILITY OF THE OF THE FOUNDATION BEARING SOILS.
- 4.2.2. ASSESS THE MINIMUM EMBEDMENT REQUIREMENTS ARE MET.
- 4.2.3. OBSERVE THE SIZE, POSITION, BATTER, AND PLACEMENT FOR EACH COURSE OF BOULDERS.
- 4.2.4. OBSERVE THE PLACEMENT OF RETAINED FILL SOILS. OBSERVE THE COMPACTION OF THE RETAINED FILL AND ASSESS WHETHER MINIMUM COMPACTION REQUIREMENTS ARE MET.
- 4.2.5. OBSERVE THE COMPLETED ROCKERY TO ASSESS FINISHED ROCKERY WALL HEIGHTS, BATTER, BACKSLOPE AND TOESLOPE GRADING CONDITIONS, AND THE SUITABILITY OF EROSION CONTROL MEASURES INSTALLED ABOVE AND BELOW THE ROCKERY.
- 4.2.6. ALL BACKFILL SOILS CONSISTING OF FREE DRAINING GRANULAR SOILS.
- 4.2.7. THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING THE CONSTRUCTION OBSERVATIONS AND QUALITY CONTROL.

ROCK STACKING CONSTRUCTION GUIDELINES:

ROCKS SHOULD BE STACKED IN GENERAL ACCORDANCE WITH FHWA AND THE ASSOCIATED ROCKERY CONTRACTORS (ARC) ROCKERY CONSTRUCTION GUIDELINES, SUMMARIZED AS FOLLOWS:

- ROCKS SHOULD BE PLACED SO THAT THERE ARE NO CONTINUOUS JOINT PLANES IN EITHER THE VERTICAL OR LATERAL DIRECTION (SEE DETAIL A)
- WHEREVER POSSIBLE, EACH ROCK SHOULD BEAR ON AT LEAST TWO ROCKS BELOW IT
- THE UPPER PLANE OF EACH ROCK BETWEEN COURSES (THE TOP SURFACE OF ROCK), SHOULD SLOPE BACK TOWARDS THE SLOPE FACE AND AWAY FROM THE FACE OF THE ROCKERY (SEE DETAIL B)







12429 SOUTH 300 EAST DRAPER, UTAH 84020 (801) 748-4044

ROCKERY
FALLS CREEK ESTATES LOT 3
2873 & 2877 EAST WASATCH BOULEVARD
SANDY, UTAH
CONSTRUCTION SPECIFICATIONS & NOTES

	DESIGNED BY: TBL	10-30-2025	PLOT SCALE
	DRAWN BY: TBL	10-30-2025	1=1
	CHECKED BY: BMJ	10-31-2025	DWG SCALE
	APPROVED BY: TBL	10-31-2025	NTS
	IGES PROJECT NO:	SHEET NO:	∧ REV
7	00114 152		4 N/A

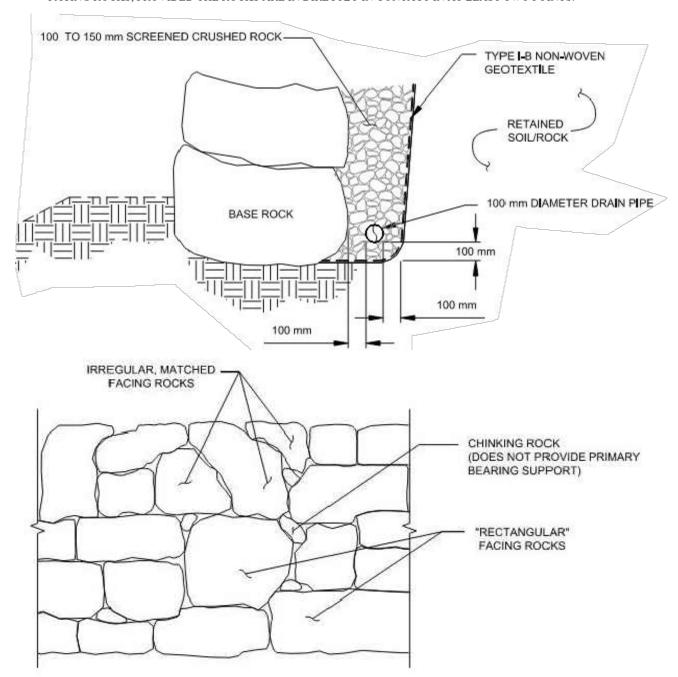
1101269-2202

TYLER B. LOERTSCHER

10/31/2025

DRAINAGE NOTES (FROM FHWA-CFL/ED-06-006 ROCKERY DESIGN AND CONSTRUCTION GUIDELINES):

- . CHINKING ROCKS (PAGE 103): "BECAUSE OF THE IRREGULAR NATURE OF THE ROCKS, IT IS DIFFICULT TO ENSURE THAT EVERY ROCK CONFORMS TO THE SHAPE OF ALL ADJACENT ROCKS. AS A RESULT, GAPS WILL OCCUR BETWEEN ROCKS. WHERE THESE GAPS EXCEED 150 MM (6 IN), THEY SHOULD BE FILLED WITH CHINKING ROCKS CONSISTING OF SPALLS FROM THE PARENT (FACING) ROCK. THE PURPOSE OF THE CHINKING ROCKS IS TO IMPROVE AESTHETICS AND PREVENT THE SCREENED BACKDRAIN MATERIAL FROM FALLING OUT THROUGH THE FACE OF THE ROCKERY. CHINKING ROCKS SHOULD NOT BE MOVABLE BY HAND, AND CAN BE GROUTED IN PLACE IF NECESSARY. IN ADDITION, CHINKING ROCKS ARE NOT TO PROVIDE PRIMARY SUPPORT FOR OVERLYING ROCKS."
- 2. DRAINAGE ROCK (PAGE 97): "DURING PLACEMENT OF THE CRUSHED ROCK BEHIND THE PARTIALLY COMPLETED ROCKERY, CARE SHOULD BE TAKEN THAT THE CRUSHED ROCK DOES NOT SPILL OVER THE TOP OF THE ADJACENT FACING ROCKS. IF THE CRUSHED ROCK IS PLACED BETWEEN THE TOP OF ONE FACING ROCK AND THE BASE OF THE SUBSEQUENT FACING ROCK, IT COULD FORM A PLACE OF WEAKNESS OR PREVENT THE FACING ROCKS FROM COMING INTO PROPER CONTACT. LIKE CHINKING ROCKS, THE CRUSHED ROCK SHOULD NOT PROVIDE PRIMARY BEARING BETWEEN ROCKS. IT IS ACCEPTABLE, HOWEVER, FOR THE CRUSHED ROCK TO FILL A PORTION OF THE LATERAL VOID BETWEEN ADJACENT FACING ROCKS, PROVIDED THE ROCKS ARE IN DIRECTLY IN CONTACT IN AT LEAST TWO POINTS."



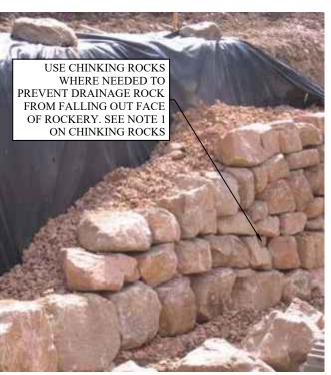
DATE BY CHK

REVISION DESCRIPTION

REVISIONS







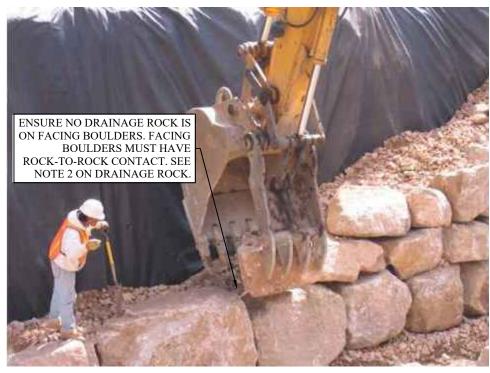


Table 9. Gradation Requirements for crushed rock backdrain.

Sieve Size	Percent by Mass Passing Designated Sieve (AASHTO T 27 & T 11)
150 mm (6 in.)	100
100 mm (4 in.)	0.0 - 25
19.0 mm (3/4 in.)	0.0 - 15
4.75 mm (No. 4)	0.0 - 5.0
75 μm (No. 200)	0.0 - 2.0

DETAILS, TABLES, AND IMAGES FROM FHWA-CFL/TD-06-006 ROCKERY DESIGN AND CONSTRUCTION GUIDELINES.



ROCKERY
FALLS CREEK ESTATES LOT 3
2873 & 2877 EAST WASATCH BOULEVARD
SANDY, UTAH

DRAINAGE ROCK DETAILS

DESIGNED BY: TBL	10-30-2025	PLOT S	CALE
DRAWN BY: TBL	10-30-2025	1=	1
CHECKED BY: BM.	J 10-31-2025	DWG S	CALE
APPROVED BY: TBL	10-31-2025	NT	TS
IGES PROJECT NO:	SHEET NO:	5	REV
00114	152	J	N/A

RETAINING WALL GEOMETRY AND LOADING CONDITIONS				
LENGTH MAXIMUM HEIGHT (FT) BACKSLOPE CONDITIONS SURCHARGE LOADING				
~40	12.0	RELATIVELY FLAT	250 PSF (ROADWAY)	

SOIL CONDITIONS USED IN DESIGN (ASSUMED)				
EARTH MATERIALS	COHESION	UNIT WEIGHT		
RETAINED SOIL	34°	50 PSF	135 PCF	
FOUNDATION SOIL	34°	50 PSF	135 PCF	

SOURCES & NOTES:

- . IGES, 2025, SITE OBSERVATION MADE OF ONSITE MATERIALS ON OCTOBER 16, 2025.
- 2. COHESION USED ONLY DURING GLOBAL STABILITY ANALYSIS.

GENERAL NOTES:

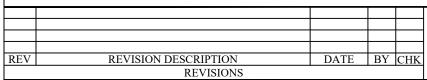
- 1. THE ENGINEERING PRESENTED IN THIS DESIGN PACKAGE IS BASED ON SPECIFIC PRODUCTS (E.G. COMPETENT/DURABLE BOULDERS, SOIL STRENGTHS GIVEN ABOVE, ETC.). ANY SUBSTITUTION OF THE SPECIFIED PRODUCTS WILL INVALIDATE THIS ENGINEERING. ANY CHANGES IN WALL LOCATION, ELEVATIONS OF LEVELING PAD, GRADES AT THE 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 WALLS DURING ADDITIONAL SITE WORK, ALL SURFACE DRAINAGE SHOULD BE DIRECTED AWAY FROM THE WALLS. 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.

ENG	ENGINEERING ANALYSIS USED IN DESIGN								
ANALYSIS	DESIGN REFERENCES/SOFTWARE								
EXTERNAL STABILITY	MACK, D.A., SANDERS, S.H. MILLHONE, W.L., FIPPIN, R.L., AND KENNEDY, D.G., 2006, ROCKERY DESIGN AND CONSTRUCTION GUIDLINES, SANDERS & ASSOCIATES GEOSTRUCTURAL ENGINEERING, INC., REPORT NO. FHEW-CFL/TD-06-006, REPORT DATED NOVEMBER, 2006								
GLOBAL STABILITY	SLIDE 2 MODELER: ROCSCIENCE, INC., 1998-2024, VERSION 9.036; BUILD DATE OCTOBER 17, 2024								

SEISMIC PARAMETERS USED IN DESIGN								
SEISMIC CRITERIA	EXTERNAL & GLOBAL STABILITY							
SLISIME CRITERIA	DESIGN PGA (As)	k _h						
7% IN 75 YEARS	0.453g	0.155g (EXTERNAL) 0.227g (GLOBAL)						

SOURCES & NOTES:

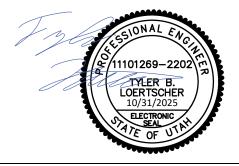
- 1. U.S. GEOLOGICAL SURVEY, U.S. SEISMIC DESIGNMAPS WEB APPLICATION, SITE: http://earthquake.usgs.gov/ws/designmaps, ACCESSED 10-30-2025.
- 2. SITE CLASS D WAS ASSUMED FOR THE ONSITE SOILS USING 2009 AASHTO GUIDE SPECIFICATIONS. AASHTO SPECIFICATIONS WERE USED AS RECOMMENDED IN THE FHWA ROCKERY DESIGN MANUAL.
- 3. RICHARDS AND ELMS METHODOLOGY USED TO REDUCE THE HORIZONTAL SEISMIC ACCELERATION COEFFICIENT IN ACCORDANCE WITH FHWA-CFL/TD-06-006 REPORT.
- I. ONE-HALF OF THE DESIGN PGA (As) WAS USED TO MODEL THE HORIZONTAL SEISMIC ACCELERATION FOR GLOBAL STABILITY ANALYSES ($\mathbf{k_h}=0.227\mathbf{g}$).

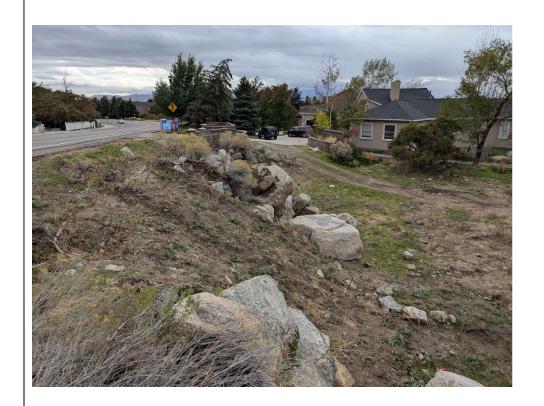




ROCKERY
FALLS CREEK ESTATES LOT 3
2873 & 2877 EAST WASATCH BOULEVARD
SANDY, UTAH
DESIGN CRITERIA

DESIGNED BY: TBL	10-30-2025	PLOT S	CALE
DRAWN BY: TBL	10-30-2025	1=	1
CHECKED BY: BMJ	10-31-2025	DWG S	CALE
APPROVED BY: TBL	10-31-2025	NT	'S
IGES PROJECT NO:	SHEET NO:	6	REV
00114-152		U	N/A















PHOTOS FROM SITE VISIT ON OCTOBER 16, 2025.

REV	REVISION DESCRIPTION	DATE	BY	CHK			
REVISIONS							



ROCKERY
FALLS CREEK ESTATES LOT 3
2873 & 2877 EAST WASATCH BOULEVARD
SANDY, UTAH
SITE PHOTOS

DESIGNED BY: TBL	10-30-2025	PLOT S	CALE
DRAWN BY: TBL	10-30-2025	1=	-1
CHECKED BY: BMJ	10-31-2025	DWG S	CALE
APPROVED BY: TBL	10-31-2025	N7	ΓS
IGES PROJECT NO:	SHEET NO:	7	REV
00114-152		/	N/A



PROJECT NO.: 00114-152 **SECTION:** 12-foot Exposed Rockery

SURCHARGE: Roadway DATE: 10/30/2025



0

FS

3.0

5.5

6.9

2.6

7.9

2.2

1.5

7.9

1.1

Required Obtained

ft

OK

Broken Back Slope:

Backslope Rise:

FS

1.5

2.0

2.0

1.5

2.0

1.5

1.1

1.5

Rockery Geometry & Soil Data:

$H_{total} =$	13	ft	Total Height of Rockery	Slope Geo	ometry:	Е	Backslope:	5.0	Н	0.0
$H_R =$	12	ft	Exposed Height of Rockery	Backslope:		β_{eq} =	0.0	deg	Eq. Backslop	e Angle
$\varphi_s =$	34	deg	Soil Friction Angle - Effective	Soil Cut Ang	gle:	α =	82.9	deg	Soil Cut Ang	gle
$c_s =$	0	psf	Cohesion Intercept of soil	Rockery Face Slope:		1	H	2	V	
$\gamma_s =$	135	pcf	Unit weight of the soil							
$\gamma_{R} =$	150	pcf	Unit weight of the rock	Seismic E	arth Pr	essure Co	efficient:		(Mack et al.,	2006)
δ =	34.0	deg	Interface Friction Angle	$A_S =$	0.453	Peak Groun	nd Acceleration	n (7% in 7	5 years)	
ψ=	7.1	deg	Back Cut Inclination	$\Delta =$	4.53	in	$(10*A_S)$			
μ=	0.70		Frictional Component	$k_h =$	0.155	(Using Ric	hards & Elms	Approach)	
μ_{rock} =	0.55		Rock-to-Rock Friction	$k_v =$	0					
K _A =	0.207		Active Earth Pressure Coefficient	$\theta =$	8.79					
ν =	63.4	deg	Rockery Face Angle	$K_{AE} =$	0.313					

Surcharge:

Uniform:	Uniform A	pplied Su	rcharge	Strip:	Strip Load	Surcharge	
$q_s =$	0	psf		$q_s =$	250	psf	
$F_s =$	0	lbf/ft	(Horizontal Surcharge Load)	$\mathbf{x}_{\mathrm{s}} =$	2	ft	(Distance from soil cut)
$y_s =$	6.5	ft	(Surcharge load centroid)	$W_s =$	22	ft	(Width of Strip Load)

(Since FS (seismic wall movement) > 1.1, there is a 90% probability

 $y_s =$

V

that the rockery displacement will not exceed Δ)

Failure Mechanism

External Sliding

External Overturning

Individual Rock Overturning

Individual Rock Sliding

Bearing Capacity

Seismic Overturning

Seismic Sliding

Seismic Bearing Capacity

Seismic Wall Movement

5.5

(Horizontal Surcharge Load) ft

Factor of Safety against Bearing Capacity:

$e_{max} =$	1.167	$q_{max} =$	1,841	psf	$e_{s,s} = 0.546$	FS_{BC}	9.90	Eccentricity Check (static): OK
$e_s =$	-0.269	$q_{\mathrm{ult}} =$	18,208	psf	$q_{\text{max,s}} = 2,310$	$FS_{BC,s}$	7.90	Eccentricity Check (seismic): OK

Rocks = 5

(R* - Boulder Height to Width Ratio)

Boulder	B' (ft)	R*	H_{R} (ft)	H-H' (ft)	ΣW_i	$\Sigma W_i^* x_i$	F_{H}	$F_{H,s}$	F_{μ}	$F_{\mu,s}$	M _o	$M_{o,s}$	M_{r}	$M_{r,s}$	FS_{SL}	FS _{OT}	$FS_{SL,S}$	FS _{OT,S}
1	7.0	0.58	4.1	13.0	9,402	47,075	2,482	5,249	7,324	7,781	10,104	27,746	55,073	60,280	3.0	5.5	1.5	2.2
2	5.5	0.58	3.2	8.9	5,291	19,944	1,237	2,663	3,185	3,354	3,358	9,610	22,878	24,777	2.6	6.9	1.3	2.6
3	4.5	0.60	2.7	5.7	2,779	7,441	535	1,215	1,641	1,711	892	2,767	8,415	9,039	3.1	9.5	1.5	3.3
4	3.0	0.60	1.8	3.0	1,058	1,807	148	381	613	632	122	466	1,985	2,098	4.2	>10	1.7	4.5
5	2.0	0.60	1.2	1.2	315	315	18	78	178	181	7	44	334	345	10.0	>10	2.4	7.8
6	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

13.0 Total Estimated Height of Rockery

PROJECT NO.: 00114-152 **SECTION:** 10-foot Exposed Rockery

DATE: 10/30/2025 **SURCHARGE:** Roadway



ft

Rockery Geometry & Soil Data:

$H_{total} =$	11	ft	Total Height of Rockery	Slope Ge	ometry:		Backslope:	5.0	Н	0.0
$H_R =$	10	ft	Exposed Height of Rockery	Backslope:		β_{eq} =	0.0	deg	Eq. Backslop	e Angle
$\varphi_s =$	34	deg	Soil Friction Angle - Effective	Soil Cut An	gle:	α =	82.9	deg	Soil Cut Ang	;le
$c_s =$	0	psf	Cohesion Intercept of soil	Rockery Face Slope:		1	Н	2	V	
$\gamma_s =$	135	pcf	Unit weight of the soil							
$\gamma_{R} =$	150	pcf	Unit weight of the rock	Seismic F	Earth Pr	essure C	oefficient:		(Mack et al.,	2006)
δ =	34.0	deg	Interface Friction Angle	$A_S =$	0.453	Peak Grou	and Acceleration	n (7% in 7	5 years)	
ψ=	7.1	deg	Back Cut Inclination	$\Delta =$	4.53	in	$(10*A_S)$			
μ=	0.70		Frictional Component	$k_h =$	0.155	(Using Ri	chards & Elms	Approach)	
μ_{rock} =	0.55		Rock-to-Rock Friction	$k_v =$	0					
K _A =	0.207		Active Earth Pressure Coefficient	$\theta =$	8.79					
ν=	63.4	deg	Rockery Face Angle	$K_{AE} =$	0.313					

Surcharge:

<u>Uniform:</u>	Uniform A	applied Sur	rcharge	<u>Strip:</u>	Strip Load	Surcharge	
$q_s =$	0	psf		$q_s =$	250	psf	
$F_s =$	0	lbf/ft	(Horizontal Surcharge Load)	$\mathbf{x}_{\mathrm{s}} =$	2	ft	(Distance from soil cut)
$y_s =$	5.5	ft	(Surcharge load centroid)	$W_s =$	18	ft	(Width of Strip Load)

Factor of Safety against Bearing Capacity:

$e_{max} =$	0.917
$e_s =$	-0.266

1,682 $q_{max} = \\$ $q_{ult} =$

15,125

psf

0.410 1,989

FS_{BC} $FS_{BC,s}$ 9.00

7.70

Broken Back Slope:

V

Backslope Rise: 0

	FS	FS	
Failure Mechanism	Required	Obtained	OK
External Sliding	1.5	2.8	OK
External Overturning	2.0	5.1	OK
Individual Rock Overturning	2.0	6.5	OK
Individual Rock Sliding	1.5	2.5	OK
Bearing Capacity	2.0	7.7	OK
Seismic Overturning	1.5	2.1	OK
Seismic Sliding	1.1	1.5	OK
Seismic Bearing Capacity	1.5	7.7	OK
Seismic Wall Movement	1.1	1.1	OK

(Since FS (seismic wall movement) > 1.1, there is a 90% probability that the rockery displacement will not exceed Δ)

319 (Horizontal Surcharge Load) 4.5 $y_s =$ ft

Eccentricity Check (static): OK

Eccentricity Check (seismic): OK

# Rocks =	5	(R* - Boulder Height to Width Ratio)
II ICOCIES		(K - Boulder Height to Width Katio)

Boulder	B' (ft)	R*	$H_{R}(ft)$	H-H' (ft)	ΣW_i	$\Sigma W_i^* x_i$	F_{H}	$F_{H,s}$	F_{μ}	$F_{\mu,s}$	M _o	$M_{o,s}$	$M_{\rm r}$	$M_{r,s}$	FS _{SL}	FS _{OT}	$FS_{SL,S}$	FS _{OT,S}
1	5.5	0.58	3.2	11.0	6,405	27,047	1,826	3,750	5,018	5,347	6,240	16,885	31,598	34,574	2.8	5.1	1.5	2.1
2	4.5	0.60	2.7	7.8	3,893	12,768	958	2,028	2,353	2,483	2,263	6,435	14,625	15,830	2.5	6.5	1.3	2.5
3	4.0	0.60	2.4	5.1	2,171	5,154	437	973	1,285	1,340	639	1,967	5,847	6,291	3.0	9.2	1.4	3.2
4	2.5	0.60	1.5	2.7	821	1,279	117	300	477	493	87	338	1,399	1,476	4.1	>10	1.7	4.4
5	2.0	0.60	1.2	1.2	315	315	18	78	178	181	7	44	334	345	10.0	>10	2.4	7.8
6	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

11.0 Total Estimated Height of Rockery

PROJECT NO.: 00114-152 **SECTION: 8-foot Exposed Rockery**

> **SURCHARGE:** Roadway DATE: 10/30/2025



0

FS

Obtained

2.9

5.5

8.1

2.8

8.1

2.2

1.5

8.3

1.2

ft

OK

Rockery Geometry & Soil Data:

$H_{total} =$	9	ft	Total Height of Rockery	Slope Geometry:		E	Backslope:	5.0	Н	0.0	V	Broken B
$H_R =$	8	ft	Exposed Height of Rockery	Backslope:		β_{eq} =	0.0	deg	Eq. Backslo	pe Angle		Backs
$\varphi_s =$	34	deg	Soil Friction Angle - Effective	Soil Cut An	gle:	α=	82.9	deg	Soil Cut An	gle		
$c_s =$	0	psf	Cohesion Intercept of soil	Rockery Fac	e Slope:	1	Н	2	V		Failure	Mechanism
$\gamma_{s} =$	135	pcf	Unit weight of the soil								Extern	nal Sliding
$\gamma_{R} =$	150	pcf	Unit weight of the rock	Seismic F	Earth Pro	essure Co	efficient:		(Mack et al.	, 2006)	External	Overturning
δ =	34.0	deg	Interface Friction Angle	$A_S =$	0.453	Peak Grou	nd Acceleration	n (7% in	75 years)		Individual R	ock Overturning
ψ=	7.1	deg	Back Cut Inclination	$\Delta =$	4.53	in	$(10*A_S)$				Individua	l Rock Sliding
μ=	0.70		Frictional Component	$\mathbf{k}_{\mathrm{h}} =$	0.155	(Using Ric	hards & Elms .	Approach	1)		Bearin	g Capacity
μ_{rock} =	0.55		Rock-to-Rock Friction	$k_v =$	0						Seismic	Overturning
K _A =	0.207		Active Earth Pressure Coefficient	$\theta =$	8.79						Seism	nic Sliding
ν=	63.4	deg	Rockery Face Angle	$K_{AE} =$	0.313						Seismic Bo	earing Capacity

Surcharge:

<u>Uniform:</u>	Uniform A	applied Sur	rcharge	<u>Strip:</u>	Strip Load	Surcharge	
$q_s =$	0	psf		$q_s =$	250	psf	
$F_s =$	0	lbf/ft	(Horizontal Surcharge Load)	$X_s =$	2	ft	(Distance from soil cut)
$y_s =$	4.5	ft	(Surcharge load centroid)	$W_s =$	14	ft	(Width of Strip Load)

(Since FS (seismic wall movement) > 1.1, there is a 90% probability

Broken Back Slope:

Backslope Rise:

FS

Required

1.5

2.0

2.0

1.5

2.0

1.5

1.1

1.5

that the rockery displacement will not exceed Δ)

Seismic Wall Movement

233 (Horizontal Surcharge Load) 3.5 $y_s =$ ft

Factor of Safety against Bearing Capacity:

$e_{max} =$	0.750	$q_{max} =$	1,604	psf	$e_{s,s} = 0.222$	FS_{BC}	8.10	Eccentricity Check (static): OK
$e_s =$	-0.306	$q_{ m ult}$ $=$	12,843	psf	$q_{\text{max,s}} = 1,552$	$FS_{BC,s}$	8.30	Eccentricity Check (seismic): OK

Rocks = 4

(R* - Boulder Height to Width Ratio)

Boulder	B' (ft)	R*	H_{R} (ft)	H-H' (ft)	ΣW_i	$\Sigma W_i^* x_i$	F_{H}	$F_{H,s}$	F_{μ}	$F_{\mu,s}$	M_{o}	$M_{o,s}$	$M_{\rm r}$	$M_{r,s}$	FS_{SL}	FS _{OT}	$FS_{SL,S}$	FS _{OT,S}
1	4.5	0.70	3.2	9.0	4,616	16,375	1,244	2,581	3,590	3,811	3,441	9,577	18,872	20,505	2.9	5.5	1.5	2.2
2	4.0	0.65	2.6	5.9	2,608	6,798	559	1,226	1,554	1,627	960	2,897	7,717	8,308	2.8	8.1	1.4	2.9
3	3.0	0.65	2.0	3.3	1,146	1,991	173	431	667	689	156	572	2,201	2,334	3.9	>10	1.6	4.1
4	2.0	0.65	1.3	1.3	341	341	21	87	194	197	9	54	363	377	9.2	>10	2.3	7.1
5	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

9.0 Total Estimated Height of Rockery

PROJECT NO.: 00114-152

SURCHARGE: Roadway DATE: 10/30/2025



0

FS

ft

Rockery Geometry & Soil Data:

$H_{total} =$	7	ft	Total Height of Rockery	·			Backslope:	5.0	Η	0.0
$H_R =$	6	ft	Exposed Height of Rockery	Backslope:		β_{eq} =	0.0	deg	Eq. Backslop	e Angle
$\varphi_s =$	34	deg	Soil Friction Angle - Effective	Soil Cut Ang	gle:	α =	82.9	deg	Soil Cut Ang	le
$c_s =$	0	psf	Cohesion Intercept of soil	Rockery Fac	e Slope:	1	Н	2	V	
$\gamma_{\rm s} =$	135	pcf	Unit weight of the soil							
$\gamma_{R} =$	150	pcf	Unit weight of the rock	Seismic Earth Pre		essure C	oefficient:		(Mack et al.,	2006)
δ =	34.0	deg	Interface Friction Angle	$A_S =$	0.453	Peak Gro	and Acceleration	n (7% in 7	5 years)	
ψ=	7.1	deg	Back Cut Inclination	$\Delta =$	4.53	in	$(10*A_{S})$			
μ=	0.70		Frictional Component	$\mathbf{k}_{\mathrm{h}} =$	0.155	(Using Ri	chards & Elms	Approach)	
μ_{rock} =	0.55		Rock-to-Rock Friction	$k_v =$	0					
K _A =	0.207		Active Earth Pressure Coefficient	$\theta = 8.79$						
ν =	63.4	deg	Rockery Face Angle	$K_{AE} = 0.313$						

SECTION: 6-foot Exposed Rockery

Surcharge:

Uniform:	Uniform A	applied Sur	rcharge	<u>Strip:</u>	Strip Load	Surcharge	
$q_s =$	0	psf		$q_s =$	250	psf	
$F_s =$	0	lbf/ft	(Horizontal Surcharge Load)	$X_s =$	2	ft	(Distance from soil cut)
$y_s =$	3.5	ft	(Surcharge load centroid)	$W_s =$	10	ft	(Width of Strip Load)

Failure Mechanism Required Obtained OK External Sliding 1.5 2.8 OK **External Overturning** 2.0 5.3 OK 2.0 7.8 OK

Broken Back Slope:

Backslope Rise:

FS

V

Individual Rock Overturning 1.5 2.7 Individual Rock Sliding OK Bearing Capacity 2.0 9.2 OK Seismic Overturning 1.5 2.1 OK Seismic Sliding 1.1 1.5 OK 1.5 9.2 Seismic Bearing Capacity OK Seismic Wall Movement 1.1 OK

(Since FS (seismic wall movement) > 1.1, there is a 90% probability that the rockery displacement will not exceed Δ)

(Horizontal Surcharge Load) 2.5 $y_s =$ ft

Factor of Safety against Bearing Capacity:

$e_{max} =$	0.583	$q_{max} =$	1,041	psf	$e_{s,s} = 0.230$	FS_{BC}	11.10	Eccentricity Check (static): OK
$e_s =$	-0.127	$q_{\rm ult} =$	11,503	psf	$q_{\text{max,s}} = 1,254$	$FS_{BC,s}$	9.20	Eccentricity Check (seismic): OK

Rocks = 4(R* - Boulder Height to Width Ratio)

Boulder	B' (ft)	R*	H_{R} (ft)	H-H' (ft)	ΣW_i	$\Sigma W_i^* x_i$	F_{H}	$F_{H,s}$	F_{μ}	$F_{\mu,s}$	M_{o}	$M_{o,s}$	$M_{\rm r}$	$M_{r,s}$	FS_{SL}	FS _{OT}	$FS_{SL,S}$	FS _{OT,S}
1	3.5	0.70	2.5	7.0	2,681	7,302	767	1,559	2,094	2,227	1,622	4,458	8,477	9,245	2.8	5.3	1.5	2.1
2	3.0	0.65	2.0	4.6	1,487	2,998	339	728	890	934	443	1,342	3,416	3,685	2.7	7.8	1.3	2.8
3	2.0	0.65	1.3	2.6	683	1,015	102	260	399	413	76	294	1,105	1,163	3.9	>10	1.6	4.0
4	2.0	0.65	1.3	1.3	341	341	21	87	194	197	9	54	363	377	9.2	>10	2.3	7.1
5	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

7.0 Total Estimated Height of Rockery

DATE: 10/30/2025

PROJECT NO.: 00114-152 <u>SECTION:</u> 4-foot Exposed Rockery

SURCHARGE: Roadway



0

FS

3.3

6.8

>10

3.7

>10

Required Obtained

ft

OK

Rockery Geometry & Soil Data:

$H_{total} =$	5	ft	Total Height of Rockery	Slope Geometry:		В	ackslope:	5.0	Н	0.0	
$H_R =$	4	ft	Exposed Height of Rockery	Backslope:		β_{eq} =	0.0	deg	Eq. Backslop	e Angle	
$\varphi_s =$	34	deg	Soil Friction Angle - Effective	Soil Cut Ang	gle:	α=	82.9	deg	Soil Cut Ang	le	
$c_s =$	0	psf	Cohesion Intercept of soil	Rockery Fac	e Slope:	1	H	2	V		
$\gamma_{\rm s} =$	135	pcf	Unit weight of the soil								
$\gamma_{R} =$	150	pcf	Unit weight of the rock	Seismic Earth Pres		essure Co	efficient:		(Mack et al.,	2006)	
δ =	34.0	deg	Interface Friction Angle	$A_S =$	0.453	Peak Groun	d Acceleration	n (7% in 7	5 years)		
ψ=	7.1	deg	Back Cut Inclination	$\Delta =$	4.53	in	$(10*A_S)$				
μ=	0.70		Frictional Component	$k_h =$	0.155	(Using Rich	nards & Elms A	Approach)			
μ_{rock} =	0.55		Rock-to-Rock Friction	$k_v =$	0						
K _A =	0.207		Active Earth Pressure Coefficient	$\theta = 8.79$							
ν =	63.4	deg	Rockery Face Angle	$K_{AE} = 0.313$							

Surcharge:

<u>Uniform:</u>	Uniform A	applied Su	rcharge	<u>Strip:</u>	Strip Load	Surcharge	
$q_s =$	0	psf		$q_s =$	250	psf	
$F_s =$	0	lbf/ft	(Horizontal Surcharge Load)	$\mathbf{x}_{\mathrm{s}} =$	2	ft	(Distance from soil cut)
$y_s =$	2.5	ft	(Surcharge load centroid)	$W_s =$	6	ft	(Width of Strip Load)

 Seismic Overturning
 1.5
 2.5

 Seismic Sliding
 1.1
 1.6

 Seismic Bearing Capacity
 1.5
 13.0

Broken Back Slope:

Backslope Rise:

FS

1.5

2.0

2.0

1.5

2.0

V

Failure Mechanism

External Sliding

External Overturning

Individual Rock Overturning

Individual Rock Sliding

Bearing Capacity

Seismic Wall Movement 1.1 1.4 (Since FS (seismic wall movement) > 1.1, there is a 90% probability that the rockery displacement will not exceed Δ)

$$F_s = 81$$
 lbf/ft (Horizontal Surcharge Load) $y_s = 1.5$ ft

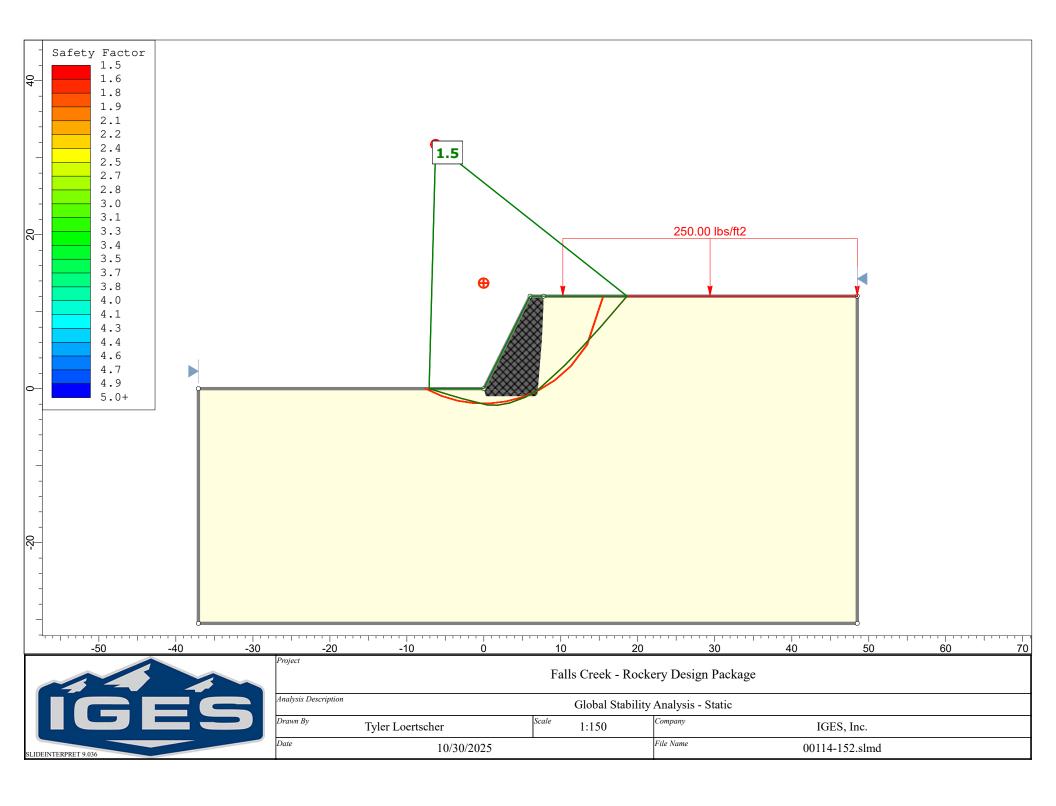
Factor of Safety against Bearing Capacity:

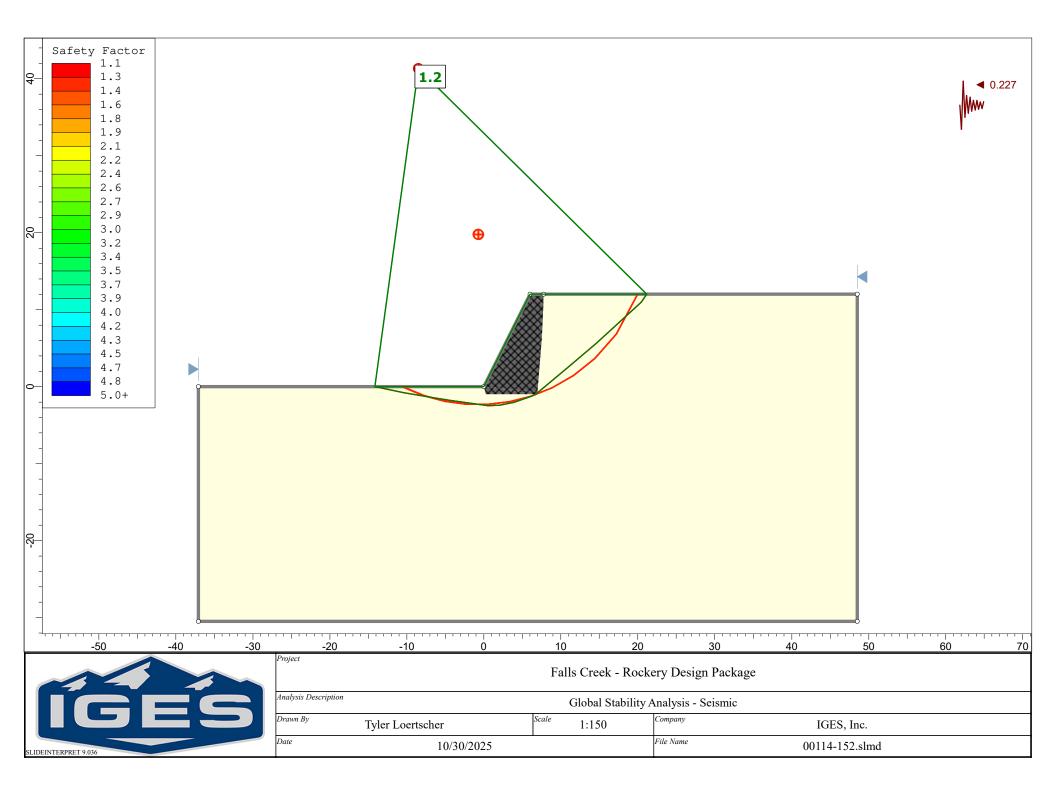
$e_{max} =$	0.500	$q_{max} =$	699	psf	$e_{s,s} = 0.154$	FS _{BC}	15.30	Eccentricity Check (static): OK
$e_s =$	-0.080	$q_{\mathrm{ult}} =$	10,670	psf	$q_{\text{max,s}} = 824$	$FS_{BC,s}$	13.00	Eccentricity Check (seismic): OK

Rocks = 3 (R* - Boulder Height to Width Ratio)

Boulder	B' (ft)	R*	H_{R} (ft)	H-H' (ft)	ΣW_i	$\Sigma W_i^* x_i$	F_{H}	$F_{H,s}$	F_{μ}	$F_{\mu,s}$	M _o	$M_{o,s}$	$M_{\rm r}$	$M_{r,s}$	FS_{SL}	FS _{OT}	$FS_{SL,S}$	FS _{OT,S}
1	3.0	0.74	2.2	5.0	1,651	3,439	395	841	1,267	1,336	587	1,739	3,951	4,282	3.3	6.8	1.6	2.5
2	2.0	0.70	1.4	2.8	735	1,121	118	292	432	448	95	356	1,226	1,293	3.7	>10	1.6	3.7
3	2.0	0.70	1.4	1.4	368	368	24	96	209	213	11	64	393	409	8.6	>10	2.3	6.5
4	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	0.0	0.00	0.0	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

5.0 Total Estimated Height of Rockery





Slide2 Analysis Information

00114-152

Project Summary

File Name: 00114-152.slmd

Slide2 Modeler Version: 9.036

Project Title: Falls Creek - Rockery Design Package

Analysis: Global Stability Analysis
Author: Tyler Loertscher
Company: IGES, Inc.
Date Created: 10/30/2025

Currently Open Scenarios

Group Name		Scenario Name	Global Minimum	Compute Time
Maximum Section	\Diamond	Static	Spencer: 1.548310	00h:00m:02.69s
		Seismic	Spencer: 1.229590	00h:00m:02.72s

Seismic Loading

Maximum Section - Static

Advanced seismic analysis: No Staged pseudostatic analysis: No

Maximum Section - Seismic

Advanced seismic analysis:
No
Staged pseudostatic analysis:
No
Seismic Load Coefficient (Horizontal):
0.227

Loading

Maximum Section - Static

Distribution: Constant Magnitude [psf]: 250

Orientation: Normal to boundary

Materials

00114-152 Thursday, October 30, 2025

Native	
Color	
Strength Type	Mohr-Coulomb
Unit Weight	135 lbs/ft3
Cohesion	50 psf
Phi	34 °
Water Surface	Assigned per scenario
Ru Value	0
Rockery	
Color	
Strength Type	Anisotropic Strength
Unit Weight	150 lbs/ft3
Cohesion 1	0 psf
Phi 1	45 °
Cohesion 2	2000 psf
Phi 2	0 °
Angle (ccw to 1)	-10 °
Water Surface	Assigned per scenario
Ru Value	0

Materials In Use

	Material	Static	Seismic
Native		✓	✓
Rockery		✓	✓

Global Minimums

Maximum Section - Static

Method: spencer

FS	1.548310
Axis Location:	-6.253, 31.709
Left Slip Surface Endpoint:	-7.107, 0.000
Right Slip Surface Endpoint:	18.602, 12.000
Resisting Moment:	548924 lb-ft
Driving Moment:	354531 lb-ft
Resisting Horizontal Force:	13833.2 lb
Driving Horizontal Force:	8934.41 lb
Total Slice Area:	140.884 ft2
Surface Horizontal Width:	25.7086 ft
Surface Average Height:	5.48004 ft

Maximum Section - Seismic

Method: spencer

FS	1.229590
Axis Location:	-8.501, 41.306
Left Slip Surface Endpoint:	-14.154, 0.000
Right Slip Surface Endpoint:	21.152, 12.000
Resisting Moment:	749196 lb-ft
Driving Moment:	609304 lb-ft
Resisting Horizontal Force:	15436.1 lb
Driving Horizontal Force:	12553.8 lb
Total Slice Area:	175.312 ft2
Surface Horizontal Width:	35.3057 ft
Surface Average Height:	4.96555 ft