



**OGDEN CITY CORPORATION**

**INVITATION TO BID**

**866 E. Cahoon Circle Ogden, UT**



Prepared by Sean Mathis

Ogden City Community Development

3/11/2025

**OGDEN CITY CORPORATION**  
**INVITATION TO BID**  
**866 E. Cahoon Circle Ogden, UT**

Advertisement

Ogden City is accepting sealed bids from Contractors interested **in the construction of a new single-family home located at 866 E Cahoon Circle, Ogden, Utah.** All work must meet current industry standards and all federal, state and local rules and regulations.

Bid information packets may be downloaded from the Ogden City Website located <https://www.ogdencity.gov/264/Purchasing>

Bidders are responsible for securing any and all addenda issued.

Licensed contractors submitting bids must be able to comply with insurance and bonding requirements and have experience with building multiple single-family homes.

Sealed bids shall be submitted to the Purchasing Office, c/o the 2nd Floor Information / Constable Desk, 2549 Washington Blvd., Ogden, UT by **April 1, 2025, no later than 2 PM.** At which time, bids will be opened and read aloud at the 7th Floor Conference room of the same address. **LATE BIDS WILL NOT BE ACCEPTED.**

Ogden City reserves the right to accept or reject any bids that best serve its convenience and/or is found to be in the best interest of the City.

Ogden City encourages and welcomes bids from small, local, women, veteran and minority owned businesses and other disadvantaged business enterprises.

Ad Published: March 15, 2025

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**SCOPE OF WORK**

Contractor will be responsible for furnishing and installing the equipment, facilities, services, and appurtenances thereto as included in the Contract Documents. The work generally includes, but is not limited to, the following: the construction of a new single-family home located at 866 E Cahoon Circle, Ogden, Utah.

Contractor will be responsible for:

- Review of construction or specification documents prior to submitting a bid.
- Competitively bidding required work, negotiating, and contracting with subcontractors to accomplish the work, as applicable.
- Completing the Project on time and within budget per the plans and specifications.

THE ATTACHED DOCUMENTS ARE COPYRIGHT PROTECTED AND ARE THE PROPERTY OF OGDEN CITY AND MAY NOT BE REPRODUCED FOR ANY OTHER PROJECT UNLESS WRITTEN AUTHORIZATION IS OBTAINED.

**PROJECT MANAGER: Sean Mathis**

**Ogden City Community Development**

**Desk: 801-629-8935**

## **I. BID CONTENT**

Ogden City will accept bids from contractors that are capable of providing all of the work described in the drawings and specifications. Applicants shall include qualifications for work set forth in the Scope of Work for which it proposes to provide services. Each bid must include, at a minimum, the following information:

Only complete submittals will be reviewed and considered. A complete submittal will contain the following:

1. Bid Security
2. Complete Request for Qualification
3. Completed Cost Breakdown based on building plans and allowances and specifications.-  
Using Template included in Bid Package
4. Estimated Construction Schedule
  - Home to be built on a 180-day schedule. (Include fencing and landscaping in schedule).
  - Must be able to complete / pass final inspection in 180 days from commencement of construction of each home (including start and completion date).

## **II. BID REVIEW AND ASSESSMENT**

Bids will be reviewed based on the requirements indicated in Section II. Ogden City Corporation shall have the right to verify the accuracy of all information submitted and to make such investigation, as it deems necessary to determine the ability of a prospective Contractor to perform the obligations in the response. Ogden City reserves the right to reject any response where the available evidence or information does not satisfy Ogden City that the prospective Contractor is qualified to carry out properly the obligations of the response, is a person or firm of good reputation or character for strict, complete, and faithful performance of business obligations, or if the prospective Contractor refuses to cooperate with and assist Ogden City in the making of such investigation.



### **III. INSURANCE REQUIREMENTS**

The awarded Contractor shall procure and maintain for the duration of the contract the required insurance against claims for injuries to persons or damages to property, which may arise from or in connection with the performance of this agreement. The Contractor shall pay the cost of such insurance.

a. The amount of insurance shall not be less than:

- i) Commercial General Liability: Minimum of \$3,000,000 in general aggregate with \$1,000,000 for each occurrence. Policy to include coverage for operations, contractual liability, personal injury liability, products/completed operations liability, broad-form property damage (if applicable) and independent contractor's liability (if applicable) written on an occurrence form.
- ii) Business Automobile Liability: \$1,000,000 combined single limit per occurrence for bodily injury and property damage for owned, non-owned and hired autos.
- iii) Workers' Compensation and Employer's Liability: Worker's Compensation limits as required by the Labor Code of the State of Utah and employer's liability with limits of \$1,000,000 per accident.

b. Each insurance policy required by this Agreement shall contain the following clauses:

- i) "This insurance shall not be suspended, voided, canceled, reduced in coverage or in limits except after thirty days prior written notice by certified mail, return receipt requested, has been given to the Ogden City Corporation".
- ii) "It is agreed that any insurance or self-insurance maintained by Ogden City Corporation, its elected or appointed officials, employees, agents and volunteers shall be excess of Contractor's insurance and shall not contribute with insurance provided by this policy."

c. Each insurance policy required by this Agreement, excepting policies for Workers' Compensation, shall contain the following clause in a separate endorsement:

- i. “Ogden City Corporation, its elected and appointed officials, employees, volunteers and agents are to be named as additional insureds in respect to operations and activities of or on behalf of, the named insured as performed under Agreement with Ogden City Corporation.”
- d. Insurance is to be placed with insurers acceptable to and approved by Ogden City Corporation. Contractor’s insurer must be authorized to do business in Utah at the time the license is executed and throughout the time period the license is maintained, unless otherwise agreed to in writing by Ogden City Corporation. Failure to maintain or renew coverage or to provide evidence of renewal will be treated as a material breach of contract.
- e. City shall be furnished with original certificates of insurance and endorsements effecting coverage required within, signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be received by the city before work begins on the premises.
- f. City reserves the right to require complete, certified copies of all required insurance policies at any time.
- g. Any deductibles or self-insured retentions must be declared to and approved by the City. At the option of the City, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respect to the City, their elected and appointed officials, employees, agents, and volunteers; or Contractor shall provide a financial guarantee satisfactory to the City guaranteeing payment of losses and related investigations, claim administration and defense expenses.
- h. Contractor shall include all its contractors as insured under its policies or shall furnish separate certificates and endorsements for each contractor. All coverages for Contractor’s contractors shall be subject to all the requirements stated herein.
- i. Nothing contained herein shall be construed as limiting in any way the extent to which Contractor may be held responsible for payments of damages to persons or property

resulting from the activities of Contractor or its agents, employees, invitees, or contractors upon the Premises during the License Period.

Contractor's Obligation to Verify Employment Status: Contractor shall register and participate in the Status Verification System and comply with Utah Code Ann. Section 63G-11-103 of the Utah Identity Document and Verification Act.

#### **IV. BONDING REQUIREMENTS**

Submission of a Bid constitutes a promise that the Bidder will enter the Contract Documents in the form presented in the Contract Documents. Bidders should carefully examine all Contract Documents, including the required Bonds and insurance to be provided by the Bidder.

##### **A. BID SECURITY**

- a) Amount of Bid Security: A Bid Security must accompany each Bid. The total amount of the Bid on which Bid security is to be based shall be the sum of all items of the Bid constituting the maximum amount of the possible award to the Bidder. The Bond amount must equal at least five (5) percent of the total amount of the Bid. The Bid Bond is the only acceptable bid security. No other form of Bid Security will be accepted.
- b) Bid Bond: The Bond shall accompany and be attached to the Bid and shall be issued by a surety company authorized to do business in the State of Utah. The Bond shall guarantee that the Bidder, if awarded the work, will promptly enter into the Construction Contract to perform the work in the manner required by the Contract Documents. The AIA Bid Bond Form A310-2010 is the only acceptable form.
- c) Return of Bid Security: Owner will return Bid security to Contractor within seven (7) days after receipt of the Construction Contract by Ogden City Purchasing Division. Bid Bonds and cashier's checks of the lowest three Bidders will be held until the Construction Contract is awarded and a signed copy received by Ogden City Purchasing Division, or all bids have been rejected. All other bid securities shall be returned following the bid opening.

- d) Default: In the event of failure or refusal of the Bidder to enter into the Construction Contract and the delivery to the Owner a Performance Bond, Payment Bond and any other Bonds or documents required by the Contract Documents after Notice of Intent to Award by the Owner, the Bidder forfeits the sum of the Bid Bond or cashier's check as liquidated damages to the Owner.

**B. CONTRACT SECURITY – PAYMENT, PERFORMANCE, AND OTHER BONDS**

- a) Prior to OWNER executing the Agreement, CONTRACTOR shall file with the OWNER a good and sufficient performance Bond and a payment Bond, each in the sum of not less than 100 percent of the Contract Price.
- b) The Bonds shall be executed by the CONTRACTOR and secured by a company duly and regularly authorized to do a general surety business in the State of Utah and named in the current list of Companies holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies as published in current Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department, with an underwriting limitation equal to or greater than the Contract Price which the Bond guarantees or with a current "A-" rating or better in A.M. Best Co., Inc.'s, Best Insurance Reports, Property and Casualty Edition.
- c) Said Bonds shall guarantee the faithful performance of the Construction Contract by the CONTRACTOR and payment of labor and materials. They shall inure by their terms to the benefit of the OWNER. Neither this nor any other provision requiring a performance Bond shall be construed to create any rights in any third-party Claimant as against the OWNER for performance of the Work under the Construction Contract.
- d) If the surety on any Bond furnished by CONTRACTOR is subject to any proceeding under the Bankruptcy Code (Title 11, United States Code) or becomes insolvent or its right to do business is terminated in the State of Utah or it ceases to meet the requirements of this Article, CONTRACTOR shall, within 15 days thereafter, substitute another Bond and surety, both of which must be acceptable to OWNER.

## **V. GENERAL TERMS AND CONDITIONS**

- a) Qualified respondents shall be Licensed Contractors in the State of Utah, for this type of work, and who meet Ogden City's insurance and bonding requirements, and have experience with all work defined in the scope of work.
- b) For projects that are security-sensitive in nature, Ogden City reserves the right to conduct a criminal background check of each person who will be providing services in response to this Invitation to Bid. If requested, Contractor shall submit a BCI Criminal History Report dated within 30 days of response to RFP for each employee who will be on-site, that shows "Criminal History Verified" and has Arrest History attachments. Employees who have any convictions on their BCI record may be subject to further review and approval by Ogden City. Ogden City may reject any response to this RFP that involves services from a person or entity that Ogden City determines is unfit or unqualified to fulfill the requirements of this bid.
- c) All work must meet current industry standards including all Federal, State and local rules and regulations.
- d) Ogden City reserves the right to request clarification of information submitted, and to request additional information from any proposer.
- e) Ogden City will make every effort to ensure all offerors are treated fairly and equally throughout the entire advertisement, review, and selection process. The procedures established herein are designed to give all parties reasonable access to the same basic information.
- f) Cost of Developing Proposals – All costs related to the preparation of proposals and any related activities are the sole responsibility of the offeror. Ogden City assumes no liability for any costs incurred by offerors throughout the entire selection process.
- g) Proposal Ownership - Once submitted, all proposals, including attachments, supplementary materials, addenda, etc. become the property of Ogden City and will not be returned to the offeror.

- h) Conflict of Interest - No member, officer, or employee of Ogden City, during his or her tenure shall have any interest, direct or indirect, in this contract or the proceeds thereof, except as permitted by Ogden City policy.
- i) Non-Collusion - Offeror guarantees the proposal is not a product of collusion with any other offeror and no effort has been made to fix the proposal price or any offeror or to fix any overhead, profit or cost estimate of any proposal price.
- j) Ogden City reserves the right to accept or reject any submittal as it best serves convenience and/or is found to be in the best interest of the City.
- k) Ogden City reserves the right to reject any irregular submission and reserves the right to waive any irregularity in submissions.

Ogden City encourages and welcomes bids from small, local, women, veterana and minority owned businesses and other disadvantaged business enterprises.

## **VI. GOVERNING INSTRUCTIONS**

This ITB will constitute the governing document for submitting Bids and will take precedent over any oral representations.

## **VII. SUBMITTAL & BID OPENING**

**A. Submittal: By April 1, 2025, no later than 2 PM;** firms shall submit two (2) copies of all documents required in one sealed envelope addressed to Ogden City's Purchasing Office.

Refer to Bid Content section for the required documents. On the envelope, indicate your firm's name and the Bid title.

**LATE BIDS WILL NOT BE ACCEPTED.**

Submit Bid To:

Ogden City Corporation  
c/o 2<sup>nd</sup> Floor Information / Constable Desk  
ATTN: Purchasing Office

**“866 Cahoon Circle- New Home Construction”**

2549 Washington Blvd.

Ogden, UT 84401

If the sealed bid is submitted by mail or other delivery service, it must be received prior to the submission deadline.

The bid may also be hand-carried to the 1st Floor Information Desk (west entrance of the Municipal Building) at the same address.

**No facsimile or email transmittals will be accepted.**

It is the sole responsibility of those responding to this Invitation to Bid to ensure that their submittal is made to the correct location and in compliance with the stated date and time. City offices are closed on the weekends and observed holidays.

Once submitted, all bids, including attachments, supplementary materials, addenda, etc. become the property of Ogden City and will not be returned to the offeror. These are considered public records unless protected within [Utah Code 63G-2-1](#).

**B. Bid Opening:** Shortly after the deadline, bids will be opened and read aloud at the 7<sup>th</sup> Floor Conference Room located at the same address.

## VIII. CONTACT INFORMATION

For any questions related to this ITB, please contact the Ogden City Purchasing Office via email [purchasing@ogdencity.gov](mailto:purchasing@ogdencity.gov).

The question-and-answer period ends at **3 PM on March 27, 2025**.

Please check the City's Purchasing webpage for any published Q&A or Addenda document(s) that might have already addressed your questions or concerns - <https://www.ogdencity.gov/264/Purchasing>

**Thank you for your interest in doing business with Ogden City!**



### Allowances & Specifications

**Effective Date: February 12, 2025**

Project Address: 866 Cahoon Circle. Ogden, UT

These specifications are exclusively for the above-referenced proposed residences and in conjunction with the plans are contractual construction documents. All items specified or not specified herein shall meet or exceed the International Residential Code (IRC). OGDEN CITY shall reserve the right to change these specifications due to product availability. Contractor is responsible for pulling and paying for all permits related to construction of home including: Building Permits, SWPPP permits, Utility Permits, etc.

#### General Description of Improvements for each residence:

**Approximate Square footage of living area:** 1,902

**Approximate Square footage Basement:** 1,315

**Square footage of garage:** 484

Note: All square footage measurements are approximate and to be verified by Contractor

#### Permits & Fees

Please use the allowance of \$6,000 for permits and fees. This estimated amount will include impact fees, SWPPP, Building permit fees for the house. Contractor will only be reimbursed for actual permit fees. Contractor will not be able to draw remaining balance for other purposes.

If fees are greater than \$6,000, OGDEN CITY will accept change order compensating Contractor for actual permit fees.

#### Site Work

##### Utilities

Water	Ogden City
Sewer	Central Weber
Electric	Rocky Mountain
Gas	Enbridge

**New sewer and water lateral stubs have already been installed with Sycamore Cove Development approximately to the east property line of the lot. See site plan for approximate location. Contractor responsible for tying into existing utility laterals.** Contractor is responsible for repairing and replacing any cuts or damage made in city streets curbs, sidewalk etc. that are damaged due to the utility connection or damaged by contractor or subcontractor during the construction period. Contractor responsible for installation of new city sidewalk per site plan. Contractor is also responsible for coordination and installation of gas and electric utility connections.

Contractor will install new sidewalk, drive approach and driveway and other flatwork (per site plan and landscaping exhibits).

Contractor is responsible for repairing and replacing any cuts made in city streets, curbs, sidewalk etc. that are damaged during home construction.

#### Setback and Grading

- Setbacks per site plan.
- Grade as required for proper drainage (per site plan).
- Landscape –(see landscaping plan)  
Yards to be completely landscaped. Use water efficient sod turf.
- Fully automated sprinkler systems, including drip system. Include required backflow valve to protect City water system from contamination.
- Cement curbing included in front yard flowerbeds and under wrought iron fencing (see landscaping plan)

#### Basement

- ADU ready unfinished basement – Install all footings, foundations, window bucks, door bucks, and bearing walls per plan. Provide plumbing stubs for future kitchen and bathroom. Provide basic electrical required by code with keyless lighting and adequate distribution panel for future basement expansion. All other interior basement improvements to be done by others.

#### Fencing

- Install new fencing per site plan. Includes 6' chain link and black wrought Iron fencing with pedestrian gate(s) per site plan. Include Almond privacy slats per specs.

#### Framing

##### Exterior and Interior Walls

- Constructed per plan
- Lap siding to be 8" LP Smart Side over FELTEX exterior wrap or comparable material.
- Exterior trim work to be "LP -Smart Siding" or comparable.
- Hardiboard siding gable shingles and LP board and batten. Paint per color specs.
- Siding and trim paint colors to be selected and approved by OGDEN CITY CED prior to construction.

##### Rafter and Floor Joists

- Constructed per plan.

#### Porches

- Front Porch: Concrete cap per plan with concrete sealer – Cap to extend 3 inches past foundation.
- Framed porch columns with Harristone or equal manufactured stone masonry on bottom portion per plan. See framing detail provided by Ogden City for dimensions.

- Back Porch: Treated-Wood framed platform and stair stringers completely covered in Trex (color- Rope Swing) decking materials or comparable product.
- Back Porch Railing. Thick Railing – 1.5" - 2.5" Rails



#### Cornice

- Constructed per plan

#### Windows

- Vinyl-framed, double pane with Low-E glass, sized per plan.
- Frame Color – Almond –(to be verified by Ogden city prior to ordering windows)
- ½ screens throughout (except for fixed glass windows).
- Garage will not have any windows.

#### Blinds

- Located in all windows (except basement windows).

Type:	Levelor (or Comparable)
Style:	2" Faux Wood (PVC)
Color:	White

#### Exterior Doors

- Front entrance door -- 3'0"x 6'8" Fiberglass – Therma Tru entry door- model #CCA260-SDL. Drilled for knob and deadbolt. Stain Black Walnut per color specs.
- **No Dentil block shelf.** Verify with Ogden City at time of ordering.
- Back entry door per plan -- 3'0"x 6'8" Therma Tru or equal Fiberglass-two panel per spec sheet with half-light and interior blinds inside of glass. Paint Ogden White per color specs.
- Garage man door -- 3'0"x 6'8" Therma Tru or equal Fiberglass two panel per spec sheet. Drilled for knob and deadbolt. Paint Ogden White per color specs.
- Garage Door – 16'0"x 8'0" aluminum door per plan with auto opener. Almond or Sandstone.
- All exterior doors to come pre-hung with factory weather strip and threshold.
- Include all door hardware, knobs and bolts. Color Matt Black.

### Insulation

- Exterior walls – R-19
- R-49 blown in flat ceilings areas where accessible.
- Polycel foam all windows, corners, plumbing or electrical penetrations. (per 2006 IRC)

### Roofing

- Shingles --- Architectural/Dimensional shingle.
- Warranty --- 30 year Manufacturers Warranty.
- Color --- Weathered Wood

### Soffit & Fascia

- Aluminum type materials. Use ventilated soffit at all eaves per code. Almond or sandstone color- verify with Ogden City at time of ordering.
- Install aluminum gutters and downspouts on all drainage eaves. Almond or sandstone color.

### Energy Requirements

Builder to follow prescriptive requirements from 2006 IEC, described in table below (5 and 4 Marine):

**Table 402.1.1**  
**Insulation and Fenestration Requirements by Component<sup>a</sup>**



CLIMATE ZONE	FENESTRATION U-FACTOR <sup>b</sup>	SKYLIGHT <sup>b</sup> U-FACTOR	GLAZED FENESTRATION <sup>b,c</sup> SHGC	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE <sup>e</sup>	FLOOR R-VALUE	BASEMENT <sup>c</sup> WALL R-VALUE	SLAB <sup>d</sup> R-VALUE & DEPTH	CRAWL SPACE <sup>c</sup> WALL R-VALUE
1	1.20	0.75	0.30	30	13	3 / 4	13	0	0	0
2	0.65 <sup>i</sup>	0.75	0.30	30	13	4 / 6	13	0	0	0
3	0.50 <sup>j</sup>	0.65	0.30	30	13	5 / 8	19	5 / 13 <sup>f</sup>	0	5 / 13
4 except Marine	0.35	0.60	NR	38	13	5 / 10	19	10 / 13	10, 2ft	10 / 13
5 and Marine 4	0.35	0.60	NR	38	20 or 13+5 <sup>h</sup>	13 / 17	30 <sup>g</sup>	10 / 13	10, 2 ft	10 / 13
6	0.35	0.60	NR	49	19 or 13+5 <sup>h</sup>	15 / 19	30 <sup>g</sup>	15 / 19	10, 4 ft	10 / 13
7 and 8	0.35	0.60	NR	49	21	19 / 21	38 <sup>g</sup>	15 / 19	10, 4 ft	10 / 13

<sup>a</sup> R-values are minimums, U-factors and SHGC are maximums, R-19 batts compressed into a nominal 2 x 6 framing cavity such that the R-value is reduced by R-1 or more shall be marked with the compressed batt R-value in addition to the full thickness R-value.

<sup>b</sup> The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

<sup>c</sup> "15/19" means R-15 continuous insulated sheathing on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "15/19" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulated sheathing on the interior or exterior of the home. "10/13" means R-10 continuous insulated sheathing on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.

<sup>d</sup> R-5 shall be added to the required slab edge R-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Zones 1 through 3 for heated slabs.

<sup>e</sup> There are no SHGC requirements in the Marine Zone.

<sup>f</sup> Basement wall insulation is not required in warm-humid locations as defined by Figure 301.1 and Table 301.1.

<sup>g</sup> Or insulation sufficient to fill the framing cavity, R-19 minimum.

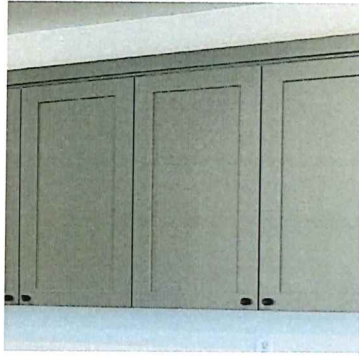
<sup>h</sup> "13+5" means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 25 percent or less of the exterior, insulating sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25 percent of exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.

<sup>i</sup> The second R-value applies when more than half the insulation is on the interior of the mass wall.

<sup>j</sup> For impact rated fenestration complying with Section R301.2.1.2 of the IRC or Section 1608.1.2 of the IBC, maximum U-factor shall be 0.75 in Zone 2 and 0.65 in Zone 3.

### **Millwork**

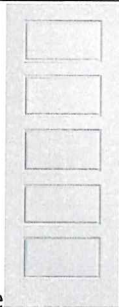
Cabinets - Please provide a bid for Poplar cabinets with a Shaker style door (see photo). Cabinets will have the following specs:



Kitchen	36" Base	36" uppers w/ crown molding.
Master Bath	36" Base	30" uppers (if req'd per plan)
Secondary Bath	48" Base	30" uppers (if req'd per plan)
Utility / Linen	per plan only	
All Cabinets	Pre-finished w/ picture frame doors	Painted – White
Hardware	Knobs, pulls, and hinges	Matt Black – Style selected by Ogden City prior to install

#### Interior Doors and Trim

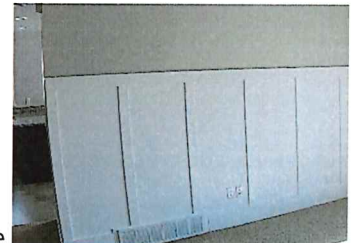
Interior Doors	6'8" Hollow core 3 panel Shaker style. Sized per plan.
Door Casing	3 1/4" MDF Square edge 5 1/4" Header
Window Trim	3 1/4" MDF casing with window sill in Living, Dining, and Kitchen All other windows are MDF sill only, no casing.
Base Trim	4 1/4" MDF Square edge
Stair Wall	Per Plan
Shelving	Particle Board
Closet Rods	Alloy
Wainscott	Dining Room



Door Style



Casing Style



Wainscot Style

#### **HVAC**

#### Equipment

- Energy Star rated equipment (HVAC)
- 90% efficient furnace or better, located on Main Floor utility closet.

- AC- size accordingly
- Digital Programmable Thermostat
- Sizing, location, installation of unit, furnace, and registers as per load calculation and engineered HVAC design criteria – Must be able to provide required Manual J & D to pull building permit.  
All Manual J & D design fees required for permit must be included in bid.

## **Plumbing**

### Piping

- Waste and vent piping to be schedule 40 PVC.
- Includes (2) standard freeze-less hose bibs.
- Sewer line to be schedule 30 J.M. sewer pipe.
- Water Heater to be ON Demand gas Rheem or equal, sized according to number of fixtures and flow rate demand in home.
- Washer connections to be in catch-a-drip box.
- Interior piping to be Rehau Everloc system, or equal.
- Washer Fiberglass Pan w/ Trap & Drain.
- Water line for refrigerator ice maker in water box.

### Fixtures- Color - Matt Black

Kitchen Sink	8" deep stainless steel, double basin.
Kitchen Faucet	Moen – Indi Single Handle Pull Down Sprayer Kitchen Faucet – Matt Black Mo. 87090BL
Disposal	Insinkerator Badger I disposal 1/3 HP (or comparable)
Bathroom Lavatory Faucets	Moen Gibson 8 In Widespread Double Handle High Arc Faucet - Matt Black, Mo. T6142BL
Master Bath Shower	Moen Gibson – Matt Black – Mo. T2902EPBL
Toilets	American Standard – white – Tall and Elongated. (or comparable)
Secondary Bath Tubs	White porcelain on steel tub, or Acrylic
Secondary Bath Tub/Shower	Moen Gibson Tub / Shower Faucet combo Matt Black Mo. T2903EPBL
Bathroom Sinks	Oval, - White

## **Appliances**

Range	30" Free standing gas Range – Black Stainless – LRG3061ST LG Gas Range w/5 Burners & Griddle
Microwave	Built in Over range – Black Stainless – LG LMV1683ST
Dishwasher	Built in – Black Stainless – LDF5545ST LG Built In Dishwasher w/ stainless tub

## **Electrical**



### Wiring

- House and Garage: Wire per plan and National Electrical Code, copper “Romex” type and aluminum feeders.

### Fixtures -

- Switch Type --- Toggle
- Switch/ Outlet Color --- White
- Ceiling Fans --- Master bedroom- (1) w/ and light kit
- Light Fixtures (\$1,500 Allowance) --- fixtures selected by Ogden City prior to installation.
- GFI outlets --- Installed per plan or per National Electrical Code.
- Garage Door Opener --- One Opener with (2) remotes
- Additional ceiling Fans --- Includes pre-wire and blocking for future fans in secondary bedrooms and living room.

### Telephone and TV cabling

Telephone	(2) Cat-5 (includes pre-wire and trim) Master bedroom and kitchen
T.V.	(2) RG-6 (includes pre-wire and trim) Family room and Master bedroom

### **Flooring, Countertops, & Shower Walls**

#### Countertops & Backsplash

Kitchen Tops	Quartz – Chipped Ice
Vanity Tops	Quartz – Chipped Ice
Utility Tops	Quartz – Chipped Ice
Kitchen Backsplash	3X6 White Subway Tile w/ Grey Grout

#### Shower / Tub Walls

- White Cultured marble to be used at master and secondary tub/shower walls.

#### Flooring

- Laminate Wood Flooring – Floor & Décor Duralux- Santa Ana- #100997170 – See interior color selection and flooring exhibits for location.
- Shaw Carpet – Well Timed – Canoe- see interior color selection and flooring exhibits for location.
- Carpet Pad 3/8” rebond pad. Installed in all carpeted locations including stairs.
- Tile – Soho 12” x 24” – see interior color selection and flooring exhibits for location.

### **Painting & Drywall**

#### Exterior

- All trim to be caulked as necessary and painted to final finish.
- Two tone paint. Simply White- refer to interior color selection exhibit for color.

### Interior

- All walls to be ½" gypsum board-taped, floated and final floated – Smooth Finish. Green board or equal to be used in all tub/shower surrounds. All ceilings to be 1/2" sheetrock, 5/8" where required by code. Ceilings to be light textured. Eggshell latex wall paint in all finished sheetrock areas. Color to be selected and approved by OGDEN CITY prior to painting.
- Trim will be caulked & sanded. 2 coats interior Semi-gloss enamel paint. Two tone paint scheme throughout. Colors to be selected and approved by OGDEN CITY prior to painting.

### **Mirrors and Shower Doors**

#### Mirrors

- Bathroom mirrors to be ¼" plate glass, sized per plan.

#### Shower Doors

- Master bath shower doors to be clear tempered glass, frame color to be Matt Black.

### **Hardware**

#### Hardware

Type:	Schlage
Style:	Georgian
Color:	Matt Black
Hinges:	26 D – Matt Black
Front Door Handle set:	Schlage Northbrook – Matt Black
Bathroom accessories:	One towel bar, towel ring, and paper holder per bath to match plumbing finish. Craftsman Style – Kingston Brass Monarch Line – Matt Black

### Concrete

- Provide all concrete per code to install driveway, pads, caps, stairs and sidewalks per site plan.

### **Garage**

- To be built per plan, with in kind materials as home.
- Hip roof style with architectural shingles. Color to be Weatherwood to match home.
- Exterior colors to match home and approved by Ogden City.
- Electrical to include GFI circuits, lighting, and overhead garage door, per plan.
- Fire Rated Walls – Build per plan
- No Drywall or insulation done on garage interior.



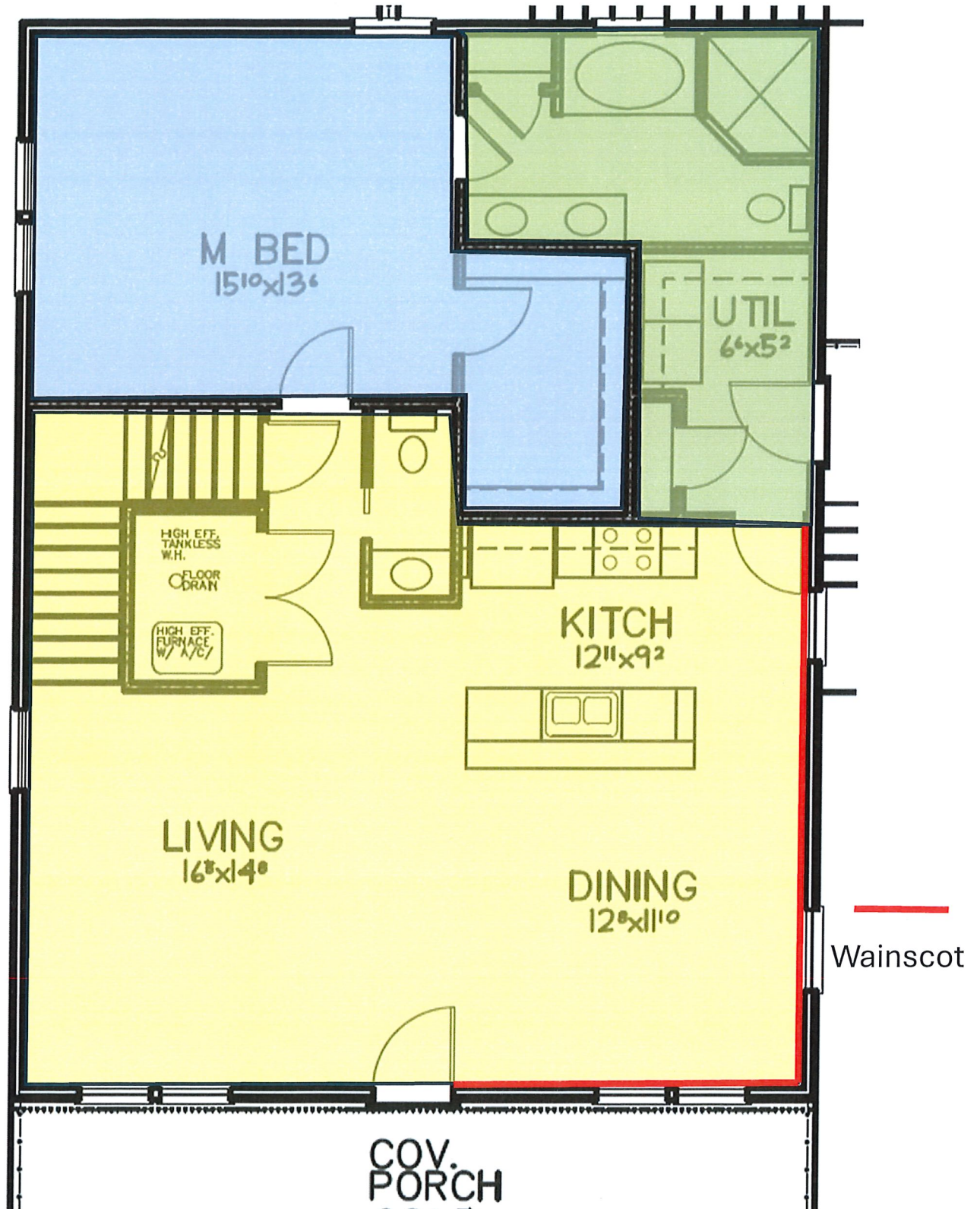
## Color Specifications

866 Cahoon Circle- LOT 4

Type	Item	Color	Description
Roofing	30 Year Architectural	Weatherwood	30 Year or better Architectural Asphalt shingle
Exterior Paint	Body	Eddie Bauer CatTail	EB35-4 - Lap and Shake Siding
	Gable	Ogden White	See color selection sheet for color match formula - B&S in gable
	Trim	Ogden White	See color selection sheet for color match formula
	Porch		
	Door	Black Walnut	Gel stain
Interior Paint	Walls	Simply White	Benjamin Moore - OC-117 - Eggshell finish
	Ceiling	Simply White	Benjamin Moore - OC-117 - Eggshell finish
	Trim	Simply White	Benjamin Moore - OC-117 - Satin Finish
	Doors	Simply White	Benjamin Moore - OC-117 - Satin Finish
Electrical	Switch/ Outlet/Covers	White	
	Interior Lighting	Black Matt	
	Exterior Lighting	Black Matt	
Plumbing	Kitchen Sink	Stainless	8" deep stainless steel double basin.
	Kitchen Faucet	Black Matt	Moen - Indi Single Handle Pull Down Sprayer Kitchen Faucet - Matt Black Mo. 87090BL
	Bathroom Lavatory Faucets	Black Matt	Moen Gibson 8 in Widespread Double Handle High Arc Faucet - Matt Black, Mo. T6142BL
	Master Bath Shower	Black Matt	Moen Gibson - Matt Black - Mo. T2902EPBL
	Toilets	White	American Standard - white - Tall height and Elongated. (or comparable)
	Secondary Bath Tubs	White	White porcelain on steel tub, or Acrylic
	Secondary Bath Tub/Shower Valve	Black Matt	Moen Gibson Tub / Shower Faucet combo Matt Black Mo. T2903EPBL
	Bathroom Sinks	White	Oval, - White
Tub/ Shower Surround	Cultured marble	White	
Windows	Vinyl	Almond	
Interior Doors	Five panel	White	Riverside
	Hardware	Matt Black	Schlage - Georgan
Exterior Doors	Front	Black Walnut	Gel stain
	Rear & Garage Man	Ogden White	
	Hardware	Satin	Schlage - Northbrook
Garage OH Door	W/ opener	Almond or Sandstone	
Accessories	Hardware	Matt Black	Craftsman Style - Kingston Brass Monarch Line
Bathroom Cabinets	Shaker Style	White	
Kitchen Cabinets	Shaker Style	White	
Countertops	Quartz	Chipped Ice	
Kitchen Backsplash	Tile	White	3 x 6 Subway tile - grey Grout
	Schluter Trim	Matt Black	Around edges of backsplash
Floor Coverings	Carpet	Willi Timed - Canoe	Shaw Flooring or comparable
	Laminate	Santa Ana	Floor & Décor - DuraLax - Santa Ana Waterproof Rigid Core SKU:100997170
	Tile	soho madison	Floor & Décor - Adessi - Soho Madison ceramic tilt 12 x 24" SKU:100903590 / with silver grout
Appliances	Stove/ Micro/ DW	Black Stainless	
Fireplace		NA	
Back Porch deck	Wood w/ Trex	Rope Swing	Trex Transcend
Back Porch Rail	Wrought Iron	Black	See specs for type and dimensions

**\*Verify all colors and options with Ogden City before ordering\***

## 866 Cahoon Circle - Flooring Exhibit - Main Floor



Carpet

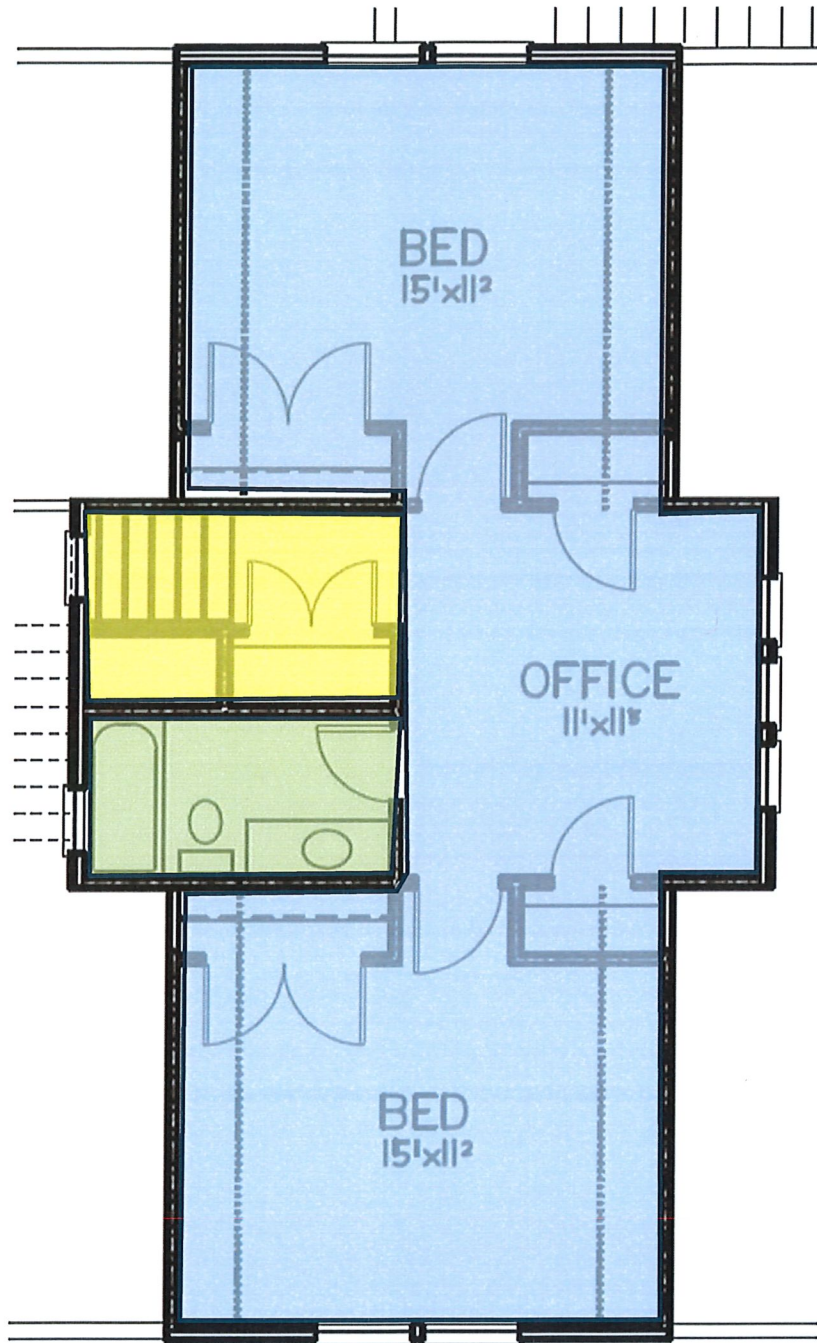


Tile



LVP Flooring

## 866 Cahoon Circle - Flooring Exhibit – Second Floor



Carpet



Tile



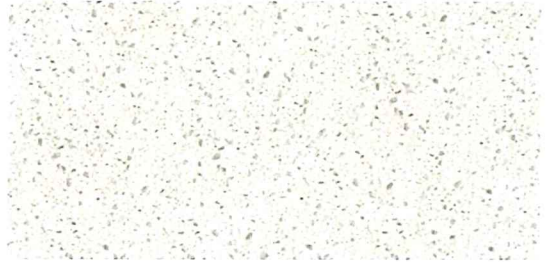
LVP Flooring



## 866 Cahoon Interior Color Selections

BENJAMIN MOORE  
SIMPLY WHITE

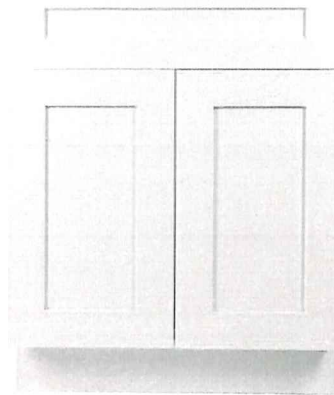
Paint – walls – eggshell Finish trim,



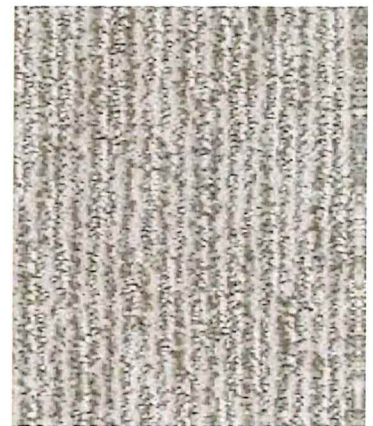
Chipped Ice Quartz - Countertops

BENJAMIN MOORE  
SIMPLY WHITE

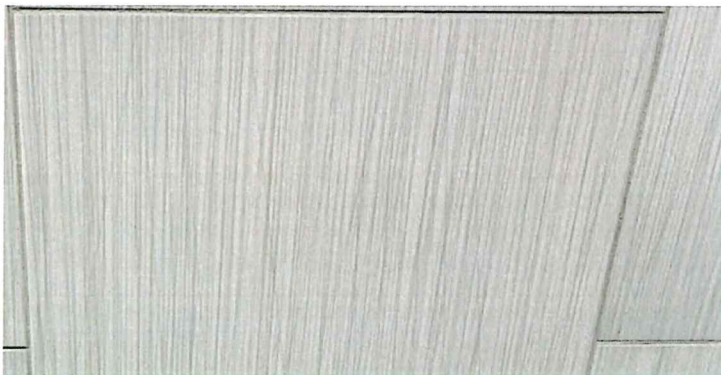
Paint -Trim – Satin Finish trim,



Cabinets – Painted – Color White,



Carpet-Shaw - Well Timed  
-Canoe



Tile – Soho – Madison 12x24



LVP - Floor & Décor  
DuraLux Santa Ana Waterproof  
Walk – Rigid Core – Foam Pad  
SKU: 100997170

866 Cahoon Cir- Exterior Color Selects

Exterior Trim – Color Match – Ogden  
White  
Bands, Facsia, Trim

SHERWIN-WILLIAMS 8453 12/09/14  
801-399-3369 Order# 0124492

EXTERIOR ARCHITECTURAL  
A-100 LATEX  
SATIN IFC 8112NP

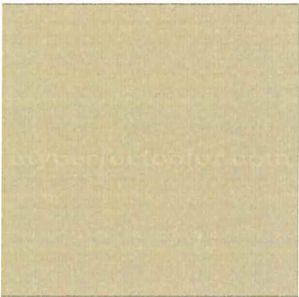
MATCH WHITE  
CUSTOM MANUAL MATCH

CCE*COLORANT	OZ	32	64	128
N1-Raw Umber	-	6	1	1
Y3-Deep Gold	-	4	-	1

ONE GALLON  
A82W00151

EXTRA WHITE  
640389177

Shake Siding to be Precision  
Straight – Not Jagged as shown

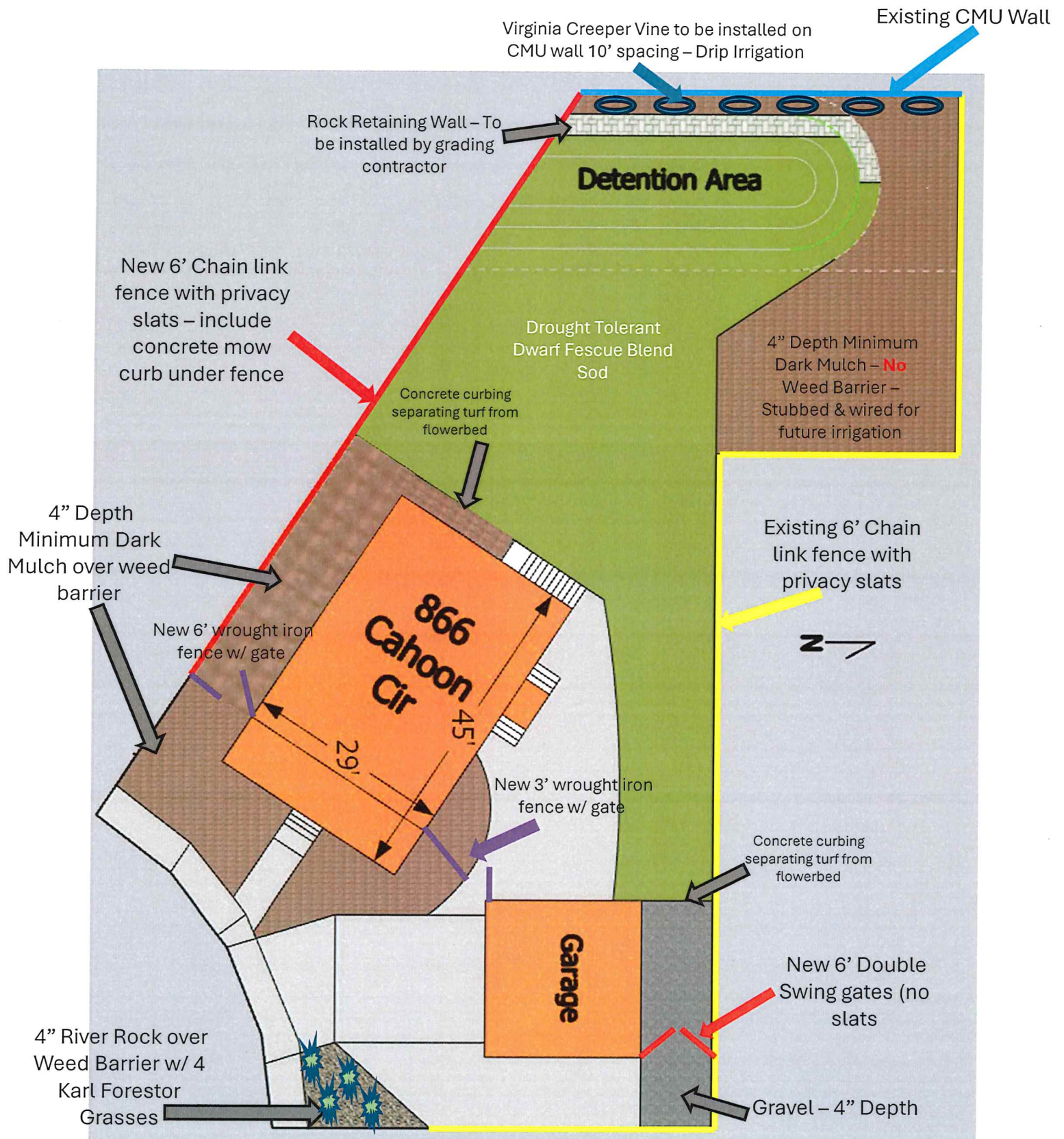


Eddie Bauer – Cattail EB35-4  
Exterior Lap & Shake Siding

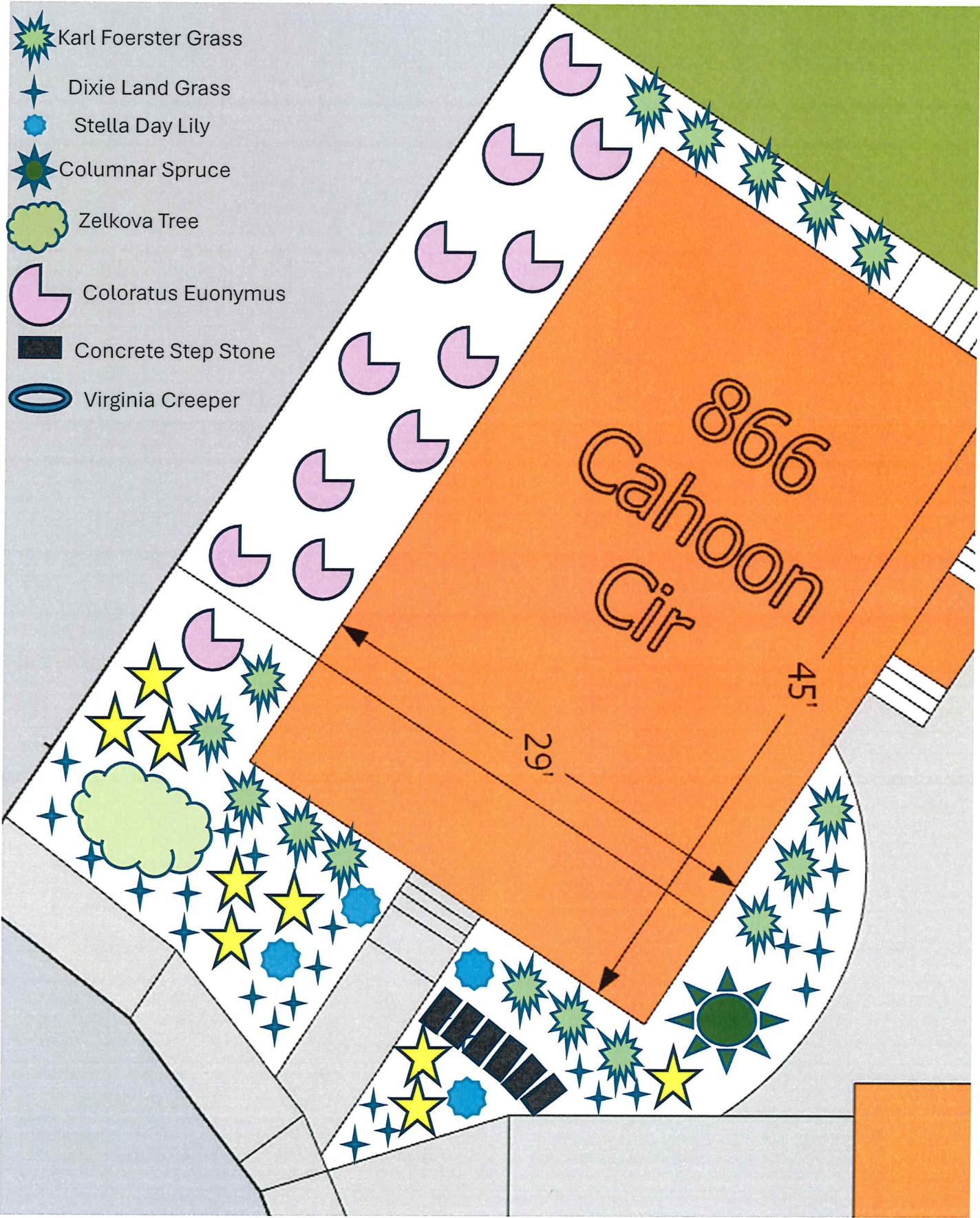
Front Door – Gel Stain – Black Walnut



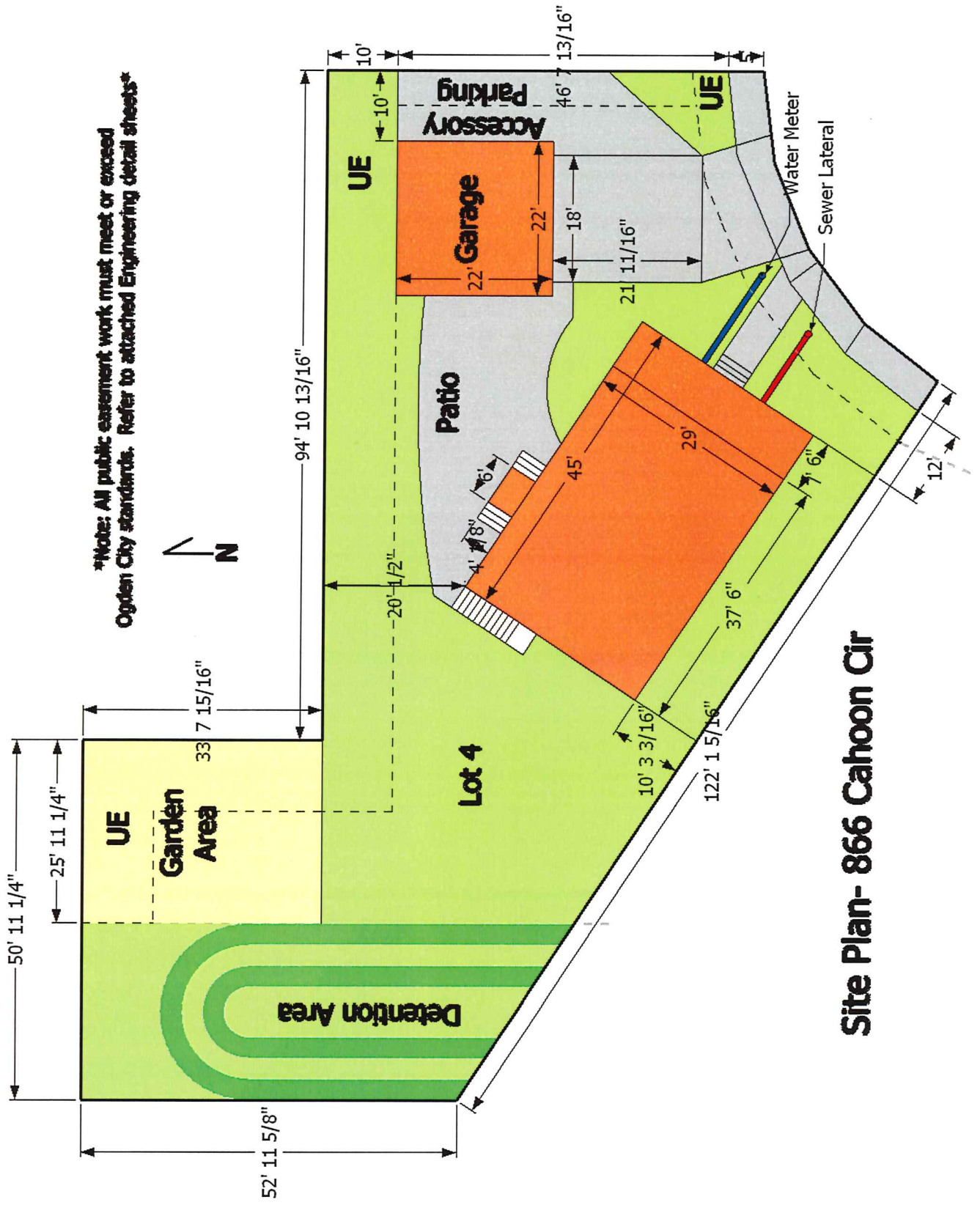
# 866 Cahoon - Landscape Plan – Page 1 – Surface Materials & Fencing Plan



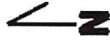




\*Drip Irrigation to all plants in park-strips and flowerbeds. Turf to receive 100% coverage - water efficient spray system

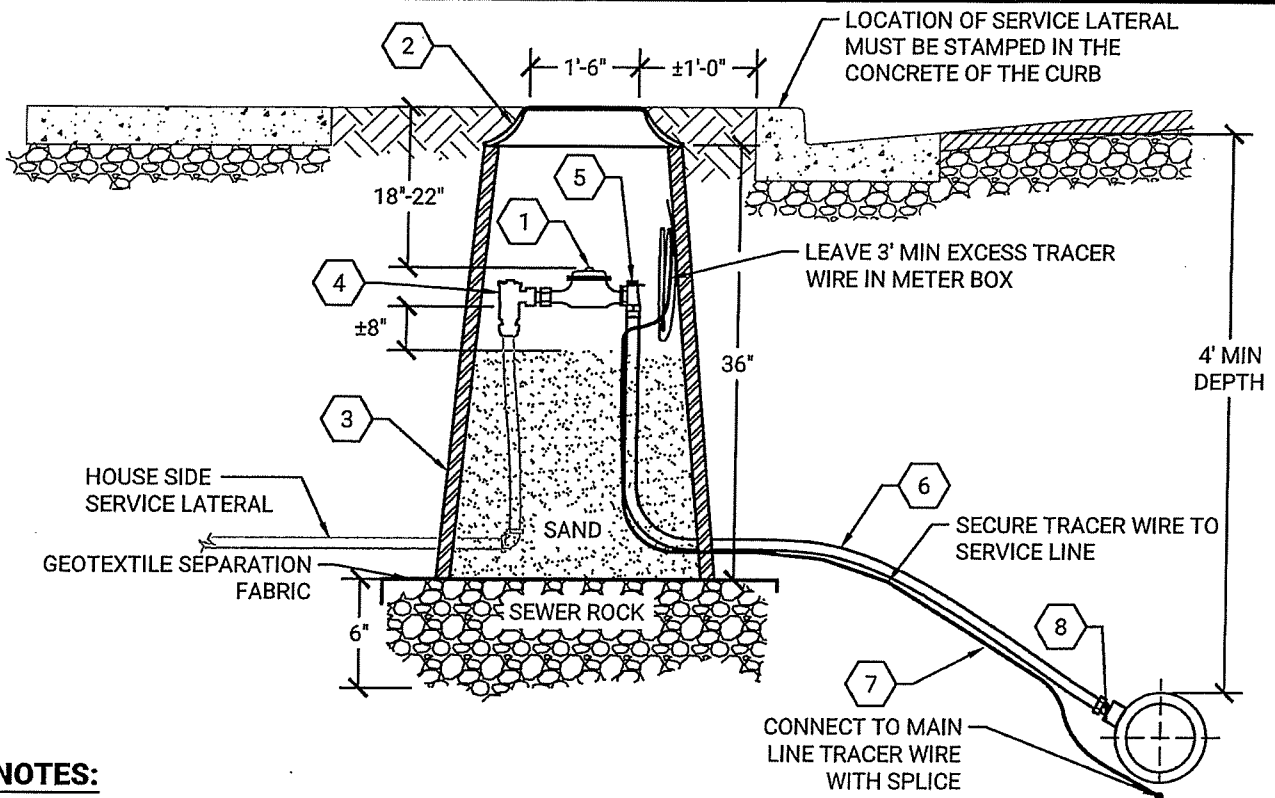


\*Note: All public easement work must meet or exceed  
Ogden City standards. Refer to attached Engineering detail sheets\*



Site Plan- 866 Cahoon Cir





#### NOTES:

- CONTRACTOR TO PROVIDE AND INSTALL ALL MATERIALS AS SHOWN ON THE DETAIL, UNLESS DIRECTED OTHERWISE BY OGDEN CITY WATER. PURCHASE METER BOX FROM OGDEN CITY.
- METERS TO BE INSTALLED IN THE PARK STRIP, 1' BEHIND THE BACK OF CURB, OR 1' BEHIND THE SIDEWALK WHERE THE SIDEWALK IS ADJACENT TO THE CURB. DO NOT PLACE METER BOXES IN OR UNDER DRIVEWAY APPROACHES, SIDEWALKS, OR CURB AND GUTTER. IN THE CASE OF NO CURB AND GUTTER, PLACE METER WITHIN 7' OF THE PROPERTY LINE (STREET SIDE).
- FILL METER BOX WITH SAND UP TO APPROXIMATELY 8" FROM METER. SEPARATE SAND FROM SEWER ROCK WITH A GEOTEXTILE SEPARATION FABRIC
- PROVIDE AND PLACE BACKFILL PER APWA SECTION 33 05 20. COMPACT PER APWA SECTION 31 23 26 TO A DENSITY OF 95 PERCENT OR GREATER, RELATIVE TO THE STANDARD PROCTOR DENSITY. MAXIMUM LIFT THICKNESS IS 8" WHEN USING RIDING COMPACTION AND 6" WHEN USING HAND HELD COMPACTION EQUIPMENT.
- ALL TRACER WIRE SHALL BE TESTED FOR CONTINUITY IN THE PRESENCE OF A REPRESENTATIVE FROM OGDEN CITY WATER PRIOR TO ASPHALT PLACEMENT. ANY TRACER WIRE FOUND NOT TO BE CONTINUOUS AFTER TESTING SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE PRIOR TO ASPHALT PLACEMENT.
- ALL TRACER WIRE WILL BE RE-TESTED AT THE 1-YEAR WARRANTY INSPECTION. ANY TRACER WIRE FOUND NOT TO BE CONTINUOUS AFTER TESTING SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

ITEM	QTY	DESCRIPTION
1	1	1" OR SMALLER WATER METER (CITY PROVIDED - FEE REQUIRED)
2	1	18" FRAME AND COVER
3	1	RAVEN METER BOX OR APPROVED EQUAL
4	1	ASSE 1024 DUAL CHECK VALVE (BACKFLOW PREVENTER, TOP ENTRY ONLY)
5	1	ANGLE VALVE
6	VARIES	1" AWWA C901 CTS POLY TUBING
7	VARIES	TRACER WIRE
8	1	CORP STOP

#### OGDEN CITY ENGINEERING - STANDARD DRAWINGS

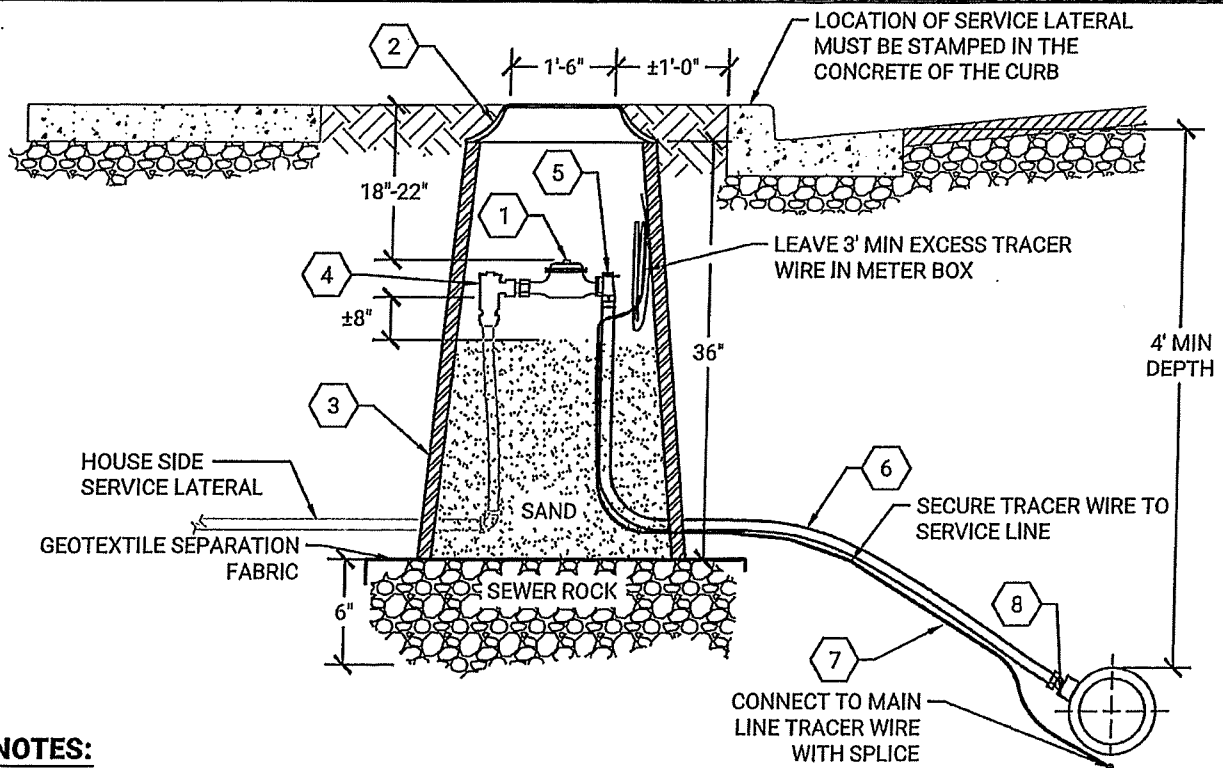


#### TYPICAL SERVICE INSTALLATION FOR WATER METERS 1" OR SMALLER

JUSTIN ANDERSON, CITY ENGINEER

**W-3R**

SHEET 1 OF 1 2020



#### NOTES:

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5. ALL TRACER WIRE SHALL BE TESTED FOR CONTINUITY IN THE PRESENCE OF A REPRESENTATIVE FROM OGDEN CITY WATER PRIOR TO ASPHALT PLACEMENT. ANY TRACER WIRE FOUND NOT TO BE CONTINUOUS AFTER TESTING SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE PRIOR TO ASPHALT PLACEMENT.
6. ALL TRACER WIRE WILL BE RE-TESTED AT THE 1-YEAR WARRANTY INSPECTION. ANY TRACER WIRE FOUND NOT TO BE CONTINUOUS AFTER TESTING SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

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#### OGDEN CITY ENGINEERING - STANDARD DRAWINGS

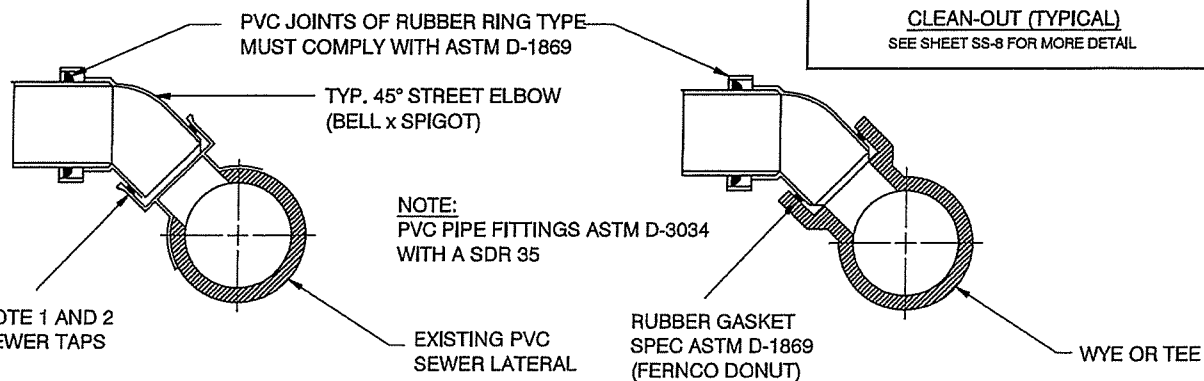
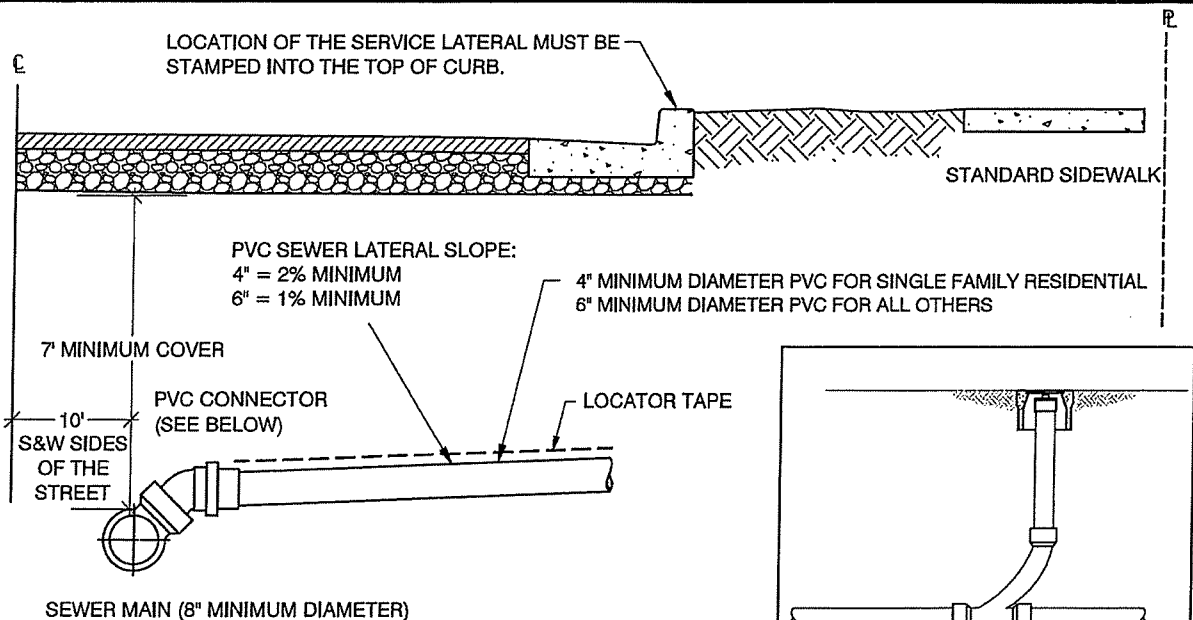


#### TYPICAL SERVICE INSTALLATION FOR WATER METERS 1" OR SMALLER

JUSTIN ANDERSON, CITY ENGINEER

**W-3R**

SHEET 1 OF 1 2020



### CONNECTING TO AN EXISTING PIPE

### CONNECTING TO A WYE OR TEE

#### NOTES:

1. CONNECTION FEES WILL BE ASSESSED AT THE TIME A PERMIT IS ISSUED. SEWER TAPS WILL BE PERFORMED BY OGDEN CITY PERSONNEL, WYE CONNECTIONS WILL BE PERFORMED BY THE CONTRACTOR UNDER THE SUPERVISION OF AN OGDEN CITY INSPECTOR.
2. SEWER TAPS INTO EXISTING 8" DIAMETER SANITARY SEWER PIPES SHALL NOT BE GREATER THAN 4".
3. ALLOWABLE SANITARY SEWER LATERAL PIPE MATERIAL:
  - 3.1. PVC SDR-35, GREEN IN COLOR
  - 3.2. HDPE DR-17
4. REQUIREMENTS FOR THE BEDDING OF A LATERAL IS THE SAME AS SHOWN IN SS-4.
5. THE SEWER LATERAL LOCATIONS SHALL BE MARKED WITH AN "S" IN THE TOP OF THE CONCRETE CURB.
6. PVC JOINTS OF RUBBER RING MUST COMPLY WITH ASTM D-1869.
7. FOR NEW PROJECTS: EXTEND SEWER LATERAL 5' BEHIND THE BACK OF THE SIDEWALK OR PROPERTY LINE, WHICHEVER IS FURTHER. THE END OF A LATERAL SHALL BE MARKED WITH A 2x4, SET IN THE GROUND, AND HAVE THE END COLORED GREEN.
8. CLEANOUTS SHALL BE REQUIRED EVERY 100'.
9. SEWER PIPE SHALL BE MARKED WITH A 6" DETECTABLE GREEN COLORED LOCATOR TAPE LABELED "SANITARY SEWER"

### OGDEN CITY ENGINEERING - STANDARD DRAWINGS

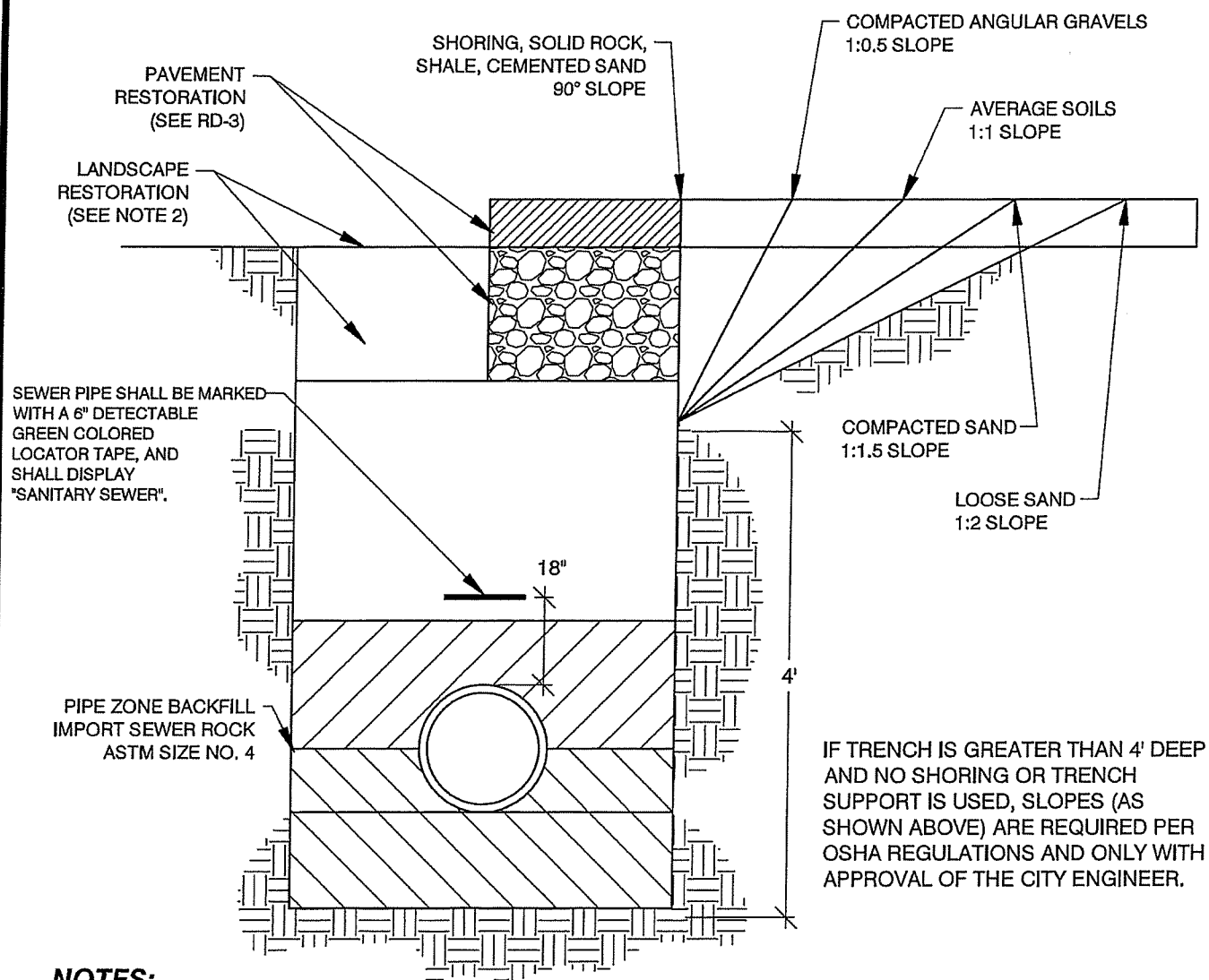


### SEWER LATERAL CONNECTION

JUSTIN ANDERSON, CITY ENGINEER

**SS-2**

SHEET 1 OF 1



### NOTES:

1. BACKFILL: ABOVE THE PIPE ZONE.
  - 1.1. GRANULAR FILL: PLACE FILL PER APWA SECTION 33 05 20.
  - 1.2. COMPACT PER APWA SECTION 31 23 26 TO A STANDARD PROCTOR DENSITY OF 95 PERCENT OR GREATER. MAXIMUM LIFT THICKNESS BEFORE COMPACTION IS 8" WHEN USING RIDING AND 6" WHEN USING HAND COMPACTION EQUIPMENT.
2. LANDSCAPE RESTORATION: LANDSCAPE MUST BE RETURNED TO PRE-CONSTRUCTION CONDITIONS OR BETTER.
3. PAVEMENT RESTORATION: DO NOT INSTALL ANY PORTION OF ASPHALT OR CONCRETE SURFACING UNTIL TRENCH COMPACTION IS ACCEPTABLE TO THE ENGINEER.
4. PEA GRAVEL IS NOT ALLOWED IN ANY PART OF THE TRENCH.
5. STANDARD SEWER MAIN ALIGNMENT SHALL BE 10' WEST OR 10' SOUTH OF THE CENTERLINE IN THE PUBLIC RIGHT-OF-WAY (SEE RD-1).
6. HORIZONTAL CLEARANCE TO ANY WATER MAIN SHALL BE AT LEAST 10' (REFER TO UTAH ADMINISTRATIVE CODE # R309-550).
7. COMPACTION TESTS ARE REQUIRED EVERY 200 LINEAR FEET OF A MAIN INSTALLATION PER APWA SECTION 33 05 20. COMPACTION TESTS ARE REQUIRED AT HALF AND FULL DEPTHS.

### OGDEN CITY ENGINEERING - STANDARD DRAWINGS

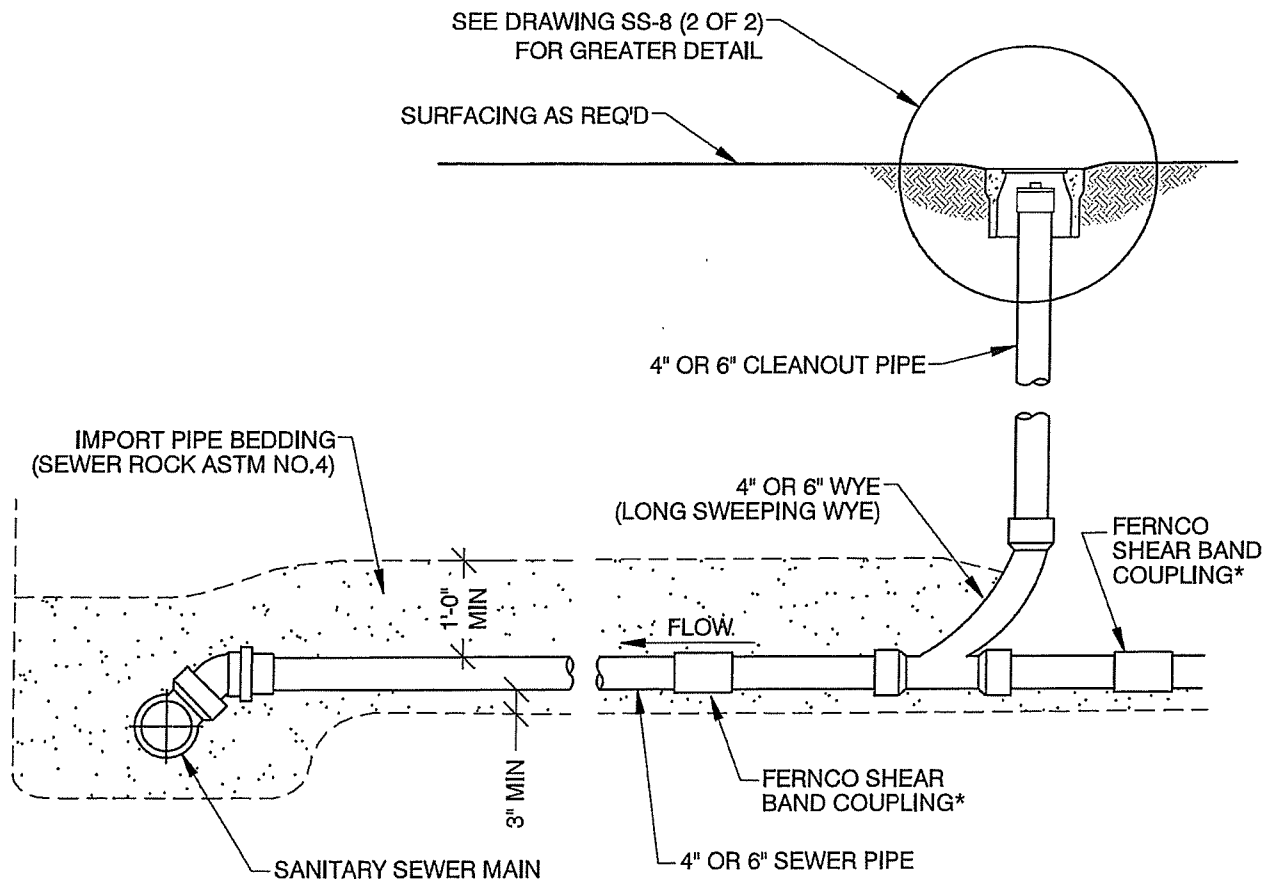


### SEWER PIPE TRENCH

JUSTIN ANDERSON, CITY ENGINEER

**SS-3**

SHEET 1 OF 1



**\*NOTE:** FERNCO SHEAR BAND COUPLINGS USED FOR LATERAL REPAIRS ONLY.

### **NOTES:**

1. OBTAIN PERMIT
2. OGDEN CITY IS NOT RESPONSIBLE FOR FLUSHING LATERALS. OWNER IS RESPONSIBLE FOR LATERAL FROM CONNECTION AT THE MAIN TO THE HOME.
3. CLEANOUTS SHALL BE PLACED EVERY 100 FEET.
4. IF LATERAL IS IN EXISTING CONCRETE, SEE PAGE 2.
5. ALL FITTINGS EXCLUDING THE CAP NEED TO BE RUBBER GASKETED.
6. NO CLEANOUT SHALL BE INSTALLED IN ANY ROADWAY.
7. ALLOWABLE PIPE MATERIALS ARE ABS (ACRYLONITRILE BUTADIENE STYRENE), GREEN IN COLOR OR PVC (POLYVINYL CHLORIDE) SDR-35

### **OGDEN CITY ENGINEERING - STANDARD DRAWINGS**

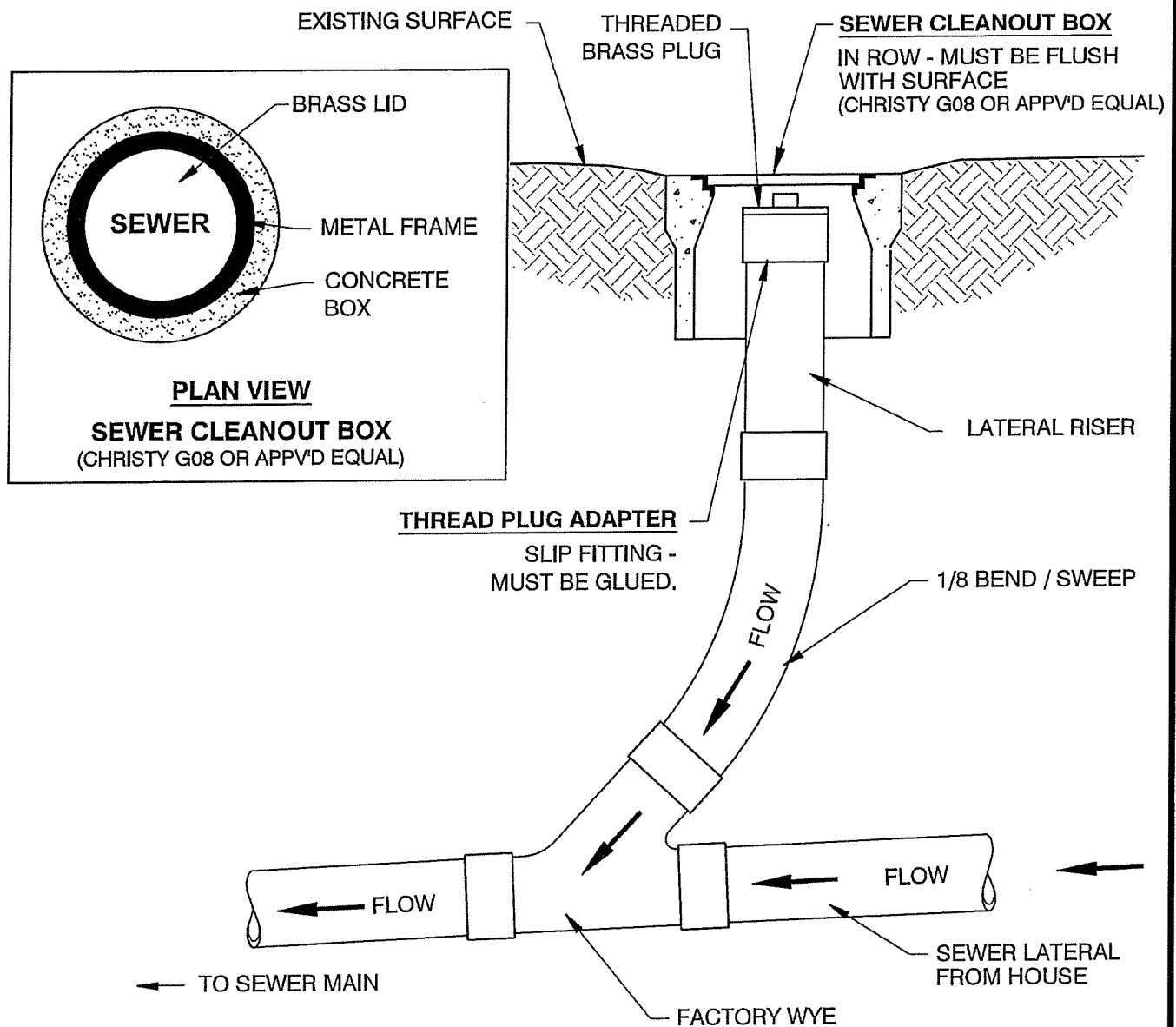


### **SEWER LATERAL CLEANOUT**

JUSTIN ANDERSON, CITY ENGINEER

### **SS-8**

SHEET 1 OF 2



### NOTES:

1. OBTAIN PERMIT
2. OGDEN CITY IS NOT RESPONSIBLE FOR FLUSHING LATERALS. OWNER IS RESPONSIBLE FOR LATERAL FROM CONNECTION AT THE MAIN TO THE HOME.
3. CLEANOUTS SHALL BE PLACED EVERY 100 FEET.
4. ALL FITTINGS EXCLUDING THE CAP NEED TO BE RUBBER GASKETED.
5. NO CLEANOUT SHALL BE INSTALLED IN ANY ROADWAY.
6. ALLOWABLE PIPE MATERIALS ARE ABS (ACRYLONITRILE BUTADIENE STYRENE), GREEN IN COLOR OR PVC (POLYVINYL CHLORIDE) SDR-35
7. SEE SHEET SS-8 (PAGE 1 OF 2) FOR FURTHER DETAIL.

### OGDEN CITY ENGINEERING - STANDARD DRAWINGS

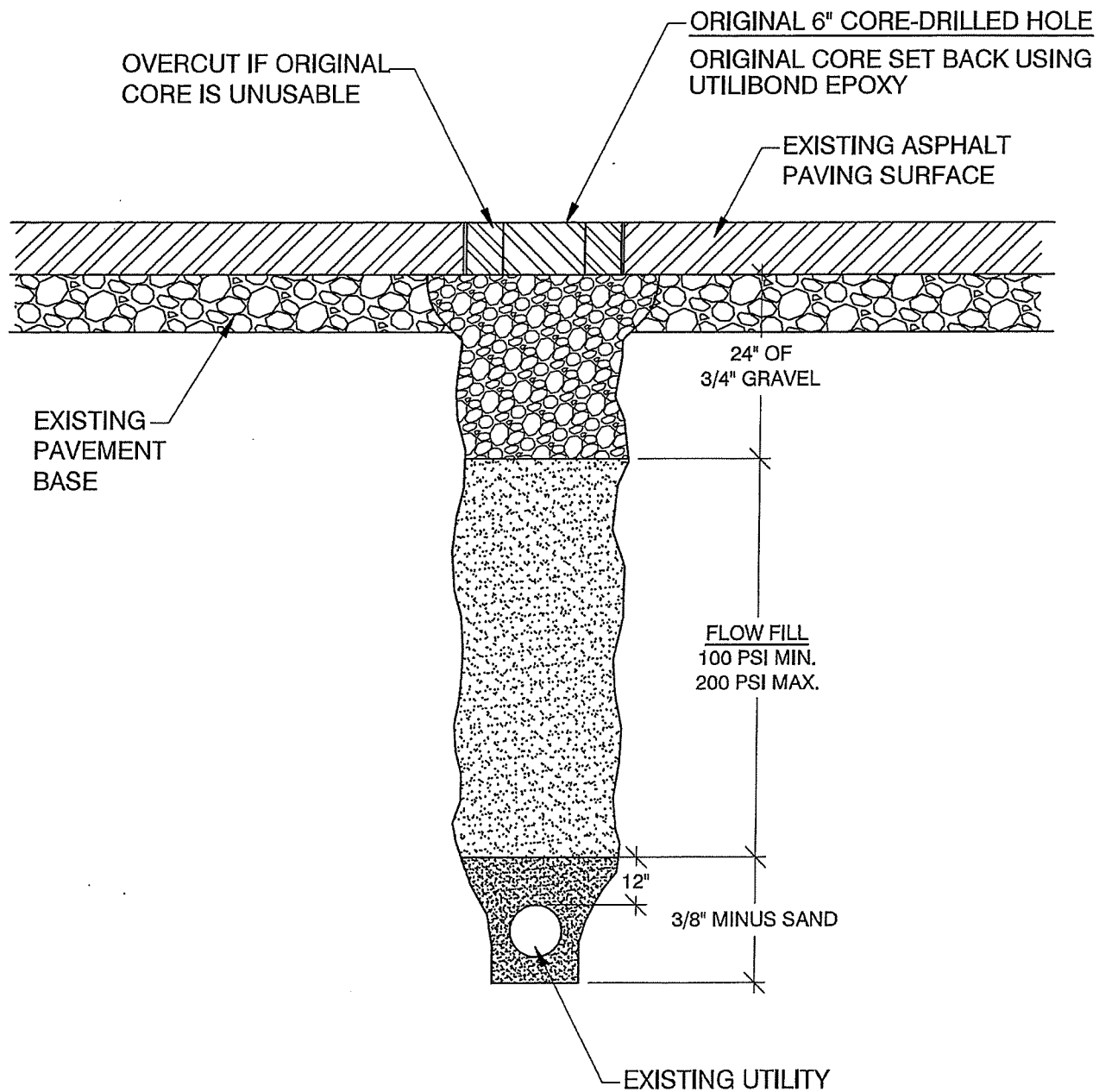


### SEWER LATERAL CLEANOUT

JUSTIN ANDERSON, CITY ENGINEER

**SS-8**

SHEET 2 OF 2



# **NOTES:**

1. IF ORIGINAL CORE CANNOT BE USED, THEN 12" DIAMETER CORE MUST BE CUT AND THEN FILLED WITH HOT MIX ASPHALT.

## OGDEN CITY ENGINEERING - STANDARD DRAWINGS



### SEWER UTILITY POTHOLING

JUSTIN ANDERSON, CITY ENGINEER

**SS-9**

SHEET 1 OF 1

**D. Sewer Lateral Design Standards**

1. Connection fees for a sewer lateral will be assessed at the time a permit is issued.
  - a. A Sewer tap will be performed by Ogden City Personnel, if the applicable fees have been paid.
  - b. Wye connections will be installed by the contractor under the supervision of Ogden City.
    - 1) Sewer taps into an existing eight inch (8") main shall not be greater than four inches (4"). If a six inch (6") connection is required, a portion of the sewer main must be removed, and a wye installed.
    - 2) A wye shall not be installed within 24" inches of bell or other connections.
    - 3) Inserta Tees, or an approved equal, can be used when the connection is smaller than two-thirds of the main line and when approved by the City Engineer.
  - c. No lateral shall be allowed to enter a manhole directly unless the lateral is over six inches (6") in diameter, ties in near the flow line, and is approved by the City Engineer.
    - 1) Connections larger than six inches (6") require a manhole to be installed.
2. Allowable sanitary sewer lateral pipe material is as follows:
  - a. ABS (Acrylonitrile-Butadiene-Styrene) schedule 40, green in color.
  - b. PVC (Polyvinyl Chloride) SDR 35, green in color.
  - c. HDPE (High Density Polyethylene) SDR 19 or SDR 17, green in color.
  - d. CIPP Lining (Cure In Place Pipe) can be used for repair of old laterals with the approval of the City Engineer. The repair must not decrease the volume of the lateral.
    - 1) Installation and material tests of cured-in-place-pipe (CIPP) must meet the minimum requirements demonstrated in the following ASTM standards:
    - 2) ASTM F-1216 Standard Practice for the Installation of C.I.P.P. Pipe by Inversion Lining
    - 3) ASTM D-638 Test Method for Tensile Properties of Plastics Tensile Strength 3,000 psi
    - 4) ASTM D-790 Test Method of Flexural Properties of Plastic Flexural Strength 4,500 psi Flexural Modulus 250,000 psi
    - 5) National Association of Sewer Service Companies (NASSCO) Wastewater Collection Systems Maintenance and Rehabilitation- 10<sup>th</sup> Edition: Chapters titled "TV Inspection" and "Sewer Line Cleaning."
    - 6) 4" and 5" MaxLiner or approved equivalent. Minimum thickness – 3mm
    - 7) 6" and 8" MaxLiner or approved equivalent. Minimum thickness – 4.5mm
3. Sewer lateral location shall be marked in the curb face by a stamped 'S' in the concrete.
4. Minimum lateral size shall be as follows:
  - a. Four inches (4") in diameter for a single family residential use with a minimum slope of 2%.
  - b. Six inches (6") in diameter for all other uses with a minimum slope of 1%.
    - 1) The sewer lateral shall be based on actual project flows, but in no case shall the lateral be less than six inches (6") in diameter. All project flows and sizing calculations shall be in accordance with the most current manual of the International Plumbing Code (IPC), the State of Utah, and as designed by a licensed engineer and approved by the City.
  - c. Laterals on private property must conform to the current adopted edition of the International Building Code.

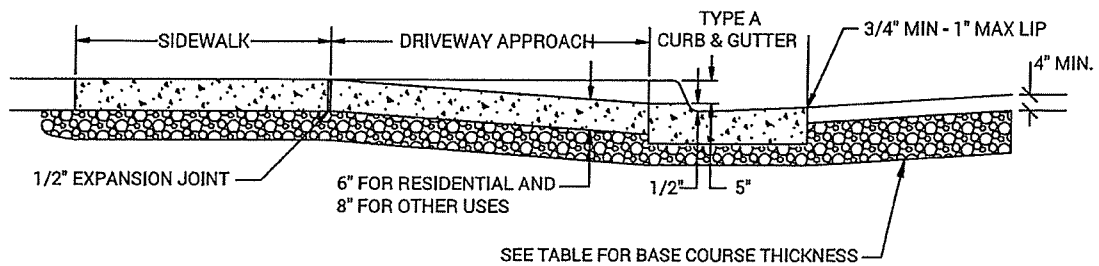
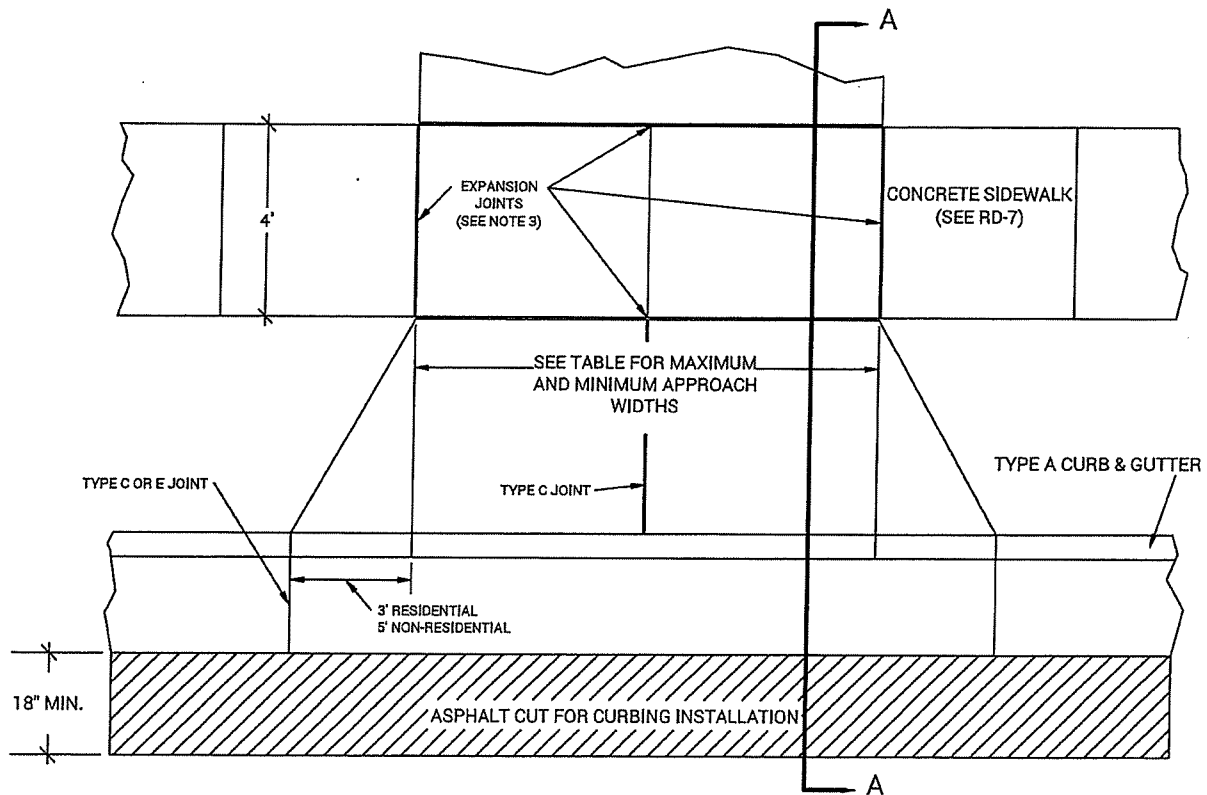


5. No common use laterals shall be allowed.
    - a. Such practice of common use laterals shall be eliminated as redevelopment of the site occurs, or if repair or replacement is needed. The repair or replacement cost will be the responsibility of the Owner.
  6. Sewage Collection: The developer shall connect to the sanitary sewer and provide adequate individual lateral lines to each property being developed. All proposed sewer connections must provide the future use of the property along with the necessary sized pipe with associated calculations.
    - a. Sewer laterals shall not be allowed to connect into any private sewer system.
    - b. Any new developments shall be subject to the following sewer lateral requirements:
      - 1) Developer will stub into each lot a minimum of one lateral with a factory wye, or tap, from the sewer main. Lateral size will depend on usage and current and future anticipated zoning for the lot.
      - 2) The lateral shall be extended to the back of the existing sidewalk, or beyond the property line, whichever is further.
      - 3) The end of the lateral must be marked with a 2x4, set in the ground, and have the end colored green.
  7. Joint trench with a sewer and water lateral is not allowed. All sewer laterals shall maintain a 10 foot separation from all water lines.
  8. Cleanouts shall be required every 100 feet (100').
  9. Location of the cleanout can be in the City's Right-of-Way so long as it is a landscaped area and maintains a minimum distance of one foot from sidewalk, curb and gutter, etc.
  10. Cleanout shall be placed in an Oldcastle precast G08, G05, or approved equal type box.
  11. Cleanout needs to have a glue on thread adapter and a plastic screw on cap.
- E. Grease Traps and Grease Interceptors**
1. All Gravity and Hydromechanical Grease Interceptors shall be sized according to the current manual of the Uniform Plumbing Code (UPC).
    - a. All Drainage Fixtures (DFU) in any food and beverage preparation area or an area which can be contaminated with organic fats, oils, or greases (FOG) shall be routed through the Interceptor.
    - b. Restroom waste shall not be routed through the Interceptor.
    - c. The Interceptor capacity is defined as the storage volume of the vault below the elevation of the outlet flow line or as defined by the manufacture.
  2. The Gravity Interceptor shall have manhole rings and covers rated for traffic loading when in areas which experience vehicular traffic.
  3. The Interceptor shall be water and airtight.
    - a. All pipe openings shall be mechanically sealed or grouted to prevent infiltration and exfiltration.

- b. Direct venting of the gravity grease interceptor shall not be allowed unless it follows the requirements of the International Building Code.
  - c. All access manholes must be sealed to prevent air and fumes from escaping the containment unit.
4. Outlet pipe flowline shall be a minimum of 2.5 inches (2.5") below the inlet pipe flowline.
  5. The inlet and outlet piping shall have a two-way cleanout. The cleanout must be a minimum of four inch (4") PVC tee installed vertically inside the interceptor.
  6. The baffle wall shall have a six inch (6") minimum PVC cleanout tee installed vertically.
  7. If the inlet is greater than six inches (6") a plan will need to be submitted and approved by the City.
  8. A sampling manhole shall be installed no more than 10 feet (10') downstream from any interceptor.
    - a. The required vault shall be a five foot (5') diameter manhole.
  9. The sampling vault or manhole shall have a 12 inch (12") minimum hydraulic jump between the inlet and outlet pipe.
    - a. A six inch (6") minimum clearance is required from the end of the inlet pipe to the bottom of the sampling manhole flowline.
  10. The bottom of the sampling manhole shall be formed to slope the water towards the outlet pipe.

**F. Pipe Bursting**

1. The minimum allowable slope from the building to the main is 1% for a 6" service and 2% for a 4" service.
2. A video (CCTV) internal inspection of the cleaned existing piping shall be performed to assure that the piping conditions are acceptable to pipe bursting (e.g. no sags or obstructions in the pipe).
3. All sewer pipe must be green in color.



SIDEWALK, APPROACH, CURB AND GUTTER  
SECTION A-A

OGDEN CITY ENGINEERING - STANDARD DRAWINGS



DRIVEWAY APPROACH

JUSTIN ANDERSON, CITY ENGINEER

RD-7

SHEET 1 OF 2 | 2020

## NOTES:

1. BASE COURSE: PROVIDE MATERIAL AS PER APWA 32 11 23.
  - 1.1. PLACE MATERIAL PER APWA SECTION 32 05 10.
  - 1.2. COMPACT PER APWA SECTION 31 23 26 TO A DENSITY OF 95 PERCENT OR GREATER. MAXIMUM LIFT THICKNESS BEFORE COMPACTION IS 8" WHEN USING RIDING AND 6" WHEN USING HAND HELD COMPACTION EQUIPMENT.
2. CONCRETE SHALL BE CLASS 4000 AS PER APWA 03 30 04.
  - 2.1. PROVIDE 1/2" RADIUS ON CONCRETE EDGES EXPOSED TO VIEW.
3. EXPANSION JOINT SHALL BE VERTICAL, FULL DEPTH 1/2" WIDE. USE TYPE F1 JOINT FILLER AS PER APWA 32 13 73. SET TOP OF FILLER FLUSH WITH CONCRETE SURFACE.
4. CONTRACTION JOINTS SHALL BE VERTICAL.
  - 4.1. 1/8" WIDE AND 1" DEEP (OR 1/4 SLAB THICKNESS IF SLAB IS OVER 4").
  - 4.1. MAXIMUM LENGTH TO WIDTH RATIO FOR NON-SQUARE PANELS IS 1.5 TO 1.
  - 4.2. MAXIMUM PANEL LENGTH (IN FEET) IS 2.5 TIMES THE SLAB THICKNESS (IN INCHES) TO A MAXIMUM OF 15'
5. REINFORCEMENT SHALL BE PER ASTM A 615, GRADE 60 GALVANIZED OR EPOXY COATED DEFORMED STEEL. SEE APWA SECTION 03 20 00 REQUIREMENTS.
6. BAG MIX: MARCH - NOVEMBER 6 1/2, DECEMBER - FEBRUARY 7 1/2.

	LOTS WITH 1-2 UNITS	LOTS WITH 3-4 UNITS	LOTS WITH OVER 5 UNITS
MINIMUM WIDTH	10'	16'	24'
MAXIMUM WIDTH	32'	32'	35'
	* OR 50% OF LOT FRONTAGE (WHICHEVER IS LESS)		
MINIMUM CONCRETE THICKNESS	6"	6"	6"
MINIMUM BASE	6"	6"	6"

	COMMERCIAL/MANUFACTURING (TRACTOR/TRAILER USE ONLY)	COMMERCIAL/MANUFACTURING (GENERAL USE)
MINIMUM WIDTH	35'	24'
MAXIMUM WIDTH	50'	35'
	*SEE SECTION 15-12-II OF THE OGDEN CITY CODE FOR EXCEPTIONS	
MINIMUM CONCRETE THICKNESS	8"	8"
MINIMUM BASE	8"	8"

### OGDEN CITY ENGINEERING - STANDARD DRAWINGS



#### DRIVEWAY APPROACH

JUSTIN ANDERSON, CITY ENGINEER

**RD-7**

SHEET 2 OF 2

2020

## **2-3 Sidewalks, Curb and Gutter, ADA Ramps, Approaches**

1. Any section of curb, gutter, sidewalk, ADA ramp, waterway, and/or approach improperly installed or damaged during construction shall be removed and replaced at the Contractor's expense.
  - a. The City will decide the extent of removal, replacement, and/or repair.
  - b. Concrete removal shall be removed from joint to joint.
2. A concrete curing compound shall be applied to all new and finished concrete.
  - a. Curing compound must meet specifications ASTM C-309, Type 1 or 2, Class A

### **A. Curb and Gutter Design**

1. Minimum slope allowed is 0.5% (this applies to all gutter grades).
2. Curbs and gutters shall be installed on existing and proposed streets.
  - a. Allowable curb section within the right of way shall be 30-inch (30") Type 'A' per APWA Standards.
    - 1) Other types of curb and gutter must be approved by the City Engineer.
  - b. Expansion Joints shall be:
    - 1) Spaced a maximum of 40 feet (40') for all curb and gutter regardless of installation type.
    - 2) Placed at any location where the curb and gutter changes direction.
    - 3) When work stops and begins at a different time.
  - c. Base course thickness under curb and gutter shall be eight inches (8").
  - d. Insert dowelled cold joint when connecting new curb and gutter to existing curb and gutter (See 2017 APWA Standard Plan 206)

### **B. Sidewalks**

1. All new projects require the installation of sidewalks along the roadway.
  - a. New sidewalk shall be located within the public Right-of-Way.
    - 1) Unless the City Engineer accepts the sidewalk with a Public Access Easement.
2. Sidewalks within the Right-of-Way shall be a minimum of four feet (4') wide.
  - a. Sidewalks directly adjacent of the back of curb must be a minimum of six feet (6') wide and will only be allowed with approval from the City Engineer.
  - b. Sidewalks shall slope at two percent (2%) towards the street.
3. Sidewalks shall be installed with a landscaped park strip and be located a minimum of:
  - a. Arterial streets: six feet (6') behind the back of curb
  - b. Collector and Minor streets: seven feet (7') behind the back of curb
  - c. Cul-De-Sac: five feet (5') behind the back of curb
    - 1) All trees planted in the city Right-of-Way shall be approved by the City Urban Forester
    - 2) No small or medium tree shall be planted in a park strip that is less than five feet (5') wide, or no large tree shall be planted in a park strip that is less than eight feet (8') wide, unless approved by the City Urban Forester. Tree sizes are designated by the City Urban Forester
4. Sidewalk concrete thickness shall be:
  - a. Eight inches (8") when located directly behind a commercial, industrial, non-single family dwelling approach.
  - b. Six inches (6") when located directly behind a single-family residential approach or along all

commercial and industrial areas.

- c. Four inches (4") for all other residential areas.
- 5. When a drive approach intersects the sidewalk, the drive approach shall match the level of the sidewalk. See APWA standard plans for driveway approached for additional slope information for all approach connections.
- 6. When installing Stamped Concrete, the stamp pattern shall closely resemble the pattern of adjacent brick pavers.
  - a. The concrete dye color shall be the color brown, unless stated otherwise by the Engineer. All concrete shall receive medium broom finish. The sealant finish shall be evenly applied and shall be the color charcoal, unless stated otherwise by the Engineer.

#### **C. ADA Ramps**

- 1. Handicap ramps shall be constructed at legal pedestrian crossings or a marked crosswalk.
  - a. Ramp running slope shall not exceed 8.33%. Side flare slopes shall not exceed 10%.
- 2. The bottom of diagonal or corner type curb ramps shall have a clear space of four feet (4') minimum outside active traffic lanes of the roadway
- 3. Tactile warning pads shall be Gray unless otherwise approved by the City Engineer.
  - a. Pad shall extend the full width of the curb ramp (exclusive of flared sides) and extend a minimum of two feet (2') deep in the direction of pedestrian travel.
  - b. Pad shall be anchored.

#### **D. Waterways**

- 1. Waterways in a public Right-of-Way shall be a minimum of six feet (6') wide.
- 2. Waterways cannot be installed within 500 feet (500') of a storm drain system. Connections to the storm drain system will be required. Waterways within this distance must be approved by the City Engineer.

#### **E. Driveway Approaches**

- 1. Driveways shall be set back from the nearest intersection face of curb (see Ogden Municipal Code 15-12-11):
  - a. A minimum of 80 feet (80') from the intersection of two streets when both are not local streets.
  - b. A minimum of 50 feet (50') from the intersection of any local to local street connection.
  - c. Any approach set within 300 feet of another roadway must have approval from the Traffic Engineer. A traffic study may be required.
  - d. Approaches near a major street will have additional requirements based on site related factors.
- 2. Overhead approaches shall not be allowed in Ogden City unless approved by the City Engineer.

### 3. Residential Approaches

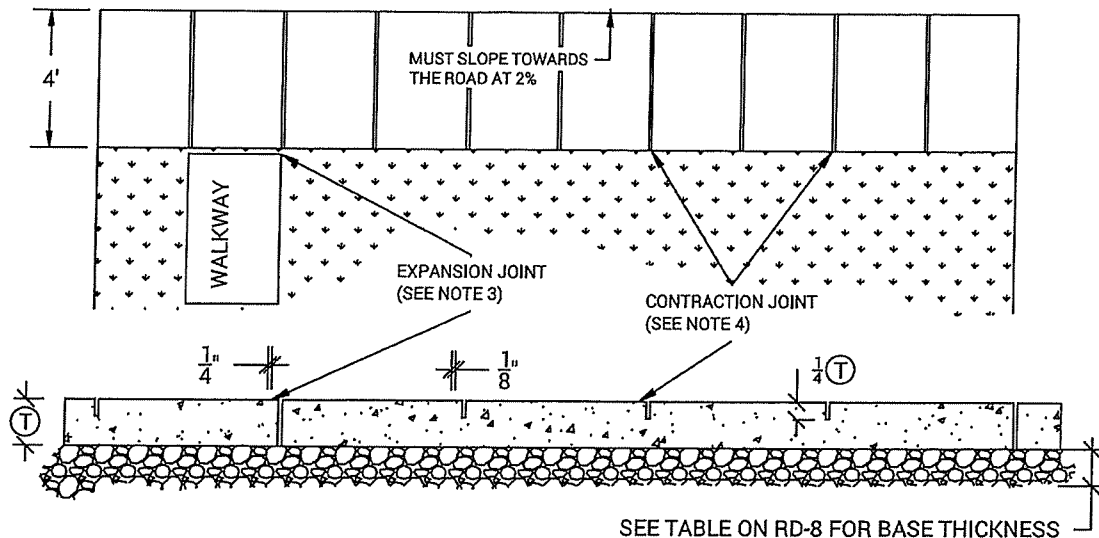
<b>Driveway Width - Residential</b>			
	<b>Lots with 1-2 Units</b>	<b>Lots with 3-4 Units</b>	<b>Lots with 5 or more Units</b>
<b>Minimum Width</b>	10 feet	16 feet	24 feet
<b>Maximum Width</b>	32 feet or 50% of lot frontage (whichever is less)	32 feet or 50% of lot frontage (whichever is less)	35 feet or 50% of lot frontage (whichever is less)
<b>Minimum Concrete Thickness</b>	6 inches	6 inches	6 inches

- a. All single-family residential driveways shall be offset from other driveways by no less than six feet (6').
- b. Single-family homes shall be allowed one access-way onto the public street for each lot
  - 1) One additional access may be permitted for single-family homes if the access meets the additional City municipal code requirements.
    - a) Additional accesses must be approved by the City prior to installation.
    - b) This approach shall be used to service a circular driveway or accessory vehicle parking slab.
- c. Corner lots with more than 250 feet (250') of combined street frontage can request a third access for circular drives.

### 4. Commercial/Industrial Approaches

<b>Driveway Width - Commercial/Industrial</b>		
	<b>Tractor/Trailer Use Only</b>	<b>General Use</b>
<b>Minimum Width</b>	35 feet	24 feet
<b>Maximum Width</b>	50 feet	35 feet
<b>Minimum Concrete Thickness</b>	8 inches	8 inches

- a. All Commercial/Industrial driveways shall be offset from driveways on other properties by 20 feet (20').
  - 1) Approaches shall not be within eight feet (8') of an interior property line.
- b. A maximum of two (2) approaches will be permitted per parcel. Additional approaches will require the approval of the City Engineer and a traffic study be completed. Other approach restrictions are as follows:
  - 1) The driveway width and separation on State maintained roadways shall be as required by the Utah Department of Transportation.
  - 2) In parcels accommodating twenty (20) or more parking spaces, driveways must be separated by at least 250 feet (250'). Any requested reduction will require a traffic study and approval from the City Engineer.
  - 3) In parcels with less than twenty (20) parking spaces, driveways must be separated by at least 100 feet (100'). Any requested reduction will require a traffic study and approval from the City Engineer.



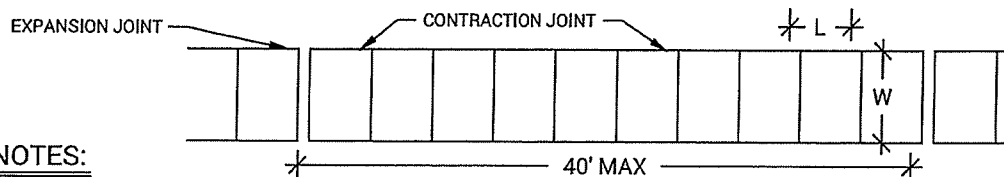
STREET TYPE		(T)
NOT SUBJECT TO VEHICULAR TRAFFIC		4"
SUBJECT TO VEHICULAR TRAFFIC		6"
COMMERCIAL SUBJECT TO VEHICULAR TRAFFIC		8"
REPLACEMENTS	MATCH EXISTING, 4" MIN.	

$$L_{MIN} = W$$

$$L_{MAX(IN FEET)} = 2.5 \times (T)(IN INCHES)$$

OR

$$= 15 \text{ FEET MAXIMUM}$$



#### NOTES:

1. BASE COURSE: PROVIDE MATERIAL SPECIFIED IN APWA SECTION 32 11 23.
  - 1.1. PLACE MATERIAL PER APWA SECTION 32 05 10.
  - 1.2. COMPACT PER APWA SECTION 31 23 26 TO A DENSITY OF 95 PERCENT OR GREATER. MAXIMUM LIFT THICKNESS BEFORE COMPACTION IS 8" WHEN USING RIDING EQUIPMENT AND 6" WHEN USING HAND COMPACTION EQUIPMENT.
2. CONCRETE: CLASS 4000 PER APWA SECTION 03 30 04.
  - 2.1. CONCRETE MUST INCREASE FROM 4" THICK TO 6" FOR RESIDENTIAL DRIVEWAYS AND TO 8" FOR COMMERCIAL DRIVEWAYS.
  - 2.2. PLACE CONCRETE PER APWA SECTION 03 30 10.
  - 2.3. PROVIDE 1/2" RADIUS ON CONCRETE EDGES EXPOSED TO PUBLIC VIEW.
3. EXPANSION JOINT: MAKE EXPANSION JOINTS VERTICAL, FULL DEPTH, 1/2" WIDE WITH TYPE F1 JOINT FILLER MATERIAL PER APWA SECTION 32 13 73.
  - 3.1. SET TOP OF FILLER FLUSH WITH SURFACE OF CONCRETE.
  - 3.2. EXPANSIONS JOINTS REQUIRED AT CURB RETURNS, APPROACHES, AND ADJOINING WALKWAYS.
4. CONTRACTION JOINT: MAKE CONTRACTION JOINTS VERTICAL. TYPICAL SLAB RATIO IS 1 TO 1.
  - 4.1. 1/8" WIDE AND 1" DEEP (OR 1/4 SLAB THICKNESS IF SLAB IS GREATER THAN 4" THICK).
  - 4.2. MAXIMUM LENGTH TO WIDTH RATIO FOR NON-SQUARE PANELS IS 1.5 TO 1.
5. BAG MIX: MARCH - NOVEMBER 6 1/2, DECEMBER - FEBRUARY 7 1/2.

#### OGDEN CITY ENGINEERING - STANDARD DRAWINGS



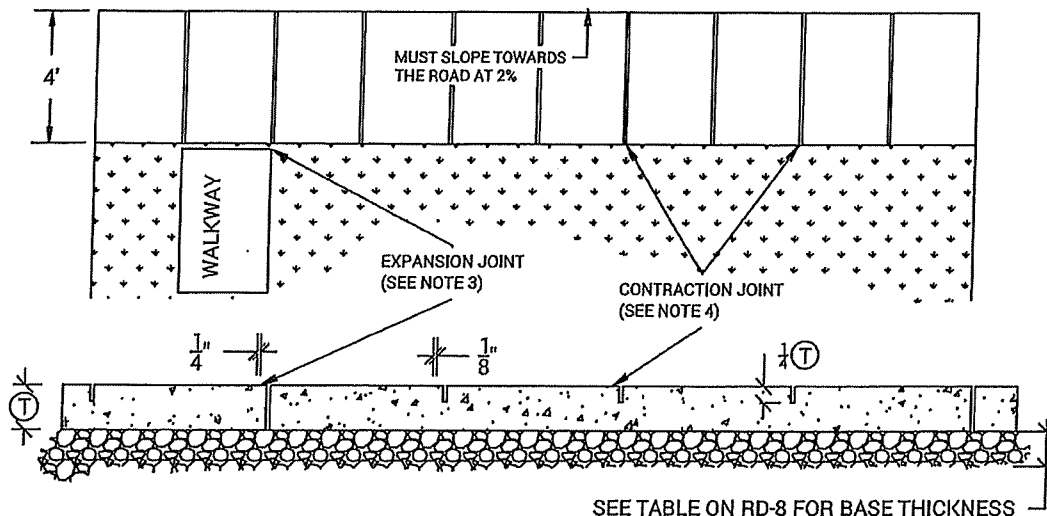
#### SIDEWALK DETAIL

**RD-5**

JUSTIN ANDERSON, CITY ENGINEER

SHEET 1 OF 1 2020





SEE TABLE ON RD-8 FOR BASE THICKNESS

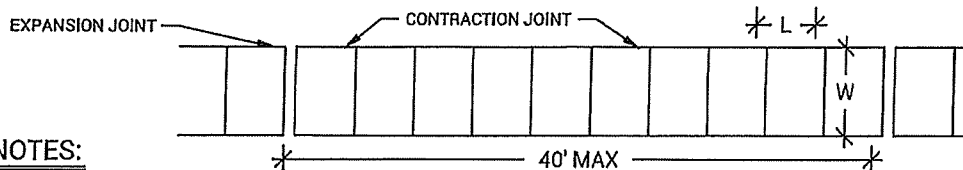
STREET TYPE		Ⓣ
NOT SUBJECT TO VEHICULAR TRAFFIC		4"
SUBJECT TO VEHICULAR TRAFFIC		6"
COMMERCIAL SUBJECT TO VEHICULAR TRAFFIC		8"
REPLACEMENTS	MATCH EXISTING, 4" MIN.	

$$L_{MIN} = W$$

$$L_{MAX(FT)} = 2.5 \times \text{Ⓣ (IN INCHES)}$$

OR

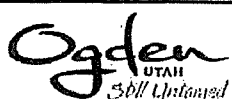
$$= 15 \text{ FEET MAXIMUM}$$



#### NOTES:

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4. CONTRACTION JOINT: MAKE CONTRACTION JOINTS VERTICAL. TYPICAL SLAB RATIO IS 1 TO 1.
  - 4.1. 1/8" WIDE AND 1" DEEP (OR 1/4 SLAB THICKNESS IF SLAB IS GREATER THAN 4" THICK).
  - 4.2. MAXIMUM LENGTH TO WIDTH RATIO FOR NON-SQUARE PANELS IS 1.5 TO 1.
5. BAG MIX: MARCH - NOVEMBER 6 1/2, DECEMBER - FEBRUARY 7 1/2.

#### OGDEN CITY ENGINEERING - STANDARD DRAWINGS



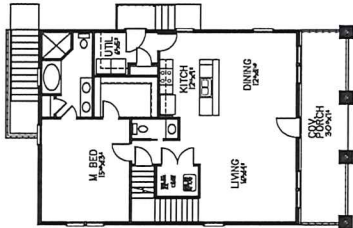
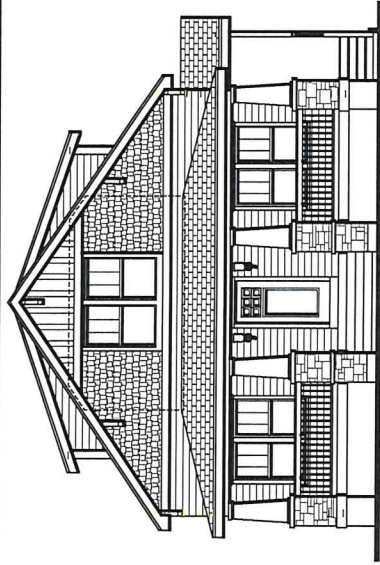
#### SIDEWALK DETAIL

**RD-5**

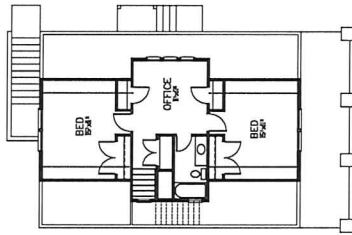
JUSTIN ANDERSON, CITY ENGINEER

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MAIN FLOOR AREA = 1200 SQ. FT.



UPPER FLOOR AREA = 702 SQ. FT.

METAL HOLDOWN SCHEDULE <sup>1</sup>		
MARK	DESCRIPTION	ATTACHMENT
1000	1000-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1001	1001-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1002	1002-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1003	1003-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1004	1004-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1005	1005-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1006	1006-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1007	1007-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1008	1008-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1009	1009-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1010	1010-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS

CONCRETE FOUNDATION WALL SCHEDULE		
MARK	DESCRIPTION	ATTACHMENT
1011	1011-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1012	1012-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1013	1013-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1014	1014-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1015	1015-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1016	1016-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1017	1017-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1018	1018-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1019	1019-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1020	1020-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS

WOOD BEAM/HEADER SCHEDULE <sup>1</sup>		
MARK	DESCRIPTION	ATTACHMENT
1021	1021-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1022	1022-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1023	1023-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1024	1024-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1025	1025-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1026	1026-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1027	1027-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1028	1028-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1029	1029-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1030	1030-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS

SHEAR WALL SCHEDULE		
MARK	DESCRIPTION	ATTACHMENT
1031	1031-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1032	1032-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1033	1033-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1034	1034-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1035	1035-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1036	1036-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1037	1037-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1038	1038-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1039	1039-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1040	1040-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS

CONCRETE FLOORING SCHEDULE <sup>1</sup>		
MARK	DESCRIPTION	ATTACHMENT
1041	1041-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1042	1042-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1043	1043-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1044	1044-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1045	1045-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1046	1046-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1047	1047-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1048	1048-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1049	1049-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1050	1050-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS

BRICK VENEER STEEL ANGLE UNITE SCHEDULE		
MARK	DESCRIPTION	ATTACHMENT
1051	1051-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1052	1052-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1053	1053-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1054	1054-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1055	1055-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1056	1056-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1057	1057-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1058	1058-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1059	1059-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS
1060	1060-14 INCHER NAILS	SEE DETAIL 1/2" x 14 INCHER NAILS

GENERAL STRUCTURAL NOTES		
1.	CONCRETE, FOOTINGS, AND FOUNDATIONS.	
2.	ALL CONCRETE SHALL BE 3000 PSI STRENGTH.	
3.	ALL CONCRETE SHALL BE PLACED IN ONE RISE.	
4.	ALL CONCRETE SHALL BE CURED FOR 7 DAYS.	
5.	ALL CONCRETE SHALL BE PROTECTED FROM FREEZING TEMPERATURES.	
6.	ALL CONCRETE SHALL BE PROTECTED FROM CORROSION.	
7.	ALL CONCRETE SHALL BE PROTECTED FROM ALKALI AGGRESSION.	
8.	ALL CONCRETE SHALL BE PROTECTED FROM SULFATE ATTACK.	
9.	ALL CONCRETE SHALL BE PROTECTED FROM ACID ATTACK.	
10.	ALL CONCRETE SHALL BE PROTECTED FROM OIL ATTACK.	

WOOD FRAMING		
1.	ALL WOOD FRAMING SHALL BE 2x4 OR 2x6.	
2.	ALL WOOD FRAMING SHALL BE KIDNEY PINE OR BETTER.	
3.	ALL WOOD FRAMING SHALL BE DRY KIDNEY PINE OR BETTER.	
4.	ALL WOOD FRAMING SHALL BE TREATED WITH PRESERVATIVE.	
5.	ALL WOOD FRAMING SHALL BE PROTECTED FROM FIRE.	
6.	ALL WOOD FRAMING SHALL BE PROTECTED FROM INSECTS.	
7.	ALL WOOD FRAMING SHALL BE PROTECTED FROM MOLD.	
8.	ALL WOOD FRAMING SHALL BE PROTECTED FROM ROT.	
9.	ALL WOOD FRAMING SHALL BE PROTECTED FROM WARPING.	
10.	ALL WOOD FRAMING SHALL BE PROTECTED FROM SPLITTING.	

SPECIAL NOTES		
1.	ALL SPECIAL NOTES SHALL BE 2x4 OR 2x6.	
2.	ALL SPECIAL NOTES SHALL BE KIDNEY PINE OR BETTER.	
3.	ALL SPECIAL NOTES SHALL BE DRY KIDNEY PINE OR BETTER.	
4.	ALL SPECIAL NOTES SHALL BE TREATED WITH PRESERVATIVE.	
5.	ALL SPECIAL NOTES SHALL BE PROTECTED FROM FIRE.	
6.	ALL SPECIAL NOTES SHALL BE PROTECTED FROM INSECTS.	
7.	ALL SPECIAL NOTES SHALL BE PROTECTED FROM MOLD.	
8.	ALL SPECIAL NOTES SHALL BE PROTECTED FROM ROT.	
9.	ALL SPECIAL NOTES SHALL BE PROTECTED FROM WARPING.	
10.	ALL SPECIAL NOTES SHALL BE PROTECTED FROM SPLITTING.	

WALL LEGEND AND ABBREVIATIONS		
1.	WALL LEGEND AND ABBREVIATIONS.	
2.	WALL LEGEND AND ABBREVIATIONS.	
3.	WALL LEGEND AND ABBREVIATIONS.	
4.	WALL LEGEND AND ABBREVIATIONS.	
5.	WALL LEGEND AND ABBREVIATIONS.	
6.	WALL LEGEND AND ABBREVIATIONS.	
7.	WALL LEGEND AND ABBREVIATIONS.	
8.	WALL LEGEND AND ABBREVIATIONS.	
9.	WALL LEGEND AND ABBREVIATIONS.	
10.	WALL LEGEND AND ABBREVIATIONS.	

SHEET INDEX		
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2.	SHEET INDEX.	
3.	SHEET INDEX.	
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10.	SHEET INDEX.	

INDEX GENERAL STRUCTURAL NOTES, SCHEDULES		
1.	INDEX GENERAL STRUCTURAL NOTES, SCHEDULES.	
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SPECIAL NOTES		
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CONTRACTOR'S NOTES		
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ODGEN CITY		
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304 WEST PLEASANT VIEW DR.		
1.	304 WEST PLEASANT VIEW DR.	
2.	304 WEST PLEASANT VIEW DR.	
3.	304 WEST PLEASANT VIEW DR.	
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Lomond View		
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2.	Lomond View.	
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S11		
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LOT # 4 SUBDIVISION \_\_\_\_\_ STATE UTAH  
 ADDRESS 868 CAHOON CIRCLE  
 CITY OGDEN  
 DO NOT WRITE IN THESE SPACES • ZONING IS STRICTLY FORBIDDEN  
 DATE: 2/8/2025

FOOT:  $W_{FOOT} = 30$  in  
 $W_{FOOT} = 30$  in  
 FLOOR:  $W_{FLOOR} = 40$  in  
 $W_{FLOOR} = 40$  in  
 DECK:  $W_{DECK} = 80$  in  
 $W_{DECK} = 80$  in  
 GROUND SNOW LOAD = 43 psf  
 ULTIMATE DESIGN WIND SPEED  $V_{WIND} = 135$  mph  
 NOMINAL DESIGN WIND SPEED  $V_{WIND} = 90$  mph  
 SCHEME DESIGN CATEGORY A  
 ICE CLASS 1  
 ICE BENDING PRESSURE = 3600 psf  
 SOUTH LATERAL FORCE  $F_{LAT} = 1000$  kN  
 EAST LATERAL FORCE  $F_{LAT} = 1000$  kN  
 EAST LATERAL FORCE  $F_{LAT} = 1000$  kN  
 INCLUDED IN THE FLOOR DESIGN

PROCEEDED IN THE FLOOR DECKING.

[illegible]

CONSTRUCTION OF THE BUILDING  
CONTRIBUTED TO THE PROBLEM OF  
CONSTRUCTION TO THE OWNER'S DILEMMA

[illegible]

This architectural drawing shows a two-story house with a gabled roof. The drawing includes a side elevation on the left and a section view on the right. The side elevation shows a gabled roof with a 12/12 pitch, a brick chimney, and a front porch. The section view shows the interior layout, including a living room, dining room, kitchen, and bedrooms. Dimensions are provided for various parts of the house, including overall height, roof pitch, and room dimensions. The drawing is labeled with 'ELEVATION' and 'SECTION'.

Architectural drawing of the exterior of the building, showing a long, low structure with a flat roof and a small gabled section on the right. The drawing includes a cross-section line labeled 'A-A' and a section line labeled 'B-B'. The building is labeled 'BANK OF AMERICA' and 'BANK OF AMERICA'.



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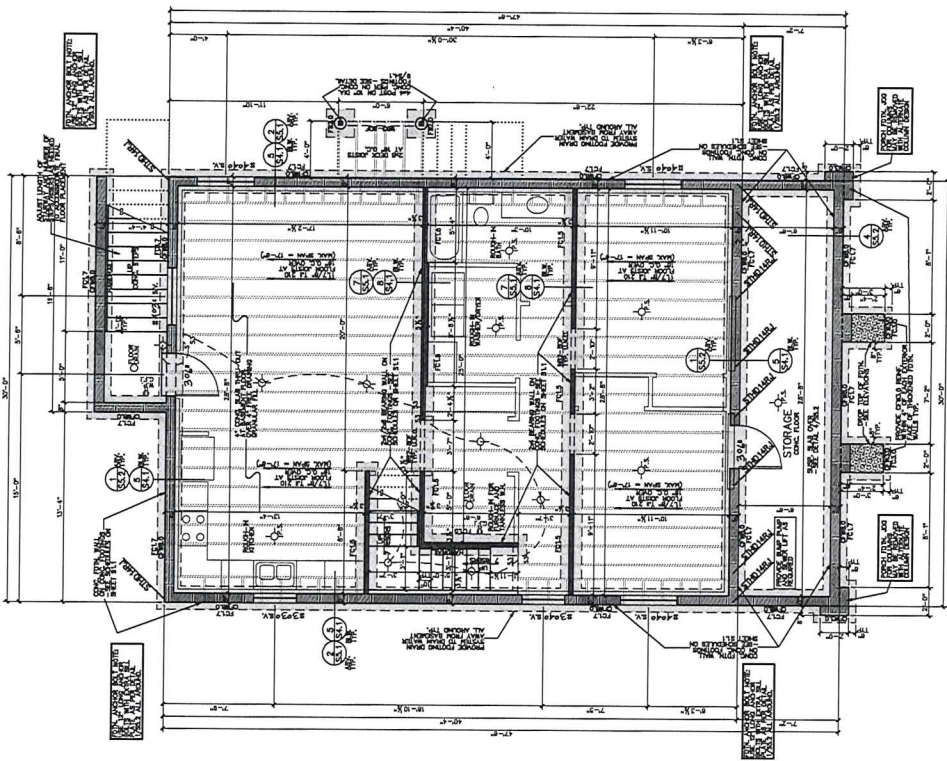
**DESIGN LOADS**  
FLOOR: 120 PSF  
ROOF: 20 PSF  
WIND: ASCE 7-16  
SEISMIC: ASCE 7-16  
SLOPE: 1:1  
SOIL: 1.5:1

**CONSTRUCTION COST NOTE:**  
THESE PLANS ARE BASED ON A CONSTRUCTION COST OF \$150 PER SQUARE FOOT. ANY CHANGES TO THE CONSTRUCTION COST WILL BE REFLECTED IN THE FINAL COST OF THE PROJECT.

**SOIL AND LOT NOTE:**  
THESE PLANS ARE BASED ON A SOIL TYPE OF CLAY. ANY CHANGES TO THE SOIL TYPE WILL BE REFLECTED IN THE FINAL COST OF THE PROJECT.

**SURFACE DRAINAGE:**  
THESE PLANS ARE BASED ON A SURFACE DRAINAGE OF 1% SLOPE. ANY CHANGES TO THE SURFACE DRAINAGE WILL BE REFLECTED IN THE FINAL COST OF THE PROJECT.

**UNFINISHED BASEMENT / FOUNDATION PLAN**  
SCALE: 1/4" = 1'-0"



**NOTES TO PLAN:**

1. ALL FOUNDATION WALLS SHALL BE CONCRETE. ALL FOUNDATION FLOORS SHALL BE CONCRETE. ALL FOUNDATION WALLS SHALL BE 12" THICK. ALL FOUNDATION FLOORS SHALL BE 4" THICK.
2. ALL FOUNDATION WALLS SHALL BE FINISHED WITH 1/2" GYPSUM BOARD. ALL FOUNDATION FLOORS SHALL BE FINISHED WITH 1/2" GYPSUM BOARD.
3. ALL FOUNDATION WALLS SHALL BE PAINTED WITH A WATER-BASED EMULSION PAINT. ALL FOUNDATION FLOORS SHALL BE PAINTED WITH A WATER-BASED EMULSION PAINT.
4. ALL FOUNDATION WALLS SHALL BE FINISHED WITH 1/2" GYPSUM BOARD. ALL FOUNDATION FLOORS SHALL BE FINISHED WITH 1/2" GYPSUM BOARD.
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S2.4

DATE: 2/2/2025  
DRAWN: CHM  
CHECKED: JMS  
SCALE: 1/8"=1'-0"

UPPER FLOOR PLAN

UPPER FLOOR PLAN  
SCALE: 1/8"=1'-0"  
UPPER FLOOR AREA = 702 SQ. FT.

DESIGN LOADS

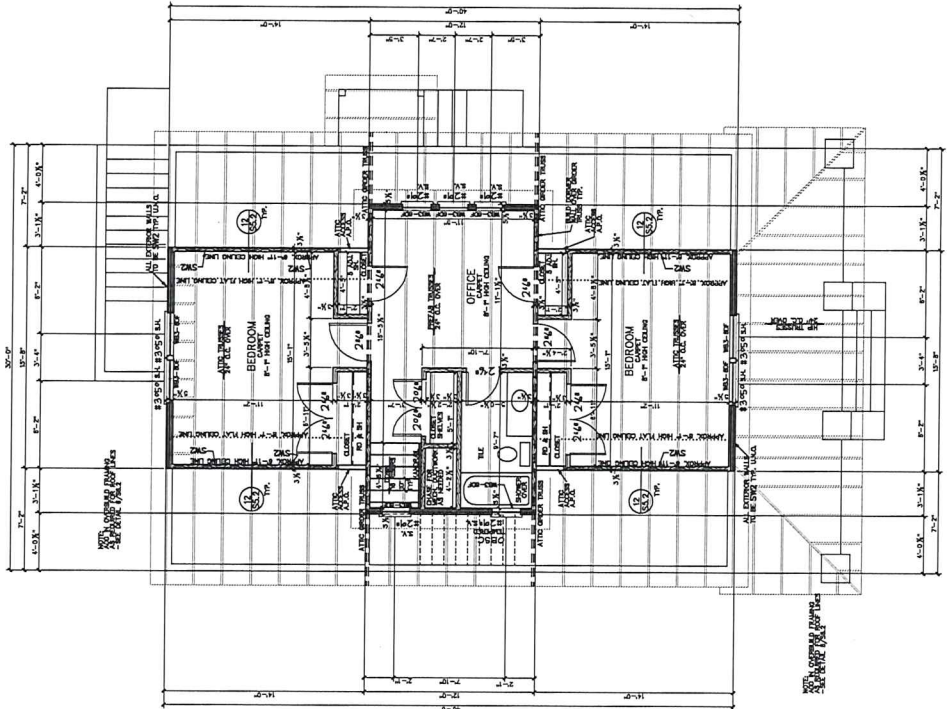
FLOOR	100 - 15 psf
CEILING	10 - 15 psf
WALL	20 - 30 psf
ROOF	20 - 30 psf
WIND	ASCE 7-16, 15 mph
SEISMIC	ASCE 7-16, 0.15g
SOIL	ASCE 7-16, 1.5-2.0
WATER	ASCE 7-16, 5.0
ICE	ASCE 7-16, 5.0
SNOW	ASCE 7-16, 5.0

NOTICE AND WARNING  
THIS PLAN IS A PRELIMINARY DESIGN. IT IS NOT TO BE USED FOR CONSTRUCTION. THE OWNER SHALL VERIFY ALL DIMENSIONS, MATERIALS, AND CONDITIONS. READ ALL NOTES AND SPECIFICATIONS. ASSIGNED COSTS, PRIOR TO THE CONSTRUCTION.

CONTRACTOR & OWNER SHALL VERIFY ALL DIMENSIONS, MATERIALS, AND CONDITIONS. READ ALL NOTES AND SPECIFICATIONS. ASSIGNED COSTS, PRIOR TO THE CONSTRUCTION.

CONSTRUCTION COST NOTE:  
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SIZE AND LOT NOTE:  
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NOTE TO WINDOW/DOOR SUPPLIER:  
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NOTES TO PLAN:

1. SEE GENERAL STRUCTURAL NOTES, SPECIFICATIONS, AND DETAILS FOR ADDITIONAL INFORMATION.
2. THE OWNER SHALL VERIFY ALL DIMENSIONS, MATERIALS, AND CONDITIONS. READ ALL NOTES AND SPECIFICATIONS. ASSIGNED COSTS, PRIOR TO THE CONSTRUCTION.
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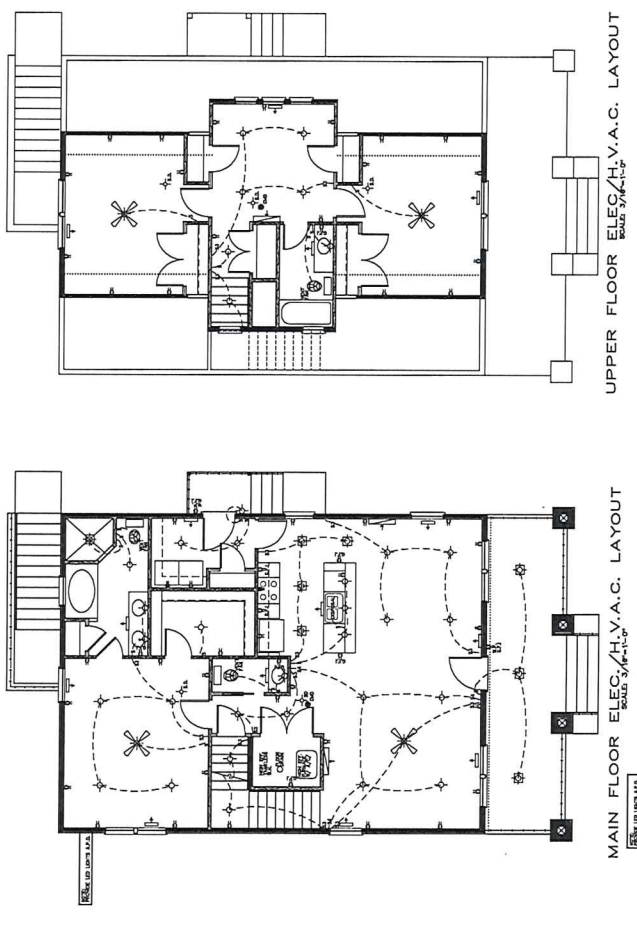
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888 CANYON DRIVE  
OGDEN CITY, UTAH

304 WEST PLEASANT VIEW DR.  
OGDEN CITY, UTAH  
PHONE: (801) 782-0484  
FAX: (801) 782-0484  
WWW.LOMONDVIEW.COM



UPPER FLOOR PLAN  
DATE: 2/2/2025  
DRAWN: CHM  
CHECKED: JMS  
SCALE: 1/8"=1'-0"



[illegible]

CONTRACTOR & OWNER SHALL VERIFY ALL DIMENSIONS, AREAS, AND CONDITIONS, READ ALL NOTES, AND BECOME THOROUGHLY FAMILIAR WITH THE DRAWINGS, AND ALL ASSOCIATED COSTS, PRIOR TO CONSTRUCTION.



CONTRACTOR & OWNER SHALL VERIFY ALL  
 DIMENSIONS, AREAS, AND CONDITIONS  
 PRIOR TO CONSTRUCTION. READ  
 ALL NOTES AND SPECIFICATIONS  
 CAREFULLY WITH THE DRAWINGS AND ALL  
 ASSOCIATED COSTS PRIOR TO CONSTRUCTION.  
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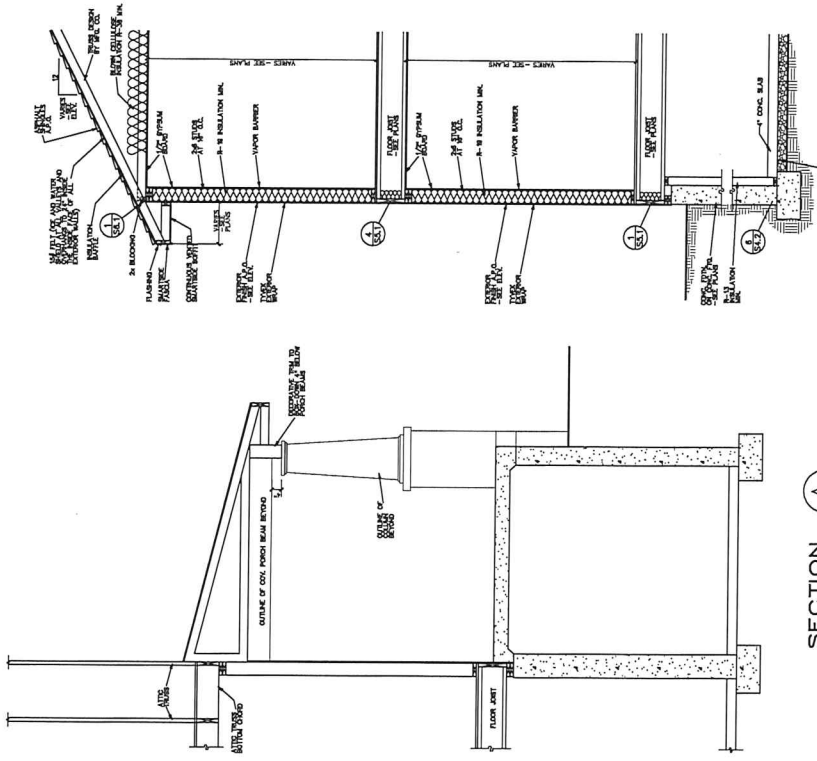
SECTIONS AND STAIR DETAILS



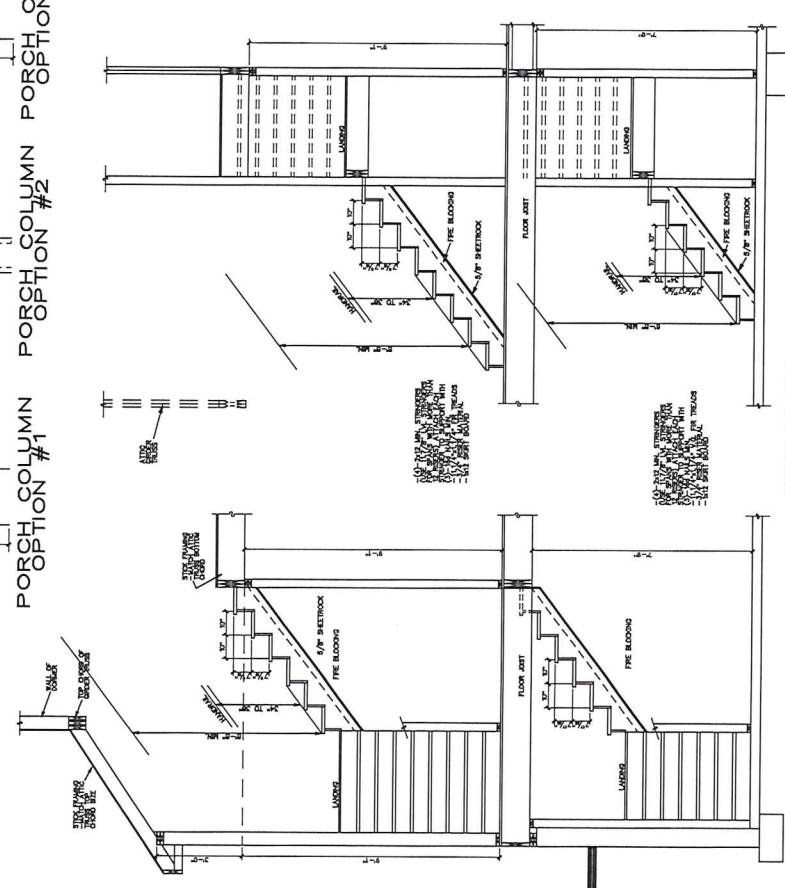
304 WEST PLEASANT VIEW DR.  
 OGDEN, UT 84403  
 LOT 4, SUBDIVISION  
 888 CANYON DRIVE  
 OGDEN CITY, UTAH

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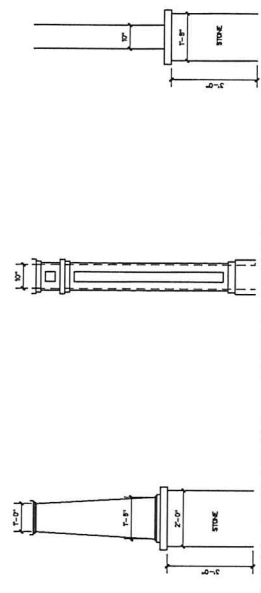
SECTION  
 SCALE: 1/2" = 1'-0"  
 A S3.2



STAIR DETAIL  
 SCALE: 1/2" = 1'-0"

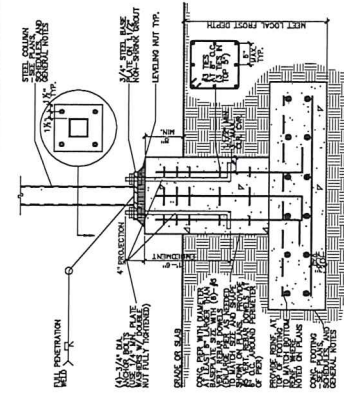


PORCH COLUMN PORCH COLUMN  
 OPTION #1 OPTION #2 OPTION #3

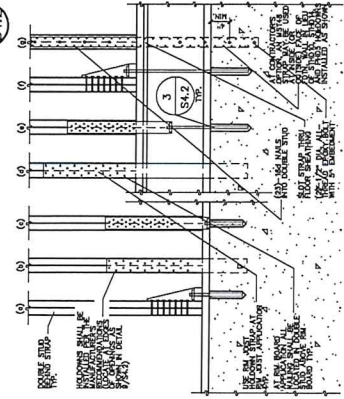


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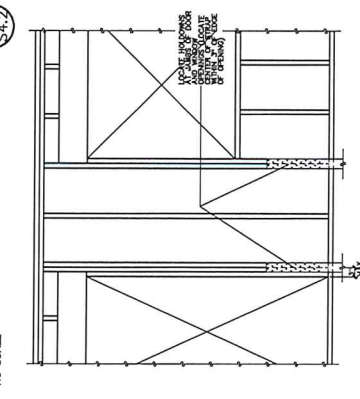




1  
EXTERIOR STEEL POST ON CONC. FOOTING  
NO SCALE



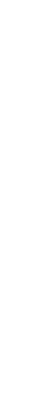
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INTERIOR STEEL POST ON CONC. FOOTING  
NO SCALE



3  
CRAWL SPACE CONC. FDN. WALL ON CONC. FOOTING  
NO SCALE



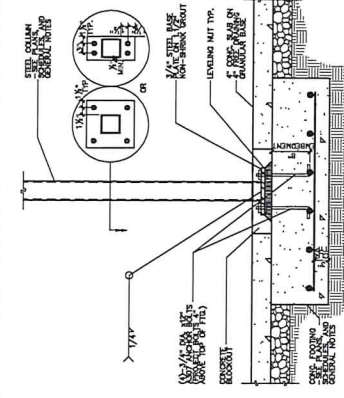
4  
CRAWL SPACE INTERIOR BEARING AND/OR SHEAR WALL ON CONC. FOOTING  
NO SCALE



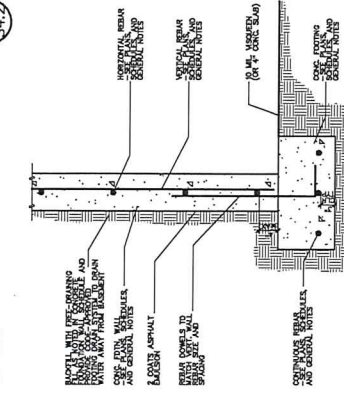
5  
CRAWL SPACE INTERIOR WOOD POSTS ON CONC. FOOTING  
NO SCALE



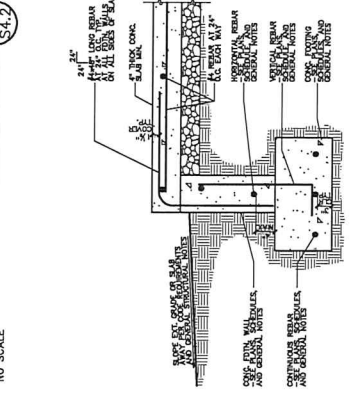
6  
CONCRETE FDN. WALL ON CONC. FOOTING  
NO SCALE



7  
CONCRETE FDN. WALL/FOOTING CONNECTION TO EXIST. CONC. FDN. WALL/FOOTING  
NO SCALE



8  
CONCRETE FDN. WALL/FOOTING CONNECTION TO EXIST. CONC. FDN. WALL/FOOTING  
NO SCALE



9  
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NO SCALE



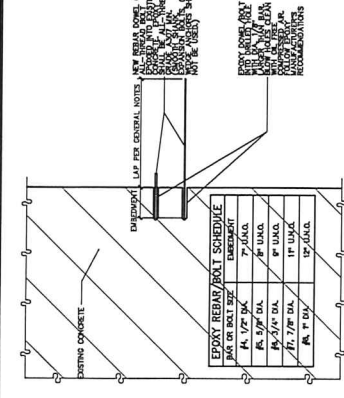
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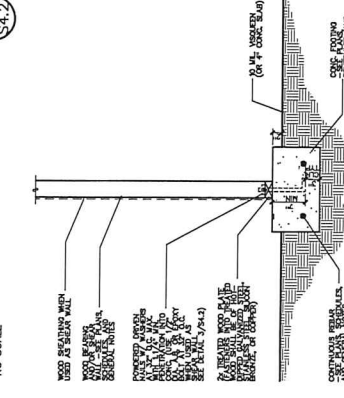
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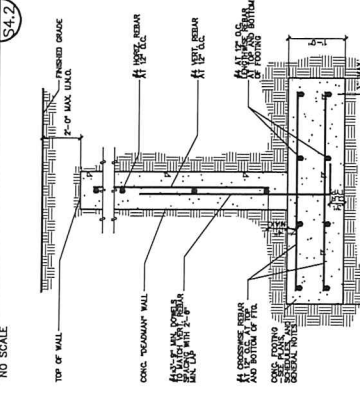
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NO SCALE



13  
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NO SCALE



14  
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NO SCALE



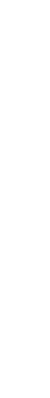
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NO SCALE



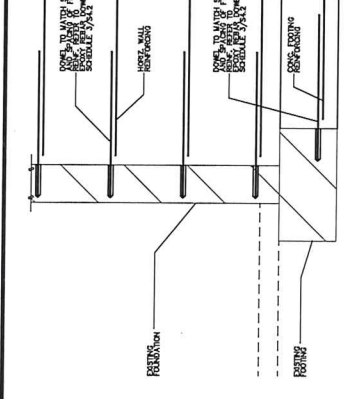
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NO SCALE



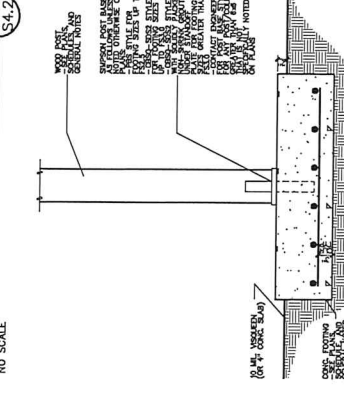
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NO SCALE



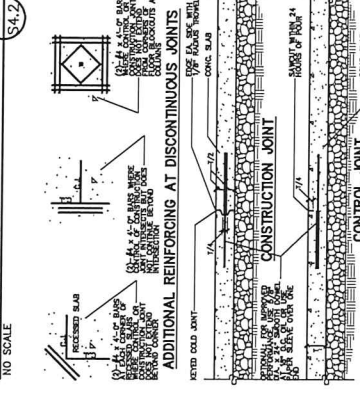
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NO SCALE



19  
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NO SCALE



20  
CONCRETE FDN. WALL/FOOTING CONNECTION TO EXIST. CONC. FDN. WALL/FOOTING  
NO SCALE



21  
CONCRETE FDN. WALL/FOOTING CONNECTION TO EXIST. CONC. FDN. WALL/FOOTING  
NO SCALE



22  
CONCRETE FDN. WALL/FOOTING CONNECTION TO EXIST. CONC. FDN. WALL/FOOTING  
NO SCALE



23  
CONCRETE FDN. WALL/FOOTING CONNECTION TO EXIST. CONC. FDN. WALL/FOOTING  
NO SCALE



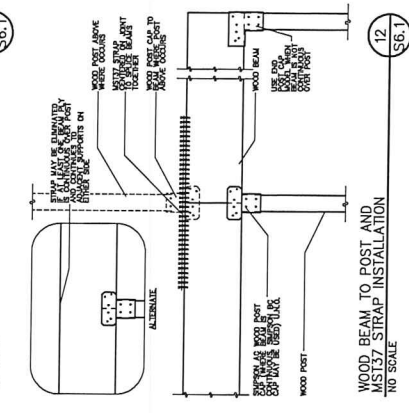
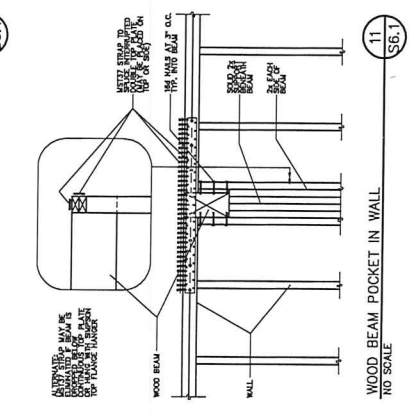
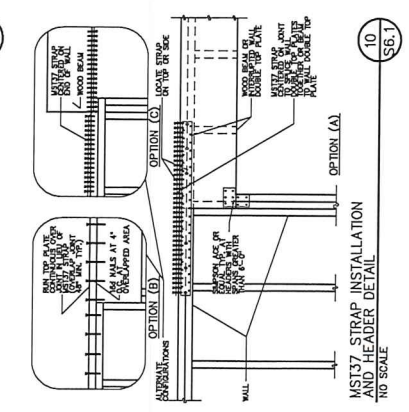
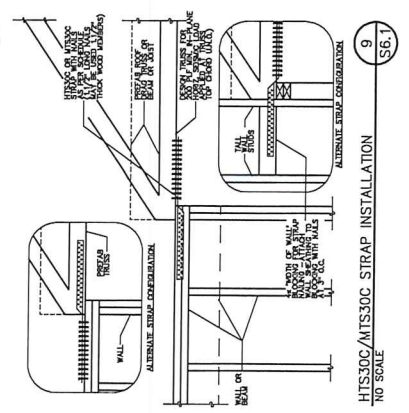
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NO SCALE











\*\*\*NOTE: ALL DETAILS SHOWN ON THIS SHEET ARE NOT NECESSARILY USED ON THIS JOB --- SEE PLAN SHEETS FOR REFERENCES TO DETAILS\*\*\*



**CS16x40 STRAP INSTALLATION**  
NO SCALE

**CS16x48 STRAP ATTACHMENT**  
NO SCALE

**BEARING/SHEAR WALL AT RAISED-HEEL ROOF TRUSSES**  
NO SCALE

**TRUSSES PARALLEL TO BEARING/SHEAR WALL**  
NO SCALE

**BRICK OVER ROOF SUPPORT**  
NO SCALE

**CABLE END WALL WITH EXTENDED GABLE OVERHANG**  
NO SCALE

**CS16x40 STRAP INSTALLATION**  
NO SCALE

**CS16x48 STRAP ATTACHMENT**  
NO SCALE

**BEARING/SHEAR WALL AT ROOF TRUSSES**  
NO SCALE

**TRUSS TO BEARING/SHEAR WALL**  
NO SCALE

**ROOF FRAMING OVERBUILD**  
NO SCALE

**CABLE END WALL WITH EXTENDED GABLE OVERHANG**  
NO SCALE

**CS16x40 STRAP INSTALLATION**  
NO SCALE

**CS16x48 STRAP ATTACHMENT**  
NO SCALE

**BEARING/SHEAR WALL AT ROOF TRUSSES**  
NO SCALE

**TRUSS TO BEARING/SHEAR WALL**  
NO SCALE

**ROOF FRAMING OVERBUILD**  
NO SCALE

**CABLE END WALL WITH EXTENDED GABLE OVERHANG**  
NO SCALE

**CS16x40 STRAP INSTALLATION**  
NO SCALE

**CS16x48 STRAP ATTACHMENT**  
NO SCALE

**BEARING/SHEAR WALL AT RAISED-HEEL ROOF TRUSSES**  
NO SCALE

**TRUSSES PARALLEL TO BEARING/SHEAR WALL**  
NO SCALE

**BRICK OVER ROOF SUPPORT**  
NO SCALE

**CABLE END WALL WITH EXTENDED GABLE OVERHANG**  
NO SCALE

**CS16x40 STRAP INSTALLATION**  
NO SCALE

**CS16x48 STRAP ATTACHMENT**  
NO SCALE

**BEARING/SHEAR WALL AT ROOF TRUSSES**  
NO SCALE

**TRUSS TO BEARING/SHEAR WALL**  
NO SCALE

**ROOF FRAMING OVERBUILD**  
NO SCALE

**CABLE END WALL WITH EXTENDED GABLE OVERHANG**  
NO SCALE

**CS16x40 STRAP INSTALLATION**  
NO SCALE

**CS16x48 STRAP ATTACHMENT**  
NO SCALE

**BEARING/SHEAR WALL AT ROOF TRUSSES**  
NO SCALE

**TRUSS TO BEARING/SHEAR WALL**  
NO SCALE

**ROOF FRAMING OVERBUILD**  
NO SCALE

**CABLE END WALL WITH EXTENDED GABLE OVERHANG**  
NO SCALE

**Lomond View Designs, LLC**

304 W. Pleasant View Dr.

Ogden, UT 84414

phone: 801-782-0484

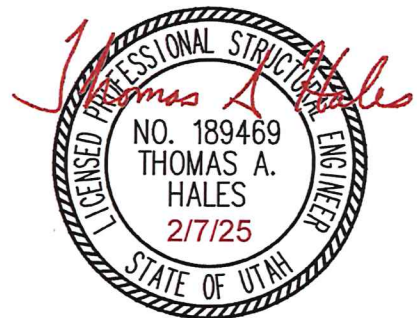
**Structural Calculations**  
for  
**Ogden City**  
**(1-2-1200 / 2-1-702 2-Story)**  
for  
**Ogden, Utah**

February 7, 2025

Note: These calculations are to be used only for the plan number and the building lot and/or address shown above. Use of these calculations for any other plan or location is prohibited unless written/signed agreement is obtained from Thomas A. Hales indicating otherwise.

Prepared By:  
**Thomas A. Hales, P.E.**

Job # 24088





## TABLE OF CONTENTS

DESIGN CRITERIA	D-1 TO D-1
FOOTING DESIGN	F-1 TO F-1
WOOD FRAMING DESIGN	WF-1 TO WF-4
LATERAL ANALYSIS	L-1 TO L-2

## DESIGN CRITERIA:

- A. GOVERNING BUILDING CODE: 2021 INTERNATIONAL BUILDING CODE (IBC) AND 2021 INTERNATIONAL RESIDENTIAL CODE (IRC)
- B. GRAVITY LIVE LOADING:
  - 1. ROOF: 30 PSF SNOW LOAD
  - 2. FLOOR: 40 PSF LIVE LOAD
  - 3. DECK: 60 PSF LIVE LOAD
- C. EARTHQUAKE:  $V = S_{ds} * I * W / R = 2/3 * S_{ms} * I * W / R$ 
  - 1.  $S_{ms}$  = USE 1.6 (SDC = 'D2')
  - 2. I, IMPORTANCE FACTOR = 1.0
  - 3. R, BUILDING TYPE = 6.5 (USE 6)
  - 4. W, WEIGHT OF STRUCTURE
- D. WIND:
  - 1. VELOCITY: 115 MPH (LRF) \* 0.775 → 90 MPH (ASD), BASIC WIND SPEED (IBC 1609.3.1)
  - 2. EXPOSURE: TYPE C
  - 3. IMP. FACTOR: 1.0, STANDARD OCCUPANCY
- E. SOIL BEARING PRESSURE: 1500 PSF ASSUMED BY OWNER
- F: SEE DRAWINGS FOR GENERAL NOTES AND CONSTRUCTION REQUIREMENTS

# COLUMN AND FOOTING LOADS AND SIZES

Project: JOB #24088  
 Allow. Soil Bearing Press. 1500 psf

Date: 2/7/2025  
 Engineer: Tom Hales

## CONTINUOUS FOOTINGS

Footing/Column Location: TYP. EXTERIOR WALL (WORST CASE)  
 Alt. Soil Bearing Pressure

COMMENT	TRIBUTARY AREA		WEIGHT	SUB TOTAL	CUM. TOT.
	LENGTH 1	PER 1 FT.			
ROOF SNOW LOAD	17.0 ft		30 psf	510 plf	510 plf
ROOF DEAD LOAD	17.0 ft		17 psf	289 plf	799 plf
UPPER FLOOR LIVE LOAD	8.0 ft		40 psf	320 plf	1119 plf
MAIN FLOOR LIVE LOAD	6.0 ft		40 psf	240 plf	1359 plf
MAIN FLOOR DEAD LOAD	6.0 ft		15 psf	90 plf	1449 plf
FDTN WALL LOAD	4.0 ft		100 psf	400 plf	1849 plf
TOTAL LOAD				1849 plf	
REQ'D FTG. WIDTH				1.2 ft	USE FC1.7

Footing/Column Location: TYP. INTERIOR BEARING WALL (WORST CASE)  
 Alt. Soil Bearing Pressure

COMMENT	TRIBUTARY AREA		WEIGHT	SUB TOTAL	CUM. TOT.
	LENGTH 1	PER 1 FT.			
FLOOR LIVE LOAD	12.0 ft		40 psf	480 plf	480 plf
FLOOR DEAD LOAD	12.0 ft		15 psf	180 plf	660 plf
WALL LOAD	12.0 ft		15 psf	180 plf	840 plf
TOTAL LOAD				840 plf	
REQ'D FTG. WIDTH				0.6 ft	USE FC1.5

Footing/Column Location:  
 Alt. Soil Bearing Pressure

COMMENT	TRIBUTARY AREA		WEIGHT	SUB TOTAL	CUM. TOT.
	LENGTH 1	PER 1 FT.			
<hr/>					
TOTAL LOAD				0 plf	
REQ'D FTG. WIDTH				0.0 ft	

# WOOD BEAM DESIGN FOR UNIFORM LOADING CONDITIONS

Project: **JOB #24088**  
Description: **3'-0" MAIN FLOOR TYP. HEADER**

Date: 2/7/2025  
Engineer: TAH

## INPUT:

Length of Span - L (ft): **3.5**  
Distance from Support to Calc. Shear - d (in): **7**

### Roof Loads:

Trib. Length (ft): **29**  
Snow Load (psf): **30**  
Dead Load (psf): **17**

### Linear Loads:

Snow Load (plf): **0**  
Live Load (plf): **0**  
Dead Load (plf): **0**

### Floor Loads:

Trib. Length (ft): **15**  
Live Load (psf): **40**  
Dead Load (psf): **7**

Total Load Deflection Criteria (Span/  $\Delta$ ) -  $\Delta$ : **240**  
Live Load Deflection Criteria (Span/  $\Delta$ ) -  $\Delta$ : **360**

Total Load (plf): 2068 plf  
Total Live Load (plf): 1470 plf

Beam	DL=	1046.5 lbs
Reactions:	LL=	2572.5 lbs
	TL=	3619 lbs

## OUTPUT:

### DOUGLAS FIR-LARCH

Allowable Shear Stress - Fv (psi): **95**  
Modulus of Elasticity - E (ksi): **1600**  
Allowable Bending Stress - Fb (psi): **1313** 2x4  
**1139** 2x6  
**1052** 2x8  
**961** 2x10  
**845** 2x12

I (TL) (in<sup>4</sup>): **24.94**  
I (LL) (in<sup>4</sup>): **26.59**  
A (in<sup>2</sup>): **38.09**  
S (in<sup>3</sup>) 2x4: **28.94**  
2x6: **33.36**  
2x8: **36.12**  
2x10: **39.54**  
2x12: **44.97**

**3-2x10's (0.91)**  
**3-2x12's (0.75)**

### GLUED-LAMINATED (24F-V4)

Allowable Shear Stress - Fv (psi): **190**  
Modulus of Elasticity - E (ksi): **1800**  
Allowable Bending Stress - Fb (psi): **2400**

I (TL) (in<sup>4</sup>): **22.17**  
I (LL) (in<sup>4</sup>): **23.63**  
A (in<sup>2</sup>): **19.05**  
S (in<sup>3</sup>): **15.83**

**3.125 x 7.5 GLB (0.81)**  
**5.125 x 6 GLB (0.62)**

### MICRO-LAM

Allowable Shear Stress - Fv (psi): **285**  
Modulus of Elasticity - E (ksi): **1900**  
Allowable Bending Stress - Fb (psi): **2600**

EI (TL) k-in<sup>2</sup>: **39899**  
EI (LL) (k-in<sup>2</sup>): **42543**  
Shear (lbs): **2413**  
Moment (ft-lb): **3167**

**(2)-1.75 x 5.5 M-L (0.75)**

### VERSA-LAM

Allowable Shear Stress - Fv (psi): **285**  
Modulus of Elasticity - E (ksi): **2000**  
Allowable Bending Stress - Fb (psi): **2800**

EI (TL) k-in<sup>2</sup>: **39899**  
EI (LL) (k-in<sup>2</sup>): **42543**  
Shear (lbs): **2413**  
Moment (ft-lb): **3167**

**(2)-1.75 x 5.5 V-L (0.71)**

NOTE: A LOAD DURATION FACTOR OF 1.0 IS USED FOR ALL BEAMS

**WOOD BEAM DESIGN  
FOR UNIFORM LOADING CONDITIONS**

**Project:** JOB #24088  
**Description:** 6'-0" MAIN FLOOR HEADER (DBL WINDOW)

**Date:** 2/7/2025  
**Engineer:** TAH

**INPUT:**

Length of Span - L (ft): 6  
Distance from Support to Calc. Shear - d (in): 7

**Roof Loads:**

Trib. Length (ft): 16  
Snow Load (psf): 30  
Dead Load (psf): 17

**Linear Loads:**

Snow Load (plf): 0  
Live Load (plf): 0  
Dead Load (plf): 0

**Floor Loads:**

Trib. Length (ft): 7  
Live Load (psf): 40  
Dead Load (psf): 7

Total Load Deflection Criteria (Span/  $\Delta$ ) -  $\Delta$ : 240  
Live Load Deflection Criteria (Span/  $\Delta$ ) -  $\Delta$ : 360

Total Load (plf): 1081 plf  
Total Live Load (plf): 760 plf

Beam	DL=	963 lbs
Reactions:	LL=	2280 lbs
	TL=	3243 lbs

**OUTPUT:**

**DOUGLAS FIR-LARCH**

Allowable Shear Stress - Fv (psi): 95  
Modulus of Elasticity - E (ksi): 1600  
Allowable Bending Stress - Fb (psi): 1313 2x4  
1139 2x6  
1052 2x8  
961 2x10  
845 2x12

I (TL) (in<sup>4</sup>): 65.67  
I (LL) (in<sup>4</sup>): 69.26  
A (in<sup>2</sup>): 41.25  
S (in<sup>3</sup>) 2x4: 44.46  
2x6: 51.25  
2x8: 55.49  
2x10: 60.74  
2x12: 69.08

**3-2x10's (0.99)**  
**3-2x12's (0.81)**

**GLUED-LAMINATED (24F-V4)**

Allowable Shear Stress - Fv (psi): 190  
Modulus of Elasticity - E (ksi): 1800  
Allowable Bending Stress - Fb (psi): 2400

I (TL) (in<sup>4</sup>): 58.37  
I (LL) (in<sup>4</sup>): 61.56  
A (in<sup>2</sup>): 20.62  
S (in<sup>3</sup>): 24.32

**3.125 x 7.5 GLB (0.88)**  
**5.125 x 6 GLB (0.79)**

**MICRO-LAM**

Allowable Shear Stress - Fv (psi): 285  
Modulus of Elasticity - E (ksi): 1900  
Allowable Bending Stress - Fb (psi): 2600

EI (TL) k-in<sup>2</sup>: 105073  
EI (LL) (k-in<sup>2</sup>): 110808  
Shear (lbs): 2612  
Moment (ft-lb): 4865

**(2)-1.75 x 7.25 M-L (0.68)**  
**(3)-1.75 x 5.5 M-L (0.81)**

**VERSA-LAM**

Allowable Shear Stress - Fv (psi): 285  
Modulus of Elasticity - E (ksi): 2000  
Allowable Bending Stress - Fb (psi): 2800

EI (TL) k-in<sup>2</sup>: 105073  
EI (LL) (k-in<sup>2</sup>): 110808  
Shear (lbs): 2612  
Moment (ft-lb): 4865

**(2)-1.75 x 7.25 V-L (0.64)**  
**(3)-1.75 x 5.5 V-L (0.76)**

NOTE: A LOAD DURATION FACTOR OF 1.0 IS USED FOR ALL BEAMS

**WOOD BEAM DESIGN  
FOR UNIFORM LOADING CONDITIONS**

**Project:** JOB #24088  
**Description:** 9'-0" COVERED PORCH BEAM

**Date:** 2/7/2025  
**Engineer:** TAH

**INPUT:**

Length of Span - L (ft): 9  
Distance from Support to Calc. Shear - d (in): 7

**Roof Loads:**

Trib. Length (ft): 6  
Snow Load (psf): 30  
Dead Load (psf): 17

**Linear Loads:**

Snow Load (plf): 0  
Live Load (plf): 0  
Dead Load (plf): 0

**Floor Loads:**

Trib. Length (ft): 0  
Live Load (psf): 40  
Dead Load (psf): 7

Total Load Deflection Criteria (Span/  $\Delta$ ) -  $\Delta$ : 240  
Live Load Deflection Criteria (Span/  $\Delta$ ) -  $\Delta$ : 360

Total Load (plf): 282 plf  
Total Live Load (plf): 180 plf

Beam	DL=	459 lbs
Reactions:	LL=	810 lbs
	TL=	1269 lbs

**OUTPUT:**

**DOUGLAS FIR-LARCH**

Allowable Shear Stress - Fv (psi): 95  
Modulus of Elasticity - E (ksi): 1600  
Allowable Bending Stress - Fb (psi): 1313 2x4  
1139 2x6  
1052 2x8  
961 2x10  
845 2x12

I (TL) (in<sup>4</sup>): 57.82  
I (LL) (in<sup>4</sup>): 55.36  
A (in<sup>2</sup>): 17.44  
S (in<sup>3</sup>) 2x4: 26.10  
2x6: 30.08  
2x8: 32.57  
2x10: 35.65  
2x12: 40.55

**3-2x8's (0.83)**  
**2-2x10's (0.83)**  
**2-2x12's (0.64)**

**GLUED-LAMINATED (24F-V4)**

Allowable Shear Stress - Fv (psi): 190  
Modulus of Elasticity - E (ksi): 1800  
Allowable Bending Stress - Fb (psi): 2400

I (TL) (in<sup>4</sup>): 51.39  
I (LL) (in<sup>4</sup>): 49.21  
A (in<sup>2</sup>): 8.72  
S (in<sup>3</sup>): 14.28

**3.125 x 6 GLB (0.91)**  
**5.125 x 6 GLB (0.56)**

**MICRO-LAM**

Allowable Shear Stress - Fv (psi): 285  
Modulus of Elasticity - E (ksi): 1900  
Allowable Bending Stress - Fb (psi): 2600

EI (TL) k-in<sup>2</sup>: 92510  
EI (LL) (k-in<sup>2</sup>): 88574  
Shear (lbs): 1105  
Moment (ft-lb): 2855

**(2)-1.75 x 7.25 M-L (0.43)**  
**(3)-1.75 x 5.5 M-L (0.68)**

**VERSA-LAM**

Allowable Shear Stress - Fv (psi): 285  
Modulus of Elasticity - E (ksi): 2000  
Allowable Bending Stress - Fb (psi): 2800

EI (TL) k-in<sup>2</sup>: 92510  
EI (LL) (k-in<sup>2</sup>): 88574  
Shear (lbs): 1105  
Moment (ft-lb): 2855

**(2)-1.75 x 5.5 V-L (0.95)**

NOTE: A LOAD DURATION FACTOR OF 1.0 IS USED FOR ALL BEAMS



**WOOD BEAM DESIGN  
FOR UNIFORM LOADING CONDITIONS**

**Project:** JOB #24088  
**Description:** 4'-0 BSMT INTERIOR BEARING WALL HEADER

**Date:** 2/7/2025  
**Engineer:** TAH

**INPUT:**

Length of Span - L (ft): 4.5  
Distance from Support to Calc. Shear - d (in): 7

**Roof Loads:**

Trib. Length (ft): 0  
Snow Load (psf): 30  
Dead Load (psf): 17

**Linear Loads:**

Snow Load (plf): 0  
Live Load (plf): 0  
Dead Load (plf): 0

**Floor Loads:**

Trib. Length (ft): 12  
Live Load (psf): 40  
Dead Load (psf): 15

Total Load Deflection Criteria (Span/  $\Delta$ ) -  $\Delta$ : 240  
Live Load Deflection Criteria (Span/  $\Delta$ ) -  $\Delta$ : 360

Total Load (plf): 660 plf  
Total Live Load (plf): 480 plf

Beam	DL=	405 lbs
Reactions:	LL=	1080 lbs
	TL=	1485 lbs

**OUTPUT:**

**DOUGLAS FIR-LARCH**

Allowable Shear Stress - Fv (psi): 95  
Modulus of Elasticity - E (ksi): 1600  
Allowable Bending Stress - Fb (psi): 1313 2x4  
1139 2x6  
1052 2x8  
961 2x10  
845 2x12

I (TL) (in<sup>4</sup>): 16.92  
I (LL) (in<sup>4</sup>): 18.45  
A (in<sup>2</sup>): 17.37  
S (in<sup>3</sup>) 2x4: 15.27  
2x6: 17.60  
2x8: 19.06  
2x10: 20.86  
2x12: 23.72

**3-2x6's (0.78)**  
**2-2x8's (0.8)**  
**2-2x10's (0.63)**  
**2-2x12's (0.51)**

**GLUED-LAMINATED (24F-V4)**

Allowable Shear Stress - Fv (psi): 190  
Modulus of Elasticity - E (ksi): 1800  
Allowable Bending Stress - Fb (psi): 2400

I (TL) (in<sup>4</sup>): 15.04  
I (LL) (in<sup>4</sup>): 16.40  
A (in<sup>2</sup>): 8.68  
S (in<sup>3</sup>): 8.35

**3.125 x 6 GLB (0.46)**  
**5.125 x 6 GLB (0.28)**

**MICRO-LAM**

Allowable Shear Stress - Fv (psi): 285  
Modulus of Elasticity - E (ksi): 1900  
Allowable Bending Stress - Fb (psi): 2600

EI (TL) k-in<sup>2</sup>: 27064  
EI (LL) (k-in<sup>2</sup>): 29525  
Shear (lbs): 1100  
Moment (ft-lb): 1671

**(2)-1.75 x 5.5 M-L (0.39)**

**VERSA-LAM**

Allowable Shear Stress - Fv (psi): 285  
Modulus of Elasticity - E (ksi): 2000  
Allowable Bending Stress - Fb (psi): 2800

EI (TL) k-in<sup>2</sup>: 27064  
EI (LL) (k-in<sup>2</sup>): 29525  
Shear (lbs): 1100  
Moment (ft-lb): 1671

**(2)-1.75 x 5.5 V-L (0.37)**

NOTE: A LOAD DURATION FACTOR OF 1.0 IS USED FOR ALL BEAMS

## IBC LATERAL ANALYSIS

**Project:** JOB #24088  
**Description:** MAIN LATERAL

**Date:** 2/7/2025  
**Engineer:** Tom Hales

### Seismic ( $V=2/3*Sms*I*W/R*(1/1.4)$ )

$I = 1$   
 $Sms=Fa*Ss$  1.6 NOTE: Site Class D is assumed  
 $R = 6$   
 $2/3*Sms*I/R/1.4 = 0.1270$  (ASD)

**Wind** 90 mph Basic Wind Speed  
 Exposure = C  
 Exp Coef = 1.21  
 $K_{zt} = 1$   
 $I_w = 1$   
 roof height = 13.0 ft (top of wall to ridge)

	$p_{s30}$	$p_s$
A =	14.4 psf	17.4 psf
B =	9.9 psf	12.0 psf
C =	11.5 psf	13.9 psf
D =	7.9 psf	9.6 psf

### Building Info.

Wall Weight = 12 psf  
 Roof Weight = 17 psf  
 Seismic snow =  
 Total Roof Weight = 17 psf  
 Floor to Roof Height = 8 ft  
 Building Width = 30 ft  
 Building Length = 45 ft  
 Building Height = 21 ft  
 $a = 3.0$  ft

### Veneer

	Weights (pounds)	Veneer	Total Weights (pounds)	
Wall	1440	0	25830	Dir. perp. to width
Wall	2160	0	27270	Dir. perp. to length
Roof	22950		30150	Tot. Building Wt.
		$V_{mid} =$	3828.6	

### Seismic Shear Forces

Diaphragm Shears: (per side)	pounds	plf
Walls perpendicular to building width:	1640	36
Walls perpendicular to building length:	1731	58

Mid-Ht Wall Shears: (per side)	pounds	plf
Walls perpendicular to building width:	1914	43
Walls perpendicular to building length:	1914	64

USE 7/16" SHEATHING w/8d NAILS @ 6" o.c. G.F. 170plf

### **SHEARWALLS**

350 plf
req'd length
4.7 ft
4.9 ft

### Wind Shear Forces

Diaphragm Shears: (per side)	pounds	plf
Walls perpendicular to building width:	2945	65
Walls perpendicular to building length:	4303	143

Mid-Ht Wall Shears: (per side)	pounds	plf
Walls perpendicular to building width:	2945	65
Walls perpendicular to building length:	4303	143

USE 7/16" SHEATHING w/8d NAILS @ 6" o.c. G.F. 240plf

### **SHEARWALLS**

490 plf
req'd length
6.0 ft
8.8 ft

Note: Veneer is assumed to resist it's own in-plane shear.

## SHEAR & OVERTURNING ANALYSIS

Project: **JOB #24088**  
Description: **MAIN LATERAL**

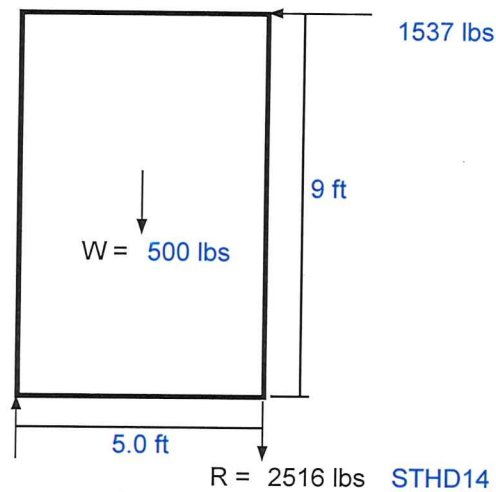
Date: 2/7/2025  
Engineer: Tom Hales

### SHEAR WALL CHECK

Shear Wall Capacity: **350 plf 4"O.C. EDGE NAILING**  
Total Shear: **3074 lbs**  
Req'd Wall Lngth: **9 ft PLENTY OF WALL AVAILABLE**

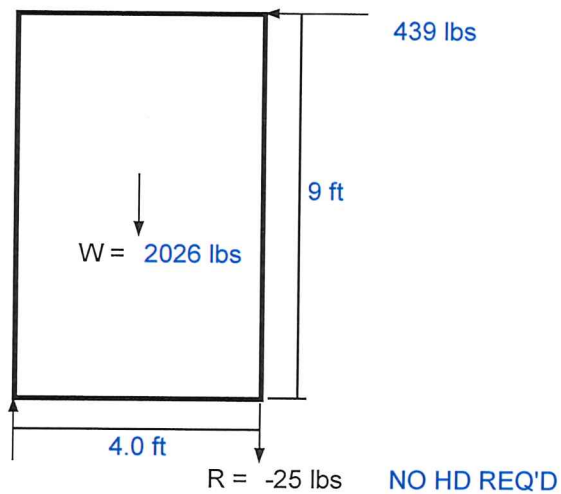
### WALL OVERTURNING

Description: **5'-0" FRONT WALL PIECES**

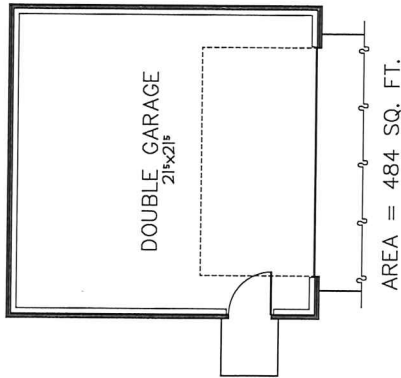


### WALL OVERTURNING

Description: **4'-0" SIDE WALL PIECE**







AREA = 484 SQ. FT.

[illegible]

OPENING SIZE	BRICK VENEER SILL ANGLE	INTEL. SCHEDULE	COMMENTS
6'-0" to 8'-11"	13L1/4/17W1/4"		
9'-0" to 10'-11"	16W1/4/17W1/4"		
11'-0" to 14'-11"	16W1/4/17W1/4"		
15'-0" to 18'-0"	16W1/4/17W1/4"		
18'-0" to 24'-0"	16W1/4/17W1/4"		

[illegible][illegible]

COOPERATION	
WORK, GENERAL WORK, SCHEDULES	
REVISIONS AND PLAN CHANGES	
DETAILS	

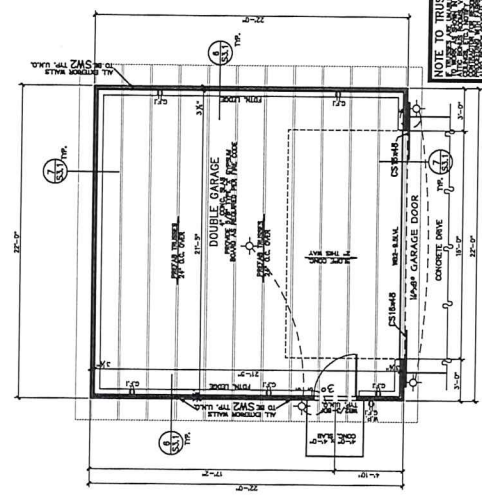


**NOTES TO FOUNDATION PLAN:**

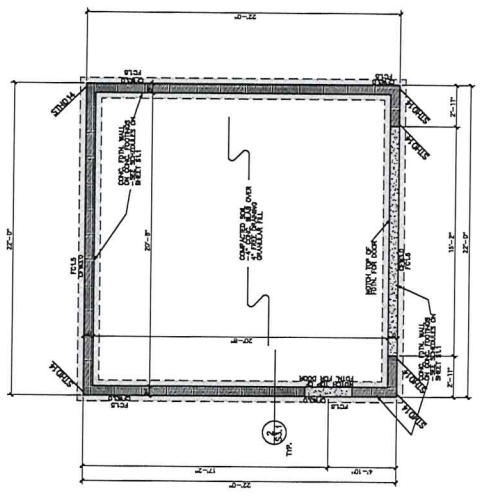
1. SEE DESIGN, NOTES, COMMENTS, AND DETAILS FOR ADDITIONAL CONSTRUCTION INFORMATION. ALL DIMENSIONS ARE IN FEET AND INCHES. DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE NOTED.
2. FOUNDATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 2009 UTAH BUILDING CODE, AS AMENDED, AND THE 2009 UTAH PLUMBING CODE, AS AMENDED.
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**NOTES TO FLOOR PLAN:**

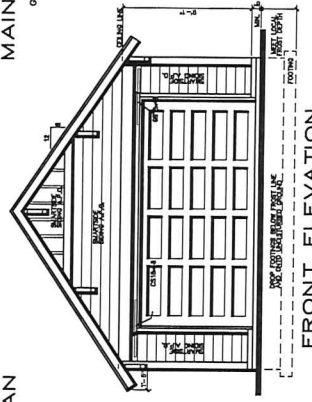
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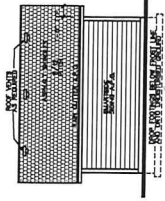
**MAIN FLOOR PLAN**  
SCALE: 1/4"=1'-0"  
GARAGE AREA = 484 SQ. FT.



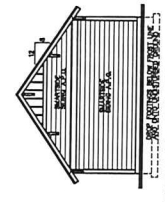
**FOUNDATION PLAN**  
SCALE: 1/4"=1'-0"



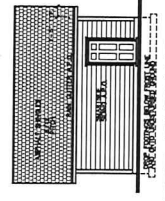
**FRONT ELEVATION**  
SCALE: 1/4"=1'-0"



**RIGHT ELEVATION**  
SCALE: 1/8"=1'-0"



**REAR ELEVATION**  
SCALE: 1/8"=1'-0"



**LEFT ELEVATION**  
SCALE: 1/8"=1'-0"

**CONSTRUCTION COST NOTES:**  
1. ALL MATERIALS AND LABOR SHALL BE IN ACCORDANCE WITH THE 2009 UTAH BUILDING CODE, AS AMENDED, AND THE 2009 UTAH PLUMBING CODE, AS AMENDED.  
2. ALL DIMENSIONS ARE IN FEET AND INCHES. DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE NOTED.

**SITE AND LOT NOTES:**  
1. THE SITE IS LOCATED IN THE CITY OF OGDEN, UTAH.  
2. THE LOT AREA IS 10,000 SQ. FT.

**SURFACE DRAINAGE:**  
1. SURFACE DRAINAGE SHALL BE PROVIDED FOR THE ENTIRE SITE.  
2. DRAINAGE SHALL BE TO THE STREET OR TO A DRAINAGE CANAL.

**NOTICE AND WARNING:**  
1. THE OWNER SHALL VERIFY ALL DIMENSIONS AND LOCATIONS PRIOR TO CONSTRUCTION.  
2. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.

**DESIGN LOADS:**  
1. DEAD LOAD: 10 PSF  
2. LIVE LOAD: 40 PSF  
3. WIND LOAD: 15 PSF

**NOTICE AND WARNING:**  
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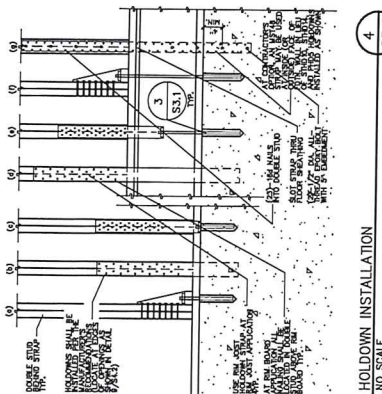
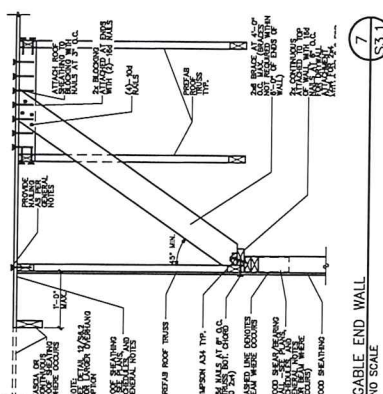
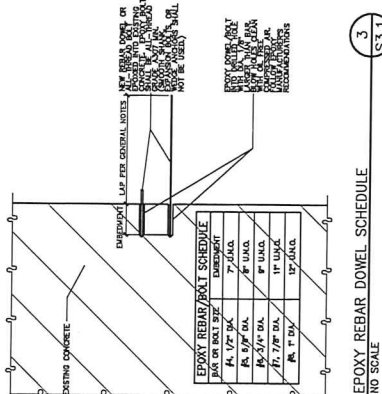
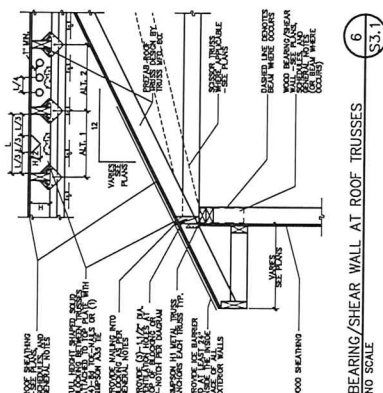
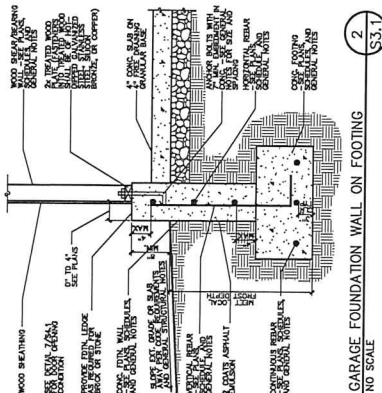
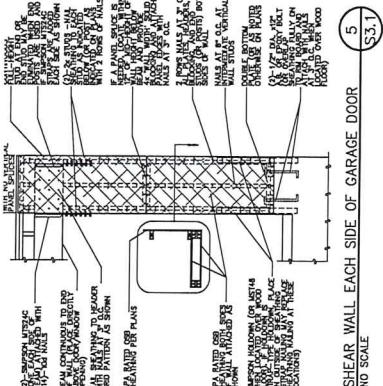
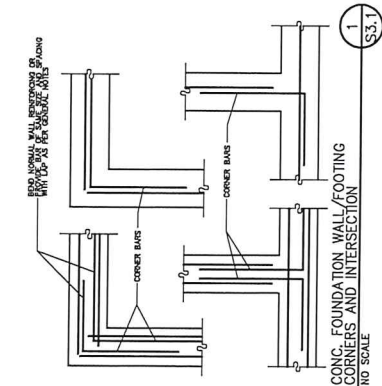
DETAILS

DATE:	2/8/2025	DRAWN: KCH
JOB NO.:	25009	TYPE: CHG TO 0454150125, #16006
PLAN INFO: 454 SQ. FT. CARPAC		

304 WEST PLEASANT VIEW DR.  
OGDEN, UTAH 84414  
PHONE: (801)-782-0484  
FAX: (801)-782-8631  
WWW.LOMONDVIEW.COM

OGDEN CITY

COPYRIGHT NOTICE:





**Lomond View Designs, LLC**

304 W. Pleasant View Dr.

Ogden, UT 84414

phone: 801-782-0484

**Structural Calculations**

for

**Ogden City Garage**

for

**Lot #4, Sycamore Cove**

**866 Cahoon Circle**

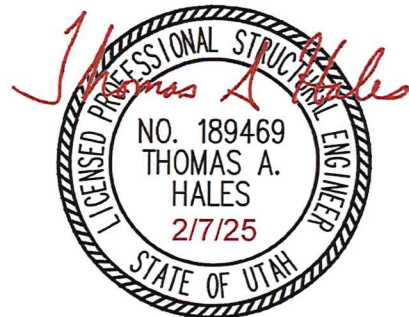
**Ogden, Utah**

February 7, 2025

Note: These calculations are to be used only for the plan number and the building lot and/or address shown above. Use of these calculations for any other plan or location is prohibited unless written/signed agreement is obtained from Thomas A. Hales indicating otherwise.

Prepared By:  
**Thomas A. Hales, P.E.**

Job #25009 (Repeat #16006, #15063 & #14044)



## TABLE OF CONTENTS

DESIGN CRITERIA	D-1 TO D-1
FOOTING DESIGN	F-1 TO F-1
WOOD FRAMING DESIGN	WF-1 TO WF-2
LATERAL ANALYSIS	L-1 TO L-2

## DESIGN CRITERIA:

- A. GOVERNING BUILDING CODE: 2021 INTERNATIONAL BUILDING CODE (IBC) AND 2021 INTERNATIONAL RESIDENTIAL CODE (IRC)
- B. GRAVITY LIVE LOADING:
  - 1. ROOF: 30 PSF SNOW LOAD
  - 2. FLOOR: 40 PSF LIVE LOAD
- C. EARTHQUAKE:  $V = S_d s * I * W / R = 2/3 * S_m s * I * W / R$ 
  - 1.  $S_m s$  = USE 1.6 (SDC = 'D2')
  - 2. I, IMPORTANCE FACTOR = 1.0
  - 3. R, BUILDING TYPE = 6.5 (USE 6)
  - 4. W, WEIGHT OF STRUCTURE
- D. WIND:
  - 1. VELOCITY: 115 MPH (LRF) \* 0.775 → 90 MPH (ASD), BASIC WIND SPEED (IBC 1609.3.1)
  - 2. EXPOSURE: TYPE C
  - 3. IMP. FACTOR: 1.0, STANDARD OCCUPANCY
- E. SOIL BEARING PRESSURE: 1500 PSF ASSUMED BY OWNER
- F: SEE DRAWINGS FOR GENERAL NOTES AND CONSTRUCTION REQUIREMENTS

# COLUMN AND FOOTING LOADS AND SIZES

Project: OGDEN CITY GARAGE  
 Allow. Soil Bearing Press. 1500 psf

Date: 1/29/2016  
 Engineer: Tom Hales

## CONTINUOUS FOOTINGS

Footing/Column Location: TYP. EXTERIOR WALL  
 Alt. Soil Bearing Pressure

COMMENT	TRIBUTARY AREA		WEIGHT	SUB TOTAL	CUM. TOT.
	LENGTH 1	PER 1 FT.			
ROOF SNOW LOAD	13.0 ft		30 psf	390 plf	390 plf
ROOF DEAD LOAD	13.0 ft		17 psf	221 plf	611 plf

TOTAL LOAD 611 plf  
 REQ'D FTG. WIDTH 0.4 ft USE FC1.5

Footing/Column Location:  
 Alt. Soil Bearing Pressure

COMMENT	TRIBUTARY AREA		WEIGHT	SUB TOTAL	CUM. TOT.
	LENGTH 1	PER 1 FT.			

TOTAL LOAD 0 plf  
 REQ'D FTG. WIDTH 0.0 ft

Footing/Column Location:  
 Alt. Soil Bearing Pressure

COMMENT	TRIBUTARY AREA		WEIGHT	SUB TOTAL	CUM. TOT.
	LENGTH 1	PER 1 FT.			

TOTAL LOAD 0 plf  
 REQ'D FTG. WIDTH 0.0 ft



**WOOD BEAM DESIGN  
FOR UNIFORM LOADING CONDITIONS**

Project: **OGDEN CITY GARAGE**  
Description: **3'-0" DOOR HEADER**

Date: 1/29/2016  
Engineer: TAH

**INPUT:**

Length of Span - L (ft): **3.5**  
Distance from Support to Calc. Shear - d (in): **7**

**Roof Loads:**

Trib. Length (ft): **13**  
Snow Load (psf): **30**  
Dead Load (psf): **17**

**Linear Loads:**

Snow Load (plf): **0**  
Live Load (plf): **0**  
Dead Load (plf): **0**

**Floor Loads:**

Trib. Length (ft): **0**  
Live Load (psf): **40**  
Dead Load (psf): **15**

Total Load Deflection Criteria (Span/  $\Delta$ ) -  $\Delta$ : **240**  
Live Load Deflection Criteria (Span/  $\Delta$ ) -  $\Delta$ : **360**

Total Load (plf): 611 plf  
Total Live Load (plf): 390 plf

Beam	DL=	386.75 lbs
Reactions:	LL=	682.5 lbs
	TL=	1069.3 lbs

**OUTPUT:**

**DOUGLAS FIR-LARCH**

Allowable Shear Stress - Fv (psi): **95**  
Modulus of Elasticity - E (ksi): **1600**  
Allowable Bending Stress - Fb (psi): **1313** 2x4  
**1139** 2x6  
**1052** 2x8  
**961** 2x10  
**845** 2x12

I (TL) (in<sup>4</sup>): 7.37  
I (LL) (in<sup>4</sup>): 7.05  
A (in<sup>2</sup>): 11.26  
S (in<sup>3</sup>) 2x4: 8.55  
2x6: 9.86  
2x8: 10.67  
2x10: 11.68  
2x12: 13.29

**3-2x4's (0.93)**  
**2-2x6's (0.68)**  
**2-2x8's (0.52)**  
**1-2x10's (0.81)**  
**1-2x12's (0.67)**

**GLUED-LAMINATED (24F-V4)**

Allowable Shear Stress - Fv (psi): **190**  
Modulus of Elasticity - E (ksi): **1800**  
Allowable Bending Stress - Fb (psi): **2400**

I (TL) (in<sup>4</sup>): 6.55  
I (LL) (in<sup>4</sup>): 6.27  
A (in<sup>2</sup>): 5.63  
S (in<sup>3</sup>): 4.68

**3.125 x 6 GLB (0.3)**  
**5.125 x 6 GLB (0.18)**

**MICRO-LAM**

Allowable Shear Stress - Fv (psi): **285**  
Modulus of Elasticity - E (ksi): **1900**  
Allowable Bending Stress - Fb (psi): **2600**

EI (TL) k-in<sup>2</sup>: 11788  
EI (LL) (k-in<sup>2</sup>): 11287  
Shear (lbs): 713  
Moment (ft-lb): 936

**(2)-1.75 x 5.5 M-L (0.22)**

**VERSA-LAM**

Allowable Shear Stress - Fv (psi): **285**  
Modulus of Elasticity - E (ksi): **2000**  
Allowable Bending Stress - Fb (psi): **2800**

EI (TL) k-in<sup>2</sup>: 11788  
EI (LL) (k-in<sup>2</sup>): 11287  
Shear (lbs): 713  
Moment (ft-lb): 936

**(2)-1.75 x 5.5 V-L (0.21)**

NOTE: A LOAD DURATION FACTOR OF 1.0 IS USED FOR ALL BEAMS

**WOOD BEAM DESIGN  
FOR UNIFORM LOADING CONDITIONS**

Project: **OGDEN CITY GARAGE**  
Description: **16'-0" GARAGE DOOR HEADER**

Date: 1/29/2016  
Engineer: TAH

**INPUT:**

Length of Span - L (ft): **16.5**  
Distance from Support to Calc. Shear - d (in): **7**

**Roof Loads:**

Trib. Length (ft): **3**  
Snow Load (psf): **30**  
Dead Load (psf): **17**

**Linear Loads:**

Snow Load (plf): **0**  
Live Load (plf): **0**  
Dead Load (plf): **0**

**Floor Loads:**

Trib. Length (ft): **0**  
Live Load (psf): **40**  
Dead Load (psf): **15**

Total Load Deflection Criteria (Span/  $\Delta$ ) -  $\Delta$ : **240**  
Live Load Deflection Criteria (Span/  $\Delta$ ) -  $\Delta$ : **360**

Total Load (plf): **141 plf**  
Total Live Load (plf): **90 plf**

Beam	DL= 420.75 lbs
Reactions:	LL= 742.5 lbs
	TL= 1163.3 lbs

**OUTPUT:**

**DOUGLAS FIR-LARCH**

Allowable Shear Stress - Fv (psi): **95**  
Modulus of Elasticity - E (ksi): **1600**  
Allowable Bending Stress - Fb (psi): **1313** 2x4  
**1139** 2x6  
**1052** 2x8  
**961** 2x10  
**845** 2x12

I (TL) (in<sup>4</sup>): **178.14**  
I (LL) (in<sup>4</sup>): **170.56**  
A (in<sup>2</sup>): **17.07**  
S (in<sup>3</sup>) 2x4: **43.85**  
2x6: **50.55**  
2x8: **54.73**  
2x10: **59.92**  
2x12: **68.14**

**3-2x10's (0.93)**  
**3-2x12's (0.72)**

**GLUED-LAMINATED (24F-V4)**

Allowable Shear Stress - Fv (psi): **190**  
Modulus of Elasticity - E (ksi): **1800**  
Allowable Bending Stress - Fb (psi): **2400**

I (TL) (in<sup>4</sup>): **158.35**  
I (LL) (in<sup>4</sup>): **151.61**  
A (in<sup>2</sup>): **8.53**  
S (in<sup>3</sup>): **23.99**

**3.125 x 9 GLB (0.83)**  
**5.125 x 7.5 GLB (0.88)**

**MICRO-LAM**

Allowable Shear Stress - Fv (psi): **285**  
Modulus of Elasticity - E (ksi): **1900**  
Allowable Bending Stress - Fb (psi): **2600**

EI (TL) k-in<sup>2</sup>: **285025**  
EI (LL) (k-in<sup>2</sup>): **272897**  
Shear (lbs): **1081**  
Moment (ft-lb): **4798**

**(2)-1.75 x 9.5 M-L (0.6)**  
**(3)-1.75 x 7.25 M-L (0.89)**

**VERSA-LAM**

Allowable Shear Stress - Fv (psi): **285**  
Modulus of Elasticity - E (ksi): **2000**  
Allowable Bending Stress - Fb (psi): **2800**

EI (TL) k-in<sup>2</sup>: **285025**  
EI (LL) (k-in<sup>2</sup>): **272897**  
Shear (lbs): **1081**  
Moment (ft-lb): **4798**

**(2)-1.75 x 9.25 V-L (0.62)**  
**(3)-1.75 x 7.25 V-L (0.85)**

NOTE: A LOAD DURATION FACTOR OF 1.0 IS USED FOR ALL BEAMS

## IBC LATERAL ANALYSIS

**Project:** OGDEN CITY GARAGE  
**Description:** MAIN LATERAL

**Date:** 1/29/2016  
**Engineer:** Tom Hales

### Seismic ( $V=2/3 \cdot S_{ms} \cdot I \cdot W/R \cdot (1/1.4)$ )

$I = 1$   
 $S_{ms} = F_a \cdot S_s = 1.6$  NOTE: Site Class D is assumed  
 $R = 6$   
 $2/3 \cdot S_{ms} \cdot I / R \cdot (1.4) = 0.1270$  (ASD)

**Wind** 90 mph Basic Wind Speed

Exposure = C	A =	$P_{s30} = 14.4 \text{ psf}$	$P_s = 17.4 \text{ psf}$
Exp Coef = 1.21	B =	9.9 psf	12.0 psf
$K_{zt} = 1$	C =	11.5 psf	13.9 psf
$I_w = 1$	D =	7.9 psf	9.6 psf

roof height = 10.0 ft (top of wall to ridge)

### Building Info.

Wall Weight = 12 psf  
 Roof Weight = 17 psf  
 Seismic snow =  
 Total Roof Weight = 17 psf  
 Floor to Roof Height = 10 ft  
 Building Width = 22 ft  
 Building Length = 22 ft  
 Building Height = 20 ft  
 a = 3.0 ft

### Veneer

	Weights (pounds)	Veneer	Total Weights (pounds)	
Wall	1320	0	10868	Dir. perp. to width
Wall	1320	0	10868	Dir. perp. to length
Roof	8228		13508	Tot. Building Wt.
		Vmid =	1715.3	

### Seismic Shear Forces

Diaphragm Shears: (per side)	pounds	plf
Walls perpendicular to building width:	690	31
Walls perpendicular to building length:	690	31

Mid-Ht Wall Shears: (per side)	pounds	plf
Walls perpendicular to building width:	858	39
Walls perpendicular to building length:	858	39

USE 7/16" SHEATHING w/8d NAILS @ 6" o.c. G.F. 170plf

### SHEARWALLS

350 plf
req'd length
2.0 ft
2.0 ft

### Wind Shear Forces

Diaphragm Shears: (per side)	pounds	plf
Walls perpendicular to building width:	2033	92
Walls perpendicular to building length:	2033	92

Mid-Ht Wall Shears: (per side)	pounds	plf
Walls perpendicular to building width:	2033	92
Walls perpendicular to building length:	2033	92

USE 7/16" SHEATHING w/8d NAILS @ 6" o.c. G.F. 240plf

### SHEARWALLS

490 plf
req'd length
4.1 ft
4.1 ft

Note: Veneer is assumed to resist it's own in-plane shear.

## SHEAR & OVERTURNING ANALYSIS

Project: OGDEN CITY GARAGE  
Description: MAIN LATERAL

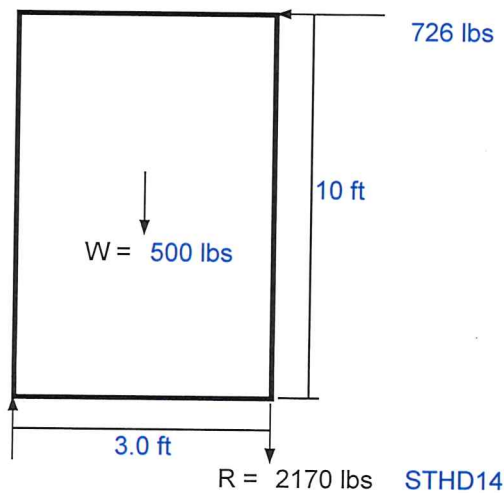
Date: 1/29/2016  
Engineer: Tom Hales

### SHEAR WALL CHECK

Shear Wall Capacity: 350 plf 4"O.C. EDGE NAILING  
Total Shear: 1452 lbs  
Req'd Wall Lngth: 4 ft PLENTY OF WALL AVAILABLE

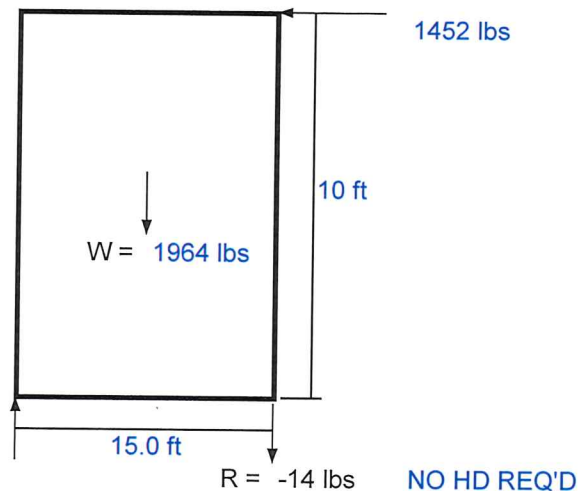
### WALL OVERTURNING

Description: 3'-0" FRONT WALL PIECE



### WALL OVERTURNING

Description: 15'-0" SIDE WALL PIECE





## CONTRACTOR'S COST BREAKDOWN SUMMARY

\*Please do not modify line items. All construction costs must be incorporated in cost breakdown below.

### 866 Cahoon Circle- LOT 4

LINE	DIV.		
1	1	Building Permits (allowance)	6,000
2	1	Bond	
3	1	Builders Risk Insurance	
4	2	Soil Compaction Testing	
5	2	Demolition	
6	2	SWPPP	
7	2	Temporary Utilities	
8	2	Grading & Excavation	
9	2	Utility Connections	
10	2	Gravel, Sand & Road Base	
11	2	Other Site Work (specify)	
12	2	Footings Concrete	
13	2	Foundations Concrete	
14	2	Steel	
15	2	Termite Treatment	
16	3	Flatwork Concrete - Interior	
17	3	Flatwork Concrete - Exterior	
18	4	Framing Materials	
19	4	Framing Labor	
20	5	Windows & Glazing	
21	6	Exterior Doors & Hardware	
22	6	Interior Doors & Hardware	
23	6	Garage Door (w/ opener)	
24	7	Roofing Materials	
25	7	Roofing Labor	
26	8	Rain Gutters & Flashing	
27	8	Siding	
28	9	Stucco / Masonary	
29	9	Electrical	
30	10	Electrical / Light Fixtures (allowance)	1,500
31	10	Plumbing	
32	11	Plumbing Fixtures Inc w plumbing	
33	12	HVAC	
34	13	Insulation	
35	14	Drywall	
36	15	Painting	
37	15	Laminate Flooring	
38	15	Carpet	
39	16	Ceramic Tile / Cultured Marble	
40	17	Counter Tops	
41	18	Cabinets & Vanities	
42	19	Mirrors & Glasswork	
43	20	Appliances	
44	21	Finish Material	
45	21	Finish Labor	
46	22	Landscaping	
47	23	Fencing	
48	24	Plaster Foundation	
49	25	Site Clean Up	
50	25	Interior Final Cleaning	
51	26	Miscellaneous	
52		SUBTOTAL	
53		Builder's Overhead & Profit	
54		PROJECT TOTAL	