

Plan Review Comments Response

MacKay-Lyons Sweetapple
Architects Limited

Date: **2018.02.27**

Project Name: **Kimmelman SFD**

Total pages: **1 of 2**

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The following is a formal response to the Plan Review Comments completed by Josh Goodman (Code), Joe Bingham (Structural), and checked by DeAnn Wilde. October 23, 2017. (Received October 23, 2017)

CODE REVIEW COMMENTS:

- A1. Will comply.
- A2.
- A. Will comply.
 - B. See revised Floor Assembly 1 on sheet A500, A501, A502 and A503.
 - C. Will comply.
- A3. See sheet A200.
- A. Swim Spa is currently not part of this project and has been removed from Sheet A200. See revised Sheet A200.
- A4. See Sheet A201.
- A. See sheet A001 Kitchen Appliances and Fixtures Schedule and attached cutsheet for Type 1 Hood, Cooktop and Oven.
 - B. See additional notation on Sheet A201.
- A5. See Sheet A203 and A611.
- A. Bedroom 4 has access to both an exterior door and an emergency escape and rescue opening. See additional notation on Sheet 203 and Sheet A611 for clarification.
- A6.
- A. See attached 'Supplemental Slope Stability Analysis' prepared by David Glass of IGES Geotechnical Engineers and sheet A303 for supporting dimensions.
- A7. See sheet A900.
- A. See Sheet A900. Window 3 revised to be tempered glazing.
 - B. See Sheet A900. Window 6 revised to be tempered glazing.
- A8. See Sheets A200 and A201 for added notation.

MECHANICAL REVIEW COMMENTS:

See Sheets R1.1 to R2.3 for Mechanical design provided by Thermal Engineering.

M1. See indication of water boiler location for radiant heating system on sheet A200.

PLUMBING REVIEW COMMENTS:

See Sheets P1.0 to P4.3 for Plumbing design provided by Thermal Engineering.

P1. See indication of water heater location on sheet A200.

P2. See notation for seismic bracing of water heater on sheet A200.

ELECTRICAL REVIEW COMMENTS:

E1. See sheets A800 to A803 – Electrical Notes for existing notation.

E2. See sheets A800 to A803 – Electrical Notes for added notation.

ENERGY REVIEW COMMENTS:

N1.

- A. See sheet A001. Keynotes have been added to Exterior Assemblies to assist in the identification of materials.
- B. Below grade basement wall will be insulated with 3-1/2" of continuous Type IV XPS rigid insulation for an R-Value of 15.75. R-Value has been revised based on 'Table R403.3(1) note c'. See Exterior Wall Assembly 3 on A001 and Sheets A500, A501, A502 and A503 for details in the drawing set. Rescheck has also been revised to reflect this change.
- C. See Architectural Specification 07. D. 6. A. for existing notation.
- D. See sheets A800 and A801 – Electrical Notes for added notation.
- E. See sheets A800 and A801 – Electrical Notes for added notation.

STRUCTURAL REVIEW COMMENTS:

S1. See Structural Response.

END OF RESPONSE

2018.02.16

Weber County
Building Inspection Department
2380 Washington Boulevard, Suite 240
Ogden, Utah 84401

Attn: Craig Browne, Building Official

Re: Kimmelman SFD – Plan Review Comments

Dear Craig Browne:

The following is in response to the Structural Comments provided by Mike Molyneux, of WC³, project # 217-525-185. Numbering of responses follows the formatting of the report issued.

Structural Drawings

- S1A. The reference has been changed to the equivalent lateral force procedure by section 12.8 of ASCE7-10
- S1B. The soils report reference has been updated.
- S1C. A note regarding fasteners in preservative treated wood has been added to S-101, S-102, S-103 and S-104.
- S1D. A note has been added to the shear wall schedule on drawing S-105 to address the requirements of section 4.3.6.4.3 of AWC SDPWS-2015.
- S2A. The label "FW4" is shown above the foundation wall.
- S2B. FW1 is an unreinforced plain concrete foundation wall.
- S3. Instances where sections reinforcing called out in plans did not match have been updated.
- S4. Blocking is being provided at all floor joists running parallel to foundation walls as per 1/S-201. Chord forces are transferred via a positive mechanical anchor.
- S5. All members that are part of the lateral-force-resisting-system have been identified in the various member schedules with the tag "SFRS". Connections are called out on steel elevations and detailed.
- S6A. Steel bracing elevations and connection details have been added on drawings.

- S6B. Steel connection details have been added to plans. Connection design has been added to the calculation package with software outputs being added to the appendix.
- S7. Eight helical piers are to be used at foundation F4. Design loads of 20 (-16) kips (LFRD) are shown in the Foundation Member Schedule.

Structural Calculations

- S8. Structural Calculation Package entitled “Kimmelman May Residence Design Calculation Package Revised Permit Submission” dated February 15, 2018 has been compiled and issued with the updated drawings.
- S9. The seismic weight of the structure has been calculated with 30% of the snow load, in accordance with the Utah Amended IBC, based on the structure’s base elevation.
- S10. Snow drift calculations are included in Appendix A – Design Loads of the calculation package. In order to accommodate for drifting surcharge, the plaza level framing was designed for the ground snow load of 274 psf, which exceeds the calculated drift load. This is noted on notes under plan on S-101.
- S11. A summary of building irregularities as defined by Tables 12.3.-1 and 12.3-2 of ASCE7-10 is as follows:

Irregularity Type	Drawing	Location	ASCE7 Reference Section	Design Considerations and Resulting Load Increases
Horizontal and Vertical Irregularity Type 4	S-101	1B11 to 1B24 to 1B10	12.3.3.3 12.3.3.4 12.7.3 Table 12.6-1 Section 16.2-2	The forces for design of beams and their connections have included an overstrength factor of 2 for steel ordinary concentrically braced frames. The connection force of diaphragms to vertical elements and collectors has been increased by 25%. Therefore, clause 12.3.3.3 and 12.3.3.4 have been accommodated. A 3D model of the structure has been developed in accordance with clause 12.7.3 and table 12.6-1. Section 16.2.2 is not applicable as Section 12.8 was used to develop the seismic forces.
		1B9 to 1B10		
		1B8 to 1B7		
	S-102	2B16 to 2B20		
		2B15 to 2B22		
Reentrant Corner Horizontal Irregularity Type 2	S-101	Gridline F-5	12.3.3.4 Table 12.6-1	
	S-101	Gridline E(-4'-4") - 4		

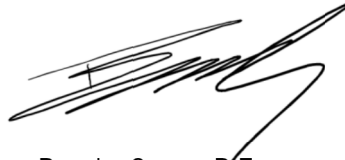
February 16, 2018

If any additional information is required, please do not hesitate to contact Blackwell Structural Engineers.

Best regards,



Adam van Bruinessen, B.Eng.



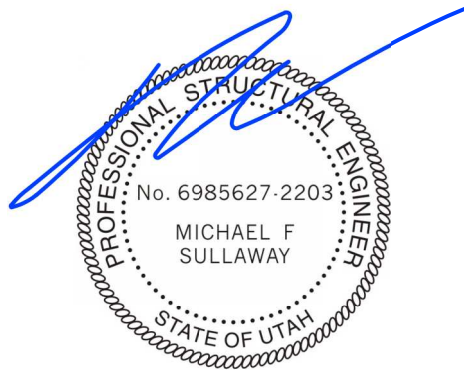
Brooke Guzar, P.Eng.

Blackwell

office: 416-593-5300 x131 | direct: 416-593-0215

Blackwell

office: 416-593-5300 x 151



PL341912

FEATURES

Heavy-duty stainless steel construction

Infinite speed blower control

Recessed controls for sleeker look

Heat sentry for safety

Bright halogen lighting

Blower required (internal, in-line or remote blowers available)

Transition with backdraft minimizes backward flow of cold air

Rigorously tested in our U.S. manufacturing facilities for decades of use

Exceptional 24/7 support from our Customer Care team in Madison

ACCESSORIES

Make-up air damper

Accessories available through an authorized Sub-Zero dealer.
For local dealer information, visit subzero-wolf.com/locator.



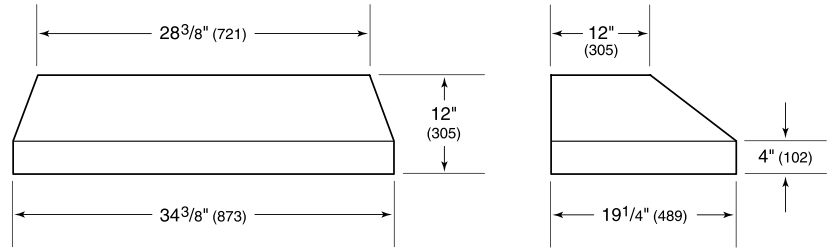
BLOWER OPTIONS

- 300 CFM Internal
- 450 CFM Internal
- 600 CFM Internal
- 900 CFM Internal
- 1200 CFM Internal
- 600 CFM Inline
- 1100 CFM Inline
- 600 CFM Remote
- 900 CFM Remote
- 1200 CFM Remote
- 1500 CFM Remote

PRODUCT SPECIFICATIONS

Model	PL341912
Dimensions	34 3/8"W x 12"H x 19 1/4"D
Weight	45 lbs
Electrical Supply	110/120 VAC, 60 Hz
Electrical Service	15 amp dedicated circuit
Discharge Location	Vertical
Discharge Dimensions	10" Round
Bottom of Hood to Countertop	30" to 36"

DIMENSIONS



NOTE:

Dimensions in parenthesis are in millimeters unless otherwise specified

CG365P/S

FEATURES

Dual-stacked burners go from 18,000 Btu down to a mere breath of flame

Lower tier of dual-stacked burner lets you simmer and melt

Continuous cast-iron grates for easy movement of pots and pans

Easy-clean seamless burner pan

Rigorously tested in our U.S. manufacturing facilities for decades of use

Exceptional 24/7 support from our Customer Care team in Madison

Spark ignition system re-ignites if flame goes out

Signature red control knobs (black or stainless also available)

ACCESSORIES

2-Burner Wok Grate

36" Transitional Grate Set

Signature red, black or brushed stainless control knobs

High altitude conversion kit

Accessories available through an authorized Sub-Zero dealer.
For local dealer information, visit subzero-wolf.com/locator.



KNOB OPTIONS



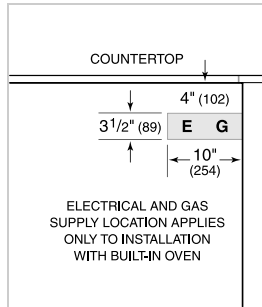
COOKTOP SPECIFICATIONS

- 3 - 9,200 Btu Burner
- 1 - 12,000 Btu Burner
- 1 - 18,000 Btu Burner

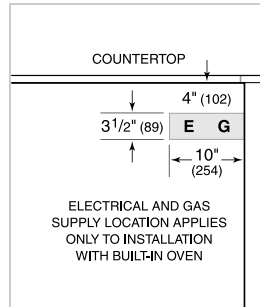
PRODUCT SPECIFICATIONS

Model	CG365P/S
Dimensions	36"W x 4"H x 21"D
Weight	67 lbs
Electrical Supply	120 VAC, 60 Hz
Electrical Service	15 amp dedicated circuit
Gas Supply	3/4" ID line
Gas Inlet	1/2" NPT female

ELECTRICAL

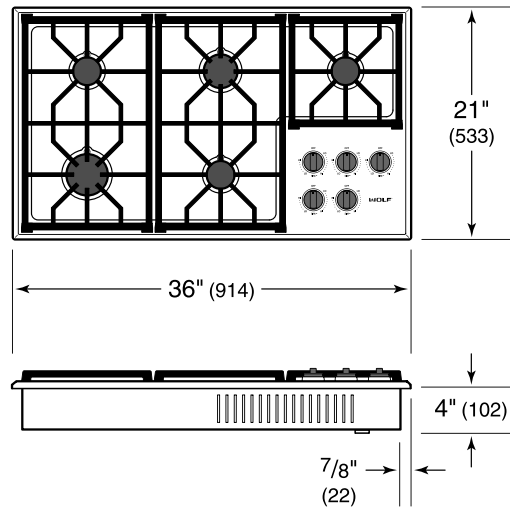


GAS

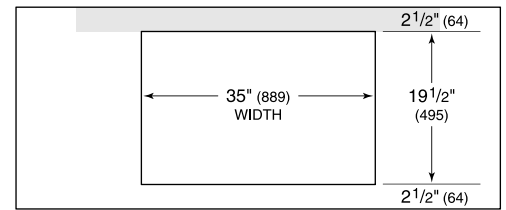


NOTE: Dimensions in parenthesis are in millimeters unless otherwise specified

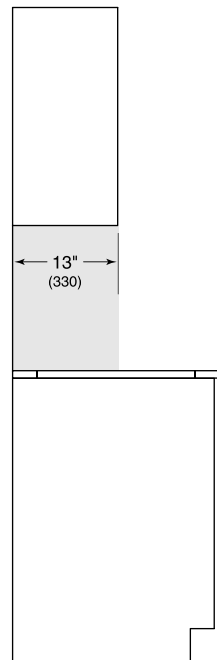
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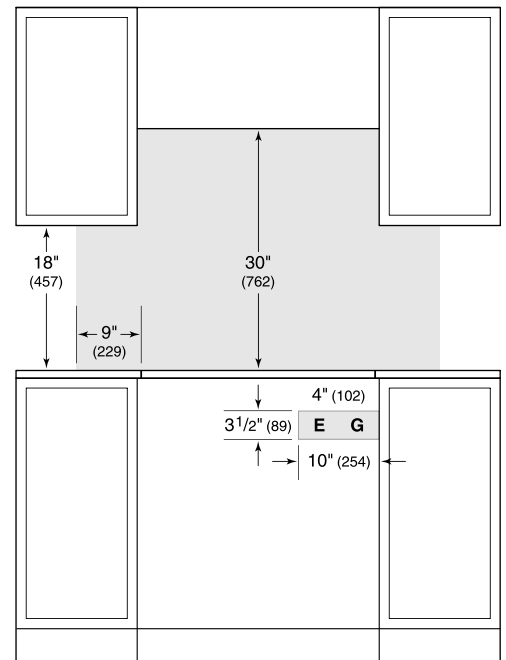
STANDARD INSTALLATION



COUNTERTOP CUT-OUT



SIDE VIEW



FRONT VIEW

NOTE: Shaded area above countertop indicates minimum clearance to combustible surfaces, combustible materials cannot be located within this area. Electrical and gas supply location only applies to installations with built-in oven.

SO30PM/S/PH



FEATURES

10 cooking modes for predictably delicious results (Convection, Roast, Bake, Broil, Convection Roast, Stone, Gourmet, Warm, Proof and Dehydrate)

Advanced Dual VertiCross convection system for faster preheats and consistent cooking across all racks

Gourmet feature has menu of presets that automatically controls cooking of popular meals

5.1 cubic feet capacity to handle multiple dishes at once

Interactive color touchscreen for advanced cooking control

Enhanced interior views with triple-pane glass and three halogen lights

Choose from signature red, black or stainless control knobs

Can be installed flush with surrounding cabinetry for integrated look

Rigorously tested in our U.S. manufacturing facilities for decades of use

Exceptional 24/7 support from our Customer Care team in Madison

ACCESSORIES

30" Broiler Pan

30" Premier Baking Sheet

Bake Stone Kit

Dehydration Kit

Dual Installation Kit

Full-Extension Ball Bearing Rack

Multi-Function Pan

Oven Rack

Oven Rack Set (3)

Temperature Probe

Signature red, black or stainless steel control knobs

Accessories available through an authorized Sub-Zero dealer.
For local dealer information, visit subzero-wolf.com/locator.



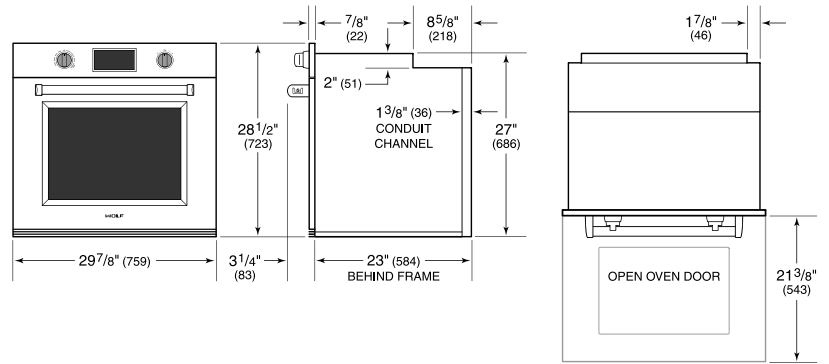
KNOB OPTIONS



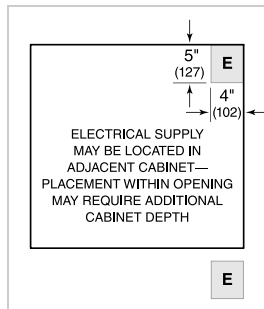
PRODUCT SPECIFICATIONS

Model	SO30PM/S/PH
Dimensions	29 7/8"W x 28 1/2"H x 23"D
Oven 1 Interior Dimensions	25 1/4"W x 17 1/2"H x 19 7/8"D
Overall Capacity	5.1 cu. ft.
Usable Capacity	3.3 cu. ft.
Door Clearance	21 3/8"
Weight	273 lbs
Electrical Supply	240/208 VAC, 60 Hz
Electrical Service	30 amp dedicated circuit
Conduit Length	4 Feet

DIMENSIONS

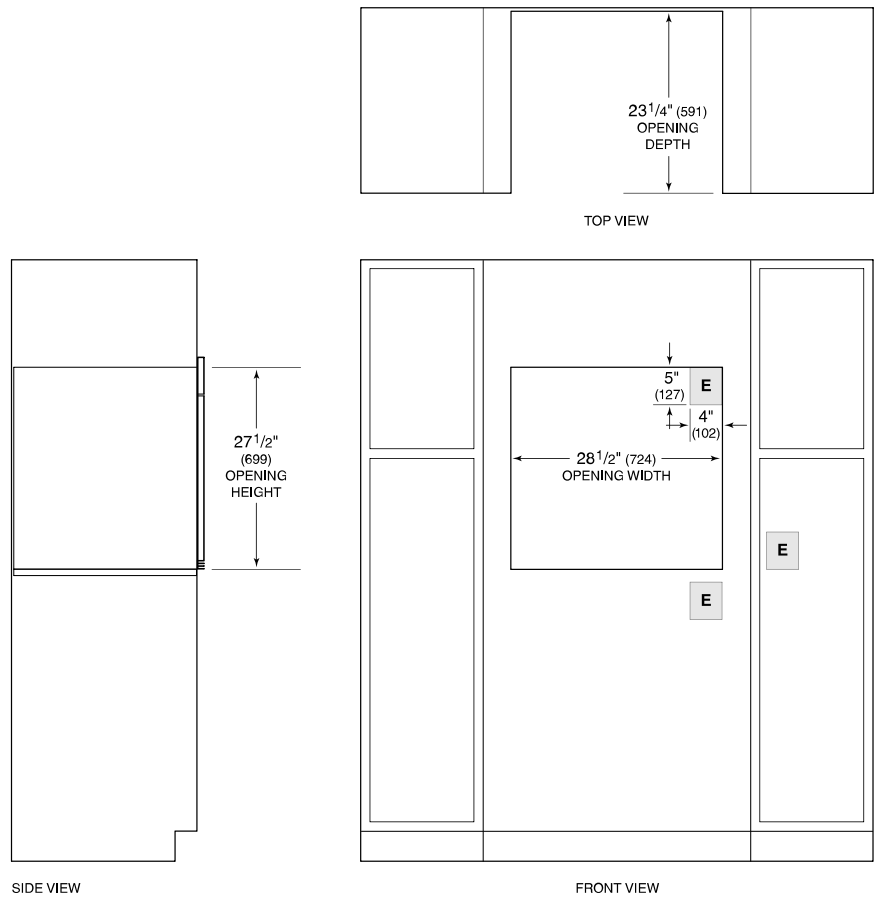


ELECTRICAL



NOTE: Dimensions in parenthesis are in millimeters unless otherwise specified

STANDARD INSTALLATION



NOTE: Location of electrical supply within opening may require additional cabinet depth.



November 15, 2017

Shannon May and Jay Kimmelman
P.O. Box 15276-00509
Nairobi, Kenya 00509

IGES Project No. 02529-002

Subject: Supplemental Slope Stability Analysis
Geotechnical and Geologic Hazard Investigation
Lot 16 of Summit Eden Phase 1A
Summit Powder Mountain Resort
Weber County, Utah

Reference: IGES, 201, Geotechnical and Geologic Hazard Investigation, Lot 16 of Summit Eden Phase 1A, Summit Powder Mountain Resort, Weber County, Utah, Project No. 02529-001, dated August 8, 2017.

Ms. May & Mr. Kimmelman:

As requested, IGES has performed supplemental slope stability analysis to assist in responding to a recent review comment from Weber County regarding the structural set-back from the face of the natural slope; the comment is reproduced below:

'Sheet A303: Please address the following:

- A. *Based upon the exterior elevations, please detail in writing and on the plans how the requirements of IRC R403.1.7 for footings on or adjacent to slopes have been met.'*

IRC (International Residential Code) R403.1.7 says, in effect, that the base of the footing must be set-back from the face of the slope a minimum of $H/3$, H being the height of the slope, but this set-back need not exceed 40 feet – the exception being, if the geotechnical engineer of record indicates a distance smaller than $H/3$ is acceptable *and* the reduced distance is approved by the *building official*. Since the vertical distance from Lot 16 to the bottom of the drainage is well in excess of 120 feet, the minimum set-back would be 40 feet barring input from a geotechnical engineer or engineering geologist. However, current plans indicate that the minimum structural set-back from the face of the slope will be as little as 16 feet. Accordingly, IGES has conducted supplemental slope stability analysis to assess whether the current grading plan and set-back are appropriate and safe from a geotechnical standpoint.

Slope stability analysis was conducted for the worse-case scenario of approximately 16 feet set-back from the descending slope, measured horizontally from face of slope to the bottom of the footing. The analysis was conducted using the same methods and assumptions set forth in our referenced geotechnical report (IGES, 2017). Both static and seismic cases were considered. Analyses were completed for two models – one model allowed a search down-slope, the other

model focused on that part of the home's foundation closest to the face of the slope. For our model, topography and the home's location were based on the civil grading plans, primarily Sheet C201 *Grading and Drainage Plan and Driveway Profile*, prepared by Talisman, dated July 26, 2017, in addition to Sheet A303 *Exterior Elevations*, prepared by MacKay-Lyons Sweetapple Architects, dated August 15, 2017. Foundation loads of 1,500 psf and floor loads of 150 psf were assumed.

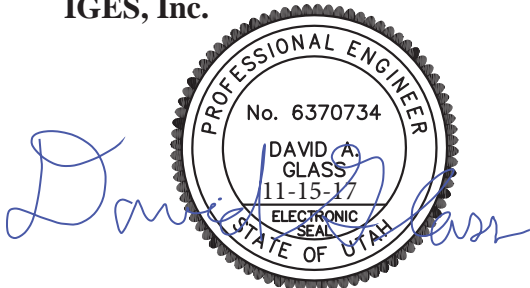
Based on our analysis, the slope in the vicinity of the home's southern foundations meets the minimum static and seismic factors-of-safety of 1.5 and 1.0, respectively. A summary of our slope stability analysis is attached.

Closure

Based on our analysis and our understanding of the proposed construction, the current structural set-back of 16 feet from the face of the slope is considered acceptable from a geotechnical standpoint.

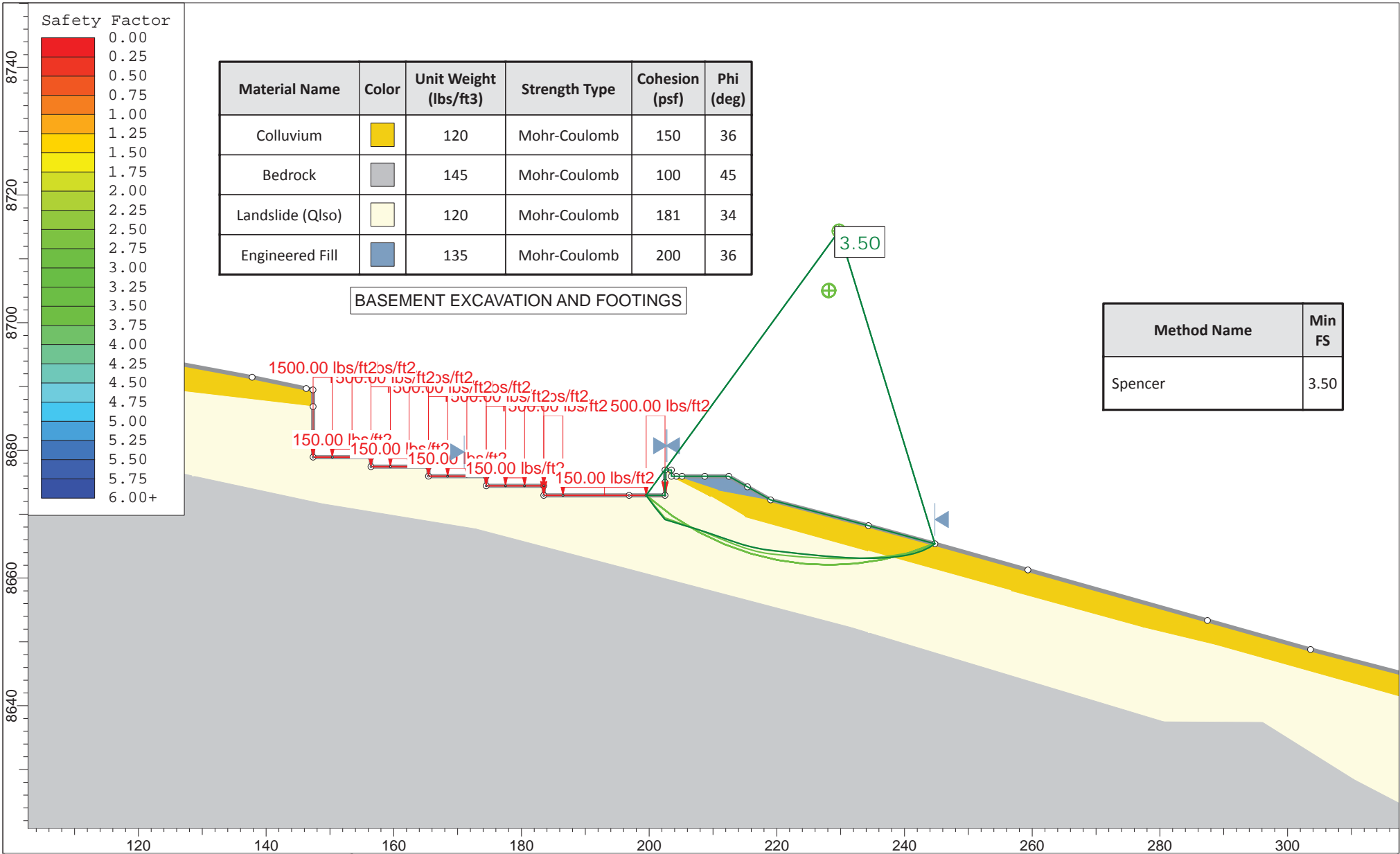
We appreciate the opportunity to provide you with our services. If you have any questions, please contact the undersigned at your convenience at (801) 748-4044.


Respectfully Submitted,
IGES, Inc.

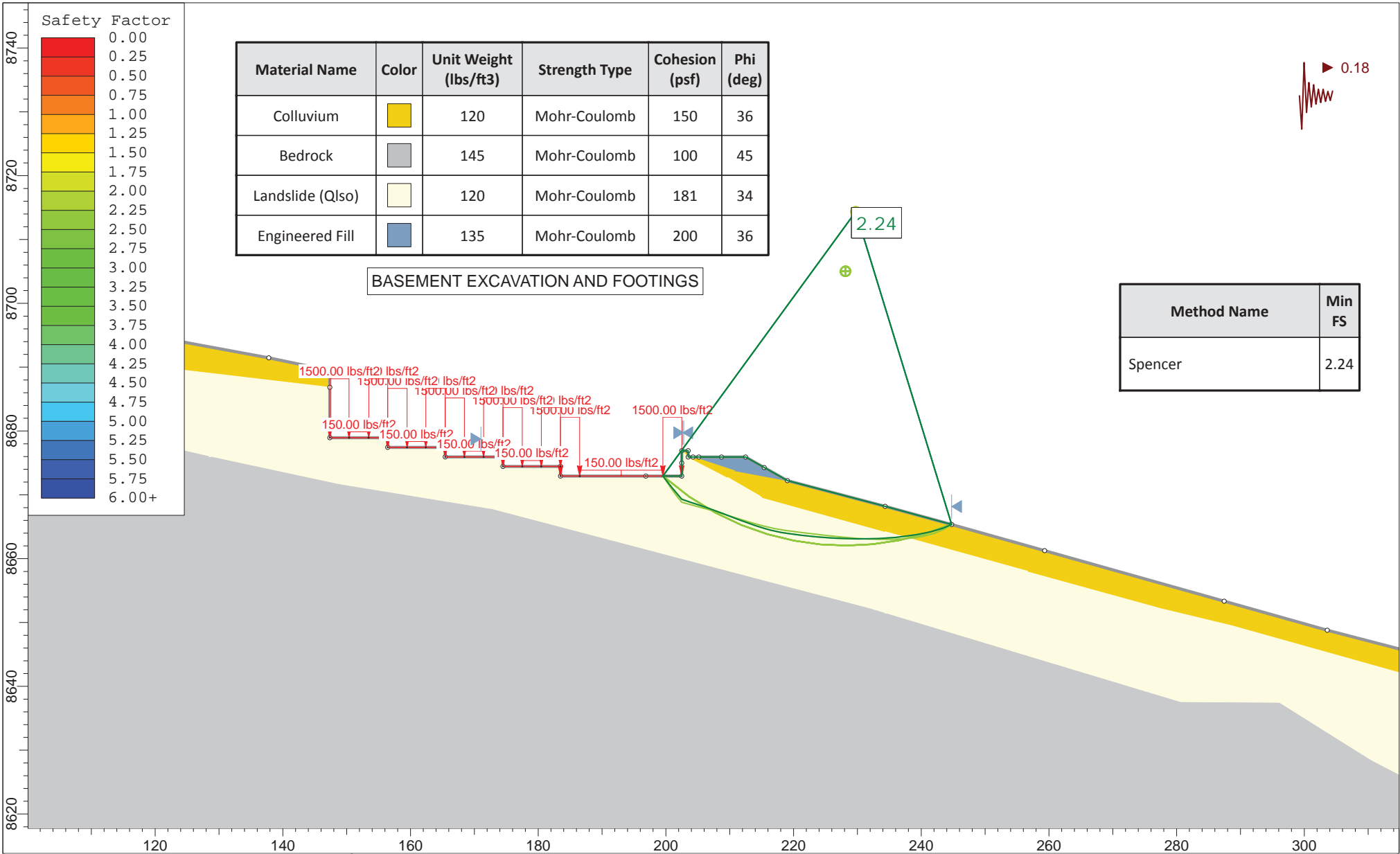


David A. Glass, P.E.
Senior Geotechnical Engineer

Attachments:
Slope Stability Analysis



	Project			Lot 16R of Summit Eden Phase 1A		
	Analysis Description			Section A-A' - Static - Below Footing		
	Drawn By		EBF	Scale		1:250
	Date		11-15-2017	Company		IGES, Inc.
	SLIDEINTERPRET 7.029		File Name		Section A-A' Static - Footings.slim	



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)
Colluvium		120	Mohr-Coulomb	150	36
Bedrock		145	Mohr-Coulomb	100	45
Landslide (Qlso)		120	Mohr-Coulomb	181	34
Engineered Fill		135	Mohr-Coulomb	200	36

BASEMENT EXCAVATION AND FOOTINGS

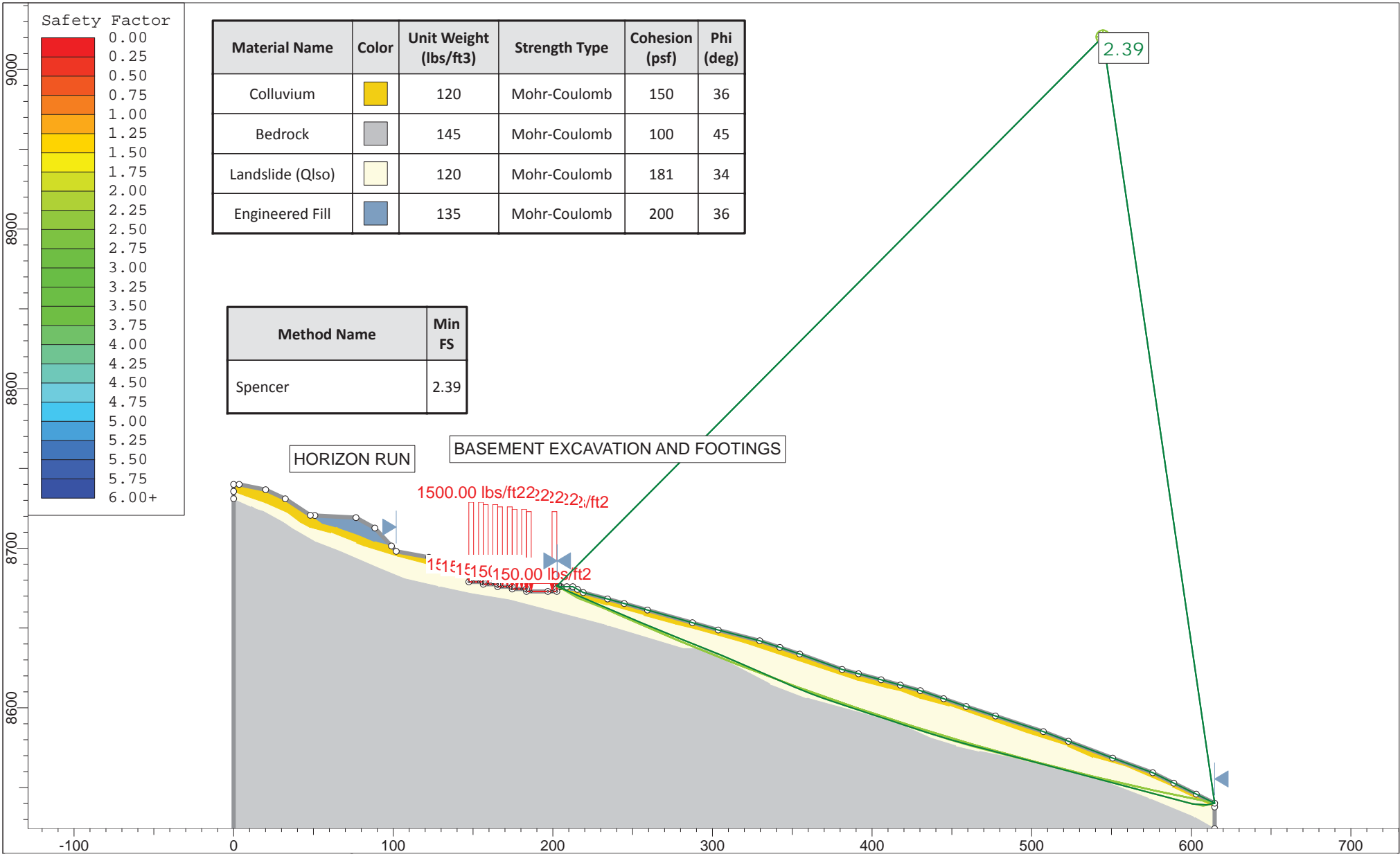
Method Name	Min FS
Spencer	2.24

Project Lot 16R of Summit Eden Phase 1A

Analysis Description Section A-A' - Seismic - Below Footing

Drawn By EBF *Scale* 1:250 *Company* IGES, Inc.

Date 11-15-2017 *File Name* Section A-A' Static - Footings.slim



	Project			Lot 16R of Summit Eden Phase 1A		
	Analysis Description			Section A-A' - Static - Slope		
	Drawn By	EBF	Scale	1:1000	Company	IGES, Inc.
	Date	11-15-2017		File Name	Section A-A' Static - Footings.slim	

