Providence City
Administrative Land Use Authority (ALUA)
Agenda – August 5, 2020 – 2:30 PM
Providence City Office Building
164 North Gateway Drive, Providence UT 84332
Members of the ALUA may be attending this meeting electronically.
This meeting will live stream on Providence City's YouTube Channel
Persons wishing to comment on agenda items may email their comments to providencecityutah@gmail.com or text comments to 435-752-9441.

Call to Order: Skarlet Bankhead, Chair

Item No. 1 - Conditional Use – New Home: The Providence City Administrative Land Use Authority will consider for approval a request by John and Julee Sanchez and Orchid Homes for a new home located at 681 Spring Creek Pkwy., Providence, UT.

Item No. 2 - Conditional Use – Office Bldg: The Providence City Administrative Land Use Authority will consider for approval a request by Danny Macfarlane for a new office building located at 498 W 100 S, Providence, UT.

Agenda posted on August 4, 2020

Diane Campbell
Diane Campbell

If you have a disability and/or need assistance while attending the Providence City Administrative Land Use Authority meeting, please call 435-752-9441 before 1:00 pm on the day of the meeting.

PROVIDENCE CITY Land Use Authority – Staff Report Meeting Date: August 5, 2020		
Request: Applicant is requesting approval of a conditional use and zoning approval for a new home located at 681 Spring Creek Pkwy, Providence, UT.		
Item Type: Conditional Use	**Applicant:** Orchid Homes – John and Julee Sanchez	**Address:** 681 Spring Creek Pkwy., Providence
Parcel ID # 02-295-0329	**General Plan**: SFT	**Zone**: SFT
Background Information: A complete application was received July 22, 2020 and contained: 1. Providence City Conditional Use Application and Residential Site Plan application. 2. Payment of $100 fee, July 22, 2020 Rob Stapley, Providence City Public Works Director, inspected the current infrastructure July 29, 2020. Aaron Walker, Deputy Fire Marshal/Fire Inspector, reviewed site; see letter dated July 29, 2020.		

FINDINGS OF FACT:

1. UCA 10-9a-507. Conditional Uses allow a municipality to adopt a land use ordinance that includes conditional uses and provisions for conditional uses that require compliance with standards set for in an applicable ordinance.
2. The Cache County GIS Parcel Summary shows sensitive areas that may require further analysis.
3. Providence City Code (PCC) 10-5 Sensitive Areas, Section 1 Conditional use permit required states, all requests for permits involving a lot, parcel or site located wholly or partially within an area subject to the Hazard Flood (HF), Hazard Slope (HS), Hazard Water Table (HW) or Hazard Earthquake Primary Fault (HE), Hazard Wildfire (WF) regulations, shall be dealt with as a request for a conditional use permit under the provisions of Section 10-3-5 of this Title. All applications shall comply with the following regulations before any permit shall be issued.
4. PCC 10-3-5 Conditional Use Permits allows the City to impose reasonable conditions: to mitigate the reasonably anticipated detrimental effects of the proposed use on the health, safety, or general welfare of persons residing, working, or conducting business in the vicinity; to mitigate injury to property in the vicinity; to mitigate any risk to safety of persons or property because of vehicular traffic or parking, large gatherings of people, or other causes.

CONCLUSIONS OF LAW:

1. Providence City has adopted land use ordinances that include conditional uses and provisions for conditional uses.
2. The Cache County GIS Parcel Summary indicates this parcel is in a Hazard Landslide area.
3. Providence City has the authority to impose reasonable conditions to mitigate the reasonably anticipated detrimental effects of the proposed use.
4. The request meets the requirements of the codes listed in the Findings of Fact with the following conditions:

CONDITIONS:

1. The applicant will continue to meet all relevant federal, state, county, and Providence City rules, laws, codes, and ordinances.
2. The applicant will mitigate Landslide Area by: See mitigation statement date stamped July 28, 2020, and drawing

on site plan.

3. This conditional use is for the home only as shown on the site plan date stamped July 28, 2020.
4. Aaron Walker, Deputy Fire Marshall/Fire Inspector – Logan City Fire Department, reviewed the parcel in the interest of the fire safety provisions and regulations as adopted by the State of Utah and in accordance with the International Fire Code.
5. Approval by the City of any application submitted or paperwork does not alleviate the owners and/or their agents from their responsibility to understand and conform to local, state, and federal laws. Providence City's approval is not intended to and cannot be construed to allow any laws to be violated.

DRAFT

PROVIDENCE CITY
APPLICATION FOR A CONDITIONAL USE

FOR OFFICE USE ONLY	
Date	
Payment Form	
Amount	
Receipt #	
Clerk	

Please Note: City Staff will NOT accept the application and fee payment if they are incomplete. Incomplete applications will NOT be processed or scheduled for review by the City.

Initial MP Name Matthew Payn

Date 7/14/20

SUBMITTAL REQUIREMENTS — **Staff Check**

- $100 application fee
- An 11"x17" of the property showing the location, function and characteristics of the use, including parking and percentage of space being used
- Cache County plat map of the property
- Copy of Cache County GIS Parcel Summary http://66.232.67.238/Websites/Parcel%20and%20Zoning%20Viewer/
- Mitigation Strategies for applicable sensitive areas
- Mailing addresses for the owners of adjacent properties
- Property owner consent for pursuit of conditional use (if owner is different than Applicant)
- Electronic copy of structure elevations & square footage including attached garage(s), covered porches, covered decks etc.
- Electronic copy of **ALL** submittals (email or flash drive is acceptable)

Applicant Information (all information MUST be provided)

Name Orchid Homes of Northern Utah LLC
Address 255 West 2600 South Nibley, Ut 84321
Phone [redacted] 435-535-1832 Email Matthew@buildwithorchid.com

Party Responsible for Payment (if different than applicant)- the individual/firm to whom any and all professional services invoices (attorney/engineer/etc.) will be sent and who will be responsible for payment of such invoices.

Name Orchid Homes of Northern Utah LLC
Address 255 West 2600 South Nibley, Ut 84321
Phone 435-535-1832 Email Matthew@buildwithorchid.com

Property Information

Owner of record John & Jutee Sanchez
Owner address 50 South 410 West Providence Utah
Owner phone 435-754-5626 Owner email SanchezFam5@gmail.com
Parcel address 681 Spring Creek Parkway Parcel Tax I.D. 02-295-0329
Zone SFt Height 22Ft 10inch Initial MP
Setbacks (front yard) 22Ft (side yard) 15Ft (rear yard) 37 Ft Initial mp

Written Statement of Request (attach additional sheets if necessary)

- Briefly explain why you are seeking a conditional use and what the intended use of the property will be if the conditional use is granted.

New Home Construction in providence Hollow Subdivision. Lot is in landslide zone. Geotech study Attached

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JUL 22 2020
By

164 N. Gateway Dr * Providence UT 84332
435-752-9441 * Fax: 435-753-1586 * email: sbankhead@providence.utah.gov

Property owner and contractor shall have responsibility to determine grades, and final placement and elevations of footings/foundations. Property owner and contractor shall be responsible for compliance with all state, national and local building codes and ordinances. Initial MP Name Matthew Payne

Approval by the city of any application submittal or paperwork does not alleviate the owners from their responsibility to understand and conform to local, state and federal laws. Providence City's approval is not intended to and cannot be construed to allow any laws to be violated. Initial MP

By signing this document, you agree that Providence City will bill you for any and all professional firm fees as they arise throughout the approval process. This is in addition to application fees. All subdivisions require engineering review throughout the approval process, such as but not limited to reviews of development agreements, construction drawings, preliminary and final plats, and inspections. These services are billed by our city engineer at an hourly rate. Some subdivision applications may also require legal review. Other applications, such as but not limited to conditional uses, may also require engineering and/or legal review at the City's discretion. You agree to reimburse the City for all such costs, whether or not you were forewarned about such costs, and that the City cannot predict all situations in which professional services may be required in order to process your application. Initial MP

I declare under penalty of perjury that I am making this application of my own free will and choice and that the statements, answers, and documents submitted in connection with this application are true and correct to the best of my knowledge.

Kye Raymond — Signature of Applicant

Kye Raymond — Printed Name

7/14/20 — Date

The following is a general summary of which body reviews each land use application in Providence City. Public hearings may be required by the Planning Commission and City Council, as shown below. This matrix does not include zoning clearance/permits for new single-home construction or for business licenses, both of which are reviewed and approved by city staff.

Application	Executive Staff	Land Use Authority	Planning Commission	Public Hearing	City Council	Public Hearing	Appeal Authority	Filing Fee[1]
Code Amendment	✓	----	✓	✓[2]	✓	----	----	$100
Annexation	✓	----		----	✓	✓	----	$150
Rezone	✓	----	✓	✓	✓	----	----	**$100**
Conditional Use	✓	✓		----	----	----	----	**$100**
Subdivision Concept Plan	✓	----	----	----	----	----	----	$300
Preliminary Subdivision Plat	✓	----	✓	----	----	----	----	$400
Final/Amended Subdivision Plat[3]	✓	----	✓	----	✓[4]	----	----	$600
Site Plan	✓	✓	----	----	----	----	----	$50
Lot Consolidation[5]	✓	----	✓	----	----	----	----	$50
Exception to Title[6]	✓	----	✓	----	✓	----	----	$100
General Plan Amendment	✓	----	✓	✓	✓	----	----	$100
Right-of-Way Vacation	✓	----	✓	----	✓	✓	----	$100
Variance/ Appeal	----	----	----	----	----	----	✓	$100

[1] Filing Fees do **not** include professional firm review fees. Those will be billed to the applicant separately.
[2] Public Hearing required at Planning Commission only when the proposed code amendment is related to land use.
[3] Construction drawings are reviewed/approved by the City Engineer and Public Works Director.
[4] The City Council does not review the final plat itself, but rather reviews and approves the development agreement associated with the final plat.
[5] Lot consolidations are only required to have City approval when they are in a platted/recorded subdivision.
[6] Developers may ask for an exception from the requirements of the Providence City Subdivision Code (Title 11) through this process. All other variance/exception requests shall be handled by the Appeal Authority.

164 N. Gateway Dr * Providence UT 84332
435-752-9441 * Fax: 435-753-1586 * email: sbankhead@providence.utah.gov

Residential Site Plan Application

FOR OFFICE USE ONLY	
Date	
Payment Form	
Amount	
Receipt #	
Clerk	

Date: 7/10/2020

Required Submittals

Please Note: City Staff will NOT accept the application and fee payment if they are incomplete. Incomplete applications will NOT be processed or scheduled for review by the City. Application fees do not include professional firm fees, which will be billed separately. Engineered site plans may, at the City's discretion, be required. The City will contact the applicant if an engineered site plan is deemed necessary. Accessory buildings include sheds (over 200 sq ft) and all detached buildings (shop, garage, etc.)

Name Matthew Payne Initial MP

Construction Type	Application	Filing Fee $50- New Home $25- all other	11x17 Site Plan Must Include: Existing & proposed buildings, dimensions, & setbacks	Existing/ proposed utilities	Dimensions of driveway cut – (35' max)	Cache County Plat Map	Stormwater NOI Permit	Stormwater Pollution Prevention Plan (SWPPP)
New Home	X							
Acc. Building							*	*
Addition							*	*
Deck							*	*
Other								

*May not apply in all cases

Applicant Information

Name: Orchid Homes of Northern Utah LLC

Mailing address: 255 west 1600 south Nibley, UT 84321

Telephone: 435-535-1832 Email: Matthew@buildwitherchid.com

Property Owner Information (If applicant is not the property owner, the application **must** include the property owner's information and written consent for the applicant to pursue the permit)

Name: John & Julee Sanchez

Mailing address: 50 south 410 west Providence, Utah

Telephone: 435-764-5626 Email: Sanchezfam5@gmail.com

Utilities (circle, if applicable): Septic tank (City sewer) (Water) Well

Construction Type (circle): (New home) Accessory building Deck Addition Other

Do the plans include an Accessory Apartment Unit (circle): Yes (No)

Is this an Accessory Dwelling Unit (circle): (Yes) No

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Project Information

Address: 681 Spring Creek Parkway, Providence ut 84323

Subdivision: Providence Hollow Parcel Tax ID: 02-295-0329

Square footage for fire flow (includes all floors and all areas under the roof, including garages and covered porches):

5283 Initial mp

Zone SFT Height 22Ft 10inch Initial mp

Setbacks (front yard) 22Ft (side yard) 15Ft (rear yard) 37Ft Initial mp

Contractor Information

Name: Matthew Payne - Orchid Homes

Mailing address: 255 west 2600 South Kibley ut, 84321

Telephone: 435-770-0809 Email: Matthew@buildwithorchid.com

Stormwater Notice of Intent (NOI) Information

NOI No. UTRC00851 Permit issued to: Orchid Homes

If this construction will occur in an approved subdivision, you may be able to use the NOI permit taken out by the development contractor or the developer. If you have to obtain your own NOI permit, please visit: https://secure.utah.gov/account/log-in.html. You will create a log in and then access the Storm Water Permit Issuance System. There is a $150 NOI fee, paid directly to the state when you file your permit.

Property owner and contractor shall have responsibility to determine grades, and final placement and elevations of footings/foundations. Property owner and contractor shall be responsible for compliance with all state, national and local building codes and ordinances.

Initial mp Name Matthew Payne

Approval by the city of any application submittal or paperwork does not alleviate the owners from their responsibility to understand and conform to local, state and federal laws. Providence City's approval is not intended to and cannot be construed to allow any laws to be violated.

Initial mp

By signing this document, you agree that Providence City will bill you for any and all professional firm fees as they arise throughout the approval process. This is in addition to application fees. All subdivisions require engineering review throughout the approval process, such as but not limited to reviews of development agreements, construction drawings, preliminary and final plats, and inspections. These services are billed by our city engineer at an hourly rate. Some subdivision applications may also require legal review. Other applications, such as but not limited to conditional uses, may also require engineering and/or legal review at the City's discretion. You agree to reimburse the City for all such costs, whether or not you were forewarned about such costs, and that the City cannot predict all situations in which professional services may be required in order to process your application. Initial mp

All Applicants Must Read the Following Before Signing This Application

The granting of a zoning permit does not override any federal, state, or local building code or authorize any individual to violate any local law or ordinance. Approval of this permit does not constitute a representation by the City that it will be liable for any issues arising from the construction of homes and other structures in a Sensitive or Hazard Area. It is the responsibility of the property owner to comply with all relevant local, state, and federal laws and regulations, including but not limited to Providence City Code 10-5 outlined below:

Sensitive and Hazard Areas:

1. JURISDICTIONAL WETLANDS: As Defined by the US Army Corps of Engineers
2. STEEP SLOPES: Where the rise or fall of the land is equal to or exceeds 30% over a horizontal distance of 50 feet or greater measured perpendicular to the contour lines.
3. NATURAL WATERWAYS OR OPEN WATER: Including but not limited to: rivers, creeks, or streams. Identified as those areas where surface waters flow sufficiently to produce a defined channel or bed.
4. FLOODPLAINS: See definitions in Chapter 16 Section 3 of this Title.

5. CRUCIAL WILDLIFE HABITAT AREAS: As identified by the State Division of Wildlife Resources (DWR)
6. GEOLOGICAL HAZARD AREAS: Earthquake fault lines or areas prone to debris flows, landslides, high or extreme liquefaction potential, and rock falls as identified by the US Geological Survey (USGS)
7. WILDFIRE HAZARD AREAS: Areas of the City designated as having moderate to extreme potential for wildfire hazards as identified by the City.
8. HAZARD WATER TABLE AREA: An area where potential ground water levels may occur within 12 feet of the natural grade.

By submitting this application, I affirm that I have read and understand the Title 10 Chapter 5 requirements for construction on property in the Sensitive or Hazard Area. I understand that the City is not liable for any issues which may arise because of the construction of structures in the Sensitive or Hazard Areas of the City. The property owner and their agents assume all liability for placing structures in this area of the City. I hereby certify that I am the property owner or authorized agent and I have read and examined this application and understand that the City has no liability. I accept responsibility for all soils and hazardous conditions on the site.

I declare under penalty of perjury that I am making this application of my own free will and choice and that the statements, answers, and documents submitted in connection with this application are true and correct to the best of my knowledge.

Kye Raymond	Kye Raymond	7/14/20
Signature of Applicant	Printed Name	Date

Public Works Infrastructure Inspection

Project Address: 681 Spring Creek Pkwy
Contact Name: Matthew (Orchid Homes)
Phone Number: 435-535-1832

Inspection	Pass/Fail	Notes
Concrete	Pass	
Curb/Gutter	Pass	
Utilities	Pass	
☒ **Conditional Use Fire Hydrants: Location Flow**	Hyd. 500	Static = 158 psi Residual = 110 psi Flow = 1600 gpm Logarithmic = 2829 gpm
SWPPP Needed: Yes **No**		SWPPP Completed: Yes No **N/A**
NOI Needed: Yes No		NOI UTR:_____ - _____ NOI Issued To:_____
Inspection Completed by_____		Date 7.29.2020

Final Inspection	Pass/Fail	Notes
Concrete		
Curb/Gutter		
Utilities		
Inspection Completed by_____		Date_____

Cache County
1857

Development Services Department

Building | GIS | Planning | CPDO | Trails

GIS PARCEL SUMMARY

Not Authoritative — For Preliminary Review Only

Generated on 13 Jul. 2020 at 01:57 PM

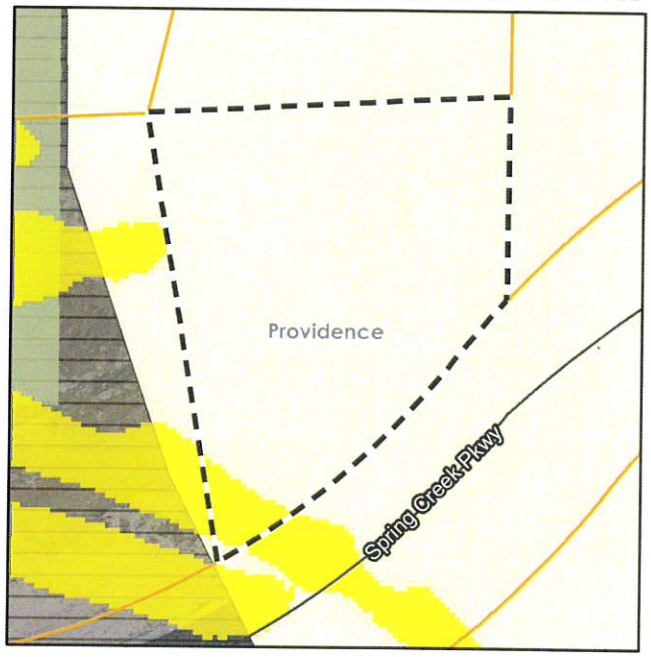
Parcel Number: 02-295-0329

Property Address: 681 SPRING CREEK PARKWAY
PROVIDENCE

Tax Roll Acreage: 0.29

Owner Name: JOHN C & JULEE ANN SANCHEZ

Owner Address: 50 S 410 W
PROVIDENCE, UT 84332-6104



Comprehensive maps can be found at www.cachecounty.org/gis

Jurisdiction: Providence

Future Annexation Area: n/a

Base Zone: Contact Providence for Zoning

Overlay Zone: n/a

Initial Parcel Legality Review: Incorporated Area
Contact Providence for Applicable Regulations

NOTE: *Parcel legality does **NOT** guarantee that a parcel or lot is buildable; it is only one step in the development process. All other requirements must still be met. Parcel legality should be verified before submitting a land use application.*

Areas That May Require Further Analysis

Moderate Slopes | Landslides | Wildfire Hazard Areas

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This overview is based on the information in the Cache County GIS databases. Please verify the potential presence of areas requiring further analysis with the County's webmaps. Sections 17.10, 17.17, and 17.18 of the Cache County Land Use Ordinance contain the development standards and requirements associated with these areas. The definition of "Parcel/Lot" in Section 17.07.040 outlines parcel legality.

Cache County assumes no liability for any errors, omissions, or inaccuracies in the information provided regardless of the cause of such or for any decision made, action taken, or action not taken by the user in reliance upon any maps or information provided herein. All datasets may contain errors. The information shown here is not intended to replace evaluation by a competent, licensed professional. In particular, the parcel boundaries are representational only and are not legal definitions of real property, nor are they intended to replace a land survey by a licensed surveyor.

July 29, 2020

Providence City
164 North, Gateway Dr.
Providence, Ut 84332

RE: Conditional Use Review, Sanchez Home, 681 Spring Creek Pkwy, Providence Ut.

The above-named site plans have been submitted to the Logan Fire Department for a fire and life safety review. This review was made in the interest of the fire safety provisions and regulations as adopted by the State of Utah and in accordance with the International Fire Code. This review is not considered comprehensive nor regarded as sanctioning any code deficiencies not identified. The ultimate responsibility for compliance with the applicable codes, standards and ordinances rests with the owner.

This project was reviewed using 2018 IFC, 2006 Utah Wildland-Urban Interface Code and Providence City Code Title 10, Chapter 5 for Hazard Wildfire Area, and has been found to meet the intent of the codes.

This project is being recommended to Providence City for approval.

The following comments document the review process:

Access

(IFC 503.1.1) Fire Apparatus Access shall extend to within 150 feet of all portions of the facility as measured by an approved route around the exterior of the building.

- **Access is adequate from Spring Creek Parkway.**

Fire Hydrant Locations and number of Hydrants

(IFC 507.5.1) Fire Hydrants shall be located within 400 feet of the building as measured by an approved route around the exterior of the building. Exception allows for the distance to be increased to 600 feet for R-3 occupancies.

- **There are several hydrants within 600 feet of the proposed residence.**

Fire Water Flow

(IFC 507.1) An approved water supply capable of supplying the required fire flow for fire protection shall be provided to premises upon which facilities, building or portions of buildings are hereafter constructed or moved into or within the jurisdiction. (IFC 507.3) Fire flow requirements for buildings or portions of building and facilities shall be determine by an approved method.

- The building appears to be approx. 5,283 sq. ft. in size. According to Table B105.1 and B105.2, the fire flow for a combined fire area 5,283 sq. ft. of type V-B is 2,000 GPM at 20 PSI. Fire Flow requirements are subject to change due to separation of fire areas, type of construction, and the installation of fire suppression system.
- **There are three fire hydrants within 600 feet of the proposed site.**
- **Hydrant #500 closest to the building site has approximately 2,829 GPM at 20 PSI and is adequate for this size of construction**

2006 Utah Wildland-Urban Interface Code

SECTION 506 Class 3 - Ignition-resistant Construction:

506.1 General. Class 3 ignition-resistant construction shall be in accordance with Sections 506.

506.2 Roof covering. Roofs shall have at least a Class A covering, Class C roof assembly or an approved noncombustible roof covering. For roof coverings where the profile allows a space between the roof covering and roof decking, the space at the eave ends shall be fire-stopped to preclude entry of flames or embers. (No wood shakes or combustible roofing used) Per phone discussion with Matt at Orchid Homes **- Builder is planning on a Class A roof covering. Approved.**

506.3 Unenclosed under-floor protection. Buildings or structures shall have all under-floor areas enclosed to the ground with exterior walls. Exception: Complete enclosure may be omitted where the underside of all exposed floors and all exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy timber construction. (Per County Fire Marshal - Soffits to be installed as to close underside of combustible decks and supported structures) Per phone discussion with Matt at Orchid Homes - **Builder is planning on closing all underfloor decks and eaves with soffits. Approved.**

506.4 Vents. Attic ventilation openings, soffit vents, foundation or under-floor vents or other ventilation openings in vertical exterior walls and vents through roofs shall not exceed 144 square inches each. Such vents shall be covered with noncombustible corrosion resistant mesh with openings not to exceed 1/8 inch. Per phone discussion with Matt at Orchid Homes - **Home Builder is planning on installing 1/8" mesh screen on all openings. Approved.**

Providence City Code Title 10, Chapter 5 for Hazard Wildfire Area

Property owners are encouraged to implement the following:

- Construct the roof with fire-resistant materials like tile or metal, asphalt or fiberglass shingles. Clean roof surfaces and gutters of pine needles, leaves, branches, etc. regularly to avoid accumulation of flammable materials.

- Inspect your property regularly, clearing dead wood and dense vegetation from at least 30' around your house. Rake piles of leaves and twigs. If on a hill, more space will be needed to protect your home. A fuel break should be maintained around all structures.

- Move firewood away from the house or attachments like fences or decks.

- Cover vents with wire mesh no larger than 1/8 of an inch to keep sparks from enter your home through vents.

- Driveways should be wide enough for firefighting equipment to maneuver.

If you have any questions, please call me.

Respectfully,

FIRE DEPARTMENT

Aaron Walker
Deputy Fire Marshal/Fire Inspector
Logan Fire Department
435-716-9516

Sanchez Home

Mitigation Strategies.

The current terrain of the lot slopes from South East to North West. Currently from back of curb on the East side of the property to the west side (back of curb) There is a 17' elevation difference. Both front and back elevations on the West side of the Property are close in elevation heights(within reason) There is approximately a 3' fall in elevation from front to back on the east side of the Property.

Given these constraints this home will have a walkout basement . With this we will also need a about a 4'-6' retaining wall on the South East corner of the lot, as well as another 3'-4' retaining wall on the South West corner of the lot. All slopes are to be graded away from the home at a minimum of 1/4" per ft. Retaining wall plans are included in a geotechnical study done by CMT Engineering. The retaining walls will be built with rock boulders This will provide balance for the site both on the uphill, and down hill side of the property.

Adjacent Property Owners

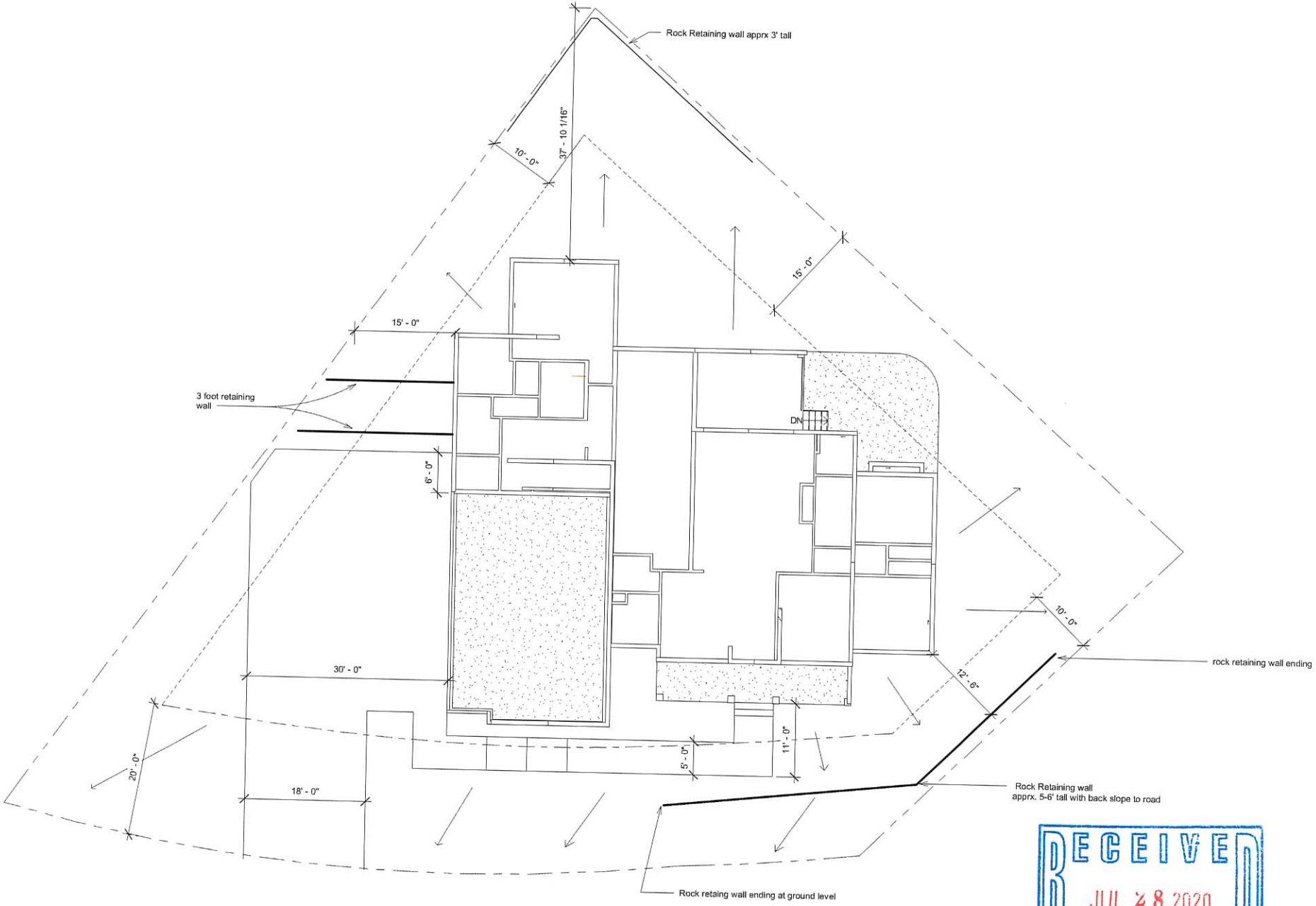
Sarah Street LLC
Parcel # 02-295-0320
Mailing address
540 West Golf Course Road
Logan, Utah 84321

AJ Addison Inc.
Parcel # 02-295-0321
Mailing address
PO Box 282
Providence, Utah 84323

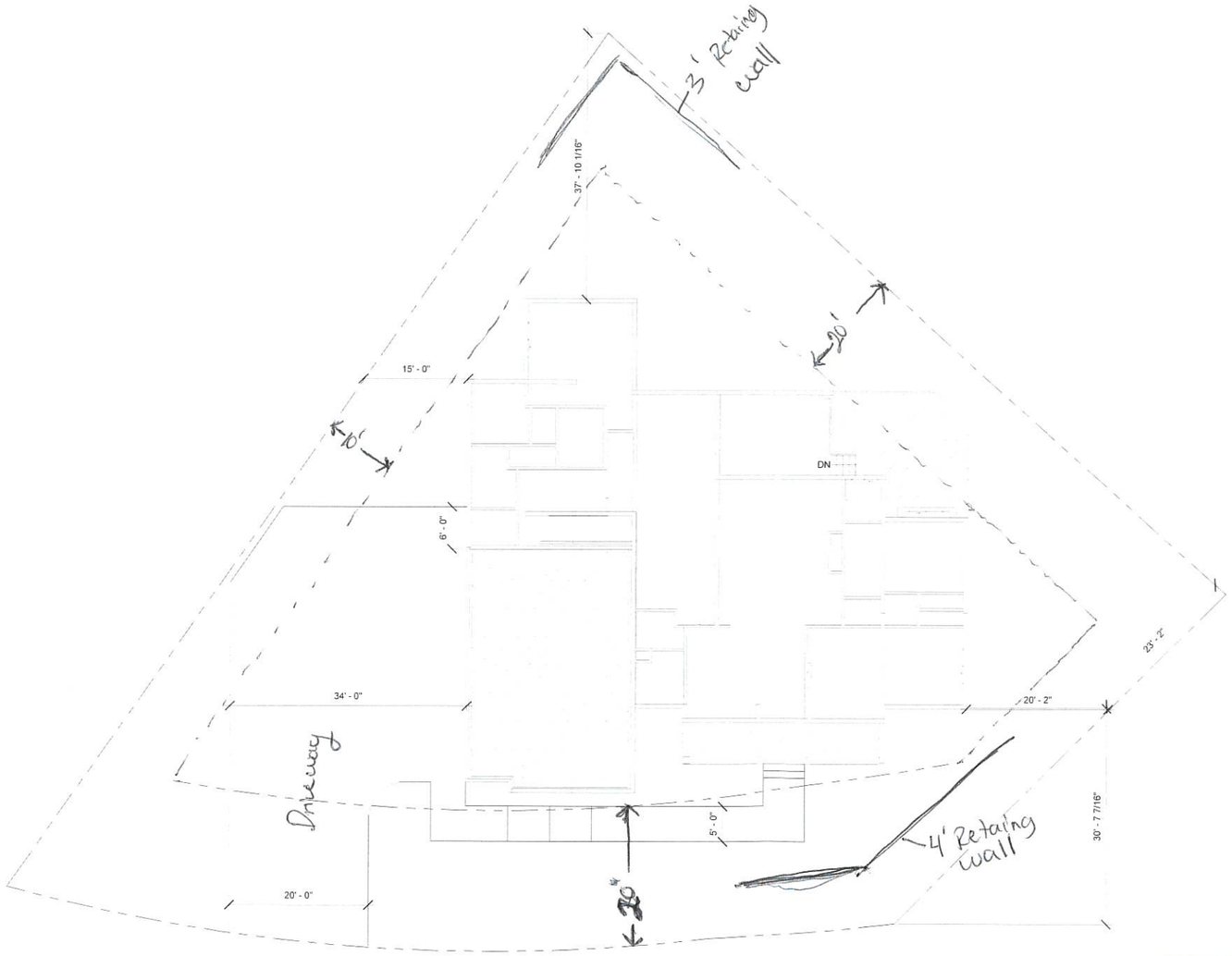
Michael and Tia Montgomery
Parcel # 02-295-0322
Mailing address
1148 West 1780 South
Logan, Utah 84321



Sanchaze Home



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By



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JUL 29 2020
By

ORCHIDHOMES

"home building your way"

SANCHEZ HOME
PROVIDENCE HOLLOW
LOT 29
681 SPRING CREEK PARKWAY

county stamp

John and Julee Sanchez

Site Plan

Project number	Project Number
Date	Issue Date
Drawn by	Author
Checked by	Checker

C1

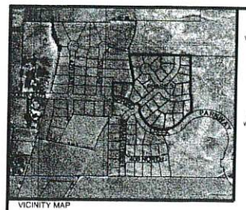
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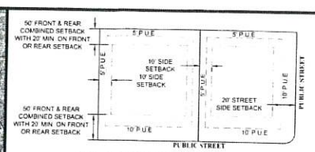
2019-3204

PROVIDENCE HOLLOW SUBDIVISION
PHASE 3

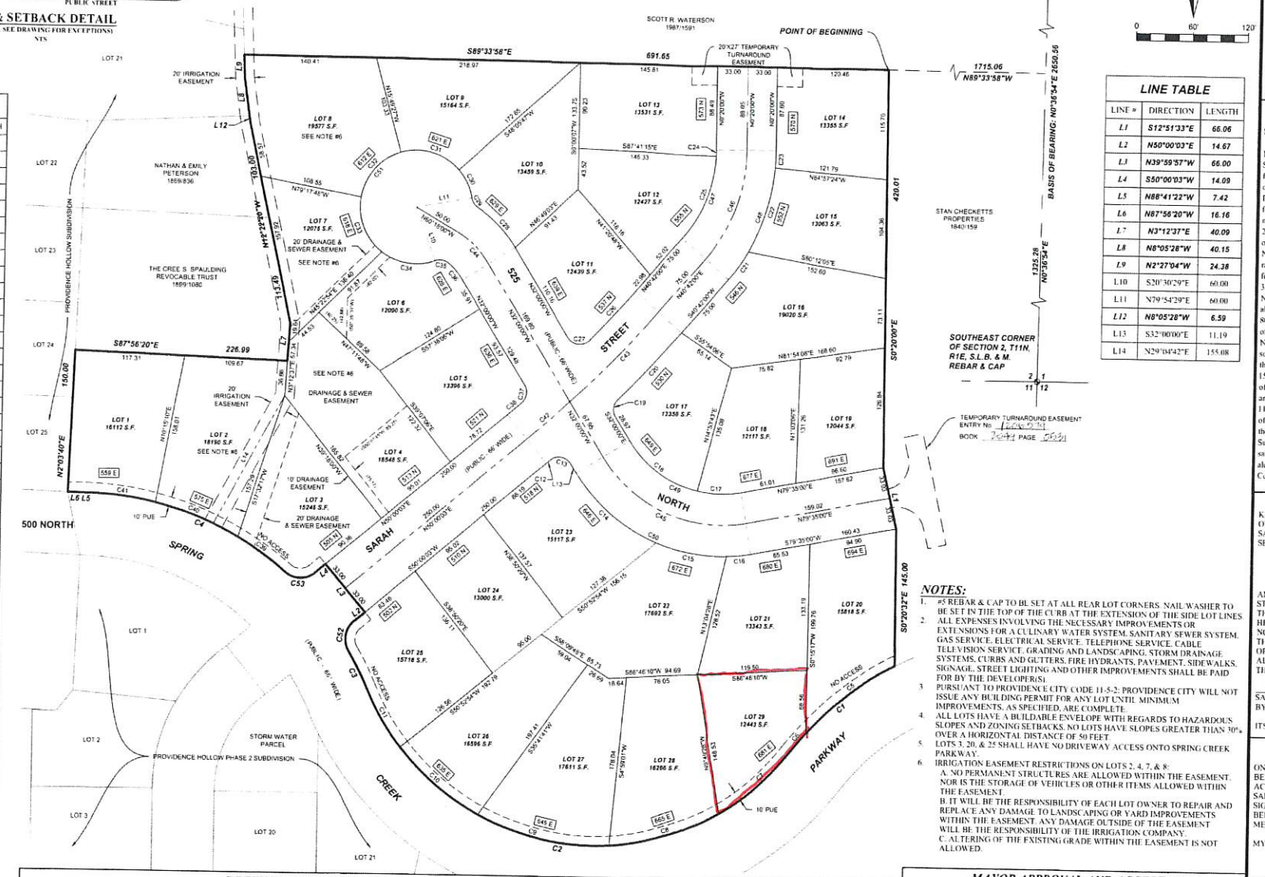
(INCLUDES THE VACATION OF PARCEL "C" & A PORTION OF PARCEL "D", LITTLE BALDY SUBDIVISION)
LOCATED IN THE SE1/4 OF SECTION 2, T11N, R1E, SLB& M
PROVIDENCE, UTAH



VICINITY MAP



PUE & SETBACK DETAIL
(TYPICAL SEE DRAWING FOR EXCEPTIONS)
NTS



CURVE TABLE

CURVE #	RADIUS	DELTA	LENGTH	CHORD DIRECTION	CHORD LENGTH
C1	***338.00***	***24°52'13"***	***146.72***	***S50°37'25"W***	***145.57***
C2	***267.00***	***118°41'18"***	***553.09***	***N82°28'03"W***	***459.37***
C3	***333.00***	***7°29'14"***	***43.52***	***N27°00'22"W***	***43.48***
C4	***330.00***	***39°50'21"***	***229.46***	***N69°02'02"W***	***224.86***
C5	338.00	20°18'57"	119.85	S52°54'03"E	119.22
C6	338.00	4°33'16"	26.87	N40°27'56"E	26.86
C7	267.00	21°46'57"	101.51	N49°04'47"E	100.90
C8	267.00	26°24'19"	123.05	N73°10'25"E	121.96
C9	267.00	31°19'37"	145.99	S75°57'37"E	144.17
C10	267.00	23°42'02"	110.45	S50°26'47"E	109.66
C11	267.00	15°28'23"	72.10	S30°51'35"E	71.89
C12	1233.00	0°15'04"	5.41	N49°52'31"E	5.41
C13	15.00	90°15'01"	25.72	S81°07'31"E	22.68
C14	183.00	35°59'13"	114.94	S49°59'37"E	113.06
C15	183.00	24°06'50"	77.02	N80°02'38"W	76.45
C16	183.00	8°18'57"	26.56	S83°44'29"W	26.54
C17	117.00	23°21'46"	47.71	S88°44'07"E	47.38
C18	117.00	45°03'14"	92.00	S54°31'37"E	89.65
C19	15.00	77°15'58"	20.23	S6°37'59"W	18.73
C20	1233.00	4°33'58"	98.26	S42°58'59"W	98.24
C21	208.00	10°00'04"	36.31	S35°41'58"W	36.26
C22	208.00	25°59'10"	94.34	S17°42'21"W	93.53
C23	208.00	5°02'46"	18.32	S2°11'23"E	18.31
C24	142.00	2°38'30"	6.55	N0°59'15"E	6.55
C25	142.00	38°23'30"	95.15	S21°30'15"W	93.38
C26	1167.00	3°20'05"	70.98	S42°26'33"W	70.97
C27	15.00	103°48'55"	27.18	N83°54'27"W	23.61
C28	133.00	25°22'07"	58.89	S44°29'12"E	58.41
C29	15.00	47°15'28"	12.37	S33°43'14"E	12.02
C30	66.00	31°31'50"	33.02	S25°51'26"E	32.60
C31	60.00	65°16'09"	68.35	N74°15'25"W	64.71
C32	60.00	63°38'06"	66.64	S41°17'28"W	63.27
C33	60.00	62°35'23"	65.54	S21°49'17"E	62.33
C34	60.00	57°23'31"	60.10	S81°48'44"E	57.62
C35	15.00	58°33'13"	15.33	S81°13'53"E	14.67
C36	67.00	20°02'38"	23.44	S40°37'50"E	23.32
C37	15.00	81°03'24"	21.22	N8°31'42"E	19.49
C38	1167.00	0°56'09"	19.23	N49°31'44"E	19.23
C39	330.00	10°59'22"	62.43	S54°32'02"E	62.34
C40	330.00	16°33'30"	95.37	N46°13'58"W	95.04
C41	330.00	12°26'29"	71.66	S82°43'58"E	71.52
C42	1200.00	2°54'33"	60.93	N48°32'46"E	60.92
C43	1200.00	6°23'30"	133.87	N43°55'45"E	133.80
C44	100.00	28°18'00"	49.39	N46°09'00"W	48.89
C45	150.00	68°25'00"	179.11	S66°12'30"E	168.66
C46	175.00	41°02'00"	125.33	N20°11'00"E	122.67
C47	142.00	41°02'00"	101.70	N20°11'00"E	99.54
C48	208.00	41°02'00"	148.96	N20°11'00"E	145.80
C49	117.00	68°25'00"	139.71	S66°12'30"E	131.56
C50	183.00	68°25'00"	218.52	S66°12'30"E	205.77
C51	60.00	140°12'29"	146.83	N80°11'45"W	112.84
C52	***25.00***	***80°18'30"***	***35.04***	***N9°50'48"E***	***32.24***
C53	***25.00***	***80°52'48"***	***35.29***	***N89°33'37"W***	***32.43***

LINE TABLE

LINE #	DIRECTION	LENGTH
L1	***S12°51'33"E***	***66.06***
L2	***N50°00'03"E***	***14.67***
L3	***N39°59'57"W***	***66.00***
L4	***S50°00'03"W***	***14.09***
L5	***N88°41'22"W***	***7.42***
L6	***N87°56'20"W***	***16.16***
L7	***N3°12'37"E***	***40.09***
L8	***N8°05'28"W***	***40.15***
L9	***N2°27'04"W***	***24.38***
L10	S28°30'29"E	60.00
L11	N79°54'29"E	60.00
L12	***N8°05'28"W***	***6.59***
L13	S32°00'00"E	11.19
L14	N29°04'42"E	155.08

NOTES:
1. #5 REBAR & CAP TO BE SET AT ALL REAR LOT CORNERS. NAIL WASHER TO BE SET IN TOP OF THE CURB AT THE EXTENSION OF THE SIDE LOT LINES
2. ALL EXPENSES INVOLVING THE NECESSARY IMPROVEMENTS OR EXTENSIONS FOR A CULINARY WATER SYSTEM, SANITARY SEWER SYSTEM, GAS SERVICE, ELECTRICAL SERVICE, TELEPHONE SERVICE, CABLE TELEVISION SERVICE, GRADING AND LANDSCAPING, STORM DRAINAGE SYSTEMS, CURBS AND GUTTERS, FIRE HYDRANTS, PAVEMENT, SIDEWALKS, SIGNAGE, STREET LIGHTING AND OTHER IMPROVEMENTS SHALL BE PAID FOR BY THE DEVELOPER(S).
3. PURSUANT TO PROVIDENCE CITY CODE 11-5-2: PROVIDENCE CITY WILL NOT ISSUE ANY BUILDING PERMIT FOR ANY LOT UNTIL MINIMUM IMPROVEMENTS, AS SPECIFIED, ARE COMPLETE.
4. ALL LOTS HAVE A BUILDABLE ENVELOPE WITH REGARDS TO HAZARDOUS SLOPES AND ZONING SETBACKS. NO LOTS HAVE SLOPES GREATER THAN 30% OVER A HORIZONTAL DISTANCE OF 50 FEET.
5. LOTS 3, 20, & 25 SHALL HAVE NO DRIVEWAY ACCESS ONTO SPRING CREEK PARKWAY.
6. IRRIGATION EASEMENT RESTRICTIONS ON LOTS 2, 4, 7, & 8:
   A. NO PERMANENT STRUCTURES ARE ALLOWED WITHIN THE EASEMENT, NOR IS THE STORAGE OF VEHICLES OR OTHER ITEMS ALLOWED WITHIN THE EASEMENT.
   B. IT WILL BE THE RESPONSIBILITY OF EACH LOT OWNER TO REPAIR AND REPLACE ANY DAMAGE TO LANDSCAPING OR YARD IMPROVEMENTS WITHIN THE EASEMENT. ANY DAMAGE OUTSIDE OF THE EASEMENT WILL BE THE RESPONSIBILITY OF THE IRRIGATION COMPANY.
   C. ALTERING OF THE EXISTING GRADE WITHIN THE EASEMENT IS NOT ALLOWED.

SURVEYOR'S CERTIFICATE

I, DENNIS P. CARLISLE, DO HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR, AND THAT I HOLD CERTIFICATE NO. 172675 IN ACCORDANCE WITH TITLE 58, CHAPTER 22 OF UTAH STATE CODE. I FURTHER CERTIFY BY AUTHORITY OF THE OWNER(S) THAT I HAVE COMPLETED A SURVEY OF THE PROPERTY DESCRIBED ON THIS PLAT IN ACCORDANCE WITH SECTION 17-23-17 OF SAID CODE, AND HAVE ALSO SUBDIVIDED SAID TRACT OF LAND INTO LOTS, BLOCKS, STREETS, AND EASEMENTS, AND THE SAME HAS, OR WILL BE CORRECTLY SURVEYED, STAKED AND MONUMENTED ON THE GROUND AS SHOWN ON THIS PLAT, AND THAT THIS PLAT IS TRUE AND CORRECT.

Nov. 5, 2018
DENNIS P. CARLISLE — DATE
PROFESSIONAL LAND SURVEYOR
CERTIFICATE NO. 172675

BOUNDARY DESCRIPTION

A portion of the SE1/4 of Section 2, Township 11 North, Range 1 East, Salt Lake Base & Meridian, Providence, Utah, more particularly described as follows:

Beginning at a point located 50°36'54"E along the Section line 1,325.28 feet and N89°33'58"W along the 40-acre (1/16th Section) line 1,715.06 feet from the Southeast Corner of Section 2, T11N, R1E, SLB& M.; thence S0°20'02"E 420.01 feet; thence S12°51'33"E 66.06 feet; thence S0°20'02"E 145.00 feet to the northerly right-of-way line of Spring Creek Parkway as defined and described as part of LITTLE BALDY PLACE Subdivision, according to the Official Plat thereof on file in the Office of the Cache County Recorder; thence along said right-of-way the following 9 (nine) courses and distances: Southwesterly along the arc of a 338.00 foot radius non-tangent curve (radius bears: S26°56'28"E) to the left 146.72 feet through a central angle of 24°52'13" (chord: S50°37'25"W 145.57 feet) to a point of reverse curvature; thence along the arc of a 267.00 foot radius curve to the right 553.09 feet through a central angle of 118°41'18" (chord: N82°28'03"W 459.37 feet) to a point of reverse curvature; thence along the arc of a 333.00 foot radius curve to the left 43.52 feet through a central angle of 7°29'14" (chord: N27°00'22"W 43.48 feet) to a point of reverse curvature; thence along the arc of a 25.00 foot radius curve to the right 35.04 feet through a central angle of 80°18'30" (chord: N9°50'48"E 32.24 feet); thence N50°00'03"E 14.67 feet; thence N39°59'57"W 66.00 feet; thence S50°00'03"W 14.09 feet; thence along the arc of a 25.00 foot radius curve to the right 35.29 feet through a central angle of 80°52'48" (chord: N89°33'37"W 32.43 feet) to a point of reverse curvature; thence along the arc of a 330.00 foot radius curve to the left 229.46 feet through a central angle of 39°50'21" (chord: N69°02'02"W 224.86 feet); thence N88°41'22"W 7.42 feet; thence N87°56'20"W 16.16 feet to the southeast corner of Lot 25, PROVIDENCE HOLLOW Subdivision, according to the Official Plat thereof on file in the Office of the Cache County Recorder; thence N2°03'40"E along said Plat 150.00 feet to the southeast corner of that Real Property described in Deed Book 1899 Page 1080 of the Official Records of Cache County; thence along said deed the following 3 (three) courses and distances: S87°56'20"E 226.99 feet; thence N3°12'37"E 40.09 feet; thence N12°22'20"W 113.49 feet to the southeast corner of that Real Property described in Deed Book 1869 Page 836 of the Official Records of Cache County; thence N12°22'20"W along said deed 103.00 feet; thence N8°05'28"W along said deed 6.59 feet to the southeast corner of Lot 21 of said Subdivision; thence N8°05'28"W along said Subdivision 40.15 feet; thence N2°27'04"W along said Subdivision 24.38 feet to the north line of the South 1/2 of said SE1/4; thence S89°33'58"E along the 40-acre (1/16th Section) line 691.65 feet to the point of beginning.

Contains: 12.03+/- acres

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENT THAT WE, THE UNDERSIGNED ARE THE OWNERS OF THE ABOVE DESCRIBED TRACT OF LAND, AND HEREBY CAUSE THE SAME TO BE DIVIDED INTO LOTS, AND STREETS, TOGETHER WITH EASEMENTS AS SET FORTH TO BE HEREAFTER KNOW AS

PROVIDENCE HOLLOW SUBDIVISION
PHASE 3

AND DO HEREBY DEDICATE FOR THE PERPETUAL USE OF THE PUBLIC ALL STREETS, WATER, SEWER, STORM DRAIN, ETC AND OTHER AREAS SHOWN ON THIS PLAT AS INTENDED FOR PUBLIC USE. THE UNDERSIGNED OWNERS ALSO HEREBY CONVEY TO ANY AND ALL PUBLIC UTILITY COMPANIES A PERPETUAL, NON-EXCLUSIVE EASEMENT OVER THE PUBLIC UTILITY EASEMENTS SHOWN ON THIS PLAT, THE SAME TO BE USED FOR THE INSTALLATION, MAINTENANCE AND OPERATION OF UTILITY LINES AND FACILITIES. THE UNDERSIGNED OWNERS ALSO HEREBY CONVEY ANY OTHER EASEMENTS AS SHOWN ON THIS PLAT TO THE PARTIES INDICATED AND FOR THE PURPOSES SHOWN HEREON.

_____ (SIGNATURE)
SARAH STREET, LLC
BY: _____ (PRINTED NAME)
ITS: _____

LIMITED LIABILITY ACKNOWLEDGMENT

ON THIS ___ DAY OF _____, 20__, PERSONALLY APPEARED BEFORE ME _____ WHO AFTER BEING DULY SWORN, DID ACKNOWLEDGE TO ME THAT THEY ARE THE _____ OF SARAH STREET, LLC, A UTAH LIMITED LIABILITY COMPANY AND THAT THEY SIGNED THE OWNER'S DEDICATION FREELY AND VOLUNTARILY FOR AND IN BEHALF OF SAID LIMITED LIABILITY COMPANY FOR THE PURPOSES THEREIN MENTIONED.

MY COMMISSION EXPIRES: _____
NOTARY PUBLIC (SIGNATURE)
RESIDING IN _____ COUNTY
MY COMMISSION No. _____
PRINTED FULL NAME OF NOTARY

ROCKY MOUNTAIN POWER

1. PURSUANT TO UTAH CODE ANN. § 54-3-27 THIS PLAT CONVEYS TO THE OWNER(S) OR OPERATORS OF UTILITY FACILITIES A PUBLIC UTILITY EASEMENT ALONG WITH ALL THE RIGHTS AND DUTIES DESCRIBED THEREIN.

2. PURSUANT TO UTAH CODE ANN. § 17-27A-603(4)(c)(ii) ROCKY MOUNTAIN POWER ACCEPTS DELIVERY OF THE PUE AS DESCRIBED IN THIS PLAT AND APPROVES THIS PLAT SOLELY FOR THE PURPOSE OF CONFIRMING THAT THE PLAT CONTAINS PUBLIC UTILITY EASEMENTS AND APPROXIMATES THE LOCATION OF THE PUBLIC UTILITY EASEMENTS, BUT DOES NOT WARRANT THEIR PRECISE LOCATION. ROCKY MOUNTAIN POWER MAY REQUIRE OTHER EASEMENTS IN ORDER TO SERVE THIS DEVELOPMENT. THIS APPROVAL DOES NOT AFFECT ANY RIGHT THAT ROCKY MOUNTAIN POWER HAS UNDER:
(1) A RECORDED EASEMENT OR RIGHT OF WAY
(2) THE LAW APPLICABLE TO PRESCRIPTIVE RIGHTS
(3) TITLE 54, CHAPTER 8a, DAMAGE TO UNDERGROUND FACILITIES OR
(4) ANY OTHER PROVISION OF LAW.

UTILITY COMPANIES

THE UTILITY EASEMENTS SHOWN ON THIS PLAT HAVE BEEN REVIEWED AND ARE APPROVED

DOMINION ENERGY* _____ DATE _____ ROCKY MOUNTAIN POWER _____ DATE 11/9/2018
COMCAST CABLE _____ DATE 12-3-18 CENTURYLINK COMMUNICATIONS _____ DATE _____

*DOMINION ENERGY APPROVES THIS PLAT SOLELY FOR THE PURPOSE OF CONFORMING THAT THE PLAT CONTAINS PUBLIC UTILITY EASEMENTS. DOMINION ENERGY MAY REQUIRE OTHER EASEMENTS IN ORDER TO SERVE THIS DEVELOPMENT. THIS APPROVAL DOES NOT CONSTITUTE ABROGATION OR WAIVER OF ANY EXISTING RIGHTS, OBLIGATIONS OR LIABILITIES PROVIDED BY LAW OR EQUITY. THIS APPROVAL DOES NOT CONSTITUTE ACCEPTANCE, APPROVAL OR ACKNOWLEDGMENT OF ANY TERMS CONTAINED IN THIS PLAT, INCLUDING THOSE SET IN THE OWNERS DEDICATION AND THE NOTES AND DOES NOT CONSTITUTE A GUARANTEE OF PARTICULAR TERMS OF NATURAL GAS SERVICE. FOR FURTHER INFORMATION PLEASE CONTACT DOMINION ENERGY'S RIGHT-OF-WAY DEPARTMENT AT 1-800-366-8532.

COUNTY SURVEYOR'S CERTIFICATE

I CERTIFY THAT I HAVE EXAMINED THIS PLAT AND FIND IT TO BE CORRECT AND IN ACCORDANCE WITH THE INFORMATION ON FILE IN THIS OFFICE AND FURTHER CERTIFY THAT IT MEETS THE MINIMUM STANDARDS FOR PLATS REQUIRED BY COUNTY ORDINANCE AND STATE LAW.

COUNTY SURVEYOR _____ DATE _____

CULINARY WATER AND SANITARY SEWER

APPROVED THIS ___ DAY OF _____, 20__, BY PROVIDENCE CULINARY WATER AUTHORITY AND SANITARY SEWER AUTHORITY

CULINARY WATER AND SANITARY SEWER AUTHORITY _____ DATE _____

ATTORNEY APPROVAL

APPROVED AS TO FORM THIS 29 DAY OF December, 2018

CITY ATTORNEY _____ DATE _____

MAYOR APPROVAL AND ACCEPTANCE

PRESENTED TO THE PROVIDENCE CITY MAYOR THIS 5th DAY OF January, 2019 AT WHICH TIME THIS SUBDIVISION WAS APPROVED AND ACCEPTED.

PROVIDENCE CITY MAYOR _____ DATE 1/3/19
PROVIDENCE CITY RECORDER _____ DATE 1-05-2019

PLANNING COMMISSION APPROVAL AND ACCEPTANCE

PRESENTED TO THE PROVIDENCE CITY PLANNING COMMISSION THIS 4th DAY OF December, 2018 AT WHICH TIME THIS SUBDIVISION WAS RECOMMENDED TO THE CITY COUNCIL FOR APPROVAL.

PLANNING COMMISSION CHAIR _____ DATE 2/4/19

ENGINEER'S CERTIFICATE

I CERTIFY THAT I HAVE EXAMINED THIS PLAT AND FIND IT TO BE CORRECT AND IN ACCORDANCE WITH THE INFORMATION ON FILE IN THIS OFFICE AND THE CITY ORDINANCE.

CITY ENGINEER _____ 10/9/18 DATE

civilsolutionsgroup inc.
CACHE VALLEY | P: 435.213.3762
SALT LAKE | P: 801.216.3192
UTAH VALLEY | P: 801.874.1432
info@civilsolutionsgroup.net
www.civilsolutionsgroup.net

PROVIDENCE HOLLOW SUBDIVISION
PHASE 3
(INCLUDES THE VACATION OF PARCEL "C" & A PORTION OF PARCEL "D", LITTLE BALDY SUBDIVISION)
LOCATED IN THE SE1/4 OF SECTION 2, T11N, RIE, SLB& M
PROVIDENCE, UTAH

RECORDED # 1211201
STATE OF UTAH, COUNTY OF CACHE, RECORDED AND FILED AT THE REQUEST OF: OWNER
DATE 8 JAN 2019 TIME 10:47 AM BOOK 2019 PAGE 3204
FEE $0
CACHE COUNTY RECORDER

CACHE COUNTY RECORDER — Michael L. Gleed — STATE OF UTAH

RECEIVED
JUL 23 2020
By

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"home building your way"

SANCHEZ HOME
PROVIDENCE HOLLOW
LOT 29
681 SPRING CREEK PARKWAY

county stamp

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John and Julee Sanchez

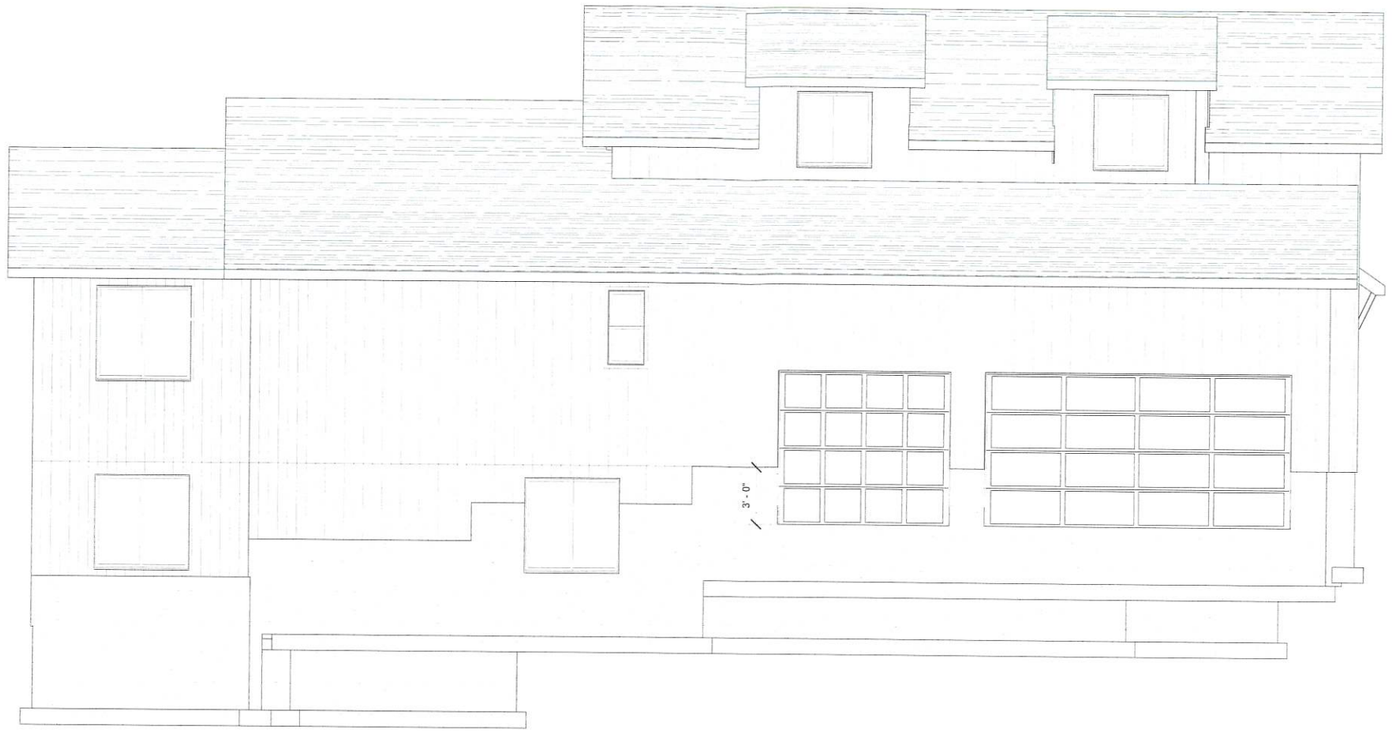
Elevations

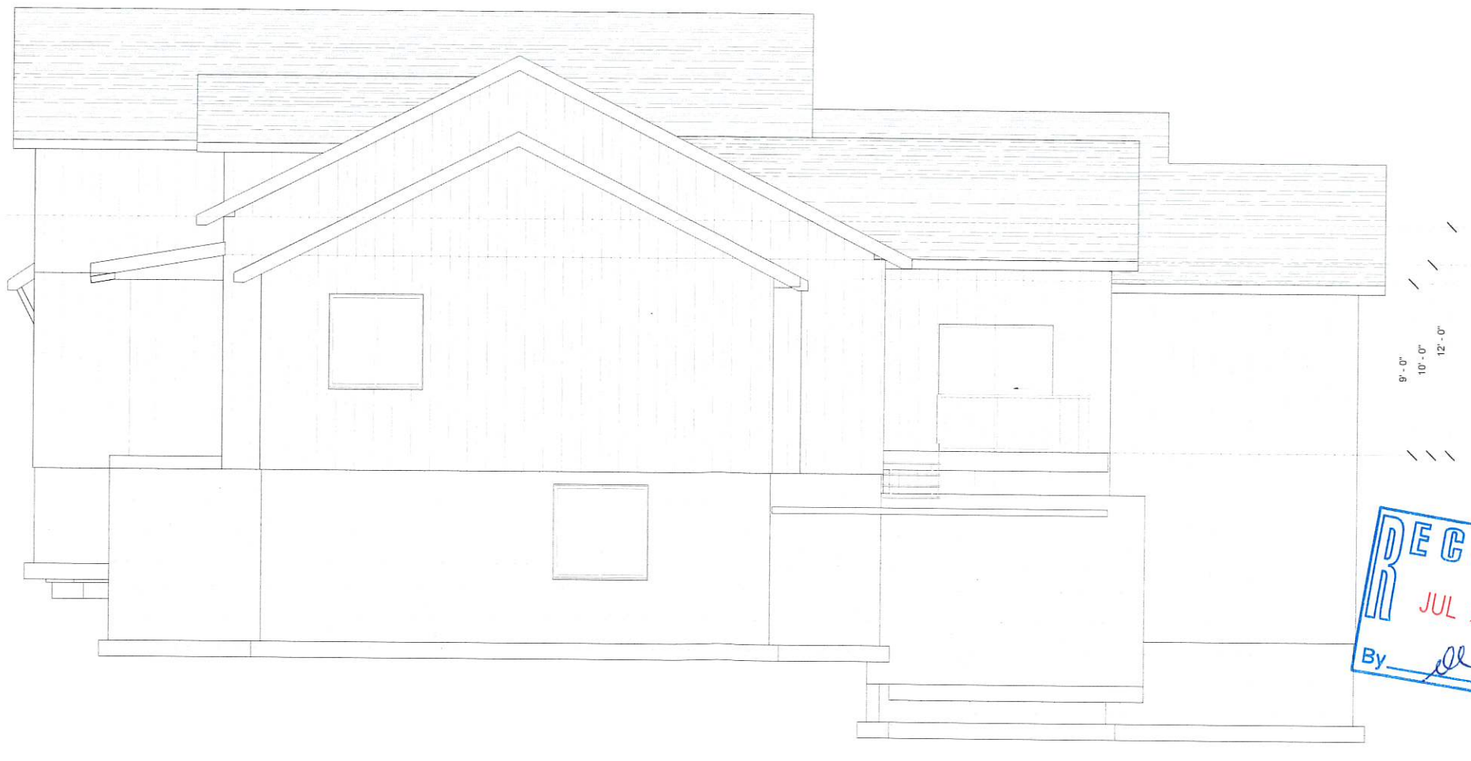
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Drawn by	Author
Checked by	Checker

A6

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LOT 29
681 SPRING CREEK PARKWAY

county stamp

John and Julee Sanchez

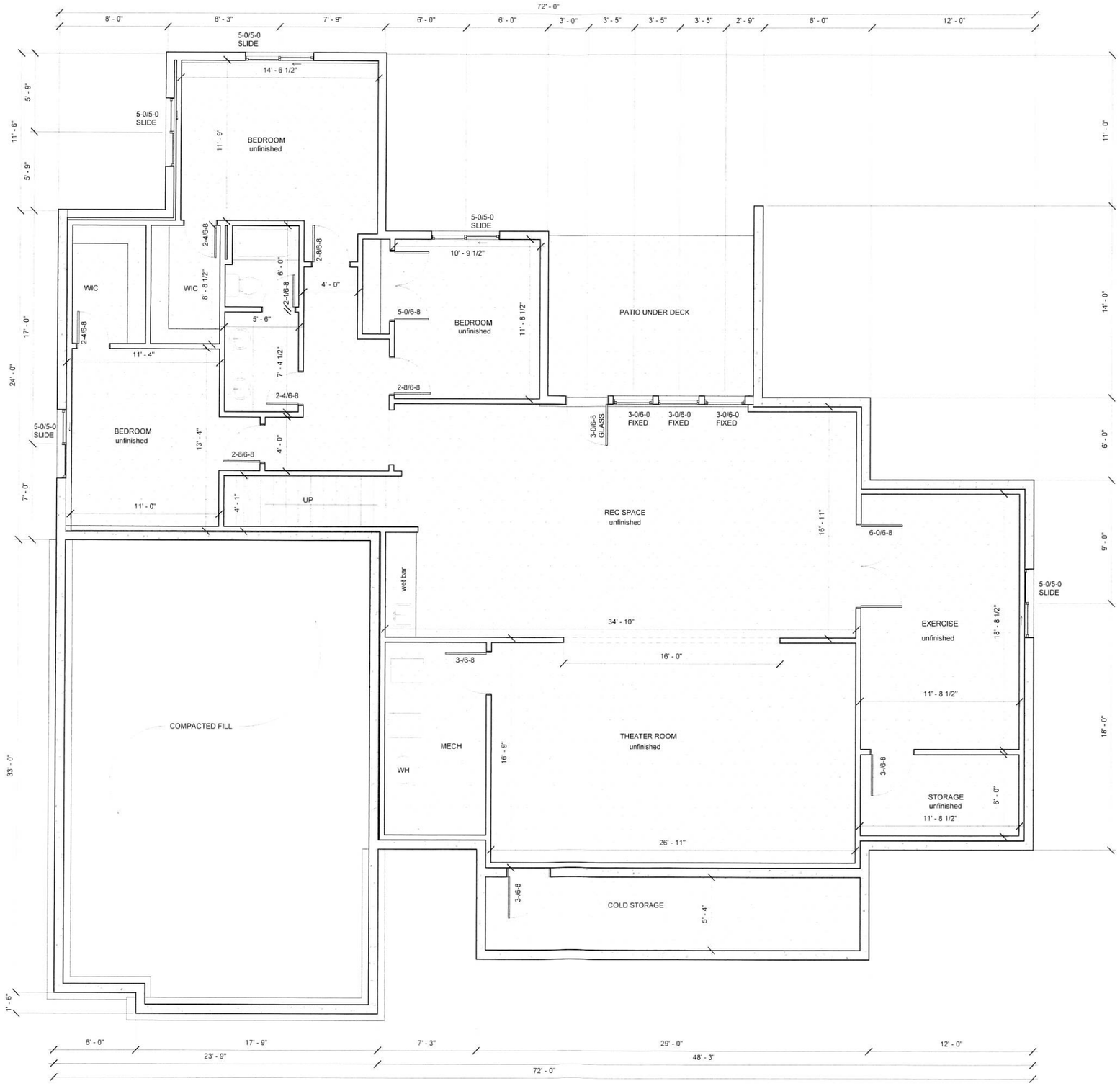
Elevations

Project number	Project Number
Date	Issue Date
Drawn by	Author
Checked by	Checker

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PROVIDENCE HOLLOW
LOT 29
681 SPRING CREEK PARKWAY

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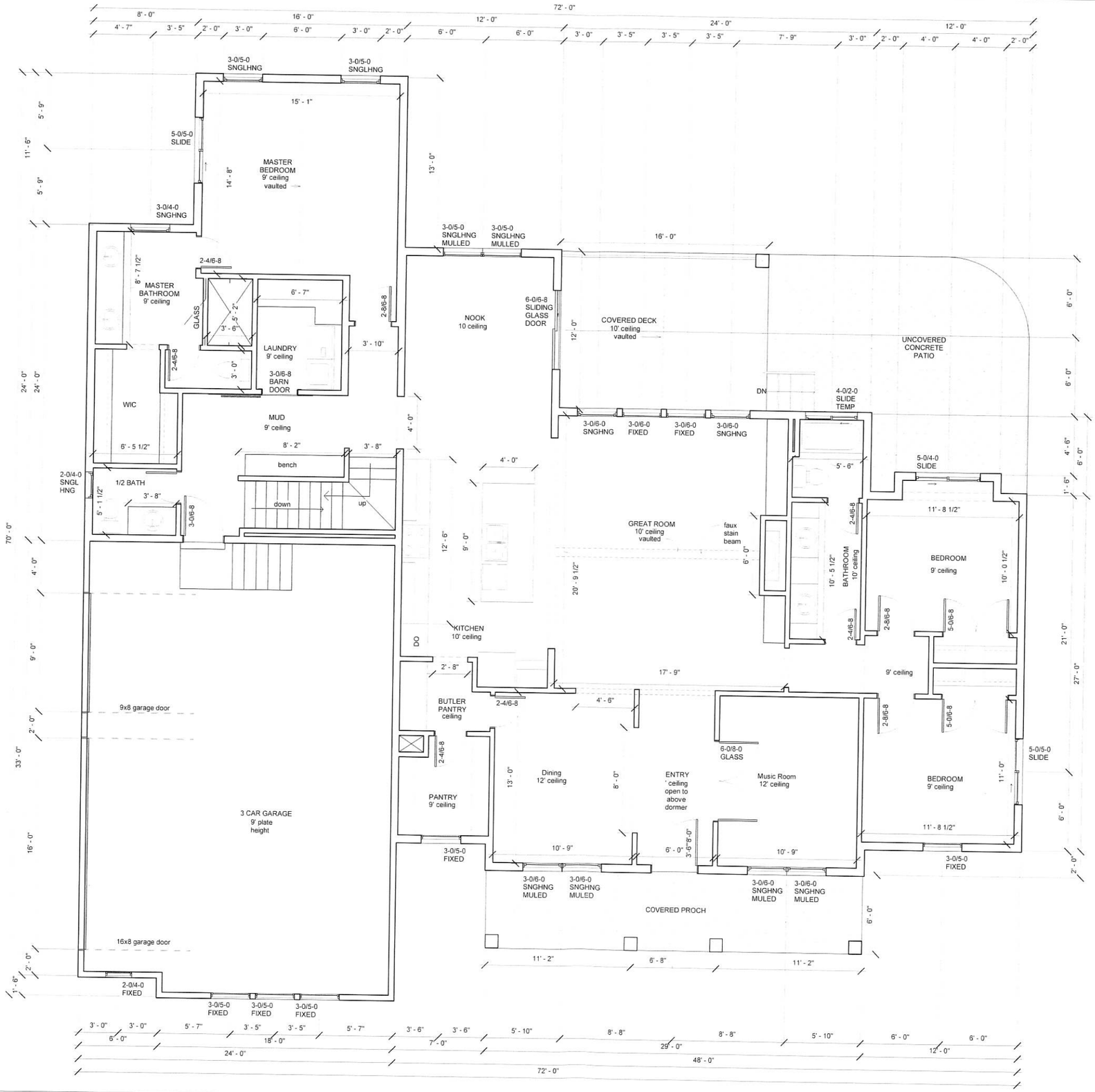
Basement Plan

Project number	Project Number
Date	Issue Date
Drawn by	Author
Checked by	Checker

A0

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PROVIDENCE HOLLOW
LOT 29
681 SPRING CREEK PARKWAY

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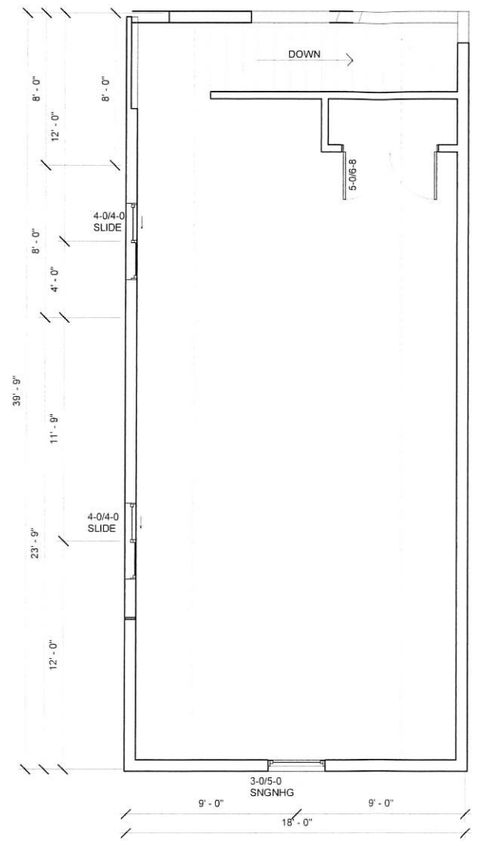
John and Julee Sanchez

First Floor Plan

Project number	Project Number
Date	Issue Date
Drawn by	Author
Checked by	Checker

A1

Scale 1/4" = 1'-0"



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SANCHEZ HOME
PROVIDENCE HOLLOW
LOT 29
681 SPRING CREEK PARKWAY

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John and Julee Sanchez

Second Floor Plan

Project number	Project Number
Date	Issue Date
Drawn by	Author
Checked by	Checker

A2

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PROVIDENCE HOLLOW
LOT 29
681 SPRING CREEK PARKWAY

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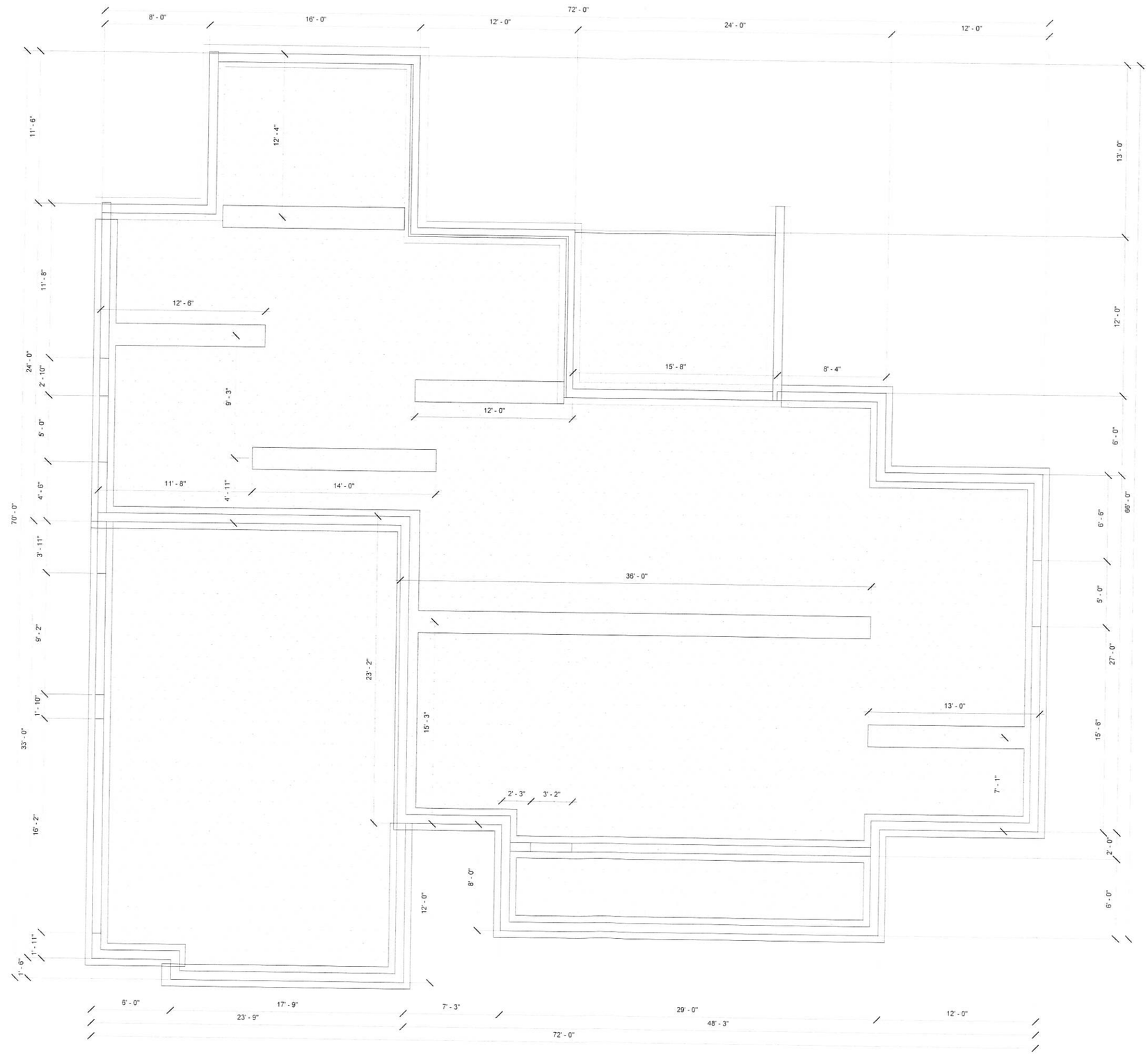
First Floor Electrical and Lighting

Project number	Project Number
Date	Issue Date
Drawn by	Author
Checked by	Checker

A3

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LOT 29
681 SPRING CREEK PARKWAY

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John and Julee Sanchez

Foundation Plan

Project number	Project Number
Date	Issue Date
Drawn by	Author
Checked by	Checker

S0

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CMT ENGINEERING LABORATORIES



ENGINEERING •GEOTECHNICAL •ENVIRONMENTAL (ESA I & II) •
MATERIALS TESTING •SPECIAL INSPECTIONS •
ORGANIC CHEMISTRY • PAVEMENT
DESIGN •GEOLOGY

GEOTECHNICAL ENGINEERING STUDY

Proposed Sanchez Residence

Lot 29 Providence Hollow
About 681 Spring Creek Parkway
Providence, Utah

CMT PROJECT NO. 14735

FOR:
Orchid Homes
491 North Main Street
Logan, Utah 84321

July 1, 2020

CMT ENGINEERING LABORATORIES

July 1, 2020

Mr. Matthew Payne
Orchid Homes
491 North Main Street
Logan, Utah 84321

Subject: Geotechnical Engineering Study
Proposed Sanchez Residence
Lot 29 Providence Hollow
About 681 Spring Creek Parkway
Providence, Utah
CMT Project No. 14735

Mr. Payne:

Submitted herewith is the report of our geotechnical engineering study for the subject site. This report contains the results of our findings and an engineering interpretation of the results with respect to the available project characteristics. It also contains recommendations to aid in the design and construction of the earth related phases of this project.

On June 3, 2020, a CMT Engineering Laboratories (CMT) geologist was on-site and supervised the excavation of 3 test pits extending to depths of about 12.5 to 13.5 feet below the existing ground surface. Soil samples were obtained during the field operations and subsequently transported to our laboratory for further testing and observation.

Conventional spread and/or continuous footings may be utilized to support the proposed residence, provided the recommendations in this report are followed. A detailed discussion of design and construction criteria is presented in this report.

We appreciate the opportunity to work with you at this stage of the project. CMT offers a full range of Geotechnical Engineering, Geological, Material Testing, Special Inspection services, and Phase I and II Environmental Site Assessments. With 9 offices throughout Utah, Idaho and Arizona, our staff is capable of efficiently serving your project needs. If we can be of further assistance or if you have any questions regarding this project, please do not hesitate to contact us at (801) 870-6730.

Sincerely,
CMT Engineering Laboratories

LICENSED PROFESSIONAL ENGINEER
374995
JEFFREY J. EGBERT
7/1/20
STATE OF UTAH

Jeffrey J. Egbert, P.E., LEED A.P., M. ASCE
Senior Geotechnical Engineer

Reviewed by:

Andrew M. Harris, P.E.
Geotechnical Division Manager

CMT ENGINEERING LABORATORIES

TABLE OF CONTENTS

1.0 INTRODUCTION **1**
1.1 General 1
1.2 Objectives, Scope and Authorization 2
1.3 Description of Proposed Construction 2
1.4 Executive Summary 2
2.0 FIELD EXPLORATION **3**
3.0 LABORATORY TESTING **3**
4.0 GEOLOGIC & SEISMIC CONDITIONS **4**
4.1 Geologic Setting 4
4.2 Faulting 6
4.3 Seismicity 6
4.3.1 Site Class 6
4.3.2 Seismic Design Category 7
4.3.3 Liquefaction 7
4.4 Slope Stability 7
4.5 Other Geologic Hazards 8
5.0 SITE CONDITIONS **8**
5.1 Surface Conditions 8
5.2 Subsurface Soils 8
5.3 Groundwater 9
5.4 Site Subsurface Variations 9
6.0 SITE PREPARATION AND GRADING **9**
6.1 General 9
6.2 Temporary Excavations 10
6.3 Fill Material 10
6.4 Fill Placement and Compaction 11
6.5 Utility Trenches 12
6.6 Stabilization 12
7.0 FOUNDATION RECOMMENDATIONS **13**
7.1 Foundation Recommendations 13
7.2 Installation 13
7.3 Estimated Settlement 14
7.4 Lateral Resistance 14
8.0 LATERAL EARTH PRESSURES **14**
9.0 FLOOR SLABS **15**
10.0 ROCKERY WALLS **15**
11.0 DRAINAGE RECOMMENDATIONS **17**
11.1 Surface Drainage 17
11.2 Foundation Subdrains 18
12.0 QUALITY CONTROL **18**
12.1 Field Observations 18
12.2 Fill Compaction 19
12.3 Excavations 19
12.4 Vibration Monitoring 19
13.0 LIMITATIONS **19**

APPENDIX

Figure 1: Site Plan
Figures 2-4: Test Pit Logs
Figure 5: Key to Symbols
Figure 6: Slope Stability Evaluation
Figures 7: Rockery Wall Local Stability Evaluations
Figure 9-10: Rockery Wall Global Stability Evaluations
Figure 10: Rockery Wall Details

1.0 INTRODUCTION

1.1 General

CMT Engineering Laboratories (CMT) was retained to conduct a geotechnical subsurface study for a proposed single family residence to be constructed on lot 29 of the Providence Hollow Subdivision. The lot is located at approximately 681 Spring Creek Parkway, in Providence, Utah, as shown in the **Vicinity Map** below.



VICINITY MAP

1.2 Objectives, Scope and Authorization

The objectives and scope of our study were planned in discussions between Mr. Matthew Payne of Orchid Homes, and Mr. Andrew Harris of CMT Engineering Laboratories (CMT). In general, the objectives of this study were to define and evaluate the subsurface soil and groundwater conditions at the site, and provide appropriate foundation, earthwork and seismic recommendations to be utilized in the design and construction of the proposed residence.

In accomplishing these objectives, our scope of work has included performing field exploration, which consisted of the excavating/logging/sampling of 3 test pits, performing laboratory testing on representative samples of the subsurface soils collected in the test pits, and conducting an office program, which consisted of correlating available data, performing engineering analyses, and preparing this summary report. This scope of work was authorized by returning a signed copy of our proposal dated May 28, 2020 and executed on June 16, 2020.

1.3 Description of Proposed Construction

We understand that the proposed structure will be a single family residence which we project will have two levels of wood frame construction above grade and a single level of reinforced concrete below grade (basement). We project that maximum structural loads for the residence will be on the order of 4,000 pounds per lineal foot for walls and 50,000 pounds for columns. Floor slab loads are anticipated to be relatively light, with an average uniform loading not exceeding 100 pounds per square foot. If the loading conditions are different than we have projected, please notify us so that any appropriate modifications to our conclusions and recommendations contained herein can be made.

Site development will require some earthwork in the form of cutting and filling. A site grading plan was not available at the time of this report, but a site plan provided to our office indicates rockery walls up to 6 feet in height and a pair of retaining walls (which we anticipate will be landscape walls) up to three feet in height. We project that this will result in maximum cuts and fills on the order of 3 to 6 feet. If deeper cuts or fills are planned, CMT should be notified to provide additional recommendations, if needed.

1.4 Executive Summary

The proposed residence can be supported upon conventional spread and continuous wall foundations. The most significant geotechnical aspects regarding site development include the following:

1. Topsoil and fill soils extending up to 4 feet below the surface were encountered at the test pit locations, which will require removal beneath footing and floor slab areas;
2. Natural soils below the topsoil and fill consisted of near surface SILT (ML) layers followed by SAND (SM) and GRAVEL (GM) layers to the bottom of the test pits;
3. Groundwater was not encountered in the test pits;
4. The near surface SILT (ML) soils, which extended 8.5 to 9.0 feet below the surface visually contained pinholes and are slightly to moderately moisture sensitive (potentially collapsible), as confirmed by consolidation/collapse tests that indicated these soils have a collapse potential of 0.3% to 1.9%;

5. Foundations and floor slabs may be placed on suitable, undisturbed natural sand and gravel soils or entirely on a minimum of 24 inches of properly placed and compacted structural fill.

CMT must assess that topsoil, non-engineered fills, debris, disturbed or unsuitable soils have been removed and that suitable soils have been encountered prior to placing site grading fills, structural fill, footings, or slabs.

In the following sections, detailed discussions pertaining to the site and subsurface descriptions, geologic/seismic setting, earthwork, foundations, lateral resistance, lateral pressure, floor slabs, and retaining walls are provided.

2.0 FIELD EXPLORATION

In order to define and evaluate the subsurface soil and groundwater conditions 3 test pits were excavated with a backhoe at the site to depths of approximately 12.5 to 13.5 feet below the existing ground surface. Locations of the test pits are shown on **Figure 1, Site Plan**, included in the Appendix. The field exploration was performed under the supervision of an experienced member of our geotechnical staff.

Representative soil samples were collected by obtaining disturbed "grab" samples and cutting relatively undisturbed "block" samples from within each test pit. The samples were sealed in plastic bags prior to transport to the laboratory.

The subsurface soils encountered in the test pits were classified in the field based upon visual and textural examination, logged and described in general accordance with ASTM[1] D-2488. These field classifications were supplemented by subsequent examination and testing of select samples in our laboratory. Graphical representations of the subsurface conditions encountered are presented on each individual Test Pit Log, **Figures 2 through 4**, included in the Appendix. A Key to Symbols defining the terms and symbols used on the logs, is provided as **Figure 5** in the Appendix.

Upon completion of logging and sampling the test pits were backfilled with the excavated soils. When backfilling the test pits minimal to no effort was made to compact the backfill and no compaction testing was performed. Thus, the test pit backfill is considered non-engineered fill and settlement of the backfill in the test pits over time should be anticipated.

3.0 LABORATORY TESTING

Selected samples of the subsurface soils were subjected to various laboratory tests to assess pertinent engineering properties, as follows:

1. Moisture Content, ASTM D-2216, Percent moisture representative of field conditions
2. Dry Density, ASTM D-2937, Dry unit weight representing field conditions
3. Atterberg Limits, ASTM D-4318, Plasticity and workability

[1]American Society for Testing and Materials

4. Gradation Analysis, ASTM D-1140/C-117, Grain Size Analysis
5. One Dimension Consolidation, ASTM D-2435, Consolidation properties
6. Direct Shear Test, ASTM D-3080, Shear strength parameters

To provide data necessary for our settlement analyses, a consolidation test was performed on each of 3 representative samples of the near surface silt soils encountered in the test pits. Based upon the data obtained from the consolidation testing, the silt soils at this site are moderately over-consolidated, moderately compressible under additional loading, and have a collapse potential of approximately 0.3% to 1.9% at a load of 1,000 psf when water was added (see the **Lab Summary Table** below). Detailed results of the consolidation tests are maintained within our files and can be transmitted to you, if so desired.

A direct shear test was completed on a relatively undisiurbed sample of the onsite silt soils obtained from test pit TP-1 at a depth of 5 feet. The results of our testing indicate the silt soils have a friction angle of 26 degrees and a saturated cohesion of 158 pounds per square foot.

Laboratory test results are presented on the test pit logs (**Figures 2 through 4**) and in the following Lab Summary table:

LAB SUMMARY TABLE

TEST PIT	DEPTH (feet)	SAMPLE TYPE	SOIL CLASS	MOISTURE CONTENT(%)	DRY DENSITY (pcf)	GRADATION			ATTERBERG LIMITS			COLLAPSE (-)/ EXPANSION(+)
						GRAV.	SAND	FINES	LL	PL	PI	
TP-2	2	Block	ML	10	85							-1.9%
	4	Block	ML	19	104							-0.2%
	7	Block	ML	14	92					NP		
	9	Bag	SM	6				35				
TP-3	4.5	Block	ML	18	100							-0.5%
	10.5	Block	ML	10	94			58				

4.0 GEOLOGIC & SEISMIC CONDITIONS

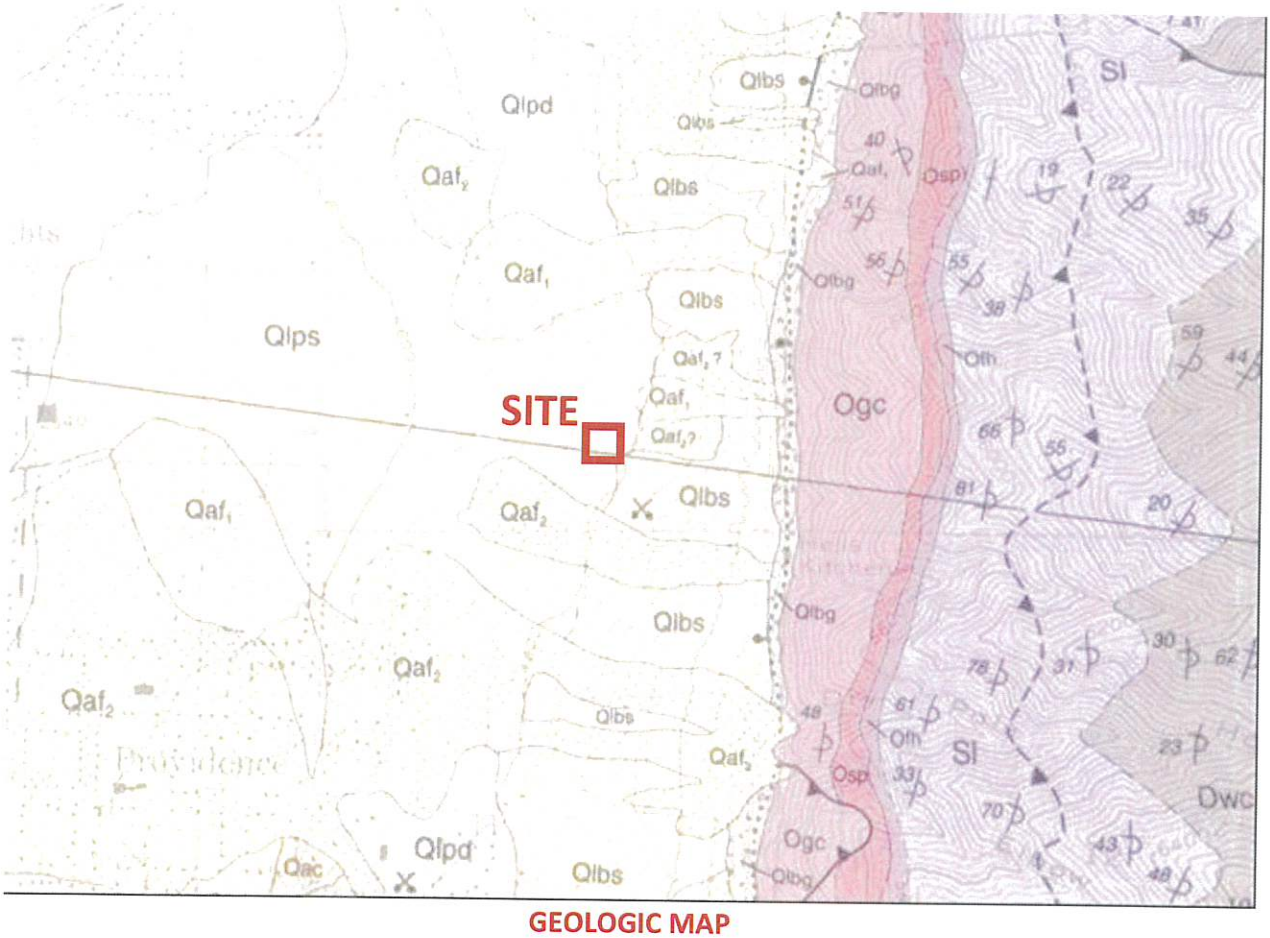
4.1 Geologic Setting

The subject site is located in the southeast portion of Cache Valley in northern Utah at an elevation of approximately 4,760 feet above sea level in the foothills of the Bear River Range. The Cache Valley is a deep, sediment-filled basin that is part of the Middle Rocky Mountain Physiographic Province. The valley is bordered by the Bear River Range on the east and the Wellsville Mountains on the west. The valley is located within the Intermountain Seismic Belt, a zone of ongoing tectonism and seismic activity extending from southwestern Montana to southwestern Utah. The Cache Valley is a fault-block valley (Graben) structurally bound on the east by the west-dipping East Cache Fault Zone and on the west by the east-dipping West Cache Fault Zone. Tectonic displacement along these faults has resulted in the relative down-drop of the valley in relation to the uplift of the bounding mountain ranges on the east and west.

Much of northwestern Utah, including the Cache Valley, was also previously covered by the Pleistocene age Lake Bonneville. The Great Salt Lake, located to the southwest of the valley, is a remnant of this ancient fresh water lake. Lake Bonneville reached a high-stand elevation of between approximately 5,160 and 5,200 feet above sea level at between 18,500 and 17,400 years ago. Approximately 17,400 years ago, the lake breached its basin in southeastern Idaho and dropped by almost 300 feet relatively fast as water drained into the Snake River. Following this catastrophic release, the lake level continued to drop slowly over time, primarily driven by drier climatic conditions, until reaching the current level of the Great Salt Lake. Shoreline terraces formed at the high-stand elevation of the lake and several subsequent lower lake levels are visible in places on the mountain slopes surrounding the valley. Much of the sediment within the Cache Valley was deposited as lacustrine sediments during both the transgressive (rise) and regressive (fall) phases of Lake Bonneville. These sediments were deposited over thick sequences of older Quaternary and Tertiary age, pre-Lake Bonneville deposits within the valley.

The geology of the USGS Logan, Utah 7.5 Minute Quadrangle, that includes the location of the subject site, has been mapped by Evans and others[2]. The surficial geology at the location of the subject site and adjacent properties is mapped as "Lacustrine sand and silt related to Provo and younger shorelines" (Map Unit Qlps) dated to be upper Pleistocene. Unit Qlps is described on the referenced map as "Nearshore deposits of coarse to fine sand, silt, and minor clay; typically rhythmically bedded; exposed thickness less than 16 feet (<5 m)." No fill has been mapped at the location of the site on the geologic map. Refer to the **Geologic Map**, shown below.

2Evans, J.P., McCalpin, J.P., and Holmes, D.C., 1996, Geologic Map of the Logan Quadrangle, Cache County, Utah; Utah Geological Survey Miscellaneous Publication 96-1, Scale 1:24,000.



GEOLOGIC MAP

4.2 Faulting

No surface fault traces are shown on the referenced geologic map crossing, adjacent to, or projecting toward the subject site. The nearest mapped active (Holocene) fault is the central section of the East Cache Fault Zone approximately 0.3 miles to the east.

4.3 Seismicity

4.3.1 Site Class

Utah has adopted the International Building Code (IBC) 2018, which determines the seismic hazard for a site based upon 2014 mapping of bedrock accelerations prepared by the United States Geologic Survey (USGS) and the soil site class. The USGS values are presented on maps incorporated into the IBC code and are also available based on latitude and longitude coordinates (grid points). For site class definitions, IBC 2018 Section 1613.2.2 refers to Chapter 20, Site Classification Procedure for Seismic Design, of ASCE[3] 7-16. Given the subsurface soils encountered at the site in our explorations, which only extended to a depth of up to about 13.5 feet, it is our

[3]American Society of Civil Engineers

opinion the site best fits Site Class D – Stiff Soil Profile (without data, or default), which we recommend for seismic structural design.

4.3.2 Seismic Design Category

The 2014 USGS mapping utilized by the IBC provides values of peak ground, short period and long period accelerations for the Site Class B/C boundary and the Maximum Considered Earthquake (MCE). This Site Class B boundary represents average bedrock values for the Western United States and must be corrected for local soil conditions. The Seismic Design Categories in the International Residential Code (IRC 2018 Table R301.2.2.1.1) are based upon the Site Class as addressed in the previous section. For Site Class D at site grid coordinates of 41.7168 degrees north latitude and -111.8011 degrees west longitude, $\mathbf{S_{DS}}$ is 0.812 and the **Seismic Design Category** is D_1.

4.3.3 Liquefaction

Liquefaction is defined as the condition when saturated, loose, sandy soils lose their support capabilities because of excessive pore water pressure which develops during a seismic event. Clayey soils, even if saturated, will generally not liquefy during a major seismic event.

The site is located within an area designated by the Utah Geologic Survey[4] as having "Very Low" liquefaction potential. This designation indicates there is a less than 5% probability that within a 100-year period and earthquake strong enough to cause liquefaction will occur.

A special liquefaction study was not performed for this site. We encountered unsaturated, near surface silt, and medium dense to dense (estimated) sand and gravel soils within the depths we explored. In our opinion, the soils we encountered support the mapped very low liquefaction potential designation.

4.4 Slope Stability

As previously indicated a site grading plan was not provided to our office, but we project that some cutting and filling will take place as part of the development. Site grades slope downward to the west and north at relatively gentle gradients. Based upon a preliminary stability analysis of a cross section of the site through the lot in a northeasterly direction, there does not appear to be any significant concerns for slope movements (see **Figure 6**).

If plans will require steepening of the existing slope (cutting at the toe or adding additional soil at the crest of the slope for example) we should be notified to evaluate proposed grades, re-evaluate slope stability, and provide additional recommendations as needed.

[4] Utah Geological Survey, "Liquefaction-Potential Map for Cache Valley, Cache County, Utah," Utah Geological Survey Public Information Series 79, August 1994. https://ugspub.nr.utah.gov/publications/public_information/pi-79.pdf

4.5 Other Geologic Hazards

No landslide deposits or features, including lateral spread deposits, are mapped on or adjacent to the site. The site is not located within a known or mapped potential debris flow, stream flooding[5], or rock fall hazard area.

5.0 SITE CONDITIONS

5.1 Surface Conditions

At the time the test pits were excavated the site consisted of an undeveloped lot with some fill soils and sparse vegetation (weeds) on the surface. Based upon aerial photos readily available online dating back to 1993, the lot appears to have been undeveloped range land. The adjacent road appears to have been constructed in 2017. The site is bounded on the north by undeveloped land, on the east and west by vacant lots, and on the south by Spring Creek Parkway (see **Vicinity Map** in **Section 1.1** above).

5.2 Subsurface Soils

At the locations of the test pits we encountered fill and/or topsoil on the surface extending to depths of approximately 1.5 to 4.0 feet. The fill soils were silty and sandy and contained some gravel and debris. The fill is considered non-engineered (not placed in a controlled manner or tested for compaction) and is therefore unsuitable for support of footings or floor slabs.

Natural soils observed beneath the topsoil/fill soils consisted generally of near surface layers of SILT (ML) with sand and thin sand layers extending about 8.5 to 9 feet below the surface. The silt was also observed to exhibit a pinhole structure, which typically indicates a moisture sensitive (potentially collapsible) soil.

The near surface silt layers were followed by Silty SAND (SM) and Silty GRAVEL (GM) layers extending to the bottom of the test pits, approximately 12.5 to 13.5 feet below existing site grades.

The silt soils were slightly moist to moist, brown in color, and estimated to be medium stiff in consistency. They also exhibited moderate over consolidation and strength characteristics, as well as a very low to slightly moderate potential for collapse when wetted.

The natural sand and gravel soils were slightly moist, brown in color, and estimated to be medium dense to dense. They are also projected to exhibit moderate strength and low compressibility characteristics.

For a more descriptive interpretation of subsurface conditions, please refer to the test pit logs, **Figures 2 through 4**, which graphically represent the subsurface conditions encountered. The lines designating the interface between soil types on the logs generally represent approximate boundaries - in situ, the transition between soil types may be gradual.

[5] https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd&extent=-111.36752238312305,40.474000783564726,-111.34675135651116,40.48216171946493

5.3 Groundwater

Groundwater was not encountered at the time of our field explorations within the maximum depth explored of about 13.5 feet below the existing ground surface. Therefore, groundwater is not anticipated to affect proposed construction.

Groundwater levels can fluctuate seasonally as well as in response to numerous other factors such as heavy precipitation, irrigation of neighboring land, and other unforeseen factors. The detailed evaluation of these and other factors, which may be responsible for ground water fluctuations, is beyond the scope of this study.

5.4 Site Subsurface Variations

Based on the results of the subsurface explorations and our experience, variations in the continuity and nature of subsurface conditions should be anticipated. Due to the heterogeneous characteristics of natural soils, care should be taken in interpolating or extrapolating subsurface conditions between or beyond the exploratory locations.

Also, when logging and sampling of the test pits was completed, the test pits were backfilled with the excavated soils but minimal to no effort was made to compact these soils. Thus, the test pit backfill is considered non-engineered fill and settlement of the backfill in the test pits over time should be anticipated.

6.0 SITE PREPARATION AND GRADING

6.1 General

All deleterious materials should be stripped from the site prior to commencement of construction activities. This includes vegetation, topsoil, loose and disturbed soils, etc. Based upon the conditions observed in the test pits there is topsoil and non-engineered fill soils on the surface of the site which we observed to be about 1.5 to as much as 4.0 feet in thickness.

When stripping and grubbing, topsoil should be distinguished by the apparent organic content and not solely by color; thus we estimate that topsoil stripping will need to include the upper 4 inches.

All non-engineered fill shall be removed from beneath footing and floor slab areas. Below exterior flatwork the surface of the non-engineered fill (if free of organics or other deleterious material) shall be scarified to a minimum depth of 8 inches, moisture conditioned as needed, and re-compacted in place to 95% of the maximum dry density.

The site should be observed by a CMT geotechnical engineer to assess that suitable natural soils have been exposed and any deleterious materials, loose and/or disturbed soils have been removed, prior to placing site grading fills, footings, or slabs.

Fill placed over large areas to raise overall site grades can induce settlements in the underlying natural soils. If more than 4 feet of site grading fill is anticipated over the natural ground surface, we should be notified to assess potential settlements and provide additional recommendations as needed. These recommendations may include placement of the site grading fill far in advance to allow potential settlements to occur prior to construction.

6.2 Temporary Excavations

Excavations deeper than 8 feet are not anticipated at the site. Groundwater was not encountered within the maximum depth explored, about 13.5 feet, at the time of our field explorations, and thus is not anticipated to be encountered in excavations.

The natural soils encountered at this site predominantly consisted of silt. In clayey (cohesive) soils, temporary construction excavations not exceeding 4 feet in depth may be constructed with near-vertical side slopes. Temporary excavations up to 8 feet deep, above or below groundwater, may be constructed with side slopes no steeper than one-half horizontal to one vertical (0.5H:1V).

For sandy/gravelly (cohesionless) soils, temporary construction excavations not exceeding 4 feet in depth should be no steeper than one-half horizontal to one vertical (0.5H:1V). For excavations up to 8 feet and above groundwater, side slopes should be no steeper than one horizontal to one vertical (1H:1V). Excavations encountering saturated cohesionless soils will be very difficult to maintain, and will require very flat side slopes and/or shoring, bracing and dewatering.
To reduce disturbance of the natural soils during excavation, we recommend that smooth edge buckets/blades be utilized.

All excavations must be inspected periodically by qualified personnel. If any signs of instability or excessive sloughing are noted, immediate remedial action must be initiated. All excavations should be made following OSHA safety guidelines.

6.3 Fill Material

Following are our recommendations for the various fill types we anticipate will be used at this site:

FILL MATERIAL TYPE	DESCRIPTION | RECOMMENDED SPECIFICATION
Structural Fill	Placed below structures, flatwork and pavement. Well-graded sand/gravel mixture, with maximum particle size of 4 inches, a minimum 70% passing 3/4-inch sieve, a maximum 20% passing the No. 200 sieve, and a maximum Plasticity Index of 10.
Site Grading Fill	Placed over larger areas to raise the site grade. Sandy to gravelly soil, with a maximum particle size of 6 inches, a minimum 70% passing 3/4-inch sieve, and a maximum 50% passing No. 200 sieve.

FILL MATERIAL TYPE	DESCRIPTION | RECOMMENDED SPECIFICATION
Non-Structural Fill	Placed below non-structural areas, such as landscaping. On-site soils or imported soils, with a maximum particle size of 8 inches, including silt/clay soils not containing excessive amounts of degradable/organic material (see discussion below).
Stabilization Fill	Placed to stabilize soft areas prior to placing structural fill and/or site grading fill. Coarse angular gravels and cobbles 1 inch to 8 inches in size. May also use 1.5-inch to 2.0-inch gravel placed on stabilization fabric, such as Mirafi RS280i, or equivalent (see **Section 6.6**).

On-site sand and gravel soils may be suitable for use as structural fill, if processed to meet the requirements given above, and may also be used in site grading fill and non-structural fill situations.

On-site silt soils may be used as site grading fill and non-structural fill, but are also inherently more difficult to work with in proper moisture conditioning (they are very sensitive to changes in moisture content), requiring very close moisture control during placement and compaction. This will be very difficult, if not impossible, during wet and cold periods of the year. We also recommend the site grading fill thickness using on-site silt soils not exceed 3 feet below structures, to minimize potential settlements.

All fill material should be approved by a CMT geotechnical engineer prior to placement.

6.4 Fill Placement and Compaction

The various types of compaction equipment available have their limitations as to the maximum lift thickness that can be compacted. For example, hand operated equipment is limited to lifts of about 4 inches and most "trench compactors" have a maximum, consistent compaction depth of about 6 inches. Large rollers, depending on soil and moisture conditions, can achieve compaction at 8 to 12 inches. The full thickness of each lift should be compacted to at least the following percentages of the maximum dry density as determined by ASTM D-1557 (or AASHTO[6] T-180) in accordance with the following recommendations:

LOCATION	TOTAL FILL THICKNESS (FEET)	MINIMUM PERCENTAGE OF MAXIMUM DRY DENSITY
Beneath an area extending at least 4 feet beyond the perimeter of structures, and below flatwork and pavement (applies to structural fill and site grading fill) extending at least 2 feet beyond the perimeter	0 to 5 5 to 8	95 98
Site grading fill outside area defined above	0 to 5 5 to 8	92 95
Utility trenches within structural areas	--	96
Roadbase and subbase	-	96
Non-structural fill	0 to 5 5 to 8	90 92

[6] American Association of State Highway and Transportation Officials

Structural fills greater than 8 feet thick are not anticipated at the site. For best compaction results, we recommend that the moisture content for structural fill/backfill be within 2% of optimum. Field density tests should be performed on each lift as necessary to verify that proper compaction is being achieved.

6.5 Utility Trenches

For the bedding zone around the utility, we recommend utilizing sand bedding fill material that meets current APWA[7] requirements.

All utility trench backfill material below structurally loaded facilities (foundations, floor slabs, flatwork, parking lots/drive areas, etc.) should be placed at the same density requirements established for structural fill in the previous section. Above the bedding zone, we recommend that utility trench backfill have a minimum 20% fines, to reduce permeability (refer to **Section 6.3** above). In addition, utilities should be installed as close to the bottom of the potentially collapsible soils as reasonably possible.

Most utility companies and local governments are requiring Type A-1a or A-1b (AASHTO Designation) soils (sand/gravel soils with limited fines) be used as backfill over utilities within public rights of way, and the backfill be compacted over the full depth above the bedding zone to at least 96% of the maximum dry density as determined by AASHTO T-180 (ASTM D-1557). The natural sand and gravel soils at this site may meet these specifications.

Where the utility does not underlie structurally loaded facilities and public rights of way, on-site fill and natural soils may be utilized as trench backfill above the bedding layer, provided they are properly moisture conditioned and compacted to the minimum requirements stated above in **Section 6.4**.

6.6 Stabilization

The natural silt soils at this site will likely be susceptible to rutting and pumping. The likelihood of disturbance or rutting and/or pumping of the existing natural soils is a function of the load applied to the surface, as well as the frequency of the load. Consequently, rutting and pumping can be minimized by avoiding concentrated traffic, minimizing the load applied to the surface by using lighter equipment and/or partial loads, by working in drier times of the year, or by providing a working surface for the equipment. Rubber-tired equipment particularly, because of high pressures, promotes instability in moist/wet, soft soils. If rutting or pumping occurs, traffic should be stopped and the disturbed soils should be removed and replaced with stabilization material. Typically, a minimum of 18 inches of the disturbed soils must be removed to be effective. However, deeper removal is sometimes required.

To stabilize soft subgrade conditions (if encountered), a mixture of coarse, clean, angular gravels and cobbles and/or 1.5- to 2.0-inch clean gravel should be utilized, as indicated above in **Section 6.3**. Often the amount of gravelly material can be reduced with the use of a geotextile fabric such as Mirafi RS280i or equivalent. Its use will also help avoid mixing of the subgrade soils with the gravelly material. After excavating the soft/disturbed

[7] American Public Works Association

soils, the fabric should be spread across the bottom of the excavation and up the sides a minimum of 18 inches. Otherwise, it should be placed in accordance with the manufacturer's recommendation, including proper overlaps. The gravel material can then be placed over the fabric in compacted lifts as described above.

7.0 FOUNDATION RECOMMENDATIONS

The following recommendations have been developed on the basis of the previously described project characteristics, including the maximum loads discussed in **Section 1.3**, the subsurface conditions observed in the field and the laboratory test data, and standard geotechnical engineering practice.

7.1 Foundation Design

Based on our geotechnical engineering analyses, the proposed residence may be supported upon conventional spread and/or continuous wall foundations placed on suitable, undisturbed natural sand/gravel soils or on structural fill extending to suitable natural soils. Footings may be designed using a net bearing pressure of 2,000 psf if placed on suitable, undisturbed, natural sand/gravel soils or 2,500 psf if placed on a minimum 24 inches of structural fill.

The term "net bearing pressure" refers to the pressure imposed by the portion of the structure located above lowest adjacent final grade, thus the weight of the footing and backfill to lowest adjacent final grade need not be considered. The allowable bearing pressure may be increased by 1/3 for temporary loads such as wind and seismic forces.

We also recommend the following:

1. Exterior footings subject to frost should be placed at least 30 inches below final grade.
2. Interior footings not subject to frost should be placed at least 16 inches below grade.
3. Continuous footing widths should be maintained at a minimum of 18 inches.
4. Spot footings should be a minimum of 24 inches wide.

7.2 Foundation Installation

Under no circumstances shall foundations be placed directly on potentially collapsible soils, on non-engineered fill, topsoil with organics, sod, rubbish, construction debris, other deleterious materials, frozen soils, or within ponded water. Where footings would otherwise be placed on potentially collapsible soils, we recommend the collapsible soils be completely removed or over-excavated a minimum 24 inches, whichever is less, and replaced with properly compacted structural fill. If other unsuitable soils are encountered, they must be completely removed and replaced with properly compacted structural fill. Deep, large roots may be encountered where trees and larger bushes are located or were previously located at the site; such large roots should also be removed

The base of footing excavations should be observed by a CMT geotechnical engineer to confirm that suitable bearing soils have been exposed.

All structural fill should meet the requirements for such, and should be placed and compacted in accordance with **Section 6** above. The width of structural replacement fill below footings should be equal to the width of the footing plus 1 foot for each foot of fill thickness. For instance, if the footing width is 2 feet and the structural fill depth beneath the footing is 2 feet, the fill replacement width should be 4 feet, centered beneath the footing.

The minimum thickness of structural fill below footings should be equivalent to one-third the thickness of structural fill below any other portion of the foundations. For example, if the maximum depth of structural fill is 6 feet, all footings for the new structure should be underlain by a minimum 2 feet of structural fill.

7.3 Estimated Settlement

Foundations designed and constructed in accordance with our recommendations could experience some settlement, but we anticipate that total settlements of footings founded as recommended above will not exceed 1 inch, with differential settlements on the order of 0.5 inches over a distance of 25 feet. We expect approximately 50% of the total settlement to initially take place during construction.

7.4 Lateral Resistance

Lateral loads imposed upon foundations due to wind or seismic forces may be resisted by the development of passive earth pressures and friction between the base of the footings and the supporting soils. In determining frictional resistance a coefficient of 0.40 for natural sand/gravel soils and structural fill, may be utilized for design. Passive resistance provided by properly placed and compacted structural fill above the water table may be considered equivalent to a fluid with a density of 350 pcf. A combination of passive earth resistance and friction may be utilized if the friction component of the total is divided by 1.5.

8.0 LATERAL EARTH PRESSURES

We project that basement walls up to 8 feet tall will be constructed on the residence.

The lateral earth pressure values given below are for a backfill material that will consist of drained sand/gravel soils (less than 10% passing No. 200 sieve) placed and compacted in accordance with the recommendations presented herein. If other soil types will be used as backfill, we should be notified so that appropriate modifications to these values can be provided, as needed.

The lateral pressures imposed upon subgrade facilities will depend upon the relative rigidity and movement of the backfilled structure. For rigid basement walls that are not more than 10 inches thick, sand/gravel backfill may be designed using an at-rest equivalent fluid pressure of 55 pcf (psf/ft). This value assumes that the soil surface behind the wall is horizontal and that the backfill within 3 feet of the wall will be compacted with hand-operated compacting equipment.

For seismic loading of rigid basement walls up to 8 feet tall, we recommend using a uniform (rectangular) at-rest lateral pressure of 125 psf for design.

For the short height proposed retaining walls (wall is allowed to yield, i.e. move away from the soil, with a minimum 0.001H movement/rotation at the top of the wall, where "H" is the total height of the wall) we recommend an equivalent fluid pressure of 35 psf for design, and a passive pressure of 350 psf.

9.0 FLOOR SLABS

Floor slabs may be established upon suitable, undisturbed, natural sand/gravel soils on structural fill extending to suitable natural soils (same as for foundations). Under no circumstances shall floor slabs be established directly on potentially collapsible soils, or any topsoil, non-engineered fills, loose or disturbed soils, sod, rubbish, construction debris, other deleterious materials, frozen soils, or within ponded water.

In order to facilitate curing of the concrete, we recommend that floor slabs be directly underlain by at least 4 inches of "free-draining" fill, such as "pea" gravel or 3/4-inch to 1-inch minus, clean, gap-graded gravel. To help control normal shrinkage and stress cracking, the floor slabs may have the following features:

1. Adequate reinforcement for the anticipated floor loads with the reinforcement continuous through interior floor joints;
2. Frequent crack control joints; and
3. Non-rigid attachment of the slabs to foundation walls and bearing slabs.

10.0 ROCKERY WALLS

A site plan provided to our office indicates that a rockery wall up to 6 feet in height is proposed to be constructed on the side of the lot near Spring Creek Parkway.

The soils at the site classify as SILT (ML) overlying sand and gravel layers. We project that the rockery wall will be supported on and retain the nature silt soils. To provide data for analysis of the rockery wall a direct shear test was performed on a sample of these soils. The test results indicate an internal friction angle of 26 degrees and an undrained cohesion of 158 pounds per square foot. Accordingly, we estimated the following parameters for use in the stability analyses:

MATERIAL	INTERNAL FRICTION ANGLE (degreess)	APPARENT COHESION (psf)	SATURATED UNIT WEIGHT (pcf)
On-Site SILT (ML)	26	150	125
Boulders	0 (global) 45 (local)	9,000 (global) 0 (local)	150

For the seismic analysis, a peak horizontal ground acceleration of 0.439*g* was obtained after adjusting for Site Class D at site (grid) locations of 41.7168 degrees north latitude and -111.8011 degrees west longitude.

Approximately 50% of this value (0.215g) was used as the pseudo-static coefficient for the seismic stability analysis.

Using these input parameters, the local (rock-to-rock) stability of the proposed rockery wall was evaluated considering sliding, overturning and bearing capacity to achieve respective minimum factors of safety of 1.5, 2.0 and 2.5 for static conditions and 1.1, 1.5 and 1.5 for seismic conditions. The results of this analysis (see attached **Figure 7**) indicate that a maximum wall tier (exposed) height of 6 feet can be achieved for boulders with depths into the hillside of 3.5 feet for the bottom row grading to 2 feet for the upper row.

We also evaluated the global stability of the proposed rockery wall using the computer program *SLIDE* (version 7.0). The configuration analyzed consisted of a two-tiered rockery wall, with each tier 6 feet tall (exposed height), the tiers separated by a distance of 6 feet (face to face) and the upper tier retaining relatively level ground. The typical required minimum factors of safety are 1.5 for static conditions and 1.1 for seismic (pseudostatic) conditions. The results of our analyses indicate that the proposed rockery wall will meet both these requirements, provided our recommendations are followed. The global stability results are shown on **Figures 8 and 9**.

Based on the results of our analyses, the proposed rockery wall will be stable if constructed as follows (also see **Figure 10**, attached):

- The rockery wall may be constructed up to a maximum exposed height of 6 feet.
- The bottom row of boulders should be established on a minimum of 18 inch thick pad of compacted structural fill that is at least 4 feet in width, and be embedded a minimum 6 inches below the ground surface.
- The rockery wall facing should slope at 1H:2V (Horizontal:Vertical) or flatter. The slope above the top of the wall should be no steeper than 5.5H:1V.
- The rockery wall should be composed of boulders with nominal depths into the hillside of 42 inches for the lowest row of rocks, grading in depth to 36 inches for the top row.
- Boulders used in the rockery wall should be durable (i.e. not limestone, soft sandstone, or other rocks which have weakened planes that could cause rocks to split) and placed in a staggered manner (not creating a vertical column) that will not significantly weaken their internal integrity. There should be maximum rock-to-rock contact when placing the rock boulders and no rocks should bear on a downward-sloping face of any supporting rocks. Larger gaps may be filled with smaller rocks or sealed with a cement grout.
- Drainage behind the rockery wall is recommended, as shown on **Figure 10**. The drain should consist of a perforated 4-inch minimum diameter pipe wrapped in fabric and placed at the bottom and behind the lowest row of boulders in each tier. The pipe should daylight at one end of the wall and discharge to an appropriate drainage device or area. Clean gravel ¾- to 2-inch in size, with less than 10% passing the No. 4 sieve and less than 5% passing the No. 200 sieve, should be placed around the drain pipes. A fabric, such as Mirafi 140N or equivalent, should be placed between the clean gravel and the adjacent soils.

- The clean gravel and separation fabric should extend up behind the back of the boulders to within 2 feet of the ground surface, with the fabric wrapped over the top of the gravel prior to placing the upper 2 feet of backfill. As an alternative to using clean gravel and fabric behind the boulders, a drain board material (such as MiraDrain or equivalent) may be used.

- Surface drainage at the bottom and top of the walls should also be directed away from the walls as much as possible.

- CMT should observe construction of the rockery wall at the following critical times: (1) when the lowest row of boulders has been placed along with the drain pipe and bottom gravel; (2) when the rockery wall is about halfway constructed; and (3) upon completion of the rockery wall construction.

It should be noted that rockery walls are constructed of natural materials and are therefore subject to natural weathering processes and environmental attacks that may, in time, compromise the stability of the rockery wall. Boulders used during construction are subject to natural weathering by seasonal changes, wind, frost action, chemical reaction, water, etc. Additionally, the stability of rockery walls can be affected by other on-site and off-site influences such as saturation of retained soils, saturation of supporting soils, root action of vegetation and trees adjacent to the wall, and animal activities including burrowing and nesting. Rockery walls and the associated slopes must be closely monitored for signs of excessive weathering, drainage characteristics, signs of movement in the boulder, obstruction of drain outlets, etc. Frequent maintenance, repair, and inspection must be performed on the wall at least monthly and more often if any signs of erosion or movement are noticed. If any signs of erosion or movement are noticed, CMT must be contacted immediately to provide appropriate recommendations.

11.0 DRAINAGE RECOMMENDATIONS

11.1 Surface Drainage

Some of the on-site near-surface silt soils are potentially collapsible when subjected to water, thus it is very important to the long-term performance of foundations and floor slabs that water not be allowed to collect near the foundation walls and infiltrate into the underlying soils. We recommend the following:

1. All areas around the residence should be sloped to provide drainage away from the foundations. We recommend a minimum slope of 6 inches in the first 10 feet away from the structure. This slope should be maintained throughout the lifetime of the structure.

2. All roof drainage should be collected in rain gutters with downspouts designed to discharge at least 10 feet from the foundation walls or well beyond the backfill limits, whichever is greater, but not near rockery walls or retaining walls.

3. Adequate compaction of the foundation backfill should be provided. We suggest a minimum of 90% of the maximum laboratory density as determined by ASTM D-1557. Water consolidation methods should not be used under any circumstances.

4. Landscape sprinklers should be aimed away, and maintained a distance of at least 4 feet, from the foundation walls. We also recommend that sprinklers not be installed within the backfill soils behind rockery walls and retaining walls. The sprinkling systems should be designed with proper drainage and be well-maintained. Over watering should be avoided.

5. Other precautions that may become evident during construction.

11.2 Foundation Subdrains

Groundwater was not encountered in our explorations, therefore we do not anticipate that groundwater will be encountered in excavations. However, the natural sand and gravel soils have the potential to transmit sub surface water from higher elevations toward subsurface walls. Consideration should be given to constructing perimeter foundation subdrains.

Foundation subdrains should consist of a 4-inch diameter perforated or slotted plastic or PVC pipe surrounded by clean gravel. The invert of the subdrain should be at least 2 feet below the top of the lowest adjacent floor slab. The gravel portion of the drain should extend a minimum 2 inches laterally and below the perforated pipe and at least 1 foot above the top of the lowest adjacent floor slab. The gravel zone must be installed immediately adjacent to the perimeter footings and the foundation walls. To reduce the possibility of plugging, the gravel must be wrapped with a geotextile, such as Mirafi 140N or equivalent. Prior to the installation of the footing subdrain, the below-grade walls should be dampproofed. The slope of the subdrain should be at least 0.5%. The gravel placed around the drain pipe should be clean 3/4-inch to 1-inch minus gap-graded gravel and/or "pea" gravel. The foundation subdrains can be discharged into the area subdrains, storm drains, or other suitable down-gradient location.

12.0 QUALITY CONTROL

We recommend that CMT be retained to as part of a comprehensive quality control testing and observation program. With CMT on-site we can help facilitate implementation of our recommendations and address, in a timely manner, any subsurface conditions encountered which vary from those described in this report. Without such a program CMT cannot be responsible for application of our recommendations to subsurface conditions which may vary from those described herein. This program may include, but not necessarily be limited to, the following:

12.1 Field Observations

Observations should be completed during all phases of construction such as site preparation, foundation excavation, structural fill placement and concrete placement.

12.2 Fill Compaction

Compaction testing by CMT is required for all structural supporting fill materials. Maximum Dry Density (Modified Proctor, ASTM D-1557) tests should be requested by the contractor immediately after delivery of any fill materials. The maximum density information should then be used for field density tests on each lift as necessary to ensure that the required compaction is being achieved.

12.3 Excavations

All excavation procedures and processes should be observed by a geotechnical engineer from CMT or their representative. In addition, for the recommendations in this report to be valid, all backfill and structural fill placed in trenches and all pavements should be density tested by CMT. We recommend that freshly mixed concrete be tested by CMT in accordance with ASTM designations.

12.4 Vibration Monitoring

Construction activities, particularly site grading and fill placement, can induce vibrations in existing structures adjacent to the site. Such vibrations can cause damage to adjacent buildings, depending on the building composition and underlying soils. It can be prudent to monitor vibrations from construction activities to maintain records that vibrations did not exceed a pre-defined threshold known to potentially cause damage. CMT can provide this monitoring if desired.

13.0 LIMITATIONS

The recommendations provided herein were developed by evaluating the information obtained from the subsurface explorations and soils encountered therein. The exploration logs reflect the subsurface conditions only at the specific location at the particular time designated on the logs. Soil and ground water conditions may differ from conditions encountered at the actual exploration locations. The nature and extent of any variation in the explorations may not become evident until during the course of construction. If variations do appear, it may become necessary to re-evaluate the recommendations of this report after we have observed the variation.

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. This warranty is in lieu of all other warranties, either expressed or implied.

We appreciate the opportunity to be of service to you on this project. If we can be of further assistance or if you have any questions regarding this project, please do not hesitate to contact us at (801) 870-6730. To schedule materials testing, please call (801) 381-5141.

APPENDIX

SUPPORTING
DOCUMENTATION



Proposed Sanchez Residence

About 681 Spring Creek Parkway, Providence, Utah

CMT ENGINEERING LABORATORIES

Site Map

Date:	8-Jun-20
Job #	14735

Figure: 1

Proposed Sanchez Residence

Test Pit Log

TP-1

Lot 29 Providence Hollow - About 681 Spring Creek Parkway, Providence, Utah

Equipment: Rubber Tire Backhoe
Surface Elev. (approx):

Total Depth: 12.5'
Water Depth: (see Remarks)

Date: 6/4/20
Job #: 14735

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Moisture (%)	Dry Density(pcf)	Gradation: Gravel %	Gradation: Sand %	Gradation: Fines %	Atterberg: LL	Atterberg: PL	Atterberg: PI
0		Fill: Dark brown silty clay with sand, gravel, cobbles, boulders, organics, concrete debris										
				1								
2												
4		Brown SILT (ML) with thin sand layers, blocky, moist medium stiff (estimated)										
				2								
6												
8												
10		Brown Silty SAND (SM), layered, oxidation staining, slightly moist medium dense (estimated) grades with some gravel										
12		Brown Silty GRAVEL (GM) with sand and cobbles, slightly moist dense (estimated)		3								
		END AT 12.5'										
14												
16												
18												
20												
22												
24												
26												
28												

Remarks: Groundwater not encountered during excavation.

Figure: 2

CMT ENGINEERING LABORATORIES

Excavated By: Owner
Logged By: O. Roberts

Proposed Sanchez Residence

Test Pit Log

TP-2

Lot 29 Providence Hollow - About 681 Spring Creek Parkway, Providence, Utah

Equipment: Rubber Tire Backhoe
Surface Elev. (approx):

Total Depth: 13'
Water Depth: (see Remarks)

Date: 6/4/20
Job #: 14735

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Moisture (%)	Dry Density(pcf)	Gradation: Gravel %	Gradation: Sand %	Gradation: Fines %	Atterberg: LL	Atterberg: PL	Atterberg: PI
0		Topsoil: Silty sand with silty clay, organics										
		Fill: Light brown silt with sand										
2		Brown SILT (ML) with pinholes, blocky, slightly moist stiff (estimated)		4	10	85						
		grades no pinholes										
4		grades with thin sand layers and oxidation staining		5	19	104						
6		grades with more frequent sand layers up to 3" thick		6	14	92					NP	NP
8		Brown Silty SAND (SM), slightly moist medium dense (estimated)		7	6				35			
10												
12		Brown Silty GRAVEL (GM) with cobbles and sand, slightly moist medium dense (estimated)		8								
		END AT 13'										
14												
16												
18												
20												
22												
24												
26												
28												

Remarks: Groundwater not encountered during excavation.

Figure: 3

CMT ENGINEERING LABORATORIES

Excavated By: Owner
Logged By: O. Roberts

Proposed Sanchez Residence

Test Pit Log

TP-3

Lot 29 Providence Hollow - About 681 Spring Creek Parkway, Providence, Utah

Equipment: Rubber Tire Backhoe
Surface Elev. (approx):

Total Depth: 13.5'
Water Depth: (see Remarks)

Date: 6/4/20
Job #: 14735

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Moisture (%)	Dry Density(pcf)	Gradation: Gravel %	Gradation: Sand %	Gradation: Fines %	Atterberg: LL	Atterberg: PL	Atterberg: PI
0		Topsoil										
		Fill: Light brown to dark brown silty sand to silty clay with gravel and cobbles, slightly moist										
2				9								
		Brown SILT (ML) with pinholes to 3.5', slightly moist										
4		grades blocky with thin sand layers and oxidation staining; medium stiff to stiff (estimated)		10	18	100						
6		grades less blocky with more frequent sand layers up to 2-3" thick		11								
8												
10				12	10	94			58			
12		Brown Silty GRAVEL (GM) with cobble, moist; dense (estimated)										
		END AT 13.5'										
14												
16												
18												
20												
22												
24												
26												
28												

Remarks: Groundwater not encountered during excavation.

Figure: 4

CMT ENGINEERING LABORATORIES

Excavated By: Owner
Logged By: O. Roberts

Proposed Sanchez Residence

Lot 29 Providence Hollow - About 681 Spring Creek Parkway,
Providence, Utah

Key to Symbols

Date: Owner
Job #: 14735

Depth (ft) ①	GRAPHIC LOG ②	Soil Description ③	Sample Type ④	Sample # ⑤	Moisture (%) ⑥	Dry Density(pcf) ⑦	Gradation ⑧ Gravel %	Sand %	Fines %	Atterberg ⑨ LL	PL	PI

COLUMN DESCRIPTIONS

① **Depth (ft.):** Depth (feet) below the ground surface (including groundwater depth - see water symbol below).

② **Graphic Log:** Graphic depicting type of soil encountered (see ② below).

③ **Soil Description:** Description of soils encountered, including Unified Soil Classification Symbol (see below).

④ **Sample Type:** Type of soil sample collected at depth interval shown; sampler symbols are explained below-right.

⑤ **Sample #:** Consecutive numbering of soil samples collected during field exploration.

⑥ **Moisture (%):** Water content of soil sample measured in laboratory (percentage of dry weight of sample).

⑦ **Dry Density (pcf):** The dry density of a soil measured in laboratory (pounds per cubic foot).

⑧ **Gradation:** Percentages of Gravel, Sand and Fines (Silt/Clay), obtained from lab test results of soil passing the No. 4 and No. 200 sieves.

⑨ **Atterberg:** Individual descriptions of Atterberg Tests are as follows:

LL = Liquid Limit (%): Water content at which a soil changes from plastic to liquid behavior.

PL = Plastic Limit (%): Water content at which a soil changes from liquid to plastic behavior.

PI = Plasticity Index (%): Range of water content at which a soil exhibits plastic properties (= Liquid Limit - Plastic Limit).

STRATIFICATION	
Description	**Thickness**
Seam	Up to ½ inch
Lense	Up to 12 inches
Layer	Greater than 12 in.
Occasional	1 or less per foot
Frequent	More than 1 per foot

MODIFIERS	
Trace	<5%
Some	5-12%
With	> 12%

MOISTURE CONTENT
Dry: Absence of moisture, dusty, dry to the touch.
Moist: Damp / moist to the touch, but no visible water.
Saturated: Visible water, usually soil below groundwater.

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

MAJOR DIVISIONS			USCS SYMBOLS	②	TYPICAL DESCRIPTIONS
COARSE-GRAINED SOILS: More than 50% of material is larger than No. 200 sieve size.	GRAVELS: The coarse fraction retained on No. 4 sieve.	CLEAN GRAVELS (< 5% fines)	GW		Well-Graded Gravels, Gravel-Sand Mixtures, Little or No Fines
			GP		Poorly-Graded Gravels, Gravel-Sand Mixtures, Little or No Fines
		GRAVELS WITH FINES (≥ 12% fines)	GM		Silty Gravels, Gravel-Sand-Silt Mixtures
			GC		Clayey Gravels, Gravel-Sand-Clay Mixtures
	SANDS: The coarse fraction passing through No. 4 sieve.	CLEAN SANDS (< 5% fines)	SW		Well-Graded Sands, Gravelly Sands, Little or No Fines
			SP		Poorly-Graded Sands, Gravelly Sands, Little or No Fines
		SANDS WITH FINES (≥ 12% fines)	SM		Silty Sands, Sand-Silt Mixtures
			SC		Clayey Sands, Sand-Clay Mixtures
FINE-GRAINED SOILS: More than 50% of material is smaller than No. 200 sieve size.	SILTS AND CLAYS: Liquid Limit less than 50%		ML		Inorganic Silts and Sandy Silts with No Plasticity or Clayey Silts with Slight Plasticity
			CL		Inorganic Clays of Low to Medium Plasticity, Gravelly Clays, Sandy Clays, Silty Clays, Lean Clays
			OL		Organic Silts and Organic Silty Clays of Low Plasticity
	SILTS AND CLAYS: Liquid Limit greater than 50%		MH		Inorganic Silts, Micacious or Diatomacious Fine Sand or Silty Soils
			CH		Inorganic Clays of High Plasticity, Fat Clays
			OH		Organic Silts and Organic Clays of Medium to High Plasticity
HIGHLY ORGANIC SOILS			PT		Peat, Soils with High Organic Contents

Note: Dual Symbols are used to indicate borderline soil classifications (i.e. GP-GM, SC-SM, etc.).

SAMPLER SYMBOLS

- Block Sample
- Bulk/Bag Sample
- Modified California Sampler
- 3.5" OD, 2.42" ID D&M Sampler
- Rock Core
- Standard Penetration Split Spoon Sampler
- Thin Wall (Shelby Tube)

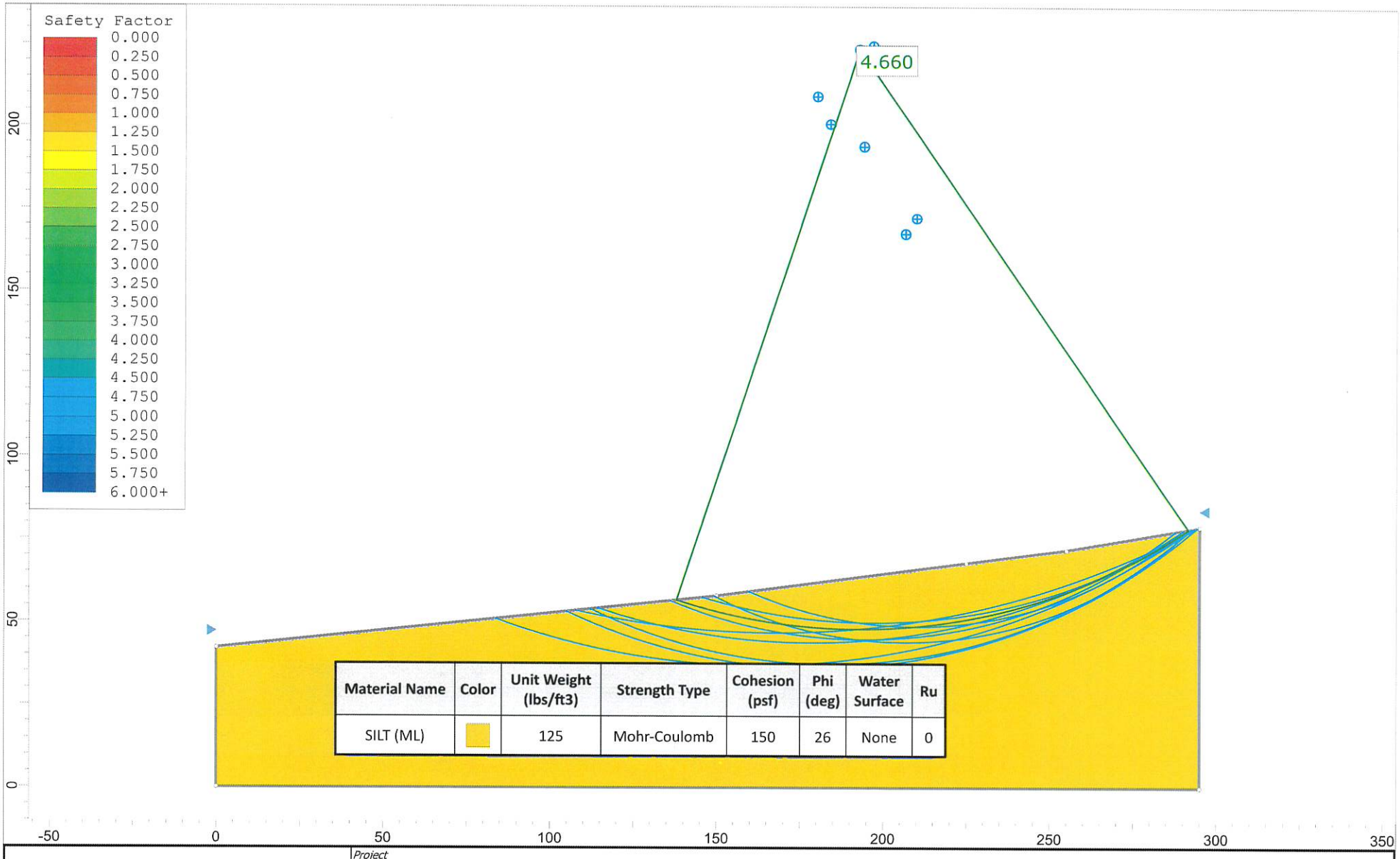
WATER SYMBOL

- Encountered Water Level
- Measured Water Level (see Remarks on Logs)

1. The results of laboratory tests on the samples collected are shown on the logs at the respective sample depths.
2. The subsurface conditions represented on the logs are for the locations specified. Caution should be exercised if interpolating between or extrapolating beyond the exploration locations.
3. The information presented on each log is subject to the limitations, conclusions, and recommendations presented in this report.

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Figure: 5



Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Ru
SILT (ML)		125	Mohr-Coulomb	150	26	None	0

CMT ENGINEERING LABORATORIES

SLIDEINTERPRET 7.038

Project	Lot 29 Providence Hollow			
Analysis Description	Rockery Wall			
Drawn By	J. Egbert	Scale	1:478	Company: CMT Engineering
Date	7/1/2020, 7:31:53 AM			File Name: Slope Stability.slim

Figure:

6

Rockery Wall Local Stability Evaluation

Backfill slope angle:	10	degrees (β)	Foundation soil γ :	125	pcf
Batter angle (from vertical):	26.6	degrees (α)	Foundation soil ϕ :	26	degrees
Soil/wall interface friction:	0	degrees (δ)	Found. soil cohesion:	150	psf
Surcharge pressure:	0	psf	Retained soil γ :	125	pcf
	static	**seismic**	Retained soil ϕ :	26	degrees
FS against sliding (Static & Seismic):	1.5	1.1	Retained soil cohesion:	150	psf
FS against overturning (Static & Seismic):	2.0	1.5	Rock boulder γ :	150	psf
FS for bearing (Static & Seismic):	2.5	1.5	Rock boulder ϕ :	45	degrees
Horizontal seismic coeff., k_h:	0.215	(typically ½ of PGA)	Embedment depth:	0.5	feet
Vertical seismic coeff., k_v:	0	(typically 0)	Average rockery wall γ :	150	pcf
Rock to Rock interface factor:	0.67	(typically 2/3)	Min. top rock size:	36	inches
Bearing Capacity	8480	psf (Meyerhoff)	Min.bottom rock size:	42	inches

STATIC

Wall Ht, H (ft)	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**7.0**	**8.0**
Back of wall, y (°)	0.0	14.0	18.4	20.6	21.8	22.6	23.2	23.6
Wall Wt, W (lbs/ft)	488	975	1463	1950	2438	2925	3413	3900
Wall $x_{centroid}$ (ft)	1.87	2.12	2.36	2.60	2.85	3.09	3.33	3.39
Wall $y_{centroid}$ (ft)	0.487	0.974	1.462	1.949	2.436	2.923	3.410	3.911
Coulomb K_a	0.4431	0.3424	0.3133	0.2994	0.2912	0.2858	0.2820	0.2792
F_a (lbs/ft)	0	0	1	1	47	149	281	442
$F_{sliding}$ (lbs/ft)	0	0	1	1	43	138	259	405
$F_{resisting}$ (lbs/ft)	238	475	713	951	1180	1399	1610	1816
$FS_{base\ sliding}$	**> 100**	**> 100**	**> 100**	**> 100**	**27.2**	**10.1**	**6.2**	**4.5**
$FS_{interface\ shear}$	**> 100**	**> 100**	**> 100**	**> 100**	**37.7**	**14.2**	**8.8**	**6.5**
$M_{overturn}$ (ft-lbs/ft)	0	0	1	1	72	276	603	1080
$M_{resisting}$ (ft-lbs/ft)	913	2062	3449	5074	6865	8788	10876	12404
$FS_{overturn}$	**> 100**	**> 100**	**> 100**	**> 100**	**95.0**	**31.8**	**18.0**	**11.5**
Eccentricity, e (ft)	-0.12	-0.36	-0.61	-0.85	-1.06	-1.22	-1.37	-1.31
Bearing Pressure	168	453	853	1370	1946	2538	3160	3443
$FS_{bearing}$	**50.4**	**18.7**	**9.9**	**6.2**	**4.4**	**3.3**	**2.7**	**2.5**

SEISMIC

Mononobe-Okabe K_{ae} =	0.7140	0.6100	0.5828	0.5703	0.5630	0.5583	0.5550	0.5525
F_{ae} (lbs/ft)	0	0	0	117	317	584	917	1318
$F_{sliding}$ (lbs/ft)	105	210	314	529	818	1168	1577	2046
$F_{resisting}$ (lbs/ft)	238	476	713	931	1131	1317	1488	1644
$FS_{base\ sliding}$	**2.3**	**2.3**	**2.3**	**1.8**	**1.4**	**1.1**	**0.9**	**0.8**
$FS_{interface\ shear}$	**3.1**	**3.1**	**3.1**	**2.5**	**2.0**	**1.7**	**1.4**	**1.3**
$M_{overturn}$ (ft-lbs/ft)	51	204	459	1079	2102	3557	5561	8211
$M_{resisting}$ (ft-lbs/ft)	913	2063	3450	4894	6393	7953	9548	10438
$FS_{overturn}$	**17.9**	**10.1**	**7.5**	**4.5**	**3.0**	**2.2**	**1.7**	**1.3**
Eccentricity (ft)	-0.02	-0.16	-0.30	-0.25	-0.10	0.12	0.44	1.09
Bearing Pressure	135	204	206	313	549	933	1534	2763
$FS_{bearing}$	**62.7**	**41.6**	**41.1**	**27.1**	**15.4**	**9.1**	**5.5**	**3.1**

Max. Recommended Wall Height: 6 feet for 36-inch (top row) to 42-inch (bottom row) size boulders

Notes:

1. Equations from "Recommended Rockery Design & Construction Guidelines" Publication FHWA-CLF/TD-06-006, Nov. 2006.
2. Cohesion included in active pressure force by subtracting ($2 * c * \sqrt{K_a}$), but force is not allowed to be less than 0.
3. Other equations: $W=[p*(\text{average rock radius})^2 * H] * g_{rock}$; $FS_{interface\ shear}=(\text{Rock to Rock interface factor}) * [W * \tan(f_{rock}) / P_{sliding}]$

Proposed Sanchez Residence

681 Spring Creek Parkway, Providence, UT

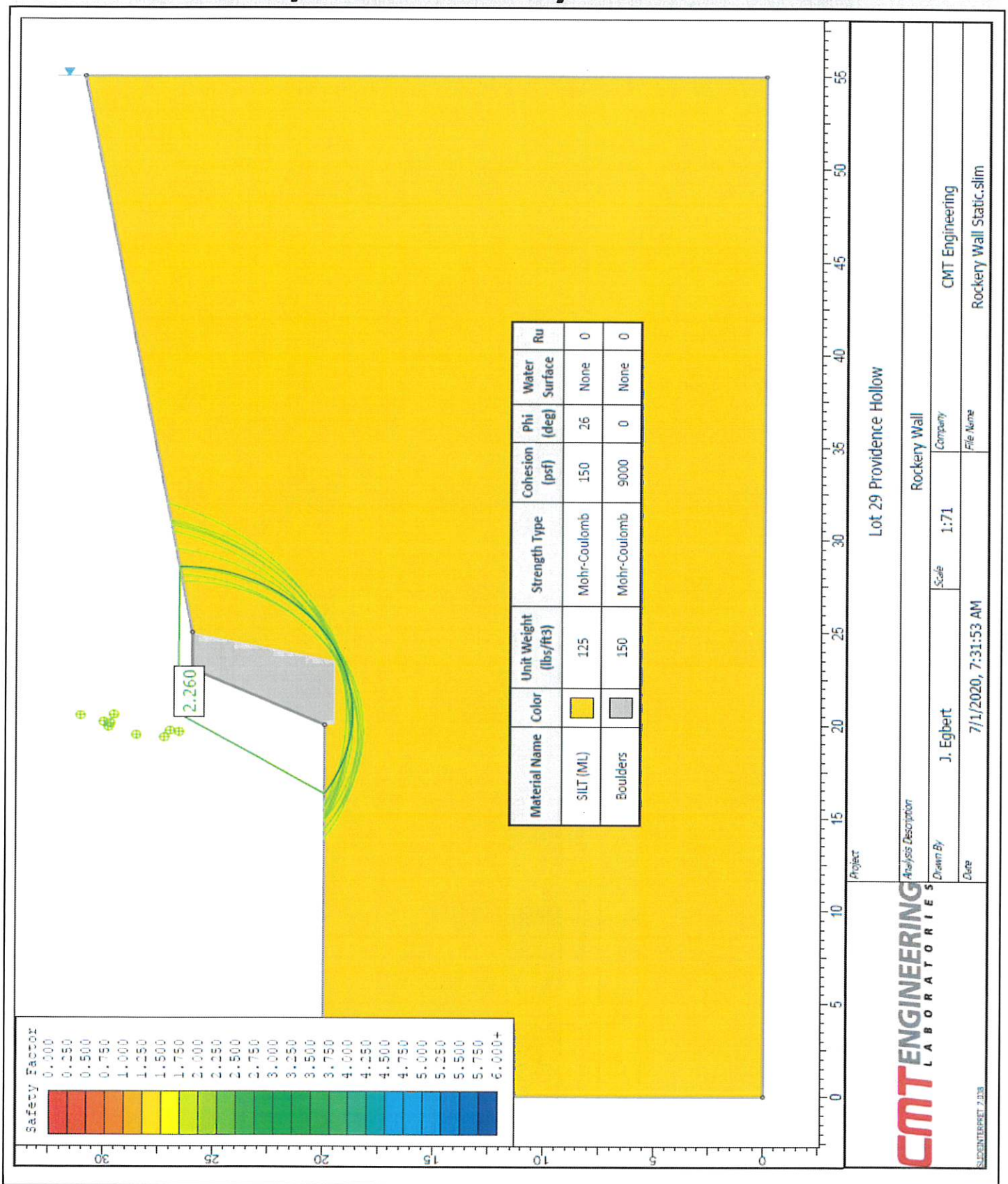
CMT ENGINEERING LABORATORIES

Evaluation

Date	1-Jul-20
Job No.	14735

Figure **7**

Rockery Wall Stability Results - Static



Proposed Sanchez Residence

681 Spring Creek Parkway, Providence, UT

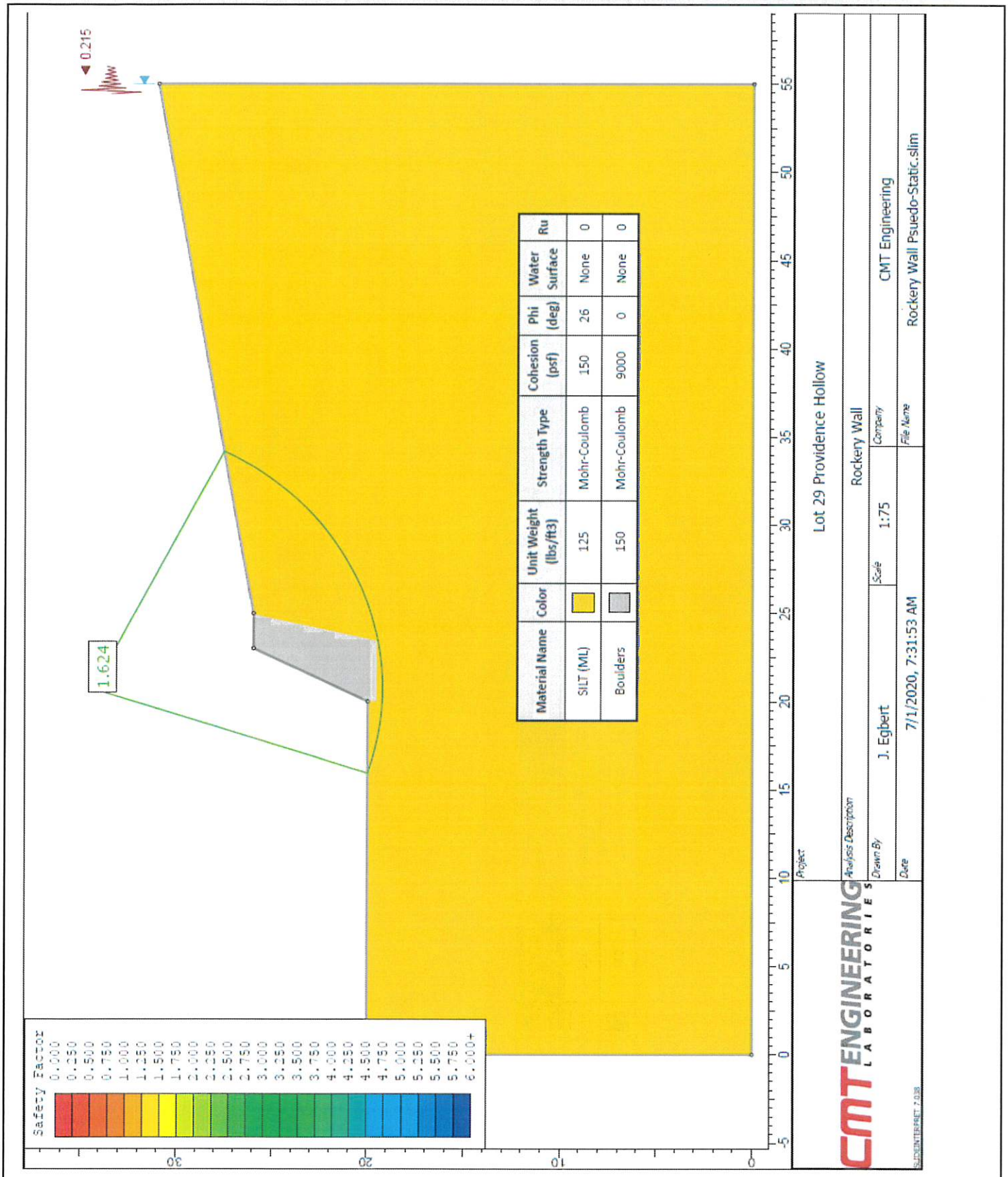
CMT ENGINEERING LABORATORIES

Results

Date	1-Jul-20
Job No.	14735

Figure 8

Rockery Wall Stability Results - Seismic



Proposed Sanchez Residence

681 Spring Creek Parkway, Providence, UT

CMT ENGINEERING LABORATORIES

Results

Date	1-Jul-20
Job No.	14735

Figure 9

Rockery Wall Details

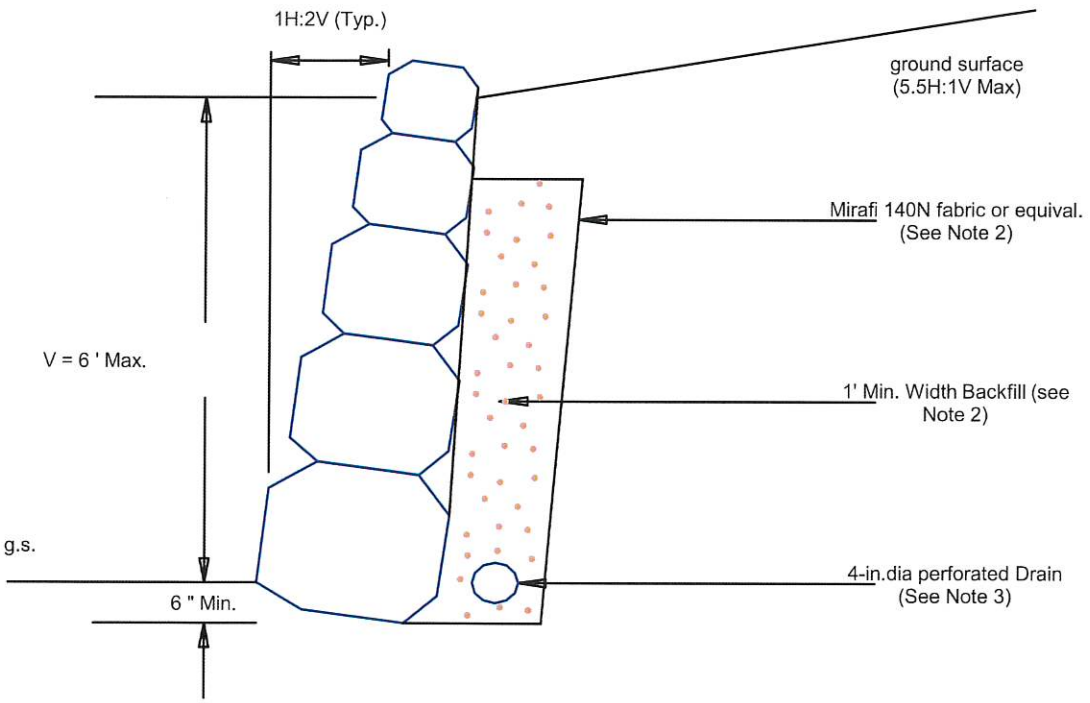
NOTES:

1. Backfill soils should be placed in loose lifts not exceeding a thickness of 12 inches, moisture conditioned to within 2% of optimum, and compacted to a minimum 95% of the maximum dry density as determined by ASTM D-1557.

2. Free-draining backfill shall consist of clean 3/4-inch to 2-inch size gravel having less than 10% passing the No. 4 sieve and less than 5% passing No. 200 sieve, or may use Miradrain (or equivalent) instead of gravel & fabric above the drain pipe.

3. Perforated drain shall be wrapped with fabric, sloped at a minimum 1%, and discharged to an appropriate drainage device.

4. Boulder depths into the hillside shall be a minimum 42 inches for the bottom row grading to a minimum 36 for the upper row for each tier.



NOT TO SCALE

Proposed Sanchez Residence **681 Spring Creek Parkway, Providence, UT**	CMT ENGINEERING LABORATORIES	**Wall Details**	**Date** 1-Jul-20 **Job No.** 14735	Figure 10

PROVIDENCE CITY Land Use Authority – Staff Report Meeting Date: August 5, 2020		
Request: Applicant is requesting approval of a commercial site plan for Civil Solutions Group Office Bldg.		
Item Type: Commercial Site Plan	**Applicant:** Danny Macfarlane (DADA, LLC)	**Address:** 498 W 100 S
Parcel ID #: 02-096-0090	**General Plan**: CGD	**Zone**: CGD

Background Information:

A complete application was received July 28, 2020; application contained:

1. Commercial Site Plan Application.
2. Payment of $50 fee.
3. Rob Stapley, Public Works director, inspected the current infrastructure on August 3, 2020.

FINDINGS OF FACT:

The following Providence City Code (PCC) list regulations and requirements to be considered.

1. 10-8-5 Commercial Zoned Districts; Site Development
2. Official Zoning Map Revised Jan. 2019

CONCLUSIONS OF LAW:

1. The property is located in a CGD zone.
2. The applicant meets the requirements of 10-8-5 with the following conditions.

CONDITIONS:

1. The applicant will continue to meet all relevant federal, state, county, and Providence City rules, laws, codes, ordinances.
2. The applicant has met the parking requirements. Once the construction drawings are reviewed and approved, if any changes to the construction drawings are made, the parking will need to be reviewed to make sure it still meets Providence City standards.
3. Approval by the City of any application submitted or paperwork does not alleviate the owners and/or their agents from their responsibility to understand and conform to local, state, and federal laws. Providence City's approval is not intended to and cannot be construed to allow any laws to be violated.

DRAFT

Commercial Site Plan Application

FOR OFFICE USE ONLY	
Date	
Payment Form	
Amount	
Receipt #	
Clerk	

Date: 7/28/20

Please Note: City Staff will NOT accept the application and fee payment if they are incomplete. Incomplete applications will NOT be processed or scheduled for review by the City. Application fees do not include professional firm fees, which will be billed separately. Engineered site plans may, at the City's discretion, be required. The City will contact the applicant if an engineered site plan is deemed necessary. Accessory buildings include sheds (over 200 sq ft) and all detached buildings (shop, garage, etc.)

Name DANNY MACFARLANE Initial DM

Required Submittals

- ✓ $50 application fee
- Cache County Plat Map
- Storm Water Pollution Prevention Plan and Notice of Intent if applicable (see #10 below)
- Site Plan. The site plan must meet all the requirements for Commercial Zoned Districts in Providence City Code 10-8-5. The site plan must include:
  1. ✓ Show north arrow, scale, building location, property lines, setbacks, abutting rights-of-way, parking layout, ADA parking and ramps, entrances to site, curbs, water and sewer lines, fire hydrants, fire lanes, storm drain lines and appurtenances.
  2. ✓ Show all existing fire hydrants within 300 feet.
  3. ✓ Show parking/loading computations for proposed use. ADD
  4. ✓ Show connectivity with adjacent parking lots and interior private roadways. ✓
  5. ✓ Show landscaping computations for proposed use. ADD
  6. ✓ Provide elevations with rendered elevations for all elevations. Include color renderings of design concept or intent, site elements, and building facades. ✓
  7. ✓ Provide floor plans; include the proposed low floor elevation. ✓
  8. ✓ Provide cross-sections of the site showing spatial relationships between all vertical elements (building, trees, berms, light standards, etc.) as they relate to activities and use of streetscape, pedestrian, and parking areas. ADD
  9. ✓ Provide lighting and signage plan for the entire site. Indicate how signs will be illuminated, their design and spatial relationship to other site amenities including buildings, and a graphic example of each type of sign. This does not take the place of a sign permit application.
  10. ✓ Provide storm water pollution prevention plan if the site disturbs an acre or more, or is part of a larger development. ✓
  11. ✓ Provide cost estimates for site development, including but not limited to: landscaping, parking/loading areas, pedestrian areas. ADD
  12. ✓ Summary data indicating the area of the site in the following classification: total area of the lot, total area and percentage of the site utilized by buildings, total area and percentage of the site in landscape area, total area and percentage of the site for parking areas (including the number of parking spaces).

RECEIVED
JUL 28 2020
By J Bardsley

Applicant Information

Name: DADA LLC (DANNY MACFARLANE)
Mailing address: 540 W. GOLF COURSE RD SUITE B1 PROVIDENCE, UT 84332
Telephone: 4357607489 Email: danny@csg.work

Property Owner Information (If applicant is not the property owner, the application **must** include the property owner's information and written consent for the applicant to pursue the permit)

Name: SAME
Mailing address:
Telephone: Email:

Project Information

Address: 498 WEST 100 SOUTH PROVIDENCE, UT 84332

Subdivision: Reese CORNER COMMERCIAL Parcel Tax ID: 02-096-0090

Valuation: $ 60,000 Zone COMM Height 50 Initial DM

Setbacks (front yard) 15 (side yard) _____ (rear yard) _____ Initial _____

Type of commercial use (restaurant, office, etc): OFFICE

Name of business CIVIL SOLUTIONS GROUP

Contractor Information

Name: ASHTON BUILDING COMPANY (GENE ASHTON)

Mailing address: 528 N. 520 E. PROVIDENCE, UT 84332

Telephone: 801.599.4891 Email: gene.ashton@gmail.com

Stormwater Notice of Intent (NOI) Information

NOI No. UTR N/A Permit issued to: _____

If this construction will occur in an approved subdivision, you may be able to use the NOI permit taken out by the development contractor or the developer. If you have to obtain your own NOI permit, please visit: https://secure.utah.gov/account/log-in.html. You will create a log in and then access the Storm Water Permit Issuance System. There is a $150 NOI fee, paid directly to the state when you file your permit.

Property owner and contractor shall have responsibility to determine grades, and final placement and elevations of footings/foundations. Property owner and contractor shall be responsible for compliance with all state, national and local building codes and ordinances.

Initial DM Name DANNY M.

Approval by the city of any application submittal or paperwork does not alleviate the owners from their responsibility to understand and conform to local, state and federal laws. Providence City's approval is not intended to and cannot be construed to allow any laws to be violated.

Initial DM

By signing this document, you agree that Providence City will bill you for any and all professional firm fees as they arise throughout the approval process. This is in addition to application fees. All subdivisions require engineering review throughout the approval process, such as but not limited to reviews of development agreements, construction drawings, preliminary and final plats, and inspections. These services are billed by our city engineer at an hourly rate. Some subdivision applications may also require legal review. Other applications, such as but not limited to conditional uses, may also require engineering and/or legal review at the City's discretion. You agree to reimburse the City for all such costs, whether or not you were forewarned about such costs, and that the City cannot predict all situations in which professional services may be required in order to process your application. Initial DM

All Applicants Must Read the Following Before Signing This Application

The granting of a zoning permit does not override any federal, state, or local building code or authorize any individual to violate any local law or ordinance. Approval of this permit does not constitute a representation by the City that it will be liable for any issues arising from the construction of homes and other structures in a Sensitive or Hazard Area. It is the responsibility of the property owner to comply with all relevant local, state, and federal laws and regulations, including but not limited to Providence City Code 10-5 outlined below:

Sensitive and Hazard Areas:

1. JURISDICTIONAL WETLANDS: As Defined by the US Army Corps of Engineers
2. STEEP SLOPES: Where the rise or fall of the land is equal to or exceeds 30% over a horizontal distance of 50 feet or greater measured perpendicular to the contour lines.
3. NATURAL WATERWAYS OR OPEN WATER: Including but not limited to: rivers, creeks, or streams. Identified as those areas where surface waters flow sufficiently to produce a defined channel or bed.

4. FLOODPLAINS: See definitions in Chapter 16 Section 3 of this Title.
5. CRUCIAL WILDLIFE HABITAT AREAS: As identified by the State Division of Wildlife Resources (DWR)
6. GEOLOGICAL HAZARD AREAS: Earthquake fault lines or areas prone to debris flows, landslides, high or extreme liquefaction potential, and rock falls as identified by the US Geological Survey (USGS)
7. WILDFIRE HAZARD AREAS: Areas of the City designated as having moderate to extreme potential for wildfire hazards as identified by the City.
8. HAZARD WATER TABLE AREA: An area where potential ground water levels may occur within 12 feet of the natural grade.

By submitting this application, I affirm that I have read and understand the Title 10 Chapter 5 requirements for construction on property in the Sensitive or Hazard Area. I understand that the City is not liable for any issues which may arise because of the construction of structures in the Sensitive or Hazard Areas of the City. The property owner and their agents assume all liability for placing structures in this area of the City. I hereby certify that I am the property owner or authorized agent and I have read and examined this application and understand that the City has no liability. I accept responsibility for all soils and hazardous conditions on the site.

I declare under penalty of perjury that I am making this application of my own free will and choice and that the statements, answers, and documents submitted in connection with this application are true and correct to the best of my knowledge.

Signature of Applicant	Printed Name	Date
	DANNY MACFARLANE	7/28/20

Public Works Infrastructure Inspection

Project Address: 498 W 100 S Civil Solutions Office Building
Contact Name: Ashton Building Co. (Gene Ashton)
Phone Number: 801-599-4891

Inspection	Pass/Fail	Notes
Concrete	Pass	
Curb/Gutter	Pass	
Utilities	Pass	(lot 1 utilities not yet installed)
□ **Conditional Use Fire Hydrants: Location Flow**		
SWPPP Needed: Yes **No**		SWPPP Completed: Yes No **N/A**
NOI Needed: Yes No		NOI UTR:_____ NOI Issued To:_____
Inspection Completed by_____		Date 8.3.2020

Final Inspection	Pass/Fail	Notes
Concrete		
Curb/Gutter		
Utilities		
Inspection Completed by_____		Date_____

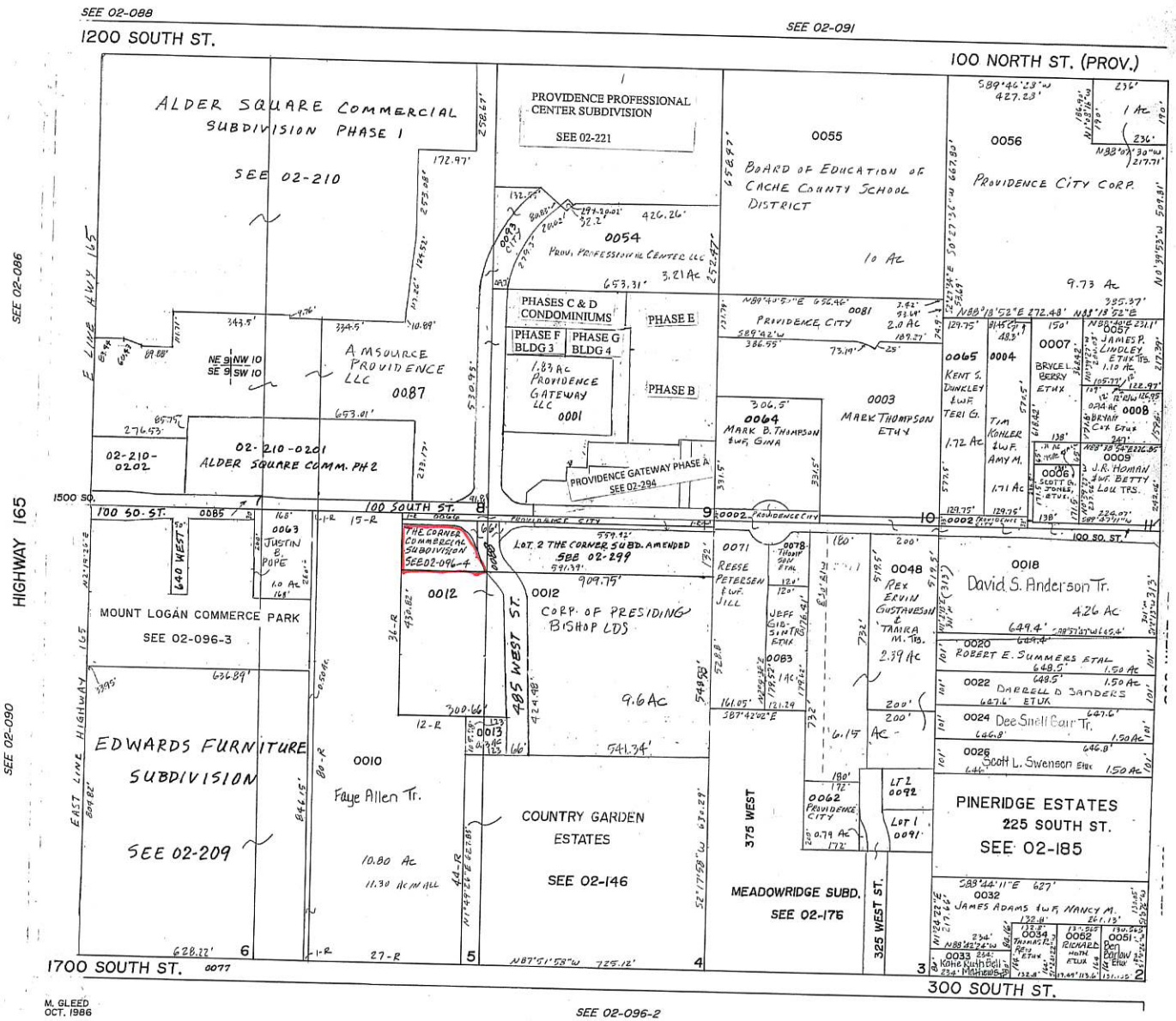
Section 9,10 **Township** 11 **North** **Range** 1 **East**

02-096

Scale 1 Inch = 200 Feet

T.U. 09

BLK. 27 PLAT "A" PROVIDENCE FARM SVY.



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By

The Corner Commercial Public Improvements

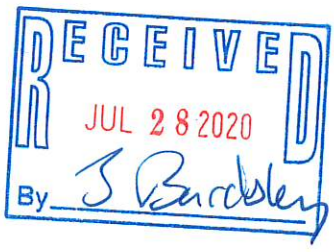
Bonding Estimate (NOT FOR BIDDING)

Civil Solutions Group, Inc.
540 W Golf Course Road, Suite B1, Providence, UT 84332
Providence, UT 84332
Telephone 435-213-3762
mtaylor@civilsolutionsgroup.net

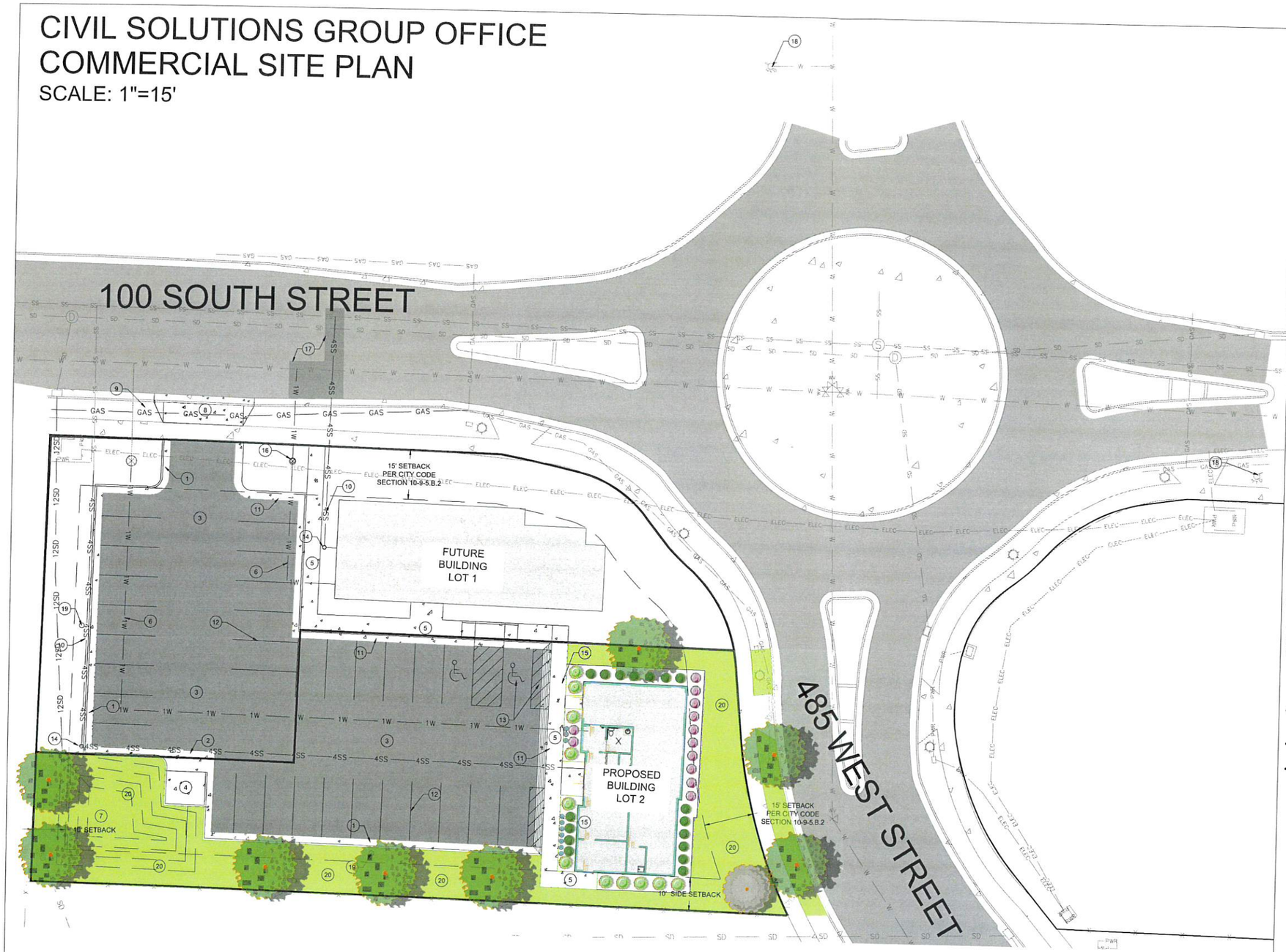
Date: August 19, 2019

	Description	Quantity	Unit	Amount	Total Amount
	General				
1	Connecting to Existing Storm Drain	1	EA	$1,000.00	$1,000.00
2	Drive Apron w/ curb cut	248	SF	$5.00	$1,240.00
3	Replacement of sidewalk w/ 6" thick concrete across drive access	122	SF	$5.00	$610.00
				SUBTOTAL	**$2,850.00**
				CONTINGENCY (5%)	$142.50
				GRAND TOTAL	**$2,992.50**

Created by: B. Elwood



CIVIL SOLUTIONS GROUP OFFICE
COMMERCIAL SITE PLAN
SCALE: 1"=15'



① SHEET KEY NOTES

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

1. CLOSED-FACE CURB AND GUTTER (1/C501).
2. HEAVY DUTY CONCRETE (3/C501).
3. STANDARD DUTY ASPHALT (2/C501).
4. TRASH ENCLOSURE (4/C501).
5. CONCRETE SIDEWALK (1/C502).
6. 1" WATER SERVICE (5/C502).
7. STORMWATER POND (SEE STORM DRAIN PLAN).
8. CONCRETE DRIVEWAY OR DRIVEWAY SECTION (3/C502).
9. PROPOSED MAILBOX LOCATION.
10. 4" SEWER SERVICE (5/C502)(7/502).
11. OPEN-FACE CURB AND GUTTER. (2/C502).
12. 4" PAINT LINES
13. ADA PAINT MARKINGS
14. SEWER CLEAN-OUT
15. PARALLEL ADA RAMP (8/502)
16. 1" WATER METER (01/C503)
17. SAWCUT AND REPLACE ASPHALT PATCH
18. EXISTING FIRE HYDRANT
19. PROPOSED LIGHT POLE.
20. PROPOSED GRASS.

GENERAL NOTES

- ALL SURFACE IMPROVEMENTS DISTURBED BY CONSTRUCTION AND NOT CALLED OUT FOR REMOVAL ON THESE PLANS SHALL BE RESTORED OR REPLACED, INCLUDING TREES, ORNAMENTAL SHRUBS, SOD, FENCES, WALLS, & STRUCTURES, WHETHER OR NOT THEY ARE SPECIFICALLY SHOWN ON THE CONTRACT DOCUMENTS.
- CONTRACTOR TO CLEAR & GRUB WITHIN CONSTRUCTION LIMIT LINE. STOCKPILE ALL TOPSOIL FOR USE IN LANDSCAPE AREAS.
- ALL WORK TO COMPLY WITH THE GOVERNING AGENCIES STANDARDS & SPECIFICATIONS.
- ALL WATER AND SEWER LINES SHALL BE SEPARATED BY MINIMUM OF 10-FEET HORIZONTAL DISTANCE FROM OUTSIDE OF PIPE. A MINIMUM VERTICAL SEPARATION OF 18" SHALL ALSO BE PROVIDED.
- CONTRACTORS SHALL MAINTAIN A MINIMUM OF 2% SLOPE ON ALL SEWER SERVICES.
- POWER - CONTRACTOR SHALL COORDINATED WITH OWNER LOCATION AND LAYOUT OF THE POWER LINE. CONTRACTOR SHALL BE RESPONSIBLE TO TRENCH, BED, INSTALL, AND FILL IN THE POWER TRENCH AND PROVIDE THE REQUIRED PVC SCHEDULE 40 CONDUIT. SEE ELECTRICAL PLAN FOR POWER CONNECTION.
- TELEPHONE AND CABLE - CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES FOR LOCATION OF CONDUIT CROSSINGS AND SHALL INSTALL CONDUITS.
- GAS - CONTRACTOR SHALL COORDINATE INSTALLATION OF GAS WITH DOMINION ENERGY.
- LOCATION OF POWER & GAS LINES IS SCHEMATIC, CONTRACTOR TO COORDINATE WITH RESPECTIVE UTILITY COMPANIES.
- ALL IMPROVEMENTS MUST COMPLY WITH ADA STANDARDS.
- ALL PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

SITE NOTES

- TOTAL SITE AREA: 0.33 ACRES (14,374 SF)
- TOTAL BUILDING AREA FOOTPRINT: 1,809 SF (13%)
- TOTAL PARKING AREA: 6,478 SF (45%)
- PARKING COMPUTATION: OFFICE REQUIREMENT IS 1 STALL PER EACH TWO EMPLOYEES WORKING THE SHIFT WITH THE GREATEST NUMBER OF EMPLOYEES.
  - GREATEST SHIFT = 12 EMPLOYEES.
  - REQUIRED STALLS = 6 STALLS
  - PROVIDED STALLS LOT 2 = 17 STALLS
- LANDSCAPE COMPUTATIONS: REQUIREMENT OF 15% OF THE SITE BE LANDSCAPED.
  - LANDSCAPE AREA = 6,087 SF (42% OF LOT 2)
  - 6 TREES ARE REQUIRED.
- LIGHTING: SITE SHALL BE LIT BY TWO PARKING LOT LIGHTS AS SHOWN. SIGNS FOR LOT 2 BUILDING WILL BE ON THE BUILDING AS SHOWN.
- STORM WATER POLLUTION PLAN: LESS THAN 1 ACRE NO SWPPP NEEDED.

N

0 15' 30'

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THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF CIVIL SOLUTIONS GROUP, INC. AN SHALL NOT BE PHOTOCOPIED, RE-DRAWN, OR USED ON ANY OTHER PROJECT OTHER THAN THE PROJECT SPECIFICALLY DESIGNED FOR, WITHOUT WRITTEN PERMISSION. THE OWNERS AND ENGINEERS OF CIVIL SOLUTIONS GROUP, INC. DISCLAIM ANY LIABILITY FOR ANY CHANGES OR MODIFICATIONS MADE TO THESE PLANS OR THE DESIGN THEREON WITHOUT THEIR CONSENT. THESE PLANS ARE DRAWN TO SCALE WHEN PLOTTED ON A 24" X 36" SHEET OF PAPER. THESE PLANS ARE PRODUCED IN COLOR AND SHOULD BE PLOTTED AS SUCH.

civilsolutionsgroup inc.
CACHE VALLEY | P: 435.213.3762
SALT LAKE | P: 801.216.3192
UTAH VALLEY | P: 801.874.1432
info@civilsolutionsgroup.net
www.civilsolutionsgroup.net

CIVIL SOLUTIONS GROUP
OFFICE BUILDING
498 WEST 100 SOUTH
PROVIDENCE, UTAH 84332

MARK	DATE	DESCRIPTION

PROJECT #:	18-009
DRAWN BY:	D. MACFARLANE
PROJECT MANAGER:	D. MACFARLANE
ISSUED:	07.28.20

PROFESSIONAL ENGINEER
07.28.20
No. 8243188-2202
MICHAEL D. TAYLOR
STATE OF UTAH

SITE PLAN

C-101



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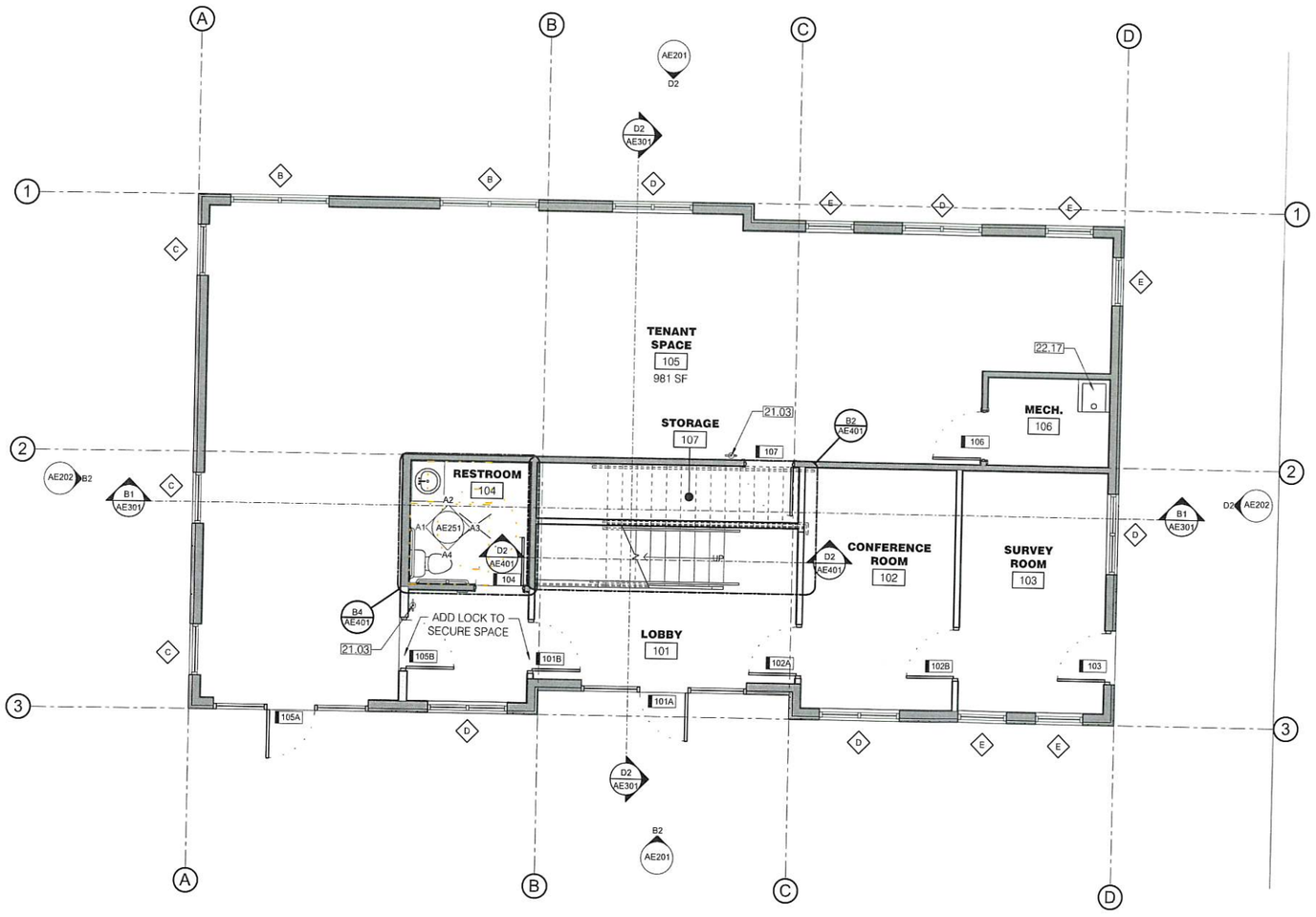
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JUL 28 2020
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By



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By



C2 AE101 MAIN LEVEL
SCALE: 1/4" = 1'-0"

KEYNOTES

21.03 BRACKET-MOUNTED FIRE EXTINGUISHER.
22.17 MOP SINK.

GENERAL NOTES

A. GENERAL CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. REPORT ANY SIGNIFICANT DISCREPANCIES TO THE ARCHITECT.
B. COORDINATE INSTALLATIONS OF ALL "AFTER CONTRACT" ASSEMBLIES WITH OWNER PRIOR TO CONSTRUCTION OF ADJOINING OR RELATED STRUCTURES.
C. PROVIDE 18" MINIMUM CLEAR FLOOR SPACE AT PULL SIDE OF ALL DOORS. PROVIDE 12" MINIMUM CLEAR FLOOR SPACE AT PUSH SIDE OF ALL DOORS.
D. DIMENSIONS ARE TO FACE OF STUD TO FACE OF STUD.
E. ALL COLORS SELECTIONS AND FINISH MATERIALS AND STYLES SHALL BE COORDINATED WITH OWNER.
F. LOCATE DOOR JAMBS 4" FROM WALLS U.N.O.
G. SEE SHEETS AE151 AND AE152 FOR REFLECTED CEILING PLAN.
H. SEE SHEETS AE171AND AE172 FOR FINISH INFORMATION.
I. SEE AE601 FOR DOOR AND WINDOW INFORMATION.
J. GENERAL CONTRACTOR SHALL REVIEW AND APPROVE ALL APPLIANCES WITH OWNER PRIOR TO PURCHASING EQUIPMENT AND FABRICATING MILLWORK.
K. SEE G002 FOR WALL TYPES.
L. PROVIDE BACKING FOR WALL MOUNTED ITEMS AND EQUIPMENT.
M. DO NOT SCALE DRAWINGS.

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JUL 28 2020
By

FIVE DEGREES DESIGN
1457 EAST 840 NORTH
OREM, UTAH 84097
801.960.9381
chris@fivedegreesdesign.com

DATE: 10 JUNE 2020
PROJECT #: 19-066
DRAWN BY: RDW
CHECKED BY: BCH

REVISIONS

STATE OF UTAH
CHRISTOPHER
HUNTER
9846051
10/21/2019
LICENSED ARCHITECT

PROJECT
CIVIL SOLUTIONS GROUP OFFICE BUILDING

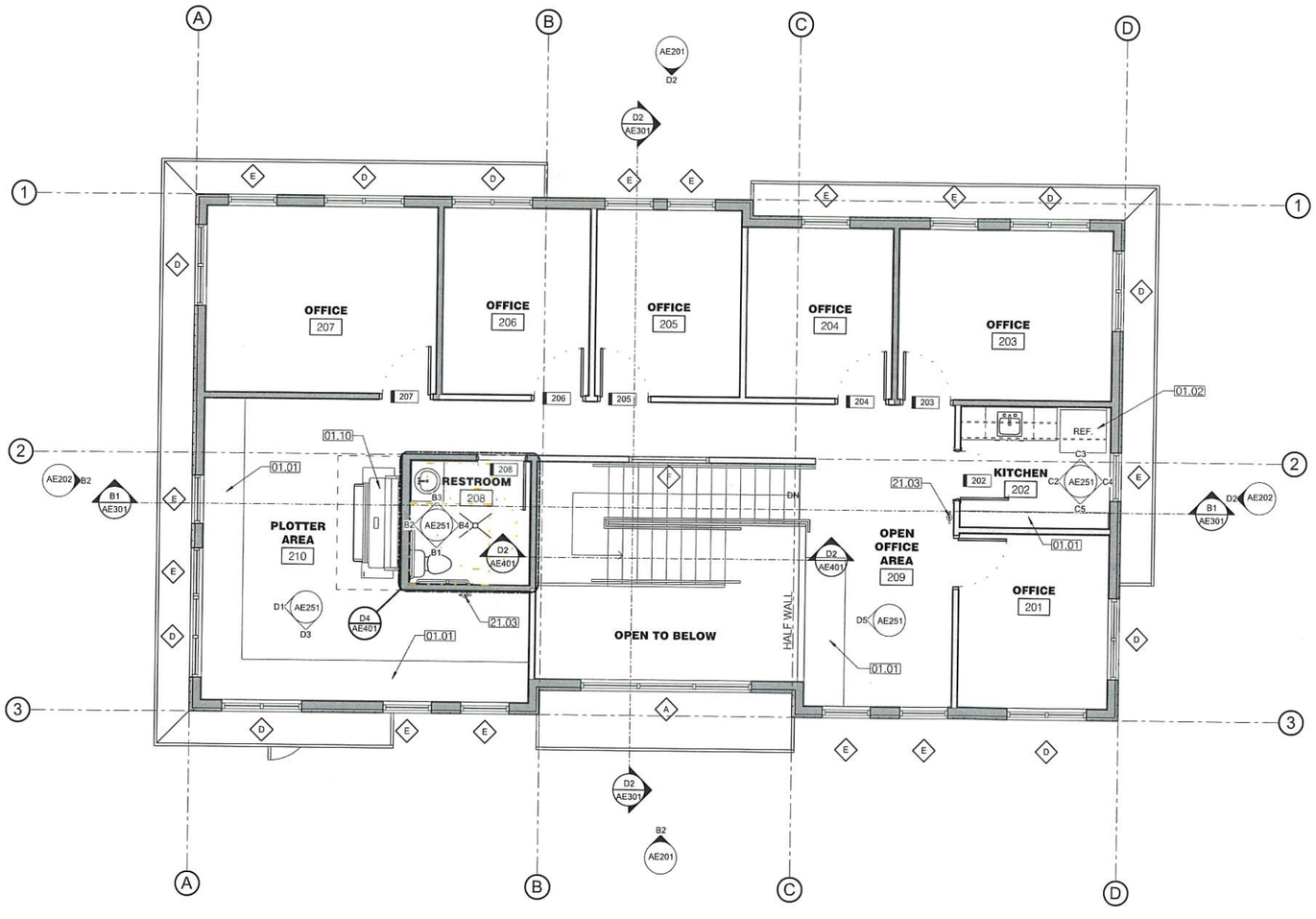
ADDRESS:
100 SOUTH 485 WEST
PROVIDENCE, UT 84332

ARCHITECTURAL

MAIN LEVEL FLOOR PLAN

AE101

6/23/2020 2:34:11 PM Y:\SD Projects\2019\19-066 Civil Solutions Group Office Building\03 Drawings\02 Revit\CivilSolutions Office Building - V8.rvt



C2 AE102 SECOND LEVEL
SCALE: 1/4" = 1'-0"

KEYNOTES

01.01 OWNER FURNISHED FURNITURE.
01.02 OWNER FURNISHED APPLIANCE.
01.10 OWNER FURNISHED PLOTTER.
21.03 BRACKET-MOUNTED FIRE EXTINGUISHER.

GENERAL NOTES

A. GENERAL CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. REPORT ANY SIGNIFICANT DISCREPANCIES TO THE ARCHITECT.
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801.960.9381
chris@fivedegreesdesign.com

DATE: 10 JUNE 2020
PROJECT #: 19-066
DRAWN BY: RDW
CHECKED BY: BCH

REVISIONS

STATE OF UTAH
CHRISTOPHER
HANSEN
9846051
02/21/2019
REGISTERED
ARCHITECT

PROJECT
CIVIL SOLUTIONS GROUP OFFICE BUILDING

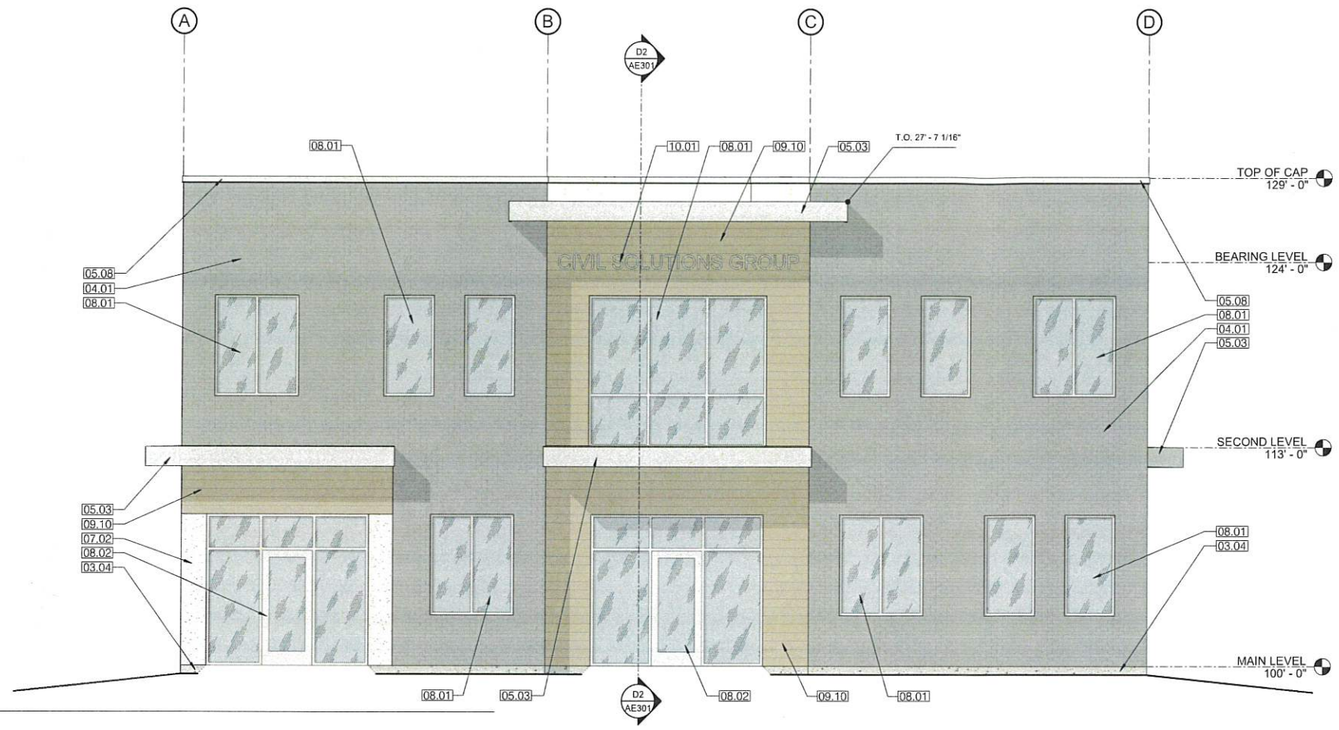
ADDRESS:
100 SOUTH 485 WEST
PROVIDENCE, UT 84332

ARCHITECTURAL

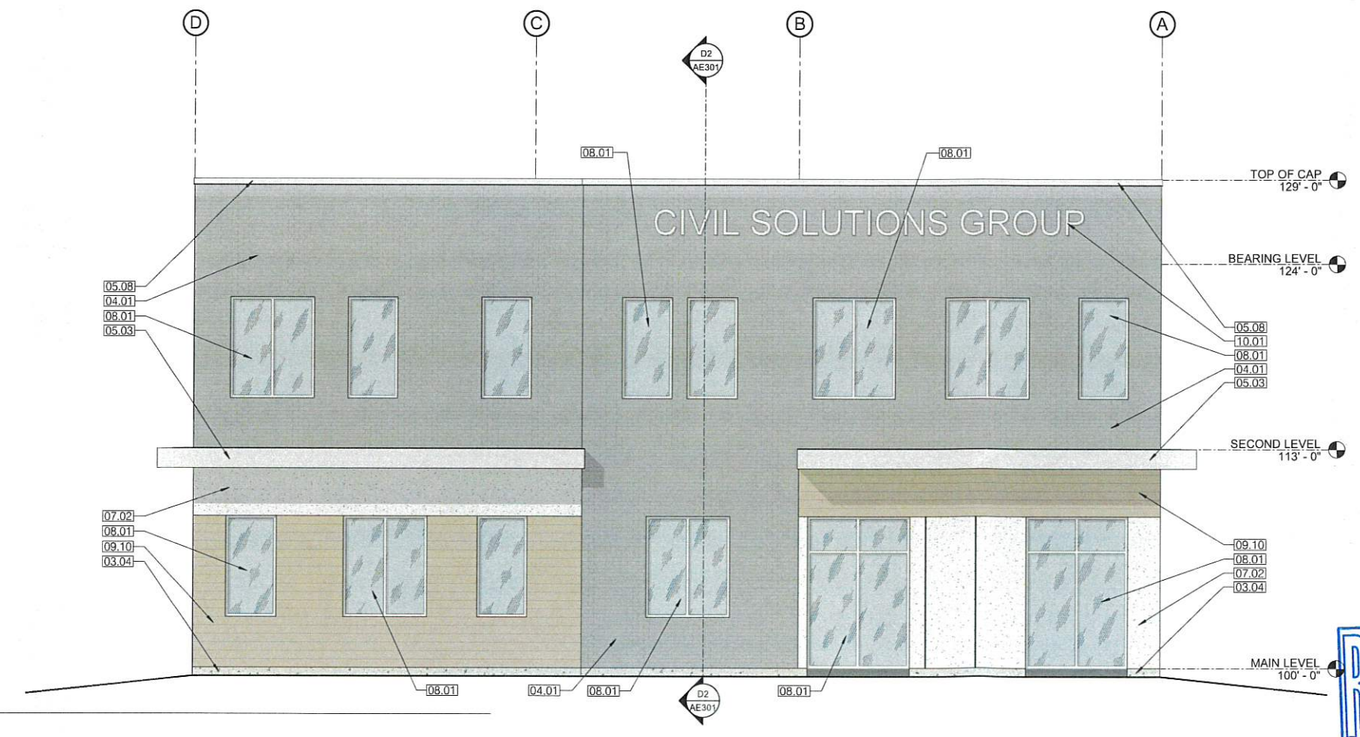
SECOND LEVEL FLOOR PLAN

AE102

6/23/2020 2:34:13 PM Y:\SD Projects\2019-19-066 Civil Solutions Group Office Building\03 Drawings\02 Revit\CivilSolutions Office Building - V8.rvt



B2 AE201 *WEST ELEVATION*
SCALE: 1/4" = 1'-0"



D2 AE201 *EAST ELEVATION*
SCALE: 1/4" = 1'-0"

KEYNOTES

03.04	CONCRETE FOUNDATION WALL.
04.01	THIN BRICK VENEER, COLOR AND STYLE BY OWNER.
05.03	PRE-FINISHED METAL FASCIA.
05.08	PRE-FINISHED METAL CAP.
07.02	HARD COAT STUCCO SYSTEM.
08.01	PRE-FINISHED ALUMINUM STOREFRONT WINDOW SYSTEM, CLEAR ANODIZED.
08.02	PRE-FINISHED ALUMINUM ENTRY SYSTEM, CLEAR ANODIZED.
09.10	EXTERIOR WOOD SIDING.
10.01	PROVIDE BACKING FOR EXTERIOR WALL-MOUNTED SIGNAGE. PROVIDE POWER.

MATERIAL LEGEND

- THIN BRICK VENEER, COLOR AND STYLE BY OWNER
- EXTERIOR WOOD SIDING
- HARD COAT STUCCO SYSTEM

GENERAL NOTES

A. GENERAL CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. REPORT ANY SIGNIFICANT DISCREPANCIES TO THE ARCHITECT.
B. COORDINATE INSTALLATIONS OF ALL "AFTER CONTRACT" ASSEMBLIES WITH OWNER PRIOR TO CONSTRUCTION OF ADJOINING OR RELATED STRUCTURES.
C. ROOFING TO BE CLASS 'C' MINIMUM.
D. PROVIDE METAL FLASHING AND COUNTER FLASHING AS REQUIRED TO PROVIDE WATERPROOF BUILDING. NO PLASTIC FLASHING ALLOWED.
E. EXPOSED CONCRETE FOUNDATION WALLS TO RECEIVE RUBBED FINISH. ALL ROOF PENETRATIONS MAY NOT BE SHOWN. REFER TO ENGINEERING SHEETS FOR ALL REQUIRED PENETRATIONS AND DETAILING.
F. SEE MECHANICAL SHEETS FOR BATHROOM EXHAUST, CLOTHES DRYER VENTS, AND OTHER PENETRATIONS IN EXTERIOR WALLS AND ROOF.
G. SEE PLUMBING SHEETS FOR GAS METER AND SECONDARY ROOF DRAINAGE BRASS SCUPPER LOCATIONS ALONG EXTERIOR WALLS.
H. SEE ELECTRICAL SHEETS FOR ELECTRICAL METER, GEAR, AND EXTERIOR LIGHT FIXTURE LOCATIONS.
I. SEE AE601 FOR DOOR AND WINDOW INFORMATION.
J. PROVIDE PRE-FINISHED CUT ALUMINUM NUMBERS AND LETTERS ON THE FRONT, EXTERIOR OF THE BUILDING INDICATING THE BUILDING ADDRESS ASSIGNED BY THE CITY IN ACCORDANCE WITH CURRENT CITY ORDINANCE. COLOR OF NUMBERS AND LETTERS TO CONTRAST SIGNIFICANTLY WITH BACKGROUND COLOR OF EXTERIOR WALL. THE ADDRESS MUST BE PERMANENTLY FASTENED TO THE EXTERIOR OF THE BUILDING PRIOR TO OCCUPANCY. THE OWNER IS RESPONSIBLE TO OBTAIN A SEPARATE PERMIT FOR ANY EXTERIOR SIGNS IN ACCORDANCE WITH THE CURRENT CITY SIGN ORDINANCE.

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By

FIVE DEGREES DESIGN
1457 EAST 840 NORTH
OREM, UTAH 84097
801.960.9381
chris@fivedegreesdesign.com

DATE:	10 JUNE 2020
PROJECT #:	19-066
DRAWN BY:	RDW
CHECKED BY:	BCH

REVISIONS

STATE OF UTAH · CHRISTOPHER HUNTER · 9846051 · 12/21/2019 · REGISTERED ARCHITECT

PROJECT
CIVIL SOLUTIONS GROUP OFFICE BUILDING

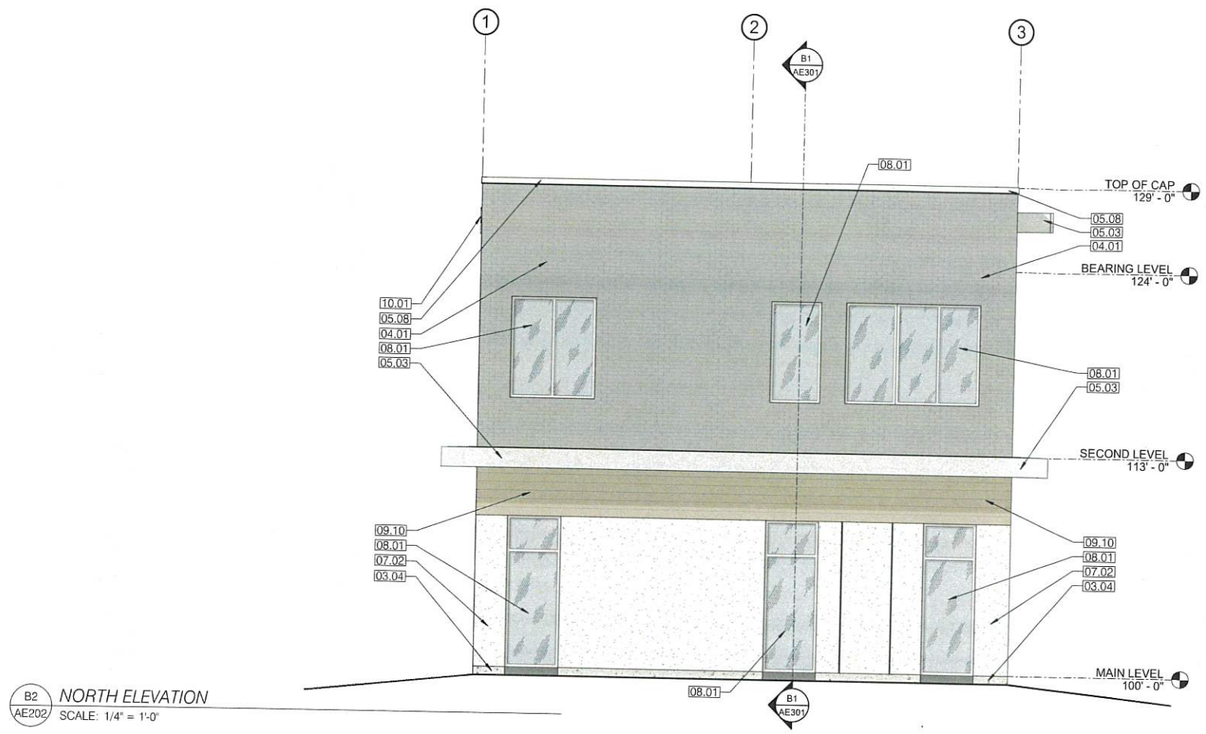
ADDRESS:
100 SOUTH 485 WEST
PROVIDENCE, UT 84332

ARCHITECTURAL

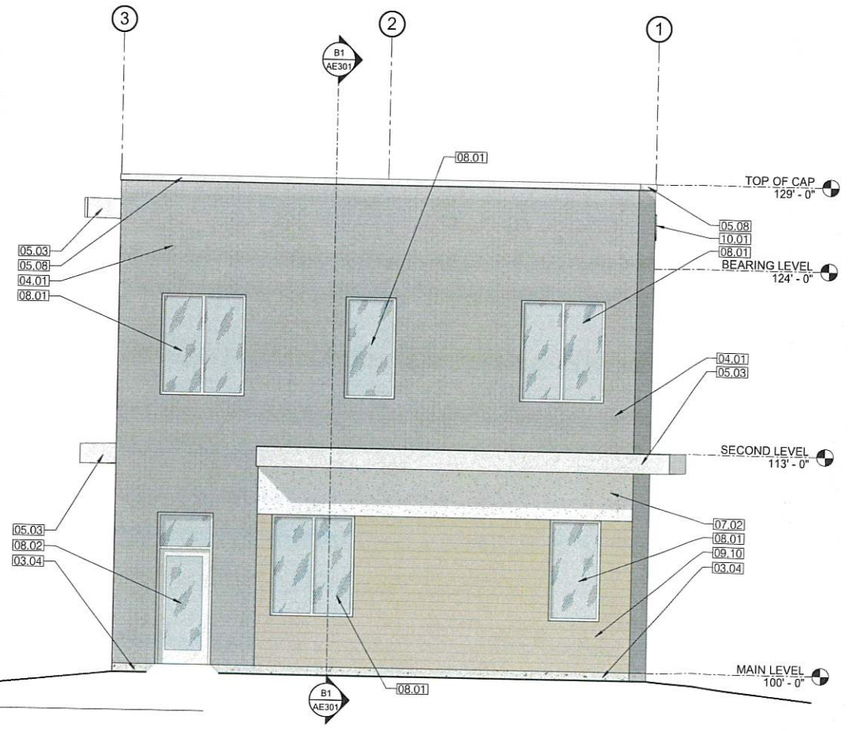
EXTERIOR ELEVATIONS

AE201

6/23/2020 3:16:33 PM Y:\5D Projects\2019\19-066 Civil Solutions Group Office Building\03 Drawings\02 Revit\Civil Solutions Office Building - V8.rvt



B2 / AE202 *NORTH ELEVATION*
SCALE: 1/4" = 1'-0"



D2 / AE202 *SOUTH ELEVATION*
SCALE: 1/4" = 1'-0"

KEYNOTES

03.04	CONCRETE FOUNDATION WALL.
04.01	THIN BRICK VENEER, COLOR AND STYLE BY OWNER.
05.03	PRE-FINISHED METAL FASCIA.
05.08	PRE-FINISHED METAL CAP.
07.02	HARD COAT STUCCO SYSTEM.
08.01	PRE-FINISHED ALUMINUM STOREFRONT WINDOW SYSTEM, CLEAR ANODIZED.
08.02	PRE-FINISHED ALUMINUM ENTRY SYSTEM, CLEAR ANODIZED.
09.10	EXTERIOR WOOD SIDING.
10.01	PROVIDE BACKING FOR EXTERIOR WALL-MOUNTED SIGNAGE. PROVIDE POWER.

MATERIAL LEGEND

THIN BRICK VENEER, COLOR AND STYLE BY OWNER

EXTERIOR WOOD SIDING

HARD COAT STUCCO SYSTEM

GENERAL NOTES

A. GENERAL CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. REPORT ANY SIGNIFICANT DISCREPANCIES TO THE ARCHITECT.
B. COORDINATE INSTALLATIONS OF ALL "AFTER CONTRACT" ASSEMBLIES WITH OWNER PRIOR TO CONSTRUCTION OF ADJOINING OR RELATED STRUCTURES.
C. ROOFING TO BE CLASS 'C' MINIMUM.
D. PROVIDE METAL FLASHING AND COUNTER FLASHING AS REQUIRED TO PROVIDE WATERPROOF BUILDING. NO PLASTIC FLASHING ALLOWED.
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CHECKED BY: BCH

REVISIONS

STATE OF UTAH · CHRISTOPHER B. HANSEN · 9846051 · 06/21/2019 · REGISTERED ARCHITECT

PROJECT
CIVIL SOLUTIONS GROUP OFFICE BUILDING

ADDRESS:
100 SOUTH 485 WEST
PROVIDENCE, UT 84332

ARCHITECTURAL

EXTERIOR ELEVATIONS

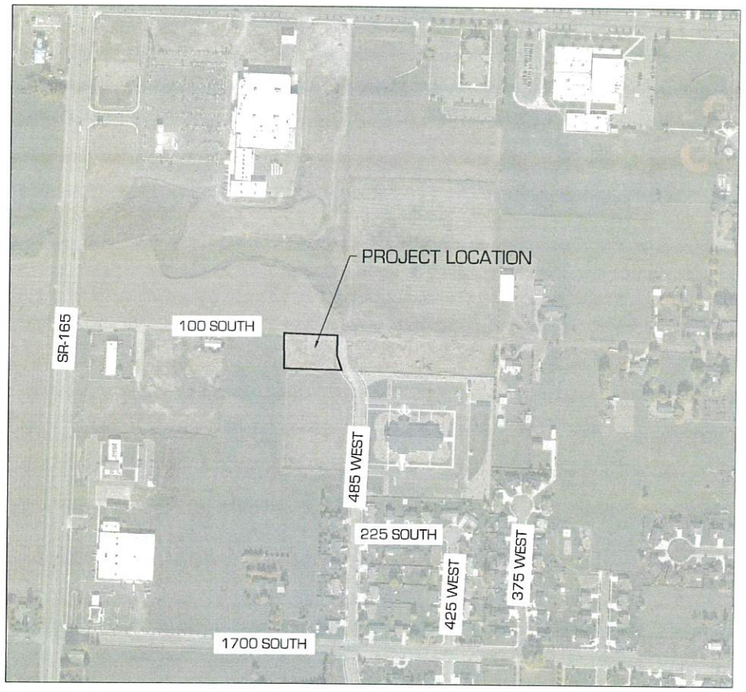
AE202

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CORNER COMMERCIAL
CONSTRUCTION DOCUMENTS

November 18, 2019

VICINITY MAP:



Civil Sheet List	
Sheet Number	Sheet Title
C-001	INDEX
C-002	LEGEND
C-101	SITE & UTILITY PLAN
C-201	GRADING
C-202	STORM WATER
C-501	DETAILS
C-502	DETAILS
C-503	DETAILS

STANDARD SPECIFICATIONS:

1. PROVIDENCE CITY CORPORATION DEPARTMENT OF PUBLIC WORKS STANDARDS AND SPECIFICATIONS MANUAL.
2. STORM WATER SPECIFICATIONS ARE PER THE EPA NATIONAL MENU OF STORMWATER BEST MANAGEMENT PRACTICES UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) AND THE UTAH DEPARTMENT OF WATER QUALITY STORMWATER MANAGMENT PROGRAM.
3. THE SPECIFICATIONS MENTIONED IN ITEMS ONE AND TWO SHALL SUPERSEDE ANY CONFLICTING SPECIFICATIONS CONTAINED WITHIN THESE PLANS.

STANDARD DRAWINGS:

1. PROVIDENCE CITY CORPORATION DEPARTMENT OF PUBLIC WORKS STANDARD CONSTRUCTION DRAWINGS.

PROVIDENCE CITY ENGINEERING DEPARTMENT APPROVAL:

THE IMPROVEMENT FOR THIS SUBDIVISION HAVE BEEN REVIEWED BY THE CITY ENGINEER FOR GENERAL CONFORMANCE WITH THE REQUIREMENTS OF THE CITY SUBDIVISION ORDINANCE. THIS SET OF CITY-APPROVED DRAWINGS SHALL BE USED FOR CONSTRUCTION OF THE REQUIRED SUBDIVISION IMPROVEMENTS. THE DEVELOPER'S ENGINEER, WHOSE STAMP IS ON THESE DRAWINGS, IS RESPONSIBLE FOR THE ENGINEERING DESIGN, DRAFTING, AND RELATED FIELD INFORMATION. THE CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE, FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF HIS OR HER WORK WITH THAT OF ALL OTHER TRADES, AND THE SATISFACTORY PERFORMANCES OF HIS OR HER WORK.

BY:_____ _____ DATE:_____

PROJECT CONTACTS:

1. CIVIL ENGINEER

   MICHAEL TAYLOR
   540 WEST GOLF COURSE ROAD SUITE B1
   PROVIDENCE, UT 84332
   MTAYLOR@CSG.WORK
   P. 435.213.3762

2. SURVEYOR

   DENNIS CARLISLE
   668 NORTH 1880 WEST SUITE 47B
   PROVO, UT 84601
   DCARLISLE@CSG.WORK
   P. 801.874.4132 EXT. 712

3. PROVIDENCE CITY ENGINEER (CRS ENGINEERS)

   MAX PIERCE
   2 NORTH MAIN STREET SUITE 8
   PROVIDENCE, UT 84332
   P. 435.374.4672

4. LOGAN FIRE DEPARTMENT:

   AARON WALKER
   255 NORTH MAIN
   LOGAN, UT 84321
   P. 435.716.9515

5. ROCKY MOUNTAIN POWER:

   JIM KNIGHT
   JAMES.KNIGHT@ROCKYMOUNTAINPOWER.NET
   P. 435.563.2921

6. UTAH STORM WATER PERMIT:

   UTAH DEPARTMENT OF WATER QUALITY
   P.O. BOX 144870
   SALT LAKE CITY, UTAH 84114-4870
   P. 801.538.6146
   http://www.waterquality.utah.gov/UPDES/stormwater.htm

7. QUESTAR GAS:

   CRISTI FIEDEL
   695 WEST 800 NORTH
   LOGAN, UT 84321
   P. 435.752.7751

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UTAH VALLEY | P: 801.874.1432
info@civilsolutionsgroup.net
www.civilsolutionsgroup.net

CORNER COMMERCIAL
CONSTRUCTION DOCUMENTS
485 WEST 100 SOUTH
PROVIDENCE, UT 84332

MARK	DATE	DESCRIPTION

PROJECT #:	18-009
DRAWN BY:	B. ELWOOD
PROJECT MANAGER:	M. TAYLOR
ISSUED:	11.18.19

PROFESSIONAL ENGINEER
11.18.19
No. 8047609-2202
MICHAEL E. TAYLOR
STATE OF UTAH

INDEX

C-001

CORNER COMMERCIAL
CONSTRUCTION DOCUMENTS

November 18, 2019

EXISTING LEGEND

- PROPERTY BOUNDARY
- EXISTING SEWER
- EXISTING BURIED POWER
- EXISTING STORM DRAIN
- EXISTING IRRIGATION LINE
- EXISTING GAS
- EXISTING WATER LINE
- EXISTING OVERHEAD POWER
- EXISTING COMMUNICATION LINE
- EXISTING ASPHALT
- EXISTING CONCRETE
- EXISTING 30" CURB AND GUTTER
- EXISTING HARDSCAPE TO BE REMOVED
- EXISTING BUILDING
- EXISTING CHAINLINK FENCE
- 5440 EXISTING SURFACE CONTOUR

PROPOSED LEGEND

- PROPOSED SEWER
- PROPOSED BURIED POWER
- PROPOSED STORM DRAIN PIPE
- PROPOSED IRRIGATION LINE
- PROPOSED GAS LOCATION
- PROPOSED WATER LINE
- PROPOSED OVERHEAD POWER
- PROPOSED COMMUNICATION LINE
- PROPOSED SILT FENCE
- PROPOSED CONCRETE
- PROPOSED 24" CURB AND GUTTER
- PROPOSED BUILDING OUTLINE
- PROPOSED ASPHALT
- 5440 PROPOSED SURFACE CONTOUR

SYMBOL LEGEND

SYMBOLS IN GRAY DENOTE EXISTING FEATURES
BLACK OR COLOR DENOTE PROPOSED FEATURES

- SEWER MANHOLE
- STORMDRAIN MANHOLE
- 2'X3' STORM DRAIN INLET
- 3'X3' STORM DRAIN BOX
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- UTILITY POLE
- LIGHT POLE
- HANDICAP PARKING MARKER
- COMMUNICATION BOX
- TELEPHONE BOX
- TELEPHONE PEDESTAL
- ELECTRIC BOX
- SIGN

GENERAL NOTES:

1. ALL MATERIALS, WORKMANSHIP, CONSTRUCTION AND PLACEMENT SHALL MEET OR EXCEED THE STANDARDS AND SPECIFICATIONS AS DEFINED IN THE MANUAL OF STANDARD SPECIFICATIONS AND MANUAL OF STANDARD PLANS, UTAH CHAPTER AMERICAN PUBLIC WORKS ASSOCIATION (APWA) AND APPLICABLE CITY, COUNTY, STATE AND FEDERAL REGULATIONS. WHERE THERE IS A CONFLICT BETWEEN THESE PLANS, SPECIFICATIONS OR ANY APPLICABLE STANDARD, THE MOST RESTRICTIVE STANDARD SHALL APPLY.
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR FIELD LOCATING AND VERIFYING ELEVATIONS OF ALL EXISTING SEWER MAINS, WATER MAINS, CURBS, GUTTERS AND OTHER UTILITIES AT THE POINTS OF CONNECTION SHOWN ON THE PLANS AND AT ANY UTILITY CROSSINGS PRIOR TO INSTALLING ANY OF THE SITE ELEMENTS INDICATED IN THESE PLANS. IF A CONFLICT EXISTS AND/OR A DESIGN MODIFICATION IS REQUIRED, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER. DESIGN MODIFICATION(S) MUST BE APPROVED BY THE OWNER PRIOR TO BEING IMPLEMENTED.
3. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATIONS OF EXISTING UTILITIES, AS INDICATED ON THESE PLANS, IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT BLUE STAKES (BY DIALING 811) AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING EXCAVATION, TRENCHING OR GRADING TO HAVE ALL REGISTERED UTILITY LOCATIONS MARKED. ALL OTHER UN-REGISTERED UTILITIES (I.E. DITCH, IRRIGATION COMPANY, OTHER SITE-SPECIFIC UTILITIES, ETC.) ARE TO BE LOCATED BY CONTACTING, IN ADVANCE, THE RESPECTIVE REPRESENTATIVE. UTILITY SERVICE LATERALS SHOULD ALSO BE LOCATED PRIOR TO BEGINNING EXCAVATION, TRENCHING OR GRADING ACTIVITIES.
4. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH THE PROJECT OWNER, LOCAL JURISDICTION AND ALL UTILITY COMPANIES INVOLVED REGARDING RELOCATIONS, ADJUSTMENTS, EXTENSIONS AND REARRANGEMENTS OF EXISTING UTILITIES DURING CONSTRUCTION, AND TO ASSURE THAT THE WORK IS ACCOMPLISHED IN A TIMELY FASHION AND WITH MINIMAL DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING, IN ADVANCE, ALL PARTIES AFFECTED BY ANY DISRUPTION OF UTILITY SERVICE AS WELL AS THE UTILITY COMPANIES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL UTILITIES DURING CONSTRUCTION AND FOR COORDINATING WITH THE APPROPRIATE UTILITY COMPANY FOR ANY UTILITY CROSSINGS REQUIRED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ALL MEANS REQUIRED TO PROTECT EXISTING UTILITIES AND/OR TO WORK AROUND SUCH UTILITIES. THIS INCLUDES, BUT IS NOT LIMITED TO, SUPPORTING EXISTING UTILITIES, SHORING AROUND EXITING UTILITIES, PHASING OF WORK AND TRAFFIC CONTROL.
6. THE CONTRACTOR SHALL NOTIFY THE LOCAL JURISDICTION AND AFFECTED UTILITY COMPANY, AND ALL AFFECTED PARTIES A MINIMUM OF 24 HOURS PRIOR TO ANY WATER INTERRUPTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY, INCLUDING, BUT NOT LIMITED TO, EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, SECURITY AND OTHER SITE RELATED SAFETY PRACTICES. REFER TO OSHA PUBLICATION 2226, EXCAVATING AND TRENCHING.
8. IF DURING CONSTRUCTION CONDITIONS ARE ENCOUNTERED WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
9. THE CONTRACTOR SHALL HAVE ONSITE AT ALL TIMES AN UP TO DATE STORM WATER POLLUTION PREVENTION PLAN (SWPPP), A BMP MAINTENANCE FOLDER, ONE (1) SIGNED COPY OF THE APPROVED PLANS, ONE (1) COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS, AND A COPY OF ANY PERMITS AND AGREEMENTS NEEDED FOR THE JOB.
10. ALL BMPS SHALL BE INSTALLED AT THE LIMITS OF CONSTRUCTION AND AT AREAS WITH DISTURBED SOIL (ON OR OFF SITE) PRIOR TO ANY OTHER GROUND DISTURBING ACTIVITY. ALL BMPS SHALL BE MAINTAINED IN GOOD REPAIR BY THE CONTRACTOR, UNTIL THE ENTIRE DISTURBED AREA IS STABILIZED WITH HARD SURFACING OR LANDSCAPING.
11. MUD AND DEBRIS MUST BE REMOVED BY THE END OF EACH WORKING DAY BY AN APPROPRIATE MECHANICAL METHOD (I.E. MACHINE BROOM SWEEP, HAND SWEEPING, ETC.).
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AS-CONSTRUCTED INFORMATION ON A SET OF RECORD DRAWINGS KEPT ON THE CONSTRUCTION SITE. THIS RECORD DRAWING SET SHALL BE AVAILABLE TO THE OWNER'S, ENGINEERS DESIGNATED REPRESENTATIVE AT ALL TIMES.
13. WORK ACTIVITY AND SCHEDULES SHALL BE COORDINATED WITH THE OWNER AND THEIR ACTIVITIES ON-SITE.
14. UPON COMPLETION OF CONSTRUCTION, THE SITE SHALL BE CLEANED AND RESTORED TO A CONDITION EQUAL TO, OR BETTER THAN, THAT WHICH EXISTED BEFORE CONSTRUCTION, OR TO THE GRADES AND CONDITION AS REQUIRED BY THESE PLANS AND SPECIFICATIONS.
15. IMPROVEMENTS DEPICTED IN THESE PLANS AND CONSTRUCTED BY THE CONTRACTOR SHALL BE GUARANTEED BY THE CONTRACTOR TO BE FREE FROM MATERIAL AND WORKMANSHIP DEFECTS FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE.
16. THE APPROVED, DESIGNATED PROJECT SUPERVISOR SHALL BE ON-SITE WHILE WORK IS BEING CONDUCTED.
17. SOIL COMPACTION EFFORT SHALL BE AS FOLLOWS:
    a. THE MINIMUM RELATIVE DENSITY SHALL BE 95% OF THE MODIFIED PROCTOR (ASTM D 1557 OR AASHTO T 180) FOR A-1 SOILS.
    b. THE MINIMUM RELATIVE DENSITY SHALL BE 95% OF THE STANDARD PROCTOR (ASTM D 698 OR AASHTO T 99) FOR ALL SOILS OTHER THAN A-1 SOILS THAT LIE BENEATH PAVEMENTS, STRUCTURES AND OTHER ELEMENTS AS DEFINED IN THIS PLAN AND SPECIFICATIONS.
    c. THE MINIMUM RELATIVE DENSITY SHALL BE 90% OF THE STANDARD PROCTOR (ASTM D 698 OR AASHTO T 99) FOR ALL SOILS OTHER THAN A-1 SOILS THAT LIE BENEATH LANDSCAPED OR OTHER AREAS THAT ARE NOT INTENDED FOR VEHICULAR OR STRUCTURAL LOADINGS.

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UTAH VALLEY | P: 801.874.1432
info@civilsolutionsgroup.net
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CORNER COMMERCIAL
CONSTRUCTION DOCUMENTS
485 WEST 100 SOUTH
PROVIDENCE, UT 84332

MARK:	DATE:	DESCRIPTION:

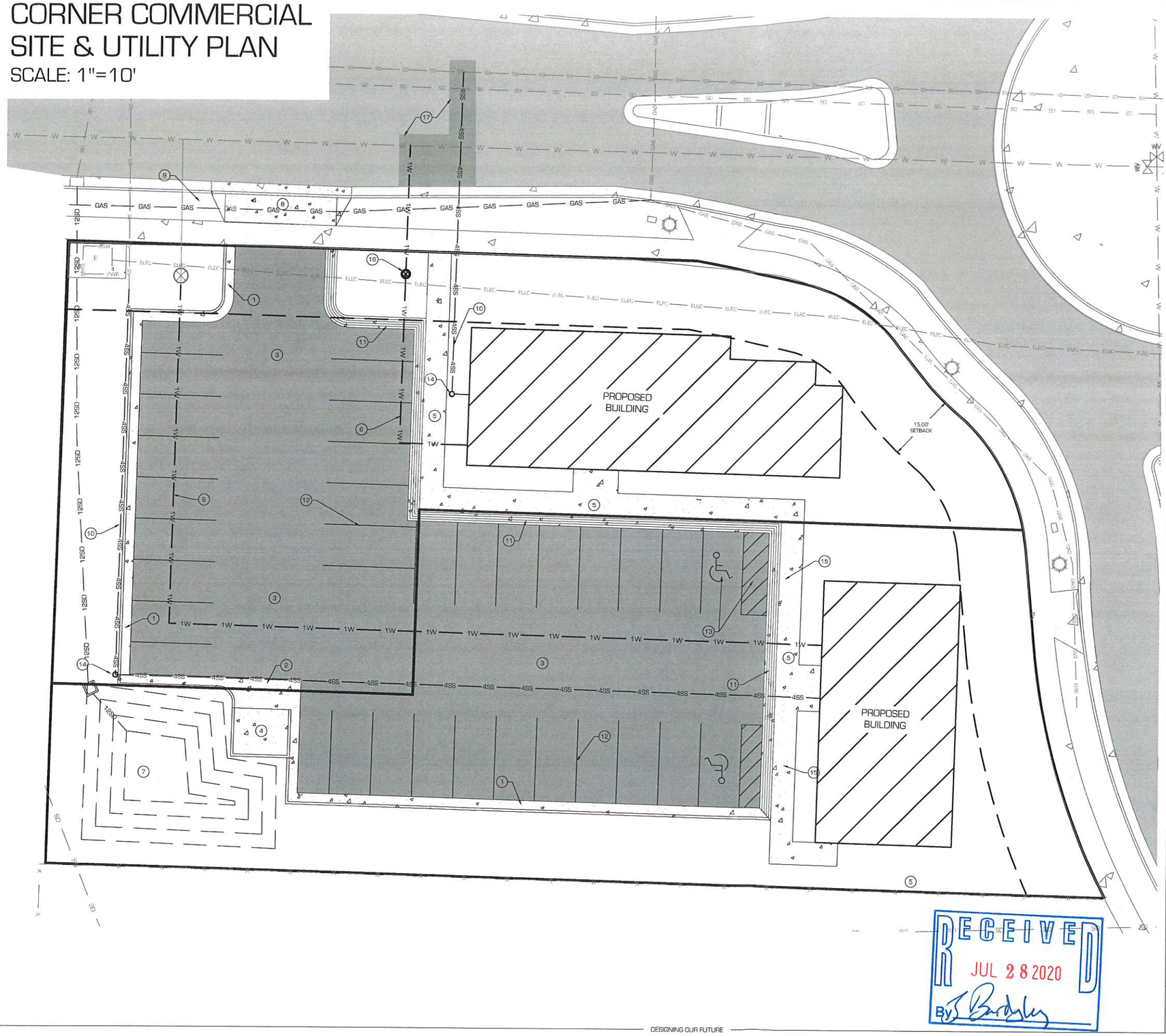
PROJECT #:	18-009
DRAWN BY:	B. ELWOOD
PROJECT MANAGER:	M. TAYLOR
ISSUED:	11.18.19

PROFESSIONAL ENGINEER
11.18.19
No. 6367605-2202
MICHAEL E. TAYLOR
STATE OF UTAH

LEGEND

C-002

CORNER COMMERCIAL
SITE & UTILITY PLAN
SCALE: 1"=10'



① SHEET KEY NOTES

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

1. CLOSED-FACE CURB AND GUTTER (1/C501).
2. HEAVY DUTY CONCRETE (3/C501).
3. STANDARD DUTY ASPHALT (2/C501).
4. TRASH ENCLOSURE (4/C501).
5. CONCRETE SIDEWALK (1/C502).
6. 1" WATER SERVICE (5/C502).
7. STORMWATER POND (SEE STORM DRAIN PLAN).
8. CONCRETE DRIVEWAY OR DRIVEWAY SECTION (3/C502).
9. PROPOSED MAILBOX LOCATION.
10. 4" SEWER SERVICE (5/C502)(7/502).
11. OPEN-FACE CURB AND GUTTER (2/C502).
12. 4" PAINT LINES
13. ADA PAINT MARKINGS
14. SEWER CLEAN-OUT
15. PARALLEL ADA RAMP (8/502)
16. 1" WATER METER (01/C503)
17. SAWCUT AND REPLACE ASPHALT PATCH

GENERAL NOTES

- ALL SURFACE IMPROVEMENTS DISTURBED BY CONSTRUCTION AND NOT CALLED OUT FOR REMOVAL ON THESE PLANS SHALL BE RESTORED OR REPLACED, INCLUDING TREES, ORNAMENTAL SHRUBS, SOD, FENCES, WALLS, & STRUCTURES, WHETHER OR NOT THEY ARE SPECIFICALLY SHOWN ON THE CONTRACT DOCUMENTS.
- CONTRACTOR TO CLEAR & GRUB WITHIN CONSTRUCTION LIMIT LINE. STOCKPILE ALL TOPSOIL FOR USE IN LANDSCAPE AREAS.
- ALL WORK TO COMPLY WITH THE GOVERNING AGENCIES STANDARDS & SPECIFICATIONS.
- ALL WATER AND SEWER LINES SHALL BE SEPARATED BY MINIMUM OF 10-FEET HORIZONTAL DISTANCE FROM OUTSIDE OF PIPE. A MINIMUM VERTICAL SEPARATION OF 18" SHALL ALSO BE PROVIDED.
- CONTRACTORS SHALL MAINTAIN A MINIMUM OF 2% SLOPE ON ALL SEWER SERVICES.
- POWER - CONTRACTOR SHALL COORDINATED WITH OWNER LOCATION AND LAYOUT OF THE POWER LINE. CONTRACTOR SHALL BE RESPONSIBLE TO TRENCH, BED, INSTALL, AND FILL IN THE POWER TRENCH AND PROVIDE THE REQUIRED PVC SCHEDULE 40 CONDUIT. SEE ELECTRICAL PLAN FOR POWER CONNECTION.
- TELEPHONE AND CABLE - CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES FOR LOCATION OF CONDUIT CROSSINGS AND SHALL INSTALL CONDUITS.
- GAS - CONTRACTOR SHALL COORDINATE INSTALLATION OF GAS WITH DOMINION ENERGY.
- LOCATION OF POWER & GAS LINES IS SCHEMATIC. CONTRACTOR TO COORDINATE WITH RESPECTIVE UTILITY COMPANIES.
- ALL IMPROVEMENTS MUST COMPLY WITH ADA STANDARDS.
- ALL PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

N

0 10' 20'

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DRAWN BY:	B. ELWOOD
PROJECT MANAGER:	M. TAYLOR
ISSUED:	11.18.19

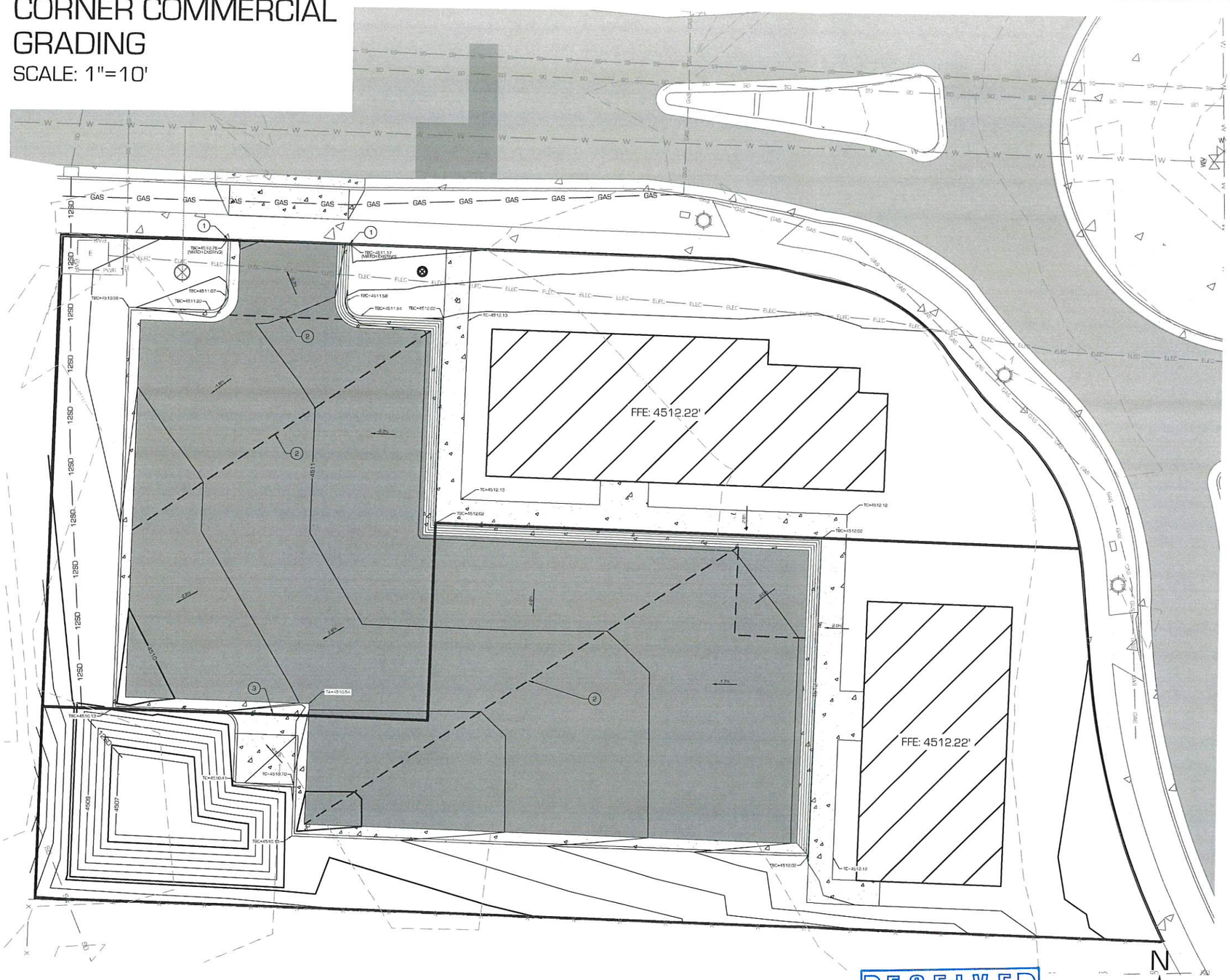
PROFESSIONAL ENGINEER
11/18/2019
No. 6501622-2202
MICHAEL E. TAYLOR
STATE OF UTAH

SITE & UTILITY PLAN

C-101

CORNER COMMERCIAL GRADING

SCALE: 1"=10'



GRADING ABBREVIATIONS

- TBC = TOP BACK OR CURB
- TA = TOP OF ASPHALT
- TC = TOP OF CONCRETE

GENERAL NOTES

- MAINTAIN A MINIMUM OF 0.5% LONGITUDINAL SLOPE IN ALL GUTTERS AND DRAINAGE DITCHES.
- MAINTAIN A MAXIMUM OF 2.0% CROSS-SLOPE ON ALL ADA STALLS AND LOADING AREAS.
- MAINTAIN A MAXIMUM SLOPE OF 2.0% ON ALL SIDEWALKS AND AT ALL BUILDING DOORWAY EXITS AND ENTRANCES.
- ENSURE RAIN GUTTER DOWNSPOUTS ARE LOCATED IN SUCH A WAY THAT THEY DRAIN AWAY FROM BUILDING & DISCHARGE TOWARDS A PAVED AREA.
- CONTOURS ARE SHOWN IN 0.5 FT INTERVALS.

① GRADING KEY NOTES

1. CURB ELEVATION SHOWN IS FULL HEIGHT. CONTRACTOR SHALL TAPER CURB DOWN TO FLUSH WITH SIDEWALK OVER 3 FT.
2. GRADE BREAK.
3. PAVE CROSS DRAINAGE IN FRONT OF DUMPSTER ENCLOSURE TO DRAIN TO CURB CUT.

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By J Barkley

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CORNER COMMERCIAL
CONSTRUCTION DOCUMENTS
485 WEST 100 SOUTH
PROVIDENCE, UT 84332

MARK:	DATE:	DESCRIPTION:

PROJECT #:	18-009
DRAWN BY:	B. ELWOOD
PROJECT MANAGER:	M. TAYLOR
ISSUED:	11.18.19

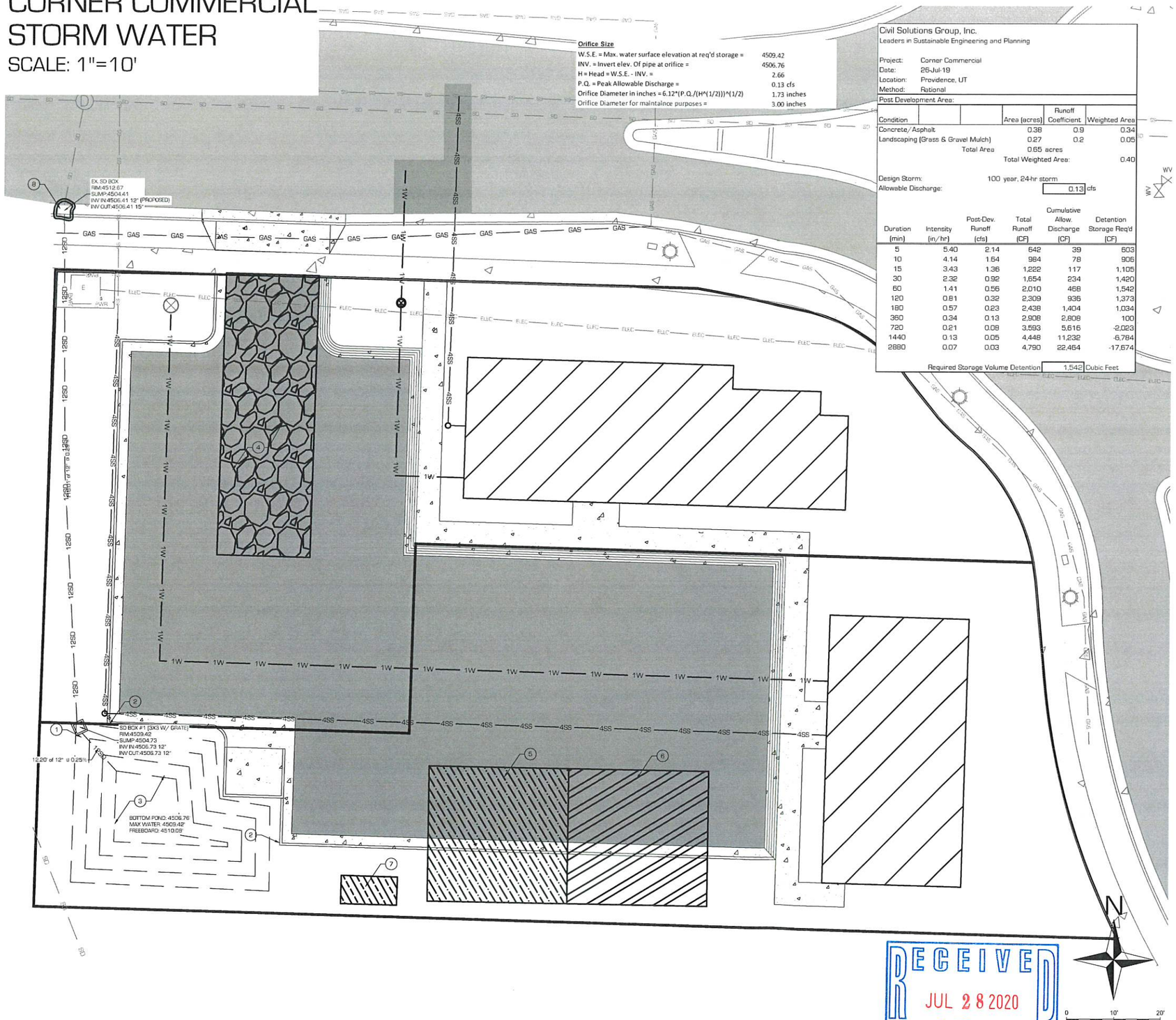
PROFESSIONAL ENGINEER
11.18.19
No. 8047169-2202
MICHAEL E. TAYLOR
STATE OF UTAH

GRADING

C-201

CORNER COMMERCIAL STORM WATER

SCALE: 1"=10'



Orifice Size

W.S.E. = Max. water surface elevation at req'd storage =	4509.42
INV. = Invert elev. Of pipe at orifice =	4506.76
H = Head = W.S.E. - INV. =	2.66
P.Q. = Peak Allowable Discharge =	0.13 cfs
Orifice Diameter in inches = 6.12*(P.Q./(H^(1/2)))^(1/2)	1.73 inches
Orifice Diameter for maintaince purposes =	3.00 inches

Civil Solutions Group, Inc.
Leaders in Sustainable Engineering and Planning

Project: Corner Commercial
Date: 26-Jul-19
Location: Providence, UT
Method: Rational

Post Development Area:

Condition	Area (acres)	Runoff Coefficient	Weighted Area
Concrete/ Asphalt	0.38	0.9	0.34
Landscaping (Grass & Gravel Mulch)	0.27	0.2	0.05
Total Area	0.65 acres	Total Weighted Area:	0.40

Design Storm: 100 year, 24-hr storm
Allowable Discharge: 0.13 cfs

Duration (min)	Intensity (in/hr)	Post-Dev. Runoff (cfs)	Total Runoff (CF)	Cumulative Allow. Discharge (CF)	Detention Storage Req'd (CF)
5	5.40	2.14	642	39	603
10	4.14	1.64	984	78	906
15	3.43	1.36	1,222	117	1,105
30	2.32	0.92	1,654	234	1,420
60	1.41	0.56	2,010	468	1,542
120	0.81	0.32	2,309	936	1,373
180	0.57	0.23	2,438	1,404	1,034
360	0.34	0.13	2,908	2,808	100
720	0.21	0.08	3,593	5,616	-2,023
1440	0.13	0.05	4,448	11,232	-6,784
2880	0.07	0.03	4,790	22,464	-17,674

Required Storage Volume Detention: 1,542 Cubic Feet

① SHEET KEY NOTES

1. INSTALL 3'X3' STORM DRAIN BOX (6/502) WITH 1/4-INCH THICK HOT-DIP GALVANIZED STEEL ORIFICE PLATE ON OUTLET SIDE OF BOX. ORIFICE SIZE SHALL BE 3.00 INCHES IN DIAMETER AND THE BOTTOM OF ORIFICE SHALL BE INSTALLED AT ELEVATION 4506.76'.
2. INSTALL CURB CUT (5/501) W/ RIP-RAP LEADING TO BOTTOM OF POND.
3. INSTALL STORM DRAIN RETENTION POND (4/C502).
4. INSTALL VEHICLE TRACK PAD PER SWPPP.
5. INSTALL MATERIAL STAGING AREA PER SWPPP.
6. INSTALL CONCRETE WASH-OUT PER SWPPP.
7. INSTALL TEMPORARY TOILETS PER SWPPP.
8. INSTALL GRAVEL SOCK PER SWPPP.

STORMWATER DESIGN RATIONALE & POND SIZING

- STORMWATER CALCULATION METHOD: RATIONAL
- DESIGN APPROACH: DETENTION
- DESIGN STORM: 100-YEAR 24-HOUR STORM
- TOTAL PROJECT AREA: 0.65 ACRES
- DETENTION RELEASE RATE: 0.20 CFS/ ACRE
- TOTAL RELEASE RATE: 0.13 CFS
- TOTAL STORAGE REQUIRED: 1,542 CF
- TOTAL STORAGE PROVIDED: 1,554 CF

NOTE: STORM WATER POND AND PIPES TO BE MAINTAINED BY THE LOT OWNERS OR ASSOCIATION.

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PROVIDENCE, UT 84332

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DRAWN BY: B. ELWOOD
PROJECT MANAGER: M. TAYLOR
ISSUED: 11.18.19

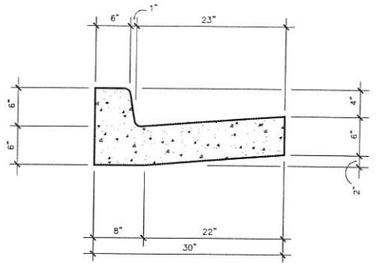
PROFESSIONAL ENGINEER
11.18.19
No. 6067709-2202
MICHAEL E. TAYLOR
STATE OF UTAH

STORM WATER

C-202

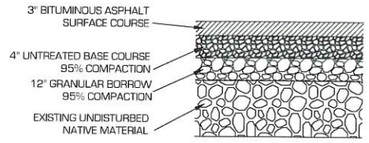
CORNER COMMERCIAL DETAILS

SCALE: NTS



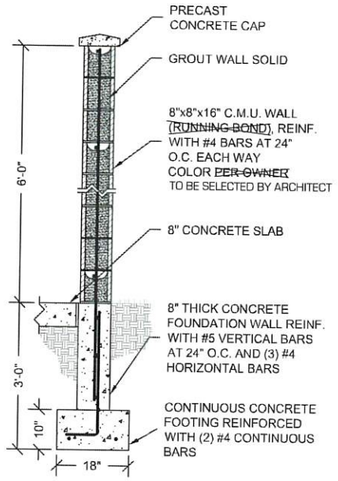
1 C501 — 30" CLOSED FACE CURB & GUTTER

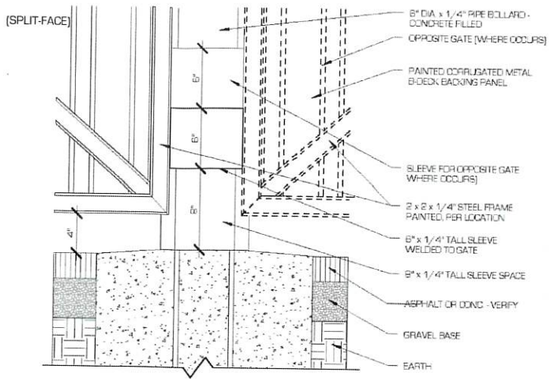
NOT TO SCALE



2 C501 — STANDARD DUTY ASPHALT

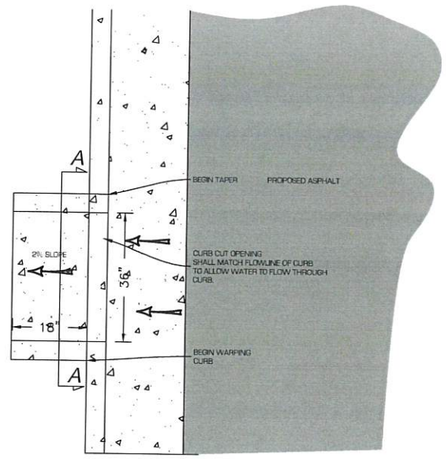
NOT TO SCALE

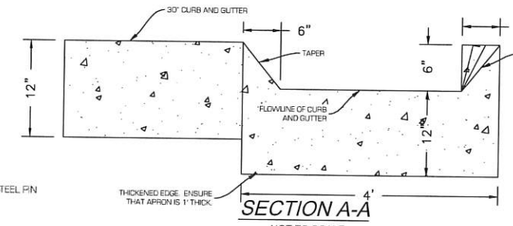




DUMPSTER GATE SLEEVE DETAIL

NOT TO SCALE





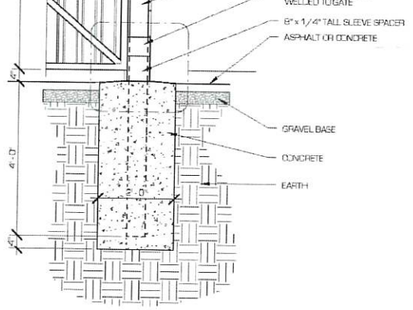
SECTION A-A

NOT TO SCALE

NOTES:
1. ALL DIMENSIONS AND ELEVATIONS SHOWN ON THIS DETAIL ARE SUPERCEDED BY THE ELEVATIONS AND DIMENSIONS SHOWN ON THE STORM DRAIN PLAN.
2. ALL FILL MATERIAL SHALL FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
3. CONTRACTOR SHALL COORDINATE INSTALLATION OF CURBLE AND BOULDERS WITH PLANTS RECOMMENDED IN LANDSCAPE PLAN.
4. THE CONCRETE APRON SHALL BE CAST IN PLACE CONCURRENTLY WITH THE CURB AND GUTTER.
5. THE CONCRETE APRON SHALL BE 4,000 PSI, 28 DAY STRENGTH.

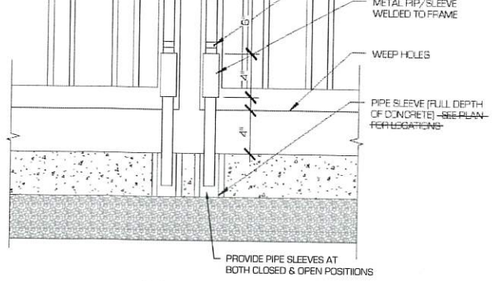
5 C501 — CURB CUT DETAIL

NOT TO SCALE



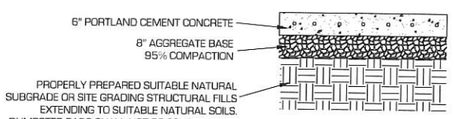
DUMPSTER GATE END POST DETAIL

NOT TO SCALE



DUMPSTER GATE END POST DETAIL

NOT TO SCALE



NOTES:
1. PORTLAND CEMENT CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 4,000 POUNDS PER SQUARE INCH.
2. CONCRETE SHALL BE AIR ENTRAINED WITH APPROXIMATELY 6 PERCENT AIR.
3. PROVIDE CONTRACTION JOINTS @ 10'-0" O.C.
4. PROVIDE EXPANSION JOINTS @ 50'-0" O.C.

3 C501 — *HEAVY DUTY CONCRETE*

NOT TO SCALE

4 C501 — *TRASH ENCLOSURE*

NOT TO SCALE

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PROJECT #:	18-009
DRAWN BY:	B. ELWOOD
PROJECT MANAGER:	M. TAYLOR
ISSUED:	11.18.19

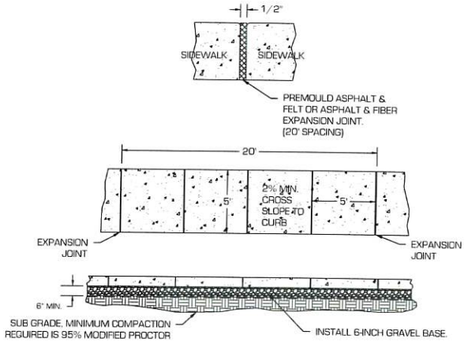
PROFESSIONAL ENGINEER
11.18.19
No. 6043169-2202
MICHAEL E. TAYLOR
STATE OF UTAH

DETAILS

C-501

CORNER COMMERCIAL DETAILS

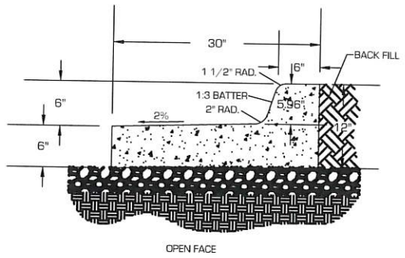
SCALE: NTS



* NOTE: 6" CONCRETE SECTION THROUGH DRIVEWAYS. 4" CONCRETE SECTION THROUGH ALL OTHER AREAS.

1 / C502 — 5' SIDEWALK

NOT TO SCALE

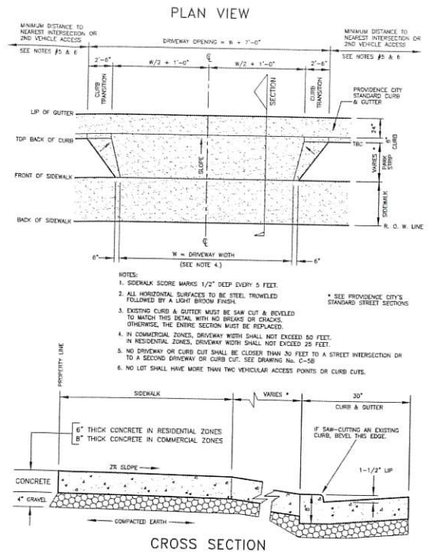


OPEN FACE

NOTES:
1. ALL CURB & GUTTER TO BE CLOSED FACE EXCEPT AS INDICATED.
2. CONCRETE SHALL BE 4000 PSI, 28 DAY STRENGTH.
3. PROVIDE CONTRACTION JOINTS @ 10'-0" O.C.
4. PROVIDE EXPANSION JOINTS @ 50'-0" O.C.

2 / C502 — *OPEN-FACE CURB*

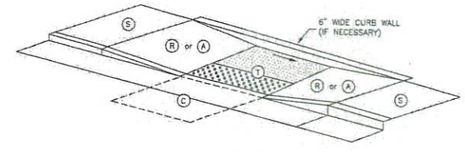
NOT TO SCALE



CROSS SECTION

3 / C502 — CONCRETE DRIVEWAY APPROACH

NOT TO SCALE



EXAMPLE 5

ELEMENT		DIMENSION
R & A		4 FEET WIDE MINIMUM
C & T		4 FEET SQUARE MINIMUM

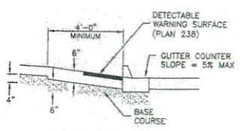
WHERE TURNING SPACE IS CONSTRAINED ON 2 SIDES, PROVIDE 5 FEET IN THE DIRECTION OF THE CROSSWALK.

TABLE OF DIMENSIONS

		RUNNING SLOPE (%) MAXIMUM	CROSS SLOPE (%) MAXIMUM
TURNING SPACE	T	STREET GRADE	2
CURB RAMP	R	8.33	2
CLEAR SPACE	C	5	STREET GRADE
SIDEWALK	S	STREET GRADE	2
APPROACHE	A	8.33	2

(a) RUNNING SLOPE IS IN THE DIRECTION OF PEDESTRIAN TRAVEL. RUNNING SLOPE OF FLARE IS PARALLEL TO BACK OF CURB
(b) CROSS SLOPE IS PERPENDICULAR TO DIRECTION OF PEDESTRIAN TRAVEL.

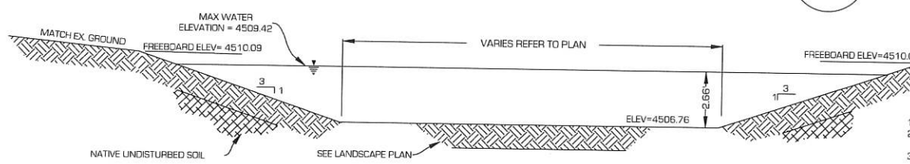
SLOPE TABLE



MATERIALS

8 / C502 — PARALLEL ADA RAMP

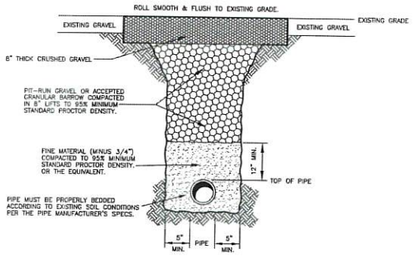
NOT TO SCALE



1. 2.66-FT STORAGE PROVIDED
2. ALL DIMENSIONS AND ELEVATIONS SHOWN ON THIS DETAIL ARE SUPERCEDED BY THE ELEVATIONS AND DIMENSIONS SHOWN ON THE STORM DRAIN PLAN.
3. BOTTOM OF POND SHOULD BE COMPOSED OF UNDISTURBED NATIVE MATERIAL SO AS TO MAINTAIN IN-SITU PERCOLATION RATE.

4 / C502 — RETENTION POND

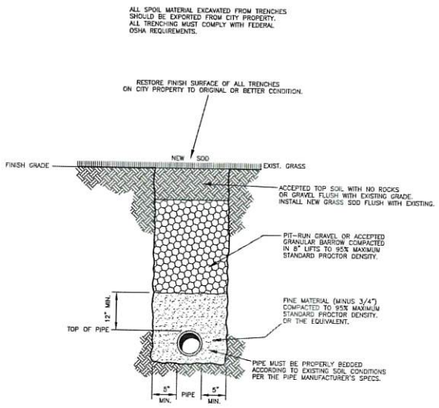
NOT TO SCALE



NOTES

1. INSTALL 8" THICK CRUSHED GRAVEL AT THE TRENCH SURFACE. COMPACT THE GRAVEL AND ROLL IT SMOOTH AND FLUSH WITH THE EXISTING GRADE.
2. RESTORE THE FINISH SURFACE OF ALL TRENCHES ON CITY PROPERTY TO THEIR ORIGINAL OR BETTER CONDITION.
3. ALL SPOIL MATERIAL EXCAVATED FROM TRENCHES SHOULD BE EXPORTED FROM CITY PROPERTY. ALL TRENCHING MUST COMPLY WITH FEDERAL OSHA REQUIREMENTS.

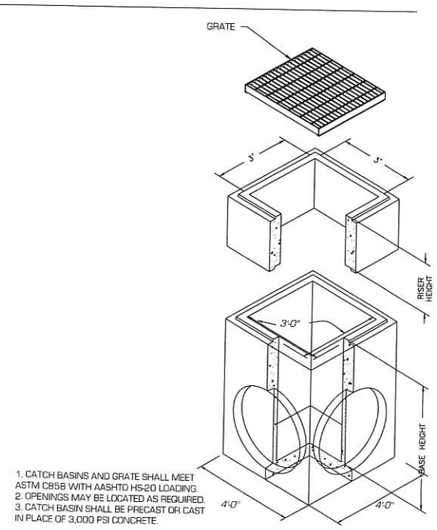
EXISTING GRAVEL



EXISTING GRASS

5 / C502 — UTILITY TRENCHING

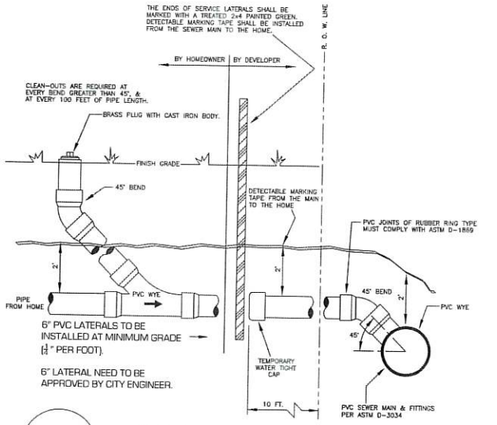
NOT TO SCALE



1. CATCH BASINS AND GRATE SHALL MEET ASTM C858 WITH AASHTO HS-20 LOADING.
2. OPENINGS MAY BE LOCATED AS REQUIRED.
3. CATCH BASIN SHALL BE PRECAST OR CAST IN PLACE OF 3,000 PSI CONCRETE.

6 / C502 — 3X3 STORM DRAIN BOX WITH GRATE

NOT TO SCALE



7 / C502 — SANITARY SEWER SERVICE

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DRAWN BY:	B. ELWOOD
PROJECT MANAGER:	M. TAYLOR
ISSUED:	11.18.19

PROFESSIONAL ENGINEER
11.18.19
No. 8047888-2202
MICHAEL E. TAYLOR
STATE OF UTAH

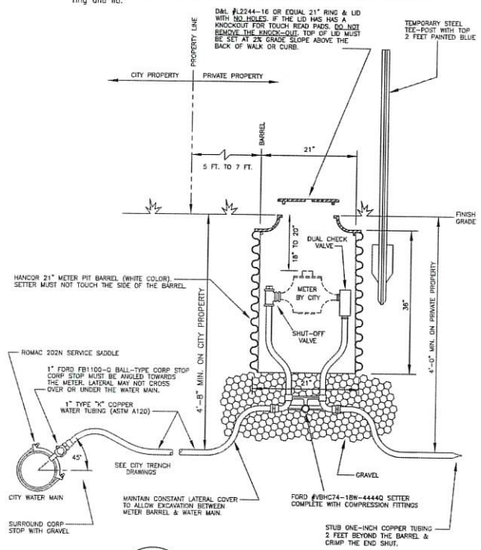
DETAILS

C-502

CORNER COMMERCIAL DETAILS

SCALE: NTS

All laterals are to be one continuous length of Type "K" one-inch copper tubing. No spliced joints will be allowed between the ball valve at the water main and the meter setter. The lateral is to be connected to the main with a Romac #202N service saddle and a Ford FB1100 ball valve and corp stop. The developer supplies and installs all materials from the city main to the meter, including the saddle, corp stop and ball valve, one-inch copper lateral, meter setter, shut-off valve, dual check valves, meter barrel, ring and lid.



1 / C503

WATER SERVICE

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CORNER COMMERCIAL
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485 WEST 100 SOUTH
PROVIDENCE, UT 84332

MARK	DATE	DESCRIPTION
1	10/18	STORM DRAIN COMMENTS

PROJECT #: 18-009
DRAWN BY: A. OCHSENBEIN
PROJECT MANAGER: M. TAYLOR
ISSUED: 11.18.19

PROFESSIONAL ENGINEER
11.18.19
No. 634169-2202
MICHAEL E. TAYLOR
STATE OF UTAH

DETAILS

C-503

RECEIVED
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