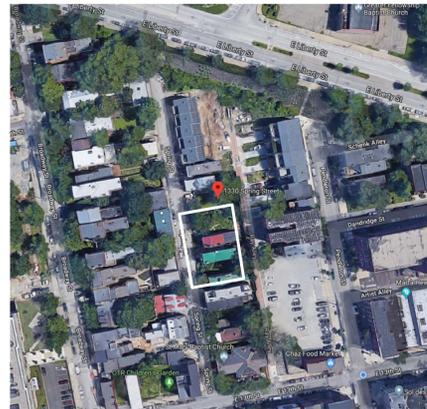


Spring Green Homes

1322-1332 Spring Street, Cincinnati, Ohio 45202



VICINITY MAP



DRAWING INDEX

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PROJECT INFORMATION

THREE ATTACHED SINGLE FAMILY TOWNHOMES, 8,195 SF TOTAL, ON AN INFILL SITE TARGETING LEED GOLD, PASSIVE HOUSE, AND LIVING BUILDING CHALLENGE PETAL CERTIFICATION.

PROJECT TEAM

OWNER:
SOL SPRING, LLC
1332 SPRING ST.
CINCINNATI, OHIO 45202
PHONE: (513) 939-8400
EMAIL: SANYOGR@SOLCONSULTS.COM

ARCHITECT:
SANYOG RATHOD
SOL DESIGN + CONSULTING
501 EAST 13TH STREET
CINCINNATI, OHIO 45202
PHONE: (513) 455-8228
EMAIL: SANYOGR@SOLCONSULTS.COM

STRUCTURAL ENGINEER:
JIM GRAHAM
SCHAEFER INC.
537 E. PETE ROSE WAY
CINCINNATI, OHIO 45202
PHONE: (513) 542-5540
EMAIL: JIM.GRAHAM@SCHAEFER-INC.COM

CONTRACTOR:
TBD

ABBREVIATIONS

| | | | |
|--------|--------------------------------------|--------|--------------------------------|
| AB | ANCHOR BOLT | INSUL. | INSULATION |
| ADA | AMERICANS WITH DISABILITIES ACT | INT. | INTERIOR |
| ADJ. | ADJACENT | JOIST | JOIST |
| A.F.F. | ABOVE FINISHED FLOOR | JT. | JOINT |
| BRG | BEARING | LAM. | LAMINATE |
| BTM. | BOTTOM | L.L.V. | LONG LEG VERTICAL |
| CLG. | CEILING | LVL | LAMINATED VENEER LUMBER |
| C.J. | CONTROL JOINT | MAS. | MASONRY |
| CNU | CONCRETE MASONRY UNIT | MEP | MECHANICAL ELECTRICAL PLUMBING |
| COL. | COLUMN | M.O. | MASONRY OPENING |
| CONC. | CONCRETE | MECH. | MECHANICAL |
| C.T. | CERAMIC TILE | MTL. | METAL |
| CONT. | CONTINUOUS | MISC. | MISCELLANEOUS |
| DIM. | DIMENSION | N.I.C. | NOT IN CONTRACT |
| DR. | DOOR | N.T.S. | NOT TO SCALE |
| DS | DOWNSPOUT | NO. | NUMBER |
| DN | DOWN | O.C. | ON CENTER |
| DW | DRYWALL | PL. | PLASTIC |
| DWG. | DRAWING | RM. | ROOM |
| EA. | EACH | R.O. | ROUGH OPENING |
| E.J. | EXPANSION JOINT | S/R | SHELF & ROD |
| ELEC. | ELECTRIC | SHLV | SHELVES |
| EL. | ELEVATION | SIM. | SIMILAR |
| EQ. | EQUAL | STR. | STEEL |
| EQUIP. | EQUIPMENT | STR. | STRUCTURAL |
| EXT. | EXTERIOR | TEL. | TELEPHONE |
| F.D. | FLOOR DRAIN | T.O. | TOP OF |
| F.E. | FIRE EXTINGUISHER | TYP. | TYPICAL |
| FIN. | FINISH | U.L. | UNDERWRITERS LABORATORIES |
| FLR. | FLOOR | U.N.O. | UNLESS NOTED OTHERWISE |
| FOUND. | FOUNDATION | VCT | VINYL COMPOSITION TILE |
| FTG. | FOOTING | VERT | VERTICAL |
| G.C. | GENERAL CONTRACTOR | V.B. | VINYL BASE |
| GL. | GLASS/ GLAZING | V.I.F. | VERIFY IN FIELD |
| GWB | GYPSUM WALLBOARD | W/ | WITH |
| H.C. | HOLLOW CORE | WD | WOOD |
| H.M. | HOLLOW METAL | WH | WATER HEATER |
| HR. | HOUR | WWF | WELDED WIRE FABRIC |
| HT. | HEIGHT | | |
| HVAC | HEATING VENTILATION AIR CONDITIONING | | |

GENERAL NOTES

- CONTRACTOR SHALL BRACE ENTIRE STRUCTURE AS REQUIRED DURING CONSTRUCTION TO MAINTAIN STABILITY UNTIL COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT.
- ARCHITECT/ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHOD, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY CONTRACTOR.
- THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL SAFETY BUT HAS NO RESPONSIBILITY FOR THE SAFETY OF OTHER PERSONNEL OR SAFETY CONDITIONS AT THE SITE.
- CONTRACTOR AND HIS AGENT(S) SHALL VERIFY ALL INFORMATION AND DIMENSIONS CONTAINED WITHIN THESE CONSTRUCTION DOCUMENTS, CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, INCLUDING BUILDINGS, SITE CONDITIONS, AND ALLOWABLE SOIL BEARING PRESSURE. ALL ERRORS, OMISSIONS, AND INCONSISTENCIES ARE TO BE REPORTED TO THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK. FAILURE TO DO SO WILL RELEASE THE ARCHITECT/ENGINEER OF ALL RESPONSIBILITY. ANY CHANGES FROM THESE DOCUMENTS IS THE RESPONSIBILITY OF THE CONTRACTOR, THESE DRAWINGS ARE NOT TO BE SCALED. IF INSUFFICIENT INFORMATION EXISTS, CONTACT THE ARCHITECT/ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.

ZONING ANALYSIS

APPLICABLE CODE: 2018 ZONING CODE OF THE CITY OF CINCINNATI
ZONING DISTRICT: RM-1.2 (RESIDENTIAL MULTI-FAMILY)
HISTORIC DISTRICT: OVER-THE-RHINE HISTORIC DISTRICT

| REQUIRED SET BACKS: | PER 1403-07 | PER HISTORIC GUIDELINES AVG. FOR NEARBY SITES | PROPOSED |
|---------------------|-------------|--|------------|
| FRONT YARD | 20' | 9'-9" | 3'-1" |
| SIDE MIN./TOTAL | 0/5' | 0/4'-9" | 4'-0/8'-8" |
| REAR YARD | 20' | 25' | 38' |
| HEIGHT | 35' | | 39'-0" |

| 1421-01: ACCESSORY STRUCTURES | ALLOWED | PROPOSED (WORST CASE) |
|-------------------------------|---------|-----------------------|
| MAXIMUM SIZE | 800 SF | 523 SF |
| MAXIMUM HEIGHT | 15' | 13' |
| SIDE YARD SET BACK | 3' | 24'-6" |
| REAR YARD SET BACK | 3' | 8' |

1425-15: LOCATION OF PARKING
PARKING SPACE WILL BE ON THE SAME LOT AS THE PRINCIPAL BUILDING. NO PARKING IS PERMITTED IN THE FRONT YARD SET BACK.

1425-19: OFF-STREET PARKING AND LOADING REQUIREMENTS
ATTACHED SINGLE FAMILY: 1 SPACE PER UNIT
1 SPACES MIN. PROVIDED FOR EACH UNIT.

COA & ZONING VARIANCES

THIS PROJECT WAS PRESENTED FOR, AND RECEIVED, A CERTIFICATION OF APPROPRIATENESS (COA), AND APPROVAL FOR REQUESTED ZONING VARIANCES, ON MONDAY, JULY 6, 2020. APPLICATION NO. ZH20200074 / COA20200026

- ZONING VARIANCES ALLOW FOR:
- FRONT YARD SETBACK OF 3'-1"
 - MAX. BUILDING HEIGHT OF 36'-8"
 - 3 PRINCIPAL STRUCTURES ON A SINGLE LOT

BUILDING CODE ANALYSIS

APPLICABLE CODE - RESIDENTIAL CODE OF OHIO

SECTION 302: FIRE RESISTANT CONSTRUCTION
302.1: EXTERIOR WALLS:
NEW EXTERIOR WALLS WITHIN 5' OF ADJACENT BUILDINGS WILL HAVE 1 HR. FIRE RATING CONTINUOUS FROM FOUNDATION TO UNDERSIDE OF ROOF.
NEW PARTY WALLS BETWEEN UNITS WILL HAVE 2 HR. FIRE RATING CONTINUOUS FROM FOUNDATION TO TOP OF PARAPET.

SECTION 303: LIGHT, VENTILATION, AND HEATING
303.1: HABITABLE ROOMS:
WHOLE HOUSE VENTILATION SYSTEM IS PROVIDED PER SECTION 1505. SEE MECHANICAL PLANS. ELECTRIC LIGHTING OF AT LEAST 6 LUMENS/FT IS PROVIDED IN NEW HABITABLE ROOMS. SEE LIGHTING PLANS.

SECTION 305: CEILING HEIGHT
305.1: MINIMUM CEILING HEIGHT:
ALL PROPOSED SPACES WILL HAVE A MINIMUM CEILING HEIGHT OVER 7'-0".

SECTION 308: GLAZING
308.1: IDENTIFICATION:
CONTRACTOR IS TO PROVIDE SAFETY GLAZING AT ALL LOCATIONS REQUIRED PER R.C.O 308.4., INCLUDING ALL GLAZING IN DOORS. SEE WINDOW AND EXTERIOR DOOR SCHEDULES.

SECTION 310: EMERGENCY ESCAPE AND RESCUE OPENINGS:
EGRESS WINDOWS WITH AT LEAST 5.7 SF CLEAR OPENING AND MAX SILL HEIGHT OF 44" PROVIDED IN EACH BEDROOM. SEE WINDOW SCHEDULE.

SECTION 311: MEANS OF EGRESS
311.1 MEANS OF EGRESS:
DOOR FROM HOME TO BE 32" CLEAR MIN - SEE PLANS

SECTION 313: AUTOMATIC FIRE SPRINKLER SYSTEMS
313.2: ONE-FAMILY DWELLINGS:
NO SPRINKLER SYSTEM WILL BE PROVIDED (NONE REQUIRED)

SECTION 314: SMOKE ALARMS
314.1: TYPE:
SMOKE ALARMS SHALL UTILIZE PHOTOELECTRIC AND IONIZATION TECHNOLOGY. SEPARATE OR DUAL-SENSING SMOKE ALARMS MAY BE USED.

314.3: LOCATIONS:
SMOKE ALARMS ARE TO BE PROVIDED IN THE FOLLOWING LOCATIONS PER R.C.O. 314.3:
1. IN EACH SLEEPING ROOM
2. OUTSIDE, AND IMMEDIATELY ADJACENT TO EACH SLEEPING ROOM
3. ON EACH ADDITIONAL STORY NOT CONTAINING SLEEPING ROOMS

SEE ELECTRICAL PLANS
314.4: POWER SOURCE:
ALL SMOKE ALARMS ARE TO BE HARD-WIRED WITH A BATTERY BACK-UP AND ARE TO BE INTERCONNECTED

SECTION 315: CARBON MONOXIDE ALARMS
315.1: CARBON MONOXIDE ALARMS:
NEW CARBON MONOXIDE ALARMS ARE TO BE PROVIDED OUTSIDE OF EACH SLEEPING ROOM PER R.C.O. 315.1 SEE ELECTRICAL PLANS

SECTION 1101: ENERGY CODE
ENERGY COMPLIANCE METHOD: RESIDENTIAL CODE OF OHIO, SECTION 1101-1104

INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT
(TABLE 1102.1)- CLIMATE ZONE 4

| | REQUIRED | DESIGNED |
|---------------------------|----------|----------|
| FENESTRATION U-FACTOR | 0.35 | 0.15 |
| GLAZED FENESTRATION SHGC | NR | VARIES |
| CEILING R-VALUE | 38 | 56 |
| WOOD FRAME WALL R-VALUE | 13 | 34 |
| MASS WALL R-VALUE ^ | 5/10 | 28 |
| FLOOR R-VALUE | 19 | 34 |
| BASEMENT WALL R-VALUE* | 10/13 | 28 |
| SLAB R-VALUE AND DEPTH - | 10, 2FT | 28 |
| CRAWLSPACE WALL R-VALUE*- | 10/13 | N/A |

^ R-5 IF THE MAJORITY (MORE THAN HALF) OF THE INSULATION IS ON THE EXTERIOR, R-10 IF THE MAJORITY OF THE INSULATION IS ON THE INTERIOR.

* R-10 RIGID CONTINUOUS INSULATION ON THE INSIDE/OUTSIDE OF THE FOUNDATION OR R-13 CAVITY INSULATION AT THE INTERIOR SIDE OF THE BASEMENT WALL.

- THERE ARE NO CRAWLSPACES OR CONDITIONED SLAB-ON-GRADE CONDITIONS IN THIS PROJECT

PER SECTIONS 1101 TO 1104:

1) EACH BUILDING COMPONENT TO BE INSTALLED IN THE PROJECT WILL BE CLEARLY MARKED WITH APPROPRIATE R OR U VALUES.

2) SITE APPLIED INSULATION SHALL BE CERTIFIED BY THE INSTALLER LISTING THE TYPE OF INSULATION, MANUFACTURER AND R-VALUE OF THE ITEM INSTALLED AT EACH GENERAL LOCATION OF THE BUILDING (WALLS, FLOORS, CEILINGS, ETC.). INSTALLER WILL SIGN, DATE AND POST THE CERTIFICATE IN A CONSPICUOUS LOCATION ON THE JOB SITE.

3) A PERMANENT CERTIFICATE SHALL BE POSTED ON THE ELECTRIC PANEL, COMPLETED BY THE BUILDER OF REGISTERED DESIGN PROFESSIONAL. LISTED ON THE CERTIFICATE WILL BE THE R-VALUES OF THE MATERIALS INSTALLED, U-FACTOR FOR THE FENESTRATION PRODUCTS AND THE SOLAR HEAT GAIN COEFFICIENT OF THE FENESTRATION.

4) THE HEATING AND COOLING EQUIPMENT TYPES AND EFFICIENCIES WILL BE LISTED ON THE CERTIFICATE.



501 East 13th Street
Cincinnati, OH 45202
p 513 455 8228
f 513 455 8227

www.solconsulting.com

Spring Green Homes

Project Number
18034

Sol Developments, LLC
1322-1332 Spring Street
Cincinnati, OH, 45202

Document Date:
09/02/2021

| No. | Date | Description |
|-----|---------|-------------------|
| 1 | 7/14/21 | Permit Submission |
| 2 | 8/24/21 | Permit Revision |



SANYOG B. RATHOD
LICENSE NUMBER: 0714306
EXPIRATION DATE: 12/31/2021

Cover Sheet

G0.0

CERTIFICATIONS

- A. The intent of this project is to achieve the following certifications:
- Gold-level** LEED certification under the **LEED BD+C Homes Version 4** rating system
 - Passive House** certification under **PHIUS+ 2018**
 - Core Certification** under **Living Building Challenge Version 4.0** rating system
- B. Compliance with the following programs is required for Passive House certification:
- DOE Zero Energy Ready Homes
 - EPA Indoor AirPLUS
- C. Contractor shall coordinate work and requirements with Owner-Contracted LEED Homes verification team, comprised of the **LEED Provider and Green Rater**, and the Passive House verification team, comprised of the **Certified Passive House Consultant and PHIUS+ Rater**. The role of the verification teams is to guide the construction team with certification process, review documentation, verify requirements are met, and perform third-party testing.

SITE & LANDSCAPE

- A. Construction activity pollution prevention:
- Sockpile and protect disturbed topsoil from erosion (for reuse).
 - Control the path and velocity of runoff with silt fencing or comparable measures.
 - Protect on-site storm sewer inlets, streams, and lakes with straw bales, silt fencing, silt sacks, rock filters, or comparable measures.
 - Provide swales to divert surface water from hillsides.
 - Use ties, erosion blankets, compost blankets, filter socks, berms, or comparable measures to stabilize soils in any area with a slope of 15% (6:1) or more that is disturbed during construction.
 - Prevent air pollution from dust and particulate matter.
- B. No invasive plants: Coordinate with Landscape Contractor to ensure no invasive plant species are introduced into landscape.
- C. Hardscape: Use paving materials with a 3-year aged solar reflectance (SR) value of at least 0.28, or initial SR of at least 0.33.
- D. Basic landscape design:
- Introduce no invasive plant species into the landscape.
 - Add mulch or soil amendments as determined by soil testing.
 - All compacted soil (e.g., from construction vehicles) must be tilled to at least 6 inches.

ENVELOPE

- A. Insulation: See G0.2 and wall sections for insulation specifications
- B. Windows: U-factor of 0.15 or better
- C. Air-tightness: 0.05 CFM per sq. ft. of envelope @50Pa or less. Continuous air barrier created with taped Zip sheathing.
- D. Roofing: TPO fully adhered membrane roofing, ENERGY STAR qualified
- E. Green roof at garage: extensive tray green roof system (LifeRoof or approved equal) over TPO fully adhered membrane roofing
- F. Non-toxic pest control:
- Seal all external cracks, joints, penetrations, edges, and entry points with appropriate caulking.
 - Install rodent and corrosion-proof screens (e.g., copper or stainless steel mesh) on all openings greater than 1/4 inch, except where code prohibits their installation.

APPLIANCES

- A. Refrigerators: ENERGY STAR, Rated energy demand 360 kWh/yr or less
- B. Dishwashers: ENERGY STAR, Rated energy use 260 kWh/yr or better, Water Use 3.5 gallons per cycle or less
- C. Cooktops & ovens: Electric
- D. Kitchen hood:
- Townhomes 2 & 3: Recirculating with charcoal filter
 - Townhome 1: Exhaust not to exceed 250 CFM
- E. Clothes washers: ENERGY STAR, Rated energy demand 116 kWh/yr or less, US Federal Standard Integrated Water Factor (IWF) 5.0 or less
- F. Clothes dryers: Heat pump condensing dryer (ventless), Combined Energy Factor (CEF) 3.93 or less

MECHANICAL SYSTEMS

- A. Heating & Cooling:
- Mini-splits, SEER 21.5 / HSPF 12.2 or better
 - Non-ducted systems must have an internal air filter in the air-handling unit, MERV 8 or better
 - Remote access thermostat installed for all space heating & cooling systems
 - Provide moisture-resistant drywall behind all wall-mounted mini-split heads
- B. Ventilation:
- Energy Recovery Ventilators (ERV), recovery efficiency of 85% or better: motor efficiency of 0.76 W/CFM or better: MERV 12 filter
 - Intake & exhaust ducts insulated to R-8. Limit intake duct length to 8' max.
 - Duct through open-web floor trusses
 - Basis of design: Zehnder ComfoAir 350
- C. HVAC Refrigerants: Use refrigerants that are not CFC-based, have an Ozone Depletion Potential (ODP) of zero, and a Global Warming Potential (GWP) of less than 50.
- D. Commissioning:
- Have all HVAC systems commissioned by a technician with North American Technician Excellence certification, or an HVAC contractor credentialed by an EPA-recognized HVAC Quality Installation Training and Oversight Organization (H-QUITO)
 - The technician must complete the ENERGY STAR for Homes v3 HVAC System Quality Installation Contractor Checklist or equivalent as defined by USGBC.
- E. See also "Testing & Verification" below.

PLUMBING

- A. Fixture flow rates:
- Lavatory faucets: 0.5 gallons per minute, WaterSense labeled
 - Kitchen faucets: 2.0 gallons per minute
 - Showers: 1.5 gallons per minute or less, WaterSense labeled
 - Toilets: 0.8 gallons per flush, WaterSense labeled; basis of design: Niagara Stealth
- B. Domestic Hot Water:
- ECOSmart electric tankless water heaters
 - Basis of design: ECOSmart ECO 27
 - Insulate hot water pipes to R-4 min.
- C. The water pressure in the house must not exceed 60 pounds per square inch (414 kPa), with no detectable water leaks.
- D. Durability & moisture control:
- For tank water heaters, clothes washers, and condensing clothes dryers in or over living space: Install drain and drain pan, drain pan and automatic water shut-off or flow restrictor, or floor drain with floor sloped to drain.
 - For area directly above bathtub, spa, or shower (extending to ceiling), exposed wall or area behind fiberglass enclosure if wallboard is installed: Use non-paper-faced backer board or paper-faced product or coating over wallboard that meets standard ASTM D 3273 standard

ELECTRICAL

- A. Lighting (interior & exterior) to be 100% LED
- B. Install a carbon monoxide (CO) monitor on each floor, hard-wired with a battery backup
- C. Install a permanent energy monitoring system that records at intervals of one hour or less (eGauge or approved equivalent)
- D. Electric car charging: where indicated, provide Level 2 charging capacity; charger must be networked or internet addressable and capable of participating in a demand-response program or time-of-use pricing to encourage off-peak charging
- E. Data: Wire for CAT5 / CAT6 ethernet in each room
- F. Security: TBD

PASSIVE RADON SYSTEM

- A. Install min. 6 mil polyethylene sheeting beneath concrete slab, joints lapped 6-12" and taped
- B. Install 4" layer of 1/2" diameter or greater clean aggregate below the slab and polyethylene sheeting
- C. Install a 3 to 4" diameter gas-tight vertical vent pipe clearly labeled to conform with the radon-resistant standard used, e.g., "Radon Reduction System" or "Radon Pipe" or "Radon System." The vent pipe shall be connected to an open T-fitting in the aggregate layer beneath the polyethylene sheeting, extending up through the conditioned spaces and terminating a minimum of 12" above the roof opening.
- D. Provide an electrical receptacle in an accessible attic location near the radon vent pipe to facilitate future fan installation if needed.
- E. Seal concrete slab and foundation with polyurethane caulk or the equivalent at all slab openings, penetrations and control or expansion joints.

MATERIALS

- A. Construction Waste
- Investigate local options for diversion of all construction waste and develop a plan for tracking waste diversion either through a contracted company or by tracking and sorting all waste on-site.
 - Document the construction waste by weight or volume, and document diversion rate of recycling diversion away from landfill.
 - Submit waste reports and waste tickets demonstrating at least **80%** construction waste diversion to Green Rater; diverted materials must include at least four material streams.
- B. Wood
- All wood in the building must be non-tropical, reused or reclaimed, or certified by the Forest Stewardship Council, or USGBC-approved equivalent.
 - If tropical wood is used it must be FSC Certified. Provide vendor's chain-of-custody certificate number must be shown on any invoice that includes FSC-certified products.
- C. Material Efficient Framing: Implement the following advanced framing techniques for at least 90% of each component:
- Use two-stud corners or California corners.
 - Space interior wall studs greater than 16" O.C.
 - Space roof rafters greater than 16" O.C.
- D. Local Production: Use products that were extracted, processed, and manufactured locally within 100 miles of site and for the following components (at least 50% of the component). Contractor to provide documentation proving compliance:
- Aggregate for concrete and foundation
 - Drywall or interior sheathing
- E. Environmentally Preferable Products: Use products that contain at least 25% **reclaimed material**, including salvaged, refurbished, or reused materials. AND/OR Use products that contain at least 25% **postconsumer** or 50% **preconsumer** content. AND/OR Use wood products that are Forest Stewardship Council (FSC) Certified, or USGBC-approved equivalent. AND/OR Use Bio-based materials (**Bio-based** products must meet the Sustainable Agriculture Network's Sustainable Agriculture Standard. Bio-based raw materials must be tested using ASTM Test Method D6866 and be legally harvested, as defined by the exporting and receiving country. Exclude hide products, such as leather and other animal skin material). AND/OR Use concrete that consists of at least 30% fly ash or slag used as a cement substitute and 50% recycled content or reclaimed aggregate OR 90% **recycled content** or reclaimed aggregate. AND/OR Use synthetic gypsum board products that contain at least 95% recycled content and non-synthetic gypsum board products that contain at least 10% post-consumer recycled content. Contractor to provide documentation proving compliance with Environmentally Preferable Product requirements for the following products:
- Flooring - Base floor only (i.e., sealed concrete, no floor covering)
 - Floor covering
 - Insulation
 - Framing
 - Drywall, Interior Finish
 - Concrete: Cement and/or Aggregate
 - Doors
 - Interior Trim
 - Decking or Patio Material
- F. Low Emitting Products
- In the interior of the home, use products that have been tested and found compliant with the California Department of Public Health Standard Method V1.1-2010, using CA Section 01350, Appendix B, New Single-Family Residence Scenario, for emissions testing guidance. At least 90% of a component must meet the requirements to earn credit.
 - For site-applied interior paints and coatings, meet the requirements of CA Section 01350.
 - For flooring, meet the requirements of CA Section 01350.
 - For insulation, meet the requirements of CA Section 01350.
 - For site-applied adhesives and sealants, meet the requirements of CA Section 01350.
 - For composite wood products, be constructed from materials documented to have low formaldehyde emissions that meet the California Air Resources Board requirements for ultra-low-emitting formaldehyde (ULEF) resins or no-added formaldehyde based resins. Wood structural panels conforming to DOC PS-1 or PS-2 and manufactured with moisture-resistant adhesive for "Exposure 1" or "Exterior" application as indicated on the panel by the trademark of an approved testing and grading agency are exempt.

INDOOR AIR QUALITY

- A. Develop and implement construction indoor air quality management plan including the following:
- Comply with minimum requirements of SMACNA IAQ.
 - Protect stored and installed absorptive materials from moisture damage.
 - Store materials on elevated platforms under cover, and in dry location.
 - When materials are not stored in enclosed location, cover tops and sides of material with secured waterproof sheeting.
 - Protect HVAC equipment during construction.
 - Shut down return side of HVAC system whenever possible during heavy construction or demolition.
 - When HVAC system is operated during heavy construction, furnish disposable temporary filters.
 - Pre-occupancy flush as outlined below
- B. Pre-Occupancy Flush:
- At installation, seal all permanent ducts and vents to minimize contamination from construction. Remove seals after all phases of construction are completed.
 - After construction ends and before occupancy, flush the home with fresh air, according to the following guidelines:
 - Remove any dust and debris from ducts.
 - Flush the entire home for 48 hours: the 48 hours may be nonconsecutive if necessary.
 - Keep all windows and interior doors open and run a fan continuously, or flush the home with all HVAC fans and exhaust fans operating continuously at the highest flow rate.
 - Replace all HVAC filters upon completion.
 - Provide dates and times of preoccupancy flush schedule to Green Rater.

TESTING & VERIFICATION

- A. Perform inspections to assure conformance to Energy Star for Homes version 3 Qualified Homes Checklists throughout construction of the project.
- Energy Star National Rater Design Review Checklist
 - Energy Star National Rater Field Checklist
 - Energy Star National HVAC Design Report
 - Energy Star National HVAC Commissioning Checklist
 - Energy Star Water Management System Builder Checklist
- B. Contractor shall complete the ENERGY STAR Water Management System Builder Checklist
- C. LEED verification team (Green Rater) to inspect and verify each measure listed in the ENERGY STAR Water Management System Builder Checklist.
- D. HVAC Contractor shall complete the ENERGY STAR HVAC System Quality Installation Contractor Checklist
- E. HVAC Contractor must be credentialed by an EPA-recognized HVAC Quality Installation Training and Oversight Organization (H-QUITO)
- F. Provide documentation of dates and times of preoccupancy flush schedule to Green Rater.
- G. Thermal Bypass Inspection: The Green Rater will conduct a visual Thermal Bypass Inspection to inspect proper installation and continuity of thermal insulation and air-tightness of envelope. This inspection must take place after exterior envelope insulation has been installed, but prior to and installation of any drywall. One inspection per floor shall be conducted. If additional inspections are deemed necessary due construction sequencing, Contractor shall notify the Architect and Green Rater immediately. Contractor shall schedule the inspection with no less than two week notice to the Green Rater. Contractor shall provide access to each unit and cooperate with conducting of the test. Additional inspections necessary due to incomplete work shall be back-charged to the Contractor.
- H. Final Inspections: Upon substantial completion and prior to occupancy, the Green Rater will conduct a visual Final Inspection to verify green requirements incorporated in the project. The contractor shall notify the Green Rater at least four (4) weeks prior to the anticipated date for such inspection. Contractor shall provide access to each unit and cooperate with conducting of the test. Additional inspections necessary due to incomplete work shall be back-charged to the Contractor.
- I. Third-Party Testing: Third-party Testing is to be scheduled and conducted in conjunction with the final inspection. The contractor shall notify the Green Rater at least four (4) weeks prior to the anticipated date for such inspection. Contractor shall provide access to each unit and cooperate with conducting of the test. The following tests shall be conducted by Green Rater:
- Air Infiltration Test (Blower door Test) – Mandatory – Measures air leakage through unit enclosure such as exterior walls, demising walls, ceilings, chases, etc.
 - Distribution Loss Test (Duct Blaster Test) – Mandatory – Measures leakage through the mechanical distribution system
 - Exhaust Test - Measures exhaust rate for bathroom fans and kitchen fans.
 - Flow Test and Balancing – Measure air flow at each supply register and pressure differential between rooms.

EDUCATION OF HOMEOWNER

- A. General Contractor to provide to Owner or Owner's Building Management an operations and maintenance manual, binder, or CD that includes all the following items:
- the completed checklist of LEED-related features;
 - a copy of each signed accountability form;
 - copies of all ENERGY STAR for Home, version 3, checklists;
 - product manufacturers' manuals for all installed equipment, fixtures, and appliances;
 - general information on efficient use of energy, water, and natural resources;
 - operations and maintenance guidance for any installed equipment, including space heating and cooling, mechanical ventilation, humidity control, radon protection, renewable energy, and irrigation, rainwater harvesting, or graywater systems (following 2009 EPA WaterSense Single-Family New Home Specifications, item 5.0, Homeowner Education);
- B. LEED Green Rater to assist with following items for inclusion in manuals:
- guidance on occupants' activities and choices, including cleaning materials and methods, water-efficient landscaping, integrated pest management, effects of chemical fertilizers and pesticides, irrigation, lighting selection, and appliance selection
 - information on local green power options; and
 - information on sharing utility data with USGBC via a USGBC-approved third party.
- C. General Contractor to conduct a minimum one-hour walkthrough of the home with Owner and/or building manager. The walkthrough must feature the following:
- identification of all installed equipment;
 - instruction in how to use and operate the equipment; and
 - information on its maintenance.



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Spring Green Homes

Project Number
18034

Sol Developments, LLC
1322-1332 Spring Street
Cincinnati, OH, 45202

Document Date:
09/02/2021

| No. | Date | Description |
|-----|---------|-------------------|
| 1 | 7/14/21 | Permit Submission |
| 2 | 8/24/21 | Permit Revision |



SANYOG B. RATHOD
LICENSE NUMBER: 0714306
EXPIRATION DATE: 12/31/2021

Specifications

G0.1

GOVERNING CODE
2019 Residential Code of Ohio

DESIGN REQUIREMENTS

- Design loads
 - Floors, stairs, & exterior decks 40 psf live + 10 psf dead
 - Roofs 40 psf live + 15 psf dead
 - Guardrails and handrails
 - Top rail: 200 pound concentrated load at any point in any direction.
 - Infill components, balusters, and panel fillers: horizontally applied normal load of 50 pounds on an area equal to 1 square ft.
 - Wind speed, v_w (based on 3-second gust) 115 mph
- Design maximum allowable live load deflections (based on Table R301.7). Wind loads are taken as 0.7 times component and cladding loads for purpose of determining deflection limits.
 - Rafters sloping > 3:12 w/ no finish ceiling L/180
 - Interior walls and partitions H/180
 - Floors L/480
 - Ceilings w/ brittle finishes (plaster and stucco) L/360
 - All other structural members L/240
 - Exterior walls-wind with plaster or stucco finish H/360
 - Exterior walls-wind loads w/ brittle finishes H/240
 - Exterior walls-wind loads w/ flexible finishes H/120
 - Lintels supporting masonry veneer walls L/600

CONSTRUCTION AND SAFETY

- Contractor shall brace entire structure as required to maintain stability until complete and functioning as the designed unit.
- Architect/engineer shall not be responsible for the means, methods, techniques, sequences or procedures of construction selected by contractor.
- The contractor will be solely and completely responsible for conditions of the job site including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours. When on site, the architect/engineer is responsible for his own safety but has no responsibility for the safety of other personnel or safety conditions at the site.
- Contractor and his agent(s) shall verify all information and dimensions contained within these construction documents. Contractor shall verify all existing conditions, including buildings, site conditions, and allowable soil bearing pressure. **All errors, omissions, and inconsistencies are to be reported to the architect/engineer before proceeding with the work. Failure to do so will release the architect/engineer of all responsibility.** Any changes from these documents is the responsibility of the contractor. **These drawings are not to be scaled.** If insufficient information exists, contact the architect/engineer for clarification before proceeding with the work.

FOUNDATIONS

- Per client's request, the foundation design and general foundation notes are based on the assumption of favorable soil conditions. The contractor shall retain a geotechnical engineer to verify design assumptions prior to foundation installation. The cost for the geotechnical engineer shall be listed as a separate item on the contractor's bid. The contractor shall submit copies of the geotechnical engineer's report to architect.
 - All footings shall bear on level (within 1 in 12) undisturbed soil or approved engineered fill. Foundations have been designed for a maximum soil bearing pressure of 1500 psf.
- Foundation elevations shown are for bidding purposes and may vary to suit sub-surface soil condition. Elevation and bearing strata shall be approved by a geotechnical engineer prior to placing fill and foundation concrete.
- All footings shall be continuous. Shallow footings at crawl spaces and other stepped footings shall step down to the elevation of basement footings at a ratio of 2 feet vertical to 4 feet horizontal.
- Lateral soil pressures: lateral earth pressures indicated below do not include hydrostatic or compaction pressures during backfill operations. Walls shall have adequate drainage to prevent hydrostatic pressures.
 - Canflevered retaining walls (active pressure): 45 pcf equivalent fluid pressure, triangular distribution.
 - Basement walls (at-rest pressure): 45 pcf equivalent fluid pressure, triangular distribution
- Contractor shall contact utility companies for locating underground services and is responsible for their protection and support.
- Backfill along exterior face of all perimeter footings, and along exterior retaining type walls shall be a well graded granular material compacted to 95% standard proctor density up to within 24 inches of the finished grade. Top 24" of backfill shall be compacted clayey material. At the bottom of the granular material, place a 4" diameter sched. 35 PVC (min.) perforated foundation drain pipe with positive drainage to sump or to daylight. At exterior retaining walls, 4" diameter weep holes at 8'-0" on center maximum may be installed in lieu of perforated foundation drain. Provide clayey backfill from bottom of excavation up to bottom of weepholes or drain pipe.
- Backfill foundation walls only after the first floor framing and sheathing is in place, unless the walls have been cured for at least 7 days and are braced to resist the lateral earth pressure from the backfill.
- Do not backfill against retaining walls until concrete strength has reached 0.75 Fc and for a minimum of 7 days.
- Applied technologies "Hydra-guard" waterproofing system (or nub-a-wall waterproofing membrane system) plus protection board shall be applied on all basement foundation walls and footings below grade.
- Finished grade shall slope 6" in the first 10' minimum away from the perimeter foundation.

CONCRETE

- Concrete work shall conform to all requirements of ACI 301-10, "Specifications for Structural Concrete for Buildings", except as modified by the supplemental requirements below, and the requirements for residential concrete construction ACI 332-08.
 - Concrete for interior slab on grade:
 - fc = 3500 psi.
 - Normal weight aggregate.
 - Concrete for exterior flat work, walks, garage slabs, etc.:
 - fc = 3500 psi
 - Maximum water / cementitious ratio = 0.45
 - Normal weight aggregate
 - 5% to 7% entrained air
 - Limit pozzolan content per aci 301-10 table 4.2.2.9.
 - Concrete for foundation walls and retaining walls:
 - fc = 3500 psi
 - Maximum water / cementitious ratio = 0.45.
 - Normal weight aggregate
 - 5% to 7% entrained air
 - Limit pozzolan content per ACI 301-10 Table 4.2.2.9.
 - Concrete for footings:
 - fc = 3000 psi.
 - Normal weight aggregate.
 - Reinforcing steel: ASTM A615 60 KSI yield deformed bars and ASTM A185 welded wire reinforcement (sheets only).
 - Admixtures: admixtures containing chloride are not permitted in reinforced concrete or concrete containing metals.
- If concrete arrives at the site with a slump below the specified slump and is unsuitable for placing at that slump, the slump may be adjusted once only by adding water up to the amount allowed in the accepted mixture proportions. Addition of water shall be in accordance with ASTM C94. Do not exceed the specified water-cementitious material ratio or slump in the approved mix design. Do not add water to concrete delivered in equipment not acceptable for mixing.
- When the air temperature is less than 40° F, the temperature of the concrete shall be maintained between 50° and 70° F for 7 days.
- During hot weather, when necessary, provide for protective measures in advance of placement.
- At corners and intersections of walls and grade beams, provide bent bars of equal size and of same spacing as typical reinforcing around corner and/or into abutting wall or grade beam. Bars shall have embedment of 30 diameters (18" min.).

- Lap splice reinforcing bars as follows (normal weight concrete w/ f'c ≥ 3000 psi):

| Bar size | Horizontal bars w/ more than 12" of concrete below | All other bars |
|----------|--|----------------|
| #3 | 23" | 18" |
| #4 | 31" | 25" |
| #5 | 39" | 31" |
| #6 | 47" | 37" |
| #7 | 54" | 44" |
| #8 | 62" | 50" |
- Lap welded wire reinforcement 12" (minimum of 2 squares).
- At slab and wall opening corners and reentrant corners, provide (1) #5 bar in each face parallel to each edge extending a minimum of 2'-0" past edge of opening. This steel may be omitted if physical slab or wall steel exceeds this minimum requirement.
- All cast-in-place concrete walls shall be placed continuously with no cold joints and vibrated adequately to prevent air pockets. Where vertical joint required, cast wall full height and extend horizontal rebar 2'-0" beyond joint. Waterproof exterior face of joint. Beam pockets in concrete walls shall have a height 2" deeper than beam, be 1" wider than the beam width, and provide a minimum 4" beam bearing length. Solid grout or solid steel shims shall be placed below beam bearings.
- Place contraction joints in interior slabs and exterior flat work at 10' O.C. maximum each way with a maximum aspect ratio of 1.5:1. Slope to drains.
- Steel trowel finish floor slab and cure using "cure and seal" type curing compound meeting federal specification TT-C-00800 VOC compliant, 30% minimum solids content. For exterior flat work applications exposed to sunlight use light broom finish and acrylic based curing compound. Prior to application, contractor shall verify compatibility of curing compound with final floor finishes.
- Contraction joints in slabs-on-grade shall be hand troweled or saw cut within 6 hours of placing concrete or when concrete is strong enough to withstand cutting without raveling at the edges.
- At sill plates provide 1/2" diameter hot dipped galvanized anchor rods at 32" O.C. maximum and within 12" of corners, unless noted otherwise on drawings. Embed anchor bolts 7 inches in cast concrete walls.
- Provide (2) #5 bars 2" above all concrete openings less than 5' wide. Extend bars 2'-0" beyond edge of opening.
- The National Electrical Code requires that the building electrical system shall be grounded to reinforcing steel in the footing. The work associated with this requirement and the method used shall be coordinated by the contractor. (N.E.C. 250.50)

MASONRY

- Concrete block and clay brick masonry work shall conform to all requirements of "Specification for Masonry Structures (IMS 602 – latest edition)".
 - Facing brick: ASTM C216 Grade SW. Color and size per architectural drawings.
 - Concrete masonry units: ASTM C90 type I, normal weight aggregate per ASTM C33.
 - Mortar: ASTM C270, Type N.
 - Grout: ASTM C476. Slump 8" to 11". Minimum compressive strength = 2000 psi at 28 days.
 - Reinforcing steel: ASTM A615, ASTM A706, or ASTM A996, 60 ksi yield.
 - Provide 9 gage galvanized truss type joint reinforcing at 16" centers vertically for concrete masonry. Use ladder type joint reinforcing for brick and concrete block backup.
- 4" masonry veneer (brick or stone) shall have 18-gauge corrugated, galvanized steel wall ties spaced at 16" O.C. vertically and horizontally with a minimum 1" air space between veneer and exterior. Provide additional wall ties at 16" O.C. around all openings, within 12" of the opening. **Nail each wall tie with galvanized 8d nails located within 1/2" of the anchor's 90 degree bend. Provide flashing located beneath the first course of masonry above finished grade level, above all lintels, and below all sills. Place weep holes directly above flashing spaced at 32" centers.**
- Keep air space between brick and sheathing free from mortar droppings. Provide formed air channel system to catch mortar and allow continuous air flow within wall.
 - Running mortar joints shall be used for all masonry work unless noted otherwise.
 - Steel angle lintels in masonry veneer frame construction openings (U.N.O. on plans):
 - L3-1/2" x 3-1/2" x 3/8" for spans up to 4'-0"
 - L4" x 3-1/2" x 3/8" for spans up to 6'-0"
 - L6" x 3-1/2" x 3/8" for spans up to 8'-0"
 - L7" x 4" x 3/8" for spans up to 9'-0"
 - See drawings for lintels over 9'-0" span.
 - Steel lintels shall be hot dipped galvanized and shall have 8" min. end bearing.
- Unless noted otherwise on plans, under lintels, bearing plates, beams, etc.; fill CMU cells with grout, 3 courses minimum below bearing.

STRUCTURAL STEEL

- All detailing, fabrication, and erection shall conform to AISC specifications for "Design, Fabrication, and Erection of Structural Steel for Buildings", and the AISC "Code of Standard Practice for Steel Buildings and Bridges", latest edition.
- Fabricator is responsible for design of connections. Unless specific end moments and reactions are indicated on drawings (as), design and fabricate connections to resist the maximum uniform load capacity of the member for the span.
- Field connections shall be bolted except where welded connections are indicated on the structural drawings.
- Welding shall be in accordance with the American Welding Society (AWS D1.1:2010)
- Materials (U.N.O.):
 - W-shapes: ASTM A992, fy = 50 ksi
 - Plates and rolled shapes other than w-shapes: ASTM A36, fy = 36 ksi
 - Round shapes:
 - Pipe columns (std U.N.O.): ASTM A53, Types E or S, Grade B, fy = 35 ksi
 - Adjustable non-telescoping pipe columns: ASTM A500, ASTM-513, 11 gage, fy = 72 ksi.
 - Tubular shapes (square and rectangular): ASTM A500, Grade C, fy = 50 ksi
 - Bolts: ASTM A307, 3/4" diameter (U.N.O.)
 - Anchor rods: ASTM F1554, Grade 36. For anchor rods in pressure treated lumber sills: see "wood" section of general structural notes.
 - Field welds: AWS E70xx, low hydrogen electrodes
 - Non-shrink non metallic grout: CRD-C-621 and ASTM C1107 for interior and exterior applications, fluid type.
 - Limit gypsum content to 1.5% maximum at exterior applications.
- Contractor shall submit shop drawings for review by engineer prior to fabrication.
- Provide a 2x wood plate bolted to the top flange of all steel beams with 3/8" diameter bolts staggered at 2'-0" o.c. or power-actuated fasteners at 16" on center. Pre-punch top flange for bolt holes.
- Prepunch holes in web of steel beams requiring wood blocking.
- Anchor top of adjustable pipe column to beam with two 1/2" diameter bolts and anchor base to footing with two 1/2" diameter anchor rods. Adjustable pipe columns are permitted to be installed either end up. If column is installed with screw threads down, the screw threads shall be encased in the concrete floor slab. If column is installed with screw threads up, one screw thread shall be damaged to 1/2 its depth for a length of 1 1/2 inches with a cold chisel or screw driver to prevent vertical movement of the column after the final adjustment.
- At concrete bearing, steel beams shall be shimmed with steel plates or non-shrink grout.
- Anchor to wall with two 1/2" diameter anchor bolts.
- Galvanizing – hot dip galvanize per ASTM A123 after fabrication. After erection, repair damaged areas and welds made after galvanizing in accordance with ASTM A780 with organic zinc rich paint complying with DOD-P-21035 or MIL-P-26915, multiple coats to dry film thickness of 4 mils.
- Members exposed to weather in finished structure and loose lintels: EITHER:
 - Hot dip galvanize per ASTM A123 after fabrication. Coating weight per paragraph 5.1 of ASTM A123 and A153. Fabricate assemblies per ASTM A143, A384, and A385. After erection, repair damaged areas and welds made after galvanizing in accordance with ASTM A780 with organic zinc rich paint complying with DOD-P-21035 or MIL-P-26915, multiple coats to dry film thickness of 4 mils. Fill exposed vent and drain holes, not indicated as weep holes, by plugging with zinc solder and filling off smooth.
 - OR: Prepare surfaces per SSPC-SP6 "Commercial Blast Cleaning". Paint with zinc urethane primer with not less than 80% zinc in dried film [Inspec Series 94-H20] with a dry film thickness of 2.5 to 3.5 mils. Finish paint with 2 coats of aliphatic acrylic polyurethane (Inspec Series 1095). Coordinate color selection with architect. Substitutes may be considered. Submit manufacturer's data prior to surface preparation.

WOOD

- Materials:
 - Framing lumber:
 - 2 x 8 and larger: no. 1 grade or better southern pine kiln dried.
 - 2 x 4 and 2 x 6: no. 2 grade or better southern pine fir kiln dried.
 - Tstud (for exterior wall stud use): ICC IER 1403-06.
 - 4 x 4: no. 1 grade or better pressure treated southern pine.
 - 6 x 6: no. 2 grade or better pressure treated southern pine.
 - 2 x 4 and larger pressure treated lumber: no. 1 grade or better southern pine: pressure treat to AWPA use category UC2 for sill plates; UC3s for above ground exterior decking, stairs, railings, etc.; and UC4a for ground contact.
 - Sheathing & subflooring:
 - Materials:
 - Floor sheathing: 23/32" APA span rating 48/24 tongue & groove subfloor exposure 1. Oriented strand board is not permitted to be used below thinset ceramic tile or marble floor finishes.
 - Floor sheathing: 23/32" Advantech span rating 48/24 tongue & groove subfloor manufactured by Huber Engineered Woods.
 - Roof sheathing: 19/32" APA span rating 40/20 roof sheathing exposure 1. Install panel clip that creates an 1/8" space between panels at midspan of each truss/rafter space along unsupported sheathing.
 - Roof sheathing: 1/2" Zip System roof span rating 40/20 manufactured by Huber Engineered Woods. Install panel clip that creates an 1/8" space at midspan of each truss/rafter space along unsupported sheathing edges.
 - Wall sheathing: 7/16" APA span rating 24/16 wall sheathing exposure 1.
 - Connections: All sheathing shall be nailed to wood framing with 8d nails at 6" on center at panel edges, 12" on center at intermediate supports unless noted otherwise.
 - Adhesive for subflooring: shall conform to performance specification afg-01 developed by APA.
 - LVL (laminated veneer lumber) beams: distributed as micro-lam LVL. Install per manufacturer's recommendations. LVL beams shall have design stress values as follows:
 - Fb = 2600 psi bending
 - Fv = 285 psi horizontal shear
 - Fc = 2510 psi compression parallel to grain
 - Fc⊥ = 750 psi compression perpendicular to grain
 - E = 1,900,000 psi modulus of elasticity
 - PSL (parallel strand lumber) beams and columns: distributed as Parallam. Install per manufacturer's recommendations. PSL beams and columns shall have design stress values as follows:
 - Beams:
 - Fb = 2900 psi bending
 - Fv = 290 psi horizontal shear
 - Fc = 2900 psi compression parallel to grain
 - Fc⊥ = 750 psi compression perpendicular to grain
 - E = 2,000,000 psi modulus of elasticity
 - Columns:
 - Fb = 2400 psi bending
 - Fv = 190 psi horizontal shear
 - Fc = 2500 psi compression parallel to grain
 - Fc⊥ = 425 psi compression perpendicular to grain
 - E = 1,800,000 psi modulus of elasticity
 - LSL (laminated strand lumber). Distributed as Timberstrang. Install per manufacturer's recommendations. LVL's shall have design stress values as follows:
 - Rim boards:
 - Fb = 1700 psi bending
 - Fv = 400 psi horizontal shear
 - Fc = 1400 psi compression parallel to grain
 - Fc⊥ = 680 psi compression perpendicular to grain
 - E = 1,300,000 psi modulus of elasticity
 - Structural members:
 - Fb = 2325 psi bending
 - Fv = 310 psi horizontal shear
 - Fc = 2500 psi compression parallel to grain
 - Fc⊥ = 800 psi compression perpendicular to the grain
 - E = 1,550,000 psi modulus of elasticity
 - Manufactured wood joists: depth as shown on drawings.
 - Install per manufacturer's recommendations.
 - Shop drawings are required and shall bear the designer's engineering seal from the state the project occurs. Shop drawings shall show all design and fabrication details, temporary and permanent bracing requirements, handling and erection instructions, and all field-connection requirements. I-joists shall not be fabricated until shop drawings are approved by architect/engineer.
 - Supplier shall indicate all areas requiring squash blocks or other types of blocking. Contractor shall install blocking where indicated on the drawings, where indicated by the supplier, and below all point loads.
 - Wood trusses:
 - All work to conform to the "National Design Standards for Metal-Plate-Connected Wood Truss Construction" (ANSI/TPI 1-2007) by the Truss Plate Institute, Inc.
 - Unless noted otherwise, all trusses shall be designed for the loads as shown in the design load section of these notes. Truss design load combinations shall be per the Residential Code of Ohio.
 - Roof trusses: in addition to the loads shown in the design section, design roof trusses for net uplift due to wind loads of [P] Psf. Snow loads shall be considered unbalanced per ASCE 7 section 7.6.1. Maximum total load deflection not to exceed L/240 and maximum live/snow load deflection not to exceed L/360.
 - Floor trusses: floor trusses shall be designed with a maximum live load deflection of L/480 or 3/4", whichever is least.
 - Floor trusses shall have continuous full height band joists 1 1/2" min thickness, at perimeters to support walls above.
 - Roof trusses supporting extra dead loads, such as green roof trays, shall be sized to resist long term sagging due to the heavier dead loads.
 - Shop drawings are required and shall bear the designer's engineering seal from the state the project occurs. Per IRC 802.10, shop drawings shall include all design and fabrication data, temporary and permanent bracing requirements (clearly showing permanent bracing requirements for web compression and bottom chord members), handling and erection instructions, all field-connection requirements, and an erection plan locating all trusses. Wood trusses shall not be fabricated until shop drawings are approved by architect/engineer.
 - Lap splice permanent truss bracing a minimum of one truss space.
 - Fabricator shall design all truss to truss and/or truss to beam connections and shall specify the proper sized hanger on the shop drawings.
 - All trusses under 60' long shall be braced during erection per "Commentary and Recommendations for Handling, Installing and Bracing Metal Plate Connected Wood Trusses", BCS-81 Summary Sheet by the Truss Plate Institute, unless more strict bracing is required by the truss manufacturer. Trusses over 60' long shall have temporary bracing designed by a professional engineer who is registered in the state the project occurs, and shall have drawings submitted, bearing the designer's seal, showing the details of the temporary bracing. This bracing shall remain as permanent bracing in the plan of the top chord may be removed when the top chord is laterally braced by plywood sheathing.
 - Design wood trusses to bear on the exterior wall unless indicated otherwise on the construction documents.

I. Fasteners:

- Bolts:
 - Anchor bolts for all pressure treated lumber sills (with the exception of borate treated); hot dip galvanized anchor bolts per ASTM A123, ASTM A36, ASTM A307, or ASTM F1554 grade 36.
 - Other bolts: ASTM A307, SAE J429.
 - Provide standard cut washer between both head and nut to wood connection.
 - Nails (contractor shall confirm nail sizes indicated on drawings and notes meet the following diameter and length requirements):
 - 8d = 0.131" dia, 2 1/2" lg.
 - 10d = 0.148" dia, 3" lg.
 - 16d = 0.162" dia, 3 1/2" lg.
 - Pneumatic gun nails shall meet the diameter and length as shown above regardless of the nail size indicated by the manufacturer.
 - Wood screws:
 - #8 = 0.164" dia.
 - #10 = 0.191" dia.
 - #12 = 0.216" dia.
 - Specialty screws: per the manufacturer's specifications or approved equal.
 - Log screws:
 - Provide standard washer between head to wood connection.
 - Prebore holes prior to installation.
- Unless noted otherwise, all connections shall be made per Table R602.3(1) "Fastening Schedule", in referenced building code. Staples not permitted for fastening approved sheathing and subflooring.
 - All subflooring shall be glued and nailed.
 - At bolted 2x ledgers, provide no less than 2" clr. from center of bolt to top and bottom of ledger.
 - All connection hardware specified on the structural drawings shall be manufactured by the Simpson Strong-Tie Company, shall be fastened as specified in the Simpson product and hot dip galvanized connectors, and are in their catalog published capacities. All connectors shall be installed using the maximum nailing specified and proper nail size unless noted otherwise.
 - Simpson connectors used in all applications with ccq-c, acq-d, cba-a, or ca-b treated lumber shall be zmax (g185) or hot dipped galvanized. G60 and g90 coated products are not allowed for applications with treated lumber. G90 can be used w/ borate treated lumber in interior-dry applications. Only use galvanized fasteners with zmax and hot dip galvanized connectors. At owner's option, stainless steel type 304 or type 316 with stainless steel fasteners can be used to increase life expectancy of the connector. Stainless steel connectors should be used for lumber with chemical retention levels greater than 0.40 pcf for acq, 0.41 pcf for cba-a, or 0.21 pcf for ca-b.
 - For wood roof rafters and trusses, install one Simpson H2.5T hurricane tie at each member at each bearing location in addition to the typical nailing requirement in the "Fastening Schedule".
 - Bracing in all floor and ceiling joists, including manufactured wood joists, shall be 1"x3" cross bridging (double nailed) at 8'-0" on center maximum. Steel cross bridging is an acceptable alternate.
 - At first floor joists that are parallel to the basement foundation wall, provide full depth solid blocking at anchor bolt spacing between the rim joist and the first (2) interior joist spaces. Nail sheathing to each block with four 10d nails.
 - Wall studs shall line up with floor joists of floors above and below.
 - At bearing ends of 2 x 12 rafters, wall studs greater than 1" deep, provide full depth blocking over bearing walls. Nail blocking to rafters and top plate with (3) 10d nails each location.
 - Provide double rim joist where framing runs parallel to foundation or stud wall.
 - Provide a stud at all top plate splice locations.
 - Provide double joists in floor construction below all interior partitions that run parallel with the joists (spread joists as necessary to accommodate plumbing).
 - For built up steel standing columns, use the following nailing pattern: (2) 2x4-10d nails at 6" O.C. staggered front to back, set nails 1" from edge; (3) 2x4-30d nails at 8" O.C. staggered front to back, set nails 1 1/2" from edge; (3) 2x6- two rows of 30d nails at 8" O.C. staggered side to side and front to back, set nails 1 1/2" from edge.
 - Floor and roof truss top and bottom chords and web members shall not be cut or notched for any reason. Floor and roof trusses damaged or modified in the field shall be repaired at the contractor's expense by a method provided by the manufacturer or a licensed engineer.
 - Notches in exterior wall or interior bearing wall studs are not to exceed one-fourth of the stud width, and no holes are to be bored greater than 40% of the stud width or within 5/8" of stud edge.
 - Notches in floor joists and roof rafters shall not be located in the middle one-third of the span. Depth of notches in the top or bottom of the member are not to exceed one-sixth of the member depth, and length shall not exceed one-third of member depth. Holes shall not be bored larger than one-third of the member depth, or within two inches of the top or bottom of the member, or within two feet of bearing. No holes or notches are allowed in beams unless approved by architect/engineer.
 - Where concentrated loads from beams, girder trusses, etc. Bear on stud walls, provide the number of studs necessary to support the full width of the bearing member, unless noted otherwise. The required number of supporting studs shall continue for the full height of wall below the concentrated load, with continuous blocking thru floor framing at each floor level, down to solid bearing on foundation wall sill plate or interior steel or wood beam.
 - Minimum bearing stud & full height stud requirements for support of headers in exterior walls and interior bearing walls:
 - Header span 6'-0" or less: minimum (1) 2x bearing stud nailed to (1) full height stud with 10d nails at 24" o.c.
 - Header span greater than 6'-0": minimum (2) 2x bearing studs nailed to (1) full height stud with 10d nails at 24" o.c., unless otherwise.
 - All multiple headers and beams with depth less than 14 inches shall be fastened together with minimum (3) rows of 10d common nails at 12" o.c., staggered on opposite sides. For depths equal to or greater than 14 inches, fasten together with (4) rows of 10d nails at 12" o.c. for four or more ply beams, thru-bolt with 1/2" diameter bolts at 12" o.c. staggered top and bottom. All side loaded beams shall be thru-bolted.
 - Sheath all exterior walls with apa rated wall sheathing.
 - APA rated wall sheathing used for bracing walls shall extend from the top plate to the bottom plate in a single sheet. Where horizontal joints occur, provide solid wood blocking for perimeter nailing of the sheathing panel. Anchor bottom of each four foot sheathing panel to the band joist with one Simpson LTP4.
 - All nails and fasteners with exterior exposure or in contact with treated lumber shall be hot dipped galvanized. Do not mix galvanized and stainless steel products.



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Spring Green Homes

Project Number
18034

Sol Developments, LLC
1322-1332 Spring Street
Cincinnati, OH, 45202

Document Date:
09/02/2021

| No. | Date | Description |
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| 1 | 7/14/21 | Permit Submission |
| 2 | 8/24/21 | Permit Revision |



SANYOG B. RATHOD
LICENSE NUMBER: 0714306
EXPIRATION DATE: 12/31/2021

Structural Notes

G0.2

Spring Green Homes

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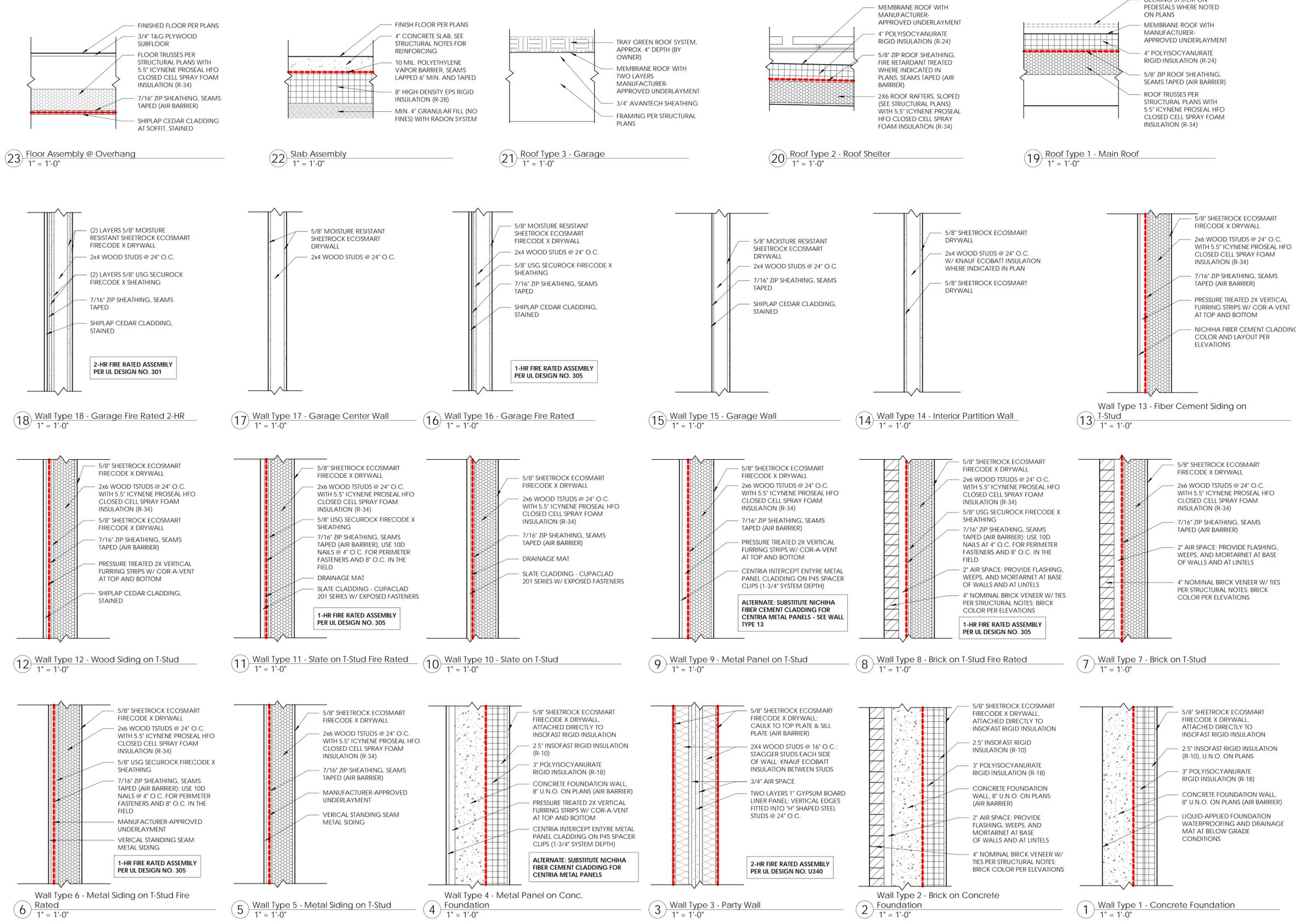
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Assemblies

G0.3





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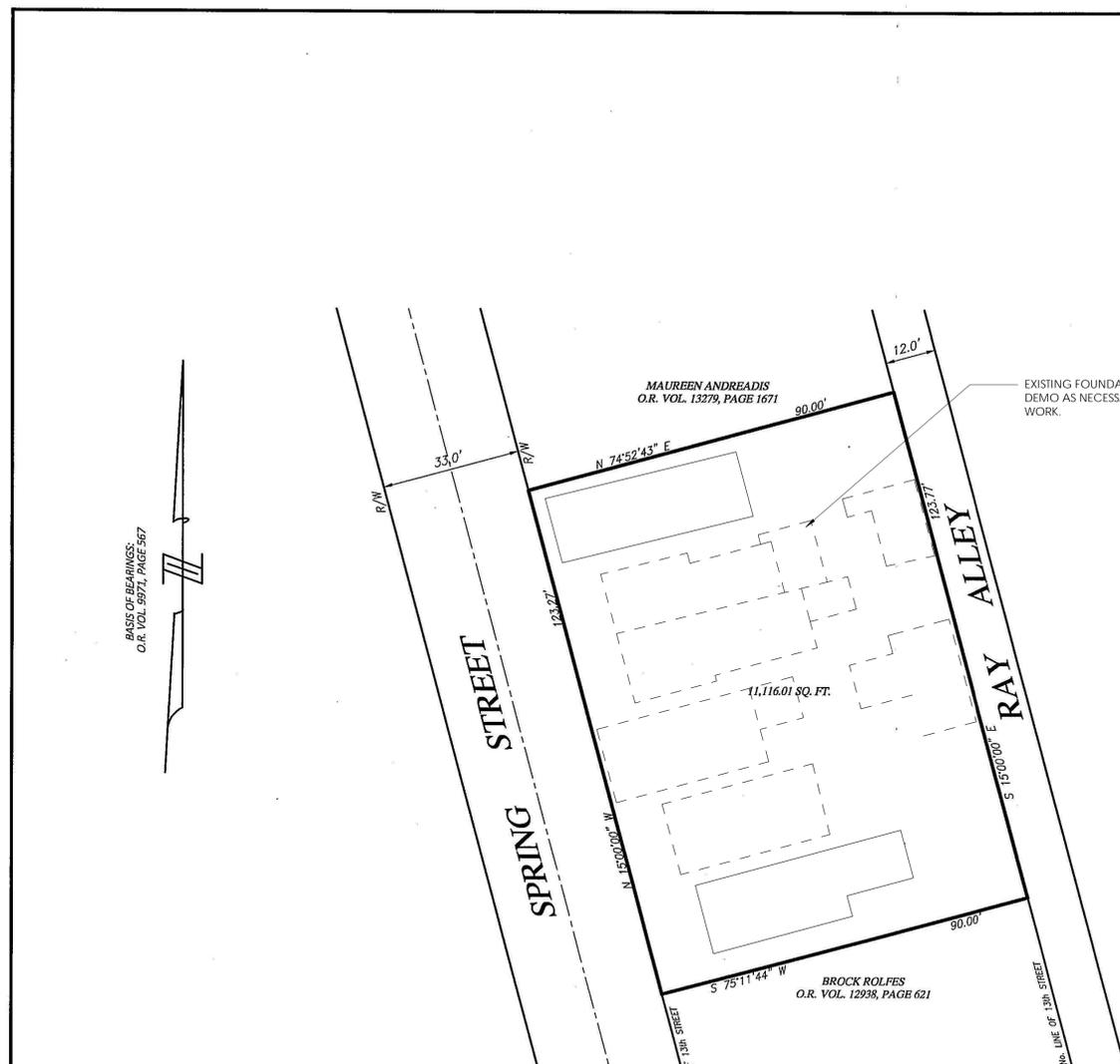
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DEED REFERENCE:
O.R. VOL. 13708, PAGES 1559 & O.R. VOL. 9971, PAGE 567

NOTES:
OCCUPATION IN GENERAL FITS SURVEY.
IRON PINS SET ARE 5/8" DIA. REBAR 30" LONG WITH CAPS.
ALL MONUMENTS FOUND ARE IN GOOD CONDITION UNLESS STATED OTHERWISE.

PERTINENT DOCUMENTS AND SOURCES OF DATA USED:
O.R. VOL. 13279, PAGE 1617
O.R. VOL. 12938, PAGE 621
SURVEY BY BRAUSCH AND ASSOC. DATED 03/16/89

WE, THE OWNERS OF THE TRACTS OF LAND SHOWN ON THIS PLAT OF SURVEY, DEPOSE THAT EACH TRACT IS ENTERED AS TWO OR MORE ITEMS OR PARCELS ON THE HAMILTON COUNTY AUDITOR'S TAX LIST AND THE HAMILTON COUNTY AUDITOR'S TAX MAPS. WE HEREBY REQUEST THE HAMILTON COUNTY AUDITOR TO COMBINE SAID ITEMS OR PARCELS INTO ONE ENTRY ON THE HAMILTON COUNTY AUDITOR'S TAX LIST, AND ALSO TO REMOVE AND DELETE FROM THE HAMILTON COUNTY AUDITOR'S TAX MAPS THE LINES WHICH DIVIDE SAID PARCELS ON SAID TAX MAPS, AND TO SHOW THE COURSES AND DISTANCES OF THIS SURVEY AS THE BOUNDARY OF THE COMBINED TRACTS OF LAND. IF THIS REQUEST IS GRANTED, WE HEREBY AGREE TO DESCRIBE ANY PART OR ALL OF THE TRACTS SHOWN HEREON FOR FUTURE CONVEYANCES BY METES AND BOUNDS, SO THAT SUCH DESCRIPTION SHALL BE AGREEABLE WITH THE SURVEY SHOWN HEREON. WE ALSO HEREBY AGREE TO RECORD THIS SURVEY IN THE HAMILTON COUNTY RECORDER'S OFFICE. WE ALSO CERTIFY THAT THERE ARE NO DELINQUENT TAXES AGAINST THE ABOVE DESCRIBED PROPERTY, AND THAT SAID PROPERTY IS ENTIRELY IN ONE TAXING DISTRICT.

SIGNED:

STATE OF OHIO
COUNTY OF HAMILTON S.S.

BE IT REMEMBERED THAT ON THIS _____ DAY OF _____, 201____, BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID HAMILTON COUNTY PERSONALLY APPEARED

WHO
ACKNOWLEDGED THE SIGNING OF THE FOREGOING INSTRUMENT TO BE THEIR VOLUNTARY ACT AND DEED, IN TESTIMONY WHEREOF I HEREUNTO SUBSCRIBE MY NAME AND AFFIX MY NOTARIAL SEAL ON THE DAY AND YEAR AFORESAID.

NOTARY PUBLIC

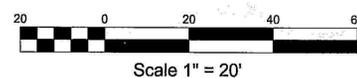
MY COMMISSION EXPIRES _____

I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE ACCOMPANYING PLAT IS A CORRECT RETURN OF A SURVEY MADE UNDER MY DIRECTION.

JOHN M. DUFFY, SURVEYOR
OHIO REG. NO. 7757

CLOSURE ~ 11,116.01 SQ. FT.

| BEARING | DISTANCE | NORTHING | EASTING |
|-------------------|-----------|-----------|-----------|
| N 15° 00' 00.0" W | 123.2700' | 5000.0000 | 5000.0000 |
| N 74° 52' 43.0" E | 90.0000' | 5119.0697 | 4968.0954 |
| S 15° 00' 00.0" E | 123.7700' | 5022.9949 | 5087.0132 |
| S 75° 11' 44.0" W | 90.0000' | 4989.9980 | 5000.0009 |



NOTE: The professional surveyor has made no investigation or independent search for easements of record, encumbrances, restrictive covenants, ownership, title evidence, or any facts that an accurate and current title search may disclose.

PLAT OF SURVEY
SECTION 18, TOWN 4, F. RANGE 1
CITY OF CINCINNATI
HAMILTON COUNTY, OHIO



REVISIONS

CONSOLIDATION PLAT

JOHN J. DUFFY & ASSOCIATES, INC.
ENGINEERS-SURVEYORS
4838-E DUFF DRIVE CINCINNATI, OHIO 45246
(513) 874-1811 Email: jjduffy@fuse.net

| SCALE | DATE | JOB NO. | DRWN. |
|--------|----------|---------|--------|
| 1"=20' | 10/08/18 | 18-76 | M.C.F. |



SANYOG B. RATHOD
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Existing Site
Survey

G0.4

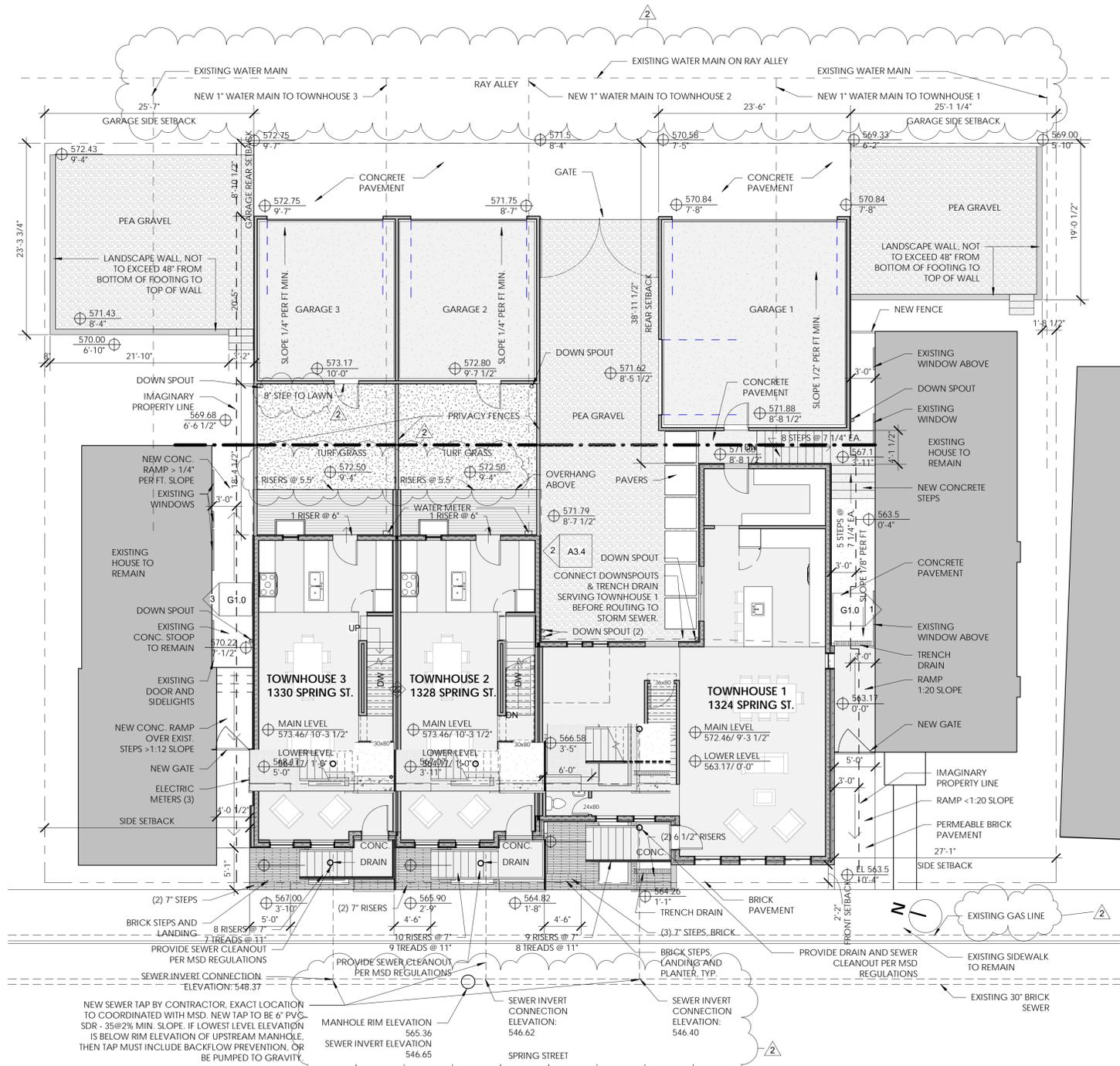
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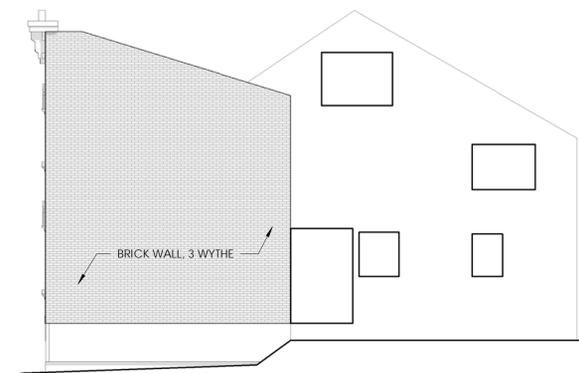
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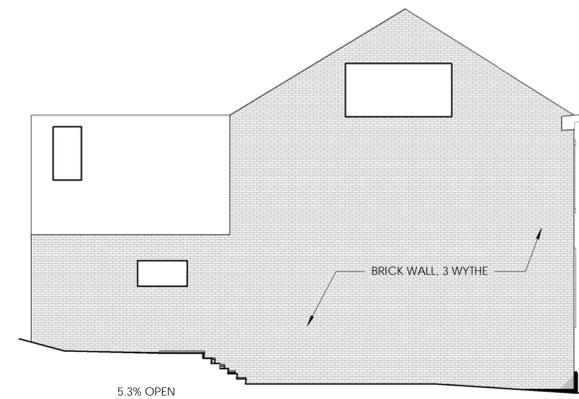
2 Proposed Site Plan
1/8" = 1'-0"

SITE PLAN GENERAL NOTES

- CONTRACTOR TO COORDINATE ANY SIDEWALK/STREETWORK REPAIR WITH THE CITY OF CINCINNATI.
- CONTRACTOR TO COORDINATE ANY CONNECTION TO, OR DISCONNECTION FROM POWER WATER SEWER, AND DATA WITH RELEVANT UTILITY.
- CONNECT ALL DOWNSPOUTS TO EXIST. STORM SEWER ON SPRING ST. PROVIDE CLEANOUTS.
- SOCKPILE AND PROTECT DISTURBED TOPSOIL FROM EROSION (FOR REUSE).
- CONTROL THE PATH AND VELOCITY OF RUNOFF WITH SILT FENCING OR COMPARABLE MEASURES.
- PROTECT ON-SITE STORM SEWER INLETS, STREAMS, AND LAKES WITH STRAW BALES, SILT FENCING, SILT SACKS, ROCK FILTERS, OR COMPARABLE MEASURES.
- PROVIDE SWALES TO DIVERT SURFACE WATER FROM HILLSIDES.
- USE TIERS, EROSION BLANKETS, COMPOST BLANKETS, FILTER SOCKS, BERMS, OR COMPARABLE MEASURES TO STABILIZE SOILS IN ANY AREA WITH A SLOPE OF 15% (6.6:1) OR MORE THAT IS DISTURBED DURING CONSTRUCTION.
- PREVENT AIR POLLUTION FROM DUST AND PARTICULATE MATTER.



3 Existing North Home, South Elevation
1/8" = 1'-0"



1 Existing South Home, North Elevation
1/8" = 1'-0"



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Site Plan

G1.0



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Structural Plans

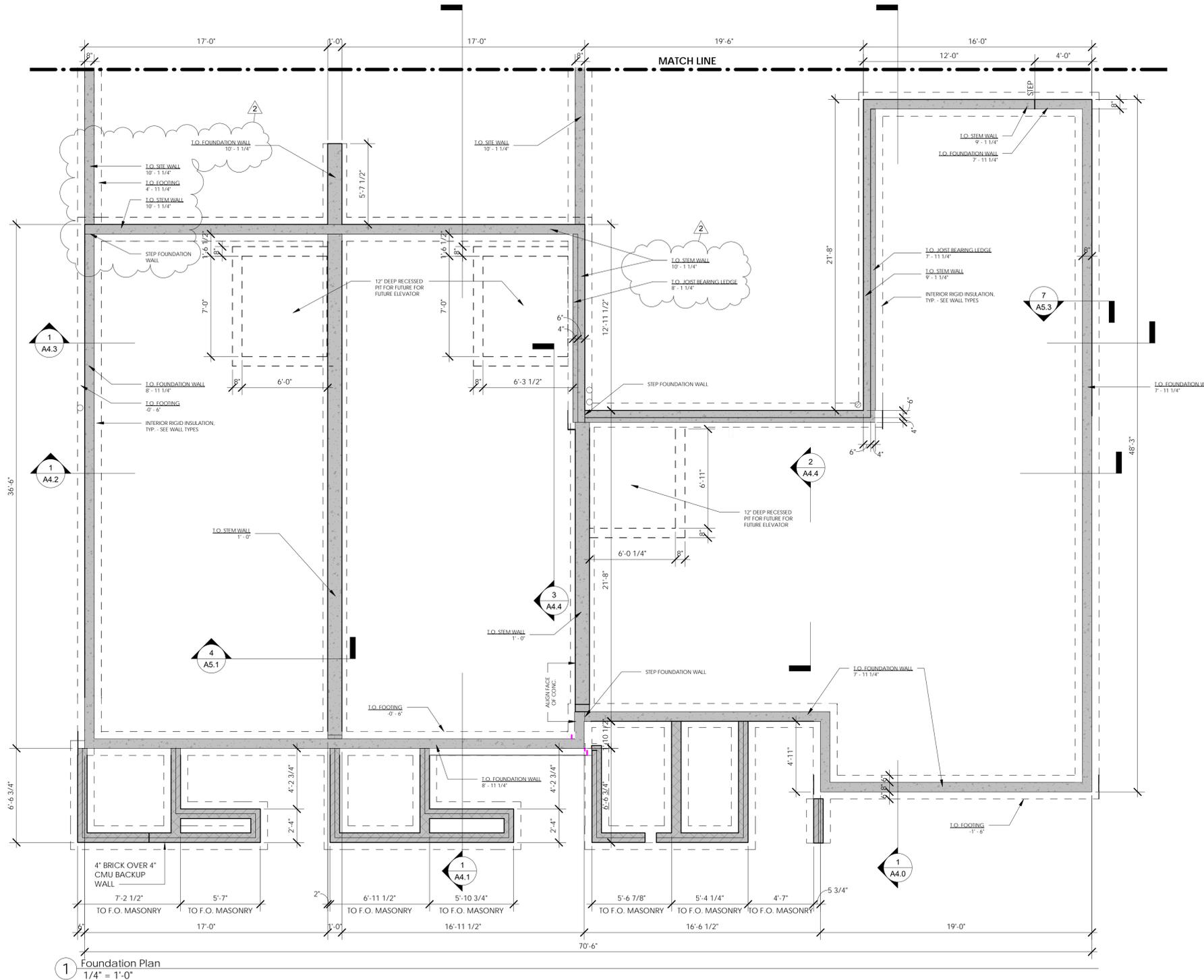
S2.0

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- FOR NEW INTERIOR WOOD FRAMED WALLS, USE 2-STUD OR CALIFORNIA CORNERS, AND SPACE STUDS AT 24" O.C., SEE LEED NOTES, G01
- ALL HEADERS ON THE LOWER LEVEL AND FIRST FLOOR SHALL BE COMPOSED OF (2) T-STUD STACKED MEMBERS NOT TO INCLUDE THE TOP PLATE, U.N.O. ALL OPENINGS ON THE SECOND FLOOR SHALL USE THE RIM BOARD AS HEADER, U.N.O. 1 3/4" X 1 3/4" LSL
- BWP = BRACED WALL PANEL, WHERE A LENGTH IS INDICATED, THE BWP SHALL ONLY BE FOR THAT LENGTH, WHERE NO LENGTH IS INDICATED, THE BWP SHALL EXTEND FROM CORNER TO EDGE OF OPENING, TOE NAIL BAND JOIST TO TOP OF BWP W/ 16d NAILS AT 4" O.C.; NAIL BOTTOM PLATE OF BWP TO BAND JOIST W/ (3) 16d NAILS PER 16"
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- FOOTINGS ARE 10" X 20" U.N.O. SEE 3/AS.0 FOR TYPICAL FOOTING REINFORCEMENT. SEE PLANS FOR TOP OF FOOTING NOTES.

STRUCTURAL KEY NOTES

- (2) #5 BARS SET 2" ABOVE OPENING, CONTINUOUS, EXTEND 31" BEYOND FARTHEST WINDOW EDGE, TYP.
- (2) #6 BARS SET 2" ABOVE OPENING, CONTINUOUS, EXTEND 12" AT EACH END TYP.
- (2) 1 3/4" X 14" LSL ALIGNED W/ BRACE WALL ABOVE, ANCHOR TO FOUNDATION PER DETAIL 5/AS.1.
- (2) 14" GIRDER TRUSS WITH (2) ROWS 10d NAILS @ 6" O.C. INTO TRUSS, FABRICATE GIRDER TRUSS CAPABLE OF TRANSFERRING 3000 POUNDS OF HORIZONTAL SHEAR.
- (2) 1 3/4" X 14" LSL CANTILEVERED, W/ INVERTED SIMPSON HUC416 W/ #10 X 1 1/2" SD SCREWS INTO BAND JOIST AND GIRDER TRUSS.
- 1 3/4" X 14" LSL BAND JOIST
- 14" GIRDER TRUSS OR (2) 1 3/4" X 14" LSL W/ SIMPSON U414 EACH END
- (1) 1 3/4" X 14" LVL W/ SIMPSON U14
- (3) 1 3/4" X 14" LVL FLUSH
- BRACED WALL PANEL: SHEATH BOTH SIDES OF WALL WITH FULL HEIGHT 7/16" OSB, ANCHOR SINGLE 2X4 TOP AND BOTTOM PLATES TO EACH SHEAR TRANSFERRING FLOOR TRUSS OR LSL W/ (2) ROWS OF 16d NAILS @ 4" O.C. PLACE DRYWALL OVER SHEATHING.
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- (2) 2X4 BEARING STUDS PLUS (2) 2X4 KING STUDS
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- (2) 1 3/4" X 9 1/4" LVL W/ (3) BEARING STUDS EACH END
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- 3" DIAMETER STEEL COLUMN



1 Foundation Plan
1/4" = 1'-0"



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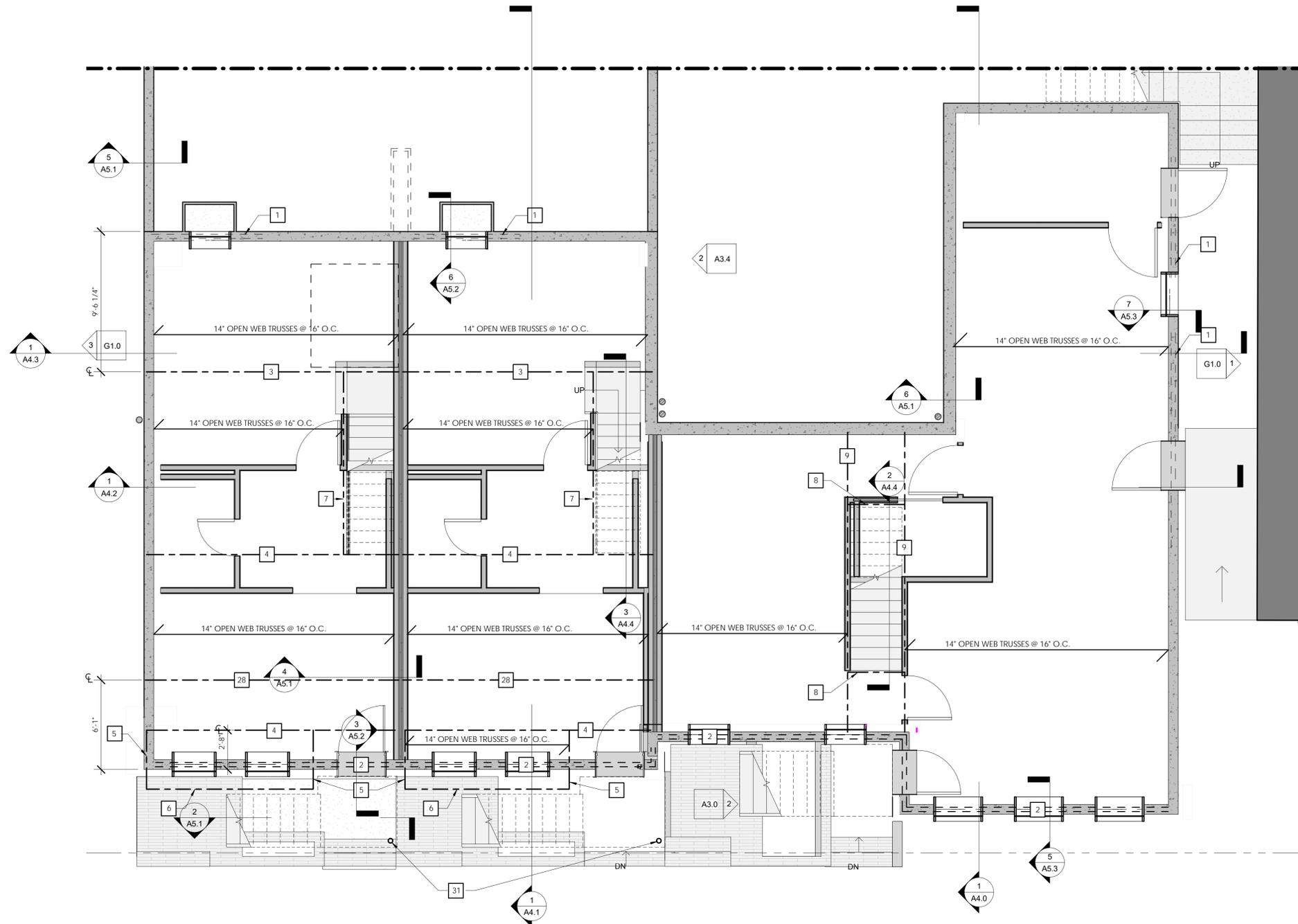
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1 Lower Level Structural
1/4" = 1'-0"

Structural Plans

S2.1



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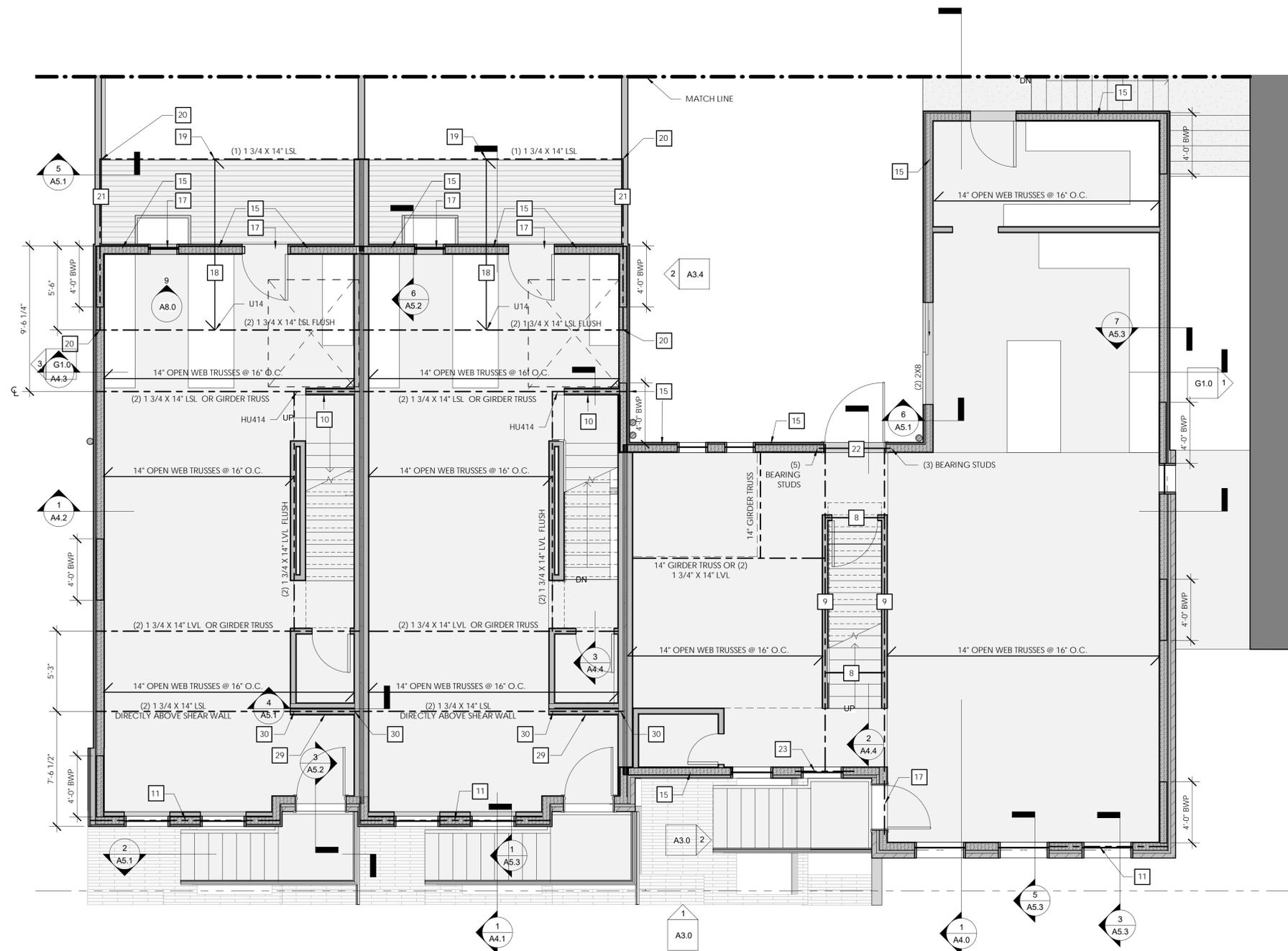
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- (2) 14" GIRDER TRUSS WITH (2) ROWS 10d NAILS @ 6" O.C. INTO TRUSS. FABRICATE GIRDER TRUSS CAPABLE OF TRANSFERRING 3000 POUNDS OF HORIZONTAL SHEAR.
- (2) 1 3/4" X 14" LSL CANTILEVERED, W/ INVERTED SIMPSON HUC416 W/ #10 X 1 1/2" SD SCREWS INTO BAND JOIST AND GIRDER TRUSS.
- 1 3/4" X 14" LSL BAND JOIST
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- (1) 1 3/4" X 14" LVL W/ SIMPSON U14
- (3) 1 3/4" X 14" LVL FLUSH
- BRACED WALL PANEL: SHEATH BOTH SIDES OF WALL WITH FULL HEIGHT 7/16" OSB. ANCHOR SINGLE 2X4 TOP AND BOTTOM PLATES TO EACH SHEAR TRANSFERRING FLOOR TRUSS OR LSL W/ (2) ROWS OF 16d NAILS @ 4" O.C. PLACE DRYWALL OVER SHEATHING.
- PORTAL FRAME: (3) 2X12 W/ OSB FLITCHES TO MAKE 5 1/2" THICK CONTINUOUSLY SHEATHED PORTAL FRAME. EXTEND OVER TOP OF WALL. SEE DETAILS 1/A5.1 AND 3/A5.1.
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1 First Floor Structural
1/4" = 1'-0"



SANYOG B. RATHOD
LICENSE NUMBER: 0714306
EXPIRATION DATE: 12/31/2021

Structural Plans

S2.2



501 East 13th Street
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Spring Green Homes

Project Number
18034

Sol Developments, LLC
1322-1332 Spring Street
Cincinnati, OH, 45202

Document Date:
09/02/2021

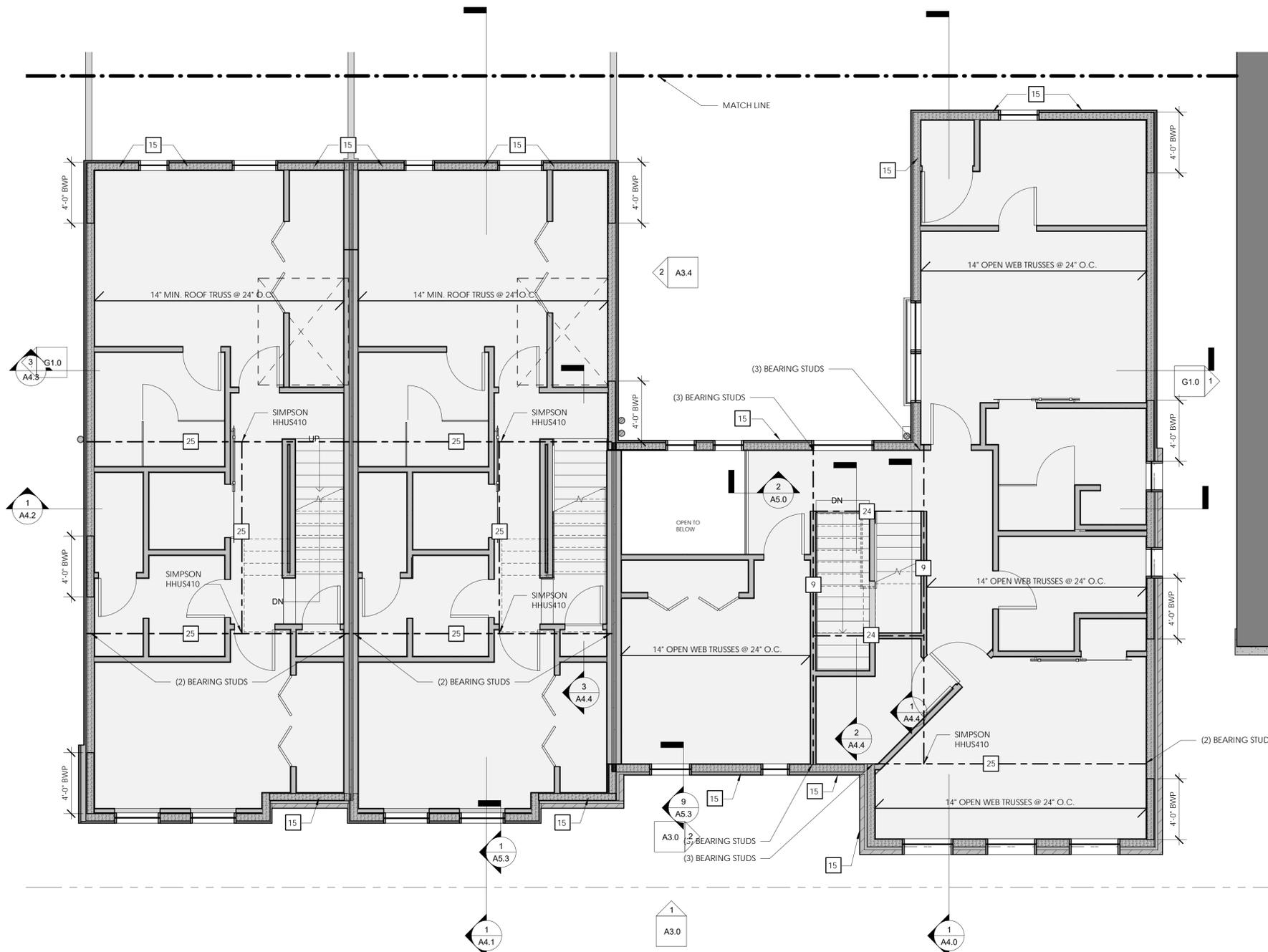
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| 2 | 8/24/21 | Permit Revision |

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1 Second Floor Structural
1/4" = 1'-0"



SANYOG B. RATHOD
LICENSE NUMBER: 0714306
EXPIRATION DATE: 12/31/2021

Structural Plans

S2.3



501 East 13th Street
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Spring Green Homes

Project Number
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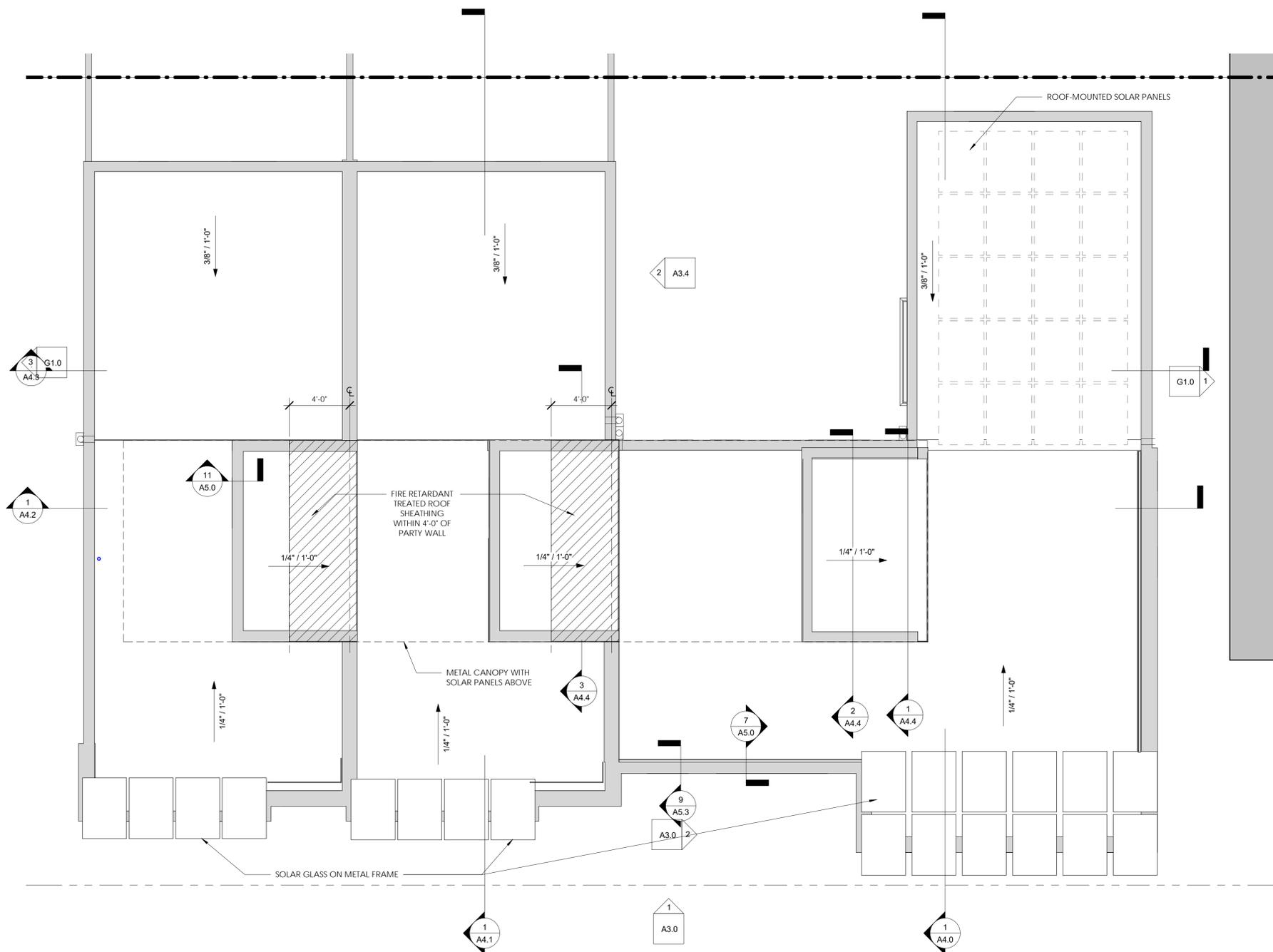
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1 Roof Plan Structural
1/4" = 1'-0"



SANYOG B. RATHOD
LICENSE NUMBER: 0714306
EXPIRATION DATE: 12/31/2021

Structural Plans

S2.4

Spring Green Homes

Project Number
18034

Sol Developments, LLC
1322-1332 Spring Street
Cincinnati, OH, 45202

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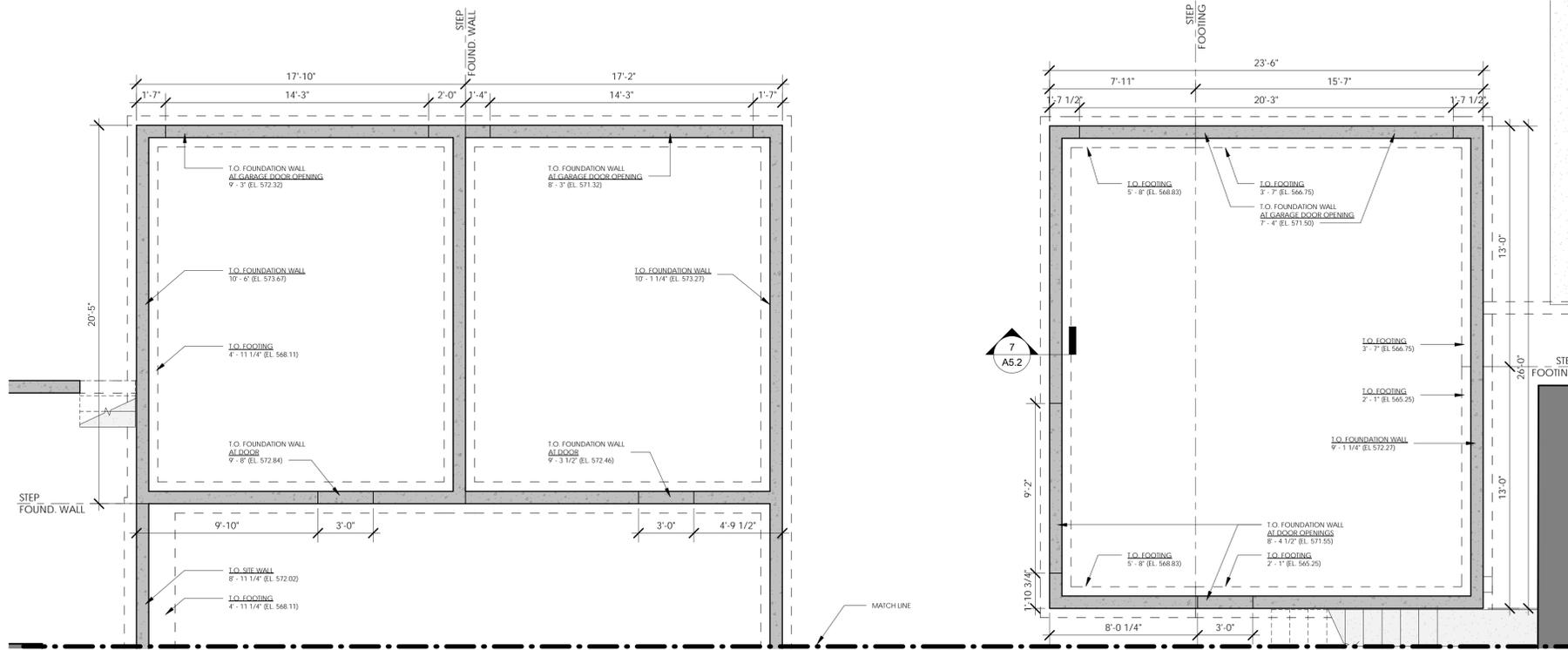
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GENERAL STRUCTURAL NOTES

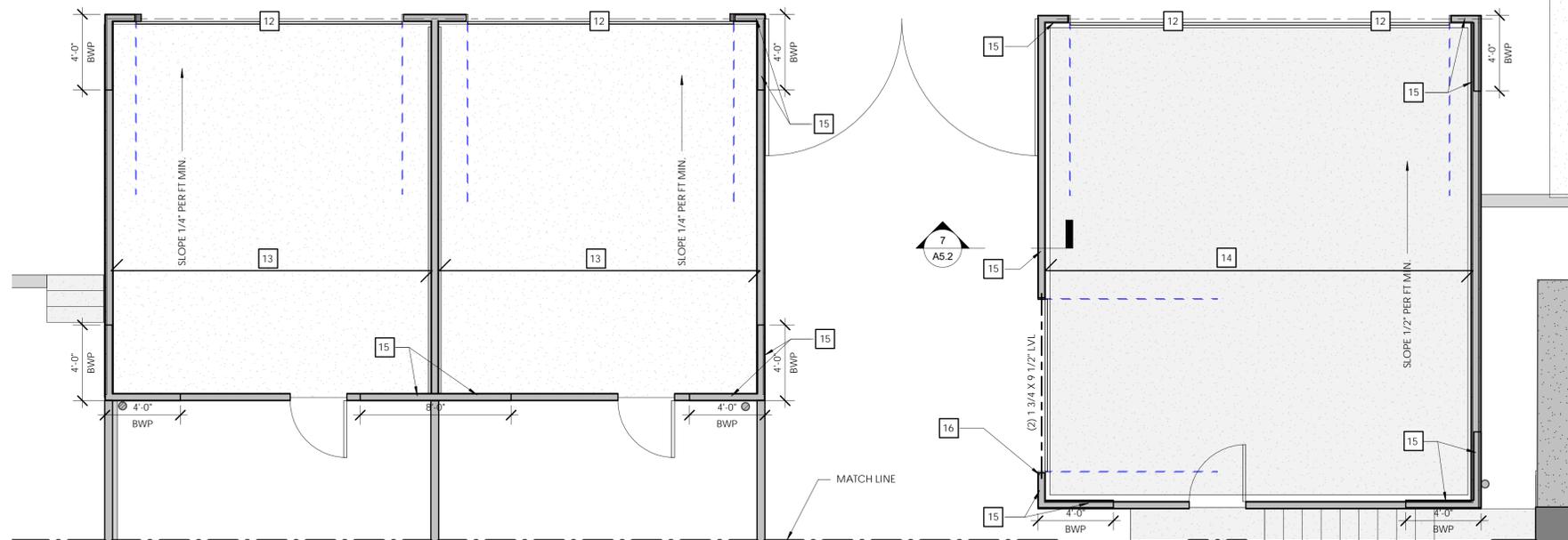
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2 Foundation Plan Garage
1/4" = 1'-0"



1 First Floor Garages Structural
1/4" = 1'-0"



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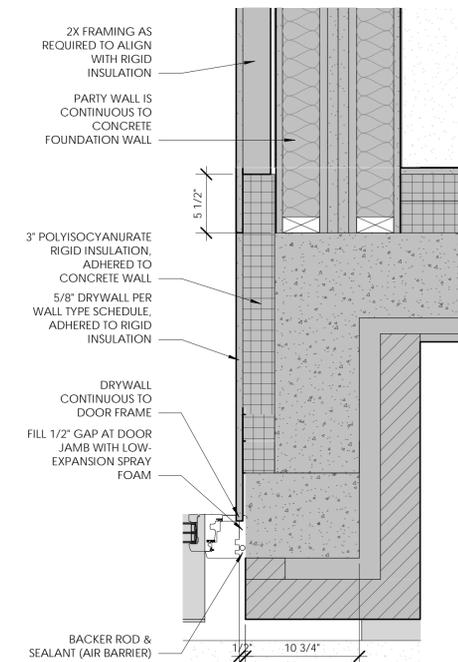
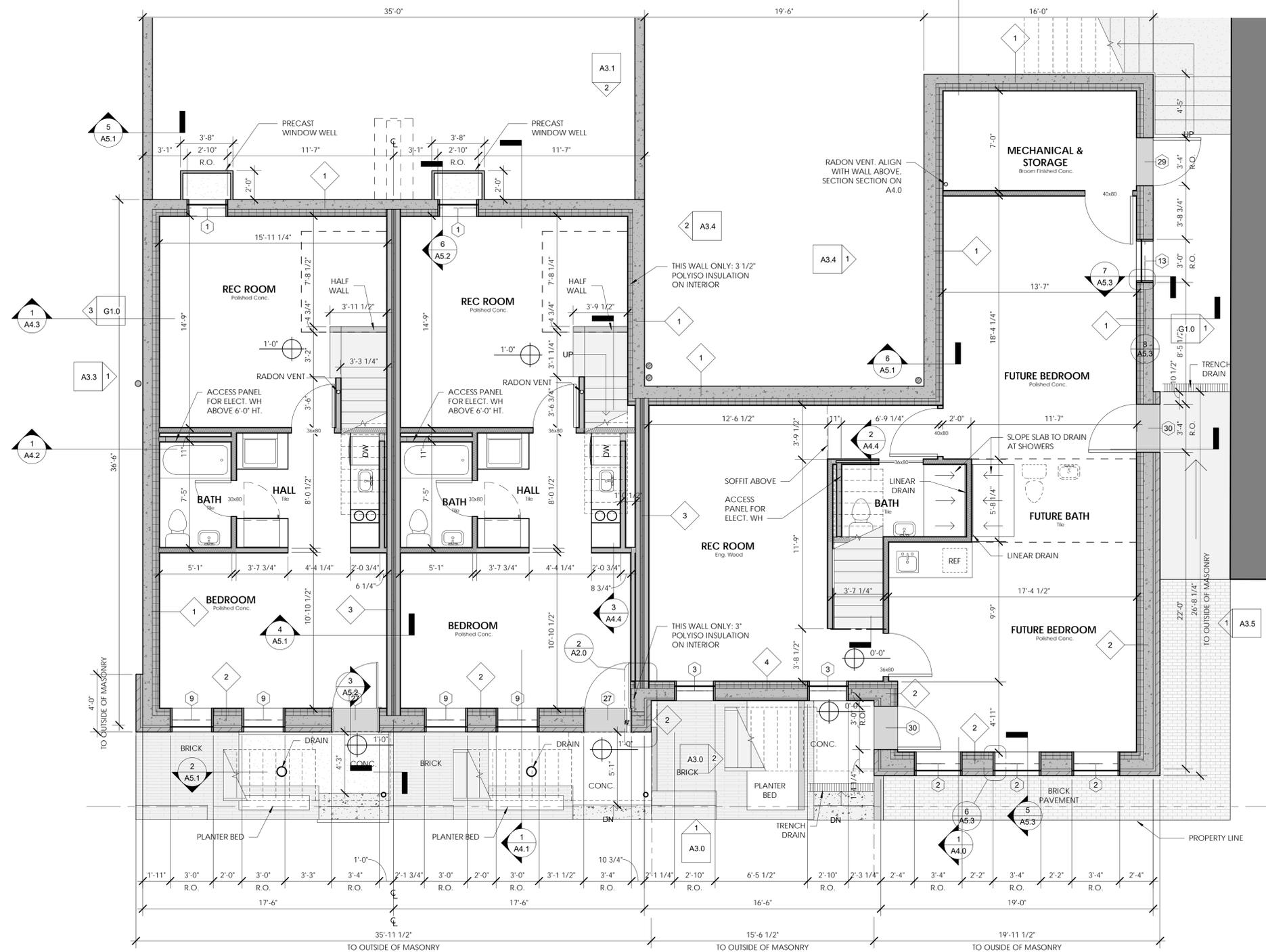
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| 2 | 8/24/21 | Permit Revision |

GENERAL PLAN NOTES

- FLOOR PLAN DIMENSIONS ARE TO FACE OF SHEATHING (WHERE APPLICABLE) OR FACE OF FRAMING AND FACE OF MASONRY, U.N.O.
- ALL EXTERIOR WOOD FRAMING SHALL BE PRESSURE TREATED U.N.O.
- FOR NEW INTERIOR WOOD FRAMED WALLS, USE 2-STUD OR CALIFORNIA CORNERS, AND SPACE STUDS AT 24" O.C., SEE LEED NOTES, G0.1
- PROVIDE MOISTURE-RESISTANT DRYWALL BEHIND WALL-MOUNTED MINI-SPLIT HEADS
- PROVIDE ACOUSTIC BATT INSULATION IN INTERIOR WALLS WHERE SHOWN IN PLANS

◇ WALL TAG

⬡ WINDOW AND EXTERIOR DOOR TAG



1 Lower Level Plan
1/4" = 1'-0"

2 Plan Detail at Townhouse 2 Party Wall
1 1/2" = 1'-0"



SANYOG B. RATHOD
LICENSE NUMBER: 0714306
EXPIRATION DATE: 12/31/2021

Floor Plans

A2.0



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Floor Plans

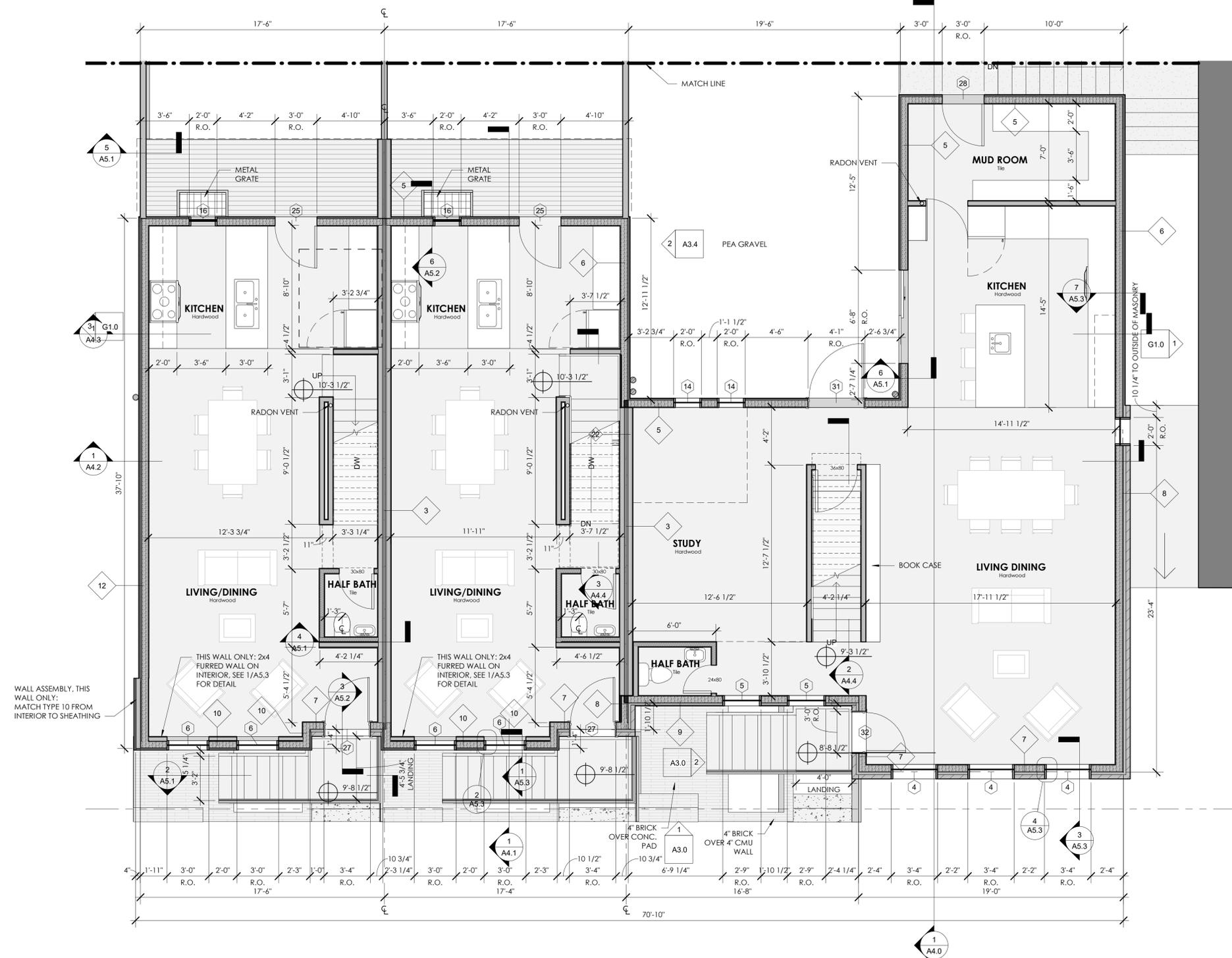
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WALL TAG

WINDOW AND EXTERIOR DOOR TAG



1 First Floor Plan
1/4" = 1'-0"



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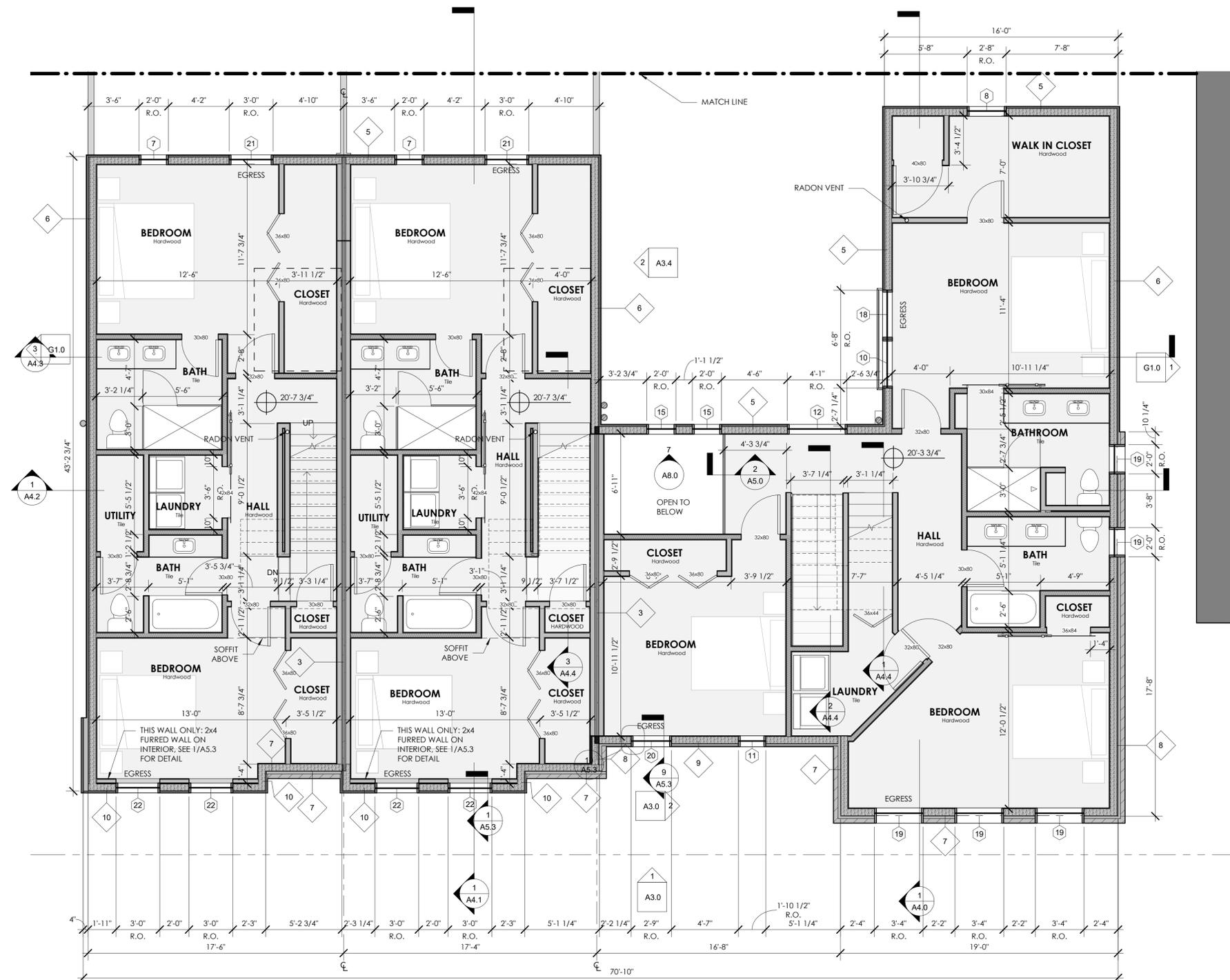
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GENERAL PLAN NOTES

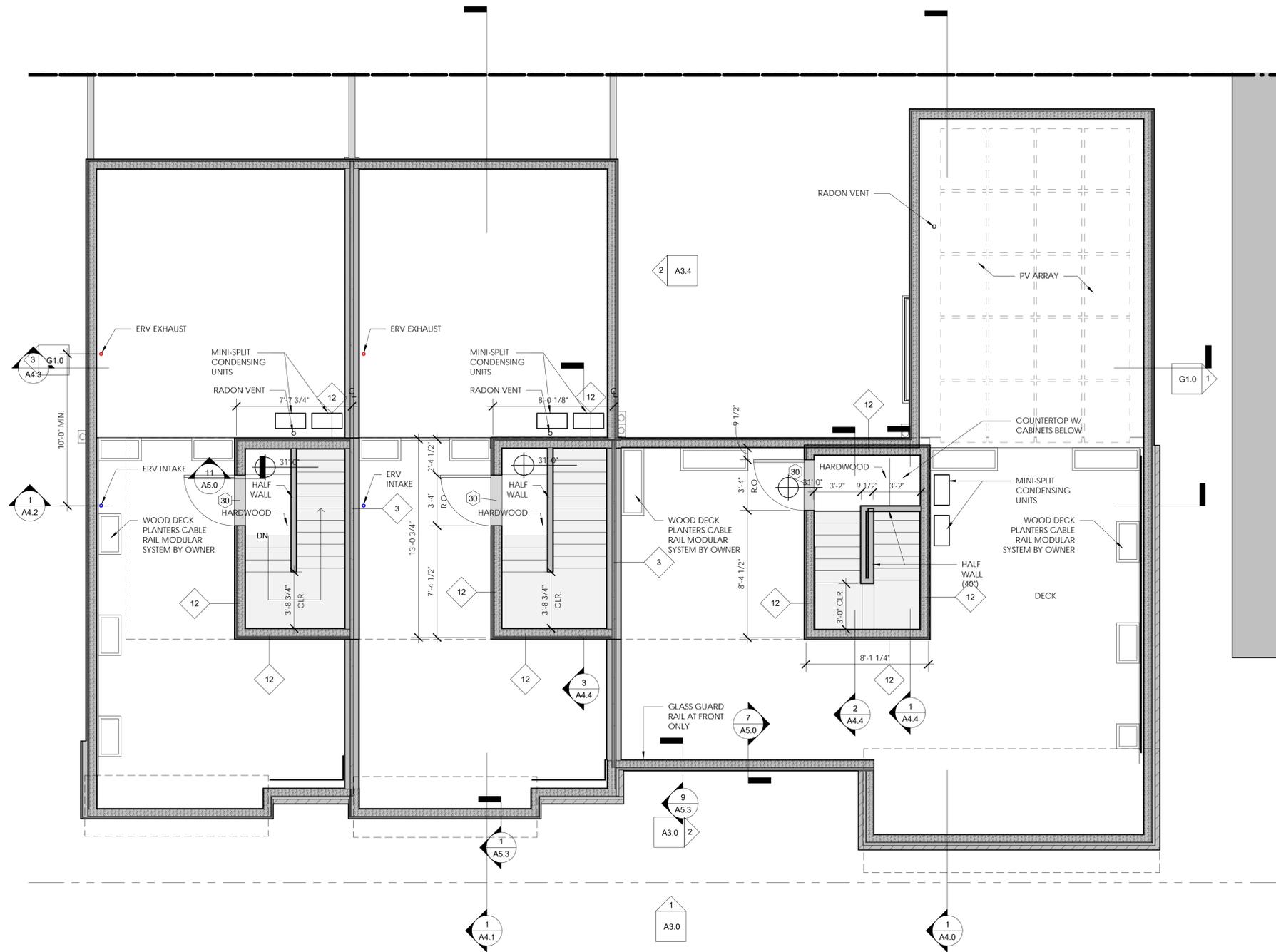
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- PROVIDE ACOUSTIC BATT INSULATION IN INTERIOR WALLS WHERE SHOWN IN PLANS

WALL TAG

WINDOW AND EXTERIOR DOOR TAG



1 Second Floor Plan
1/4" = 1'-0"



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WALL TAG

WINDOW AND EXTERIOR DOOR TAG



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Floor Plans

A2.3

1 Roof
1/4" = 1'-0"



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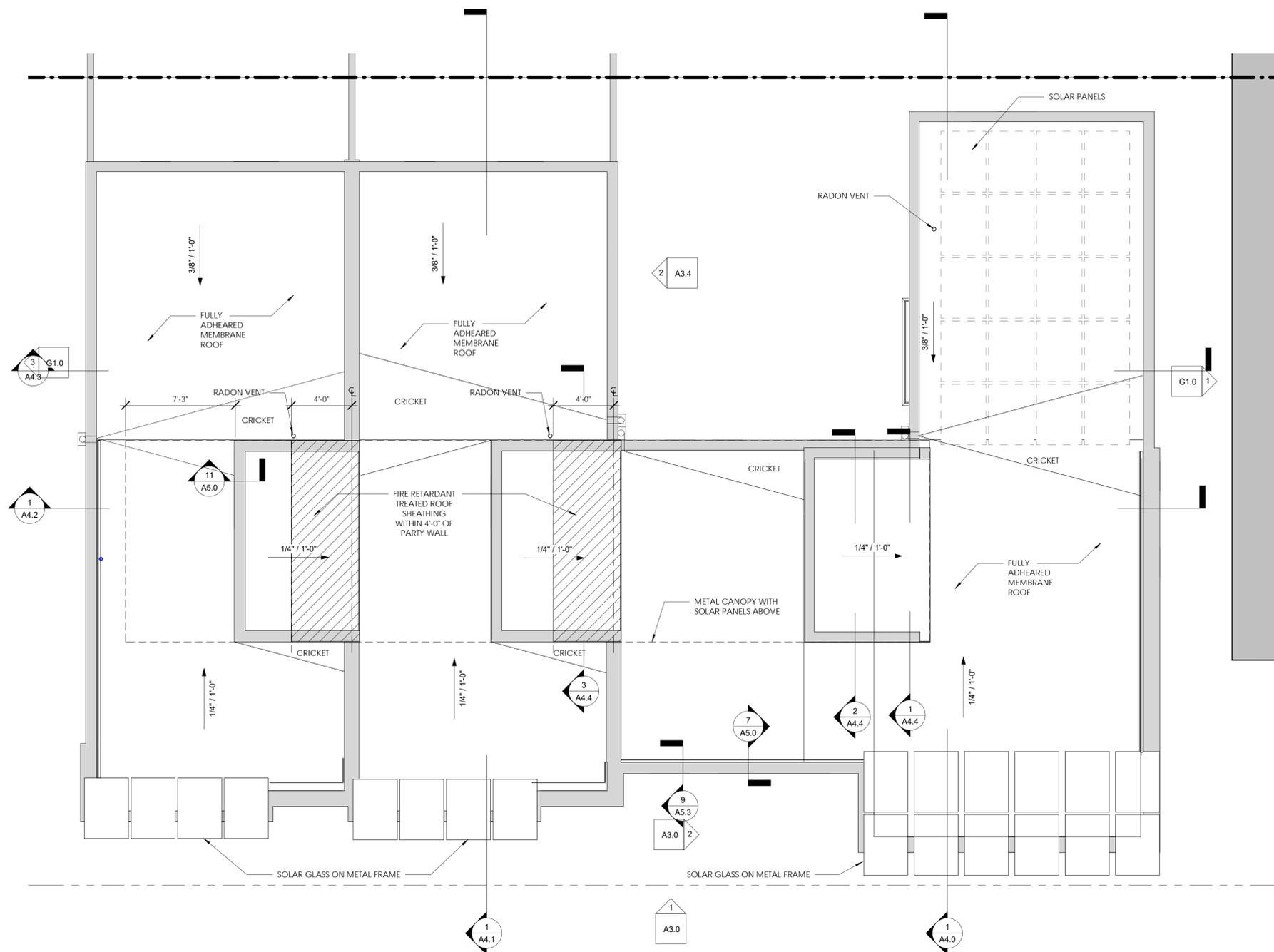
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WALL TAG

WINDOW AND EXTERIOR DOOR TAG



1 Roof Plan
1/4" = 1'-0"

Roof Plan

A2.4

GENERAL PLAN NOTES

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◇ WALL TAG

⊕ WINDOW AND EXTERIOR DOOR TAG



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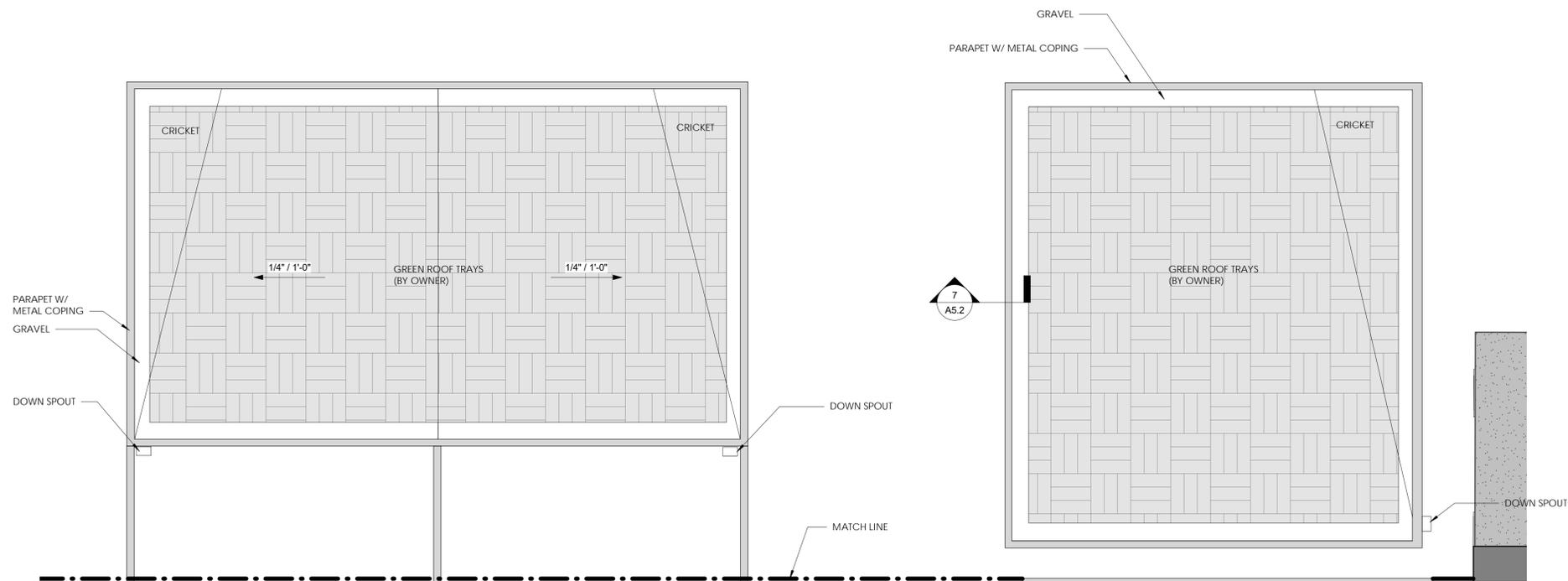
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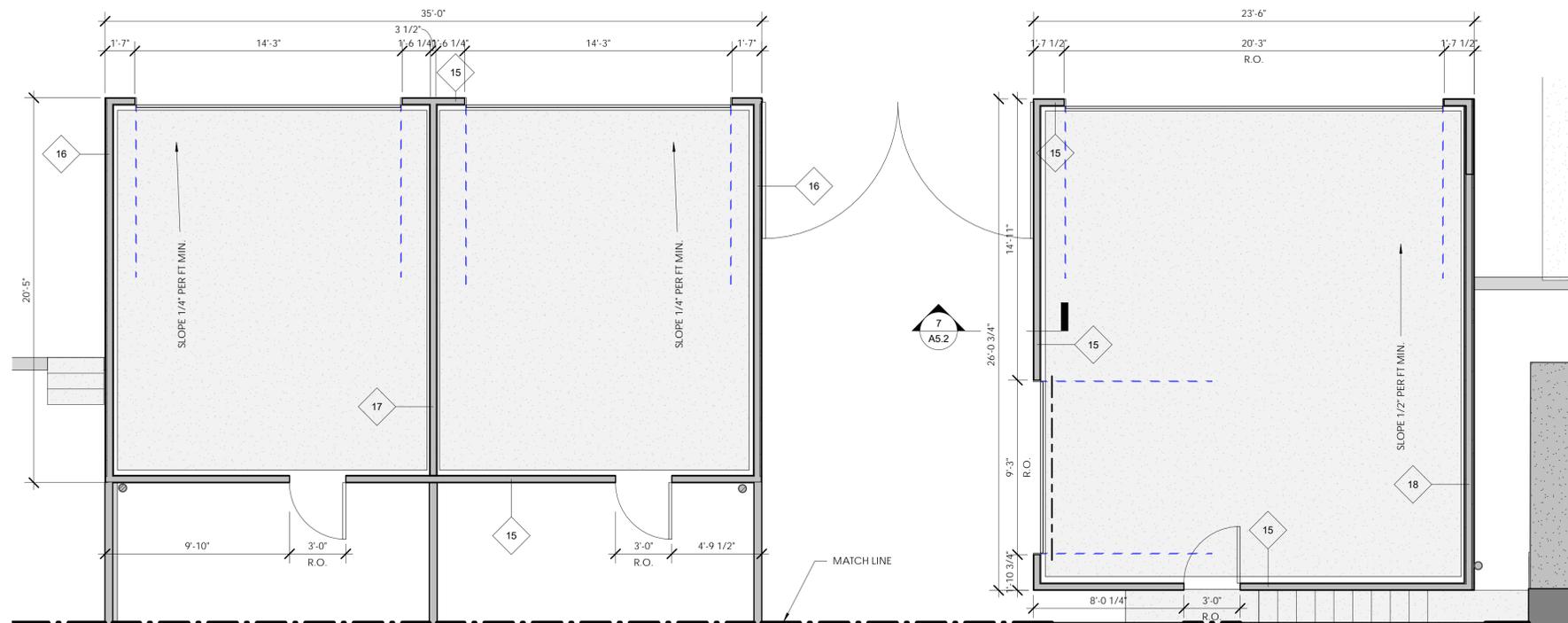
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2 Roof Plan Garage
1/4" = 1'-0"



1 First Floor Garages
1/4" = 1'-0"



SANYOG B. RATHOD
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Garage Plans

A2.5



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| Window & Exterior Door Schedule | | | | | | | |
|---------------------------------|--------------|--------------|---------------|-------------|----------------------|------|---|
| Type Mark | R.O. Height | R.O. Width | Description | Operability | U-Value Whole Window | SHGC | Notes |
| 1 | 4' - 6" | 2' - 10" | Window | TT | 0.15 | 0.33 | |
| 2 | 3' - 6 1/2" | 3' - 4" | Window | TT | 0.15 | 0.33 | |
| 3 | 2' - 5" | 2' - 10" | Window | TT | 0.15 | 0.33 | |
| 4 | 7' - 4" | 3' - 4" | Window | TT | 0.15 | 0.33 | TEMPERED, SIMULATED DOUBLE HUNG |
| 5 | 7' - 4" | 2' - 9" | Window | TT | 0.15 | 0.33 | TEMPERED, SIMULATED DOUBLE HUNG |
| 6 | 7' - 4" | 3' - 0" | Window | TT | 0.15 | 0.33 | TEMPERED, SIMULATED DOUBLE HUNG |
| 7 | 6' - 7" | 2' - 0" | Window | TT | 0.15 | 0.33 | |
| 8 | 5' - 6" | 2' - 8" | Window | TT | 0.15 | 0.33 | |
| 9 | 2' - 10 5/8" | 3' - 0" | Window | TT | 0.15 | 0.33 | |
| 10 | 7' - 0" | 3' - 4" | Window | TT | 0.15 | 0.33 | |
| 11 | 6' - 10 3/4" | 1' - 10 1/2" | Window | TT | 0.15 | 0.33 | TEMPERED SIMULATED DOUBLE HUNG |
| 12 | 5' - 6" | 3' - 10" | Window | FIXED | 0.15 | 0.33 | |
| 13 | 4' - 2" | 3' - 0" | Window | TT | 0.15 | 0.45 | |
| 14 | 8' - 0" | 2' - 0" | Window | TT | 0.15 | 0.33 | TEMPERED |
| 15 | 5' - 6" | 2' - 0" | Window | FIXED | 0.15 | 0.33 | TEMPERED |
| 16 | 7' - 0" | 2' - 0" | Window | FIXED | 0.15 | 0.33 | TEMPERED |
| 17 | 7' - 4" | 2' - 0" | Window | FIXED | 0.15 | 0.45 | TEMPERED |
| 18 | 7' - 0" | 3' - 4" | Window | TT | 0.15 | 0.33 | TEMPERED, EGRESS - MIN. 5.2 SF CLEAR OPENING |
| 19 | 6' - 10 3/4" | 3' - 4" | Window | TT | 0.15 | 0.33 | EGRESS - MIN. 5.2 SF CLEAR OPENING, SIMULATED DOUBLE HUNG |
| 20 | 6' - 10 3/4" | 2' - 9" | Window | TT | 0.15 | 0.33 | EGRESS - MIN. 5.2 SF CLEAR OPENING, SIMULATED DOUBLE HUNG |
| 21 | 6' - 7" | 3' - 0" | Window | TT | 0.15 | 0.33 | EGRESS - MIN. 5.2 SF CLEAR OPENING |
| 22 | 6' - 7" | 3' - 0" | Window | TT | 0.15 | 0.33 | EGRESS - MIN. 5.2 SF CLEAR OPENING, SIMULATED DOUBLE HUNG |
| 23 | 1' - 4 1/2" | 3' - 4" | Transom | FIXED | 0.15 | 0.33 | |
| 24 | 1' - 4 1/2" | 3' - 0" | Transom | FIXED | 0.15 | 0.33 | |
| 25 | 7' - 0" | 3' - 0" | Exterior Door | | 0.15 | 0.33 | TEMPERED |

| Window & Exterior Door Schedule | | | | | | | |
|---------------------------------|-------------|------------|---------------|-------------|----------------------|------|---------------------------------------|
| Type Mark | R.O. Height | R.O. Width | Description | Operability | U-Value Whole Window | SHGC | Notes |
| 26 | 8' - 0" | 6' - 8" | Exterior Door | | 0.15 | 0.33 | SLIDING, TEMPERED |
| 27 | 7' - 0" | 3' - 4" | Exterior Door | | 0.15 | 0.33 | TEMPERED |
| 28 | 6' - 8" | 3' - 4" | Exterior Door | | 0.15 | 0.33 | TEMPERED |
| 29 | 6' - 8" | 3' - 0" | Exterior Door | | | | UTILITY DOOR, THERMATRU OR EQUIVALENT |
| 30 | 6' - 8 1/2" | 3' - 0" | Exterior Door | | 0.15 | 0.33 | TEMPERED |
| 31 | 8' - 0" | 4' - 1" | Exterior Door | | 0.15 | 0.33 | TEMPERED |
| 32 | 7' - 0" | 3' - 0" | Exterior Door | | 0.15 | 0.33 | TEMPERED |
| 33 | 8' - 1" | 20' - 3" | | | | | |
| 34 | 8' - 1" | 14' - 3" | | | | | |
| 35 | 8' - 1" | 14' - 3" | Overhead Door | | | | |

ELEVATION TAGS

- SLATE CLADDING - DIRECT APPLIED OVER DRAINAGE MAT
- METAL FRAME WITH SOLAR GLASS PANELS
- BRICK - GOLDENROD IRONSPOT
- METAL STRUCTURE SUPPORTING SOLAR ARRAY
- CEDAR CLADDING, STAINED
- GLASS RAILING, ATTACHED TO THE INSIDE FACE OF PARAPET
- 8" METAL CHANNEL, FLUSH WITH FACE OF BRICK
- METAL ANGLE
- CENTRIA INTERCEPT ENTYRE METAL PANELS
- METAL STAIR WITH CABLE RAILING
- BRICK PLANTER BOX & LANDING
- STANDING SEAM METAL CLADDING
- GREEN ROOF
- METAL COPING
- DARK GRAY GARAGE DOORS WITH SIDELITES
- FIBER CEMENT PANELS, WARM GRAY
- FIBER CEMENT PANELS, CHARCOAL
- CONCRETE FOUNDATION WALL
- METAL REVEAL
- CEDAR PRIVACY FENCE TO MATCH CLADDING

- TEMPERED GLASS



SANYOG B. RATHOD
LICENSE NUMBER: 0714306
EXPIRATION DATE: 12/31/2021

Exterior Elevations

A3.0



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Exterior Elevations

A3.1

ELEVATION TAGS

1. SLATE CLADDING - DIRECT APPLIED OVER DRAINAGE MAT
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3. BRICK - GOLDENROD IRONSPOT
4. METAL STRUCTURE SUPPORTING SOLAR ARRAY
5. CEDAR CLADDING, STAINED
6. GLASS RAILING, ATTACHED TO THE INSIDE FACE OF PARAPET
7. 8" METAL CHANNEL, FLUSH WITH FACE OF BRICK
8. METAL ANGLE
9. CENTRIA INTERCEPT ENTYRE METAL PANELS
10. METAL STAIR WITH CABLE RAILING
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14. METAL COPING
15. DARK GRAY GARAGE DOORS WITH SIDELITES
16. FIBER CEMENT PANELS, WARM GRAY
17. FIBER CEMENT PANELS, CHARCOAL
18. CONCRETE FOUNDATION WALL
19. METAL REVEAL
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① TEMPERED GLASS



② Rear (North East)
1/4" = 1'-0"



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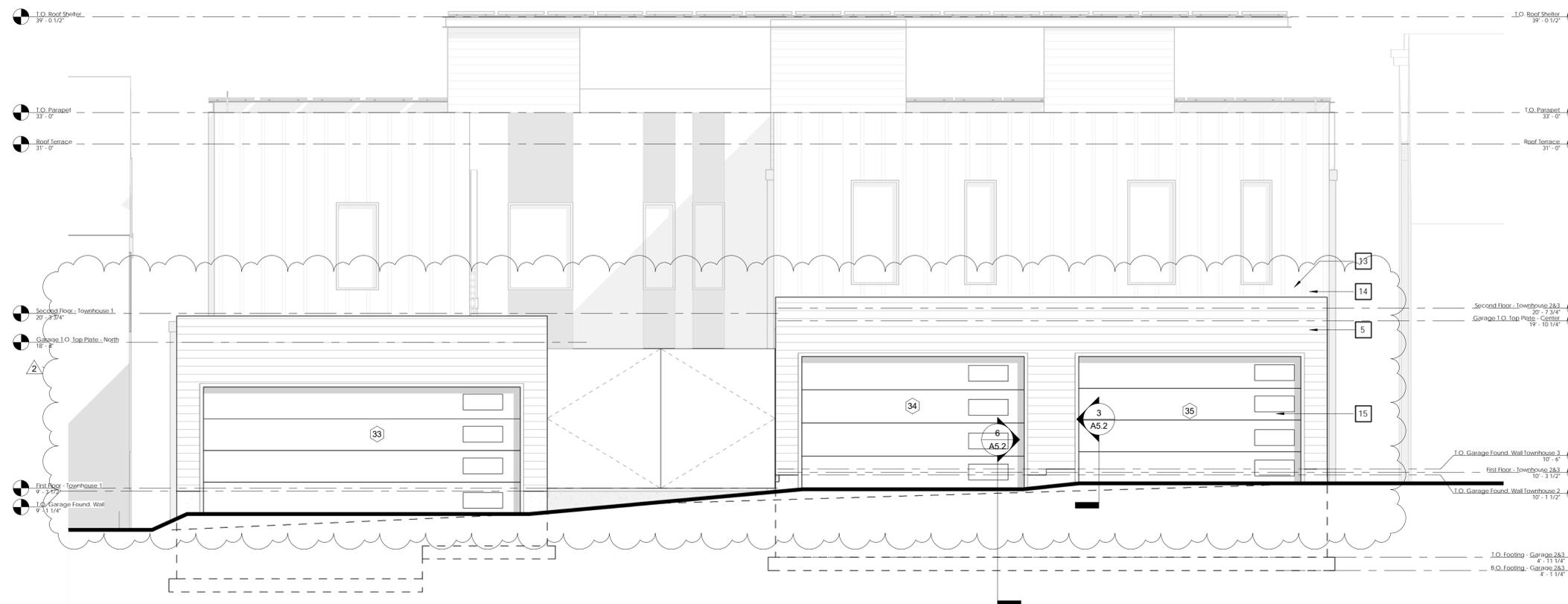
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① TEMPERED GLASS



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Exterior
Elevations

A3.2

① Ray Alley Garages (North East)
1/4" = 1'-0"

ELEVATION TAGS

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19. METAL REVEAL
20. CEDAR PRIVACY FENCE TO MATCH CLADDING

① TEMPERED GLASS



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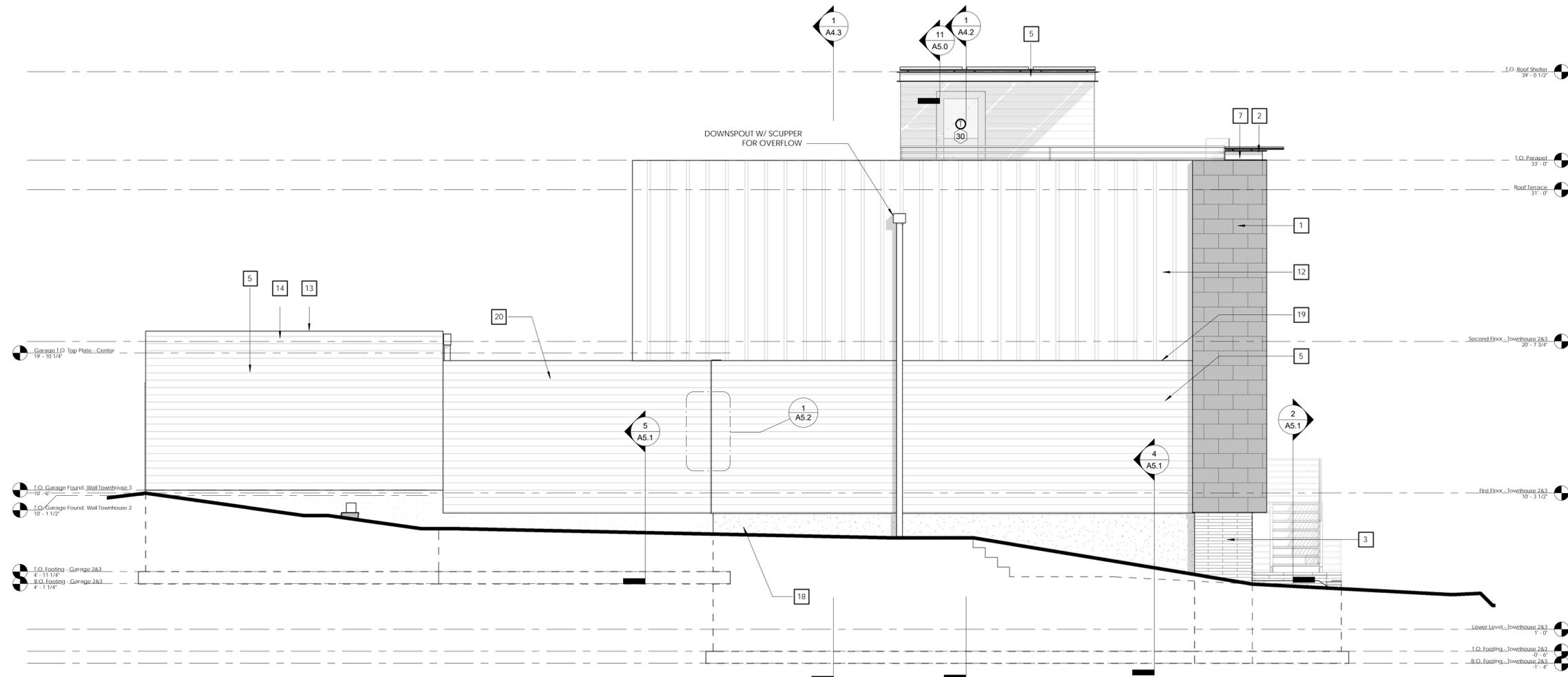
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① Side Elevation (North West)
1/4" = 1'-0"



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Exterior Elevations

A3.3



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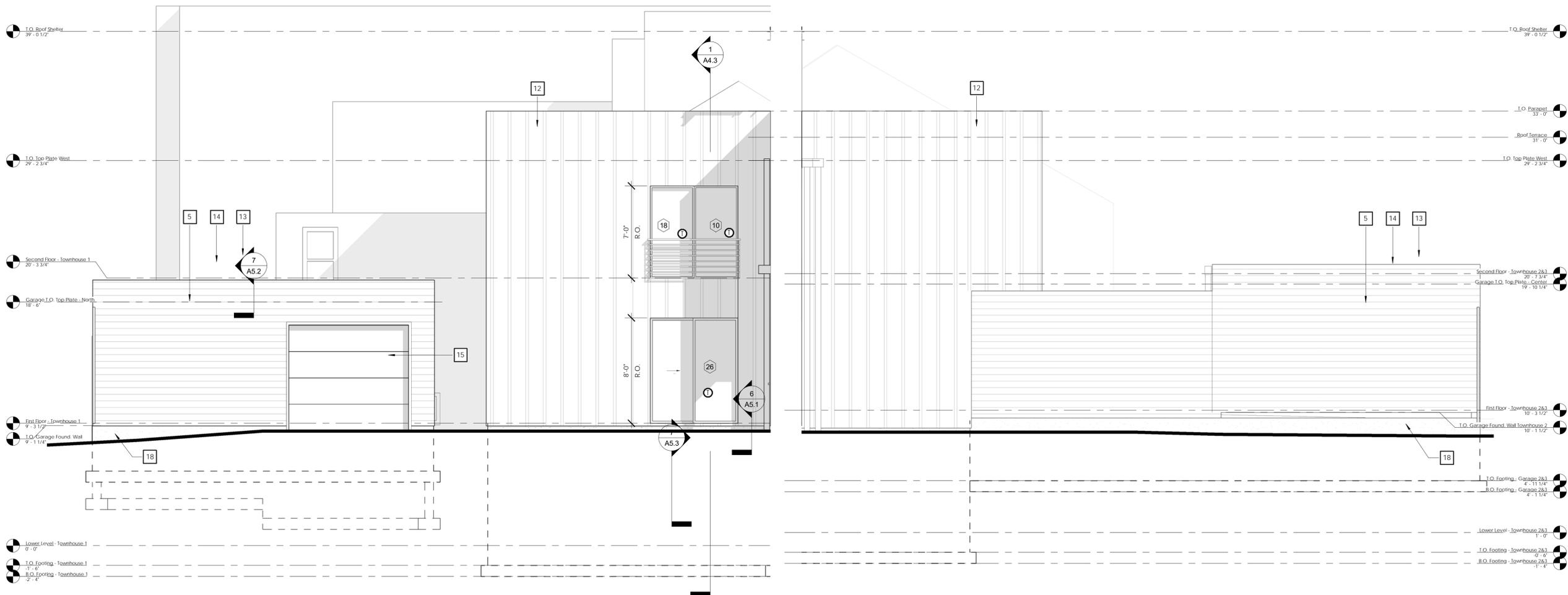
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 17. FIBER CEMENT PANELS, CHARCOAL
 18. CONCRETE FOUNDATION WALL
 19. METAL REVEAL
 20. CEDAR PRIVACY FENCE TO MATCH CLADDING
- ⓪ TEMPERED GLASS



1 Garage Elevation (North West)
1/4" = 1'-0"

2 Garage Elevation (North East)
1/4" = 1'-0"



SANYOG B. RATHOD
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Exterior Elevations

A3.4



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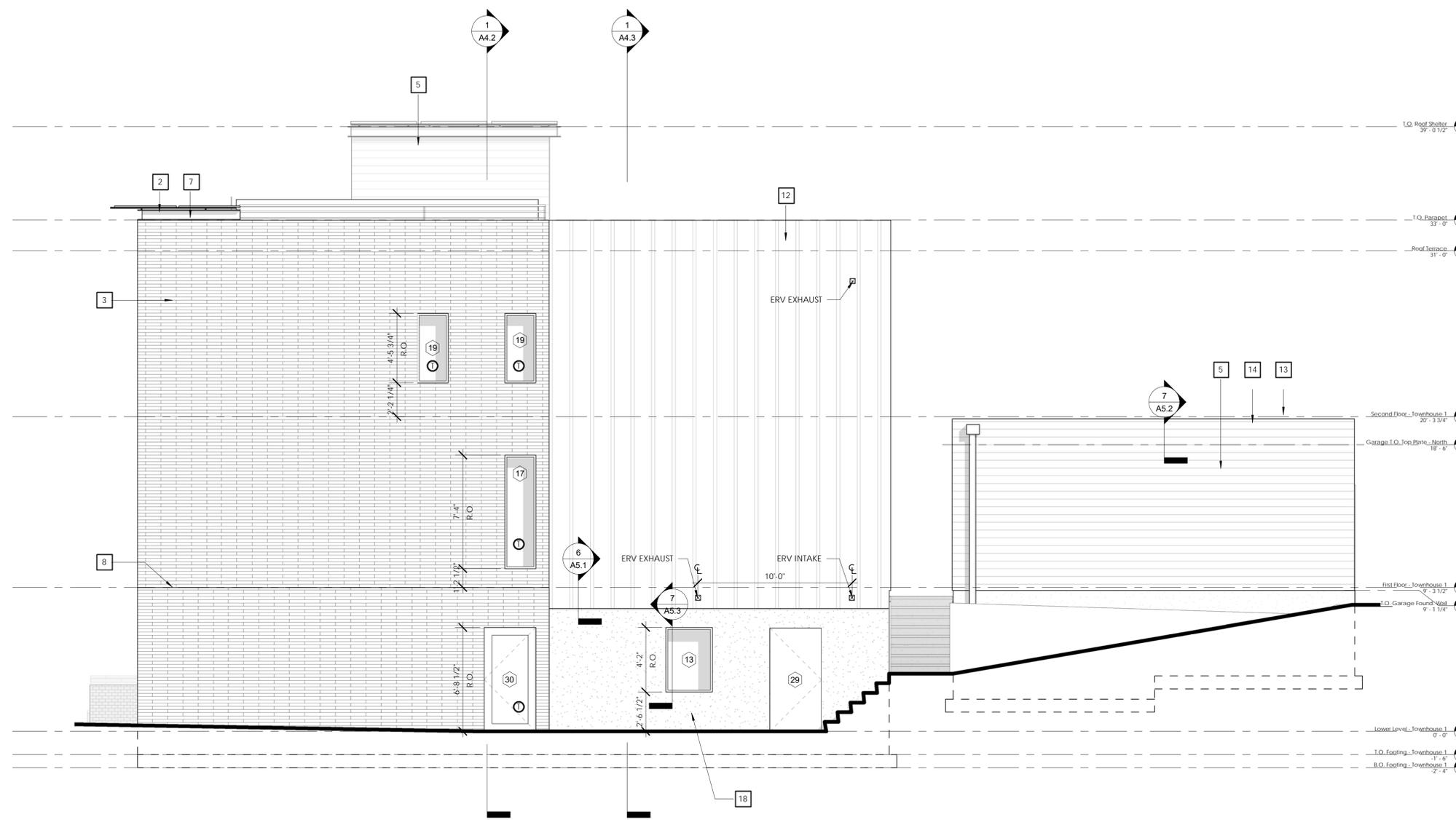
Exterior
Elevations

A3.5

ELEVATION TAGS

1. SLATE CLADDING - DIRECT APPLIED OVER DRAINAGE MAT
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① TEMPERED GLASS



① Side Elevation (South East)
1/4" = 1'-0"

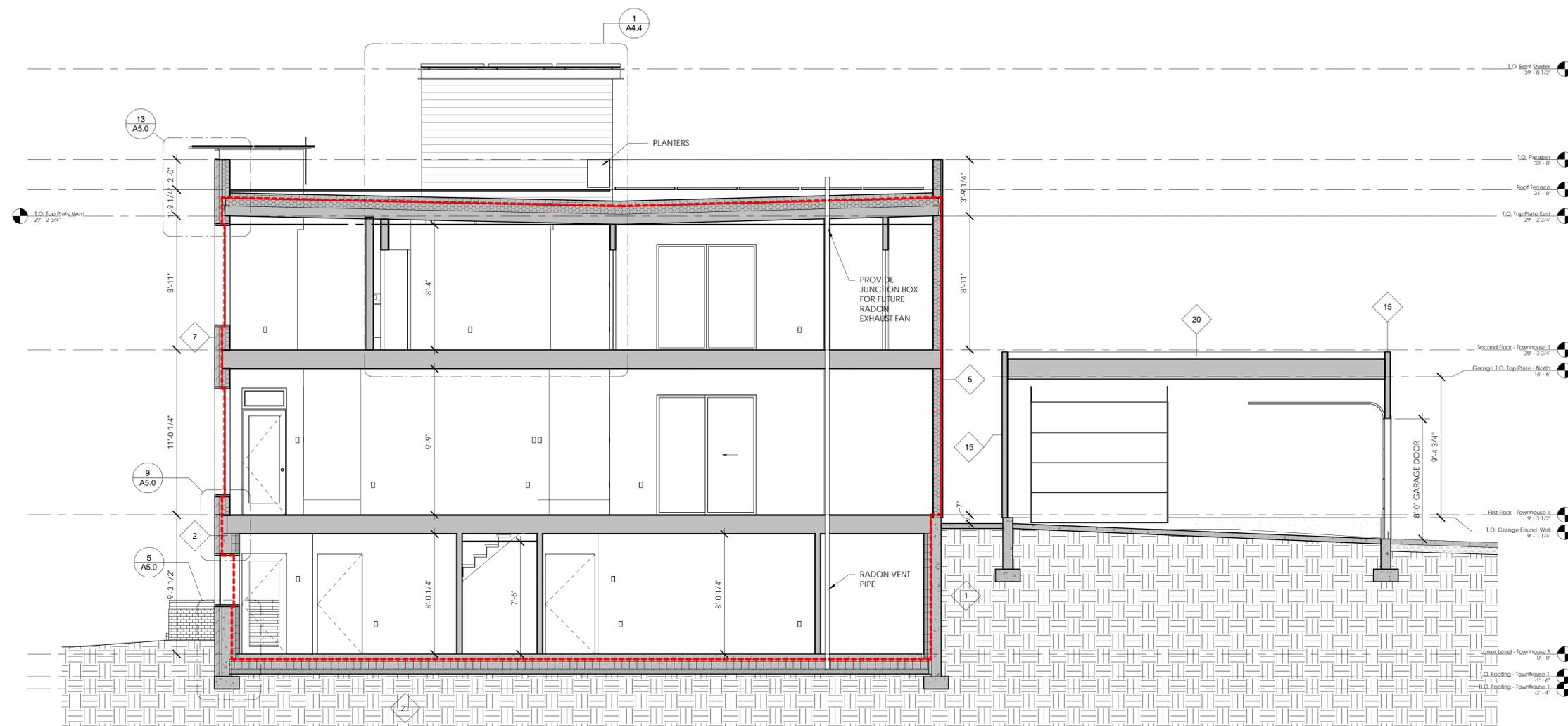
Spring Green Homes

Project Number
18034

Sol Developments, LLC
1322-1332 Spring Street
Cincinnati, OH, 45202

Document Date:
09/02/2021

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| 2 | 8/24/21 | Permit Revision |



SANYOG B. RATHOD
LICENSE NUMBER: 0714306
EXPIRATION DATE: 12/31/2021

Sections

A4.0

1 Site Section Townhouse 1
1/4" = 1'-0"



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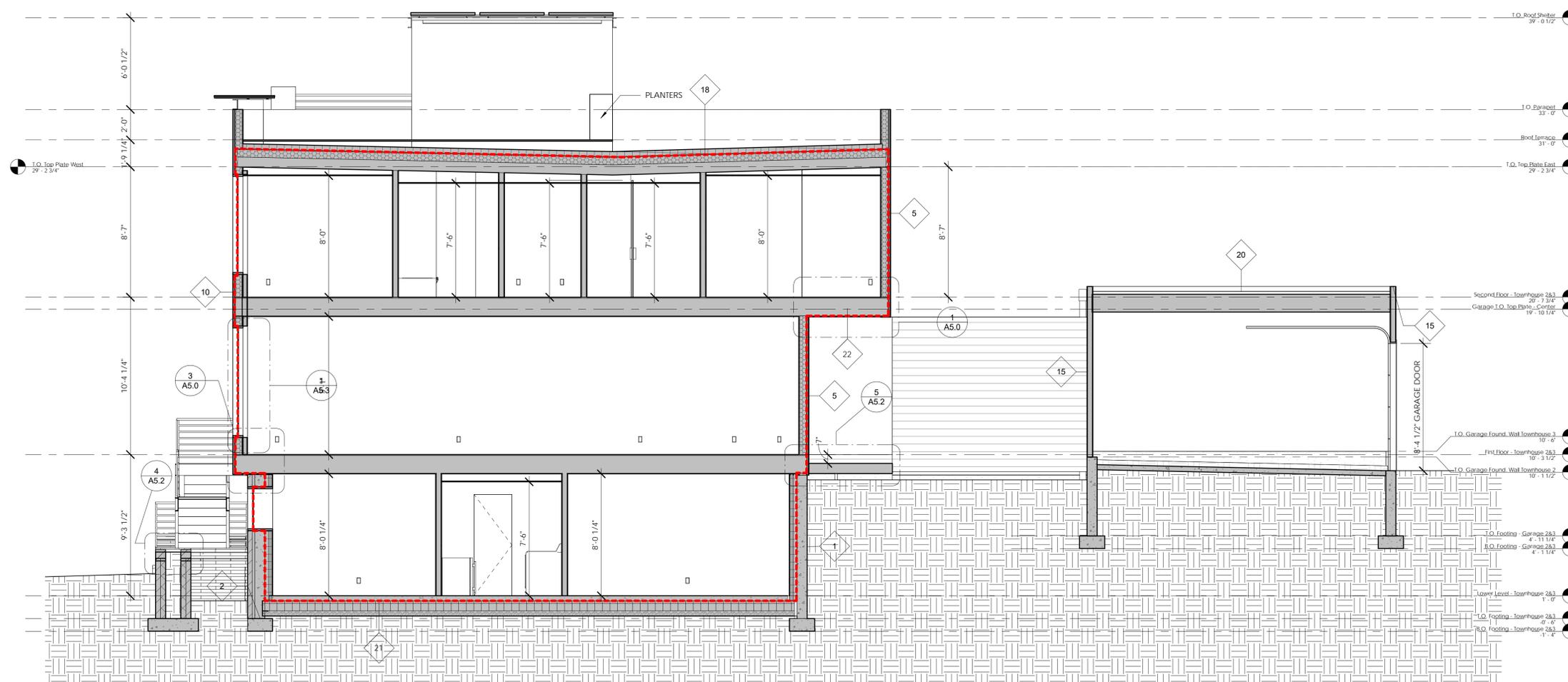
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1 Site Section Townhouse 2 and 3
1/4" = 1'-0"



SANYOG B. RATHOD
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EXPIRATION DATE: 12/31/2021

Sections

A4.1



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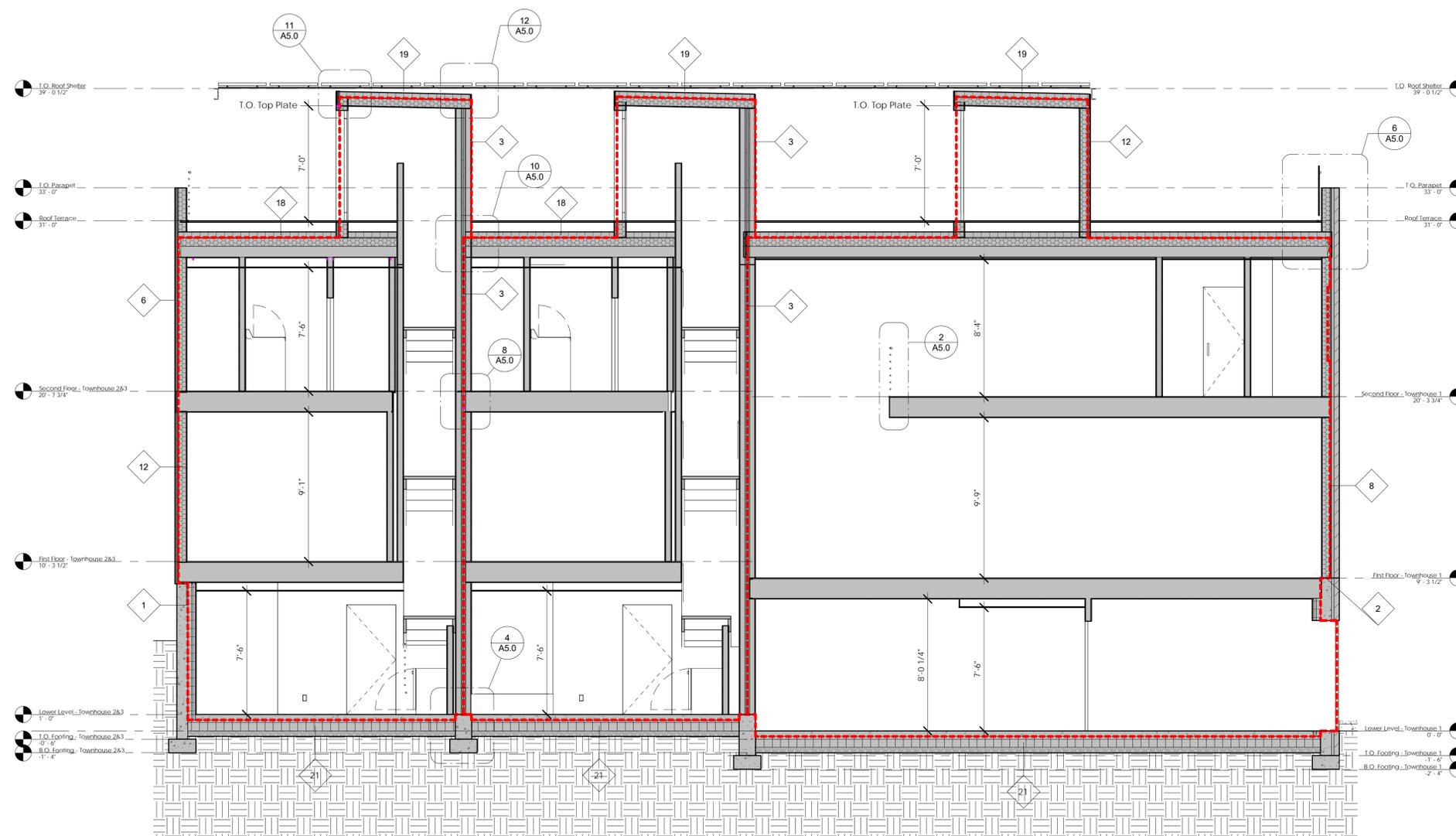
Spring Green Homes

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Sol Developments, LLC
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1 Site Section North-South 1
 1/4" = 1'-0"



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 EXPIRATION DATE: 12/31/2021

Sections

A4.2



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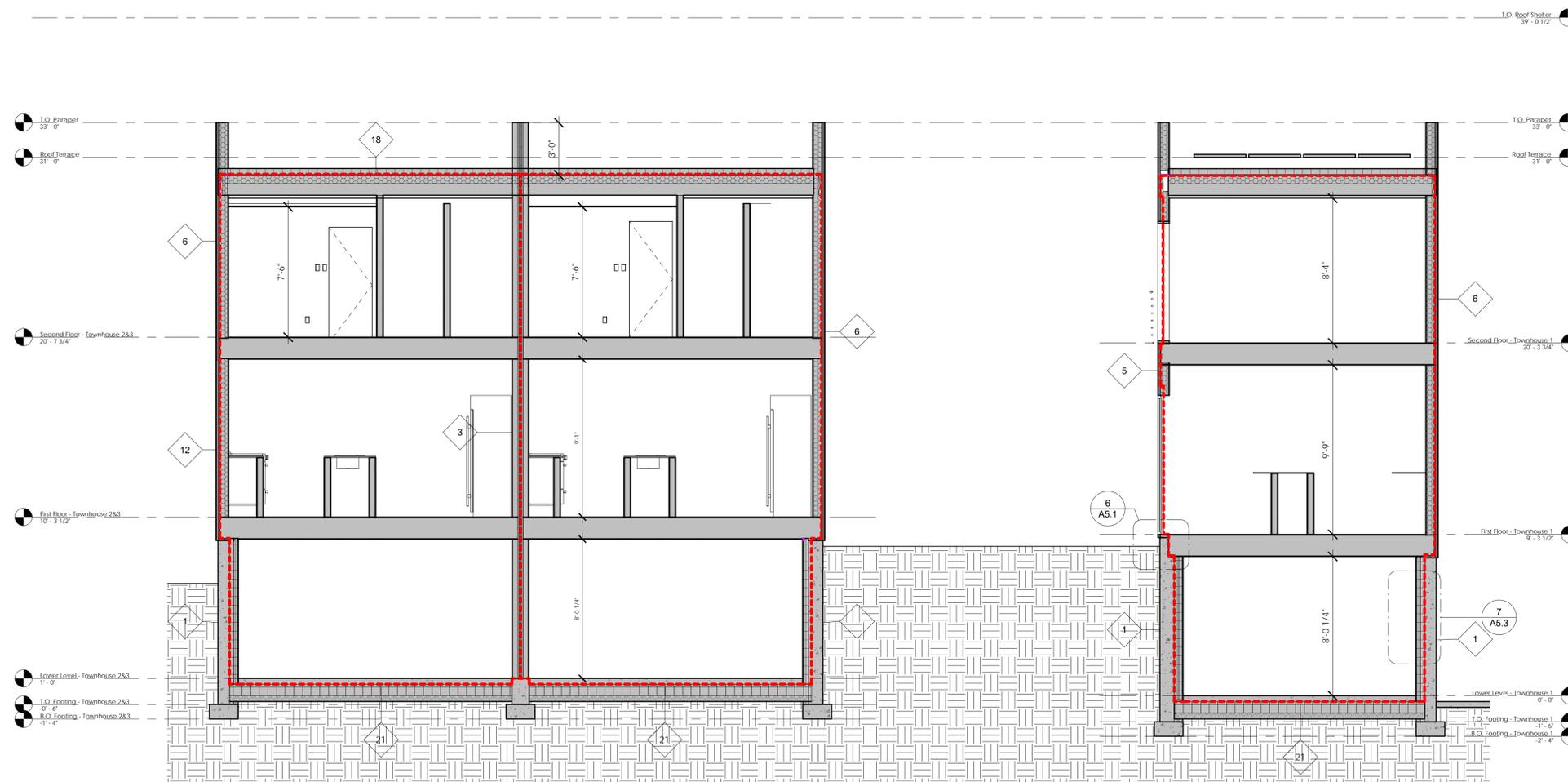
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1 Site Section North-South 2
1/4" = 1'-0"



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LICENSE NUMBER: 0714306
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Sections

A4.3



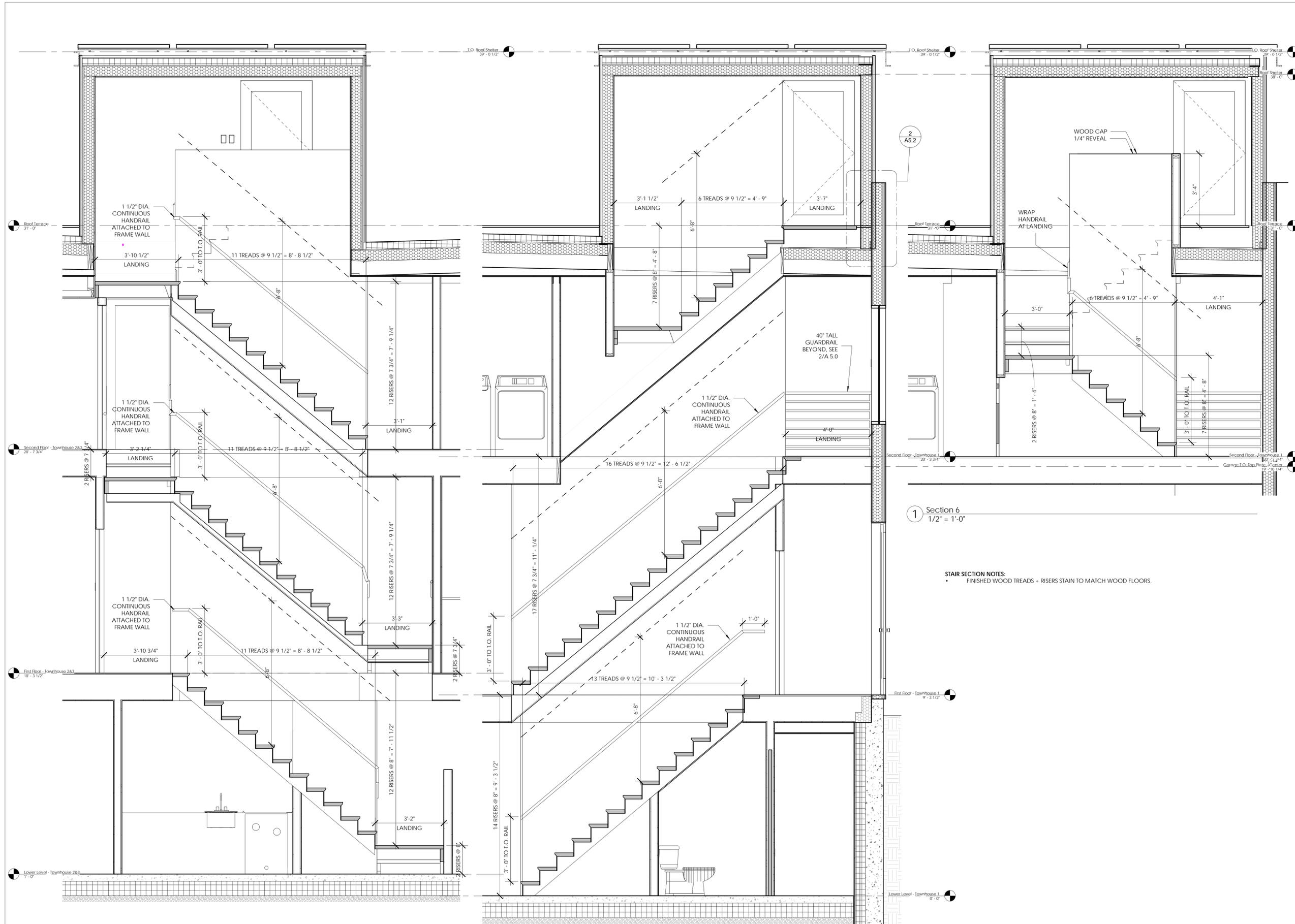
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1 Section 6
1/2" = 1'-0"

STAIR SECTION NOTES:
• FINISHED WOOD TREADS + RISERS STAIN TO MATCH WOOD FLOORS.

3 Section 4
1/2" = 1'-0"

2 Section 5
1/2" = 1'-0"



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Stair Sections

A4.4

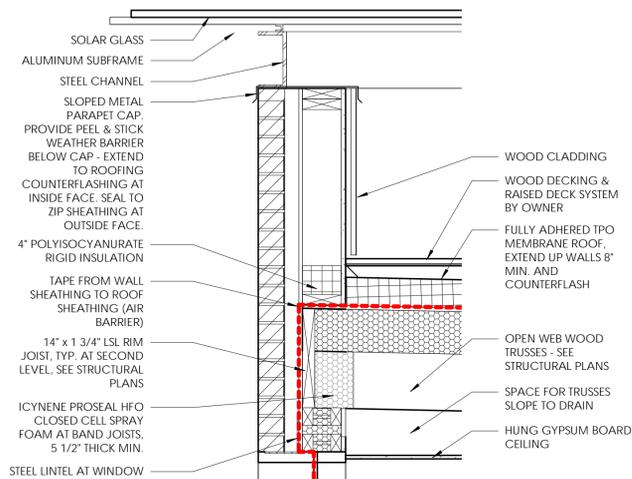
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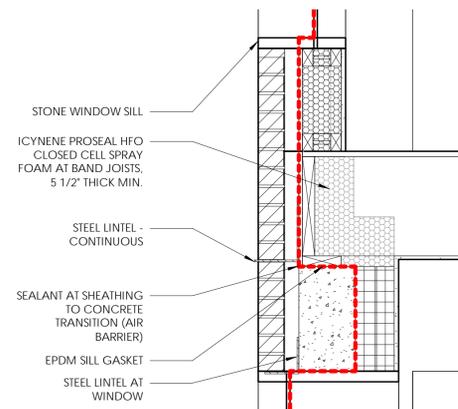
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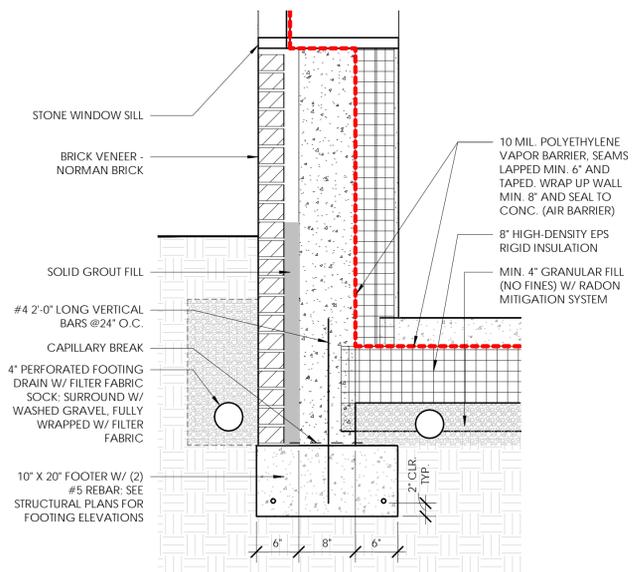
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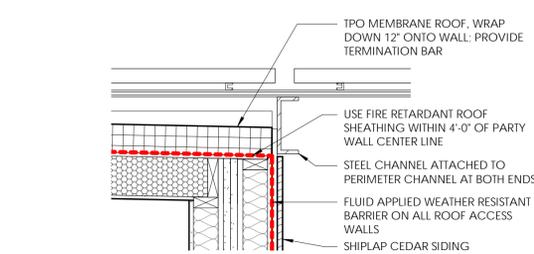
13 Parapet with Solar Cornice
1" = 1'-0"



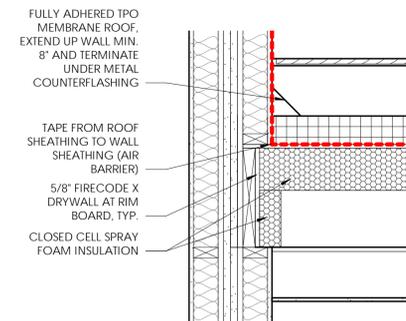
9 Top of Foundation
1" = 1'-0"



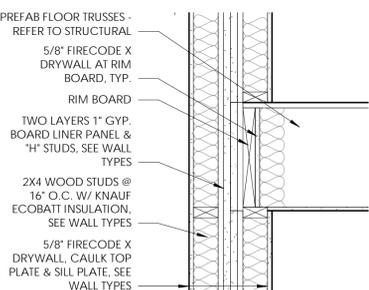
5 Foundation Detail Typ.
1" = 1'-0"



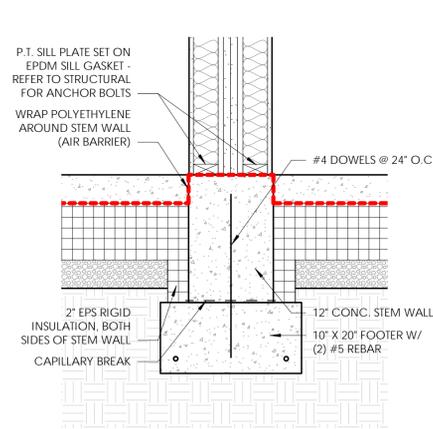
12 Party Wall at Roof
1" = 1'-0"



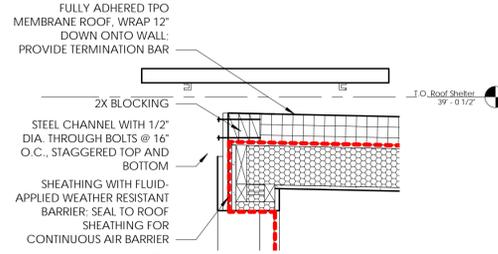
10 Party Wall at Roof Deck
1" = 1'-0"



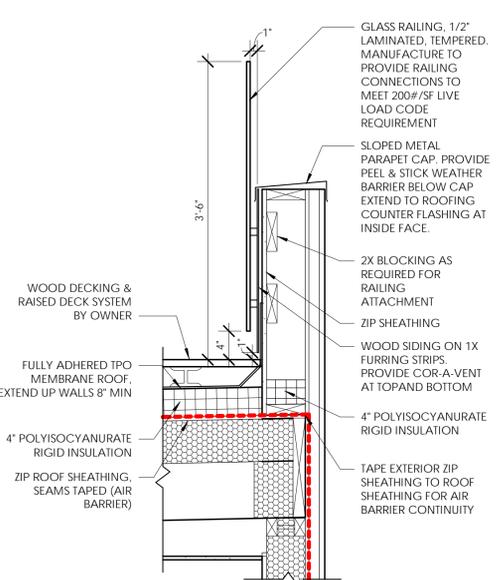
8 Party Wall at Intermediate Floor
1" = 1'-0"



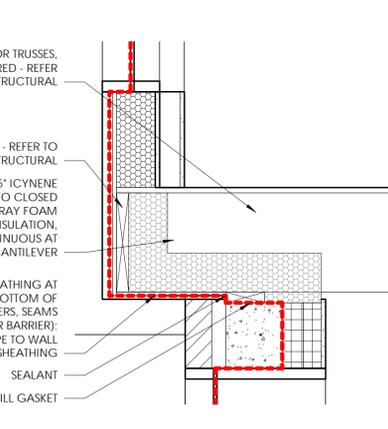
4 Party Wall Footing
1" = 1'-0"



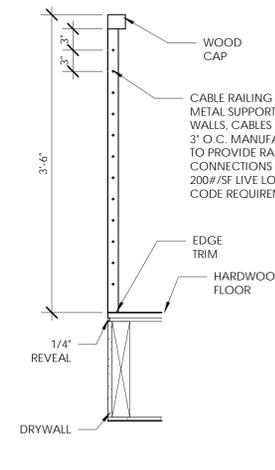
11 Channel Connection at Roof
1" = 1'-0"



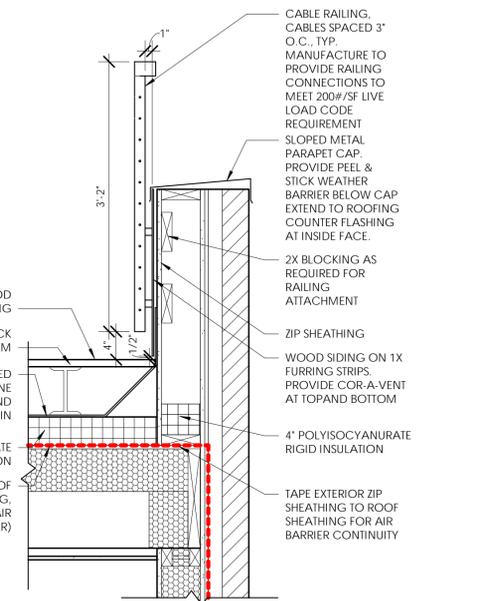
7 Glass Guardrail at Parapet
1" = 1'-0"



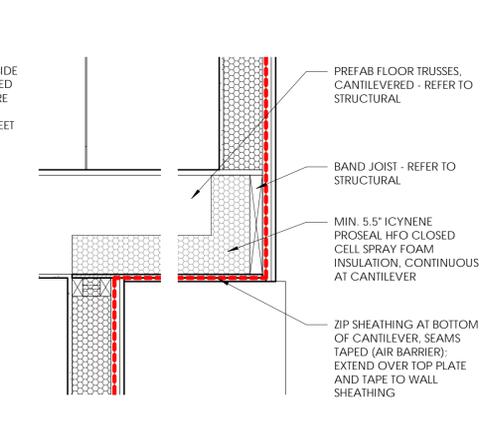
3 Cantilevered Floor at Front Bay
1" = 1'-0"



2 Guardrail at Study
1" = 1'-0"



6 Cable Guardrail at Parapet
1" = 1'-0"



1 Cantilevered Floor at Rear
1" = 1'-0"



SANYOG B. RATHOD
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Details

A5.0

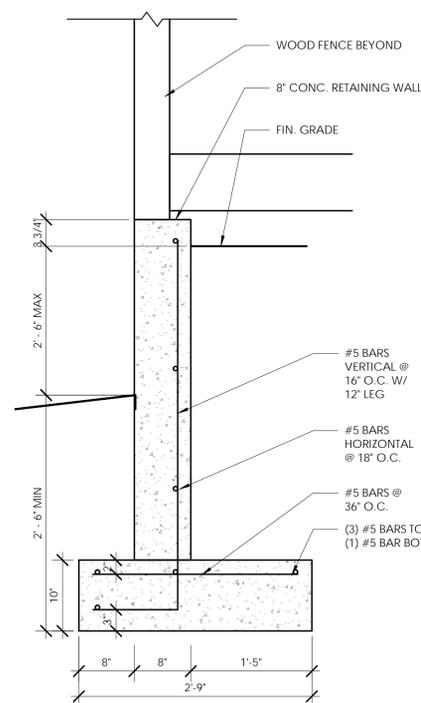
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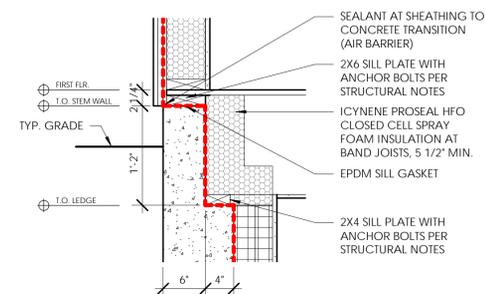
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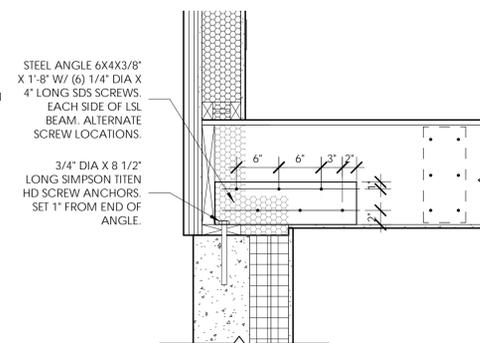
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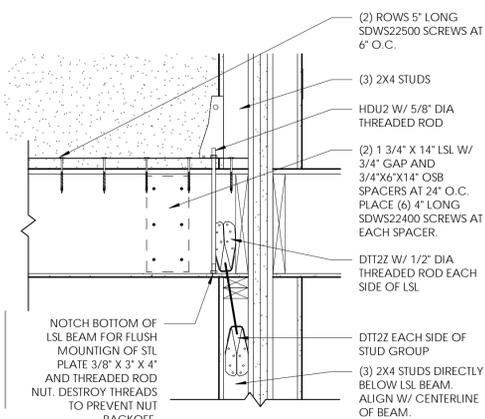
5 Retaining Wall Detail
1" = 1'-0"



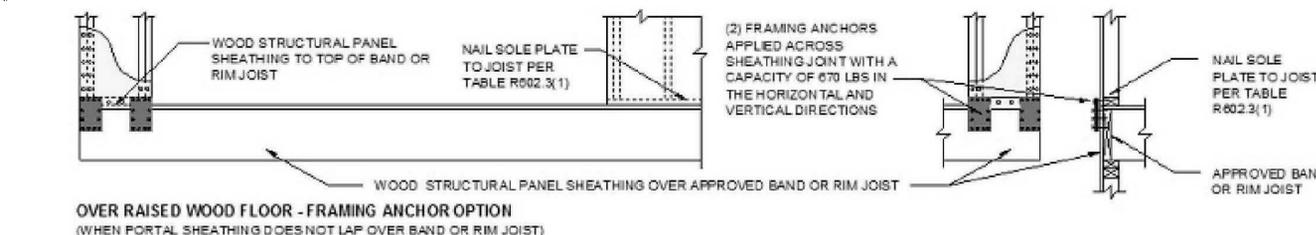
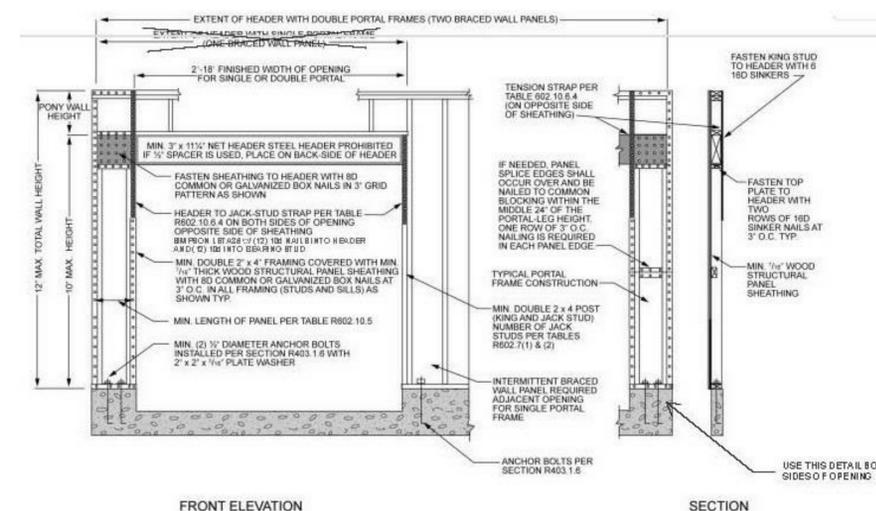
6 Stem Wall Detail
1" = 1'-0"



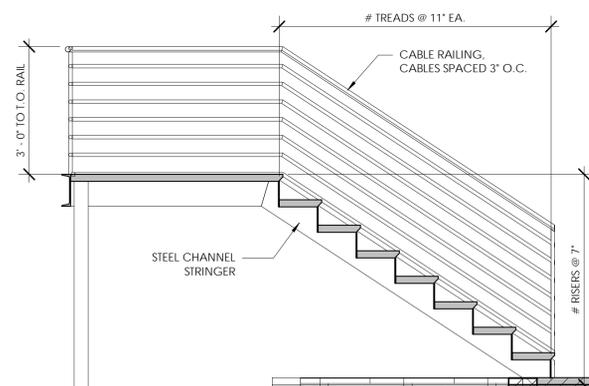
4 LSL Found. Connection @ Shear Wall
1" = 1'-0"



3 Method PFG Portal Frame at Garage Door Openings
1" = 1'-0"



1 Method CS-PF Portal Frame
1/2" = 1'-0"



2 Front Stair, Typ.
1/2" = 1'-0"

| | |
|--------------|--|
| TOWNHOUSE 1: | 9 RISERS @ 7" EA. 8 TREADS @ 11" EA. |
| TOWNHOUSE 2: | 10 RISERS @ 7" EA. 9 TREADS @ 11" EA. |
| TOWNHOUSE 3: | 8 RISERS @ 7" EA. 7 RISERS @ 11" EA. |



SANYOG B. RATHOD
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Details

A5.1

NOTE: APPLY 1" POLYISOCYANURATE OVERINSULATION AT HEAD AND JAMB OF EXTERIOR DOORS, SIM. TO WINDOW HEAD AND JAMB DETAILS



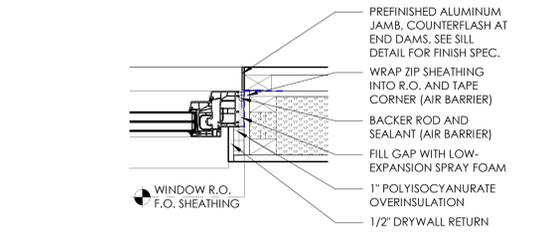
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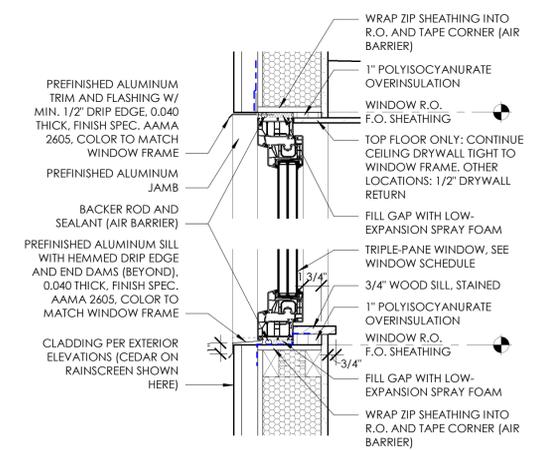
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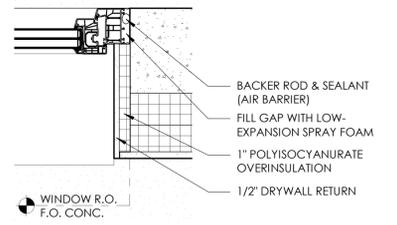
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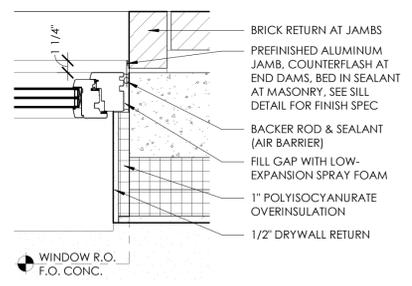
10 Window Jamb in Clad Wall
1 1/2" = 1'-0"



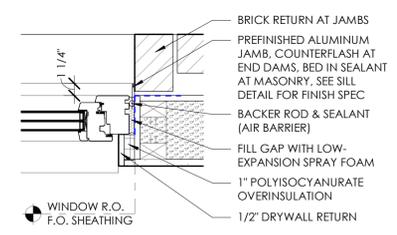
9 Window Head and Sill in Clad Wall
1 1/2" = 1'-0"



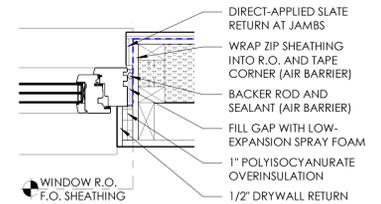
8 Window Jamb in Concrete Wall
1 1/2" = 1'-0"



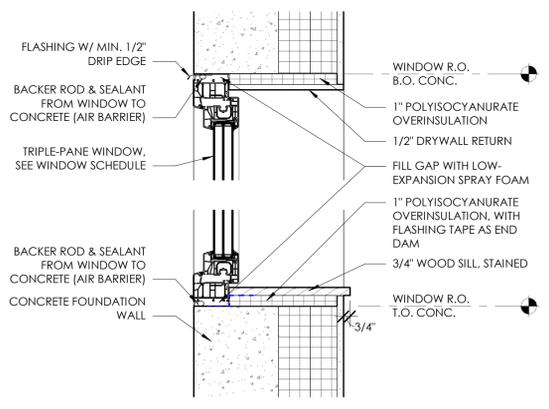
6 Window Jamb in Concrete and Brick Wall
1 1/2" = 1'-0"



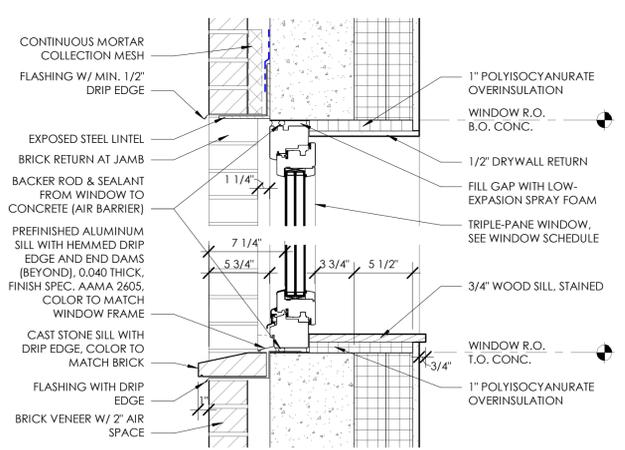
4 Window Jamb in Brick on Framed Wall
1 1/2" = 1'-0"



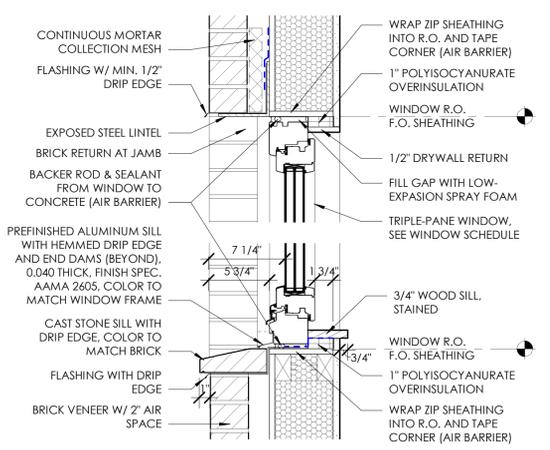
2 Window Jamb in Slate on Framed Wall
1 1/2" = 1'-0"



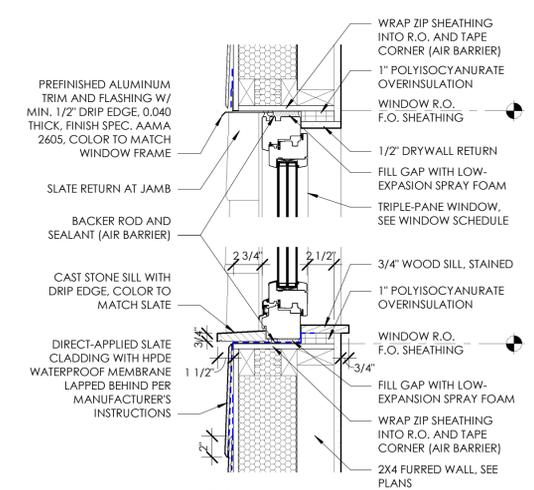
7 Window Head and Sill in Concrete Wall
1 1/2" = 1'-0"



5 Window Head and Sill in Concrete and Brick Wall
1 1/2" = 1'-0"



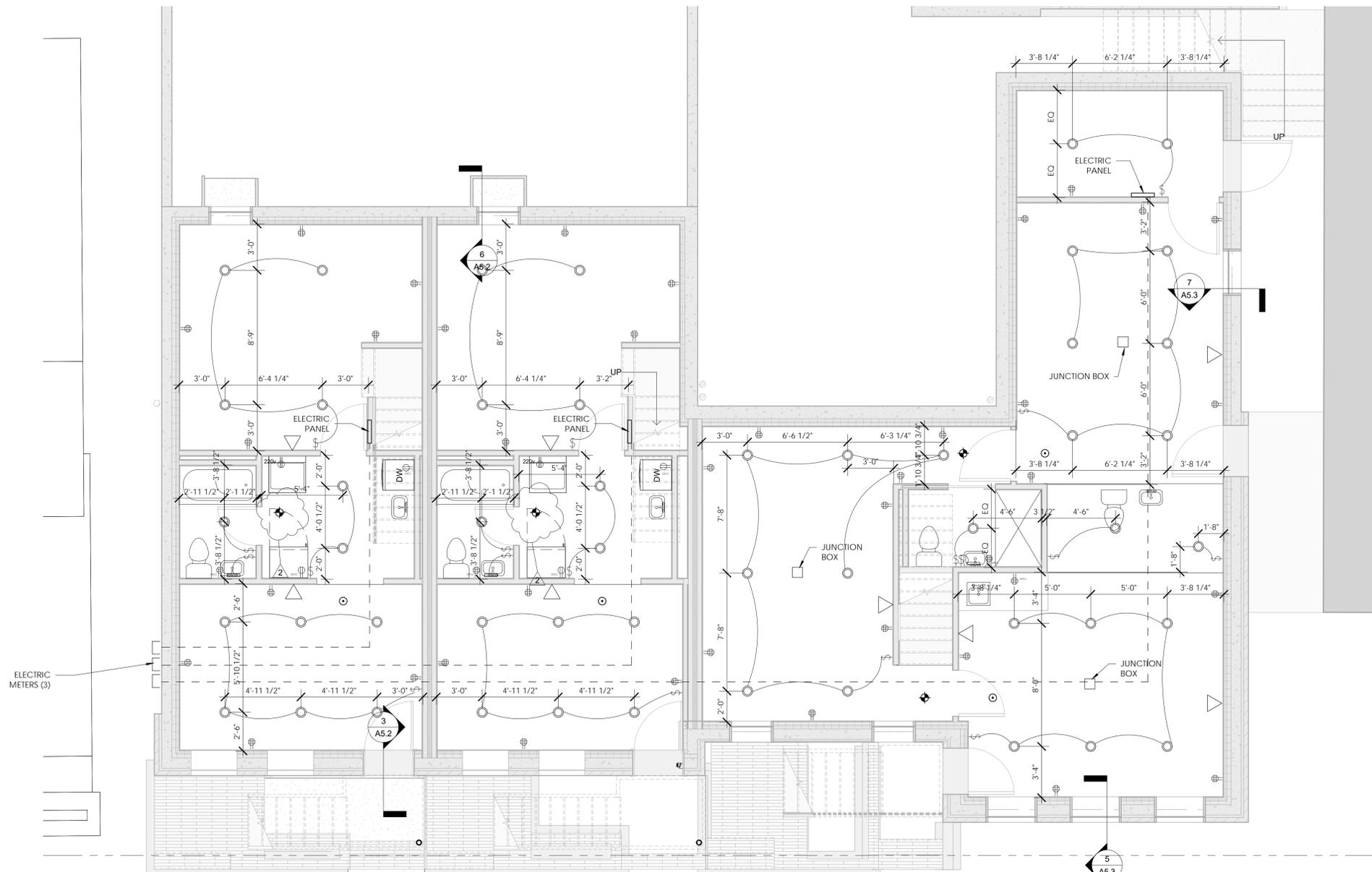
3 Window Head and Sill in Brick on Framed Wall
1 1/2" = 1'-0"



1 Window Head and Sill in Slate on Framed Wall
1 1/2" = 1'-0"

Details

A5.3



GENERAL NOTES:

- ALL LIGHT FIXTURES TO BE 100% LED
- ELECTRICAL CONTRACTOR TO PROVIDE INTERIOR OUTLETS PER APPLICABLE CODES. VERIFY LOCATIONS WITH ARCHITECT PRIOR TO ROUGH IN.
- ELECTRICAL CONTRACTOR TO PROVIDE DATA DUPLEX IN EACH BEDROOM AND LIVING ROOM. COORDINATE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH IN.

LEGEND

- SMOKE DETECTOR, HARDWIRED WITH BATTERY BACKUP. DETECTORS SHALL BE INTERCONNECTED WITHIN EACH DWELLING UNIT.
- ◆ COMBINATION CARBON MONOXIDE DETECTOR AND SMOKE DETECTOR, HARDWIRED WITH BATTERY BACKUP. DETECTORS SHALL BE INTERCONNECTED WITHIN EACH DWELLING UNIT.
- ⊕ QUADPLEX RECEPTICLE
- ⊖ DUPLEX RECEPTICLE
- ⊕ QUADPLEX RECEPTICLE GFCI
- ⊖ DUPLEX RECEPTICLE GFCI
- ⊕ 220v RECEPTICLE
- ⚡ SWITCH
- LED LIGHT
- ▭ VANITY LIGHT
- ▭ 1x4 LED LIGHT
- ▭ DATA



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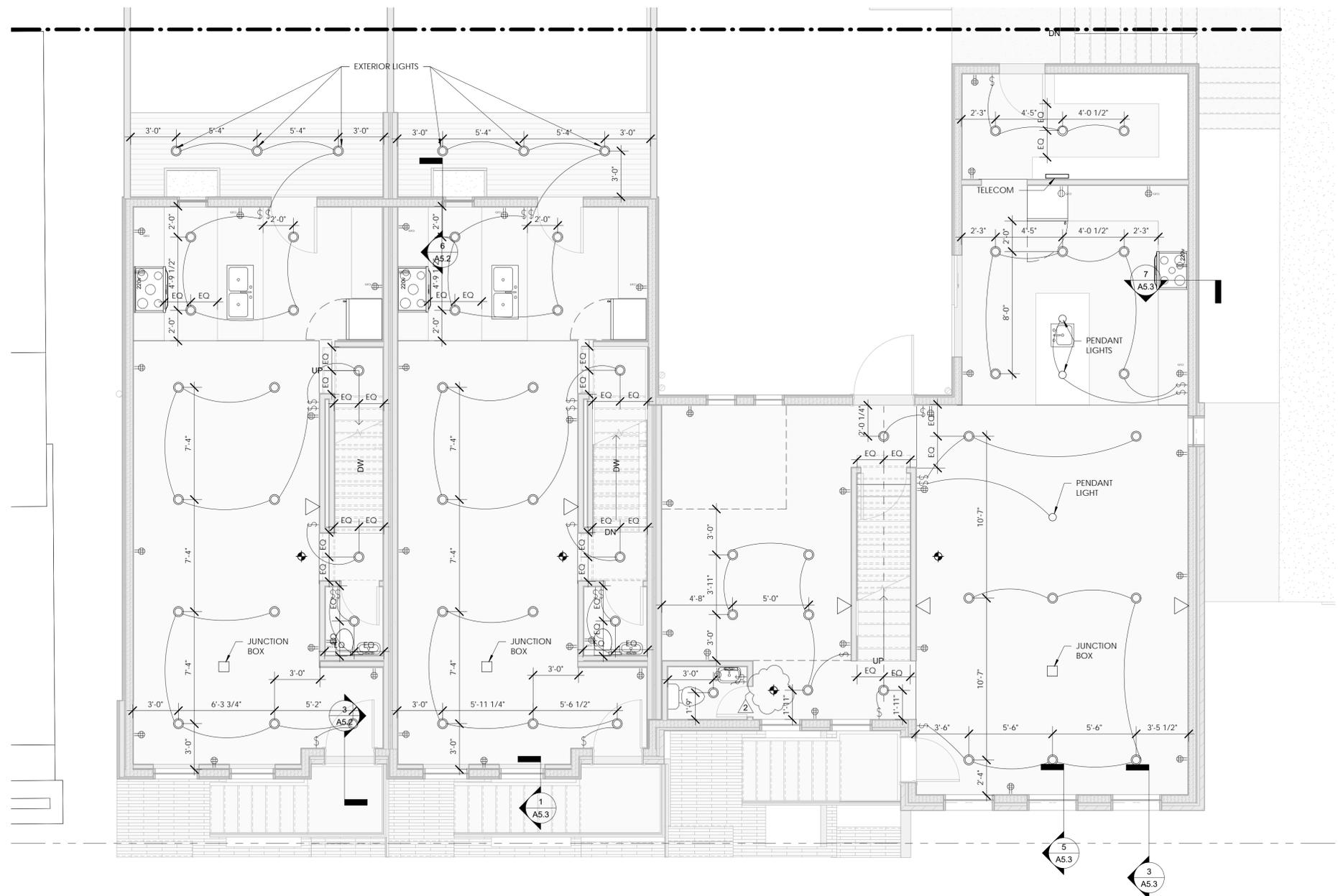


SANYOG B. RATHOD
LICENSE NUMBER: 0714306
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Electrical and Lighting Plans

E2.0

1 Lower Level Electrical Plan
1/4" = 1'-0"



GENERAL NOTES:

- ALL LIGHT FIXTURES TO BE 100% LED
- ELECTRICAL CONTRACTOR TO PROVIDE INTERIOR OUTLETS PER APPLICABLE CODES. VERIFY LOCATIONS WITH ARCHITECT PRIOR TO ROUGH IN.
- ELECTRICAL CONTRACTOR TO PROVIDE DATA DUPLEX IN EACH BEDROOM AND LIVING ROOM. COORDINATE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH IN.

- LEGEND**
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 - ⊕ QUADPLEX RECEPTICLE
 - ⊖ DUPLEX RECEPTICLE
 - ⊕ QUADPLEX RECEPTICLE GFCI
 - ⊖ DUPLEX RECEPTICLE GFCI
 - ⊕ 220v RECEPTICLE
 - ⚡ SWITCH
 - LED LIGHT
 - VANITY LIGHT
 - ▭ 1x4 LED LIGHT
 - ▶ DATA



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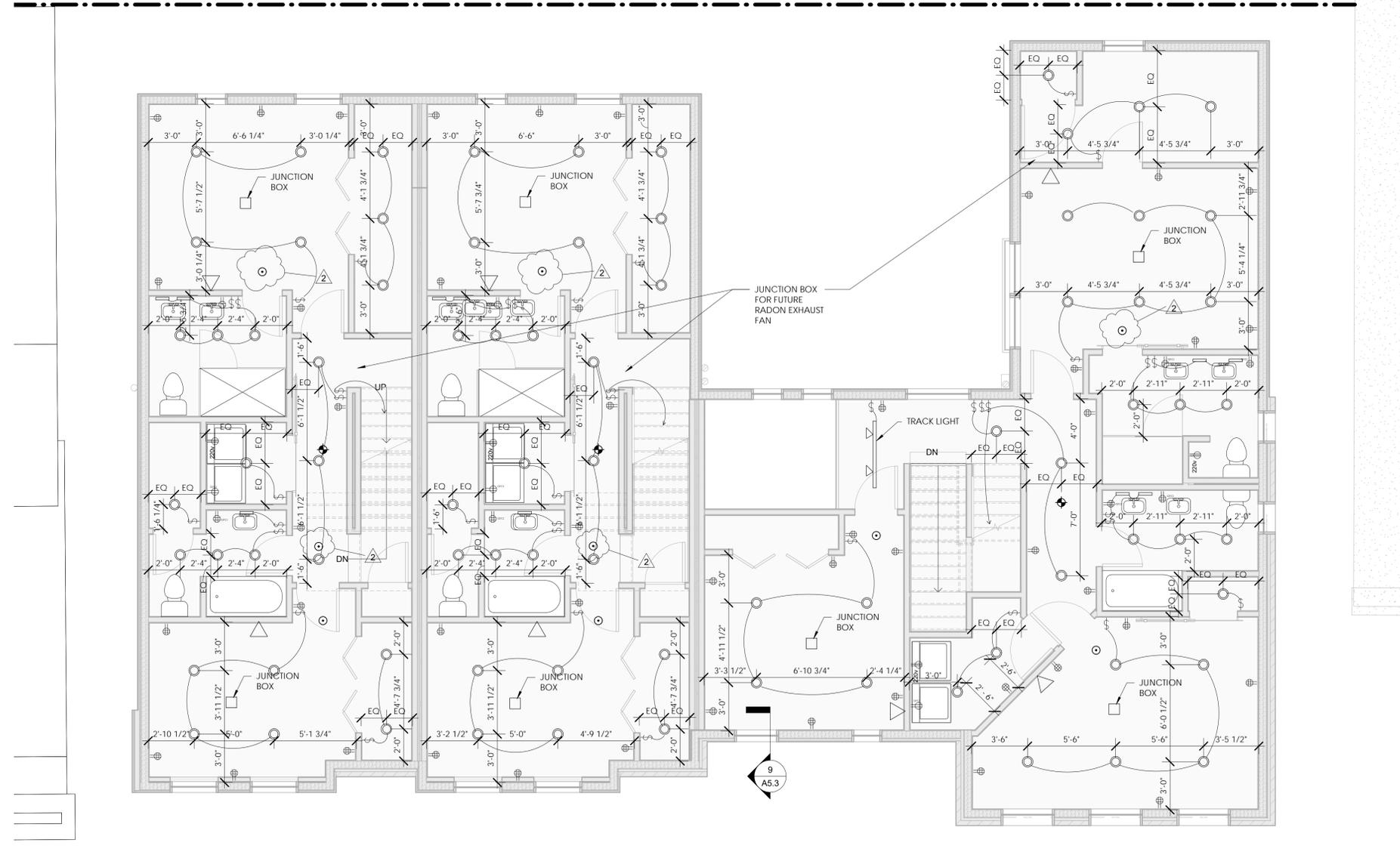


SANYOG B. RATHOD
LICENSE NUMBER: 0714306
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Electrical and Lighting Plans

E2.1

1 First Floor Electrical Plan
1/4" = 1'-0"



GENERAL NOTES:

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- ELECTRICAL CONTRACTOR TO PROVIDE DATA DUPLEX IN EACH BEDROOM AND LIVING ROOM. COORDINATE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH IN.

LEGEND

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- ◆ COMBINATION CARBON MONOXIDE DETECTOR AND SMOKE DETECTOR, HARDWIRED WITH BATTERY BACKUP. DETECTORS SHALL BE INTERCONNECTED WITHIN EACH DWELLING UNIT.
- ⊕ QUADPLEX RECEPTACLE
- ⊖ DUPLEX RECEPTACLE
- ⊕ QUADPLEX RECEPTACLE GFCI
- ⊖ DUPLEX RECEPTACLE GFCI
- ⊖ 220v RECEPTACLE
- ⌚ SWITCH
- LED LIGHT
- VANITY LIGHT
- ▭ 1x4 LED LIGHT
- ▷ DATA



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SANYOG B. RATHOD
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Electrical and Lighting Plans

E2.2

1 Second Floor Electrical Plan
1/4" = 1'-0"

GENERAL NOTES:

- ALL LIGHT FIXTURES TO BE 100% LED
- ELECTRICAL CONTRACTOR TO PROVIDE INTERIOR OUTLETS PER APPLICABLE CODES. VERIFY LOCATIONS WITH ARCHITECT PRIOR TO ROUGH IN.
- ELECTRICAL CONTRACTOR TO PROVIDE DATA DUPLEX IN EACH BEDROOM AND LIVING ROOM. COORDINATE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH IN.

LEGEND

- SMOKE DETECTOR, HARDWIRED WITH BATTERY BACKUP. DETECTORS SHALL BE INTERCONNECTED WITHIN EACH DWELLING UNIT.
- ◆ COMBINATION CARBON MONOXIDE DETECTOR AND SMOKE DETECTOR, HARDWIRED WITH BATTERY BACKUP. DETECTORS SHALL BE INTERCONNECTED WITHIN EACH DWELLING UNIT.
- ⊕ QUADPLEX RECEPTACLE
- ⊖ DUPLICATION RECEPTACLE
- ⊕ QUADPLEX RECEPTACLE GFCI
- ⊖ DUPLICATION RECEPTACLE GFCI
- ⊕ 220v RECEPTACLE
- ⚡ SWITCH
- LED LIGHT
- ▭ VANITY LIGHT
- ▭ 1x4 LED LIGHT
- ▶ DATA



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① Roof Terrace Electrical Plan
1/4" = 1'-0"



SANYOG B. RATHOD
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**Electrical and
Lighting Plans**

E2.3



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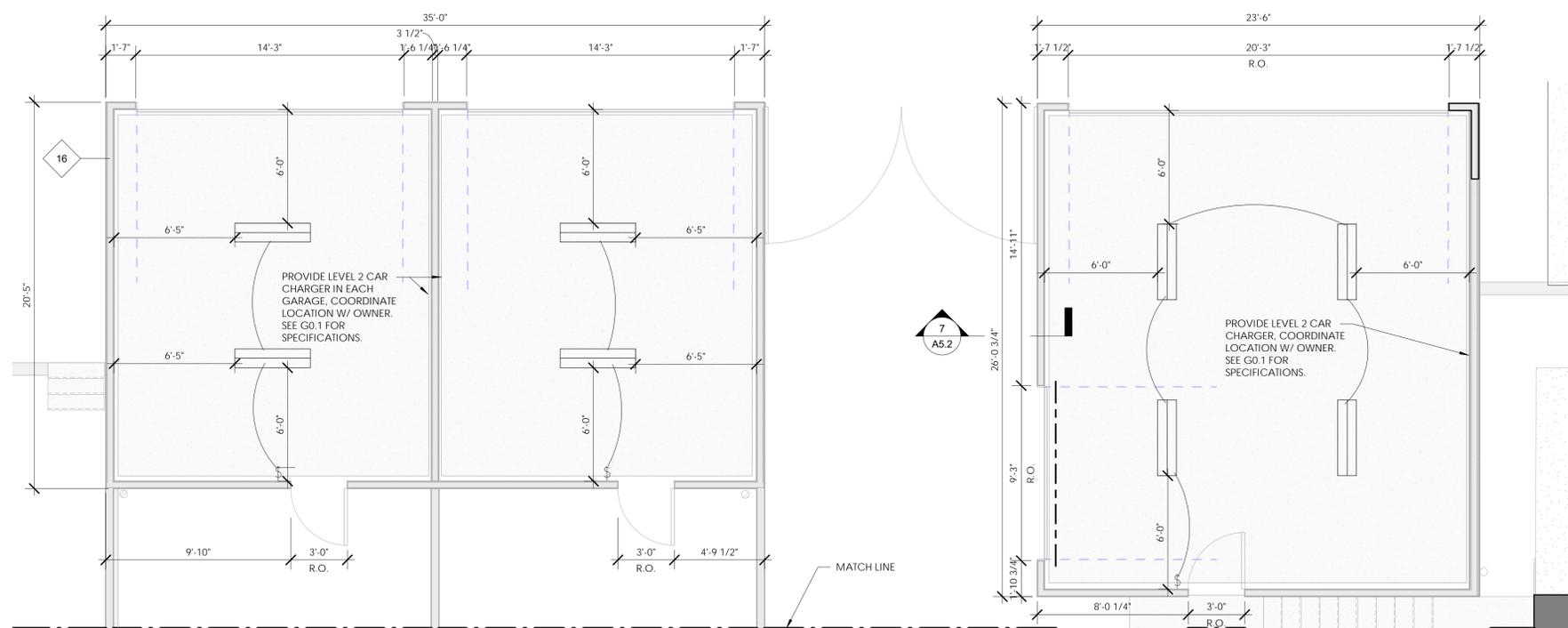
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- ELECTRICAL CONTRACTOR TO PROVIDE DATA DUPLEX IN EACH BEDROOM AND LIVING ROOM. COORDINATE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH IN.

LEGEND

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- ⚡ COMBINATION CARBON MONOXIDE DETECTOR AND SMOKE DETECTOR, HARDWIRED WITH BATTERY BACKUP. DETECTORS SHALL BE INTERCONNECTED WITHIN EACH DWELLING UNIT.
- Ⓜ QUADPLEX RECEPTACLE
- Ⓛ DUPLEX RECEPTACLE
- ⓂⓁ QUADPLEX RECEPTACLE GFCI
- ⓁⓁ DUPLEX RECEPTACLE GFCI
- ⓂⓁⓁ 220v RECEPTACLE
- Ⓢ SWITCH
- Ⓛ LED LIGHT
- Ⓛ V ANITY LIGHT
- ▭ 1x4 LED LIGHT
- ▷ DATA



1 Garages Electric Plan
1/4" = 1'-0"

Electrical and Lighting Plans

E2.4

Spring Green Homes

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GENERAL MECHANICAL NOTES

- PROVIDE FLEX HANGING FOR ERV DUCTS, AND DUCT MUFFLERS BETWEEN SUPPLY ROOMS
- LOCATE ERV SUPPLY ON WALLS NEAR CEILING FOR COANDA EFFECT
- UNDERCUT ALL INTERIOR DOORS 1/2" FOR AIR TRANSFER
- PROVIDE 1/2" MIN. MESH SCREEN ON ALL VENTILATION INTAKES
- PROVIDE MERV 8 FILTERS OR BETTER ON ALL HVAC EQUIPMENT.
- INSULATE ERV INTAKE AND EXHAUST DUCT TO R-12 WITH FOIL-FACED INSULATION.
- SEE STRUCTURAL PLANS FOR PENETRATIONS OF LVL BEAMS BY ERV DUCTWORK.
- PROVIDE MOISTURE-RESISTANT DRYWALL BEHIND WALL-MOUNTED MINI-SPLIT HEADS.

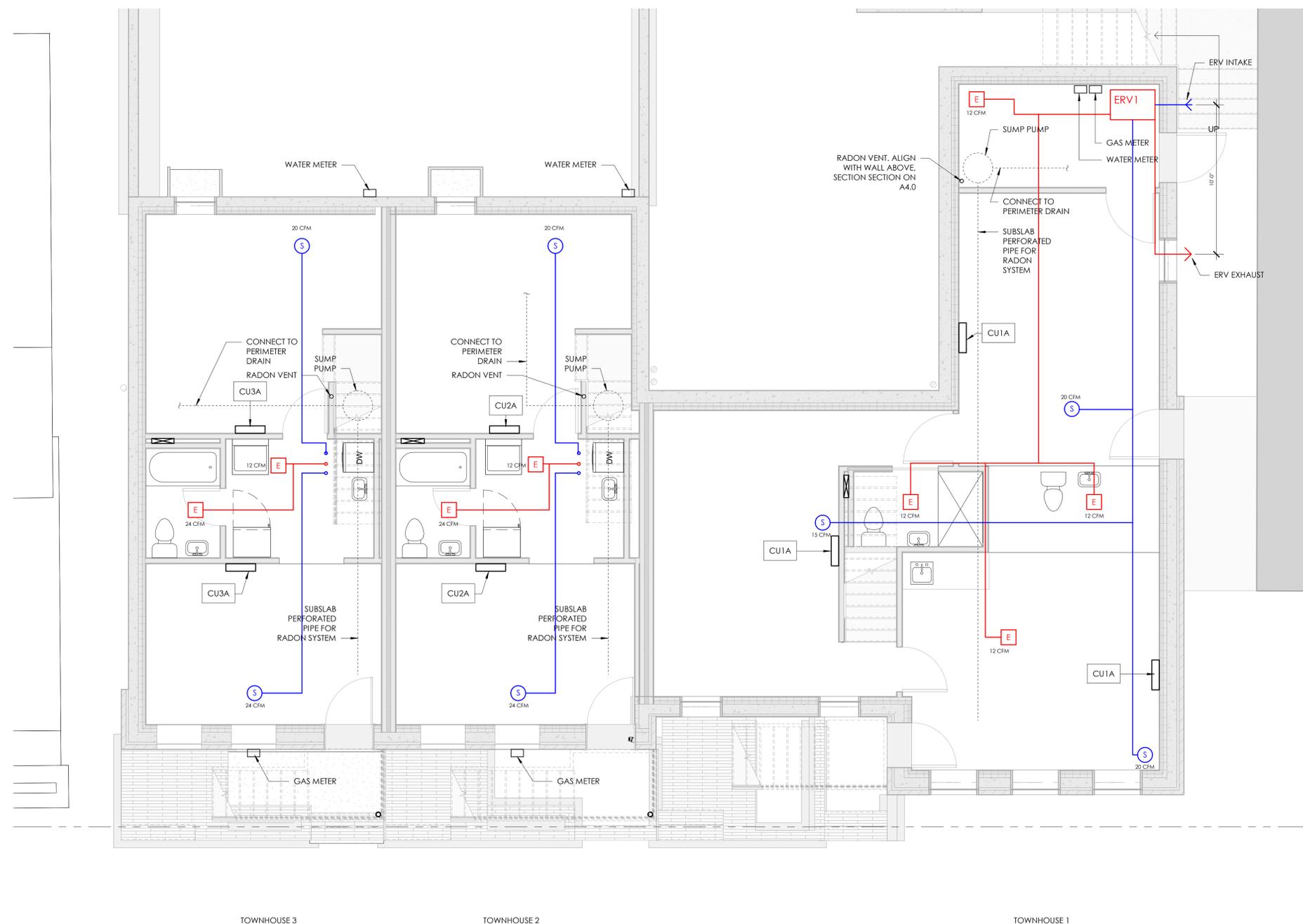
- E ERV EXHAUST W/ ADJUSTABLE DAMPER
- S ERV SUPPLY W/ ADJUSTABLE DAMPER
- T THERMOSTAT
- MINI-SPLIT HEAD
- RETURN W/ ADJUSTABLE DAMPER
- H HEAT PUMP TANK-STYLE DHW HEATER
- INSTANTANEOUS ELECTRIC DHW HEATER, ECOSMART ECO 27, U.N.O.
- ERV EXHAUST DUCT
- ERV SUPPLY DUCT
- MINI-SPLIT REFRIGERANT LINE
- HOT WATER PIPE

MECHANICAL SCHEDULE

| LABEL | MODEL NUMBER | CAPACITY |
|----------------------------|------------------------|----------|
| TOWNHOUSE 1 | | |
| CONDENSING UNITS | | |
| • 1A | LMU180HHV | 18K BTU |
| • 1B | LMU300HHV | 30K BTU |
| MINI-SPLIT HEADS | | |
| • (3)CU1A | LMN079HVT | 7K BTU |
| • (3)CU1B | LMN079HVT | 7K BTU |
| • (2)JLG ART COOL | LMAN07HVP | 9K BTU |
| ENERGY RECOVERY VENTILATOR | | |
| • ERV1 | ZEHNDER COMFOAIR Q 350 | |
| TOWNHOUSE 2 | | |
| CONDENSING UNITS | | |
| • 2A | LAU120HYV3 | 12K BTU |
| • 2B | LMU180HHV | 18K BTU |
| MINI-SPLIT HEADS | | |
| • (2)CU2A | LMN079HVT | 7K BTU |
| • (2)CU2B | LMN079HVT | 7K BTU |
| • (1)JLG ART COOL | LMAN07HVP | 9K BTU |
| ENERGY RECOVERY VENTILATOR | | |
| • ERV2 | ZEHNDER COMFOAIR Q 350 | |
| TOWNHOUSE 3 | | |
| CONDENSING UNITS | | |
| • 3A | LAU120HYV3 | 12K BTU |
| • 3B | LMU180HHV | 18K BTU |
| MINI-SPLIT HEADS | | |
| • (2)CU3A | LMN079HVT | 7K BTU |
| • (2)CU3B | LMN079HVT | 7K BTU |
| • (1)JLG ART COOL | LMAN07HVP | 9K BTU |
| ENERGY RECOVERY VENTILATOR | | |
| • ERV3 | ZEHNDER COMFOAIR Q 350 | |

ERV SPECIFICATION: COMPLETE ERV SYSTEM IS SHALL BE PROVIDED BY ZEHNDER, INCLUDING:

- COMFOAIR Q 350 ERV UNITS
- DUCTWORK (ZEHNDER COMFOPIPE AND COMFOTUBE)
- ADJUSTABLE DIFFUSERS (LUNA, PART #9609-00)
- EXHAUST GRILLES (VENZIA, PART #9443-00)
- CONTROL PANELS



1 Lower Level Mechanical Plan
1/4" = 1'-0"

Mechanical Plans

M2.0

Spring Green Homes

Project Number
18034

Sol Developments, LLC
1322-1332 Spring Street
Cincinnati, OH, 45202

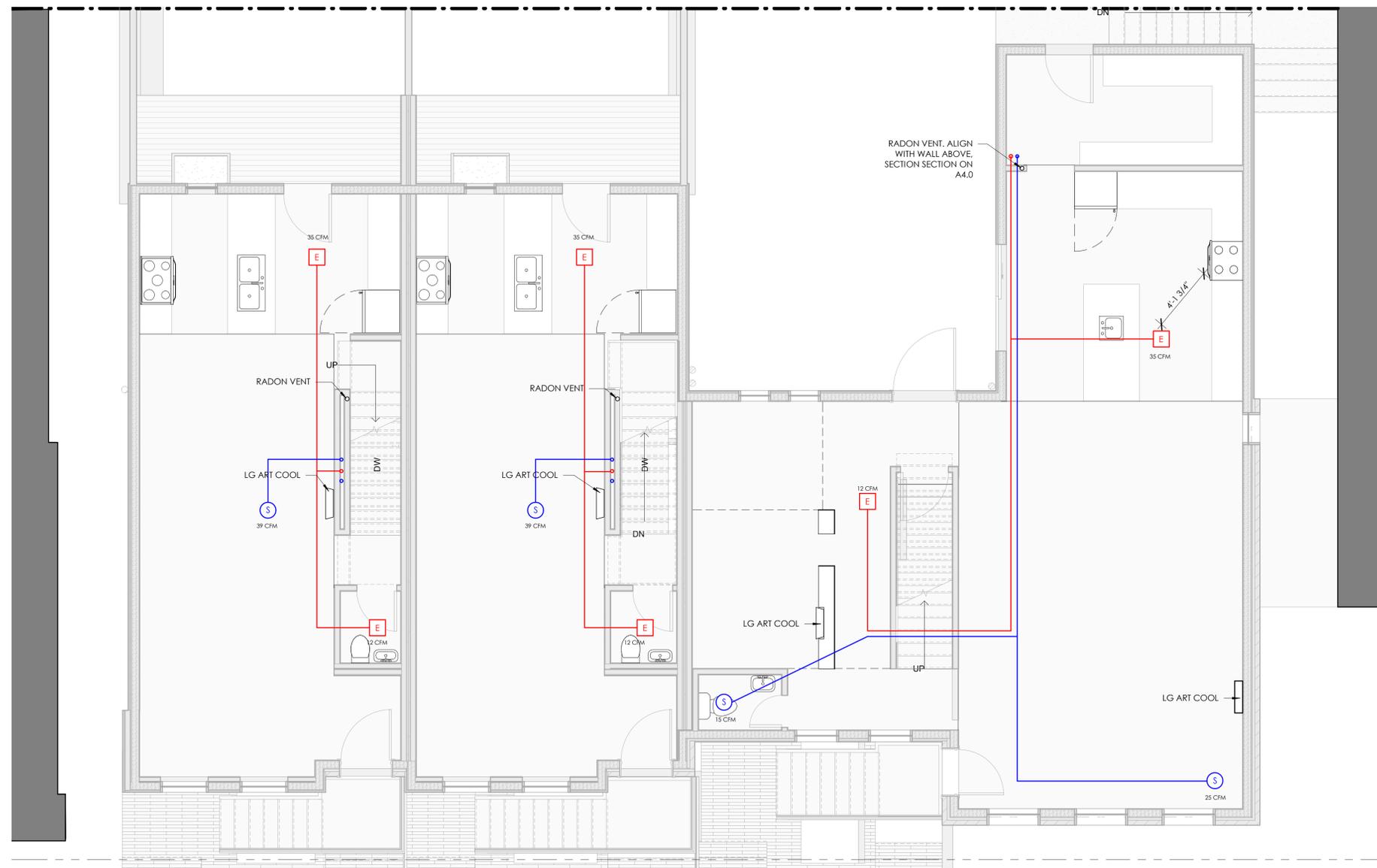
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GENERAL MECHANICAL NOTES

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-  HOT WATER PIPE



TOWNHOUSE 3

TOWNHOUSE 2

TOWNHOUSE 1

Spring Green Homes

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18034

Sol Developments, LLC
1322-1332 Spring Street
Cincinnati, OH, 45202

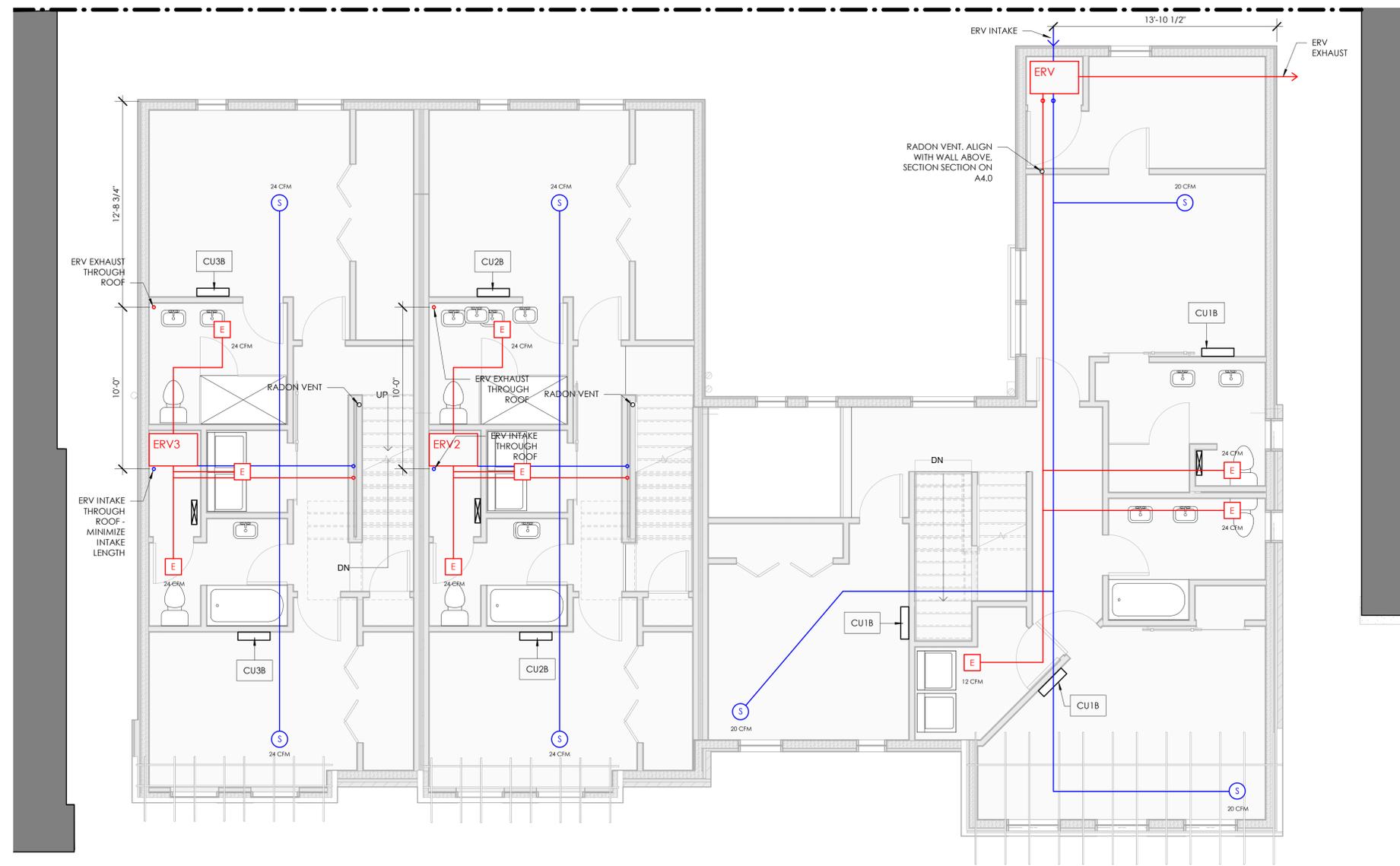
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- ERV SUPPLY DUCT
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TOWNHOUSE 3

TOWNHOUSE 2

TOWNHOUSE 1

1 Second Floor Mechanical Plan
1/4" = 1'-0"

Mechanical Plans

M2.2

Spring Green Homes

Project Number
18034

Sol Developments, LLC
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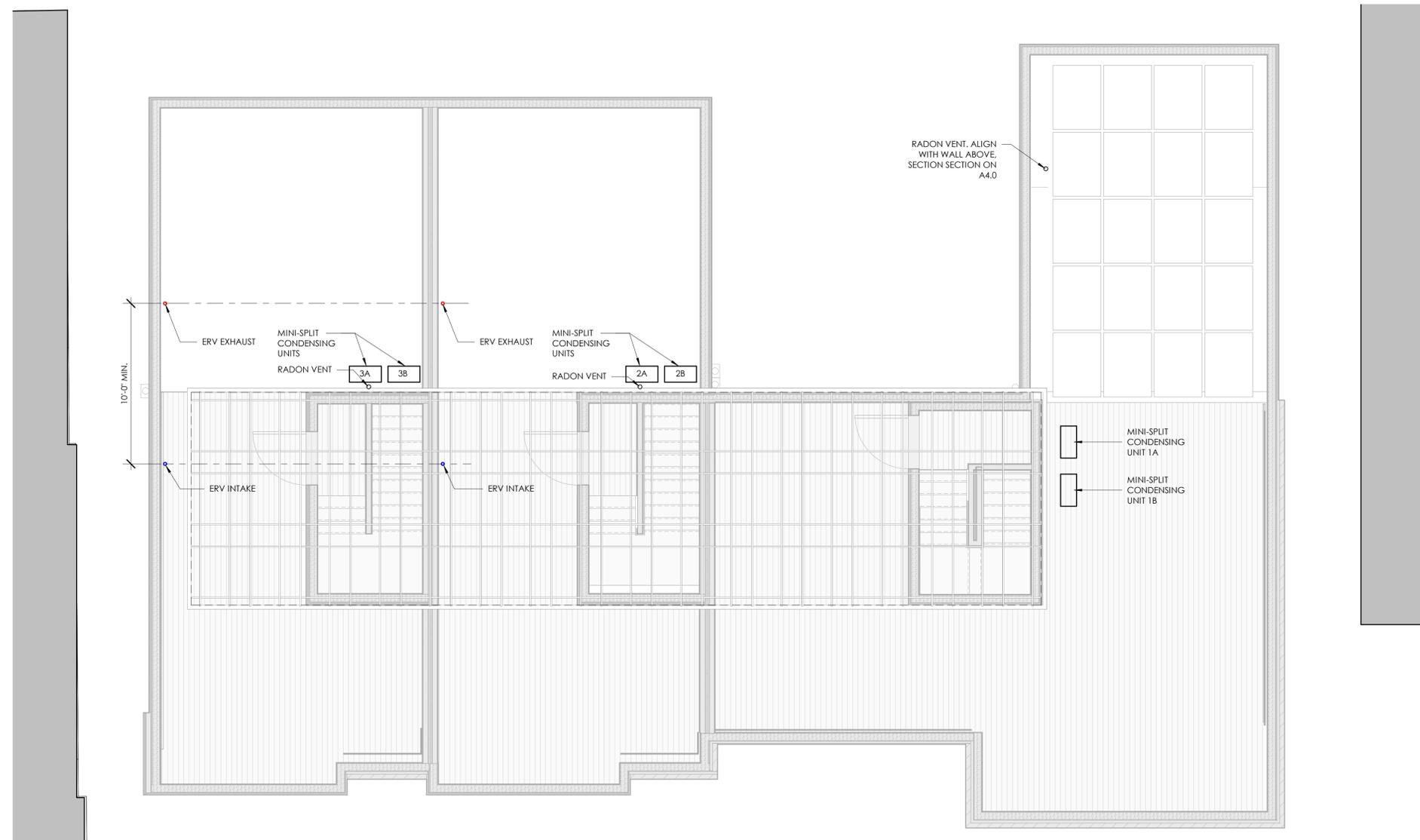
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TOWNHOUSE 3

TOWNHOUSE 2

TOWNHOUSE 1

1 Roof Mechanical Plan
1/4" = 1'-0"

Mechanical Plans

M2.3