

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, February 17, 2021** commencing on-site at approximately **8:30 a.m.**

The estimated site times are in bold.

The agenda for the meetings are as follows:

1. Consider a request for a Hillside Development Permit to allow development of the subject property into townhomes. The applicant is asking for approval of a hillside permit in order to cut into 20-40% slopes. The property is located on the east side of Riverside Drive between Judy Ln. and Foremaster Road. The property is currently zoned R-3 (Multi-Family Residential). The owner is Steven Park. Case No. 2021-HS-002. (*See 'Meeting Place' exhibit below*). **Meeting time approx. 8:30 am**
2. Consider approval of the meeting minutes from September 23, 2020 and December 16, 2020.

Dan Boles, AICP
Senior Planner
Development Services

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.

Meeting Place (Corner of Riverside Drive and Judy Lane)



Hillside Permit**HILLSIDE REVIEW BOARD AGENDA REPORT: 02/17/2021****HILLSIDE DEVELOPMENT PERMIT****Willow Bend Townhomes**

Case No. 2021-HS-002

Request: This is a request for a Hillside Development Permit to allow the applicant to cut into the (20-40%+) hillside for access to a proposed townhome development. There cut would also allow construction of the norther portion of the townhome site. The applicant has provided a slope analysis, proposed drainage report and site layout for consideration.

Exhibits Provided: 1) Exhibit A - Slope Analysis Maps
“Exhibit A” in the packet shows the overall slope analysis for the townhome site under review.

2) Exhibit B – Site plan
“Exhibit B” depicts the proposed layout of the townhome site including open space, roads, building pads, etc.

3) Exhibit C – Preliminary Drainage Control Plan and Report
Dated January 27, 2021 – Drainage report produce by Premier Design & Engineering, Inc.

4) Exhibit D – Narrative
The narrative is a brief description of the proposal and the applicant’s reasoning for asking for the Hillside Review Board’s consideration.

Background: The northern portion of the property has slopes that are in the 20-40%+ range. When Riverside Drive was constructed in approximately 2005 some of those slopes were disturbed to make room for the road.

Owner: Steven Park

Engineer: Mark Fonger, Premier Design & Engineering

APN: SG-5-2-33-429

Location: The property is located on the east side of Riverside Drive between Judy Ln. and Foremaster Rd. The site is approximately the southern half of the overall parcel.

Acreage: 10.53 Acres

Zoning: R-3

Adjacent zones: R-2 (Residential Multi-Family), A-1 (Agricultural), PD-C (Planned Development Commercial), C-3 (General Commercial)

Powers & Duties: 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).

Permit required: Section 10-13A-7 requires that all major development (i.e., cut greater than 4’, etc.) on slopes above 20% requires a ‘hillside development permit’ granted by the City Council upon recommendation from the Hillside Review Board and the Planning Commission.

Analysis: The applicant is proposing to cut into areas that are 20%, 30%, 40% or greater slope (see slope analysis attached). The applicant has provided a narrative stating that the site will need a second access on the north end of the property. They have also stated that due to the placement of the required road, they will need to cut into the hillside to accommodate approximately ten of the units and the road. The stated reason or justification for the cut is that the cuts are not affecting “significant features” and are just overburden blue clay from the construction of Blue Clay.

The Hillside Review Board will need to determine whether or not the areas to be disturbed are “significant” or not. If so, are there conditions that can be placed on the request to mitigate the impacts or is it just not feasible and warrants a denial? Applicable ordinances which may help the board in their review can be found 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.

Percent Natural Slope	Dwelling Units (DU) / Acre
0-19	See underlying zone

20-29	2 DU/acre, provided the units are clustered on 30 percent (30%) or less of the land area within this slope category. 70 percent of this slope category shall remain undisturbed. The 70 percent area is based upon the overall area/development rather than per lot. Also see subsections A1, A2, and A3 of this section.
30-39	1 DU/10 acres, provided no more than 5 percent (5%) of the site is disturbed, and 95 percent of the site remains undisturbed. If the cumulative area is at least 1 acre but less than 10 acres, the cumulative area shall be allowed 1 DU.
40	Development is not permitted (0%), except as provided for in subsection A4 of this section.

Section 10-13A-1: Density and Disturbance Standards

F. The applicant may:

1. Transfer all development density from steeper slope categories (sending areas), to areas within the development with natural slopes of twenty percent (20%) or less (receiving areas); and
2. Develop additional bonus density, calculated from each slope category, as follows:
 - a. Natural slopes twenty percent (20%) or less transferred on a one-to-one (1:1) unit basis; plus
 - b. One (1) additional density unit for each density unit transferred from natural slopes of twenty-one percent (21%) to thirty percent (30%); plus
 - c. Two (2) additional density units for each density unit transferred from natural slopes of thirty-one percent (31%) to forty percent (40%).
3. Unit calculation for the receiving area shall be based on the requirements of the sending area zone.

G. Density transfers to the receiving area may occur without a zone change within the receiving area even though the resulting density or configuration may exceed the density limits of the receiving area zone. Other than density, the receiving area's zoning requirements apply to development in the receiving area. For instance, lot sizes may vary, but single-family zoning districts only allow single-family detached dwellings.

H. If the applicant proposes to develop within the twenty-one percent (21%) to forty percent (40%) slope area, the applicant cannot employ partial density transfers from the sending area and must propose a design, site development plans, and a grading plan that blends and harmonizes all aspects of the proposed development into the natural topography, and that minimizes road cuts and fills.

I. Non-disturb areas within a residential lot as shown on the slope analysis map shall not be used to calculate minimum lot size.

J. Disturbance standards do not apply to the city for limited city facilities: trails, parks, and utilities.

10-13A-2: Density and Disturbance Standards

A. Slope shall be determined for each significant portion of a 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.

HSRB Motion Options: The hillside board can recommend several different options to the Planning Commission and the City Council:

1. Denial
2. Approval as presented
3. Approval with specific conditions and comments added as required.

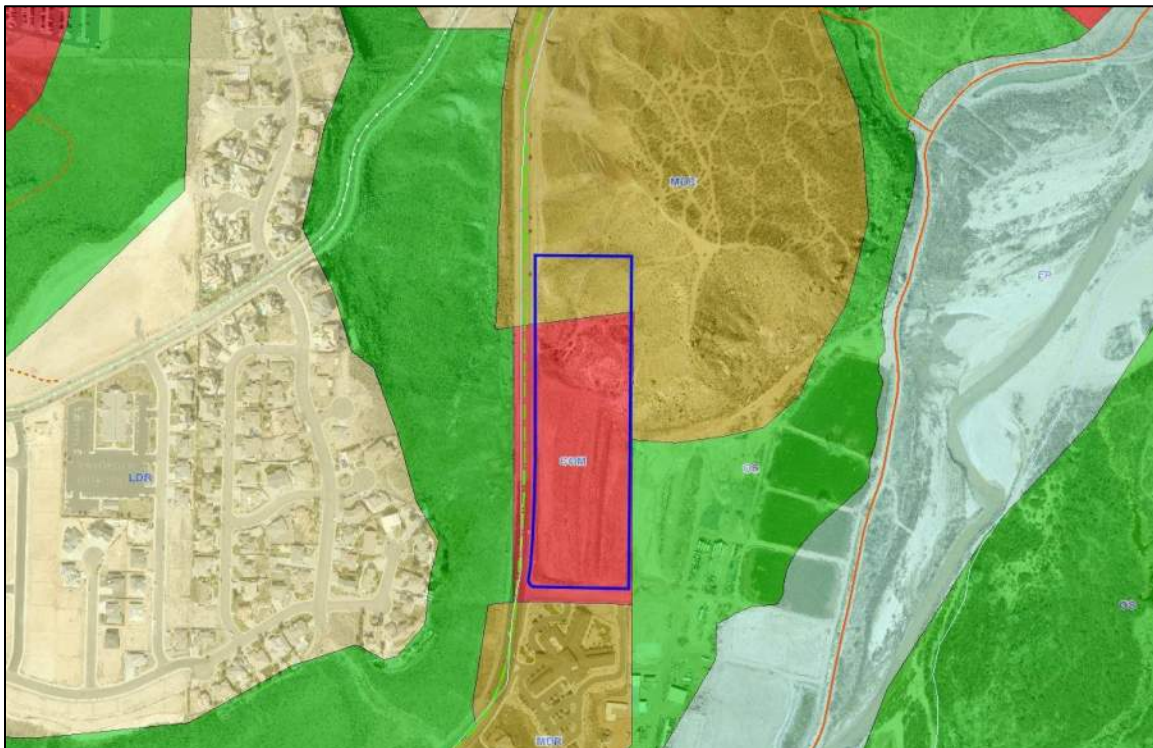
Example Motion: The hillside board recommends _____ of the request for a Hillside Development Permit to allow development of Willow Bend Townhomes as requested and outlined in the staff report including the following comments:

1. _____
2. _____
3. _____

Vicinity Map



General Plan - LDR



Zoning - R3

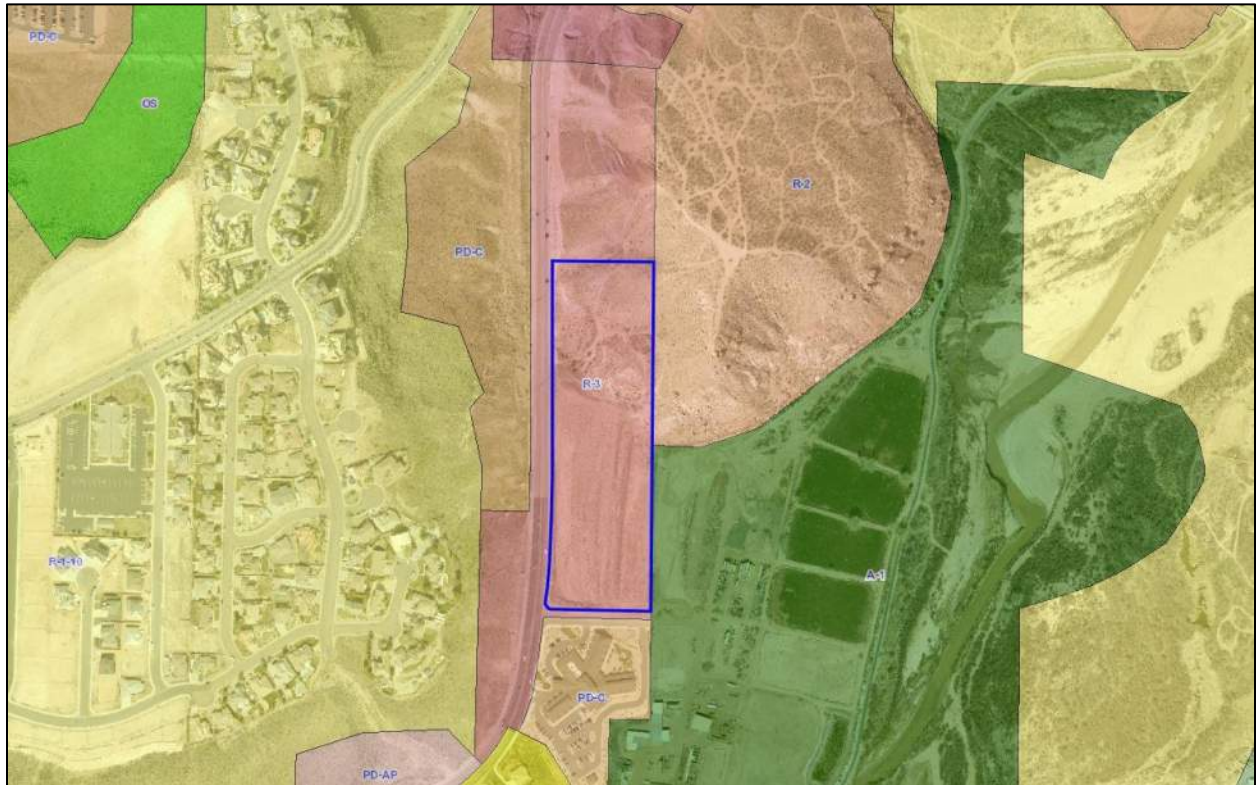
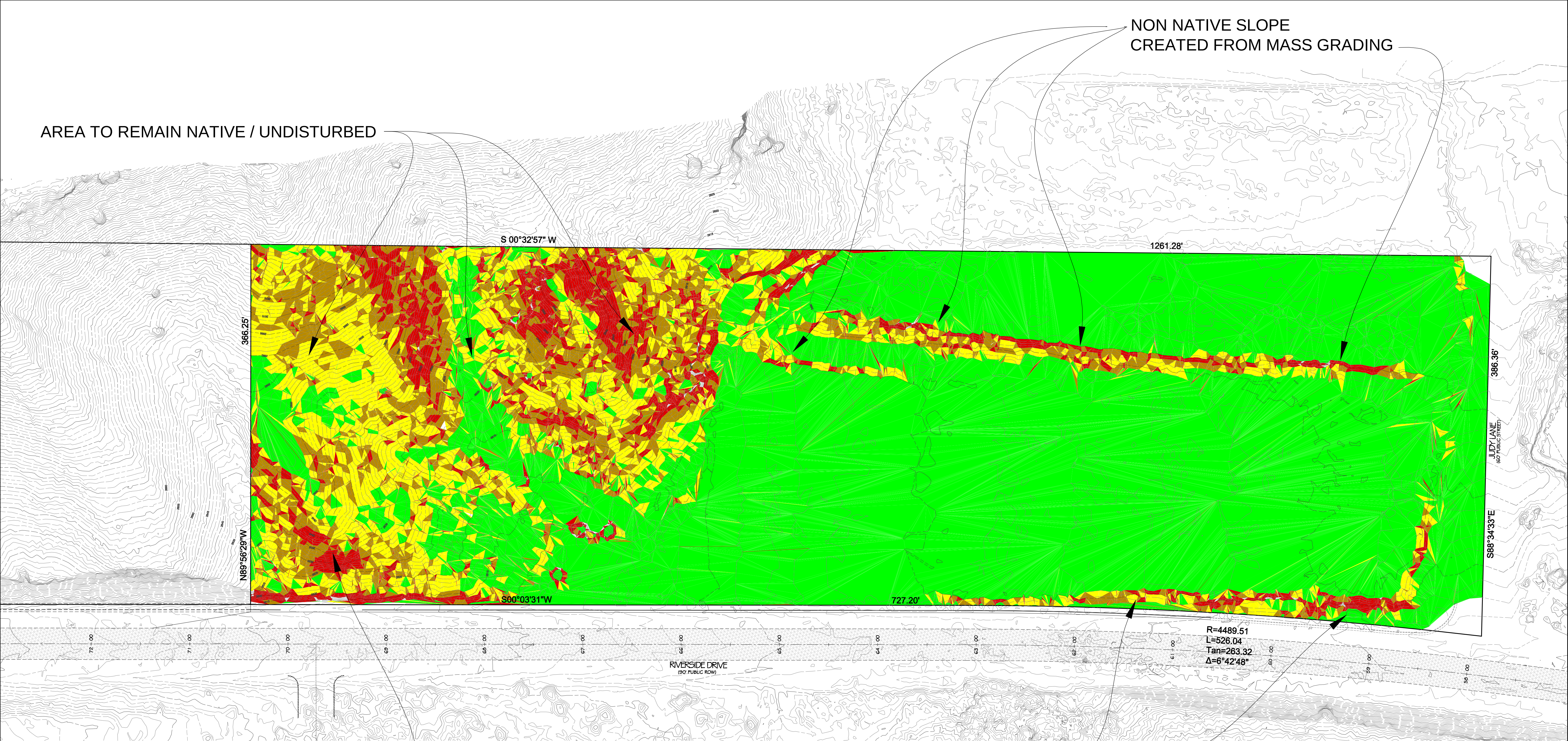


Exhibit A

Slope Analysis Maps



AREA TO BE CUT FOR APPROVED ACCESS
ONTO RIVERSIDE DRIVE

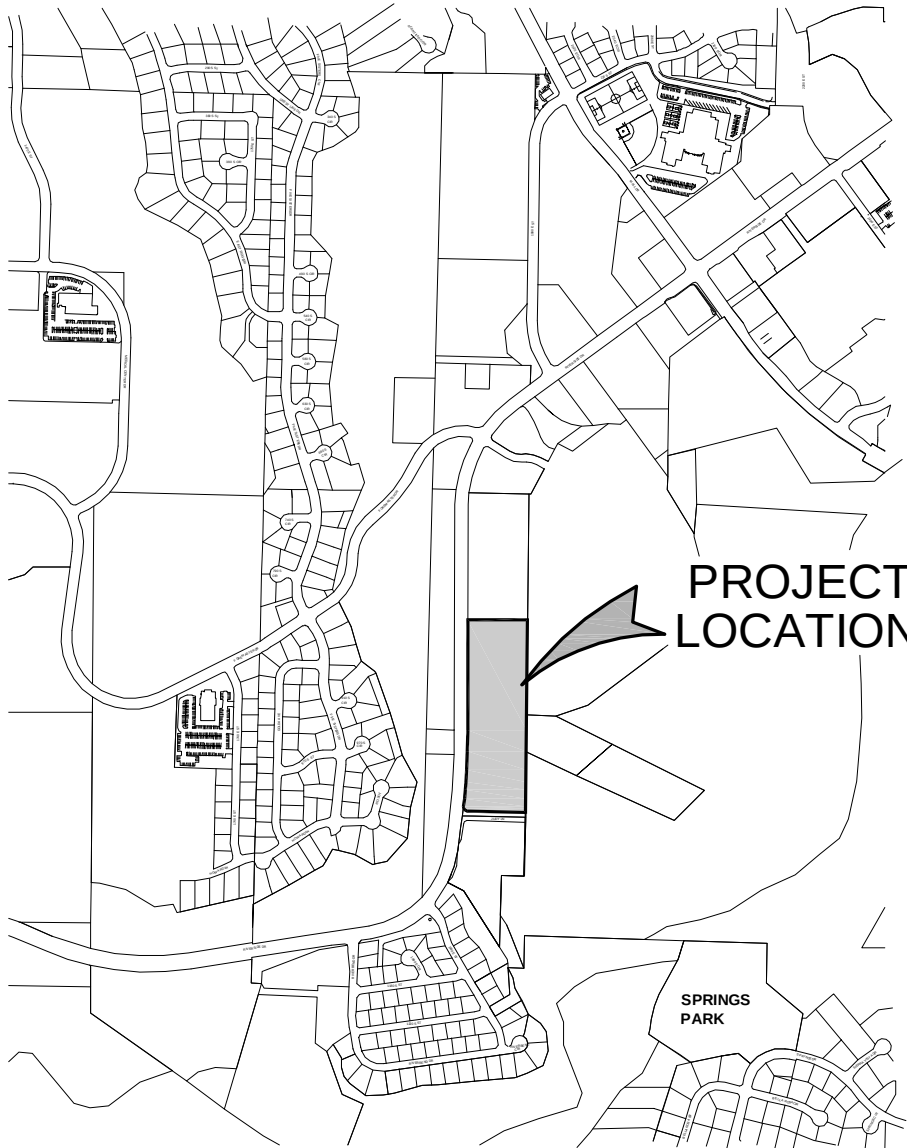
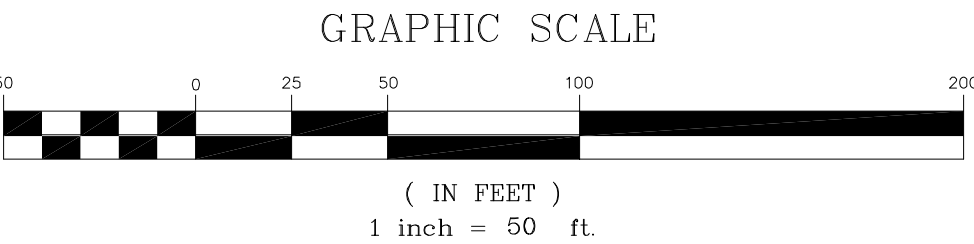
NON NATIVE SLOPE
CREATED FROM RIVERSIDE DR
& JUDY LANE CONSTRUCTION

SLOPE LEGEND

Color	Range Beg.	Range End	Percent	Area
Green	0.00	19.99	67.7	308818.98
Yellow	20.00	29.99	14.8	67445.65
Orange	30.00	39.99	10.3	46934.71
Red	40.00	100.00	7.2	32666.69

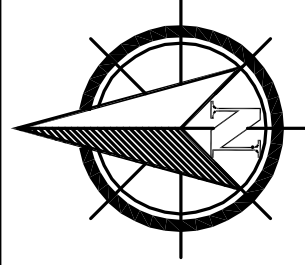
SITE DATA

TOTAL SITE AREA = 459,016 SQ.FT. / 10.53 ACRES (100%)
NATIVE / UNDISTURBED AREA = 77,153 SQ.FT. / 1.77 ACRES (16.8%)
HILLSIDE CUT AREA = 43,637 SQ.FT. / 1.00 ACRES (9.5%)



VICINITY MAP

DATE:	1/26/2021
DRAWN BY:	E.A.M.
CHECKED BY:	M.R.F.
CLIENT:	SP



SCALE: 1" = 50'

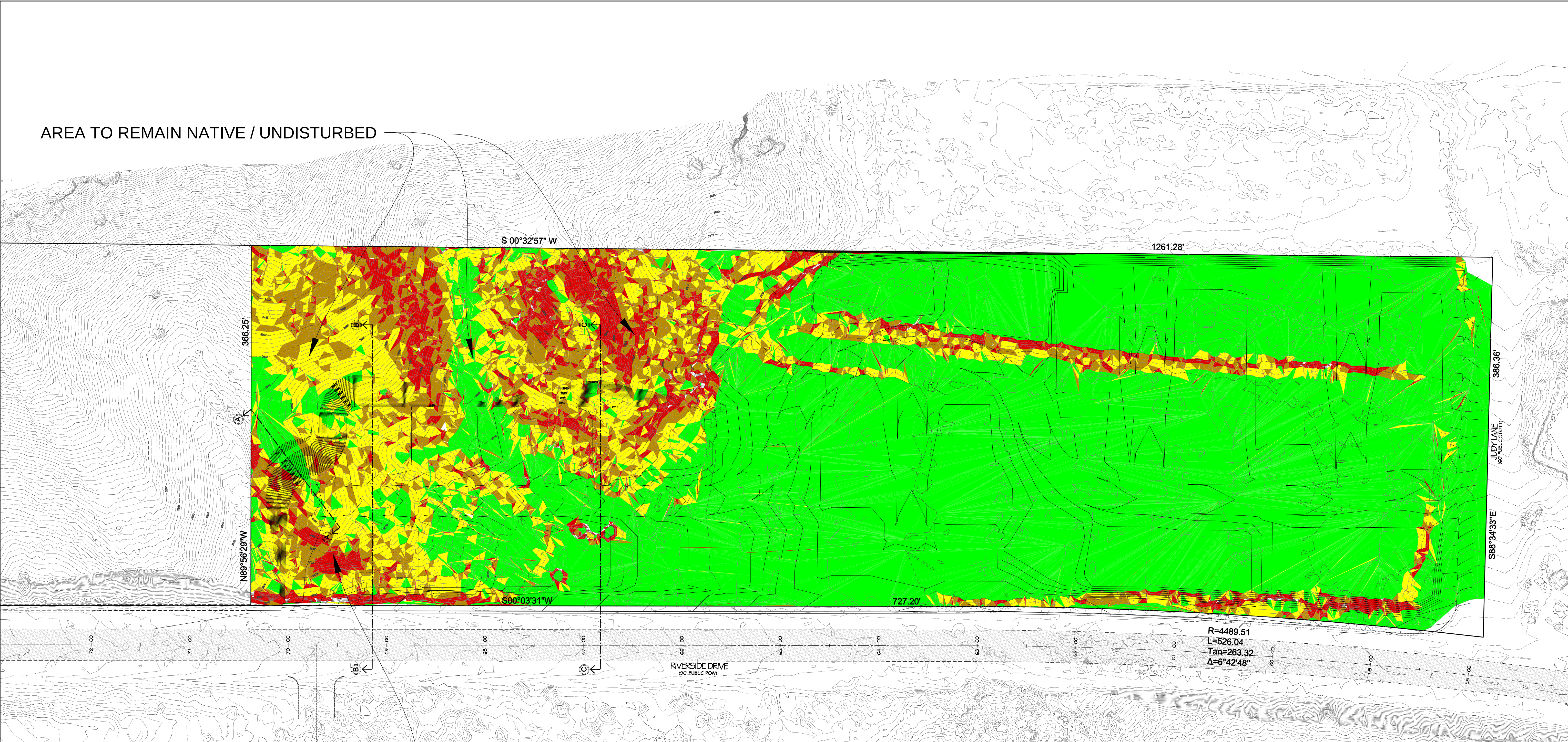
SLOPE ANALYSIS
WILLOW BEND TOWNHOMES
STEVEN PARK
ST. GEORGE, UTAH 84770

PREMIER
Design & Engineering
75 EAST 100 NORTH WINS, UTAH 84738 (435) 313-2267



SHEET

SAI



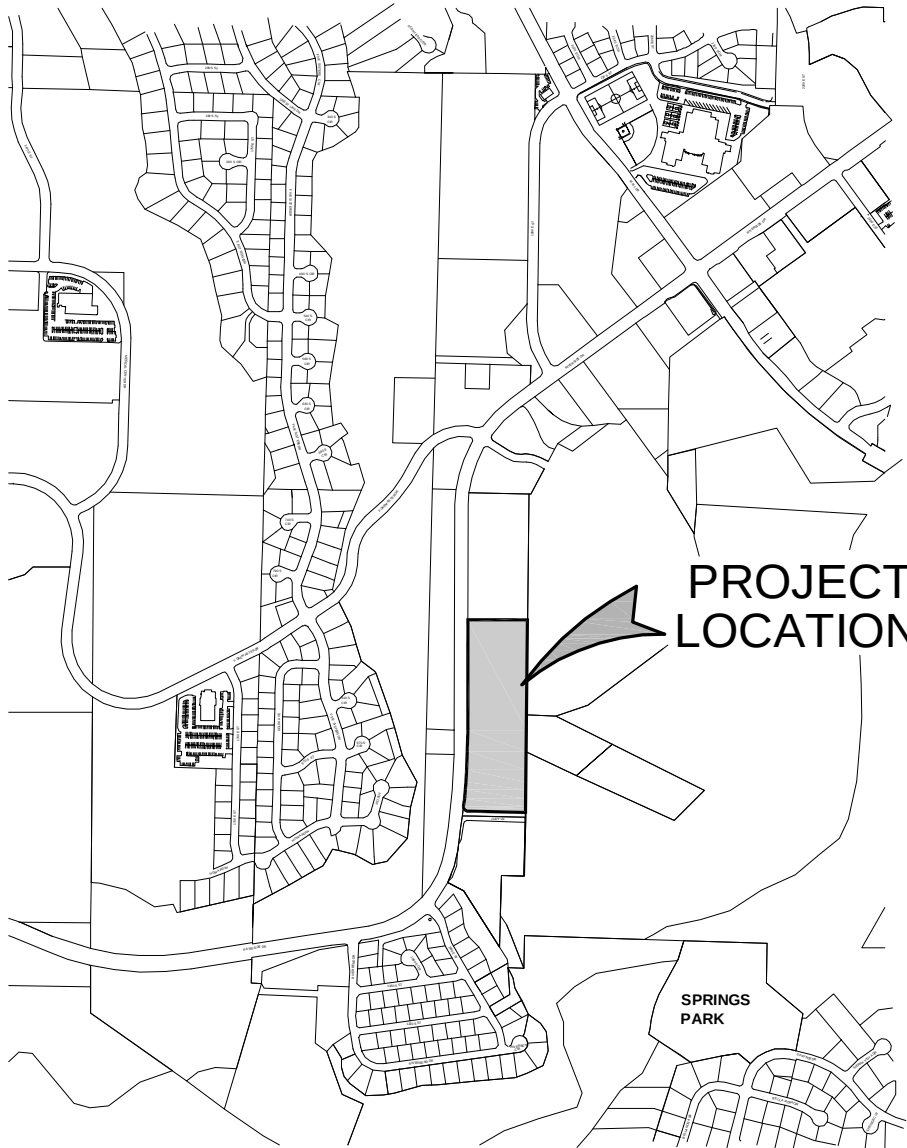
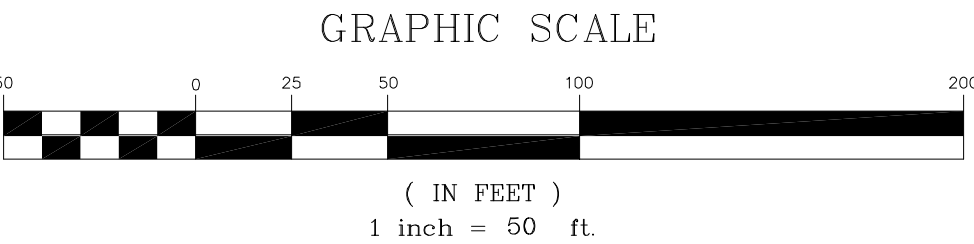
AREA TO BE CUT FOR APPROVED ACCESS
ONTO RIVERSIDE DRIVE

SLOPE LEGEND

Color	Range Beg.	Range End	Percent	Area
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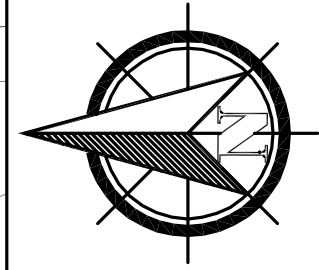
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VICINITY MAP

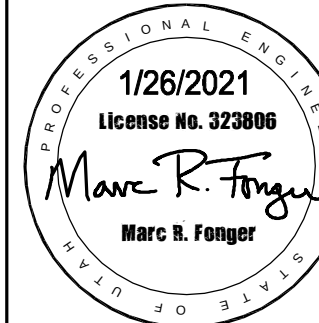
DATE:	1/26/2021
DRAWN BY:	E.A.M.
CHECKED BY:	M.R.F.
CLIENT:	SP



SCALE: 1" = 50'

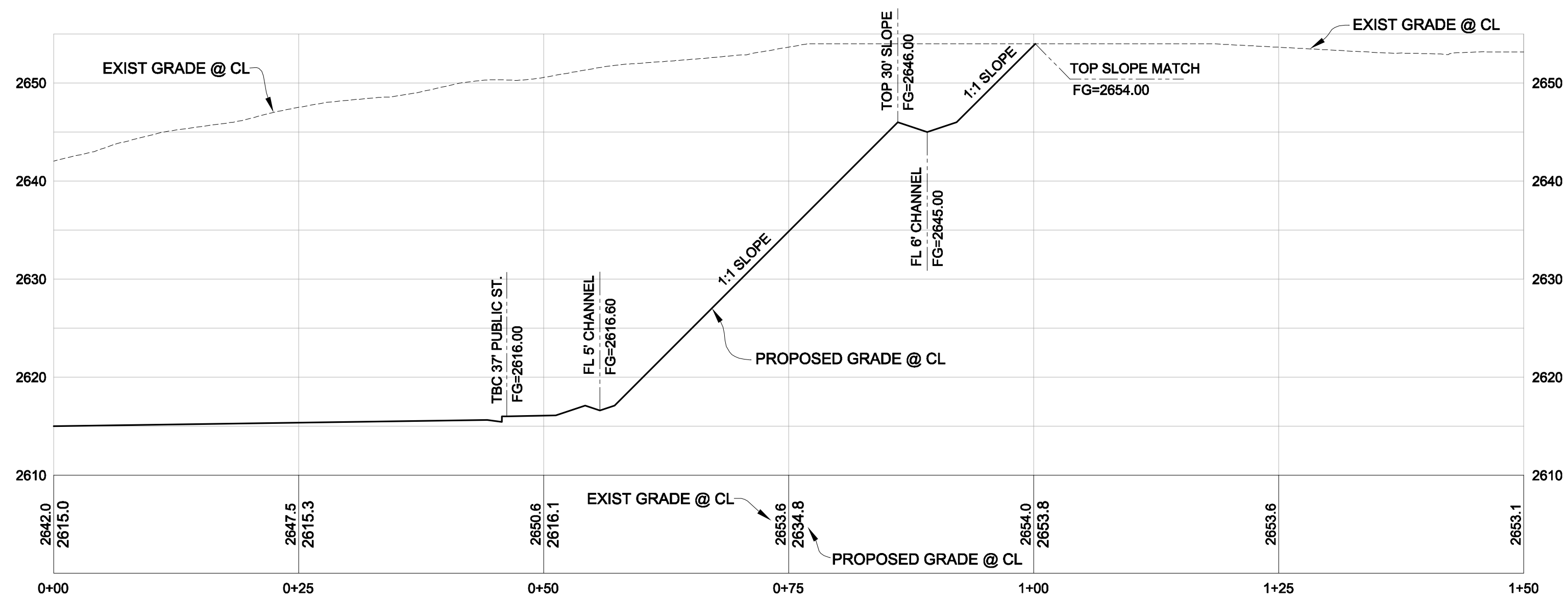
SLOPE ANALYSIS WITH PROPOSED GRADING
WILLOW BEND TOWNHOMES
STEVEN PARK
ST. GEORGE, UTAH 84770

PREMIER
Design & Engineering
75 EAST 100 NORTH WINS, UTAH 84738 (435) 313-2267

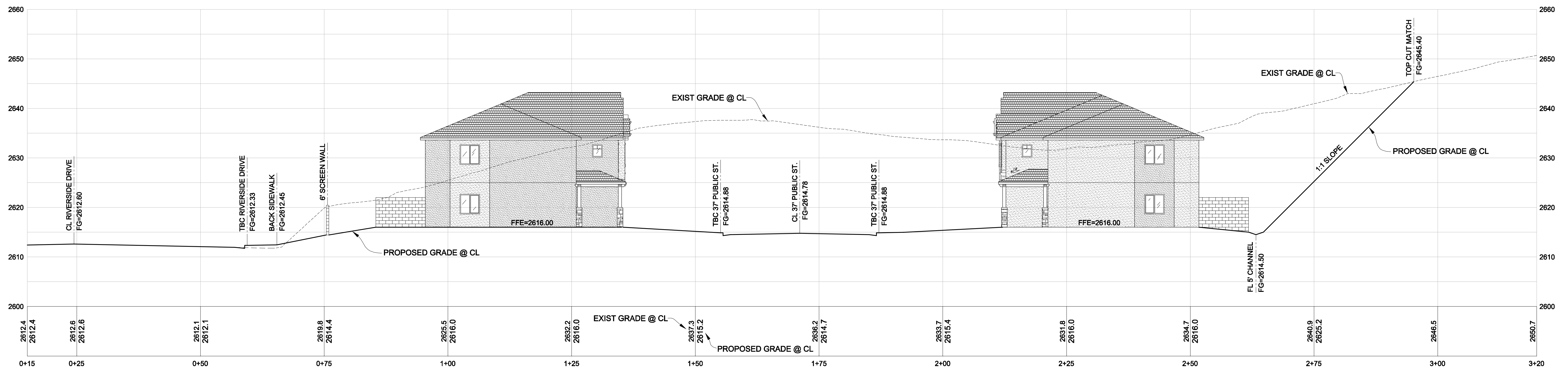


SHEET

SA2



SECTION A-A

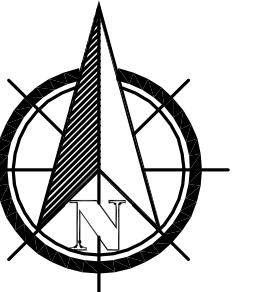


SECTION B-B



SECTION C-C

DATE: 1/26/2021
DRAWN BY: E.A.M.
CHECKED BY: M.R.F.
CLIENT: SP



SCALE: 1" = 10'

CUT SLOPE CROSS SECTIONS
WILLOW BEND TOWNHOMES
STEVEN PARK
ST. GEORGE, UTAH 84770

PREMIER
Design & Engineering
75 EAST 100 NORTH IVINS, UTAH 84738 (435) 313-2267

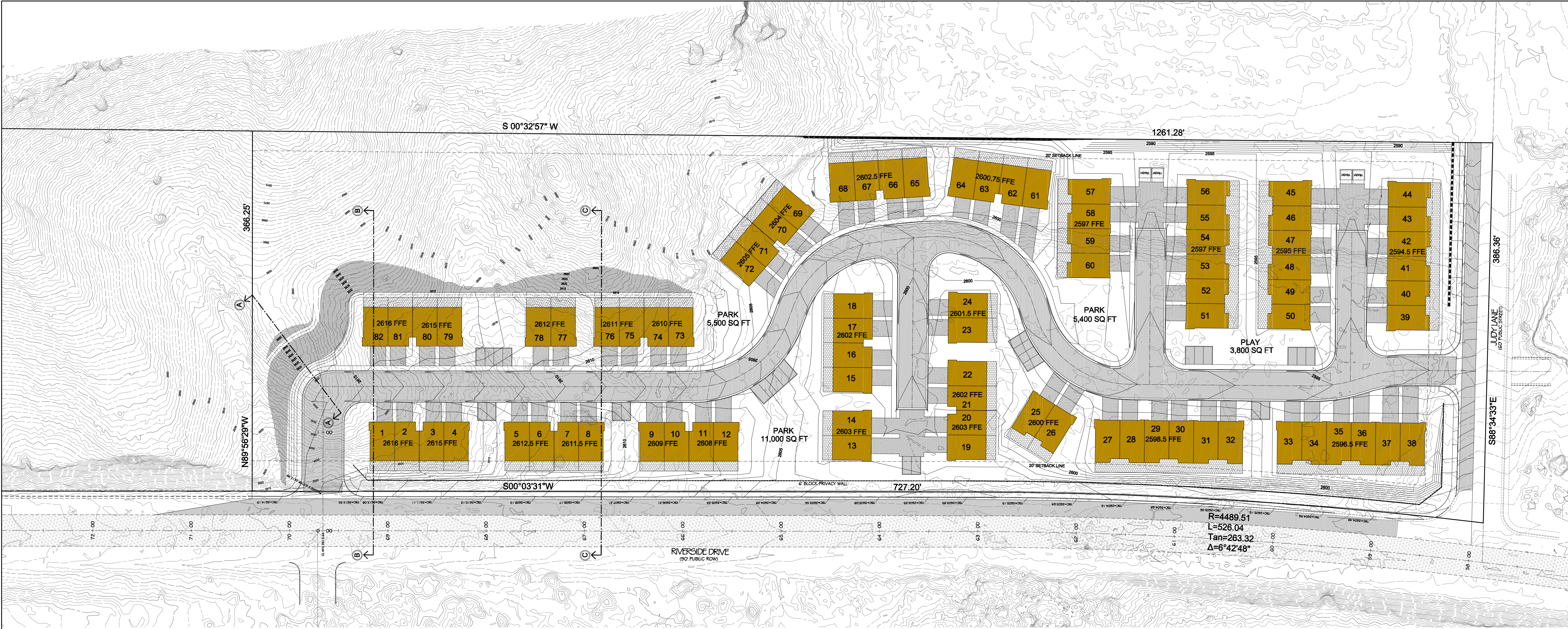
PROFESSIONAL ENGINEER
1/26/2021
License No. 323806
Marc R. Fonger
Marc R. Fonger

SHEET

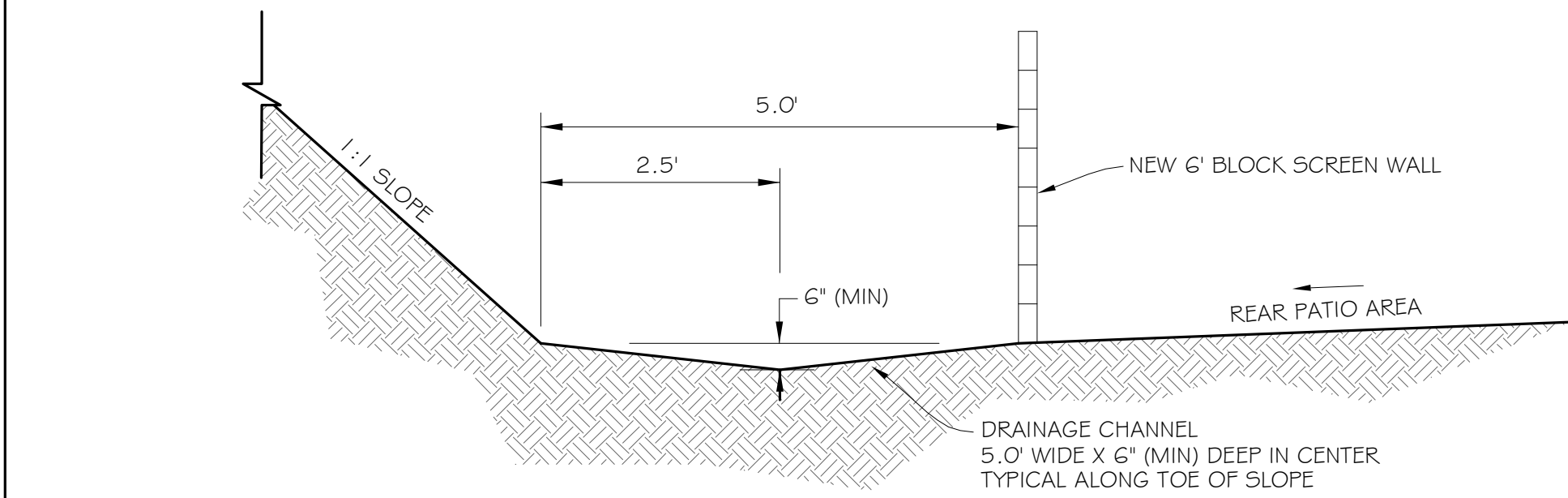
X-1

Exhibit B

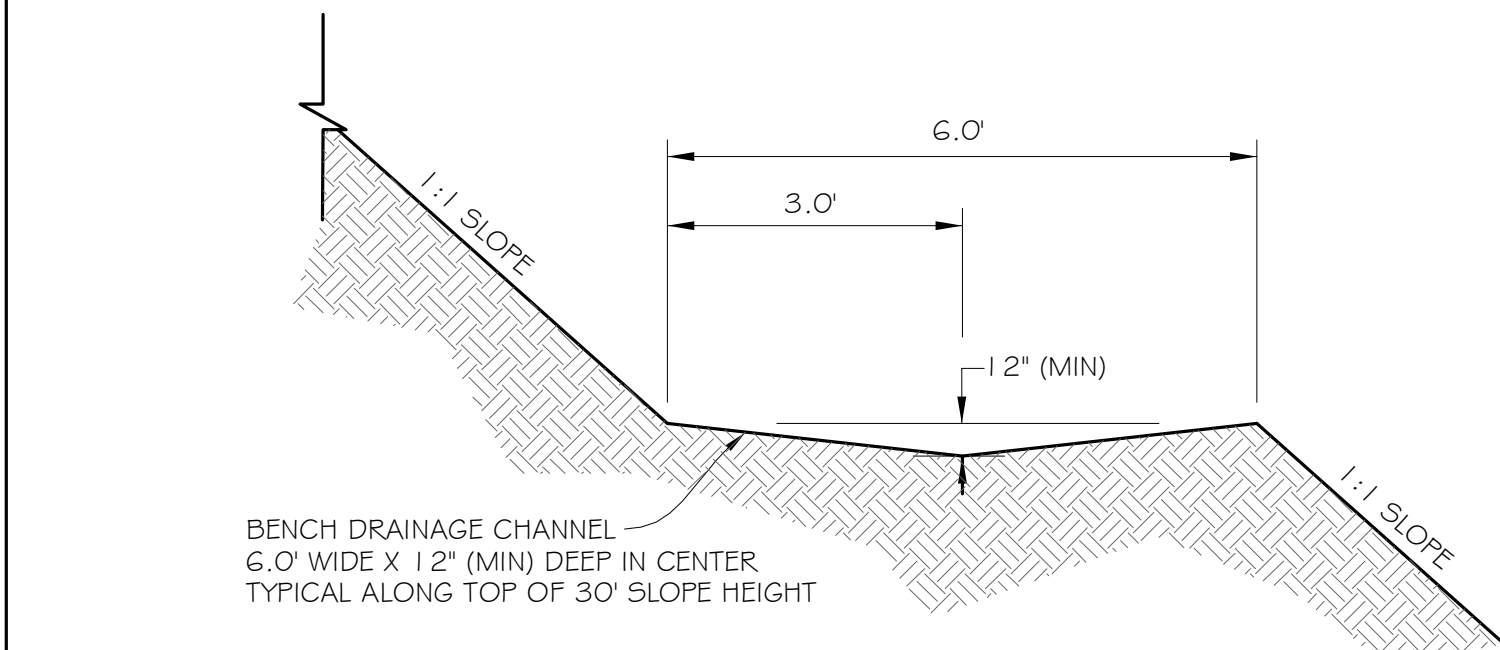
Site Plan



GRADING / SITE PLAN
WILLOW BEND TOWNHOMES
STEVEN PARK
ST. GEORGE, UTAH 84770



5' DRAINAGE CHANNEL
TOE OF SLOPE



6' BENCH CHANNEL
LOCATED AT 30' SLOPE HEIGHT

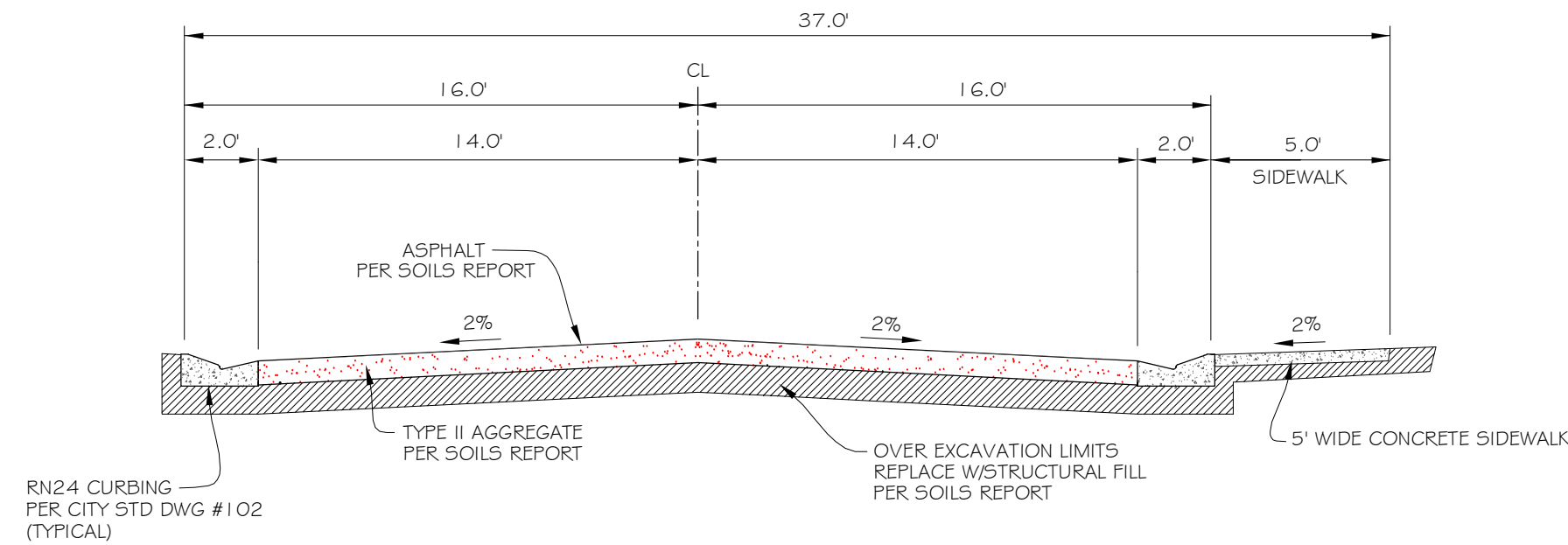
LEGEND	
-----2561-----	EXISTING 1' CONTOUR
-----2570-----	EXISTING 5' CONTOUR
-----2561-----	PROPOSED 1' CONTOUR
-----2570-----	PROPOSED 5' CONTOUR
-----	PROPERTY LINE

EARTHWORK QUANTITIES	
29,263	(C) CU. YD. CUT
29,803	(F) CU. YD. FILL
540	(F) CU. YD. NET FILL

CUT AND FILL VOLUMES SHOWN ARE BASED ON DIGITAL TERRAIN MODELING COMPUTATIONS. VOLUMES SHOWN ARE COMPACTED IN PLACE VOLUMES AND DO NOT REFLECT EXPANSION AND SHRINKAGE CONDITIONS EXPERIENCED DURING CONSTRUCTION. THESE VOLUMES ARE SHOWN AS REFERENCE ONLY.

THE CONTRACTOR SHALL BE RESPONSIBLE TO EVALUATE THE ONSITE SOILS, REVIEW THE GEOTECHNICAL INVESTIGATION & THIS GRADING PLAN TO DETERMINE THE ANTICIPATED EARTHWORK FOR THIS PROJECT.

THESE VOLUMES ARE GENERATED TO THE SUB-GRADE OF THE SITE

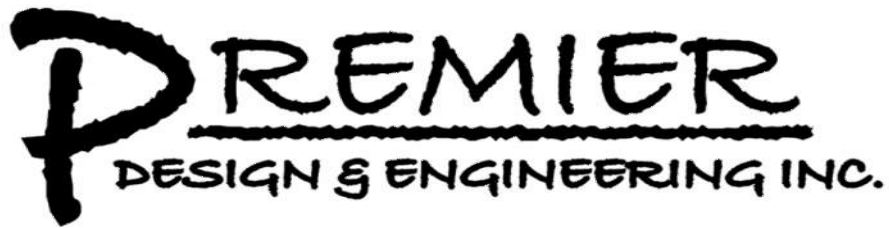


37' PUBLIC ROW
INTERIOR ROADS

- EARTH MOVING DATA
- 1.) CONSTRUCTION WILL BEGIN UPON CITY APPROVALS
 - 2.) ROUGH GRADING WILL TAKE APPROXIMATELY 45 DAYS FROM START DATE
 - 3.) ALL OF THE MATERIAL GENERATED FROM THE CUT WILL BE USED ON-SITE
 - 4.) ALL EXCAVATIONS SHALL BE DONE ACCORDING TO APPENDIX "K" OF THE UTAH UNIFORM BUILDING STANDARDS ACT RULES AND THE CURRENT ADOPTED EDITION OF THE INTERNATIONAL BUILDING CODE.
 - 5.) ALL EXCAVATIONS SHALL BE DONE ACCORDING TO THE GEOTECHNICAL ENGINEER'S REPORT & RECOMMENDATIONS, AND SHALL BE MONITORED BY THE GEOTECHNICAL ENGINEER.

Exhibit C

Preliminary Drainage Control Plan and Report



Willow Bend Townhomes

St. George, Utah

Preliminary

Drainage Control Plan and Report

Prepared By

PREMIER DESIGN & ENGINEERING

75 E 100 N

Ivins, Utah, 84738

Phone: (775) 385-7647

Contact: Marc Fonger, P.E.



January 27, 2021

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Property Description

Existing Site Description

The existing site is located on the east side of Riverside Drive at approximately 900 South. The subject site is bound on three (2) sides by undeveloped ground (North and East) and by partially developed public roads on the West (Riverside Drive) and the South (Judy Lane).

The existing site partially disturbed by previous landowners hauling in fill to bring the site up to an elevation closer to the existing elevation of Riverside Dr. This comprises approximately the southern 2/3 of the site. The remaining (northern) portion is largely undisturbed desert shrub.

Proposed Site Description

The proposed use is a multifamily residential housing complex including 20 individual units that are comprised of two (2) to six (6) units each. There will be landscaping, driveways, sidewalks, and parking areas included on the site. The site is approximately 50% landscaping or undisturbed.

Off-Site Drainage Description

Off-site drainage enters the site from the north and east (along the northern segment). The stormwater from this off-site area will be captured and conveyed in the multiple drainage systems inside the project to the outlet of the site.

On-Site Drainage Description

Existing runoff patterns run from north to south. This pattern will be matched for the finished grading of the site.

Description of Proposed Drainage Facilities

Description of Proposed Drainage Facilities

All proposed drainage improvements were designed using the 100-year, 24-hour storm, the 100-yr 3-hr design storm, or the 10-year 3-hour design storm event per the St. George City Drainage Control Manual.

Underground and above ground storm water conveyance pipes and channels will be utilized to convey this storm water through the project. Specifically, a 5-foot wide lined channel is proposed to collect stormwater at the bottom of the large cuts along the north east boundary of the project and convey it to other storm water systems within the project. Sediment traps or ponds will be designed during final design to remove as much sediment as possible prior to putting this storm water in the underground piping system.

Detention

Based on comparisons between the pre- and post-developed hydrographs, detention is warranted for this development. During final design, the specifics on these detention basins will be developed and submitted to the City of St. George for review.

Design Runoff Computations

The site was modeled using HEC-HMS Version 4.7, which is a computer modeling program developed by the United States Army Corp of Engineers (USACE).

Model Input Parameters

The input parameters selected for computing discharge using the computer model were derived from site observations and field surveys. Input parameters for the project are included in the attached calculation sheets. The existing conditions were modeled and labeled as Pre-Developed where future conditions modeled were labeled as Post-Developed.

The site was modelled as Hydrologic Group C

Rainfall Depth and Design Storm

The current City of St. George Drainage Control Manual was used in this analysis to estimate stormwater generated on the site.

Model Output

The results of the HEC-HMS analysis are also illustrated in the attached calculations in the form of combined hydrographs for each set of subareas reporting to specific detention basins.

Available on request are the output from each run in HEC-HMS. These files include all input parameters used to determine the flow rates for the sub areas.

Drainage Facility Design Calculations**Detention Basin**

Specifics will be proposed during final design.

Outlet

Specifics will be proposed during final design.

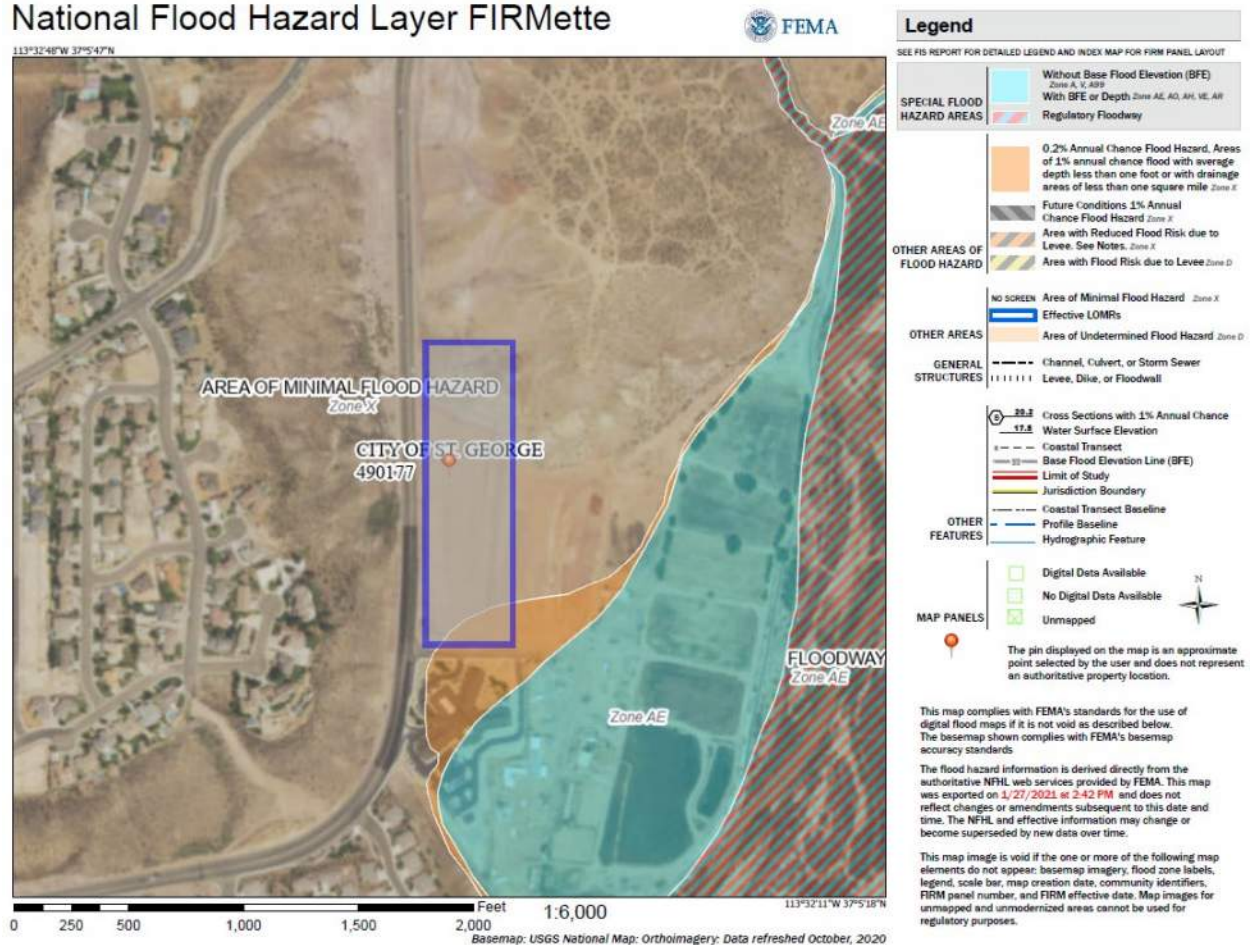
Curb Inlet and Catch Basin Inlet Capacities

The curb inlets and catch basins for the proposed streets and/or parking lots were analyzed using HEC-22. The inlet capacity is 7.22 cfs for a single curb inlet and 9.30 cfs for a double inlet. Calculations are available upon request.

FEMA Compliance

A portion of the site at the southwest corner is within the 500-year floodplain. The developer does not propose to remove this designation unless mandated by the city. See image below showing the FEMA floodplain lines in relation to this project.

National Flood Hazard Layer FIRMette

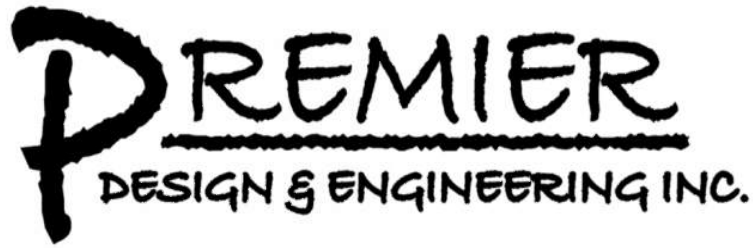


Conclusions

The following conclusions summarize the recommendations proposed for this development:

Onsite Drainage: The proposed storm water system is capable of handling a 10-year and 100-yr storms for the site and delivering it to the existing storm drain system.

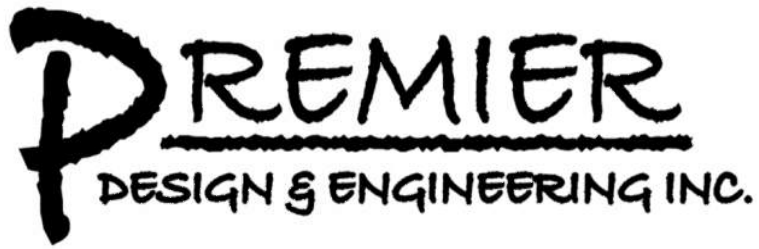
Off-site Drainage: Off-site drainage enters the site from upstream and will be conveyed through the project. All drainage is adequately conveyed by the proposed improvements.



PROJECT: Willow Bend Townhomes BY: Marc Fonger DATE: 1/27/2021
SUBJECT: Drainage Study CHKD. BY: Marc Fonger DATE: 1/27/2021

Watershed Area Delineation

Subarea	<u>Pre Sub Area 1</u>	Description:	<u>Pre Developed Sub Area 1</u>
	Area Summary =	459,016 sq ft 10.54 acres 0.0165 sq mi	
Longest Length	<u>1,628 ft</u>	Average Slope	<u>0.0639 ft/ft</u>
Subarea	<u>Post Sub Area 1</u>	Description:	<u>Post Developed Sub Area 1</u>
	Area Summary =	459,016 sq ft 10.54 acres 0.0165 sq mi	
Longest Length	<u>1,667 ft</u>	Average Slope	<u>0.0624 ft/ft</u>



BY: Marc Fonger

DATE: 1/27/2021

CHKD. BY: Marc Fonger

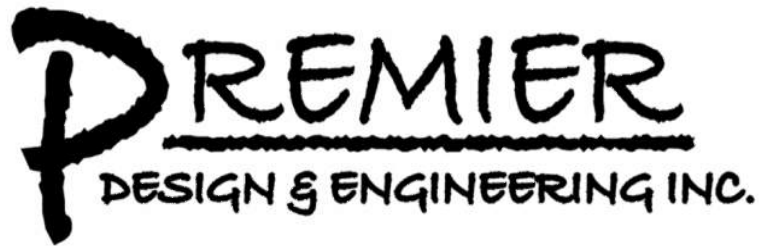
DATE: 1/27/2021

Runoff Curve Number

Subarea(s)	General Chart
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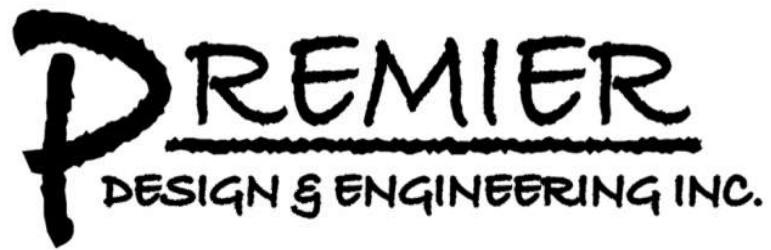
Soil Description	Existing soil is Type C
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[illegible]



PROJECT:	Willow Bend Townhomes	BY:	Marc Fonger	DATE:	1/27/2021
SUBJECT:	Drainage Study	CHKD. BY:	Marc Fonger	DATE:	1/27/2021

				Poor	45	66	77	83			
	Woods ⁴			Fair	36	60	73	79			
				Good	30	55	70	77			
					59	74	82	86			
	Farmsteads-buildngs, lanes, driveways,										
	and surrounding lots										
¹ Poor: <50% ground cover or heavily grazed with no mulch					³ CN's shown were computed for areas with 50% grass (pasture) cover. Other						
Fair: 50 to 75% ground cover and not heavily grazed.					combinations of conditions of may be computed from the CN's for woods and pasture.						
Good: >75% ground cover and lightly or only occasionally grazed.					⁴ Poor: Forest litter, small trees, and brush are destroyed by heavy grazing						
² Poor: <50% ground cover					or regular burning						
Fair: 50 to 75% ground cover					Fair: Woods are grazed but not burned, and some forest litter covers the soil						
Good: >75% ground cover					Good: Woods are protected from grazing, and litter and brush adequately cover the soil						
Arid and Semi-Arid Rangelands	Herbaceous-mixture of grass, weeds, and			Poor	0	80	87	93			
	low growing brush, with brush the minor			Fair	0	71	81	89			
	element.			Good	0	62	74	85			
	Oak-aspen-mountain brush mixture of oak			Poor	0	66	74	79			
	brush, aspen, mountain mahogany, bitter brush,			Fair	0	48	57	63			
	maple, and other brush			Good	0	30	41	48			
	Pinyon-juniper-pinyon, juniper, or both;			Poor	0	75	85	89			
	grass understory			Fair	0	58	73	80			
				Good	0	41	61	71			
	Sagebrush with Grass Understory			Poor	0	67	80	85			
				Fair	0	51	63	70			
				Good	0	35	47	55			
	Desert shrub-major plants include saltbrush,			Poor	63	77	85	88	85		Use for Existing Conditions
	greasewood, creosotebush, blackbrush,			Fair	55	72	81	86			
	bursage, palo verde, mesquite, and cactus			Good	49	68	79	84			
Poor: <30% ground cover (litter, grass, and brush overstory)											
Fair: 30 to 70% ground cover											
Good: >70% ground cover											
Pre Sub Area 1			Total Area=	459,016	sq ft			Weighted Avg. CN =			85
			Impervious Area =	4,100							98
			Existing Ground =	454,916							85
Post Sub Area 1			Total Area=	459,016	sq ft			Weighted Avg. CN =			92
			Impervious Area =	223,717							98
			Landscaping =	235,299							86



PROJECT: Willow Bend Townhomes BY: Marc Fonger DATE: 1/27/2021
 SUBJECT: Drainage Study CHKD. BY: Marc Fonger DATE: 1/27/2021

SCS Lag Time

Time of Concentration = t_c

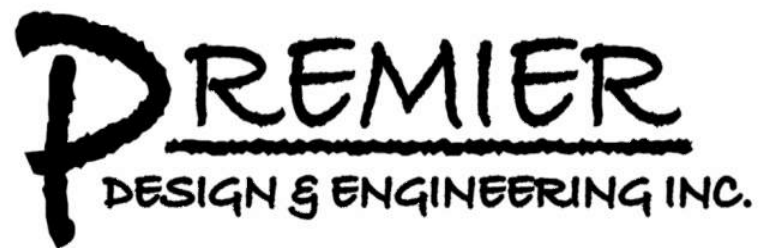
$$t_c = 0.00526 * L^{0.8} \left[\frac{1000}{CN} - 9 \right]^{0.7} S^{-0.5}$$

Where:

CN = SCS runoff curve number
 S = Average slope
 L_f = Longest Length in ft

SCS Lag = $0.6 * t_c$

Subarea	Post Sub Area 1	CN	L_f	S_f	t_c	Lag
Name	Description		(ft)	(ft/ft)	(min)	(min)
Pre Sub Area 1	Existing Conditions	85	1628	0.0639	15.67	9.40
Post Sub Area 1	Post developed Conditions	92	1,667	0.0624	12.42	7.45



PROJECT: Willow Bend Townhomes BY: Marc Fonger DATE: 1/27/2021
 SUBJECT: Drainage Study CHKD. BY: Marc Fonger DATE: 1/27/2021

Low Impact Design - Retention Volume Calculation

$$WQRV = \frac{P_{80\%} * R_{new} * A}{12}, \quad \text{EQ 1}$$

Where,

WQRV = Water Quality Retention Volume, in ac-ft,

$P_{80\%}$ = 80th percentile precipitation value (excluding snowfall, from gage analysis, in inches),

R_{new} = Storm Water Runoff Coefficient associated with the proposed new development, and

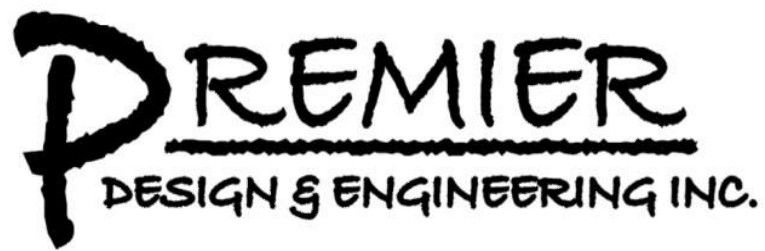
$R_{new} = 1.14 (\text{Imp}) - 0.371$ when $\text{imp} \geq 55\%$

$R_{new} = .225 (\text{Imp}) + 0.05$ when $\text{imp} \leq 55\%$

A = Area, in Acres.

Imp = decimal percentage of impervious surface in the contributing watershed

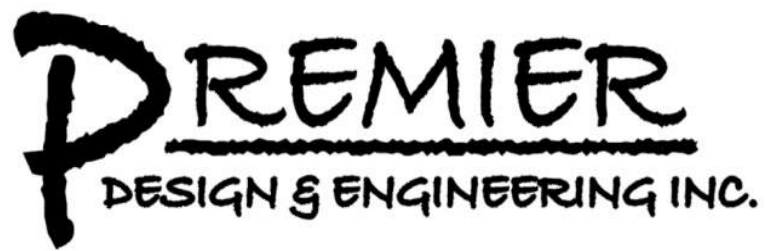
Area (ac)	$P_{80\%}$ (in)	A_{imp} (ft ²)	A_{total} (ft ²)	Imp (%)	R_{new} Imp>55%	R_{new} Imp<55%	R_{new}	WQRV (ac-ft)	WQRV (ft ³)
10.54	0.44	223,717	459,016	0.49	0.18	0.16	0.16	0.062	2,687
								Total	2,687



PROJECT: Willow Bend Townhomes BY: Marc Fonger DATE: 1/27/2021
 SUBJECT: Drainage Study CHKD. BY: Marc Fonger DATE: 1/27/2021

Sub Area 1
 HEC-HMS 100-Year, 3-Hour Storm Hydrographs

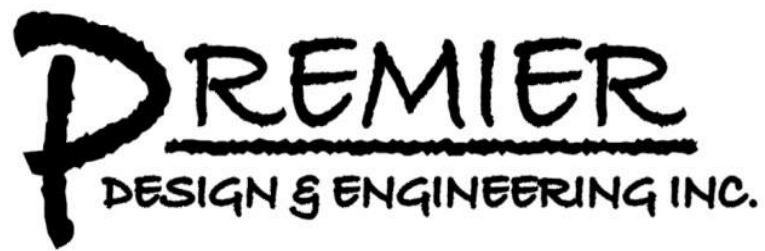
Time (min)	Pre-Dev Flow (cfs)	Volume (cf)	Post-Dev Flow (cfs)	Detention		
				Outflow (cfs)	Volume (cf)	Acc. Volume (cf)
	6.40		13.40			
0	0	0	0	0.00	0	0
5	0	0	0	0.00	0	0
10	0	0	0	0.00	0	0
15	0	0	0	0.00	0	0
20	0	0	0	0.00	0	0
25	0	0	0	0.00	0	0
30	0	0	0	0.00	0	0
35	0	0	0	0.00	0	0
40	0	0	0	0.00	0	0
45	0	0	0	0.00	0	0
50	0	0	0	0.00	0	0
55	0	0	0	0.00	0	0
60	0	0	0	0.00	0	0
65	0	0	0.4	0.40	0	0
70	0.7	210	4.8	4.80	0	0
75	3	900	11.8	6.40	1,620	1,620
80	5.1	1,530	13.4	6.40	2,100	3,720
85	5.9	1,770	11.9	6.40	1,650	5,370
90	6.3	1,890	11.1	6.40	1,410	6,780
95	6.4	1,920	10.1	6.40	1,110	7,890
100	5.8	1,740	8.3	6.40	570	8,460
105	5.1	1,530	7.1	6.40	210	8,670
110	4.8	1,440	6.7	6.40	90	8,760
115	4.7	1,410	6.5	6.40	30	8,790
120	4.8	1,440	6.5	6.40	30	8,820
125	4.4	1,320	5.5	6.40	-270	8,550
130	3.2	960	3.5	6.40	-870	7,680
135	2	600	2.1	6.40	-1,290	6,390
140	1.4	420	1.5	6.40	-1,470	4,920
145	1.1	330	1.3	6.40	-1,530	3,390
150	1	300	1.2	6.40	-1,560	1,830
155	0.8	240	0.9	6.40	-1,650	180
160	0.5	150	0.5	1.10	-180	0
165	0.3	90	0.2	0.20	0	0
170	0.1	30	0.1	0.10	0	0
175	0.1	30	0	0.00	0	0
180	0	0	0	0.00	0	0
				100-YR Storm Volume =		
				8,820		



PROJECT: Willow Bend Townhomes BY: Marc Fonger DATE: 1/27/2021
 SUBJECT: Drainage Study CHKD. BY: Marc Fonger DATE: 1/27/2021

Sub Area 1
 HEC-HMS 10-Year, 3-Hour Storm Hydrographs

Time (min)	Pre-Dev Flow (cfs)	Volume (cf)	Post-Dev Flow (cfs)	Detention		
				Outflow (cfs)	Volume (cf)	Acc. Volume (cf)
	2.2		5.5			
0	0	0	0	0.0	0	0
5	0	0	0	0.0	0	0
10	0	0	0	0.0	0	0
15	0	0	0	0.0	0	0
20	0	0	0	0.0	0	0
25	0	0	0	0.0	0	0
30	0	0	0	0.0	0	0
35	0	0	0	0.0	0	0
40	0	0	0	0.0	0	0
45	0	0	0	0.0	0	0
50	0	0	0	0.0	0	0
55	0	0	0	0.0	0	0
60	0	0	0	0.0	0	0
65	0	0	0	0.0	0	0
70	0.1	30	1.6	1.6	0	0
75	0.4	120	4.4	2.2	660	660
80	1.1	330	5.5	2.2	990	1,650
85	1.6	480	5.4	2.2	960	2,610
90	2	600	5.3	2.2	930	3,540
95	2.2	660	4.9	2.2	810	4,350
100	2	600	3.8	2.2	480	4,830
105	1.7	510	3.1	2.2	270	5,100
110	1.6	480	2.8	2.2	180	5,280
115	1.6	480	2.7	2.2	150	5,430
120	1.6	480	2.7	2.2	150	5,580
125	1.5	450	2.4	2.2	60	5,640
130	1.2	360	1.7	2.2	-150	5,490
135	0.9	270	1.3	2.2	-270	5,220
140	0.7	210	1.1	2.2	-330	4,890
145	0.7	210	1	2.2	-360	4,530
150	0.6	180	1	2.2	-360	4,170
155	0.5	150	0.8	2.2	-420	3,750
160	0.4	120	0.4	2.2	-540	3,210
165	0.2	60	0.2	2.2	-600	2,610
170	0.1	30	0.1	2.2	-630	1,980
175	0	0	0	2.2	-660	1,320
180	0	0	0.0	2.2	-660	660
				10-YR Storm Volume =		
				5,640		



PROJECT: Willow Bend Townhomes BY: Marc Fonger DATE: 1/27/2021
 SUBJECT: Drainage Study CHKD. BY: Marc Fonger DATE: 1/27/2021

Sub Area 1
 HEC-HMS 100-Year, 24-Hour Storm Hydrographs

Time (min)	Pre-Dev Flow (cfs)	Volume (cf)	Post-Dev Flow (cfs)	Detention		
				Outflow (cfs)	Volume (cf)	Acc. Volume (cf)
	11.2		16.2			
0	0	0	0	0.0	0	660
20	0	0	0.1	0.1	0	660
40	0.1	30	0.1	0.1	0	660
60	0.1	30	0.1	0.1	0	660
80	0.2	60	0.1	0.1	0	660
100	0.3	90	0.2	0.2	0	660
120	0.5	150	0.2	0.2	0	660
140	1.6	480	0.2	0.2	0	660
160	11.2	3,360	0.3	0.3	0	660
180	5.3	1,590	0.3	0.3	0	660
200	2.6	780	0.4	0.4	0	660
220	1.6	480	0.5	0.5	0	660
240	1.2	360	0.6	0.6	0	660
260	1	300	0.8	0.8	0	660
280	0.8	240	1.2	1.2	0	660
300	0.7	210	3.1	3.1	0	660
320	0.7	210	16.2	1.3	4,470	5,130
340	0.6	180	7.3	7.3	0	5,130
360	0.6	180	3.3	3.3	0	5,130
380	0.5	150	2	2.0	0	5,130
400	0.5	150	1.5	1.5	0	5,130
420	0.5	150	1.2	1.2	0	5,130
440	0.5	150	1	1.0	0	5,130
460	0.4	120	0.9	0.9	0	5,130
480	0.4	120	0.8	0.8	0	5,130
500	0.4	120	0.8	0.8	0	5,130
520	0.4	120	0.7	0.7	0	5,130
540	0.4	120	0.7	0.7	0	5,130
560	0.4	120	0.6	0.6	0	5,130
580	0.3	90	0.6	0.6	0	5,130
600	0.3	90	0.5	0.5	0	5,130
620	0.3	90	0.5	0.5	0	5,130
640	0.3	90	0.5	0.5	0	5,130
660	0.3	90	0.5	0.5	0	5,130
680	0.3	90	0.5	0.5	0	5,130
700	0.3	90	0.4	0.4	0	5,130
720	1.1	330	0.4	0.4	0	5,130
				100-YR 24-hr Storm Volume =		
				5,130		

Exhibit D

Applicant's Narrative

Hillside Review
Willow Bend

February 10, 2021

Our property for the Willow Bend project is in the hillside overlay zone. We are required to have a second access for the property which needs to line up with the future project across Riverside Drive (West Side) and be a sufficient distance from Judy Lane as well as from Foremaster Drive. The stacking distance for this second access puts us in a position of cutting the blue clay to make room.

The location of the second access comes at a location on our property that will require some cut. We are requesting approval to continue moving forward on the project. The units 73-78 on the east side of our project and units 79-82 will require a vertical cut which will be hidden by the buildings themselves. We are able to preserve the rock outcroppings on the property by our park.

We feel that the parts that are requiring cut are not significant features, and in some cases are overburden blue clay from when Riverside Drive was constructed in the first place.

Please feel free to contact me with additional questions.

Sincerely,

Dave Nasal

HILLSIDE REVIEW BOARD
CITY OF ST GEORGE
WASHINGTON COUNTY, UTAH
SEPTEMBER 23, 2020

PRESENT: Chairman Dave Black
James Dotson
James Sullivan

CITY STAFF:

Assistant Public Works Director Wes Jenkins
Planner III Dan Boles
Development Office Supervisor Brenda Hatch

EXCUSED: Shawn Patten

1. Consider a request for a Hillside Development Permit to allow development of a residential subdivision to be called “**Summit Estates.**” The property is generally located at the intersection of Hillrise Drive and Ft. Pierce Drive. The property is currently zoned PD-R (Planned Development – Residential). The owner is V.E. MGMT & Investment Company LC, the representative is Ben Willits, Horrocks Engineers. Case No. 2019-HS-008. (*See ‘Meeting Place’ exhibit below*). **Meeting time 8:30 am**

Dan Boles presented the following:

Dan Boles – We made some comments at the last meeting and your group has gone ahead and made those changes and done some tests.

Joby Venuti – Jim Nordquist did a lot of the testing. One of the biggest changes is bringing the road out. The best thing about being onsite is that you can see how far we are talking about. We are moving the road away from this edge, to the east. We also removed the lots from the sensitive area. We came out and used trenchers, rock hammers, that’s all in the report put together by AGECE. There is a 75’ line that they want us to stay beyond with any development, it is indicated by a blue line on these plans. We did the seismic test, the full seismic test. The one thing they found out is that the vibration that is being caused now by the vehicles driving on this road can actually cause rockfall. Their suggestion is to move this, sooner is better and also to stay out of the 75’ line. One of the major changes is that we have minimal cuts, everything is less than 4’, most of it is fill material and moving it out. We are going to be able to build the road with mostly fill. We are going to change very little and as little excavation as we can in the sensitive area. We will also use land planers, we won’t use hammers. We will have AGECE onsite the whole time to monitor so that everything is tested.

Ben Willits – When Jim had done the testing, we set up different locations all around the site, not just here at the rim. He did the testing at different distances away. Basically, we stayed completely out of that zone, of where it would have any effect on anything close to this edge.

HILLSIDE REVIEW BOARD
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Wayne Rogers – We came out and set up the monitoring stations and used the different equipment. We had a road trencher, a lock hammer and simulate what would happen.

Joby Venuti – The trencher has a lot less vibration than the hammer.

Carson Bagley – They are using a fairly conservative threshold. They are using the threshold that they use to see if historical buildings will be affected.

Ben Willits – You would liken it to if you are at the Smithsonian is it going to rattle enough to set the alarm off. So, it is a pretty conservative threshold.

Joby Venuti – It is not worth it for us to develop where the 75' line is showing on the plans. I will admit that I fought that the longest, but we decided instead of trying to put houses there we will leave it as open space.

Wes Jenkins – So the only two lots that are shown there remain from the previous plan?

Wayne Rogers – Because of the sensitive nature of this they got Carson involved and it has been awesome to have him guide us through all this to keep a very safe condition.

Wes Jenkins – To develop these two lots then it would require them to fill the lots, not cut into the existing? So, then we would probably have to do something with the plat too.

Wayne Rogers – Right.

Carson Bagley – Yes, we will make restrictions in the CC&R's.

Joby Venuti – They are outside of that line, so as long as they use trenching, but we wouldn't let them hammer anything. These are the two that are going to have specific regulations.

Carson Bagley – One other thing to highlight on this is your existing road, you have your natural drainage and Jim touches on this in his report, you have the drainage that comes down this road. As the drainage comes down over the edge then you have possible rockfall. With the relocation of the road we have shifted all the drainage so that it will follow the road and not go over this edge.

Joby Venuti – It is a much better way to take the water out of here. Right now it's coming down the current road and dropping off the edge, endangering these homes below with possible rockfall.

James Sullivan – It sounds like they have tested all the vibrations from the compactor and trencher but when they do come in and fill, those compactors put out quite a vibration as well. Is that a concern? Has it been looked at?

HILLSIDE REVIEW BOARD
CITY OF ST GEORGE
WASHINGTON COUNTY, UTAH
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Wayne Rogers – They will have to use a compactor that doesn't have vibration, rubber tire, or roller. We will probably have to put it on the plat or something like that. Maybe it will take somebody to be here when they are doing it.

James Sullivan – Are you guys selling those lots or building them out?

Joby Venuti – Both probably.

James Sullivan – I know as a builder that I would come out here to build a pad and vibrate on those lots without looking at the plat.

Joby Venuti – We are probably going to limit, like other places have done, to 4 or 5 builders.

James Sullivan – Education is the biggest thing. How do you make sure the builder knows?

Dave Black – In the Geotech report they have done a really good job and there are specific guidelines and the fact that they will be out here to monitor during construction if things get out of whack, then they have some checks and balances to make some changes. How do make sure that goes forward, what if down the road they sell the development, or they might have other people come in and they want to hire different testing firm. If you put it on the plat is that enough? Or how do we make sure that the approval that we recommend that is very specific to follow the guidelines that the Geotech report recommends. That has got to stay a part of the development down the road. Call out the onsite monitoring.

Wes Jenkins – We will probably need to put something on the construction drawings that specifically states that criteria so that when the city inspector is out here, he can help keep track of that.

Dave Black – So not only reference the report but pull those sections out.

James Sullivan – And I guess when they buy the lot and they need the letter from the soils engineer then that will be when you'll have a flag that will say this isn't the normal. And when they go into the City will there be something on the plat.

Wes Jenkins – Yes, especially the two lots, we will have to have something in place to have some monitoring.

Wayne Rogers – Maybe we have a pre-grading meeting that involves who sold the lot who bought the lot and the contractor and the engineer watching it, maybe even the City. Something onsite where they tell what is going to happen and who is doing what, just go through all that. That way it is all carefully done.

HILLSIDE REVIEW BOARD
CITY OF ST GEORGE
WASHINGTON COUNTY, UTAH
SEPTEMBER 23, 2020

James Sullivan – That is my biggest concern.

Joby Venuti – I can say that the owners are very worried about the liability.

Wayne Rogers – We probably will just tell them it needs to be rubber tire equipment that is rolling over it. The type of material, stacking rock, just trackhoe's track over the surface is probably something we are going to want to monitor.

Dave Black – When we met before we had some obvious concerns with the road and the proximity to the edge, I think they have done a really good job addressing those concerns. It looks to me like they've done everything that we've asked for. We want to make sure it happens the way it is talked about today, I commend them for their efforts, the studies and their concern of the liability. One thing that they did bring to light is the fact that even driving on this road is a concern, maybe the City might want to consider putting a gate down here and limit the access only to City personnel. People drive up and down this road a lot. Now we have a study that says that's a problem.

Wes Jenkins – The nice thing about the road is that you can pull them off this road and put them on the new road.

MOTION: James Sullivan made a motion to recommend approval to Planning Commission and City Council a Hillside Permit for the proposed plans for Summit Estates with specific notes put on the Plat for lots currently labeled 25 and 26 where it will be delineated in such a way that they are well above the normal standard working with a soils engineer upon construction of the home and that they do need to meet with an engineer before any grading is done and follow the Geotech report, they strictly follow the report as far as any grading at all on the entire site; when it calls for monitoring, make sure it is monitored.

SECOND: James Dotson

VOTE:

AYES (3)

Dave Black

James Dotson

James Sullivan

NAYS (0)

Motion Carries unanimous recommend approval

2. Consider a request for a Hillside Development Permit to allow development of a restaurant/multi-tenant commercial building to be called "**Commerce Point North.**" The property is generally located at 1276 S Black Ridge Drive and 1190 S Bluff. The property is currently zoned C-2 (Highway Commercial). The owner is Commerce Point, LLC, the representative is Austin Atkin. Case No. 2020-HS-012. (See 'Meeting Place' exhibit below). **Meeting time approx. 9:30 am**

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Dan Boles presented the following:

Dan Boles – Can someone from your team discuss your proposal?

Steve Jennings – I think you guys have seen our proposal; we are proposing to build a 6500 square foot restaurant building right here. We are not hardly touching this hill, honestly, we are not totally sure why we are in this meeting today.

Wes Jenkins – How far back does your property go?

Gilbert Jennings – described where the property line is.

Steve Jennings – We had this all excavated at one point, this is just a pile of fill dirt. This, you can kind of see what we are talking about, this has been over excavated. There is a small retaining wall that would be along the property line.

Gilbert Jennings – It's about 20 feet to the side of the property line, it's along the edge of the drive thru that goes around the building. Described where the back of the building is.

Wes Jenkins – Is your retaining wall where that exposed blue clay is?

Gilbert Jennings – Yes, it's only going to be tall enough to isolate that drive thru, I don't know if it will even be tall enough to require a permit. If you look at the property next door, the issues here are up on the hill, they are not down here. I've been in the soils business 30 years. There is a sandstone ledge, if you look at the soils report, it underlies this whole area right under this thing at the back edge. It goes clear through here and it has been exposed a few places. All the issues that you have been dealing with are above that. The issues here are up above. That's where the slide was. The toe of it came down here over the years and geologically this area used to be filled up and then it was all eroded out of here during the last 100 or 200 thousand years, who knows. The slide issues are really up above that. When the grading permit was given to us originally, we excavated all of this stuff, when the permit was issued to the whole project. That sandstone ledge was laying in there, it runs like 10 to 12 feet deep. The people up above came in and pushed all those black rocks down here and built a big gravity wall, if you will, and then they pushed the slide materials down against it. The real issue here for hillside is up there, not down here. We are not cutting the toe away; we are not doing anything. The natural toe is already below where we are going to be. We're actually building up and buttressing what was already pre-existing before.

James Sullivan – So you're not worried about any of that coming down here then?

Gilbert Jennings – If they do the wrong thing up the hill, they could create a problem, but that's the problem exactly James. They have got to deal with that property, but

HILLSIDE REVIEW BOARD
CITY OF ST GEORGE
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we're not the problem. We're not trying to cut their toe away or do anything. The problems you've got are up there. Now Dave, he's their engineer, those people up there. He's the one that created most of this controversy.

Dave Black – I do need to disclose that I am the chief technical engineer for this building up here, I'm not involved with the hotel site, which sits on top of this slope. The development and the plans for the hotel did come through the hillside committee. They came before us 2 or 3 different times. There is some partial truth to what has been said, but the reason that we are here is that this is a known landslide. The landslide toe extends onto this property. There have been studies done that have been submitted to us that say the landslide itself, including the toe, has factors of safety less than the standard for construction. Here are some exhibits that show where the landslide comes onto the property and it does come on down in this area where we are standing, that is the toe of the landslide. The toe of the landslide is very important for the stability of the landslide. That's where we generate the resisting forces that hold the landslide up.

Gilbert Jennings – The toe is right along that building, that's right where you're coming in with the toe.

Dave Black – That area is in a very high hazard area for slope stability and landslides and they talk about the studies that need to be done if you are in a very high landslide area, hazard area. The stability of that hillside right there is less than what's required.

Discussion continued on where the toe is actually located.

Dave Black – The model of the landslide indicates that the failure planes of the landslide is underneath this site and comes up into the site itself.

Steve Jennings – Who's study says that?

Dave Black – AGEC's study.

Gilbert Jennings – Dave, I've got to contest that because I don't believe it and we have our own slope study that was done for the City several years ago and those aren't necessarily true statements.

Dave Black – The GTS study that he is referring to does not even recognize the presence of the landslide, nor do they address the landslide or the stability of the landslide. If we think there is going to be contention because of my opinion, then I would suggest that the City hire a landslide expert to review their study and to review the AGEC study which is comprehensive of the hillside and that they provide an opinion. The opinion that I have, that I want to share with the board to make a decision on today is that the toe of the landslide comes onto this property and they have already cut into the toe of the landslide, and they should do and provide us with a study that addresses the landslide and the impact on what they have done to the landslide. Which they have not done.

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Steve Jennings – I need to interject because two years ago we submitted a report to you, that has been submitted to the City and they've had it for 2 years now. This is the first time we have had any kind of a report that our report is being contested or they are questioning the validity of our report.

Dave Black – This is the first time it has been through the Hillside Review Board.

Steve Jennings – It was submitted to the City two years ago.

Gilbert Jennings – We had a grading permit on the whole thing.

Dave Black – I propose that we stop this meeting today.

Gilbert Jennings – I propose that you recuse yourself from the discussion.

Dave Black – I am not going to do that. That we table this until they provide us, in the packet that was provided to us there was not a geotechnical report, that's required to the hillside board.

Austin Akin – I submitted everything they asked for.

Dave Black – The slope stability analysis does not address the landslide. I would recommend that we do not review this until they provide us something with the landslide study.

Gilbert Jennings – The landslide is not on our property.

Dave Black – If it's not you're adjacent to it.

Gilbert Jennings – Then our report covers it.

Dave Black – It does not. It doesn't even mention a landslide.

Gilbert Jennings – The landslide is not on this property.

Discussion on the boundary of the landslide continued.

Wes Jenkins – You are right, the lines are broad brushed. But they do that so when property is developed reports can be done to make sure that if there is a geologic hazard, they address it. If there is not then at least a study has been done to show that there is not.

Gilbert Jennings – And we did submit all the reports required by the City and they were issued a grading permit for us. We have never finished grading that and it's a false

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statement for him to say that we cut this slope out, because we did not. We have not touched that ground there, that was there by somebody else that did years ago. We have not touched that. We have been after you to turn us loose and let us do this. It has held out project up for over 2 years.

Wes Jenkins – We never had anything submitted for this site.

Gilbert Jennings – Yes you have.

Wes Jenkins – No, grading, but not for this site to build on.

Gilbert Jennings – We were never required to come to Hillside Review until this day.

Wes Jenkins – Because you're building on this lot now, that does lie within that. The report we had originally was from Russ Owens and it said that you need to look more into this and then Steve hired GTS and that report was submitted to the City.

Steve Jennings – A little more than 2 years ago we went to work down here on a grading permit from 2016. Then we start hearing some grumblings about what are you guys doing down there? Then we got a letter from the office building up there, lobbing some accusations, and I'm sorry Dave it was tied to you, you are the Geotech up there. We were bringing this fill material in we kind of stopped and said wait a minute, let's hold off here, to your credit. We hired GTS to do a slope stability analysis, we immediately submitted it to the City thereafter, 2 years ago. This is the first moment that we have any mention of the fact that apparently you discredit Chris Volksen and GTS. All I'm hearing right now is that you don't believe our engineer, that their stamp is worthless, and we've paid thousands of dollars for that report. This is the first moment I've heard of this. I've had Wes tell me on multiple occasions that it is not a big deal. That you just have to go through the formality.

Wes Jenkins – I don't think I ever said the Hillside was no big deal.

Steve Jennings – No you didn't, I said that wrong.

Wes Jenkins – Nothing would have triggered this to go to Hillside two years ago. You don't go to Hillside until you develop the lot.

Steve Jennings – The Hillside Review Board is tied to a grading permit.

Wes Jenkins – No, it's tied to development.

Steve Jennings – We have a grading permit that allows to do the grading and utilities on the entire 16-acre site, including this as per our grading permit. We came here today because we we're told there is a hillside protection overlay that happened after the time, we got the grading permit. During the time that we have been working under that

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grading permit all of a sudden, the rules have changed. So, we came here today in good faith. And now we're hearing that our engineers report that we paid thousands of dollars for is worthless all of a sudden. It's really frustrating. We have signed some leases on this building right here and what I'm hearing is that we are not going to have a building permit for probably 6 or 8 months. We've got a 5,000 square foot lease that we've got to perform under, and you're talking about several hundred thousand dollars rent per year that we face some serious liabilities to not be able to perform based on the City's representation to us, and the timing. Now what we are hearing is that we have a report from an engineer that is being discredited. This is the first time we have heard that this morning and you are telling us you are going to table this issue. I was worried about losing 3 weeks, and now we're hearing you are going to table this until we do a full analysis and pay thousands and thousands more dollars for an engineer that you guys like, apparently because you don't like our engineer and you're going to push us back months. We're talking some serious damages here; I just want you to understand.

Wes Jenkins - We don't care who your geotechnical engineer is. We want your engineer to address the slope stability.

Gilbert Jennings – He did, right here in this report. Look at the slope analysis here, it covers clear off the property. The only reason we did that is because you said hey we're on the edge of that diagram from the Utah Geological survey and you need to do a slope analysis and tell us what's going to happen. Dave raised the issue of a building up there has nothing to do with us and so we went and spent thousands of dollars and did a slope analysis. If you're not here to talk about the slope analysis what are you here to talk about?

Wes Jenkins – We are not experts at the City on slope analysis, that's why we have the Hillside Committee and we depend on them because they have some of that expertise. Now if you disagree with their expertise, I guess we will have to go from there and see what can be done.

Gilbert Jennings – You're telling us you disagree with the expertise of our engineer.

Wes Jenkins – I'm not saying I disagree with anything.

Gilbert Jennings – You had the report and now you're telling us it's no good. That sounds like a disagreement that you got from your chairman to us.

Wes Jenkins – He's the chairman of our Hillside Committee, we look to him same as we would look to James if there was an aesthetic issue with the landscaping or something like that, we would look to James. I'm not a landscape architect, I'm not a geotechnical engineer, I'm not a home builder so we have to look to them because they have that expertise. Obviously, you disagree, and that's fine, but I'm just saying we look to them for that help.

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Steve Jennings – I just really want to understand, Dave, and I'd appreciate if you would speak to this. Why the discreditation on our report, other than it doesn't mention the word landslide? There is a slope stability and he's talked about the safety factor in there and he talks about the safety factor is far above of anything that would indicate an issue. So, help us understand your discreditation here because all we've heard is you don't like the report.

Dave Black – With the landslide it's a big landslide. He's looked at a very small portion of the landslide and said that's stable. The landslide itself is not, it does not meet the requirements of current standards. The impact at the toe of the slope, you should be able to demonstrate that it doesn't have an impact on the stability of the landslide. The report does not address the landslide, it addresses that toe cut right there. The landslide goes from here to the top of the hill. The landslide right now has a factor of safety of about 1.1, not 3 that is in that report. There are thousands of publications and studies that have been done to prove that and I do have expertise in geologic hazards and landslides. I've spent my whole life doing that. You need to show that the impact that you do does not affect negatively the stability of the landslide mass, which goes from here to the top. That's the same thing we have required for the hotel.

Gilbert Jennings – Have you read it? It says that exactly in the report. Wes, it's coming back to you, are we responsible for all of the property from here to the top of that black hill?

Wes Jenkins – You are if you cut the slope.

Gilbert Jennings – We have a slope analysis that shows exactly the point of what our impact is on this part. It talks about that exactly. That's what the report said. It's not our responsibility to be responsible for some hotel next door or what they're gonna do. That's your problem, not ours.

Wes Jenkins – You are responsible that whatever you do does not impact that landslide. Obviously we have a disagreement here, so we will probably have to table this meeting.

Gilbert Jennings – Why would we have to table this meeting?

Dave Black – I would suggest that the City hire an expert to review their report, to look at previous studies that have been done in the area and then they can make a ruling. If your report addresses it or not.

Steve Jennings – I just want to get this on the record. Are you suggesting we can't touch this property any further than what it is today?

Dave Black – I suggest that we recommend that this be tabled at this time.

James Sullivan – What was the trigger that made it come to Hillside?

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Wes Jenkins – If you look on the UGS map, the line comes down there at the base, through here. On the UGS they have a layer that says landslide and then they define high hazard, medium hazard and so forth. If you look on the map the line comes to about the toe down there and says this area is a high hazard area and that's what triggered it to come to Hillside.

James Sullivan – So it's not the fact that we're over 40% in something?

Wes Jenkins – No, because they are getting into the toe not getting into the slope so much, it's more a geologic hazard.

James Sullivan – So the ordinance states that if there is a geologic hazard called out by UGS then it gets kicked to us?

Wes Jenkins – Yes, that's right.

James Dotson – For me to make a determination I want to see this overlay on the drawings.

Gilbert Jennings – We can show you approximately.

Wes Jenkins – The line again is just a broad brush, and the reason they do that is so that they can alert people if you develop here then you have this certain hazard. They put a line on there where they say hey this is an area where there was a landslide it's an old landslide, this is kind of an outline of what property is affected by this landslide and so if the property falls within that then we have to take it to Hillside and go through the geologic hazard review, like we do with rockfall and that kind of stuff. You can see that this is the line and it does cross their property.

Gilbert Jennings – reading from the report, It appears that the proposed cuts in the slope will not affect the stability of the slope to point as to cause failure to the slope. Changes in the soil or loading conditions above the slope, up there, could affect the stability of the hill. The following factors are a list of conditions that might affect the slope in the future, saturation of the down, mid or upslope soils, would cause the soils to weaken and could cause movement of the slope. That's what happened up here on those condos up there, the irrigation water caused a lot of grief. Care should be take to landscape all the properties desert type landscaping, water should not be allowed to flow over the slope. We've designed a drainage system, we've got storm drains and everything here and we will drain it that way, we have complied with that. Over steeping, which means if you take that slope up there and you make it too steep, it will increase the loading conditions on the slope above us. Future development of the upslope properties could cause and increase in the loading conditions on the slope, adding fill material, any type of building up there will increase loading and should be analyzed for impact on the stability of the slope. Removing material from the upslope should decrease the loading conditions and

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may increase the stability of the slope. It's the responsibility of current and future landowners of the property to the west to demonstrate that any proposed development that they have will not impact this project. That's where the danger really is, if those guys create a problem that affects us.

Wes Jenkins – When Blackstone Hotel came in they went through that 3 or 4 times and they came up with that secant wall that they were going to build down here at the bottom and that is what their proposal was to mitigate the landslide.

James Sullivan – So is it this paragraph you don't agree with, he is saying that it won't affect the stability of the slope.

Dave Black – My issue is the statements they make in here are for general sites and if there wasn't a landslide here under the pad or behind it, all those statements are true, but there is an overriding condition that is here that is much bigger than this, and they haven't recognized it, addressed it or modeled to it.

Discussion continued on the scope of the study.

Dave Black – What the GTS study did is they came down here to a very local area and they looked at this with the models that they generated for slope stability analysis that they generated. They didn't reach down or find any of the existing failure surfaces, they didn't recognize this as even landslide and they said that the local stability of this is what they modeled. The overriding condition is much bigger than that. They've missed the whole picture of the hazard that is here. They didn't look at any of this.

Steve Jennings – I just want to know if you've seen the Geotech report?

Dave Black – I have, and this is where this comes from, they modeled it. The hotel intends to do some very extensive slope stabilization near your property line that involves drilling 150 ft diameter concrete shafts to stabilize that material. If they go forward and do what they are planning to do, any concerns about your property go away. They are solving those questions of stability if they develop that site and their stabilization provides them with a factor of safety of approximately 1.5 which meets the requirements for construction.

Steve Jennings – Why don't we focus on a solution to this problem, maybe rather than tabling our meeting and spending thousands and thousands of dollars which is a waste of money. Why don't we bring both sides of the property owners to the table with you guys as part of this Hillside discussion and let's solve the problem.

Dave Black – I think that's reasonable, and if the timing works and if that is actually going to go forward, if they are getting close and you guys are getting close that is a very practical solution.

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Steve Jennings – I will tell you that that is a part of our problem is that we can't sit here and wait for them forever.

Dave Black – And I understand that.

Gilbert Jennings – We've been held up for 2 years.

Dave Black – And maybe their prices come in and they decide not to do it. But if they go forward, that's a very practical solution because they might need some access to do what they want to do and they are going to solve any concerns that you guys have and it's going to be a very positive thing for your development.

Steve Jennings – It feels like everybody has seen their studies and everybody loves their study and not until today have we ever heard that anybody has even read our study.

Dave Black – They came to us 3 times, before we came up with that. They recognized the landslide from the beginning. They had done some original studies that go back over 10 -15 years.

Steve Jennings – I just want to remind you that we actually have a grading permit and we have been working on it. We've got a site that is in progress. We're in the middle of our project.

Dave Black – We saw your report for the first time, the Hillside Committee, now.

Steve Jennings – And I can't speak to that because we submitted 2 years ago and like I said we have a grading permit that's from 4 years.

Gilbert Jennings – Now there are some fallacies in your picture.

Steve Jennings – I would rather focus on a solution to the problem, but I don't know where they're at, we can't control them, they can't control us.

Gilbert Jennings – Dave drew you a picture here, it's not correct, it has some geological fallacies in it. Number 1 underlying these slip planes that he's talking about, cause they end on that line out there, they're up here, they're not down here on our property. That's the whole point, you can't find them because they don't exist. You can go drill all you want, but if you come down here you are going to find that there is solid rock because geologically it's laid in here in layers. The reason that black hill exists is because there is a solid sandstone hill underneath. It lays in here on an angle and so if we go dig and go read your reports and look at all the testing, you're going to find that that sandstone ridge is sitting under there about 10 ft and that slip planes are above it. That's where it is and so the toe on that geologic map was the toe of that ancient slide. The slip planes he's talking about that he wants us to go be responsible for are all up there. They are all

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up there, they are not down here on this property. This property has been tested, there is solid rock under it down a few feet and so the slip planes do not come through that, they're up above that level and they are in with the material on the top. We've dug it up, we've done the Geotech reports, we've done these test kits and geologically that's a false picture of what exists underneath the ground. The slip planes are up there, not down here.

James Sullivan – Is this cut making it more of a problem? If there is an existing problem and these guys are gonna come in and fix it when they do, whenever that is. The only question before us would be if what these guys do affects that negatively until they get to it.

Dave Black – If the grading plan was such that they raise this, and they put fill against the original slope and don't touch the slope then I don't think we would have a concern. The fact that they came in and are removing material from the toe, they need to demonstrate that it is not an impact on the stability. But we already know that this slope right here and the landslide has a stability concern that not only affects the slide itself but it affects adjacent to the slide.

James Sullivan - So what you just said was they've got to show if they cut that out it's not going to affect the landslide.

Dave Black – Yes, so in order to do that they have to model it.

James Sullivan – Which is what this paragraph says, but you're saying that his report didn't take into account the whole landslide.

Dave Black – If you go back to my illustration, which is based on previous studies, previous data, there's 3 borings that are open right now that go down over 100 ft deep and they have determined what the geology is and where the groundwater table is. There are specific guidelines published that says how you analyze a landslide. They did not do that in their study.

Gilbert Jennings – Because the landslide is not on our property, that is the reason. It's rock down here. We have not touched the original slope. The people up above have been doing that. What we are doing is we are building a retaining wall. The reason you build retaining walls the way you do is that you are replacing the strength of that soil, if there is a problem, in our reports it says that, we need to replace the strength of that if we cut into the slope, and that is part of our proposal. That's exactly what we will do. If we are going to remove that little bit of toe, we are gonna replace the strength.

James Sullivan – Yes, but he is saying that the wall you are putting in to replace that doesn't really take into account the issues that are up here that it is trying to prevent.

Gilbert Jennings – Ok, but he has overstated the issue up above.

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James Sullivan – He's not overstating it, we can see the whole mountain is coming down.

Gilbert Jennings – What you just said is not true.

James Sullivan – It is true.

Gilbert Jennings – The problems up here isn't because of a slide, the problem in those houses up there.

James Sullivan – Yes, it is.

Gilbert Jennings – I respectfully tell you no, it didn't. You don't have, the slide has never moved, that's in the report from the USGS or the Utah GS, it makes a statement, all those studies, I've read them. Except the specific one's that those hotel people did. They tell that there has never been movement in this thing for at least 10,000 years.

James Sullivan – So why did this road go to hell?

Gilbert Jennings – Because they came up there and introduced water to expansive soils, that's why. They did a bad job of building it, they didn't put any drainage in it originally, they dumped all the water right into the stuff they moved and then they go and put gravel all over it and all the water went on the upside of the hill and expanded and moved the road. It had nothing to do with the slide. It was the soils that are in the slide. There is no movement in the slide.

James Sullivan – Dave, do you agree with that statement? That the landslide has never moved?

Gilbert Jennings – Chris Volksen our engineer just showed up, let him defend himself.

Dave Black – The mass that we are looking at behind us has not been documented to move. These are landslide issues over here at Garden South, they are within the landslide and it's very easy to trigger and cause additional movement. That's why they're classified as a very high hazard area.

Gilbert Jennings – But those failures are not because of a landslide movement, the failures are because of moisture, water introduced into the soils, the soils are highly susceptible to these problems. Chris here is the issue, Dave is trying to make the claim that we have got a great big slip plane underneath our soil, our project down here and it's not true because the geology won't allow it.

Chris Volksen – From what we've found, we've excavated some fairly deep pits around this area, we didn't find the slide plane extending out over this area. We didn't find the

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actual slip plane extending onto this property. We weren't too worried about it. The stability analysis of this slope here, that was something that was analyzed and it seems to be stable if we're removing a little bit of this toe. We weren't removing much of the toe with the original drawings. I think we we're only taking it down 7 feet. That was at the maximum here.

Dave Black – Being on the Hillside Board we have had the opportunity to review other studies, with deeper borings than yours, yours went to 30 ft, the others were 100 plus ft. Their studies indicated that the landslide itself has a factor of safety of about 1.1. This slope is part of the landslide mass.

Chris Volksen – The over all mass, I would agree.

Dave Black – So the overall mass of the landslide has a factor of safety of 1.1. More detailed studies have looked at the entire landslide and again, their factor of safety was between 1.1 and 1.2. They have proposed to come in and do some very significant stabilization of 150 ft drilled shafts along their property to provide additional stability to bring their site to a factor of safety of 1.5. Now, either, they're wasting money and their site is perfectly stable with a factor of safety of 3 or, in my opinion your study didn't evaluate the landslide itself.

Chris Volksen – My study was looking at this slope right here.

Dave Black – So you admit that you didn't evaluate the landslide, right?

Chris Volksen – I did not evaluate the landslide. That was beyond our scope.

Dave Black – And it's our opinion that if you are going to cut along the toe of the landslide, that you should be able to demonstrate that those grading activities do not affect the landslide as a high hazard that is already sitting below factors.

James Sullivan – So knowing those reports are in place, and that these studies have been done, is it before us that basically we are saying if you were to analyze those reports instead of going through and doing a whole other study or asking someone else to do another study, the study has been done. If you are the engineer for this project, you analyze that study and then either you come back to us and say, yeah I was wrong, or yeah I analyzed that study and what we are doing here is not going to affect the landslide.

Chris Volksen – I think that's fair; I need to look at everything that has been done overall. When we did our work, there wasn't a lot done on that slide, there has been a lot done since then.

James Sullivan – I don't think we need to do another study, a study has already been done and you are saying it's a pretty extensive study.

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Dave Black – If they will allow them to review it, which I hope they would, instead of regenerating the time and expense.

Steve Jennings – It doesn't do us any good to table this discussion and say come back and try again boys.

Chris Volksen – If I have access to those studies, why don't you let me look at them, and see what they are saying?

Steve Jennings – We don't have access to them.

Chris Volksen – Can I get access to them?

Wes Jenkins – You can request a GRAMA request.

Steve Jennings – We have to GRAMA request for a soils report on our own property?

Wes Jenkins – The easiest way to do it is to call them and see if they will give it to you, if they don't then you can just come back to the City and GRAMA request it.

Steve Jennings – They will we have had dealings with them before.

Dave Black – Just to get on the record, I work with GTS all the time, I respect Chris. I don't think he had the information available to look at nor did his study include an evaluation of the entire landslide.

Steve Jennings – I appreciate that.

Chris Volksen – We were looking at this slope right here, as it got relayed to me is that we we're looking at this slope right here and cutting the toe. Because I didn't see the actual slide plane coming out in any of the 3 test pits along here, 2 to 3 and did not see any indication of slide plane. There was a good structure of bedrock, everything seemed to be bedded the way it should be.

Discussion continued on where the slide plane and slip surface comes up.

James Sullivan – So we kind of have two choices, the motion would be to table it or to fail it. So, if we table it what are we talking time frame. Chris, how long would it take you to review the report if you got it within the next few days?

Chris Volksen – It depends on how involved it is, I would say at least a week.

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James Sullivan – I would say as a committee we would be able to meet as soon as possible, once you guys get the letters back from you guys saying we looked at that and we're good. If we can meet back here in two weeks, we will.

MOTION: James Dotson made a motion to table this item and reconvene once the verification has been done by GTS.

SECOND: James Sullivan

VOTE:

AYES (3)

Dave Black

James Dotson

James Sullivan

NAYS (0)

Motion Carries unanimous recommend approval

3. Consider approval of the meeting minutes from August 26, 2020
No motion was made regarding the minutes.

MOTION:

SECOND:

VOTE:

AYES (4)

Dave Black

James Dotson

James Sullivan

Shawn Patten

NAYS (0)

Motion Carries unanimous recommend approval

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PRESENT: Chairman Dave Black
James Dotson
James Sullivan
Shawn Patten

CITY STAFF:

Assistant Public Works Director Wes Jenkins
Planner III Dan Boles
Development Office Supervisor Brenda Hatch

EXCUSED:

1. Consider a request for a Hillside Development Permit to allow development of a restaurant/multi-tenant commercial building to be called “**Commerce Point North.**” The property is generally located at 1276 S Black Ridge Drive and 1190 S Bluff. The property is currently zoned C-2 (Highway Commercial). The owner is Commerce Point, LLC, the representative is Austin Atkin. Case No. 2020-HS-012. (*See ‘Meeting Place’ exhibit below*).

Dan Boles presented the following:

Dan Boles – We were here in September, and we had some discussion on this item. At that time, the Hillside Review Board asked for more information and that information has been provided in a new report.

Chris Volksen – At the time there was a concern of what the impact of this development that JMI was going to do with the hillside. When we did our report, dated December 8, we were trying to analyze the impact of JMI’s proposed development with the hillside. We had a chance to review AGECE’s report and look at their profiles and the data they obtained from slide planes. They developed profiles of the hillside with bedrock conditions, slide conditions, mudstone conditions and gestalt. I modeled the hillside based off their profiles. Then modified that profile to put the development that JMI is proposing. I ran the stability analysis, I used a different program than AGECE, they used a program called slide. I used G stable, they are both commercial and they are used across the country for hillside development and slope slide analysis. When I modeled it, I came up with factors of safety that were above what AGECE came up. I was concerned about the impact of this development on the overall stability. I modified the geometry, modified the gestalt conditions that were down here and put JMI’s building in this area here. I found that the factor of safety actually improved slightly over what it was in this condition it is in right here. My analysis was that the impact of JMI’s project on this hillside is zero. That is the bottom line.

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Chris drew an example to show what the proposed development was going to do to the toe of the hill. He showed the existing slope and the retaining wall they will be installing. He indicated that they were going to cut in a keyway under the building and improving the soil conditions. When I looked at all the topo lines and was doing all of the analysis it showed that it is raised quite a bit through here. Our factors of safety went up .1 or .05, something like that. I ran multiple analysis with different methods. With Bishops and Jambo, a random analysis and it all still showed improvement. Everything was driving below our keyway, or it was driving through the keyway. The soil conditions within the keyway are much better than the soil conditions that are present here onsite. It's a stabilized slide, so it's a common thing, we will come down through the slide plane and cut out a keyway and then build a buttress down in here and that is one way to solve the movement of the slide. If you go down to where the old Dairy Queen project is, you can just see the top of the buttress that was built behind it. It's the same principal there.

James Sullivan – Has that buttress moved at all?

Chris Volksen – We have taken measurements on it and we have shown no movement on it.

James Sullivan – Your original was only about this site. So, you have changed your design to accommodate the AGECE information when taking in account the whole slide?

Chris Volksen – My original was very simple; it was only looking at from here to the top of the wall. Looking at AGECE's report they are going to come right on this property line and install these giant caissons. I looked at their analysis and it actually showed this pad grade exactly where JMI had it. This is a 2602.5, that's JMI's pad grade AGECE showed it at 2632 the elevation. I don't know if they guessed at that or if they had some information, but they actually showed that pad grade at elevation. It's like there is no impact at all because they assumed the pad was going to be there. What we did is we assumed that this wasn't going to be installed, and we just wanted to make sure that what they are going to do isn't going to have impact on this slope as it sits right now.

Dave Black – When AGECE did their study and in order to stabilize the slope, they needed to do something pretty substantial by putting in the caissons. By doing that the stability of the landslide in this area would be to a factor of safety of 1.5. According to this analysis this wouldn't be required and the landslide above it is more than stable a 1.9 is pretty good, and there wouldn't be an issue with the up above. How comfortable are you with the 1.9 factor of safety for the landslide?

Chris Volksen – My job wasn't to analyze the entire slide. That is going to be, that's not my job. My job was to analyze what the impact of their development was to the slide. I kind of used the principals of dimensional analysis. No matter what it is, if this factor of safety turned out to be 5, in the in-situ condition and then we modify it and the factor of safety comes out to be 4, then there is an impact to it. So I wasn't too concerned about the overall factor of safety to the slide, because again I am not trying to analyze that. I

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don't care what they do up there. We're concerned about what JMI does here. I ran that, it came out to be 1.? I can't remember the number; it was over 1.5. And then we modified it and we showed that it improved it. So, it came out to be 1.55 let's say on our side. What they are doing here isn't impacting it because our factor of safety is improving, and it is mainly because of the keyway. When I first ran it, and I take the keyway out and the building out, it lowered. When I put the keyway in and the weights for the building in, it improved. Actually, if I took the building out and just put the keyway in, it was fine but then when I put the building in it showed even better.

Dave Black – Your analysis says there is no impact to the landslide with the project.

Chris Volksen – Yes.

Dave Black – Pretty minor compared to the overall site, so what you are doing doesn't impact this particular landslide itself. But it doesn't necessarily tell us what the factor of safety of the existing landslide is.

Chris Volksen – That's right.

Dave Black – And so, if we assume that the other study was correct and they were able to do some calculations, change some soil parameters they came up with a factor of safety of 1.4, and in order to get it to 1.5 they put in the deep foundation wall. But let's assume it's 1.4 then what you do isn't going to impact the 1.4?

Chris Volksen – Actually, it might, because we are now taking the soil out that was lighter and replacing it with something heavier and we are putting a building in.

Dave Black – And you'll also excavate some soil for the required retaining wall. If you say that your impact is negligible by doing that, by doing an over excavation and the building pad and that it is negligible to the overall stability, I have a hard time seeing that it really makes a big difference to improve it. I think we can say that your study has shown that this proposed development is not negatively impacting the factor of safety of the landslide, but we still don't know really what that factor of safety is. Whatever it is, you're not impacting it.

Chris Volksen – Correct

Dave Black – It could be really good, or it could be marginal, but you are not going to impact it. Is that a fair statement?

Chris Volksen – That's a fair statement.

Dave Black – Does that make sense to anybody else?

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James Sullivan – What I'm gathering is that they are mitigating, what their project would do to the slide, but we don't know the factor of safety of the entire slide.

Chris Volksen – They are saying with the building they are going to put on it, it's 1.4.

Dave Black – And to get it to a 1.5, which the City requires them to do, they had to do this extensive caisson. He basically says also if the caissons are installed, this site is stable there is not a concern. I don't know that we can actually say that they mitigated the landslide but, they haven't impacted the landslide. I think that's a fair statement. This is my overall concern. We don't have to look very far from this site to where we see 5 different buildings impacted by landslide movement. We have the north end of the Knights Inn, there was a building at the Knights Inn that's not there anymore. Dairy Queen is impacted. Two buildings of Garden South were impacted, some were on the top of the slope, three of them were at the bottom of the slope. The reason that they moved, there are two reasons, one is this is a landslide and there was material removed from the toes and water. And they've added more water there and that's a concern. I think we are justified in being cautious, with this site. I think the concerns are valid. I think they have demonstrated that their impact is very minimal, and it hasn't reduced the factor of safety of the landslide itself. We required the people on the slope to come up with a factor of safety of 1.5, that is a different study. I don't know if it's right or wrong, and I don't think that's our job to determine if it's right or wrong. But I that providing a factor of safety meets the requirements from the City, the ordinance. I don't know that they have demonstrated that the factor of safety is 1.5 with their development but I don't know if it doesn't meet the 1.5. I don't that's our job to determine that. Those are my concerns. I think the ramifications are significant if they or us or somebody does something wrong because we have seen what can happen. I'm sure they want to move forward, but they also don't want to have problems. Those are my concerns and that's why I've had concerns in the past.

Steve Jennings – You are absolutely right Dave. Obviously, we don't want to do something and have a problem in the future. We are looking at it very carefully. We don't want to do something foolish. It took us a long time to get that AGECE report, even though our neighboring property owners wanted to give it to us, we had some issues with that. That's why we are 3 months later on this thing, plus it took us some time. As we have discussed this thing and analyzed it up one side and down the other, we've talked to all kinds of people, including Overton's, our neighboring property owner and several soil professionals, one of the things it keeps coming back to for us is as far as my understanding is we are talking about a slide here that is 10,000 years old. One of the things we keep coming back to is the inclinometers that were installed here on the slope according to the AGECE report, in the last 10 to 12 years it has recorded zero movement. That is my understanding and I think that's correct. To answer your question, I think we're pretty comfortable moving forward. The other thing I would mention is that all we can do is analyze our project and what we are doing down here. What they do up the hill from us is obviously their responsibility. We felt like we've been held hostage if you will, looking at their project. If they hadn't had the proposal there and we were just

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standing here talking about our project, the conversation would be quite a bit different. All we can do is look at our project. We think that, we have been in communication with them, it sounds like they are moving forward.

Chris Volksen – Their tentative drilling on that is scheduled for March/April. That was according to the guy I talked to this morning.

Steve Jennings – And we are not contrary to them. I think it's a great project, I think it will add to the area down here for the City and will be a great thing, and we're not opposed to working together with them.

Dave Black – Shawn, James, any questions or concerns? Any further discussion?

James Dotson – On a much smaller scale, on any retaining walls, what is your proposal to make it look good?

Steve Jennings – That cut in the back? The retaining wall is actually pretty short. It's not on the property line, it starts out here and it's actually only about 3 or 4 feet tall at the beginning then it tapers up down along this end. We plan to dress it up as part of our site.

James Sullivan – Is that concrete, reinforced concrete or are you going to do stacked block?

Steve Jennings – I think it's concrete. It's reinforced concrete. Typically, when we do something like that we go in and rub it, it will match what we have done on this project and kind of carry that theme through. You can see the architecture on this building. This retaining wall will help to tie the 2 buildings together.

James Dotson – I think that what has happened is that we've seen them prove what their impact on the slide is negligible, right? It's very little and we know that there is a lot going on potentially up above, but we asked them to prove to us that it wasn't going to impact the overall slide, regardless of the factors that may happen in the future up above. From what they show, I think they've done their job.

Wes Jenkins – Has the buttress already been built in? So, you still need to over excavate to put in that buttress?

Chris Volksen – Yes

Shawn Patten – How big is that key?

Chris Volksen – 15 feet, actually it will be 16 feet below pad. 15 below footings.

Wes Jenkins – So is it more of a granular material you are trying to go with?

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Chris Volksen – Yes. The material in place right now has a density of about 100 and the dry density of about 105 pounds for cubic foot. The material we are putting in, the dry density of this material will be about 120 pounds. The friction angle of the material that is in place now runs somewhere around 15 and this material will be on the low side, probably about 25.

MOTION: James Sullivan made a motion to recommend approval to the City Council for the Commerce Point Development based on the findings from the upgraded soils report and on the condition that they work with staff on following the recommendations of the soils report.

SECOND: Shawn Patten

VOTE:

AYES (3)

James Dotson

James Sullivan

Shawn Patten

NAYS (1)

Dave Black

Motion Carries recommend approval

Dave Black – I still think the factor of safety is an issue of importance.

2. Consider approval of the meeting minutes from August 26, 2020 and November 18, 2020 meetings.

MOTION: James Dotson made a motion to approve the minutes from August 26, 2020 and November 18, 2020 meetings.

SECOND: James Sullivan

VOTE:

AYES (4)

Dave Black

James Dotson

James Sullivan

Shawn Patten

NAYS (0)

Motion Carries unanimous recommend approval James Sullivan

Dave Black – One other item I would like to bring up, I think I've been the chairman way too long. We need to consider appointing a new chairman

MOTION: Dave Black made a motion to nominate James Sullivan as the new chair.

SECOND: James Dotson

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VOTE:
AYES (4)
Dave Black
James Dotson
James Sullivan
Shawn Patten
NAYS (0)
Motion Carries unanimous recommend approval

Dave Black – We should have a co-chair as well.

MOTION: Dave Black made a motion to nominate James Dotson as co-chair.
SECOND: James Sullivan
VOTE:
AYES (4)
Dave Black
James Dotson
James Sullivan
Shawn Patten
NAYS (0)
Motion Carries unanimous recommend approval James Sullivan