NOTICE OF MEETING
HILLSIDE REVIEW BOARD
CITY OF ST. GEORGE
WASHINGTON COUNTY, UTAH

Public Notice

Notice is hereby given that the Hillside Review Board of the City of St. George, Washington County, Utah, will hold meetings at the referenced site on **Wednesday, November 29, 2023,** commencing on-site at approximately 9:00 a.m.

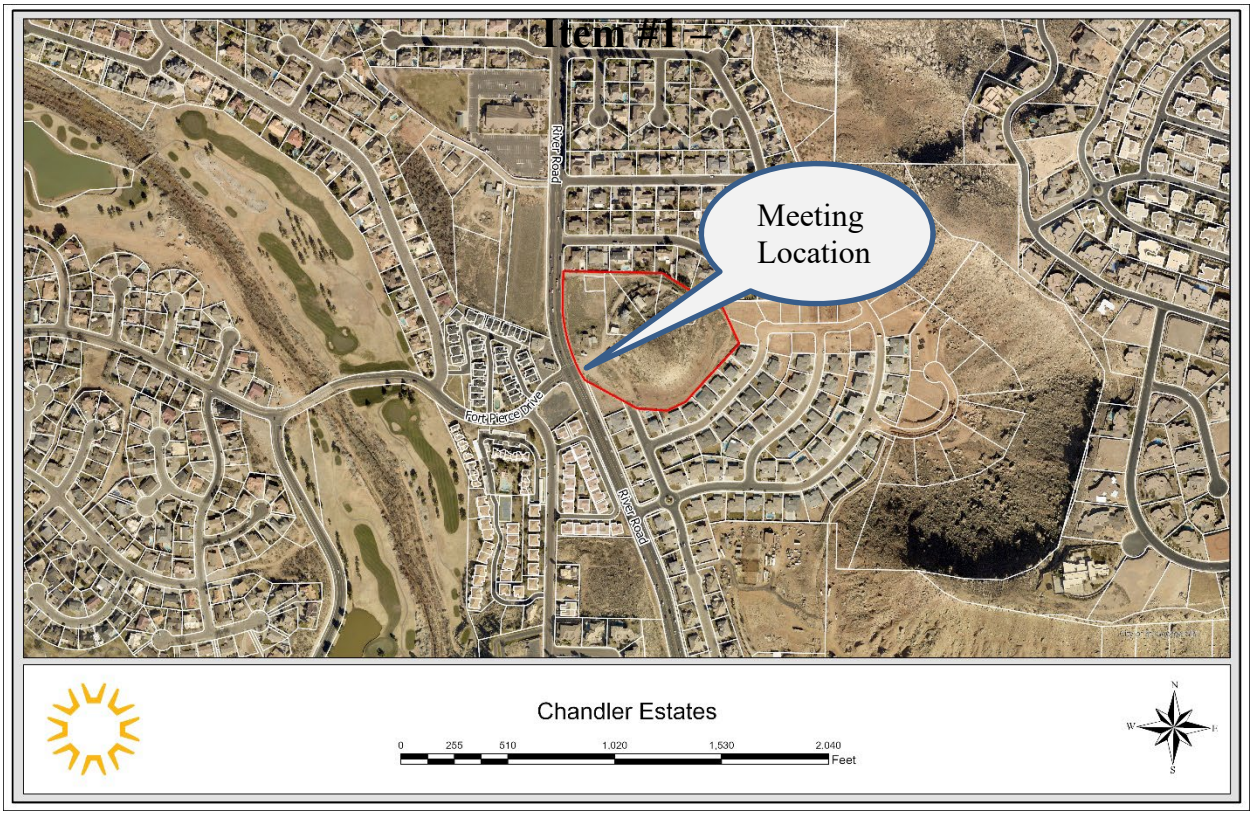
The estimated site times are in bold. The agenda for the meeting is as follows:

1. Consider a request for a hillside development permit to remove the hill from the subject property located at approximately 1923 S River Road (see map below). The property is approximately 9.49 acres. **Meeting time is approx. 9:00 am, River Road across from Fort Pierce Drive.**

2. Approval of the meeting minutes from November 1, 2023.

Brenda Hatch
Development Office Supervisor

Reasonable Accommodation: The City of St. George will make efforts to provide reasonable accommodations to disabled members of the public in accessing City programs. Please contact the City Human Resources Office at (435) 627-4674 at least 24 hours in advance if you have special needs.

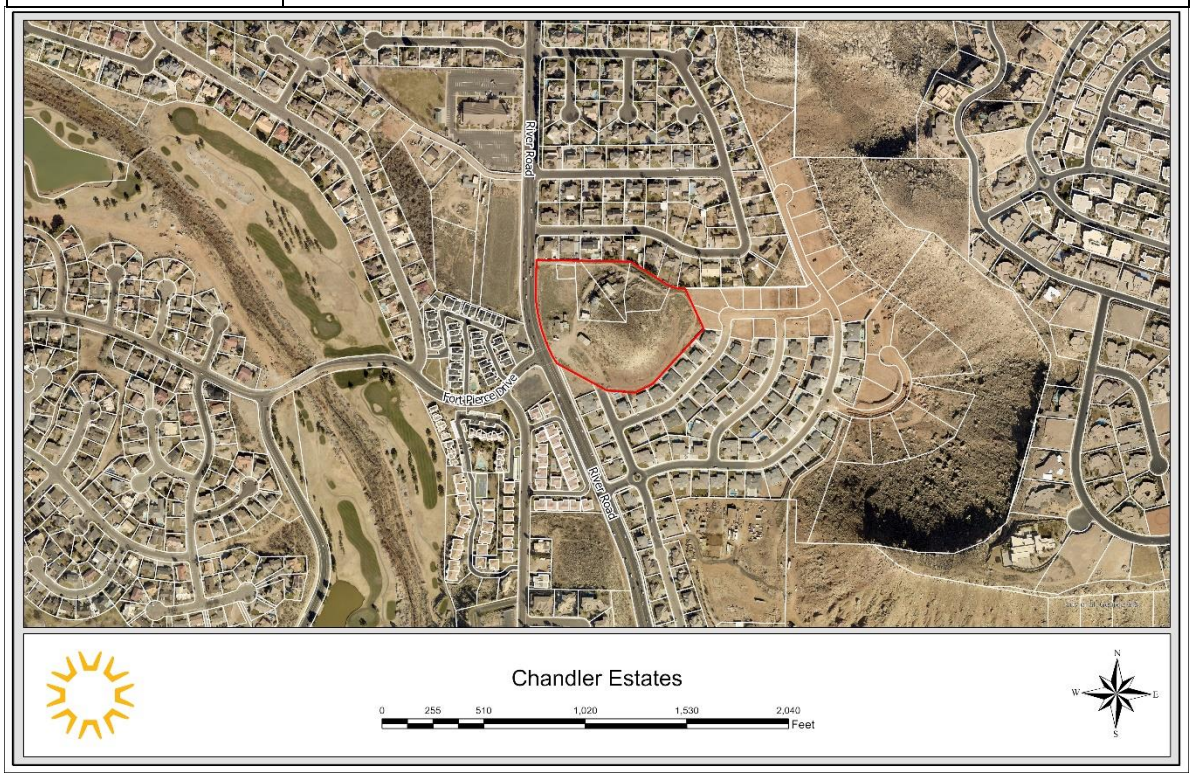


St.George
Community Development

ITEM 1
Hillside Permit

HILLSIDE REVIEW BOARD AGENDA REPORT: **11/29/2023**

Chandler Heights Hillside Development Permit (Case No. 2023-HS-010)		
Request:	Hillside Development Permit to allow disturbance of areas in the 20-30%, 30-40% and 40% and above slope areas. This application is a required in order to develop the property into single family homes.	
Applicant:	Park Bench Partners, PLLC	
Representative:	Bob Hermandson	
Location:	Approximately 1923 S River Road	
General Plan:	LDR (Low Density Residential)	
Existing Zoning:	R-1-10 (Single Family Residential 10,000 sq ft lots)	
Surrounding Zoning:	North	R-1-10 (Single Family Residential 10,000 sq ft lots)
	South	R-1-10 (Single Family Residential 10,000 sq ft lots)
	East	R-1-10 (Single Family Residential 10,000 sq ft lots)
	West	R-1-10 (Single Family Residential 10,000 sq ft lots), C-3 (General Commercial)
Land Area:	9.49 Acres	



BACKGROUND

In 2013, the Hillside Review Board (HRB) examined an application that would allow the removal of the hill that makes up the subject property. The HRB did determine that the hillside itself was not significant and supported its removal, but was concerned that if approved, it would be removed entirely, in a reasonable amount of time, and not partially remain as a scarred eyesore to the community. At the time the hillside permit was initially approved by the City Council, December 2015, only phase one of Cottom Cove to the east and south of the subject property had been approved and a handful of homes had been constructed. Due to inaction on the part of the applicant, time lapsed, and the approvals of the hillside permit are null and void.

The applicant has submitted an application for a hillside permit requesting to remove the hill as before. Along with the hillside permit request, the applicant has submitted a request for preliminary plat (see attached). In order to move forward with this request, the applicant needs approval allowing them to disturb slopes in excess of 20%+. The relevant sections of code are listed below.

APPLICABLE ORDINANCE(S) *(Selected portions)*

10-13A-1: Density and Disturbance Standards

A. The hillside development overlay zone (HDOZ) limits development densities and provides specific development incentives to transfer underlying zone densities from hillsides (sending areas) to less steep slopes or more safe development areas (receiving areas), within a development.

B. For those portions of a proposed development with natural slopes twenty percent (20%) or less, development density follows the density and development standards in the underlying zone.

C. For those portions of a proposed development with natural slopes from twenty-one percent (21%) to thirty percent (30%), development activity shall not disturb more than thirty percent (30%) of the parcel within this slope category.

D. For those portions of a proposed development with natural slopes from thirty-one percent (31%) to forty percent (40%), development activity shall not disturb more than five percent (5%) of the area within this slope category.

E. A proposed development may not disturb slopes in excess of forty percent (40%).

10-13A-2: Slope and Slope Areas Determined

A. Slope shall be determined for each significant portion of development parcel.

B. *Procedure:* The applicant shall map the location of the natural slope by using the following procedure:

1. *Preparation of Contour Maps:* The applicant shall submit an accurate, current contour map, prepared and certified by a licensed professional engineer or surveyor, which shows all land contours at intervals no greater than five feet (5'), drawn at a one inch equals one hundred feet (1" = 100') scale maximum.

2. *Verification through Field Surveys:* The city engineer or designee may require the applicant to submit a field survey to verify the accuracy of the contour map.

C. *Determination of Slope Areas:* Using the contour map, natural slopes shall be calculated using points identified as natural slopes of twenty percent (20%), thirty percent (30%), and forty percent (40%), and shall be located on the contour map and connected by a continuous line. That area bounded by said lines and intersecting property lines shall be used for determining project density. Small washes or outcrops, which have slopes distinctly different from surrounding property, and are not part of the contiguous topography, may be excluded from the slope determination.

EXHIBITS PROVIDED

1. Exhibit A – Cut/Fill Map
   "Exhibit A" in the packet shows the Cut/Fill Map.

2. Exhibit B – Grading Plan
   "Exhibit B" in the packet is the Grading Plan

3. Exhibit C – Slope Analysis
   "Exhibit C" in the packet is an analysis of the slope.

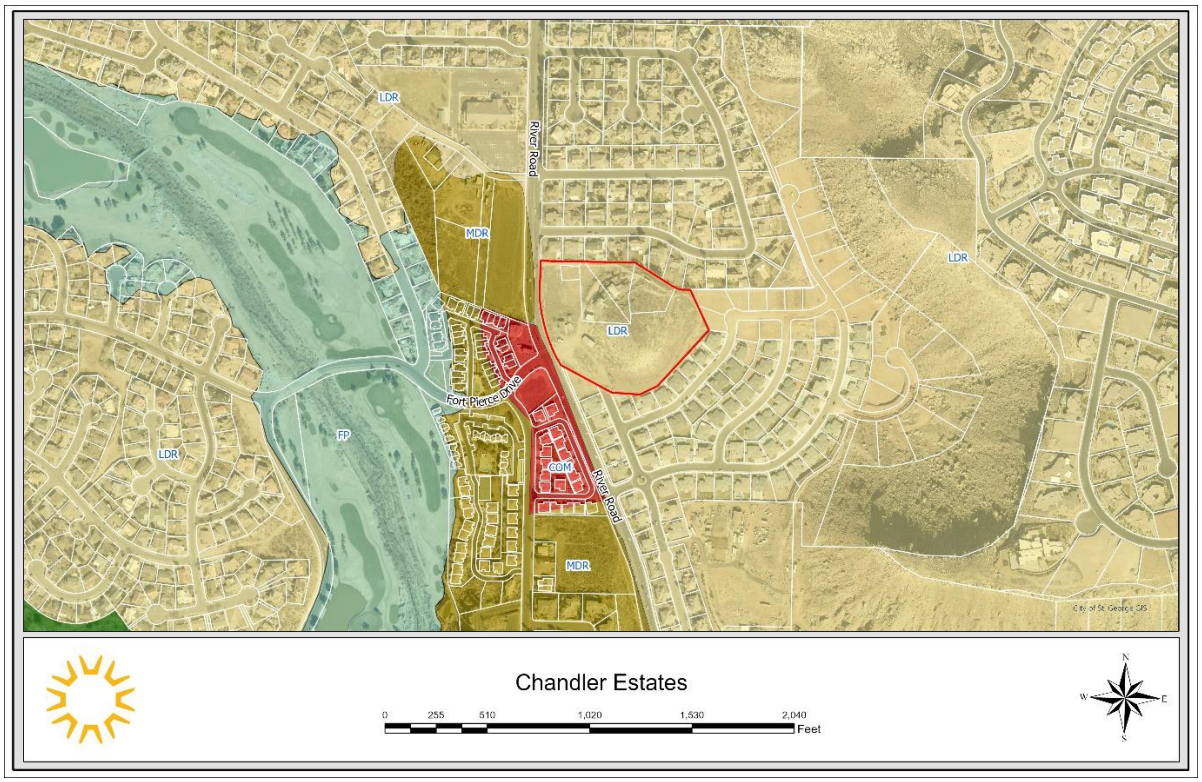
4. Exhibit D – Preliminary Plat
   "Exhibit D" in the packet is the proposed preliminary plat.

5. Exhibit E – November 6, 2023 AGEC Letter
   "Exhibit E" in the packet is a letter provided by AGEC

RECOMMENDATION

Section 10-13A-8(B)(1) of the "Hillside Review Board Powers and Duties" states that the hillside board can make recommendations to "adopt, modify or reject a proposal" to the Planning Commission (PC).

General Plan – LDR - Low Density Residential



Zoning – R-1-10-(Single Family Residential 10,000 sq ft lots)

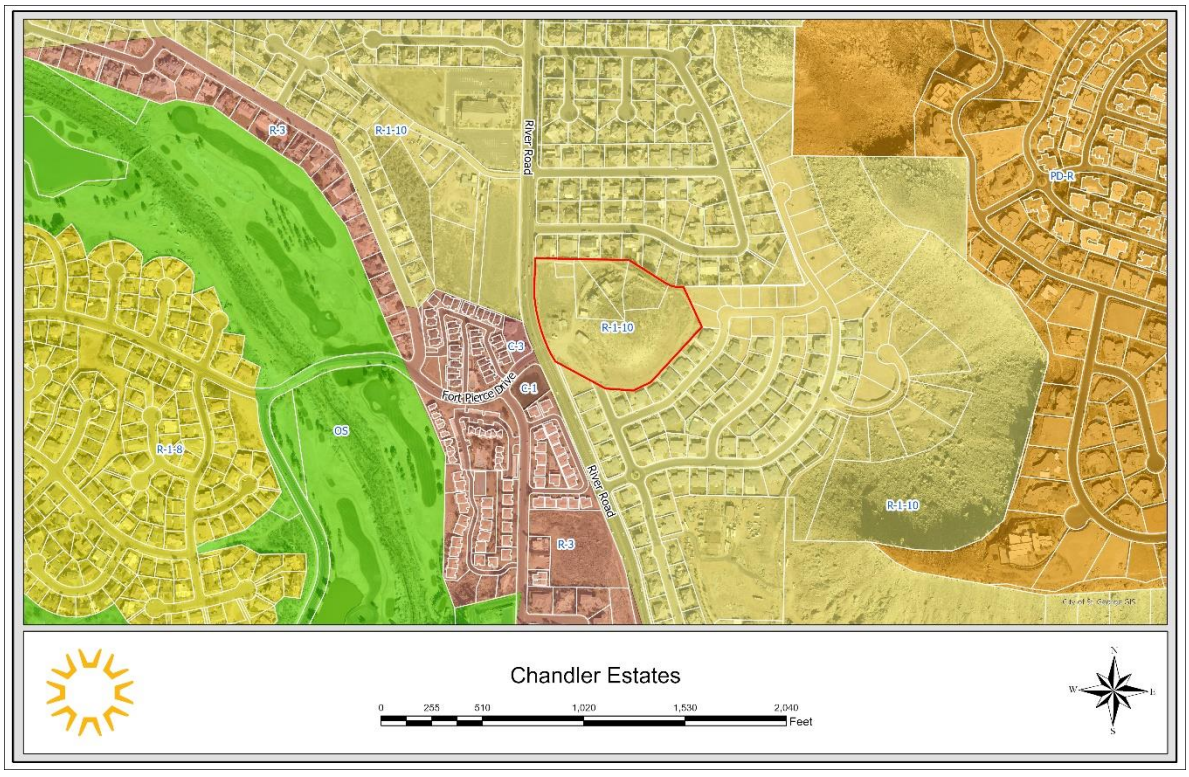


EXHIBIT A
Cut/Fill Map

QUAIL VALLEY EST

COTTAM COVE

STOCKTON DR
(45' PUBLIC RD)

JAZZ DR
(45' PUBLIC RD)

JAZZ DR
(50' PUBLIC RD)

MALONIE DR
(45' PUBLIC RD)

RIVER ROAD

SHELLEE DR

DIHEDRAL DR

N88°54'32"W 469.81'

S1°07'32"W 126.31'

N57°57'55"W 221.98'

N64°40'47"W 27.81'

N76°38'54"W 23.40'

N88°50'32"W 40.25'

N24°40'56"W 224.24'

R=660.00'
L=278.67'
Δ=24°11'32"
CB=S10°58'14"E
CD=276.61'

S13°04'00"E 134.04'

S61°36'46"E 283.20'

N42°48'23"E 378.32'

S85°55'23"E 140.07'

N64°36'10"E 96.91'

EARTHWORK QUANTITIES

CUT	278,905 CY
FILL	10,440 CY
NET EXPORT	268,465 CY
MAX CUT	100.1 FT
MAX FILL	6.5 FT

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1 inch = 40 ft.

PROFESSIONAL ENGINEER
No.5567007
WILLIAM F. MEYER, OR
11/06/2023
STATE OF UTAH

No.	Date	By	Revision

BUSH & GUDGELL, INC.
Engineers - Planners - Surveyors
205 East Tabernacle Suite #4
St. George, Utah 84770
Phone (435) 673-2337 / Fax (435) 673-3161
www.bushandgudgell.com

DATE: NOV 2023
DRAWN: CBW
APPROVED: WFM
SCALE: 1" = 40'
JOB NO.: 231045

CUT FILL MAP

CHANDLER HEIGHTS
LOCATED IN ST GEORGE, UTAH

SHEET 3 OF 3 SHEETS

FILE: HILLSIDE

X:\231000-231999\231045 - Jones Hill Subdivision\Drawings\Hillside\231045 - Jones Hill Hillside.dwg

EXHIBIT B
Grading Plan Map

LEGEND

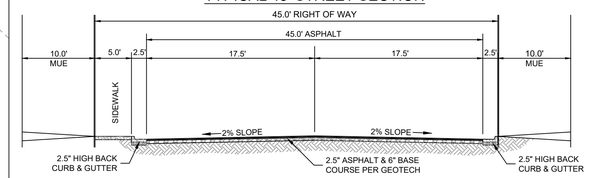
- RIGHT-OF-WAY LINE
- PROPOSED CURB & GUTTER
- EXISTING CURB & GUTTER
- PROPOSED STACKED ROCK RETAINING WALL
- DRAINAGE CHANNEL FLOW LINE
- EXISTING LOT LINE
- PROPOSED ASPHALT
- PROPOSED CONCRETE
- 20.00% - 29.99% SLOPE
- 30.00% - 39.99% SLOPE
- 40.00% - 99.99% SLOPE
- EXISTING GROUND CONTOUR
- FINISH GROUND CONTOUR
- DRAINAGE FLOW
- PAD= 00.0 — FINISH PAD ELEVATION
- LOCATION ELEVATION — SPOT ELEVATION
- SD — STORM DRAIN
- (S) SINGLE CURB INLET PER CITY STD. DETAIL 205
- (D) DOUBLE CURB INLET PER CITY STD. DETAIL 205
- LOT LINE
- STORM DRAIN MAN HOLE

GRAPHIC SCALE

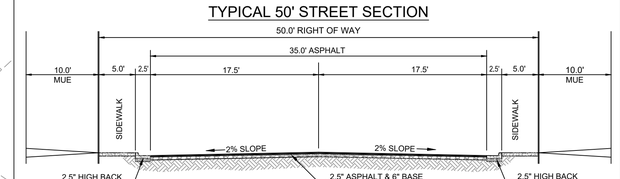
40 0 20 40 80

(IN FEET)
1 inch = 40 ft.

TYPICAL 45' STREET SECTION



TYPICAL 50' STREET SECTION



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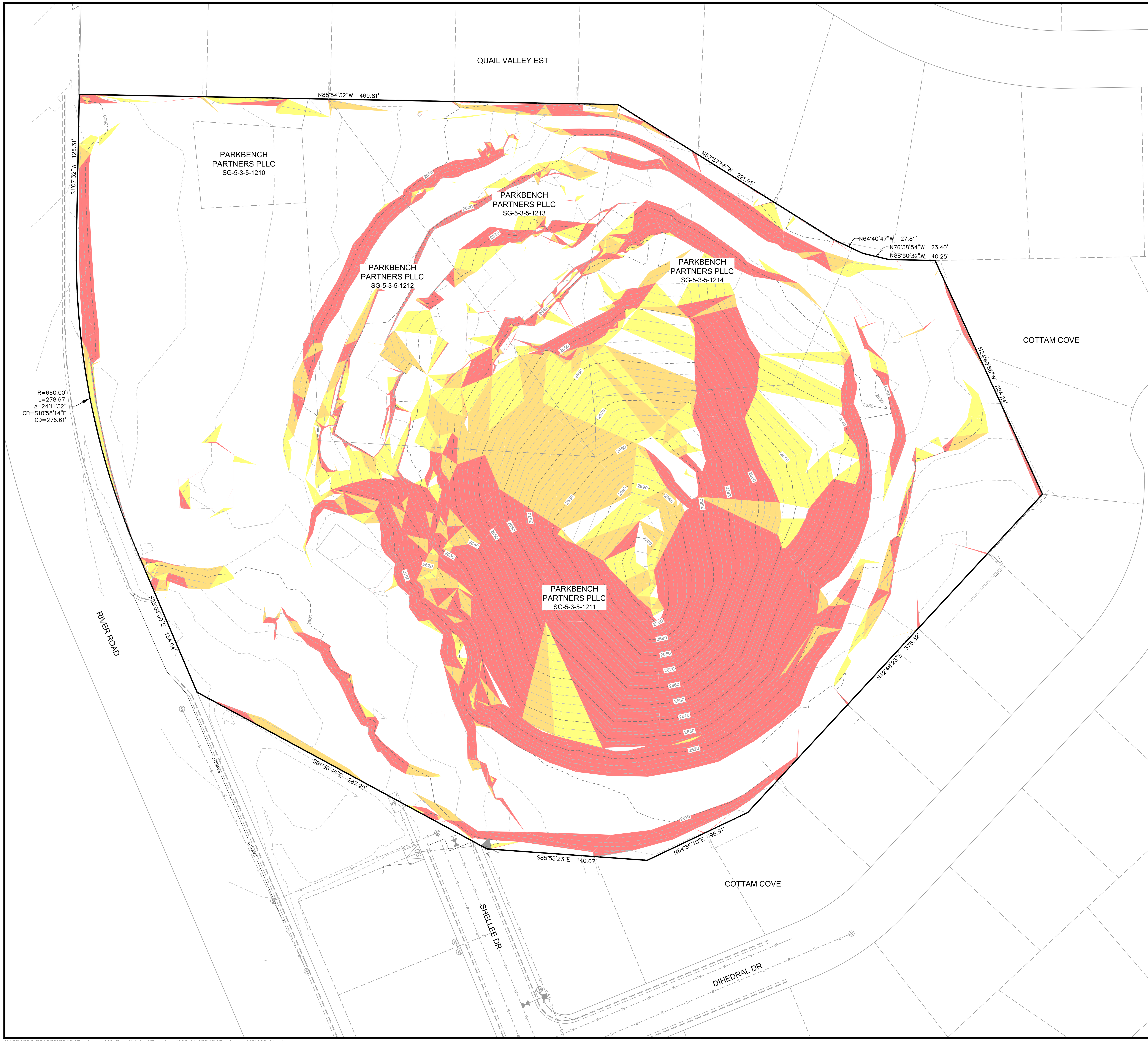
GRADING PLAN
CHANDLER HEIGHTS
LOCATED IN ST GEORGE, UTAH

SHEET 2 OF 3 SHEETS
FILE: HILLSIDE

X:\231000-231999\231045 - Jones Hill Subdivision\Drawings\Hillside\231045 - Jones Hill Hillside.dwg

EXHIBIT C
Slope Analysis



LEGEND

- RIGHT-OF-WAY LINE
- PROPOSED CURB & GUTTER
- EXISTING CURB & GUTTER
- PROPOSED STACKED ROCK RETAINING WALL
- DRAINAGE CHANNEL FLOW LINE
- EXISTING LOT LINE
- PROPOSED ASPHALT
- PROPOSED CONCRETE
- 20.00% - 29.99% SLOPE
- 30.00% - 39.99% SLOPE
- 40.00% - 99.99% SLOPE

GRAPHIC SCALE

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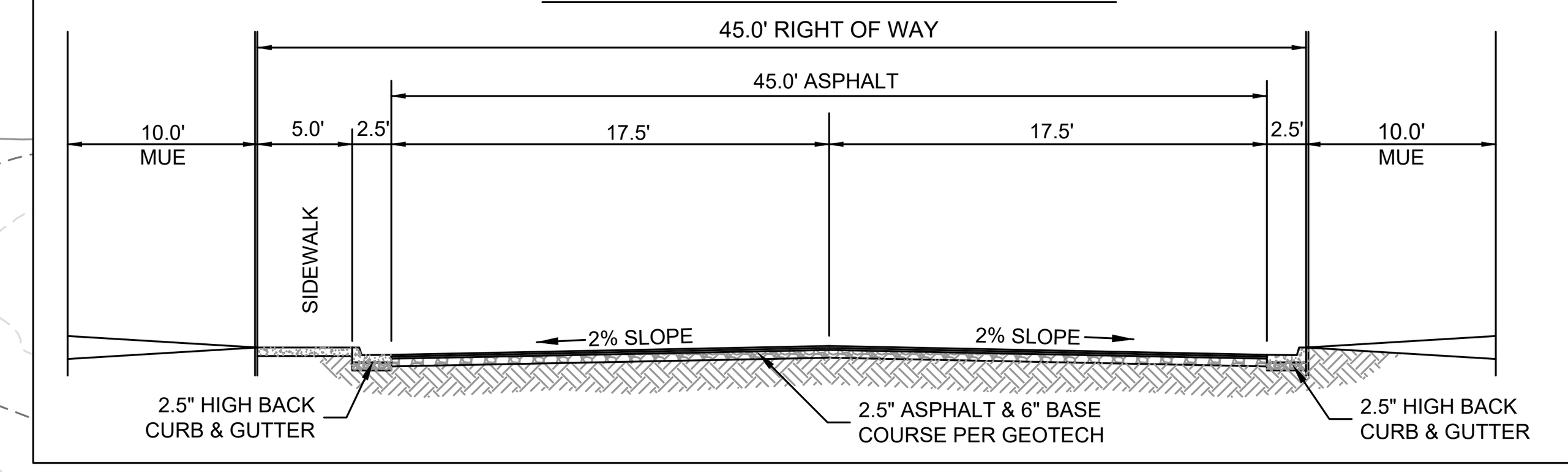
HILLSIDE MAP
CHANDLER HEIGHTS
LOCATED IN ST GEORGE, UTAH

SHEET 1 OF 3 SHEETS
FILE: HILLSIDE

X:\231000-231999\231045 - Jones Hill Subdivision\Drawings\Hillside\231045 - Jones Hill Hillside.dwg

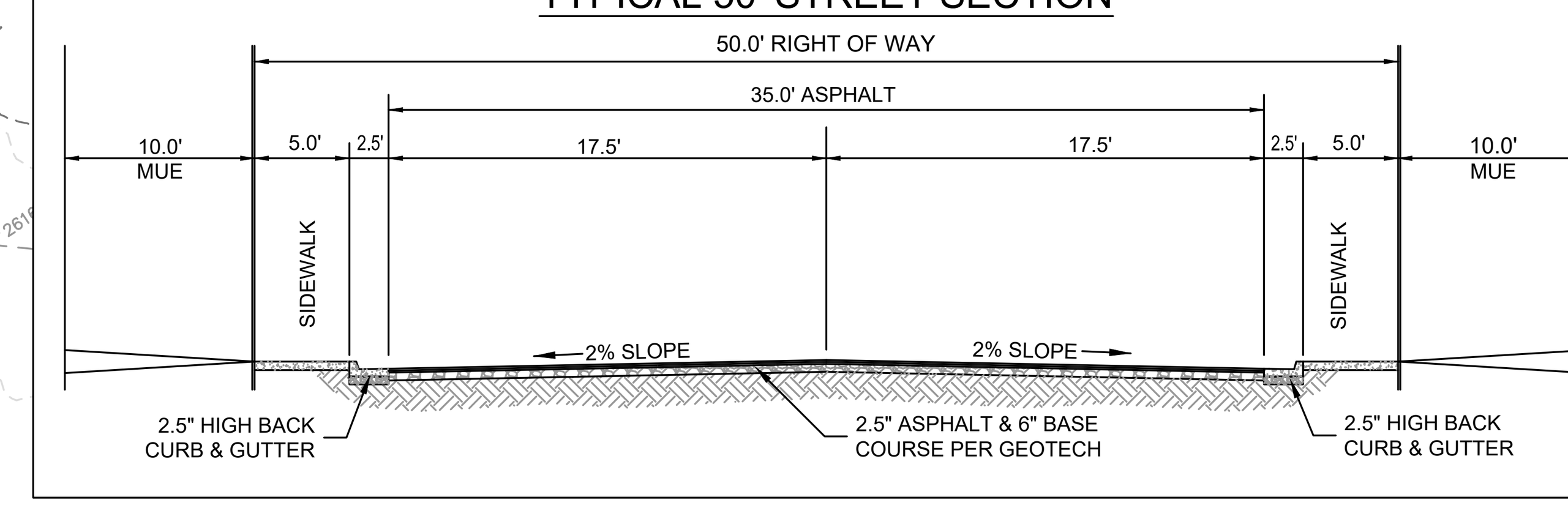
EXHIBIT D
Preliminary Plat

TYPICAL 45' STREET SECTION



PROJECT INFORMATION	
ZONING	R-1-10
GENERAL PLAN	LDR
TOTAL AREA	9.49 ACRES
TOTAL UNITS	43
DENSITY	4.53 D.U./ ACRE

TYPICAL 50' STREET SECTION



LEGEND

- EXISTING RIGHT OF WAY LINE
- PROPOSED CURB & GUTTER
- EXISTING CURB & GUTTER
- PROPOSED RETAINING WALL
- DRAINAGE CHANNEL FLOW LINE
- EXISTING FENCING
- OHP — EXISTING OVER HEAD POWER
- EXISTING SEWER
- PROPOSED SEWER
- EXISTING WATER
- PROPOSED WATER
- STOP / STREET SIGN
- END OF ROAD MARKERS
- DRAINAGE FLOW DIRECTION
- SECTIONAL MONUMENT (TYPE, LOCATION, ETC AS NOTED IN PLAT)
- ▨ PROPOSED ASPHALT
- ☐ PROPOSED CONCRETE

OWNER / DEVELOPER

PARKBENCH PARTNERS PLLC

LORI KILLPACK
loritovey.realtor@gmail.com
(801) 631-8536
1593 N. PARK AVE,
WASHINGTON, UT 84780

ENGINEERING CONTACT

BUSH AND GUDGELL, INC.
205 EAST TABERNACLE #4
ST GEORGE, UT 84770

RICK MEYER
(435) 673-2337

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1 inch = 40 ft.

PROFESSIONAL ENGINEER
No.5567007
WILLIAM F. MEYER, JR.
11/06/2023
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SITE PLAN
CHANDLER HEIGHTS
LOCATED IN ST GEORGE, UTAH

SHEET 2 OF 4 SHEETS

FILE: 231045-PRE PLAT

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EXHIBIT E
AGEC Letter

AGEC
Applied GeoTech

November 6, 2023

Parkbench Partners, PLLC
193 North Park Ave.
Washington, Utah 84780

Attn: Lori Killpack

Subject: Geologic Review and Hillside Evaluation
East of Intersection of Ft. Pierce Dr. and River Road
St. George, Utah
AGEC Project No. 2232112

Applied Geotechnical Engineering Consultants, Inc. (AGEC) was requested to evaluate the property for the proposed grading and to determine the potential for geologic hazards at the site.

AGEC previously has provided geotechnical consultation with regards to the suitability of the property for use as borrow or aggregate materials. In addition, AGEC has provided consultation previously for the site to a previously planned development. AGEC provided a geotechnical and hillside study for the Cottom Cove development to the south and east of the property. The information from these studies was evaluated in preparation of this report.

SCOPE OF WORK

The references for these studies are listed below:

- Hillside Review, Geologic Hazard Assessment and Geotechnical Study, by AGEC, Project No. 2121027, dated December 14, 2012.
- Material Suitability Report, Jones Hills (same property), AGEC Project No. 2200296, dated February 4, 2020.
- Rock wall Designs and Material Evaluation, AGEC Project No. 2180256, March 6, 2018.

AGEC has also reviewed the proposed grading plan prepared by Bush & Gudgell Engineering, Inc. provided on November 6, 2023.

The geologic conditions at the site were evaluated using the Geologic Map for the St. George Quadrangle Utah Geological Survey (UGS) Map 251, dated 2011, by Hayden and Willis. The geologic hazard map, by Lund etal, dated 2008 was also utilized in our literature review.

SITE CONDITIONS

The site is located east of River Road across from the intersection of Ft. Peirce Drive and River Road. The site consists of a large knoll that is approximately 100 feet in height. The hill peaks with a small knoll at the top. There are existing residences to the east, south and north. The western and northwestern portion of the property is a slope to flat area along River Road where existing debris, farm equiment and small storage sheds exist. There are also several exsting structures on the northwest side of the property. An aerial map of the property is shown below (Figure 1).

Figure 1, site location map

GEOLOGIC CONDITIONS

Based on our review of the literature along with our site visit, the upper approxmately 50 to 70 feet of the knoll consists of sandstone and is underlain by interlayered sitstone and fine grained sandstone. The contact zone between members is dipping down to the northeast. The majority of the hillside will be the yellowish brown sandstone (Upper Sandstone). The geologic mapping is shown below:

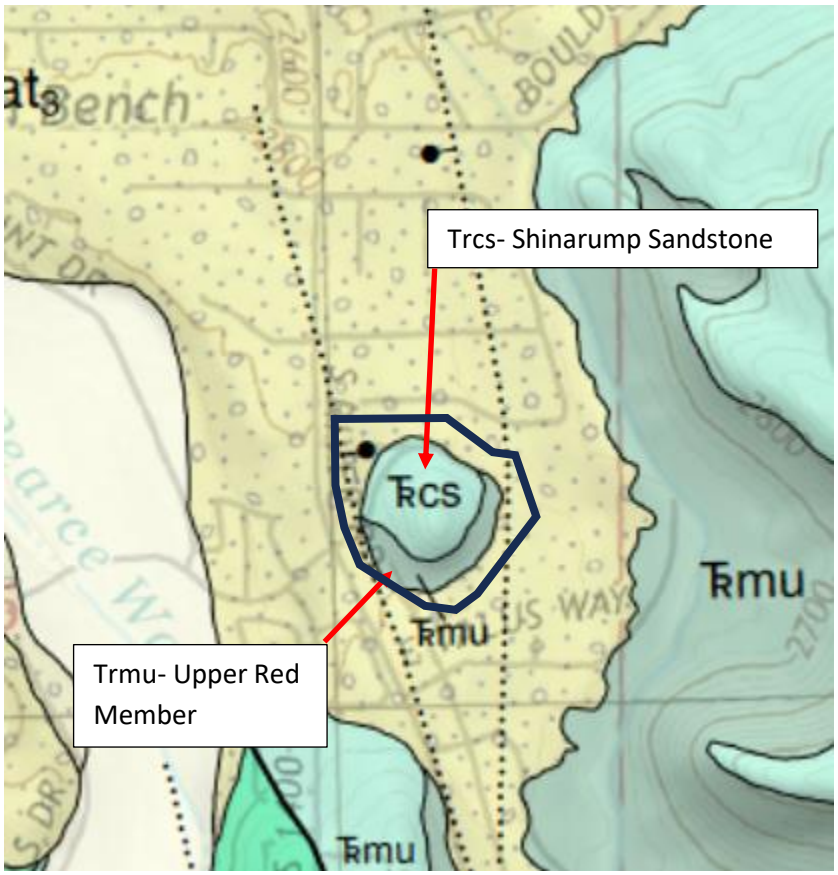


Figure 2, Geologic Map, St. George Quadrangle UGS Map 251, 2011, Hayen and Willis.

Each of the rock material types are described below:

Trcs- Shinarump Sandstone: The upper sandstone is the light brown to yellowish material shown in the photos below and is the Shinarump Member of the Peterified Forest Formation. This material is moderately hard to hard and will require blasting to excavate.

Trmu Upper Red Member: The lower sandstone/siltstone material that is red in color is the Upper Red Member of the Moenkopi Formation. It is moderately hard, but typically can be excavated without blasting. It will require heavy duty excavation equipment to remove. The photo (photo No. 1) below illustrates the two types of materials at the site.

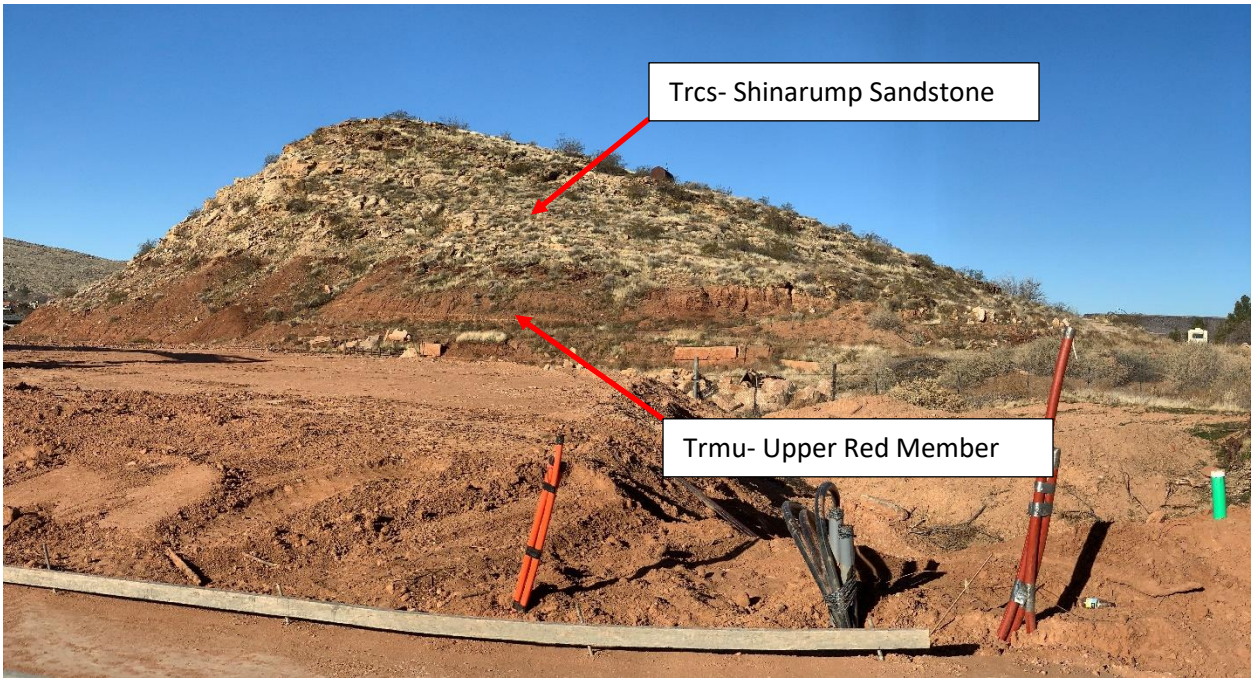


Photo No. 1 – view of Jones Hill looking west to slightly NW.

GEOLOGIC HAZARDS

AGEC has reviewed the potential geologic hazards at the site. The following were identified as a concern:

- Hard Rock – will be excavated/blasted and removed.
- Rock Fall - will be excavated/blasted and removed.
- Earthquake/Fault - The St. George Fault is mapped by Christenson and Dean (1983), Lund and others (2008). Based on the mapping the inferred or concealed location of the fault extends in a north-south direction along both sides of the knoll as shown in the map below, Figure 3. Based on the

mapping, a site specific surface fault rupture study is not recommended unless a critical structure such as a medical facility or school is planned. The planned use of the site being single family residential, it is not required. In addition, our conversations with Utah Geological Survey (UGS) professional geologists, indicate the ST. George Fault is not considered active and is not a restriction in the area of development.

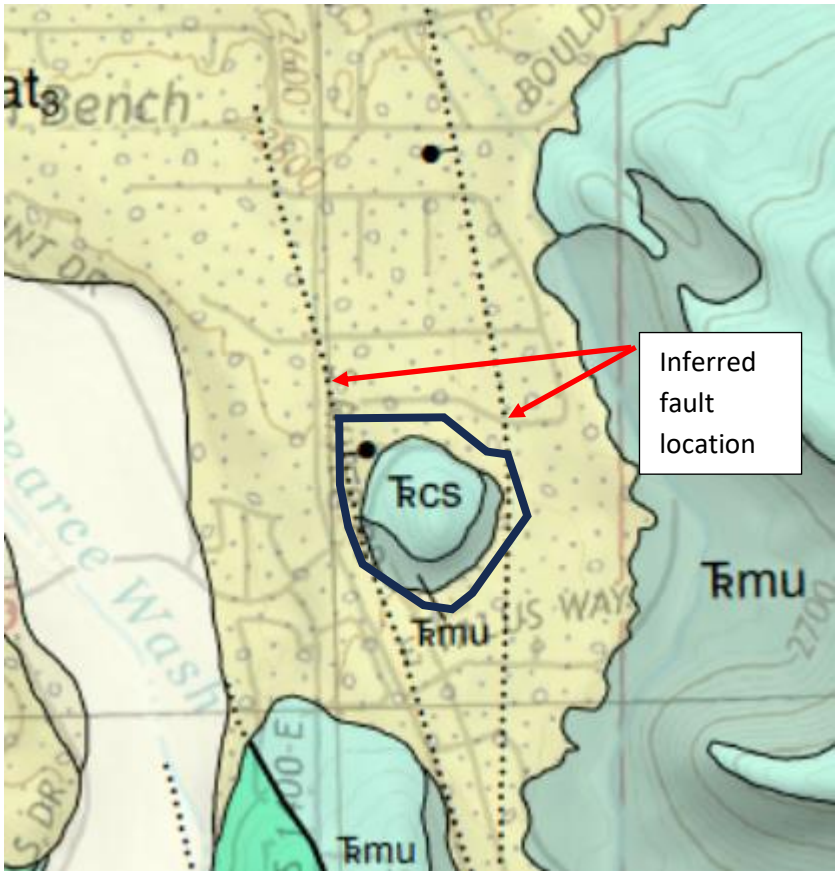


Figure 3, Geologic Map with inferred fault location on both sides of the knoll.

PROPOSED GRADING/DEVELOPMENT

We understand that is it proposed to remove the hill and export as structural fill materials for various projects. The grading will require upwards of a 100 foot cut and a few feet of fill, exporting on the order of 268,000 cubic yards and filling on site approximately 10,000 cubic yards. AGEC has reviewed the grading plan prepared by Bush & Gudgell Engineering, Inc. The plan shows 42 lots will be subdivided as shown on the cut-fill map shown below.

Figure 4, cut-fill map of the proposed grading, showing 42 lots, prepared by B&G.

CONCLUSIONS

The site is suitable for the proposed future residential development. Following removal of the materials and prior to placing fills on the northwest portion of the site, AGEC should verify the conditions exposed at that time.

The site may be used as structural fill materials. Our experience in the area has shown the upper sandstone (Shinarump Sandstone) it is suitable for rock stacking and makes suitable structural fill. It will likely require processing to provide a suitable size for use as fill. Depending on the blasting technique used, the material may need to be screened or crushed. Our experience has also shown that this material meets the requirements for Type I, but is marginal to meet the requirements for Type II (basecourse) for St. George

City requirements. We anticipate increase in volume of 15-20 percent percent depending on the final in-place use of the material.

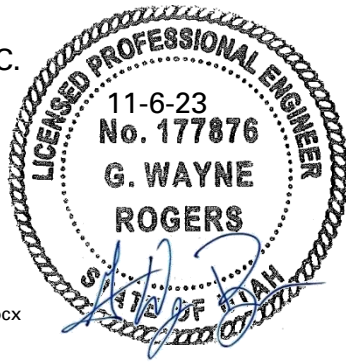
The lower bedrock (Upper Red Member) will also be suitable for use as structural fill. It can be processed to the appropriate size typically with steel tracking or sheeps foot compaction. There are layers within this zone that may be hard and require additional effort to break down to suitable size for a compacted fill material. The material is not suitable for rock stacking material.

LIMITATIONS

This report has been prepared in accordance with generally accepted soil and foundation engineering practices in the area for the use of the client for design purposes. The conclusions and recommendations included within the report are based on the information obtained from the geologic review and our observations of the site conditions and our experience in the area. Variations in the subsurface conditions may not become evident until excavation is conducted. If the subsurface conditions are found to be significantly different from those described above, we should be notified to reevaluate our recommendations.

If you have any questions or if we can be of further service, please call.

APPLIED GEOTECHNICAL ENGINEERING CONSULTANTS, INC.



G. Wayne Rogers, P.E.
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NOTICE OF MEETING
HILLSIDE REVIEW BOARD
CITY OF ST. GEORGE
WASHINGTON COUNTY, UTAH

Public Notice

Notice is hereby given that the Hillside Review Board of the City of St. George, Washington County, Utah, will hold meetings at the referenced site on **Wednesday, November 1, 2023,** commencing on-site at approximately 9:00 a.m.

PRESENT:
James Sullivan
Dave Black
Jeff Mathis
Russ Owens

EXCUSED:
James Dotson

CITY STAFF:
Assistant Public Works Director, Wes Jenkins
Planner III, Daniel Boles
Development Office Supervisor, Brenda Hatch

James Sullivan called the meeting to order.

1. Consider a request for a hillside development permit to make modifications to the ridgeline along the southeast slope of the Tech Ridge Development.

   Mike Bradshaw – The last time we discussed this we talked about where the proposed walls would land on the landslides or if it would be stable enough on the basalt layer. We did get a new Geotechnical report. From all indications it is going to be a stable location for the walls and the idea is to define the ridgeline. We will continue the ridgeline from the north, bringing it around the south with the double stack, maybe a triple stack, depending on how it looks. We will vary the slope as best we can to make it aesthetic. Then we will put a trail along side of the new stacked wall. It will be a continuation of the entire rim trail.

   Dave Black – Can you give us an idea of where that is?

   Mike Bradshaw – That stake is a location that we drilled, that is about the start of the base of the wall there.

   The position of the wall was pointed to.

   Mike Bradshaw – The other thing we want to do is put a pedestrian bridge over the top of the proposed access road. You can see it will be elevated over the top of the road structure. That will be a little further south. The road will be cut through, it will have the appearance

of cutting through this new basalt cap. Then there will be the pedestrian bridge over the top of that. It will add to the rim trail.

Dave Black – So between us and the trail there is a buildable lot, right?

Mike Bradshaw – Correct.

Dave Black – What is the setback requirement for buildings from the ridgeline?

Mike Bradshaw – It is 50 feet.

Jeff Mathis – From the newly created ridgeline?

Wes Jenkins – Wherever they establish that new ridgeline, then it will be 50 feet back from that.

Russ Owens – So when you have the top of your walls, where does that catch, is it the same elevation as the road?

Mike Bradshaw – No, it's going to be down a little bit, our intent would be to do a walk out style building. So, it would setback even further because we would probably have two stories. It would be 10 to 12 feet lower out there.

Russ Owens – Then drainage wise, which way does that drain?

Mike Bradshaw – We would catch the drain, bring it this way, and capture it into our storm drain system in the project.

Craig Coats – We push all the water to the west.

Jeff Mathis – Do you think you can do that with a walk out?

Mike Bradshaw – We do, the other thing we can do is if we need to, we have a storm drain in the southeast access road so we can direct it there if we need to.

Jeff Mathis – On top of your double walls are you planning a drainage swell on top of those to do that direct it that way?

Mike Bradshaw – The trial will be there so the trail will capture that water.

Jeff Mathis – So you'll have drainage around the trail?

Mike Bradshaw – Yes.

Dave Black – I was thinking about this project and our conversations before. We had concerns about creating a ridgeline. The other way that we can look at it is that these are buildable lots, they meet the requirements to do construction from a slope requirement, right. So, in reality we're not creating a ridgeline, we're requiring them to mitigate their fill slope by a stacked rock wall that matches the surrounding area. I think it's kind of a

mitigation to something they could do anyway as opposed to saying we're going to come out and create a ridgeline. We are, but we are doing that in order to mitigate something, maybe that is a little easier pill to swallow than just creating the ridgeline. I think the track record that they have on the other side, and we know the quality of work they do, and we know what the project looks like I think it could look really nice having the trail there. We're not really creating the ridgeline, it's the continuation of the ridgeline. Personally, I'm in favor of the plan because it kind of makes sense. I think creating ridgeline should be project specific. This might be a case that makes sense and the next one might be a case where it does not make sense. The other thought I had was if we create any fills that extend out below the stacked rock, or above the stacked rock, all that needs to be mitigated and colored like you would do before. If it required a third tier which is not in our ordinance right now, a variance might be appropriate, it might look better to do a third tier than extending a fill slope down further. The other thought that I had was, we are in the process of revising the rockery wall ordinance right now and we have a maximum height of 16 feet with 2 tiers, if we were doing a concrete wall in a commercial development we could go to 18 feet. I'm wondering in a commercial development even with the rockery walls we ought to slip in a maximum height of 18 feet which might help them a little bit on this project.

Wes Jenkins – So on industrial you can go up to 18 feet, not commercial.

Mike Bradshaw – Looking at it now, I said we had the potential for 3 tiers, but right now we only have 2 tiers so our max height would be 16 feet.

Dave Black – But it is sometimes in those cut slopes.

Craig Coats – Sometimes in those draws, that's where we can get those higher walls, the top is the same, it just draws down. We have to get a little deeper.

Jeff Mathis – The question is how do you treat it when you do the slopes? Will it just be a rock cover instead of a rock wall? The fill slopes are the ones that tend to be kind of ugly, they tend to wash out.

Mike Bradshaw – I think the idea is to kind of mimic some of these other basalt caps where there is a little bit of sloughing off of the basalt cap.

Jeff Mathis – So it would be rock covering.

Mike Bradshaw – We would do rock cover or treat it with some type of a plant. We would not just leave it a fill slope. We would clean it up aesthetically. The idea was to break it up and not have this giant wall. To make it look as close to natural as possible.

Craig Coats – I think you could do that with some smaller basalt and some larger basalt and shape it that way.

Jeff Mathis – I get your point Dave, I mean you're right, we are creating a ridgeline here. It's going to be seen all over the valley. It's 16 feet tall.

Dave Black – Right now this is the ridgeline, and it's a fill slope and they can develop.

Jeff Mathis – Is 14 ft enough clearance for your bridge?

Mike Bradshaw – I think so, we will have to verify that.

Jeff Mathis – What about the utilities?

Mike Bradshaw – That is the next item, this doesn't have any utilities.

Russ Owens – Go through the process of how you tie it in between the new ridgeline and the existing.

Mike Bradshaw – We're not really going that far over. We will just start a little to the south of that. We'll taper it and start new.

James Sullivan – It will look better with an actual set ridgeline.

Mike Bradshaw – I think it really cleans up and makes this a much more appealing project at the end of the day.

MOTION: Jeff Mathis made a motion to recommend approval of Item 1 with the condition that the execution of the stacked rockery walls double tiers meet the level of aesthetic appeal that we have on the west side as constructed. SECOND: Dave Black AYES (4) Dave Black Jeff Mathis Russ Owens James Sullivan NAYS (0) Motion carries

2. Consider a request for a hillside development permit to construct the southeast access road from 250 West St. to the Tech Ridge Development.

Russ Owens – You mentioned that if you had a two story, you might take drainage on down to a storm drain in the lower road?

Mike Bradshaw – We have storm drain in the lower road specifically to catch the length of the road and to capture the drainage in that road. The road is long enough we couldn't get all the drainage just road specific down to the bottom without a storm drain. Our intent is to put in a storm drain similar to what we did on Cloud Drive, which is the welded pipe.

Russ Owens – That is just catching what's in the road, not having other pipes come into it?

Mike Bradshaw – For the most part, yes. We wouldn't go down the slope and catch pipes. But here where we have a low capture along this trail, we may need to introduce a slight amount of drainage here. But, primarily, our water goes off the west side.

Jeff Mathis – Is that off the surface, or are you going to put in a pipe?

Mike Bradshaw – We would put in pipes to get there. But that would be a very limited amount that would just be in this lower area, right along this trail area. Ideally we would try to avoid that, but there may be some instances where it might be necessary.

Russ Owens – So in the future when these guys all come build with their parking lots, where is that water all going to go?

Mike Bradshaw – The water is going to go into the storm drain system and then to the west over on Cloud Drive.

Russ Owens – So that is the existing storm drain system that's in the road?

Mike Bradshaw – That's correct, and it is deep enough to capture most, if not all of it.

Dave Black – So the upper level all could come to the front. And the roof drains can all come to the front?

Mike Bradshaw – That's right.

Dave Black – So it would just be the walk out back?

Mike Bradshaw – It would be the walk out pad, patio or whatever we capture along the trail system, so it would be very limited. It would be constructed similar to what we did on Cloud Drive. It would be a welded, fused pipe. What we did there was we took the pipe through the inlet, filled the basin with concrete then cut the pipe out so it's as sealed as we could possibly get.

Jeff Mathis – This report talked about shrinkage, that's how you handle that.

Craig Coats – The other thing that we are doing is that on the boxes we are going to have a boot casted in place in them so that the HDP pipe on the stub ins can move a little bit and but still have that seal around them.

Russ Owens – You have sewer coming down this?

Mike Bradshaw – So we do need sewer coming down this. What we have done, it will be a gravity sewer similar to what we have done on Cloud Drive. An enclosed welded pipe again, with no penetrations into it, no sewer connections, also we built this welded Y for flushing so it's not an open sewer manhole.

Craig Coats – It's a Y with a cap they can unscrew and clean it.

Wes Jenkins – We did talk about maybe in some of these areas where there is straight and it's not that steep of a slope, we may put manholes on it, but we would run the pipe through them closed and then if the City ever needed to get into them to clean it out we would just cut a hole in the top of the pipe if that ever happened.

Craig Coats – We have them every 400 feet. They are all the clean outs.

Mike Bradshaw – All of the manholes will be that clean out style. So, it will be a welded cap cleanout manhole. They will be at maximum 400 feet.

Russ Owens – So is there anything substantially different that this would be than what you have done over there?

Mike Bradshaw – No it will be identical. We originally had planned to put a water line in here, the City was looking at some water infrastructure pipe coming up this road, but we have recently got with the water department, and they have a different option. The plan now is to go to the Maverik over here and bring it up Indian Hills Drive and then the existing water pipe that comes up Blackridge Cove and then up the trail. This will not have a pressurized water pipe.

Dave Black – Last time we met we recommended the approval for alignment, but we had some reservations about utilities. So, we need to talk about that.

Jeff Mathis – Obviously there will be power going up?

Mike Bradshaw – There will be power.

Jeff Mathis – There is something in that letter as well about utility trenches are a conduit for water to transfer down, so the key is not to let the water get into the trench.

Dave Black – It looks like there is an updated report by AGEC dated September 8, 2023, that addresses the road and the utilities specifically. There is a section in here starting on page 1 and goes over to page 2 that talks about mitigation and it actually extends on, well, it ends on page 2. I think they do a very good job of talking about the concerns. They make a statement that the City should understand. I would recommend or suggest that we add that section to our minutes word for word just so when it goes to Council they have a chance to read it, so everyone understands, it's clear we're building on a landslide, there is risk involved. It's not like other sites without those risks and there are certain measures, it talks about maintenance, and inspections and stuff like that. I think if we do a motion to recommend this for approval it should be contingent upon the recommendations provided in the project Geotechnical report.

Wayne Rogers – Just a real quick clarification on that. I had some communication with the City, since we wrote that they did have a water line originally and they pulled that water line out. It doesn't state that in there. The recommendations there won't change, but that did change and so the risk that we state in there with having a water line, has gone way down. That has improved, they have asked us to revise that. I don't know if you want me to revise that and then you include that revision as part of the notes.

MOTION: Dave Black made a motion to recommend approval the proposed alignment of the Hillside Development Permit for the east access road on Tech Ridge with the conditions that they address and meet the recommendations in the project Geotechnical Report as stated in the letter September 8, 2023, starting at the bottom of page 1, and continuing on to page 2. *Mitigation*

If the decision is made to continue with construction of the roadway on the landslides, we recommend the following items be seriously considered:

1. *Introduction of moisture into the subgrade should be minimized if not eliminated. This could be accomplished by:*
   a. *Collecting and transporting surface drainage off the slope in watertight catch basins and piping. This is not standard storm drainage procedures therefore, this would require specific attention to verify that the improvements are watertight.*
   b. *Water ways should be lined to prevent seepage into the ground.*
   c. *Measures need to be taken to eliminate the potential for water to pond on the slope.*
   d. *No water bearing utilities should be installed within the landslide area.*
2. *Cut and fill slopes need to be minimized. Overall impact of potential grade changes should be evaluated and the consequence of the change found to be acceptable before proceeding.*
3. *Water entering the ground in all areas above the slope (within the Tech Ridge area) should be reduced and ideally eliminated. Some, if not all, of the methods described above should be considered within the Tech Ridge area.*

Due to the marginal stability of the landslide deposits, the long-term stability of the site largely depends on keeping the natural hillside topography and subsurface moisture conditions unchanged. The inclusion of water bearing utilities will likely increase the risk that future landslide movement could occur because of water infiltrating the subsurface soils and bedrock leading to weakened subsurface conditions.

St. George City should understand the risk associated with this project and plan accordingly. Frequent maintenance and inspection of the roadway drainage during and after heavy precipitation could be conducted to check for potential water ponding or infiltration issues so that repairs can be made to provide proper drainage.

Additionally, inspections of the storm drainpipes and basins could be done to check for leaks so that repairs can be made quickly to seal the leaks. Thorough inspections and testing should be provided during construction to check for any leaks prior to backfilling water bearing utilities.

Special attention to the backfill material and process should be conducted

around the pipes to reduce potential damage to the pipes. We understand that fused HDPE pipe is planned to be used, which may experience lengthening/shortening under temperature fluctuations. Design and construction of the water and storm drain systems should consider the effects lengthening/shortening may have on the system to remain watertight. Unfortunately, waterline leaks on buried pipes are difficult to observe until a major failure occurs. Our experience indicates small leaks in underground water-bearing utilities will likely go unnoticed for a period, while the trenches transport water through them as a conduit. Consideration should be given to evaluating the cost of running the water bearing utilities along an alternate route outside the landslide vs. the future cost of repairs should landslide movement be triggered.

SECOND: Russ Owens
AYES (4)
Dave Black
Jeff Mathis
Russ Owens
James Sullivan
NAYS (0)
Motion carries

3. Approval of the meeting minutes from the August 23, 2023.

MOTION: Dave Black made a motion to accept the minutes from the last meeting.
SECOND: Russ Owens
AYES (4)
Dave Black
Jeff Mathis
Russ Owens
James Sullivan
NAYS (0)
Motion carries

Adjourn

James Sullivan moved to adjourn the meeting.