PROJECT DATA: NEW SINGLE FAMILY RESIDENCE BUILDING INFORMATION

DESCRIPTION	EXISTING	PROPOSED
PARCEL #	4176029011	--
PROJECT ADDRESS	2800 OCEAN DRIVE MANHATTAN BEACH, CALIFORNIA 90266	
NUMBER OF STORIES	--	3 + BASEMENT
TYPE OF CONSTRUCTION	--	V-B (SPRINKLERED)
CODE CYCLE	2022 CALIFORNIA CODE OF REGULATIONS TITLE 24	
OCCUPANT USE	--	R-3/U
AUTOMATIC FIRE SUPPRESSION SYSTEM	--	NFPA-13D
SPECIAL CONDITIONS	SUPERSTRUCTURE OF BUILDING THROUGH ROOF INSPECTION WAS PREVIOUSLY COMPLETED UNDER PERMIT 18-02269	

MAIN RESIDENCE (GROSS FLOOR AREA)

DESCRIPTION	EXISTING (SF)	PROPOSED (SF)	GRADING DATA	
INSIDE FOOTPRINT			GRADING / SITE WORK (CU YDS)	
BASEMENT	--	761 SF	CUT	30 CU YDS
1ST FLOOR	--	200 SF	FILL	0 CU YDS
2ND FLOOR	--	661 SF	NET EXPORT	30 CY YDS
3RD FLOOR	--	584 SF		
GARAGE	--	420 SF		
DECKS OVER 30*	--	198 SF		

ACCESSORY STRUCTURE (GROSS FLOOR AREA)

☐ ATTACHED ☐ DETACHED

DESCRIPTION	EXISTING (SF)	PROPOSED (SF)
INSIDE FOOTPRINT		
BASEMENT	--	--
1ST FLOOR	--	--
2ND FLOOR	--	--
3RD FLOOR	--	--
GARAGE	--	--
DECKS OVER 30*	--	--

ADU (GROSS FLOOR AREA)

☐ ATTACHED ☐ DETACHED

DESCRIPTION	EXISTING (SF)	PROPOSED (SF)
INSIDE FOOTPRINT	--	--
BASEMENT	--	--
1ST FLOOR	--	--
2ND FLOOR	--	--
3RD FLOOR	--	--
GARAGE	--	--
DECKS OVER 30*	--	--

JADU (GROSS FLOOR AREA)

☐ ATTACHED

DESCRIPTION	EXISTING (SF)	PROPOSED (SF)
INSIDE FOOTPRINT		
BASEMENT	--	--
1ST FLOOR	--	--
2ND FLOOR	--	--
3RD FLOOR	--	--
GARAGE	--	--
DECKS OVER 30*	--	--

EXTERIOR DECK, PORCH, PATIO (GROSS FLOOR AREA)

DESCRIPTION	EXISTING (SF)	PROPOSED (SF)
EXTERIOR FOOTPRINT		
PORCH	--	--
COVERED PATIO	--	--
PORTICO	--	--
DECK	--	198 SF

PROJECT TEAM

OWNER	DJM FAMILY TRUST 4631 N 61ST PLACE SCOTTSDALE, AZ 85251 916.521.8177
ARCHITECT	MICHAEL GROVES THE CONSTRUCTION ZONE LTD 1729 E OSBORN ROAD PHOENIX, AZ 85016 602.230.0383
CONTRACTOR	RJ SMITH CONSTRUCTION 901 MANHATTAN BEACH BLVD MANHATTAN BEACH, CA 90266 310.648.8353
STRUCTURAL ENGINEER	SEAD MESINOVIC M.S. STRUCTURAL ENGINEERING 3719 EMERALD STREET, UNIT A TORRANCE, CA 90503 310.809.7061
ENERGY CONSULTANT	MELISSA ALAVES MELISSA ALAVES DRAFTING 922 COQUINA LANE #3 VERO BEACH, FL 32963 562.362.7922
GEOTECHNICAL CONSULTANT	TONY LEE T.I.N. ENGINEERING CO. 17834 BAILEY DRIVE TORRANCE, CA 90504 310.371.7045

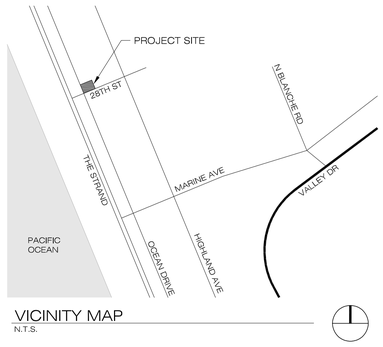
APPLICABLE CODES

THIS PROJECT SHALL COMPLY WITH THE FOLLOWING 2022 CALIFORNIA CODES:
2022 CALIFORNIA BUILDING CODE (CBC)
2022 CALIFORNIA RESIDENTIAL CODE (CRC)
2022 CALIFORNIA ELECTRICAL CODE (CEC)
2022 CALIFORNIA MECHANICAL CODE (CMC)
2022 CALIFORNIA PLUMBING CODE (CPC)
2022 CALIFORNIA ENERGY CODE (CEnC)
2022 CALIFORNIA FIRE CODE (CFC)
2022 CALIFORNIA EXISTING BUILDING CODE (CEBC)
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CGBSC)
MANHATTAN BEACH MUNICIPAL CODE
ORDINANCE 22-0008 AMENDMENTS TO BUILDING CODE
ORDINANCE 22-0009 AMENDMENTS TO FIRE CODE

SEPARATE PERMITS REQUIRED

STREET USE OR ENCROACHMENT PERMIT FOR WORK IN THE PUBLIC RIGHT-OF-WAY
FIRE SPRINKLER SYSTEM
BASEMENT MECHANICAL VENTILATION SYSTEM
GARAGE MECHANICAL EXHAUST SYSTEM
SEWER EJECTOR PUMP SYSTEM
SUMP PUMP SYSTEM
ELEVATOR
PHOTOVOLTAIC SYSTEM

NOTE: PHOTOVOLTAIC SYSTEM MUST BE INSTALLED PRIOR TO FINAL INSPECTION 1



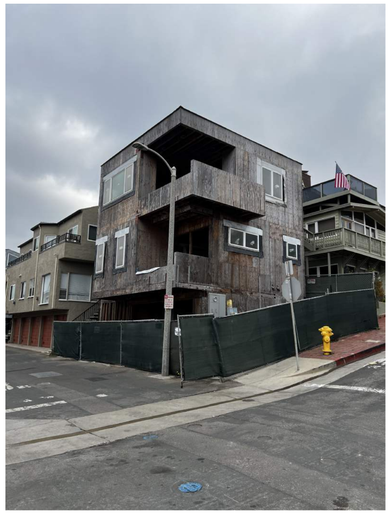
VICINITY MAP
N.T.S.

PROJECT DATA

PROJECT DESCRIPTION	THREE STORY SINGLE FAMILY RESIDENCE WITH BASEMENT AND GROUND LEVEL GARAGE. INCLUDES ALL NECESSARY SITE WORK. PROJECT WAS BEGUN UNDER PERMIT 18-02269.
PARCEL #	4176029011
PROJECT ADDRESS	2800 OCEAN DRIVE MANHATTAN BEACH CALIFORNIA 90266
LEGAL DESCRIPTION	PECK'S MANHATTAN BEACH TRACT SE 40 FT OF LOT 11, BLOCK 7
ZONING	RH
AREA DISTRICT:	III
MAX HEIGHT ALLOWED / PROPOSED	145.67' (+32'-10" AFF) / 145.5' (+32'-8" AFF)

SHEET INDEX

BUILDING IN CURRENT WEATER-PROTECTED STATE



PHOTOGRAPH OF EXISTING CONDITION TAKEN 10.30.24.
EXISTING WORK WAS COMPLETED UNDER PERMIT 18-02269

the construction zone
1729 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

PERMIT SET

ocean drive residence

2800 ocean drive manhatten beach, ca 90266

PROJECT DATA

04.18.25
06.06.25

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GENERAL NOTES

1. AQMD NOTIFICATION IS REQUIRED 10 DAYS BEFORE BEGINNING ANY DEMOLITION WORK. REQUIRED FORM IS AVAILABLE AT THE COMMUNITY DEVELOPMENT DEPARTMENT. PROVIDE PROOF OF NOTIFICATION 10 DAYS BEFORE BUILDING PERMIT IS ISSUED, OR COMPLETE ASBESTOS NOTIFICATION WAIVER
2. INSTALLATION OF INTERIOR AND EXTERIOR WALL AND CEILING COVERINGS SHALL CONFORM TO CHAPTER 25 OF THE CBC
3. ALL HOSE BIBS MUST BE PROTECTED BY BACKFLOW PREVENTION AND HAVE AN ANTI-SIPHON DEVICE
4. PROVIDE APPROVED BACKWATER VALVE FOR ALL PLUMBING FIXTURES LOCATED BELOW THE ELEVATION OF THE NEXT UPSTREAM MANHOLE COVER. FIXTURES ABOVE SUCH ELEVATION SHALL NOT DISCHARGE THROUGH THE BACKWATER VALVE.
5. THE DESIGNER IS NOT RESPONSIBLE FOR SITE GRADING OR DRAINAGE
6. POST INSULATION COMPLIANCE CARD IN CONSPICUOUS LOCATION IN DWELLING PRIOR TO FINAL INSPECTION
7. DUCTS PENETRATING THE WALL OR CEILING BETWEEN THE GARAGE AND DWELLING UNIT SHALL BE CONSTRUCTED OF 26 GA MINIMUM SHEET METAL AND SHALL HAVE NO OPENING INTO THE GARAGE PER SECTION R302.5.2
8. DO NOT SCALE DRAWINGS - USE DIMENSIONS ONLY. DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE ON CONSTRUCTION DOCUMENTS.

9. VERIFY ALL DIMENSIONS AND CONDITIONS IN FIELD. IF DIMENSIONAL ERRORS OCCUR OR A CONDITION NOT COVERED IN THE DRAWINGS IS ENCOUNTERED, SUB-CONTRACTOR SHALL NOTIFY ARCHITECT, IN WRITING, BEFORE COMMENCING THAT PORTION OF THE WORK.

10. ALL DIMENSIONS ARE MEASURED TO GRID LINE; FACE OF STUD; FACE OF CMU; FACE OF CONCRETE OR TO CENTERLINE OF COLUMNS. (U.N.O.)

11. THE TERM 'FINISH FLOOR' SHALL MEAN THE NORMAL FINISHED SURFACE OF THE FLOOR LEVEL.

12. NOTIFY ARCHITECT IF DISCREPANCIES ARE NOTED IN THESE CONTRACT DOCUMENTS IN SUFFICIENT TIME AS TO NOT CAUSE DELAY.

13. IN THE EVENT OF DISCREPANCIES BETWEEN ANY DRAWINGS AND / OR SPECIFICATIONS, THE MORE RESTRICTIVE CONDITION SHALL BE DEEMED THE CONTRACT REQUIREMENT UNLESS OTHERWISE STATED.

14. COORDINATION OF ALL WORK UNDER THIS CONTRACT SHALL BE MAINTAINED TO ENSURE THE QUALITY AND TIMELY COMPLETION OF THE WORK / PROJECT.

15. DETAILS, NOTES AND FINISHES SHALL BE APPLICABLE TO ALL TYPICAL CONDITIONS WHETHER OR NOT REFERENCED AT ALL PLACES ON THESE PLANS.

16. THE STARTING OF WORK BY ANY SUB-CONTRACTOR SHALL BE CONSIDERED PRIMA FACIE EVIDENCE THAT HE HAS INSPECTED THE DOCUMENTS AND FINDS THEM SATISFACTORY TO BUILD PROJECT PER BID.

17. SUB-CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONARY MEASURES TO PROTECT THE PUBLIC AND ADJACENT PROPERTIES FROM DAMAGE THROUGHOUT THE CONSTRUCTION OF THE PROJECT. THE SUB-CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF CONDITIONS AND MATERIALS WITHIN THE PROPOSED CONSTRUCTION AREA. THE SUB-CONTRACTOR SHALL HAVE SOLE RESPONSIBILITY FOR ANY DAMAGE OR INJURIES BY OR INCURRED DURING THE EXECUTION OF THE WORK.

18. ALL SYSTEMS (MECHANICAL, PLUMBING, ELECTRICAL, LIGHTING, LANDSCAPE, ETC.) NEED TO BE COORDINATED BY THE SUB-CONTRACTORS (U.N.O). ANY SUBSTITUTIONS IN SPECIFICATIONS MUST BE SUBMITTED TO ARCHITECT FOR APPROVAL. SHOULD THE SUB-CONTRACTOR FIND ANY DISCREPANCIES, OMISSIONS, AMBIGUITIES, OR CONFLICTS IN ANY OF THE CONSTRUCTION DRAWINGS OR BE IN DOUBT AS TO THEIR MEANING, HE MUST BRING THE QUESTION TO THE ATTENTION OF THE ARCHITECT PRIOR TO THE START OF CONSTRUCTION. THE ARCHITECT SHALL REVIEW THE QUESTION AND WHERE INFORMATION SOUGHT IS NOT CLEARLY INDICATED OR SPECIFIED, WILL ISSUE A WRITTEN CLARIFYING ADDENDUM, THE ARCHITECT WILL BE RESPONSIBLE FOR VERBAL INSTRUCTIONS.

19. THE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE SUB-CONTRACTOR TO CHECK WITH THE ARCHITECTURAL DRAWINGS BEFORE PROCEEDING WITH THE INSTALLATION OF MECHANICAL, PLUMBING AND ELECTRICAL WORK. SHOULD THERE BE A DISCREPANCY BETWEEN THE ARCHITECTURAL DRAWINGS AND THE CONSULTING ENGINEERING DRAWINGS, THAT WOULD CAUSE AWKWARD INSTALLATION, IT SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTIONS FOR CLARIFICATION PRIOR TO INSTALLATION OF SAID WORK. ANY WORK INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY THE SUB-CONTRACTOR AT HIS OWN EXPENSE AND AT NO ADDITIONAL EXPENSE TO THE OWNER.

20. ALL ELECTRICAL AND COMMUNICATIONS INDICATIONS ON ARCHITECTURAL DRAWINGS ARE FOR LOCATION PURPOSES ONLY.

21. ALL MANUFACTURED ARTICLES, MATERIALS AND EQUIPMENT SHALL BE APPLIED, INSTALLED, CONNECTED, ERECTED, USED, CLEANED, AND CONDITIONED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN SPECIFICATIONS OR INSTRUCTIONS UNLESS SPECIFIED TO THE CONTRARY HEREIN.

22. THE SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE , BREAKAGE, COLLAPSE, DISTORTIONS AND OFF ALIGNMENTS ACCORDING TO CODES AND STANDARDS OF GOOD PRACTICE.

23. THE SUB-CONTRACTOR SHALL NOT CONSTRUCT, UNLESS OTHERWISE NOTED, INTERIOR PARTITION WALLS TO FULL HEIGHT UNTIL ALL PIPES, DUCTS, ETC. ARE IN PLACE.
24. THE SUB-CONTRACTOR SHALL NOT INSTALL SUSPENDED CEILINGS IN AREAS WHERE PIPES ARE TO BE CONCEALED (HEATING + PLUMBING) UNTIL THE PIPING HAS BEEN TESTED.

25. THE SUB-CONTRACTOR SHALL COORDINATE THE INSTALLATION OF PLUMBING FIXTURES PRIOR TO THE CONSTRUCTION OF PARTITIONS BEHIND SUCH FIXTURES.

26. THE SUB-CONTRACTOR SHALL COORDINATE AND INSTALL ALL CLEANOUTS AND ACCESS DOORS IN PARTITIONS AND CEILINGS AS REQUIRED BY THE CONTRACT DOCUMENTS.

27. WHERE MANUFACTURER'S NAMES AND PRODUCT NUMBERS ARE INDICATED ON THE DRAWINGS IT SHALL BE CONSTRUED TO MEAN THE ESTABLISHMENT OF QUALITY AND PERFORMANCE STANDARDS OF SUCH ITEMS. ALL PRODUCTS MUST BE SUBMITTED TO THE ARCHITECT FOR APPROVAL BEFORE THEY SHALL BE DEEMED EQUAL.
28. THE SUB-CONTRACTOR AGREES TO REPAIR OR REPLACE ANY DEFECTIVE WORK WITHOUT ADDITIONAL COST TO THE OWNER AND TO PAY THE COST OF REPAIRING DAMAGE TO THE WORK OF OTHER TRADES CAUSED BY THESE REPAIRS AND REPLACEMENTS.
29. PROVIDE CAULKING, SEALANT, AND / OR WEATHERPROOFING AT ALL PENETRATIONS IN WALLS, CEILINGS, AND FLOORS FOR PLUMBING, ELECTRICAL, AND OTHER OPENINGS IN THE BUILDING ENVELOPE.

30. PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING.

31. ANY ITEMS OR FEATURES IN CEILING, SUCH AS, BUT NOT LIMITED TO, LIGHT FIXTURES, DIFFUSERS, ETC. SHALL BE PLACED OR INSTALLED WITH SPECIAL ATTENTION TO CENTERING, SPACING AND ALIGNMENT WITH OTHER FEATURES IN PROXIMITY. CONSULT WITH ARCHITECT CONCERNING ANY QUESTIONS OR CONFLICTS ABOUT LOCATIONS.

32. ALL RUBBISH AND DEBRIS RESULTING FROM DEMOLITION AND / OR NEW WORK SHALL BE DISPOSED OFF-SITE AND SHALL NOT BE ALLOWED TO ACCUMULATE. LEAVE THE SITE AND SURROUNDING AREAS IN A NEAT AND ORDERLY CONDITION.

33. SUB-CONTRACTORS TO PROVIDE FOLLOWING SUBMITTALS / SHOP DRAWINGS:
    - CONCRETE MIX DESIGNS, AND REINFORCING
    - CAST IN PLACE CONCRETE SHOP DRAWINGS
    - MASONRY SHOP DRAWINGS
    - STRUCTURAL STEEL SHOP DRAWINGS
    - ARCHITECTURAL METAL SHOP DRAWINGS
    - METAL ROOF FLASHING DETAILS AND PANEL LAYOUTS
    - HVAC EQUIPMENT AND GRILL
    - DOOR AND WINDOW SHOP DRAWINGS
    - LIGHT FIXTURE SUBMITTAL
    - ELECTRICAL EQUIPMENT
    - APPLIANCE SUBMITTAL
    - PLUMBING FIXTURES AND FITTINGS SUBMITTAL
    - PLUMBING EQUIPMENT
    - HARDWARE SUBMITTAL
    - A/V SUBMITTALS AND LAYOUTS SHOWING ALL SPEAKER AND CONTROL DEVICE LOCATIONS
    - SECURITY SYSTEM SUBMITTALS WITH LAYOUT OF ALL DEVICES
    - CABINETRY SHOP DRAWINGS
    - TILE LAYOUT
    - LANDSCAPING SUBMITTAL
    - SEPTIC DESIGN SUBMITTAL
    - PROJECT AS-BUILTS AND OWNER'S MANUAL AT PROJECT COMPLETION

31. SUB-CONTRACTOR TO ARRANGE PRE-DRYWALL WALK THROUGH TO VERIFY:
    - LIGHTING, SWITCHING AND OUTLET LAYOUT
    - PLUMBING FIXTURE LOCATIONS
32. STRUCTURED WIRING / SECURITY SYSTEM

FIRE SPRINKLER NOTES

1. FIRE SPRINKLERS SHALL BE UNDER SEPARATE PLAN CHECK AND PERMIT
2. PROPERTY ADDRESS MUST BE PERMANENTLY AFFIXED TO BUILDING IN ACCORDANCE WITH MBMC 505.1 PRIOR TO FINAL INSPECTION
3. AUTOMATIC RESIDENTIAL FIRE SPRINKLER SYSTEM SHALL BE INSTALLED IN THE DWELLING UNIT AND OTHER AREAS AS REQUIRED BY THE FIRE CODE OFFICIAL
4. AUTOMATIC RESIDENTIAL FIRE SPRINKLERS SHALL COMPLY WITH THE MANHATTAN BEACH FIRE DEPARTMENT MINIMUM REQUIREMENTS FOR NFPA 1 30 FIRE SPRINKLER SYSTEMS
5. HORN/STROBE ALARM DEVICE SHALL BE PLACED ON THE ADDRESS SIDE OF THE BUILDING UNLESS OTHERWISE SPECIFIED BY THE FIRE OFFICIAL
6. AUTOMATIC RESIDENTIAL FIRE SPRINKLER SYSTEM SHALL BE INSTALLED IN THE GARAGE AND IN OTHER AREAS AS REQUIRED BY THE CODE OFFICIAL

MAXIMUM HEIGHT NOTE

PARAPETS, SATELLITE ANTENNAE, RAILS, SKYLIGHTS, AND ROOF EQUIPMENT, MUST ALL BE WITHIN THE MAXIMUM HEIGHT LIMIT

CONSTRUCTION NOTE

ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS, AND ANY CHANGES MADE DURING CONSTRUCTION THAT ARE NOT IN COMPLIANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS SHALL BE RESUBMITTED FOR APPROVAL AS AN AMENDED SET OF CONSTRUCTION DOCUMENTS (R106.4 CRC; 107.4 CBC)

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PLANNING & BUILDING NOTES

1. ALL BUILDING FEATURES PROJECTING INTO REQUIRED SETBACKS SHALL BE INDICATED ON SITE/PLOT PLAN.

2. SEPARATE PERMITS AND PLANS ARE REQUIRED FOR SPAS, POOLS, SOLAR SYSTEMS,DEMOLITION AND SEWER CAP OF EXISTING BUILDINGS. IF SUCH IMPROVEMENTS OR DEMOLITION IS REQUIRED AS A CONDITION OF APPROVAL FOR DISCRETIONARY ACTIONS OR TO COMMENCE BUILDING, THEN SUCH PERMITS MUST BE OBTAINED BEFORE OR AT THE TIME THE PROPOSED BUILDING PERMIT IS ISSUED.

3. FENCE, WALL, HANDRAIL HEIGHTS, AS MEASURED FROM THE LOWEST FINISHED GRADE ADJACENT TO EACH SECTION OF THESE STRUCTURES, MAY BE A MAXIMUM OF 42" IN THE FRONT YARD SETBACK, AND 72" AT ALL OTHER LOCATIONS ON SITE. (36" IF OBSTRUCTING DRIVEWAY VISIBILITY, COMBINED RETAINING AND FREE STANDING WALL).

4. BUILDING ADDRESS NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND, 4" HIGH MINIMUM AND WITH A MINIMUM STROKE WIDTH OF 0.5" - PER SECT. R319.1

5. PARKING IS NOT PERMITTED IN REQUIRED YARDS OR OPEN SPACE EXCEPT A 20' WIDE FRONT YARD DRIVEWAY.

6. INSTALL ON THE COLD WATER SUPPLY PIPE AT TOP OF THE WATER HEATER A CAPPED 'T' FITTING TO PLUMB FOR FUTURE SOLAR WATER HEATING.

7. ROUTE UNDERGROUND CONDUIT TO POWER POLE PER PUBLIC WORKS DEPARTMENT HANDOUT ST-13. STUB OUT TO PROPERTY LINE FOR FUTURE UNDER-GROUNDING OF UTILITIES WHEN APPLICABLE.

8. PROVIDE VISUAL SCREENING FOR PROPOSED MECHANICAL EQUIPMENT AND UTILITY METERS (TOP NEED NOT BE SCREENED IF LOCATED ON INTERIOR SIDE OF DWELLING).

9. GAS AND ELECTRIC METERS MUST CLEAR PROPERTY LINES BY 3'-0".

10. CONTRACTOR TO CHECK CITY RECORDS TO DETERMINE EXISTENCE OF CESSPOOL ON PROPERTY. IF THERE IS AN EXISTING CESSPOOL, IT MUST BE LOCATED AND THEN INSPECTED BY CITY PERSONNEL BEFORE DEMOLITION OR BUILDING PERMITS CAN BE ISSUED.

11. CHIMNEYS MAY EXCEED THE MAXIMUM PERMITTED HEIGHT BY NO MORE THAN 5 FEET, PROVIDED THE LENGTH AND WIDTH OF THE CHIMNEY PORTION EXCEEDING THE HEIGHT LIMIT SHALL NOT EXCEED 3 FEET IN WIDTH AND 5 FEET IN LENGTH.

12. PARAPETS, SATELLITE ANTENNAE, RAILS, SKYLIGHTS, ROOF EQUIPMENT, MUST BE WITHIN THE MAXIMUM ALLOWABLE HEIGHT LIMIT.

13. AT LEAST 20% OF ALL VISIBLE PORTIONS OF A REQUIRED FRONT OR CORNER SIDE YARD ADJOINING A STREET SHALL BE PLANTING AREA (MBMC10.12.030(I).

14. A TREE REMOVAL PERMIT OR TREE PROTECTION PLAN IS REQUIRED FOR THE REMOVAL OR PRESERVATION OF TREES WITHIN THE FRONT YARD (RESIDENTIAL ZONES , AREA DISTRICT II, WEST OF SEPULVEDA BOULEVARD-MBMC 10.52.120).

15. ALL UTILITY AND EQUIPMENT LOCATIONS, INCLUDING FIRE SPRINKLER CHECK VALVES, ELECTRIC AND WATER METERS, UTILITY CABINETS, ETC. AND ANY REQUIRED PROTECTIVE POLES. (NOTE: CBC AND SCE REQUIRE THAT ELECTRIC BOXES MUST PROVIDE 3 FEET CLEAR TO ANY OBSTRUCTION, AND IF LOCATED ADJACENT TO A PARKING AREA PROTECTIVE BARRIERS 3 FEET AWAY FROM THE BOX IS REQUIRED. PROTECTIVE BARRIERS MAY NOT ENCROACH INTO THE REQUIRED PARKING OR VEHICLE MANEUVERING AREA.)

MAXIMUM HEIGHT NOTE

PARAPETS, SATELLITE ANTENNAE, RAILS, SKYLIGHTS, AND ROOF EQUIPMENT, MUST BE WITH THE MAXIMUM HEIGHT LIMIT.

PUBLIC WORKS NOTES

1. ALL LANDSCAPE IRRIGATION BACKFLOW DEVICES MUST MEET CURRENT CITY REQUIREMENTS FOR PROPER INSTALLATION

2. NO DISCHARGE OF CONSTRUCTION WASTEWATER, BUILDING MATERIALS, DEBRIS, OR SEDIMENT FROM THE SITE IS PERMITTED. NO REFUSE OF ANY KIND GENERATED ON A CONSTRUCTION SITE MAY BE DEPOSITED IN RESIDENTIAL, COMMERCIAL, OR PUBLIC REFUSE CONTAINERS AT ANY TIME. THE UTILIZATION OF WEEKLY REFUSE COLLECTION SERVICE BY THE CITY'S HAULER FOR ANY REFUSE GENERATED AT THE CONSTRUCTION SITE IS STRICTLY PROHIBITED. FULL DOCUMENTATION OF ALL MATERIALS/TRASH LANDFILLED AND RECYCLED MUST BE SUBMITTED TO THE PERMITS DIVISION IN COMPLIANCE OF THE CITY'S CONSTRUCTION AND DEMOLITION RECYCLING ORDINANCE.

3. EROSION AND SEDIMENT CONTROL DEVICES BMPS (BEST MANAGEMENT PRACTICES) MUST BE IMPLEMENTED AROUND THE CONSTRUCTION SITE TO PREVENT DISCHARGES TO THE STREET AND ADJACENT PROPERTIES. BMPS MUST BE IDENTIFIED AND SHOWN ON THE PLAN. CONTROL MEASURES MUST ALSO BE TAKEN TO PREVENT STREET SURFACE WATER ENTERING THE SITE.

4. ALL STORM WATER, NUISANCE WATER, ETC. DRAIN LINES INSTALLED WITHIN THE STREET RIGHT OF WAY MUST BE CONSTRUCTED OF 3" CAST IRON PIPE AND LABELLED ON THE SITE PLAN. DRAIN LINES MUST BE SHOWN ON THE PLANS. CONNECTING ON-SITE DRAINAGE LINE TO SEWER LATERAL IS STRICTLY PROHIBITED.

5. ALL CONCENTRATED RUNOFF WATER FROM THE ROOF AND SIDE YARDS AND PATIOS MUST DISCHARGE ONTO OCEAN DRIVE/28TH STREET THROUGH THE DRAIN LINES AND MUST BE SHOWN ON THE PLANS WITH ALL REQUIRED OUTLET FLOW LINE ELEVATIONS AT THE DISCHARGE POINT.

6. IMPERVIOUS SURFACE SHALL BE SLOPED AWAY FROM THE BUILDING AT 2% MINIMUM SLOPE FOR A MINIMUM DISTANCE OF 10 FEET; LOT SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS - PER C.R.C. SECTION R401.3.

7. SIDEWALK, DRIVEWAY, CURB, AND GUTTER CONSTRUCTION, REPAIRS OR REPLACEMENT MUST BE COMPLETED PER PUBLIC WORKS SPECIFICATIONS. SEE CITY STANDARD PLANS ST-1, ST-2, ST-3 AND ST-10. THE PLANS MUST HAVE A PROFILE OF THE DRIVEWAY, PERCENTAGE (%) OF SLOPE ON DRIVEWAY, AND DRIVEWAY ELEVATIONS FOR EACH SIDE AND THE MIDDLE. IN THE CASE WHERE THE GARAGE LEVEL IS BELOW THE STREET DRAINAGE FLOW LINES, THE COMBINED SLOPE OF PUBLIC AND PRIVATE APPROACH SHALL NOT EXCEED 15% (CITY RECOMMENDS THAT GARAGE FINISH FLOOR ELEVATION PER DESIGN PLANS BE HIGHER THAN EXISTING STREET GRADES, IN ORDER TO MINIMIZE POSSIBILITY OF ANY FUTURE FLOODING IN THE GARAGE). CITY PLANS/SURVEY MUST SHOW ELEVATIONS FOR EACH ADJOINING PROPERTY. NO DEVIATIONS IN ELEVATIONS BETWEEN PROPERTIES SHALL EXCEED MORE THAN ¼".
8. DRIVEWAY PROFILES EXCEEDING 10% GRADE WILL BE STAKED AND VERIFIED BY LICENSED PROFESSIONAL LAND SURVEYOR. VERIFICATION OF DRIVEWAY GRADES WILL BE DONE PRIOR TO POURING GARAGE SLAB. DRIVEWAY GRADES EXCEEDING 15% ARE NOT PERMITTED.

9. THE BACK OF DRIVEWAY APPROACH MUST BE SIX INCHES HIGHER THAN THE FLOW LINE ON THE STREET. M.B.M.C. 9.76.30. THE DRIVEWAY APRON ON OCEAN DRIVE MUST BE IMPROVED PER CITY STANDARD PLANS.

10. CONSTRUCT SIDEWALK ALONG THE FULL FRONTAGE OF 28TH STREET PER CITY STANDARD PLANS.

11. IF THE PROPERTY IS LOCATED ON A CORNER LOT, CONSTRUCTION OF AN ACCESSIBLE CURB RAMP MAY BE REQUIRED PER CITY STANDARD PLANS.

12. CONTRACTOR TO PROTECT IN PLACE ALL EXISTING PROPERTY CORNERS DURING CONSTRUCTION. IF ANY OF THE PROPERTY CORNERS ARE REMOVED OR DESTROYED DURING CONSTRUCTION, IT WOULD BE THE RESPONSIBILITY OF THE CONTRACTOR TO RESTORE THEM.

13. ALL EXISTING OR CONSTRUCTION RELATED DAMAGES OR DISPLACED CURB/GUTTER, SIDEWALK, DRIVEWAY APPROACH OR STREET MUST BE REPLACED AND SHOWN ON THE PLANS. ADDITIONAL PUBLIC IMPROVEMENTS MAY BE REQUIRED DURING AND/OR NEAR THE COMPLETION OF CONSTRUCTION PER M.B.M.C. 9.72 AS DETERMINED BY THE PUBLIC WORKS INSPECTOR BASED ON CONDITIONS OF PUBLIC IMPROVEMENTS.

14. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL THE STREET SIGNS, STREET LAMPS/LIGHTS, WALLS/FENCES, AND/OR TREES AROUND THE PROPERTY. IF THEY ARE DAMAGED, LOST OR REMOVED, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE THEM AT THE CONTRACTOR'S EXPENSE. CONTACT THE PUBLIC WORKS INSPECTOR FOR SIG SPECIFICATION AND SUPPLIERS.

15. NEW 6" VCP SEWER LATERAL WILL BE INSTALLED IF THE EXISTING LATERAL IS LESS THAN 6" IN DIAMETER PER M.B.M.C. 5.36 AND CITY STANDARD PLAN ST-5. SEWER CLEANOUT SHOULD BE LOCATED WITHIN PRIVATE PROPERTY LINES. A BACKWATER VALVE IS REQUIRED ON THE SANITARY SEWER LATERAL IF THE DISCHARGES FROM FIXTURES WITH FLOOD LEVEL RIMS ARE LOCATED BELOW THE NEXT UPSTREAM MANHOLE COVER OF THE PUBLIC SEWER (PER CITY STANDARD PLAN ST-24).

16. IF ANY EXISTING SEWER LATERAL (6" MINIMUM) IS USED, IT MUST BE TELEVISED TO CHECK ITS STRUCTURAL INTEGRITY PRIOR TO ANY DEMOLITION WORK. THE TAPE MUST BE MADE AVAILABLE FOR REVIEW BY THE PUBLIC WORKS DEPARTMENT AND MUST SHOW PROOF OF THE LOCATION OF WHERE IT WAS SHOT, THE PUBLIC WORKS DEPARTMENT WILL REVIEW THE TAPE AND DETERMINE AT THAT TIME IF THE SANITARY SEWER LATERAL NEEDS REPAIRING, REPLACED, OR THAT IT IS STRUCTURALLY SOUND AND CAN BE USED IN ITS PRESENT CONDITION. VIDEOING OF LATERAL MUST BE IN ITS ORIGINAL STATE. NO CLEANING, FLUSHING OR ALTERING PRIOR TO VIDEOING IS PERMITTED.

17. IF A NEW SEWER LATERAL IS TO BE INSTALLED AT A DIFFERENT LOCATION OF THE SEWER MAIN LINE, THE OLD LATERAL MUST BE CAPPED AT THE PROPERT LINE AND AT THE MAIN LINE. PRIOR TO STRUCTURE DEMOLITION A SEWER CA VERIFICATION AND APPROVAL FROM PUBLIC WORKS INSPECTOR IS REQUIRED

18. SEPARATE SEWER LATERAL CONNECTION IS REQUIRED FOR EACH PROPERTY PER M.B.M.C. 5.36.

19. WATER METERS MUST REMAIN ACCESSIBLE FOR METER READERS DURING CONSTRUCTION. WATER METERS SHALL BE PLACED NEAR THE PROPERTY LIN AND OUT OF THE DRIVEWAY APPROACH WHENEVER POSSIBLE. WATER METE PLACEMENT MUST BE SHOWN ON THE PLANS. SEE CITY STANDARD PLAN ST-15. FOR EXISTING WATER SERVICE RELOCATIONS AND/OR ABANDONMENT WATER SERVICE MUST BE CAPPED AT THE MAIN AND AT THE METER.

20. THE WATER METER BOX MUST BE PURCHASED FROM THE CITY, AND MUST HAVE A TRAFFIC RATED LID IF THE BOX IS LOCATED IN THE DRIVEWAY.
21. RESIDENTIAL PROPERTIES MUST PROVIDE AN ENCLOSED STORAGE AREA FOR REFUSE CONTAINERS. THESE AREAS MUST BE CONSTRUCTED TO MEET THE REQUIREMENTS OF M.B.M.C. 5.24.030. THE AREA MUST BE SHOWN IN DETAIL ON THE PLANS BEFORE A PERMIT IS ISSUED/FINALED.

22. ALL WORK DONE WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE DONE BY A LICENSED CONTRACTOR WITH A CLASS A, C- 12 OR C-34 LICENSE FOR ALL TRENCHING AND PAVING OR A CLASS C-08 LICENSE FOR ALL CONCRETE WORK. A CLASS B LICENSE MAY BE ACCEPTABLE FOR MINOR CURB, GUTTER AND SIDEWALK WORK CONSTRUCTED IN CONJUNCTION WITH A SINGLE-FAMILY RESIDENTIAL STRUCTURE. A SEPARATE PERMIT IS REQUIRED FOR WORK IN THE PUBLIC RIGHT-OF-WAY.

23. PLAN HOLDER MUST HAVE THE PLANS RECHECKED AND STAMPED FOR APPROVAL BY THE PUBLIC WORKS DEPARTMENT BEFORE THE BUILDING PERMIT IS ISSUED.

24. THE CONTRACTOR SHALL MONITOR, SUPERVISE AND CONTROL ALL CONSTRUCTION AND CONSTRUCTION-SUPPORTIVE ACTIVITIES, SO AS TO PREVENT THESE ACTIVITIES FROM CAUSING A PUBLIC NUISANCE, INCLUDING BUT NOT LIMITED TO, ENSURING STRICT ADHERENCE TO THE FOLLOWING:
    (a) REMOVAL OF DIRT, DEBRIS, OR OTHER CONSTRUCTION MATERIAL DEPOSITED ON ANY PUBLIC STREET NO LATER THAN THE END OF EACH WORKING DAY.
    (b) ALL EXCAVATIONS SHALL BE BACKFILLED AT THE END OF EACH WORKING DAY AND ROADS OPENED TO VEHICULAR TRAFFIC UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
    (c) ALL DUST CONTROL MEASURES PER SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) REQUIREMENTS SHALL BE ADHERED TO DURING CONSTRUCTION OPERATIONS.
    (d) ALL CONSTRUCTION TO BE IN CONFORMANCE WITH THE REGULATIONS OF CAL-OSHA.

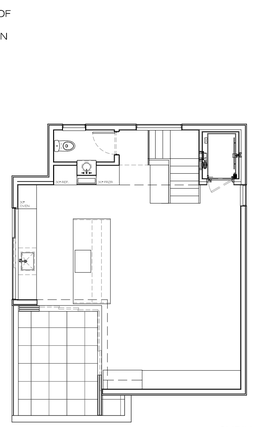
1

LIGHT + VENTILATION + EGRESS REQ'S (PER CRC R303.1)

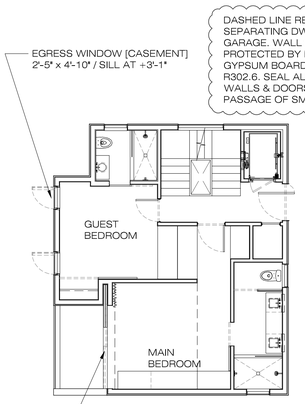
ROOM	VENTILATION = 4% OF FLOOR AREA REQ'D LIGHT = 8% OF FLOOR AREA REQ'D	PROVIDED	EGRESS: HEIGHT, WIDTH, AND SILL PROVIDED
BEDROOM (BASEMENT)	FLOOR AREA (134 S.F.) X .04 = 5.4 S.F. FLOOR AREA (134 S.F.) X .08 = 10.8 S.F.	11.6 S.F. 11.6 S.F.	31"W x 54"H @ 42" A.F.F.
GUEST BEDRM (2ND FLOOR)	FLOOR AREA (128 S.F.) X .04 = 5.1 S.F. FLOOR AREA (128 S.F.) X .08 = 10.2 S.F.	23.2 S.F. 23.2 S.F.	31"W x 61"H @ 37" A.F.F.
M BEDROOM (2ND FLOOR)	FLOOR AREA (159 S.F.) X .04 = 6.4 S.F. FLOOR AREA (159 S.F.) X .08 = 12.8 S.F.	52.7 S.F. 67 S.F.	82"W (CLR) x 96-1/2"H @ 0'-0" A.F.F.

BASEMENT NOTE: FOR OTHER THAN THE BEDROOM EGRESS WINDOW, NATURAL LIGHT AND VENTILATION ARE NOT REQUIRED PER R303.1, EXCEPTIONS 1 AND 3, AS THE HOUSE IS PROVIDED WITH A MECHANICAL VENTILATION SYSTEM PRODUCING A MINIMUM OF 0.35 ACH/HR AND SUFFICIENT ARTIFICIAL LIGHTING

1



THIRD FLOOR



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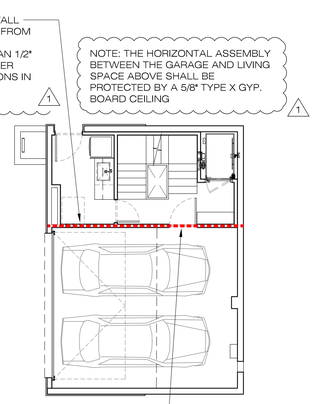
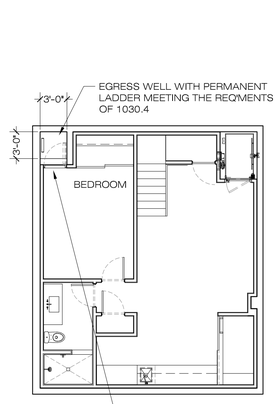


FIRST FLOOR



BASEMENT

1 | CODE PLANS

SCALE: 1/8"=1'-0"

0' 2' 4' 8'

the construction zone
1720 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA

06.05.25

PERMIT SET

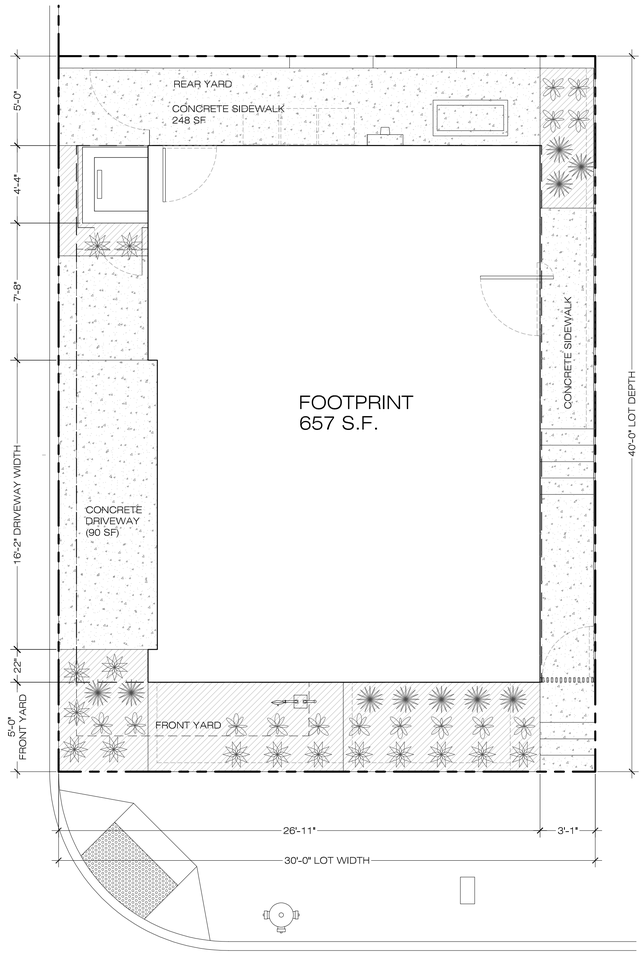
ocean drive residence

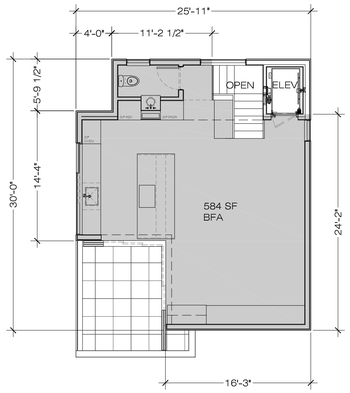
2800 ocean drive manhatten beach, ca 90266

GENERAL NOTES / LIFE SAFETY

04.18.25
06.06.25

A001





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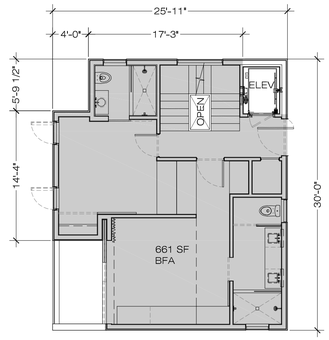

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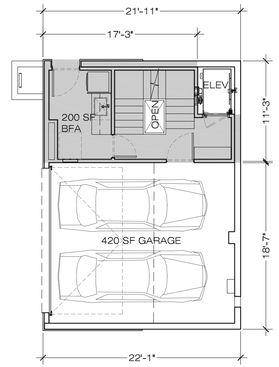

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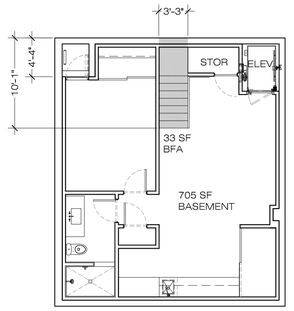
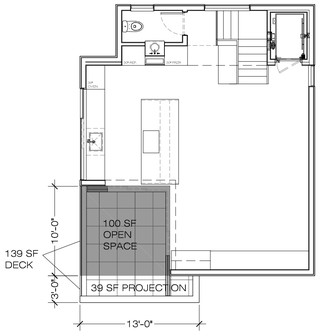


BASEMENT

LEGEND:
BUILDABLE FLOOR AREA

1 | BUILDABLE FLOOR AREA

SCALE: 1/8"=1'-0"



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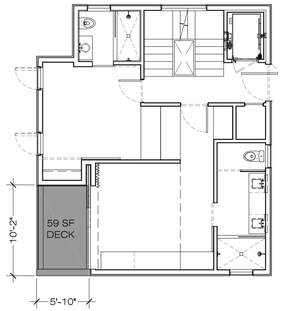

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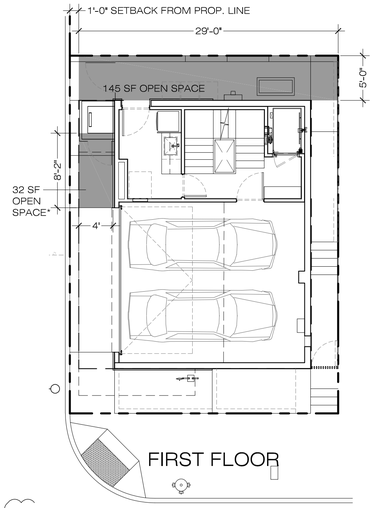

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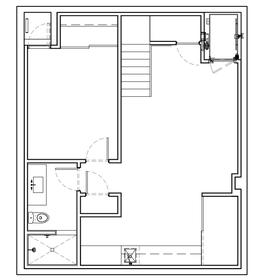

BASEMENT

LEGEND:
OPEN SPACE

2 | OPEN SPACE

SCALE: 1/8"=1'-0"

3 | LANDSCAPE PLAN

SCALE: 1/4"=1'-0"

LANDSCAPE CALCULATIONS

LOT AREA	1200 SF	
BUILDING FOOTPRINT	657 SF	
DRIVEWAY	90 SF	
LANDSCAPE / HARDSCAPE AREA		
(LOT S.F. - BUILDING FOOTPRINT-DRIVEWAY)	1200-657-90	=453 SF
TOTAL LANDSCAPE AREA		=183 SF[1]
FRONT YARD		
GROSS AREA	5'-0" x 30' = 150 SF	
REQUIRED LANDSCAPE	150 SF x 20% = 30 SF	
PROVIDED LANDSCAPE	5'-0" x 26'-11" = 134 SF	

[1] PROJECT COMPLIES WITH PRESCRIPTIVE REQUIREMENTS PER SECTION 492. SEE NOTES AND PLANT LIST
NOTE THAT PER 491(a)(1), LANDSCAPE AREAS AS DEFINED IN 490.2(a)(41) WITH AN AREA LESS THAN 500 SF ARE NOT REQUIRED TO SHOW COMPLIANCE WITH MWELO PER 491(a)(1)

PLANT LIST / SUNSET ZONE 24

SYMBOL	BOTANICAL NAME	QTY	SIZE	WATER USE CLASSIF.	MATURE HEIGHT
	CORDYLINE PUMILIO	10	1 GAL	MED	36"
	FESTUCA GLAUCA	15	1 GAL	LOW	12"
	BUDDLEIA DAVIDII	14	1 GAL	LOW	24-36"
	PLANTED AREAS / DYMONDIA MARGARATAE GROUND COVER WITH PLANTS LISTED ABOVE				

LANDSCAPE NOTES

1. COMPOST SHALL BE INCORPORATED INTO TOP SOIL AT A RATE OF 4 CU YDS PER 1,000 SF TO A DEPTH OF 6"
2. IRRIGATION SHALL BE DRIP SYSTEM ONLY TO COMPLY WITH SECTION 492(c)(2)
3. ALL PLANTS ARE LOW OR MEDIUM WATER USE PER WUCOLS CLASSIFICATION / REGION 3. SEE PLANT LIST

PLANNING AREA CALCULATIONS

AREA CALCULATIONS	
AREA OF LOT	1,200 SF
BASEMENT FLOOR LIVING	761 SF
FIRST FLOOR LIVING	200 SF
SECOND FLOOR LIVING	661 SF
THIRD FLOOR LIVING	584 SF
TOTAL LIVING	2,206 SF
GARAGE	420 SF
BALCONIES	59 + 139 = 198 SF
B.F.A. CALCULATIONS	
ALLOWABLE B.F.A.	1.7 x 1,200 = 2,040 SF
ACTUAL FLOOR AREA	BASEMENT = 0 (BELOW GRADE) + 33 SF (STAIRS) FIRST FLOOR (200 + (0 / GARAGE EXEMPT) = 200 SF SECOND FLOOR = 661 SF
TOTAL PROPOSED FLOOR AREA	THIRD FLOOR = 584 SF 1,478 SF < 2,040 SF
OPEN SPACE CALCULATIONS	
OPEN SPACE REQ'D	B.F.A. (INCL BASEMENT) = 2,206 SF x 15% = 331 SF
OPEN SPACE PROVIDED	145 SF (REAR YARD) 32 SF (FIRST FLOOR) 59 SF (SECOND FLOOR DECK) 100 SF (THIRD FLOOR DECK W/O OVERHANG) TOTAL OPEN SPACE
PROVIDED	336 SF > 331 SF

DECK PROJECTION CALCULATIONS	
ALLOWABLE AREA	3 x (1/2 BUILDABLE LOT WIDTH) = 3 x (0.5 x 26') = 39 S.F.
ALLOWED PROJECTION LENGTH	0.5 x 26' = 13'-0"
ACTUAL PROJECTION LENGTH	39 SF / 13' LONG
BUILDING SETBACKS	
FRONT	5 FT
REAR	5 FT
SIDE	10% x 30' WIDTH = 3 FT
CORNER [SIDE] SETBACK	1 FT
HEIGHT CALCULATIONS	
MAX BUILDING HEIGHT	30 FT
AVG. SITE ELEVATION	112.26' + 112.32' +117.75' + 120.35' = 462.68' 462.68' / 4 = 115.67'
MAX ALLOWABLE HEIGHT	115.67' + 30' = 145.67'
ACTUAL HEIGHT	145.50'

the construction zone
1720 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

PERMIT SET

ocean drive residence

2800 ocean drive manhatten beach, ca 90266

04.18.25
06.06.25

PLANNING CALCS / LANDSCAPE

A002

CAUTION:

1. CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA - U.S.A AT 811 - FOR LOCATION OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES PRIOR TO BEGINNING ANY WORK ON THIS SITE.

GENERAL SITE NOTES:

1. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING ON THIS WORK AND CONSIDER THE EXISTING CONDITIONS AND SITE CONSTRAINTS IN THE BID. CONTRACTOR SHALL BE IN THE POSSESSION OF AND FAMILIAR WITH ALL APPLICABLE GOVERNING AGENCIES STANDARD DETAILS AND SPECIFICATIONS PRIOR TO SUBMITTING OF A BID.
2. ALL WORK ON-SITE AND IN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO ALL APPLICABLE GOVERNING AGENCIES STANDARD DETAILS AND SPECIFICATIONS.
3. PRIOR TO BEGINNING WORK, AND AFTER INITIAL HORIZONTAL CONTROL STAKING, CONTRACTOR SHALL FIELD CHECK ALL EXISTING ELEVATIONS MARKED WITH AND REPORT ANY DISCREPANCIES GREATER THAN 0.05' TO PROJECT MANAGER.
4. DAMAGE TO ANY EXISTING SITE IMPROVEMENTS, UTILITIES AND/OR SERVICES TO REMAIN SHALL BE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL REPAIR AND/OR REPLACE IN KIND.
5. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT DEFEND, INDEMNIFY, AND HOLD THE CLIENT, THE CONSULTING ENGINEER, AND THE CITY HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE CLIENT OR THE CONSULTING ENGINEER.
6. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.

DEMOLITION NOTES

1. CONTRACTOR IS TO COMPLY WITH ALL GENERAL AND STATE REQUIREMENTS INVOLVING THE REMOVAL AND DISPOSAL OF HAZARDOUS MATERIAL(S).
2. CONTRACTOR'S BID IS TO INCLUDE ALL VISIBLE SURFACE AND ALL SUBSURFACE FEATURES IDENTIFIED TO BE REMOVED OR ABANDONED IN THESE DOCUMENTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A SITE INSPECTION TO FULLY ACKNOWLEDGE THE EXTENT OF THE DEMOLITION WORK.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS NECESSARY FOR ENCROACHMENT, GRADING, DEMOLITION, AND DISPOSAL OF SAID MATERIALS AS REQUIRED BY PRIVATE, LOCAL AND STATE JURISDICTIONS. THE CONTRACTOR SHALL PAY ALL FEES ASSOCIATED WITH THE DEMOLITION WORK.
5. BACKFILL ALL DEPRESSIONS AND TRENCHES FROM DEMOLITION TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
6. REMOVAL OF LANDSCAPING SHALL INCLUDE ROOTS AND ORGANIC MATERIALS TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
7. PRIOR TO BEGINNING DEMOLITION WORK ACTIVITIES, CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES OUTLINED IN THE EROSION CONTROL PLAN & DETAILS.
8. THE CONTRACTOR SHALL MAINTAIN ALL SAFETY DEVICES, AND SHALL BE RESPONSIBLE FOR CONFORMANCE TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS LAWS AND REGULATIONS.
9. THE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING IMPROVEMENTS FACILITIES AND STRUCTURES WHICH ARE TO REMAIN. ANY ITEMS DAMAGED BY THE CONTRACTOR OR HIS AGENTS OR ANY ITEMS REMOVED FOR HIS USE SHALL BE REPLACED IN EQUAL OR BETTER CONDITION AS APPROVED BY THE ARCHITECT OR OWNER'S REPRESENTATIVE.
10. COORDINATE WITH ELECTRICAL, MECHANICAL, LANDSCAPING AND ARCHITECTURAL DRAWINGS FOR UTILITY SHUT-DOWN/DISCONNECT LOCATIONS. CONTRACTOR IS TO SHUT OFF ALL UTILITIES AS NECESSARY PRIOR TO DEMOLITION. CONTRACTOR IS TO COORDINATE SERVICE INTERRUPTIONS WITH THE CLIENT. DO NOT INTERRUPT SERVICES TO ADJACENT OFF-SITE OWNERS. ALSO SEE ARCHITECTURAL PLANS FOR ADDITIONAL DEMOLITION SCOPE OF WORK.
11. THIS PLAN IS NOT INTENDED TO BE A COMPLETE CATALOGUE OF ALL EXISTING STRUCTURES AND UTILITIES. THIS PLAN INTENDS TO DISCLOSE GENERAL INFORMATION KNOWN BY THE ENGINEER AND TO SHOW THE LIMITS OF THE AREA WHERE WORK WILL BE PERFORMED. THIS PLAN SHOWS THE EXISTING FEATURES TAKEN FROM A FIELD SURVEY, FIELD INVESTIGATIONS AND AVAILABLE INFORMATION. THIS PLAN MAY OR MAY NOT ACCURATELY REFLECT THE TYPE OR EXTENT OF THE ITEMS TO BE ENCOUNTERED AS THEY ACTUALLY EXIST. WHERE EXISTING FEATURES ARE NOT SHOWN, IT IS NOT IMPLIED THAT THEY ARE NOT TO BE DEMOLISHED OR REMOVED. THE CONTRACTOR SHALL PERFORM A THOROUGH FIELD INVESTIGATION AND REVIEW OF THE SITE WITHIN THE LIMIT OF WORK SHOWN IN THIS PLAN SET TO DETERMINE THE TYPE, QUANTITY AND EXTENT OF ANY AND ALL ITEMS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING THE EXTENT OF EXISTING STRUCTURES AND UTILITIES AND QUANTITY OF WORK INVOLVED IN REMOVING THESE ITEMS FROM THE SITE.

RECORD DRAWINGS:

1. THE CONTRACTOR SHALL KEEP UP-TO-DATE AND ACCURATE A COMPLETE RECORD SET OF PRINTS OF THE CONTRACT DRAWINGS SHOWING EVERY CHANGE FROM THE ORIGINAL DRAWINGS MADE DURING THE COURSE OF CONSTRUCTION INCLUDING EXACT FINAL LOCATION, ELEVATION, SIZES, MATERIALS, AND DESCRIPTION OF ALL WORK. RECORDS SHALL BE "REDLINED" ON A SET OF CONSTRUCTION PLAN DRAWINGS. A COMPLETE SET OF CORRECTED AND COMPLETED RECORD DRAWING PRINTS SHALL BE SUBMITTED TO THE CITY ENGINEER AND DEVELOPER'S CIVIL ENGINEER PRIOR TO FINAL ACCEPTANCE FOR REVIEW AND APPROVAL BY THE CITY ENGINEER.

SHORING NOTES:

1. A SHORING PERMIT IS REQUIRED FOR ANY VERTICAL CUT OR FILL THAT IS 4'-0" IN HEIGHT OR OVER. ENGINEERED SHORING PLANS AND CALCULATIONS MUST BE SUBMITTED TO THE BUILDING DIVISION FOR REVIEW AND APPROVAL PER SECTION 3301.2 OF THE CBC. THE HOLDER OF A SHORING PERMIT SHALL NOTIFY IN WRITING TO ALL ADJOINING PROPERTY OWNERS, NOT LESS THAN 10 DAYS BEFORE SUCH EXCAVATIONS IS TO COMMENCE. AN OSHA PERMIT IS ALSO REQUIRED A COPY OF WHICH SHALL BE SUBMITTED TO THE BUILDING DIVISION.
2. SHORING CONTRACTOR SHALL NOTIFY THE UNDERGROUND SERVICE ALERT (1-800-422-4133) PRIOR TO ANY EXCAVATION.

CALIFORNIA GREEN BUILDING CODE (CGBC)

1. COMPLY WITH SECTION 301.3.2 REGARDING WASTE DIVERSION REQUIRED FOR ALTERATION (T.I.) THAT REQUIRES BUILDING PERMIT.
2. COMPLY WITH SECTION 4.408 REGARDING CONSTRUCTION WASTE REDUCTION DISPOSAL AND RECYCLING.

HORIZONTAL CONTROL NOTES:

1. ALL DIMENSIONS ON THE PLANS ARE IN FEET OR DECIMALS THEREOF UNLESS SPECIFICALLY CALLED OUT AS FEET AND INCHES.
2. AN ELECTRONIC FILE WILL BE MADE AVAILABLE TO THE CONTRACTOR UPON REQUEST FOR THE CONTRACTOR'S SURVEYOR TO LAYOUT THE STAKING PLAN WITH. THE SURVEYOR OR CONTRACTOR WILL NEED TO SIGN A WAIVER FORM BEFORE RELEASE OF ELECTRONIC DRAWINGS IS APPROVED.
3. REFER TO ARCHITECTURAL PLANS FOR MORE DIMENSION INFORMATION.

PAVEMENT SECTION:

1. SEE STRUCTURAL DRAWINGS FOR BUILDING SLAB SECTIONS AND PAD PREPARATIONS.
2. SEE GEOTECHNICAL REPORT FOR ALL FLATWORK AND VEHICULAR PAVEMENT SECTIONS AND BASE REQUIREMENTS.
3. THE FINAL OR SURFACE LAYER OF ASPHALT CONCRETE SHALL NOT BE PLACED UNTIL ALL ON-SITE IMPROVEMENTS HAVE BEEN COMPLETED, INCLUDING ALL GRADING, AND ALL UNACCEPTABLE CONCRETE WORK HAS BEEN REMOVED AND REPLACED, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER AND/OR DEVELOPER'S CIVIL ENGINEER.
4. ALL PAVING SHALL BE IN CONFORMANCE WITH THE LATEST GREENBOOK STANDARD SPECIFICATIONS.

SITE MAINTENANCE:

1. REMOVE ALL DIRT, GRAVEL, RUBBISH, REFUSE, AND GREEN WASTE FROM STREET PAVEMENT AND STORM DRAINS ADJOINING THE SITE. LIMIT CONSTRUCTION ACCESS ROUTES ONTO THE SITE AND PLACE GRAVEL PADS AT THESE LOCATIONS. DO NOT DRIVE VEHICLES AND EQUIPMENT OFF THE PAVED OR GRAVELED AREAS DURING WET WEATHER.
2. SWEEP OR VACUUM THE STREET PAVEMENT AND SIDEWALKS ADJOINING THE PROJECT SITE AND THE ON-SITE PAVED AREAS ON A DAILY BASIS. SCRAPE CAKED-ON MUD AND DIRT FROM THESE AREAS BEFORE SWEEPING. CORNERS AND HARD TO REACH AREAS SHALL BE SWEPT MANUALLY.
3. CREATE A CONTAINED AND COVERED AREA ON THE SITE FOR THE STORAGE OF BAGS, CEMENT, PAINTS, OILS, FERTILIZERS, PESTICIDES, OR OTHER MATERIALS USED ON THE SITE THAT HAVE THE POTENTIAL OF BEING DISCHARGED INTO THE STORM DRAIN SYSTEM THROUGH EITHER BEING WIND-BLOWN OR IN THE EVENT OF A MATERIAL SPILL.
4. NEVER CLEAN MACHINERY, EQUIPMENT OR TOOLS INTO A STREET, GUTTER OR STORM DRAIN.
5. ENSURE THAT CEMENT TRUCKS, PAINTERS, OR STUCCO/PLASTER FINISHING CONTRACTORS DO NOT DISCHARGE WASH WATER FROM EQUIPMENT, TOOLS OR RINSE CONTAINERS INTO GUTTERS OR DRAINS.
6. UPON PROJECT COMPLETION THE CLIENT SHALL BE SOLELY RESPONSIBLE TO ROUTINELY INSPECT AND MAINTAIN ALL ON-SITE STORM DRAIN FACILITIES. STORM DRAIN SYSTEM SHALL BE CLEANED AND/OR FLUSHED ON A BIANNUAL BASIS OR AS FOUND NECESSARY.

DUST CONTROL:

1. WATER TRUCKS SHALL BE PRESENT AND IN USE AT THE CONSTRUCTION SITE. ALL PORTIONS OF THE SITE SUBJECT TO BLOWING DUST SHALL BE WATERED AS OFTEN AS DEEMED NECESSARY BY THE CLIENT/INSPECTOR IN ORDER TO INSURE PROPER CONTROL OF BLOWING DUST FOR THE DURATION OF THE PROJECT.
2. ALL PUBLIC STREETS AND MEDIANS SOILED OR LITTERED DUE TO THIS CONSTRUCTION ACTIVITY SHALL BE CLEANED AND SWEPT ON A DAILY BASIS DURING THE WORK WEEK, OR AS OFTEN AS DEEMED NECESSARY BY THE CLIENT/INSPECTOR, OR TO THE SATISFACTION OF THE CITY'S DEPARTMENT OF PUBLIC WORKS.
3. ALL TRUCKS HAULING SOIL, SAND, AND OTHER LOOSE MATERIALS SHALL BE COVERED WITH TARPAULINS OR OTHER EFFECTIVE COVERS.
4. WHEEL WASHERS SHALL BE INSTALLED AND USED TO CLEAN ALL TRUCKS AND EQUIPMENT LEAVING THE CONSTRUCTION SITE. IF WHEEL WASHERS CANNOT BE INSTALLED, TIRES OR TRACKS OF ALL TRUCKS AND EQUIPMENT SHALL BE WASHED OFF BEFORE LEAVING THE CONSTRUCTION SITE.
5. THE CONTRACTOR SHALL DEMONSTRATE DUST SUPPRESSION MEASURES, SUCH AS REGULAR WATERING, WHICH SHALL BE IMPLEMENTED TO REDUCE EMISSIONS DURING CONSTRUCTION AND GRADING IN A MANNER MEETING THE APPROVAL OF THE CONSTRUCTION MANAGER. THIS SHALL ASSIST IN REDUCING SHORT-TERM IMPACTS FROM PARTICLES WHICH COULD RESULT IN NUISANCES THAT ARE PROHIBITED BY RULE 403 (FUGITIVE DUST).
6. GRADING OR ANY OTHER OPERATIONS THAT CREATES DUST SHALL BE STOPPED IMMEDIATELY IF DUST AFFECTS ADJACENT PROPERTIES. THE CONTRACTOR SHALL PROVIDE SUFFICIENT DUST CONTROL FOR THE ENTIRE PROJECT SITE IN ACCORDANCE WITH NPDES AT ALL TIMES. THE SITE SHALL BE SPRINKLERED AS NECESSARY TO PREVENT DUST NUISANCE. IN THE EVENT THAT THE CONTRACTOR NEGLECTS TO USE ADEQUATE MEASURES TO CONTROL DUST, THE CLIENT RESERVES THE RIGHT TO TAKE WHATEVER MEASURES ARE NECESSARY TO CONTROL DUST AND CHARGE THE COST TO THE CONTRACTOR.
7. THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL MEASURES AND FOR OBTAINING ALL REQUIRED PERMITS AND APPROVALS.

SITE FENCE NOTES:

1. CONTRACTOR SHALL PROVIDE A CONSTRUCTION FENCE AROUND THE ENTIRE AREA OF DEMOLITION AND CONSTRUCTION, INCLUDING ALL STAGING, STORAGE, CONSTRUCTION OFFICE AND LAYDOWN AREAS.
2. CONSTRUCTION FENCE SHALL BE A MINIMUM OF A 6' HIGH GALVANIZED CHAIN LINK WITH GREEN WINDSCREEN FABRIC ON THE OUTSIDE OF THE FENCE.
3. CONSTRUCTION FENCE ADDRESSED IN THESE NOTES IS ONLY FOR VISUAL CONFORMANCE OF THIS CONSTRUCTION SITE TO THE CITY STANDARDS. CONTRACTOR MAY BE REQUIRED TO PROVIDE ADDITIONAL FENCING, BARRICADES OR OTHER SAFETY DEVICES TO KEEP THE SITE SECURE AND SAFE.

GENERAL UTILITY SYSTEM NOTES:

1. ALL TRENCHES SHALL BE BACK FILLED PER THE SPECIFICATIONS WITH APPROPRIATE TESTS BY THE GEOTECHNICAL ENGINEER TO VERIFY COMPACTION VALUES.
2. CLEAN OUTS, CATCH BASINS AND AREA DRAINS ARE TO BE ACCURATELY LOCATED BY THEIR RELATIONSHIP TO THE BUILDING, FLATWORK, ROOF DRAINS, AND/OR CURB LAYOUT, NOT BY THE LENGTH OF PIPE SPECIFIED IN THE DRAWINGS (WHICH IS APPROXIMATE).
3. CONTRACTOR SHALL STAKE LOCATION OF ABOVE GROUND UTILITY EQUIPMENT (BACKFLOW PREVENTOR, SATELLITE DISH, TRANSFORMER, GAS METER, ETC.) AND MEET WITH CLIENT TO REVIEW LOCATION PRIOR TO INSTALLATION. PLANNING DEPARTMENT MUST SPECIFICALLY AGREE WITH LOCATION PRIOR TO PROCEEDING WITH THE INSTALLATION.
4. CONTRACTOR SHALL PREPARE AN ACCURATE COMPOSITE UTILITY PLAN THAT TAKES INTO ACCOUNT THE ACTUAL LOCATION OF EXISTING UTILITIES AS DETERMINED DURING THE DEMOLITION WORK, THE UTILITIES SHOWN ON THE CIVIL DRAWINGS, AND THE SITE POWER, CONDUITS AND LIGHTING SHOWN ON THE ELECTRICAL PLANS. THE FIRE SPRINKLER SYSTEM SHALL BE INCLUDED AS DESIGNED BY THE DESIGN/BUILD UNDERGROUND FIRE SPRINKLER CONTRACTOR.
5. CATHODIC PROTECTION MAY BE REQUIRED ON ALL METALLIC FITTINGS AND ASSEMBLIES THAT ARE IN CONTACT WITH THE SOIL, IF RECOMMENDED BY THE GEOTECHNICAL REPORT. CONTRACTOR IS RESPONSIBLE TO FULLY ENGINEER AND INSTALL THIS SYSTEM AND COORDINATE ANODE AND TEST STATION LOCATIONS WITH OWNER'S PROJECT MANAGER.
6. COMPLETE SYSTEMS: ALL UTILITY SYSTEMS ARE DELINEATED IN A SCHEMATIC MANNER ON THESE PLANS. CONTRACTOR IS TO PROVIDE ALL FITTINGS, ACCESSORIES AND WORK NECESSARY TO COMPLETE THE UTILITY SYSTEM SO THAT IT IS FULLY FUNCTIONING FOR THE PURPOSE INTENDED.
7. UNDERGROUND UTILITIES OR STRUCTURES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS AND EXTENT BASED UPON RECORD INFORMATION. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CLIENT, BY ACCEPTING THESE PLANS OR PROCEEDING WITH IMPROVEMENTS PURSUANT THERETO, AGREES TO ASSUME LIABILITY AND TO HOLD UNDERSIGNED HARMLESS FOR ANY DAMAGES RESULTING FROM THE EXISTENCE OF UNDERGROUND UTILITIES OR STRUCTURES NOT REPORTED TO THE UNDERSIGNED; NOT INDICATED ON THE PUBLIC RECORDS EXAMINED, LOCATED AT VARIANCE WITH THOSE REPORTED OR SHOWN ON RECORDS EXAMINED.
8. CONTRACTOR SHALL VERIFY ALL EXISTING INVERT ELEVATIONS FOR STORM DRAIN AND SANITARY SEWER CONSTRUCTION PRIOR TO COMMENCEMENT OF ANY WORK. ALL WORK FOR STORM AND SANITARY SEWER INSTALLATION SHALL BEGIN AT THE DOWNSTREAM CONNECTION POINT. THIS WILL ALLOW FOR ANY NECESSARY ADJUSTMENTS TO BE MADE PRIOR TO THE INSTALLATION OF THE ENTIRE LINE. IF THE CONTRACTOR FAILS TO BEGIN AT THE DOWNSTREAM CONNECTION POINT AND WORKS UP STREAM, HE SHALL PROCEED AT HIS OWN RISK AND BE RESPONSIBLE FOR ANY ADJUSTMENTS NECESSARY. CONTRACTOR SHALL VERIFY LOCATION OF SANITARY SEWER LATERAL WITH OWNER PRIOR TO CONSTRUCTION.
9. EXISTING UTILITY CROSSINGS OF NEW PIPELINE ARE SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. GAS, WATER AND SEWER SERVICE LATERALS ARE SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THE TYPE, SIZE, LOCATION AND DEPTH OF ALL THE UTILITY CROSSING (BOTH MAINS AND LATERALS) ARE CORRECT AS SHOWN. NO GUARANTEE IS MADE THAT ALL EXISTING UTILITIES (BOTH MAINS AND LATERALS) ARE SHOWN. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING AND SHALL PROTECT ALL EXISTING UTILITIES (BOTH MAINS AND LATERALS) FROM DAMAGE DUE TO HIS OPERATION.
10. VERTICAL SEPARATION REQUIREMENTS:

    A MINIMUM OF SIX (6) INCHES VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN CROSSING UTILITY PIPES, EXCEPT THAT THE MINIMUM VERTICAL CLEARANCE BETWEEN WATER AND SANITARY SEWER PIPELINES SHALL BE 12 INCHES AND ALL NEW WATER PIPES SHALL BE TYPICALLY INSTALLED TO CROSS ABOVE/OVER EXISTING SANITARY SEWER PIPELINES.

    WHERE NEW WATER PIPELINES ARE REQUIRED TO CROSS UNDER EXISTING AND/OR NEW SANITARY SEWER PIPELINES, THE MINIMUM VERTICAL SEPARATION SHALL BE 12 INCHES. WATER LINE PIPE ENDS SHALL BE INSTALLED NO CLOSER THAN 10' MINIMUM HORIZONTAL DISTANCE FROM CENTERLINE OF UTILITY CROSSINGS, WHERE FEASIBLE.

11. HORIZONTAL SEPARATION REQUIREMENTS:

    A MINIMUM HORIZONTAL SEPARATION BETWEEN NEW PIPELINES AND ANY EXISTING UTILITIES SHALL BE 5' FEET, EXCEPT THAT THE MINIMUM HORIZONTAL SEPARATION FOR WATER AND SANITARY SEWER PIPELINES SHALL BE 10' MINIMUM, UNLESS OTHERWISE NOTED.

    A MINIMUM HORIZONTAL SEPARATION BETWEEN NEW PIPELINES AND JOINT TRENCH SHALL BE 5 FEET.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING APPROPRIATE UTILITIES AND REQUESTING VERIFICATION OF SERVICE POINTS, FIELD VERIFICATION OF LOCATION, SIZE, DEPTH, ETC. FOR ALL THEIR FACILITIES AND TO COORDINATE WORK SCHEDULES.
13. ANY EXISTING UNDERGROUND UTILITY LINES TO BE ABANDONED, SHOULD BE REMOVED FROM WITHIN THE PROPOSED BUILDING ENVELOPE AND THEIR ENDS CAPPED OUTSIDE OF THE BUILDING ENVELOPE.

NPDES REQUIREMENTS:

1. ALL CONSTRUCTION ON OFF-SITE OR ON-SITE IMPROVEMENTS SHALL ADHERE TO NPDES (NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM) BEST MANAGEMENT PRACTICES TO PREVENT DELETERIOUS MATERIALS OR POLLUTANTS FROM ENTERING THE CITY OR COUNTY STORM DRAIN SYSTEMS.
2. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, OR WIND.
3. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
4. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED U IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
5. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC RIGHT-OF-WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
6. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION AND DISPERSAL BY WIND.
7. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC RIGHT-OF-WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
8. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
9. CLEAN UP ALL SPILLS USING DRY METHODS.
10. SWEEP ALL GUTTERS AT THE END OF EACH WORKING DAY. GUTTERS SHALL BE KEPT CLEAN AFTER LEAVING CONSTRUCTION SITE.
11. CALL 911 IN CASE OF A HAZARDOUS SPILL.
12. BMP'S AS OUTLINED IN, BUT NOT LIMITED TO, CALIFORNIA STORM WATER QUALITY TASK FORCE, SACRAMENTO, CALIFORNIA, JANUARY 2003, OR THE LATEST REVISED EDITION, MAY APPLY DURING THE CONSTRUCTION OF THIS PROJECT (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY CITY INSPECTORS).
13. UPON SATISFACTORY COMPLETION OF THE WORK, THE ENTIRE WORK SITE SHALL BE CLEANED BY THE CONTRACTOR AND LEFT WITH A SMOOTH AND NEATLY GRADED SURFACE FREE OF CONSTRUCTION WASTE, RUBBISH, AND DEBRIS OF ANY NATURE.

STORM DRAIN MAINTENANCE NOTES:

PLEASE NOTE THAT REGULAR MAINTENANCE ON GRADING AND DRAINAGE STRUCTURES IS REQUIRED TO ENSURE FUNCTIONALITY THROUGHOUT THE LIFE OF THE PROPERTY. MAINTENANCE SHOULD INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

1. THE CLEARING OF DEBRIS AND SEDIMENTS FROM THE STORM DRAIN SYSTEM AND DRAINAGE BASINS
2. ROOF GUTTERS AND DOWNSPOUTS SHOULD BE CLEARED BEFORE THE BEGINNING OF EACH RAINY SEASON AND AS NEEDED THROUGHOUT THE WINTER MONTHS.
3. FOUNDATION SUBDRAINS SHOULD BE INSPECTED VIA CLEANOUTS ONCE EVERY 5 YEARS AND SNAKED AS NEEDED TO CLEAR DEBRIS.
4. SURFACE GRADING MAY ALSO REQUIRE CONTINUED REFINEMENT TO MINIMIZE PONDING, MAINTAIN POSITIVE DRAINAGE AWAY FROM IMPROVEMENTS AND PROTECT AGAINST EROSION.

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1720 east osborn road
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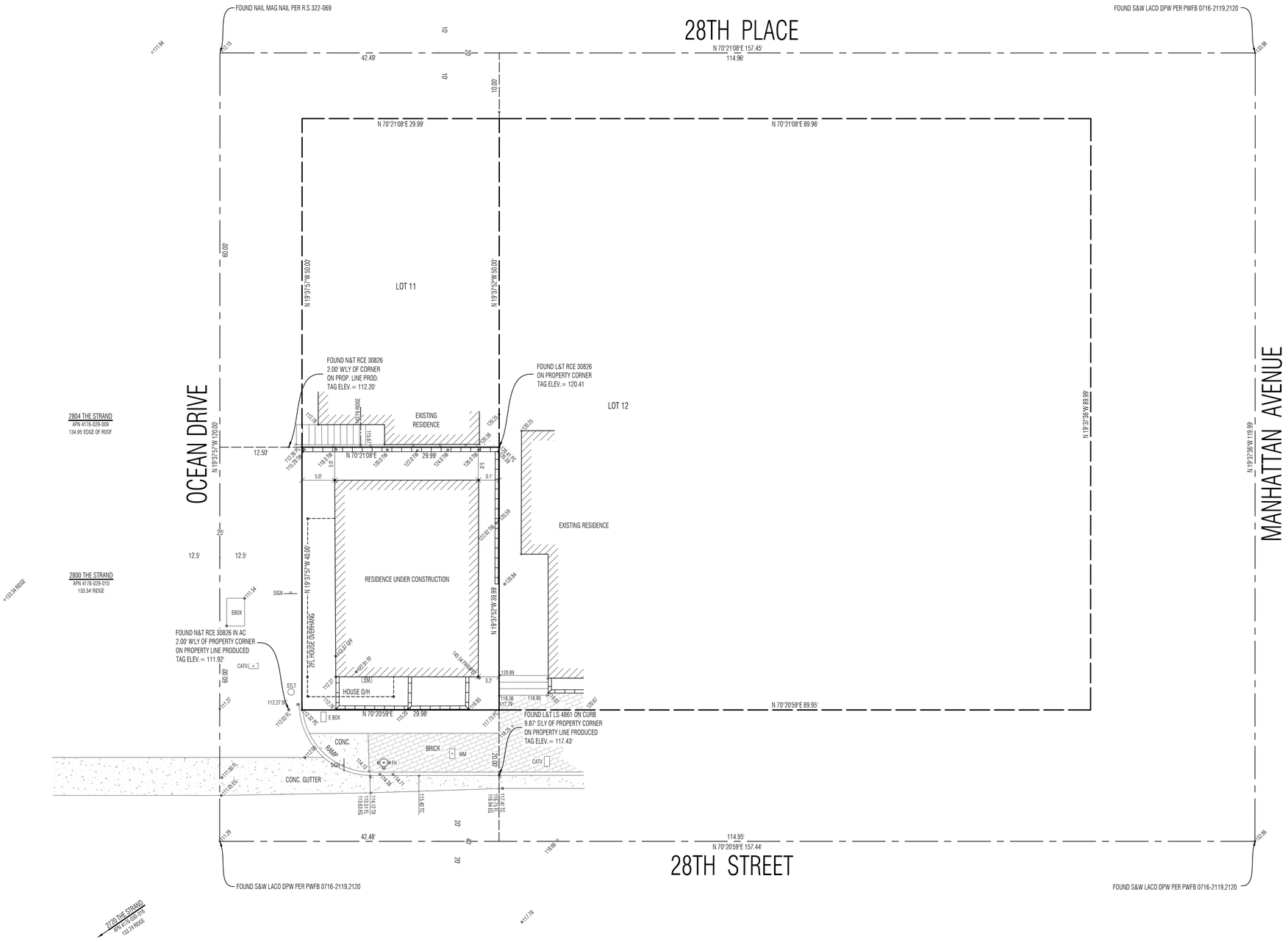
LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

PERMIT SET
2024053081

ocean drive residence
2800 ocean drive manhatten beach, ca 90266

GENERAL SITE NOTES
04.18.25

A003



ASSUMED BENCHMARK ELEVATION 99.18'
FOUND L&T WITH DPW TAG IN THE ELY CURB OF THE STRAND AND THE CENTERLINE PROD. OF 28TH STREET
SUBTRACT TO 65.16' FROM ELEVATIONS SHOWN HEREON TO RELATE TO LA COUNTY BENCHMARK QY12100
(ELEVATION 34.017 / 2013 QUAD YEAR)

NOTE:
A TITLE POLICY HAS BEEN PROVIDED AND REVIEWED BY DENN ENGINEERS AT THE TIME OF THIS SURVEY.
NO PLOTTABLE EASEMENTS WERE IDENTIFIED ON THE PROVIDED TITLE REPORT PER THE FOLLOWING:

PROGRESSIVE TITLE COMPANY
ORDER NO. PR1711296
DATED JULY 24, 2017

SCALE 1" = 8'

DENN ENGINEERS
3914 DEL AMO BLVD, SUITE 921
TORRANCE, CA 90503 (310) 542-9433

BOUNDARY SURVEY WITH TOPOGRAPHY

FOR
DON MURPHY
C/O: RJ SMITH CONSTRUCTION
901 MANHATTAN BEACH BOULEVARD
MANHATTAN BEACH, CA 90266
PHONE 310-648-8353

JOB ADDRESS
2800 OCEAN DRIVE
MANHATTAN BEACH, CA 90266

LEGAL DESCRIPTION
LOT 11, BLOCK 7 OF PECK'S MANHATTAN BEACH TRACT M.B. 7-34, EXCEPT THE NORTH 50.00' THEREOF
APN 4176-029-011

LOT AREA = 1,200 SQFT

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF PROFESSIONAL LAND SURVEYORS' ACT

LICENSED LAND SURVEYOR
MICHAEL GUZMAN WALLACE
PLS 9822
STATE OF CALIFORNIA

DRAWN BY FM CHECK BY TS

DRAWN ON DECEMBER 11, 2024

REVISIONS
REVISIONS

LEGEND

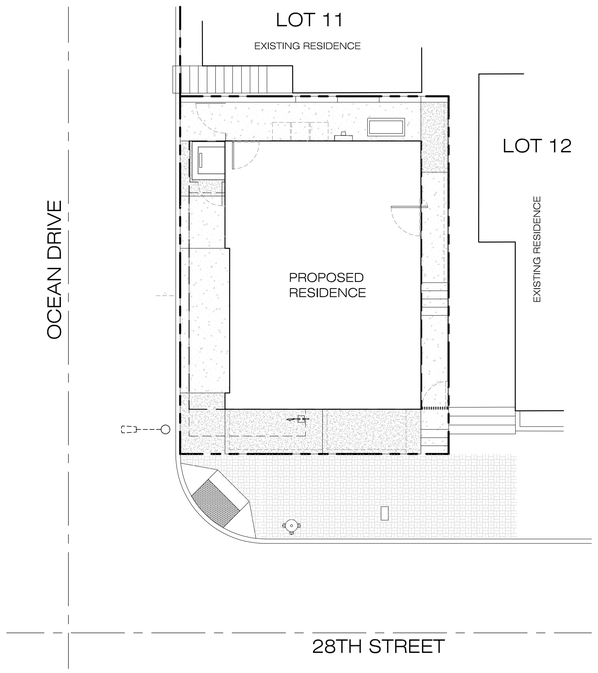
EXISTING BUILDING
BRICK
CONCRETE
WOOD DECK
+106.76 EXISTING ELEVATION
106 EXISTING CONTOUR
BLOCK WALL
X EXISTING FENCE

BCR	BEGINNING OF CURB RETURN
CATV	CABLE TV PULL BOX
CONC.	CONCRETE
CHIMNY	CHIMNEY
CEFB	CITY ENGINEERS FIELD BOOK
C/L	CENTERLINE
C.L.F. / W.I.F.	CHAIN LINK FENCE / WROUGHT IRON FENCE
ELY	EASTERLY
EG	EDGE OF GUTTER
EM	ELECTRIC METER
FF	FINISH FLOOR
FH	FIRE HYDRANT
FL	FLOW LINE
GFF	GARAGE FINISH FLOOR
GM	GAS METER
GUY / GW	GUY WIRE
I.P.	IRON PIPE MONUMENT
L&T	LEAD AND TACK / TAG MONUMENT
MH	MANHOLE (SANITARY SEWER / STORM DRAIN)
N'LY	NORTHERLY
N&T / N&W	NAIL AND TAG / NAIL AND WASHER MONUMENT
PB	PULL BOX (EDISON / TRAFFIC / STREET LIGHT
PB (CONT)	TELEPHONE / CABLE TV)
PC	PROPERTY CORNER / PROP. CORNER
PL	PROPERTY LINE / PROP. LINE
PP / UP	POWER POLE / UTILITY POLE
PPT	PARAPET
PWFB	PUBLIC WORKS FIELD BOOK
R.R.	RAIL ROAD
RDFB	ROAD DEPARTMENT FIELD BOOK
R.S.	RECORD OF SURVEY
SPK / S&W	SPIKE / SPIKE AND WASHER MONUMENT
S'LY	SOUTHERLY
SSCO	SANITARY SEWER CLEANOUT
STK / STK&T	STAKE / STAKE AND TAG MONUMENT
STLT / LT	STREET LIGHT POLE / LIGHT POLE
TC	TOP OF CURB
TX / BX	TOP OF APRON / BOTTOM OF APRON
W'LY	WESTERLY
WM	WATER METER

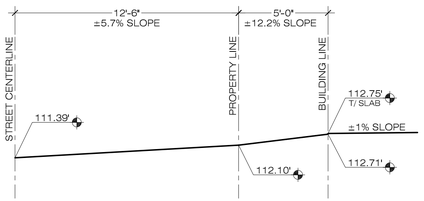
NOTE: ALL SETBACK DIMENSIONS SHOWN ARE MEASURED TO EXTERIOR SURFACE OF BUILDINGS UNLESS OTHERWISE NOTED.

BOUNDARY MONUMENTS ARE NOT NECESSARILY SET ON PROPERTY CORNERS. PLEASE REFER TO THE NOTATION ON THIS SURVEY PLAT FOR OFFSET DIMENSIONS. IF THERE ARE ANY QUESTIONS, PLEASE DO NOT HESITATE TO CONTACT DENN ENGINEERS FOR CLARIFICATION BY PHONE AT: (310) 542-9433, M-F 8:00 AM TO 5:00 PM.

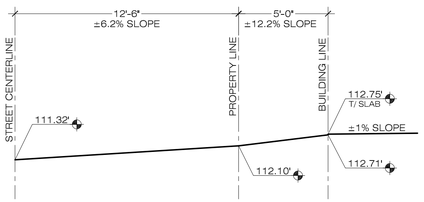
JOB NO. 24-411



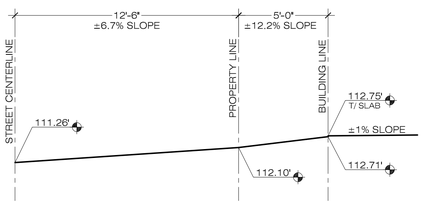
2 | CONTEXT PLAN
SCALE: 1/8"=1'-0"



PROFILE A



PROFILE B

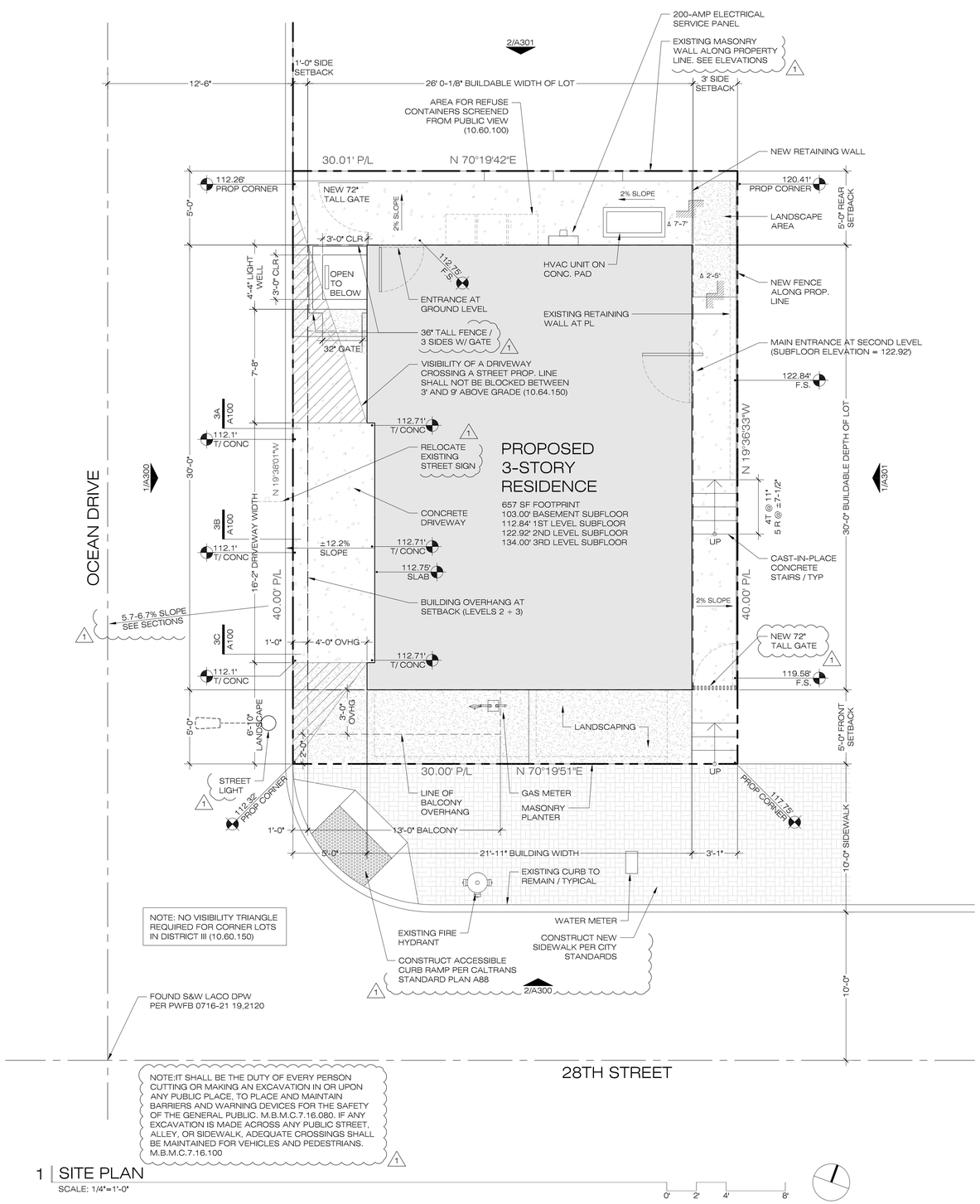


PROFILE C

3 | DRIVEWAY PROFILES
SCALE: 1/4"=1'-0"

SITE PLAN GENERAL NOTES:

1. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND ENSURE NEW SITEWORK ALIGNS WITH EXISTING CONSTRUCTION ALONG PROPERTY LINES
2. CONTRACTOR TO BE RESPONSIBLE FOR ESTABLISHING POSITIVE DRAINAGE AWAY FROM BUILDING AT ±2%



1 | SITE PLAN
SCALE: 1/4"=1'-0"

the construction zone
1720 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

PERMIT SET

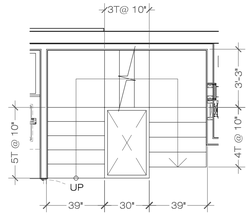
ocean drive residence

2800 ocean drive manhatten beach, ca 90266

SITE PLAN

04.18.25
06.06.25

A100



STAIR NOTES:

1. RISER HEIGHT VARIES, BUT SHALL NOT EXCEED ±3/8" WITHIN A SINGLE RUN. MAX RISER = 7-3/4". REFER TO BUILDING SECTIONS
2. ALL PORTIONS OF THE STAIR EXCEEDING 30" ABOVE ADJACENT WALKING SURFACE SHALL BE PROTECTED BY A 42" GUARD
3. ALL PORTIONS OF THE STAIR SHALL BE SERVED BY A HANDRAIL ON ONE SIDE COMPLYING WITH CBC 1014

3 | TYPICAL STAIR PLAN

SCALE: 1/4"=1'-0"

FLOOR PLAN NOTES:

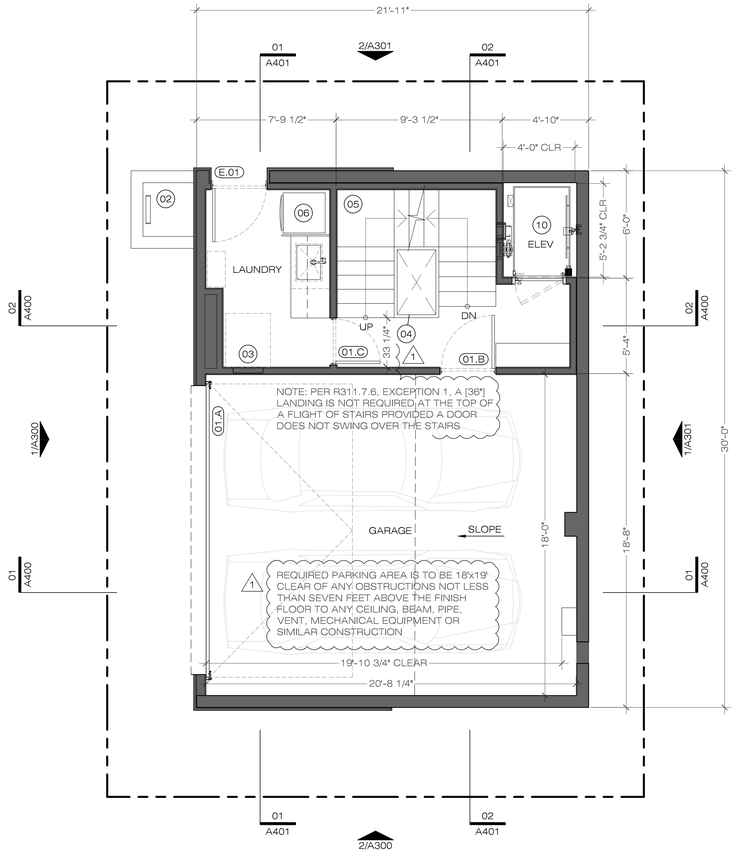
1. ALL DOMESTIC HOT WATER SYSTEM PIPING LISTED BELOW, WHETHER BURIED OR UNBURIED, MUST BE INSULATED AND THE INSULATION THICKNESS SHALL BE SELECTED BASED ON THE CONDUCTIVITY RANGE ON TABLE 120.3-A AND THE INSULATION LEVEL SHALL BE SELECTED FROM THE FLUID TEMPERATURE RANGE BASE ON THE THICKNESS REQUIREMENTS IN TABLE 120.3-A:
   - A. THE FIRST FIVE FEET OF HOT AND COLD WATER PIPES FROM STORAGE TANKS
   - B. ALL PIPING WITH A NOMINAL DIAMETER OF 3/4" OR LARGER
   - C. ALL PIPING ASSOCIATED WITH A DOMESTIC HOT WATER RECIRCULATION SYSTEM REGARDLESS OF THE PIPE DIAMETER
   - D. PIPING FROM THE HEATING SOURCE TO STORAGE TANK OR BETWEEN TANKS
   - E. PIPING BURIED BELOW GRADE
   - F. ALL HOT WATER PIPES FROM THE HEATING SOURCE TO THE KITCHEN FIXTURES
2. PLUMBING FIXTURES SHALL MEET THE FOLLOWING MAXIMUM WATER USAGE RATES (CPC, CHAPTER 4)
   - SHOWERHEADS / 1.8 GPM AT 80 PSI
   - LAVATORY FAUCETS / 1.2 GPM AT 60 PSI
   - KITCHEN FAUCETS / 1.8 GPM AT 80 PSI
   - WATER CLOSETS / 1.28 GAL PER FLUSH
3. GARAGE FLOOR TO BE SLOPED TOWARDS THE DOOR TO FACILITATE THE MOVEMENT OF LIQUIDS PER SECTION R309.1
4. AUTOMATIC GARAGE DOOR OPENER REQUIRES BACKUP BATTERIES INSTALLED PER SB 969
5. BATHTUBS AND SHOWER FLOORS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEAD AND SHOWER COMPARTMENTS SHALL BE FINISHED WITH NON-ABSORBENT SURFACE. SUCH WALL SURFACES SHALL EXTEND TO NOT LESS THAN 6 FEET ABOVE THE FLOOR (CRC R307.2; CBC 1210.2.3)
6. NEWLY CONSTRUCTED DWELLING UNITS, INCLUDING DETACHED ADUs, ARE REQUIRED TO COMPLY WITH AGING-IN-PLACE REQUIREMENTS IN ACCORDANCE WITH CRC R327

6.1. AT LEAST ONE BATHROOM AND ONE BEDROOM ON THE ENTRY LEVEL SHALL PROVIDE A DOORWAY WITH A NET CLEAR OPENING OF NOT LESS THAN 32 INCHES, MEASURED WITH THE DOOR POSITIONED AT AN ANGLE OF 90 DEGREES FROM THE CLOSED POSITION; OR, IN THE CASE OF A TWO- OR THREE-STORY SINGLE FAMILY DWELLING, ON THE SECOND OR THIRD FLOOR OF THE DWELLING IF A BATHROOM OR BEDROOM IN NOT LOCATED ON THE ENTRY LEVEL

6.2. AT LEAST ONE BATHROOM ON THE ENTRY LEVEL SHALL BE PROVIDED WITH REINFORCEMENT FOR GRAB BARS, INSTALLED IN ACCORDANCE WITH THIS SECTION.
   - i. REINFORCEMENT SHALL BE OF SOLID LUMBER
   - ii. REINFORCEMENT SHALL BE NOT LESS THAN 2x8 NOMINAL
   - iii. REINFORCEMENT SHALL BE LOCATED BETWEEN 32" AND 39-1/4" ABOVE THE FINISH FLOOR AND FLUSH WITH THE WALL
   - iv. WATER CLOSETS REINFORCEMENT SHALL BE INSTALLED ON ONE SIDE OF THE FIXTURE AND THE BACK WALL
   - v. SHOWER REINFORCEMENT SHALL BE CONTINUOUS WHERE WALL FRAMING IS PROVIDED
   - vi. BATHTUB AND COMBINATION BATHTUB/SHOWER REINFORCEMENT SHALL BE CONTINUOUS ON EACH END OF THE BATHTUB AND THE BACK WALL. ADDITIONALLY, BACK WALL REINFORCEMENT FOR A LOWER GRAB BAR SHALL BE PROVIDED WITH THE BOTTOM EDGE LOCATED NO MORE THAN 6 INCHES ABOVE THE BATHTUB RIM

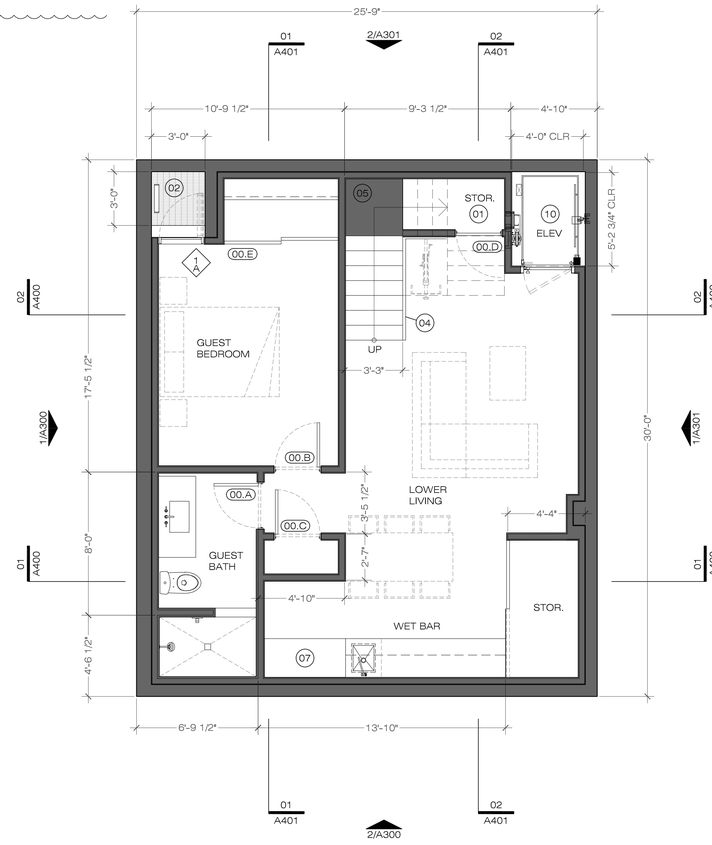
KEYED NOTES:

1. SPACE UNDER STAIRS SHALL BE SEPARATED FROM STAIR CONSTRUCTION BY A MINIMUM OF 1/2" GYPSUM BOARD (R302.7)
2. EGRESS WELL. PROVIDE BAR GRADING OVER SUMP PIT BELOW AT WINDOW SILL HEIGHT. PROVIDE PERMANENT EGRESS LADDER TO COMPLY WITH CRC R310.4.2.1
3. ELECTRICAL PANEL. MAINTAIN 30" WIDE x 36" CLEAR FLOOR AREA
4. GUARDRAIL IN COMPLIANCE WITH R312.1. TOP OF GUARD SHALL BE 34" MINIMUM AND 36" MAXIMUM ABOVE STAIR NOSING AND SHALL ALSO SERVE WAS HANDRAIL IN ACCORDANCE WITH R311.7.8. WHERE GUARD IS NOT PART OF A HANDRAIL, HEIGHT SHALL BE 42" ABOVE FLOOR
5. WOOD FRAMED STAIRS. SEE TYPICAL PLAN AND STAIR NOTES
6. STACKABLE WASHER/DRYER. PROVIDE SHALLOW DRYER BOX AND VENT THROUGH ADJACENT SIDEWALL
7. FULL HEIGHT MILLWORK
8. STONE PAVERS ON PEDESTAL SYSTEM. SLOPE SUBDECK TO INTERNAL DRAIN AND CONNECT TO STORM DRAIN SYSTEM
9. 42" HIGH GUARD
10. ELEVATOR SHAFT TO BE A 1-HOUR RATED ENCLOSURE. PROVIDE 5/8" TYPE X DRYWALL ON BOTH SIDES OF WALLS AND CEILING. ELEVATOR SHALL COMPLY WITH ASME 17.1



2 | GROUND FLOOR PLAN

SCALE: 1/4"=1'-0"



1 | BASEMENT FLOOR PLAN

SCALE: 1/4"=1'-0"

0' 2' 4' 8'

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LOWER FLOOR PLANS

A200

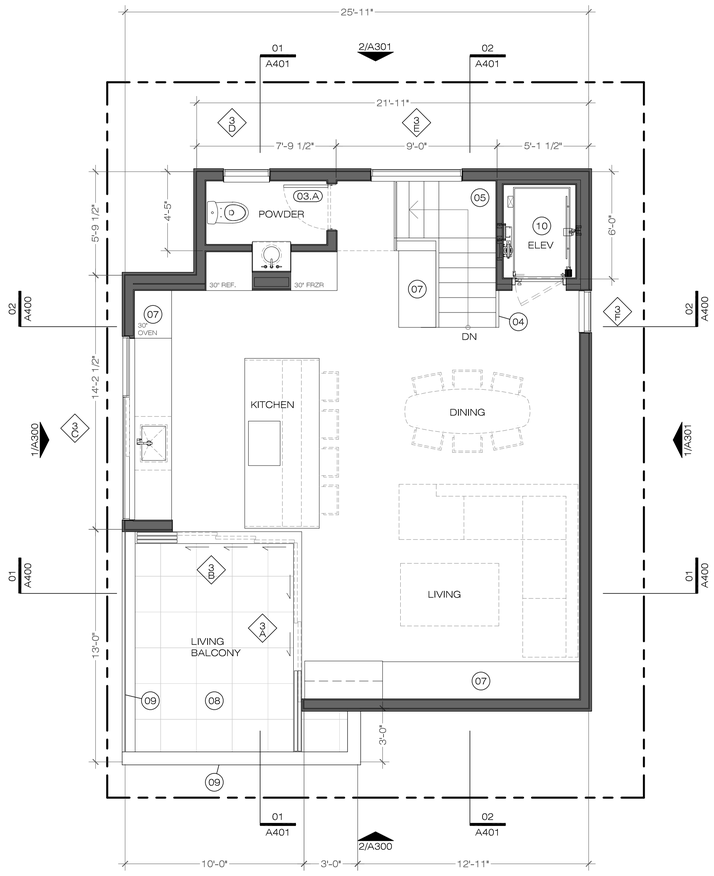
FLOOR PLAN NOTES:

1. ALL DOMESTIC HOT WATER SYSTEM PIPING LISTED BELOW, WHETHER BURIED OR UNBURIED, MUST BE INSULATED AND THE INSULATION THICKNESS SHALL BE SELECTED BASED ON THE CONDUCTIVITY RANGE ON TABLE 120.3-A AND THE INSULATION LEVEL SHALL BE SELECTED FROM THE FLUID TEMPERATURE RANGE BASE ON THE THICKNESS REQUIREMENTS IN TABLE 120.3-A:
   - A. THE FIRST FIVE FEET OF HOT AND COLD WATER PIPES FROM STORAGE TANKS
   - B. ALL PIPING WITH A NOMINAL DIAMETER OF 3/4" OR LARGER
   - C. ALL PIPING ASSOCIATED WITH A DOMESTIC HOT WATER RECIRCULATION SYSTEM REGARDLESS OF THE PIPE DIAMETER
   - D. PIPING FROM THE HEATING SOURCE TO STORAGE TANK OR BETWEEN TANKS
   - E. PIPING BURIED BELOW GRADE
   - F. ALL HOT WATER PIPES FROM THE HEATING SOURCE TO THE KITCHEN FIXTURES
2. PLUMBING FIXTURES SHALL MEET THE FOLLOWING MAXIMUM WATER USAGE RATES (CPC, CHAPTER 4)
   - SHOWERHEADS / 1.8 GPM AT 80 PSI
   - LAVATORY FAUCETS / 1.2 GPM AT 60 PSI
   - KITCHEN FAUCETS / 1.8 GPM AT 80 PSI
   - WATER CLOSETS / 1.28 GAL PER FLUSH
3. GARAGE FLOOR TO BE SLOPED TOWARDS THE DOOR TO FACILITATE THE MOVEMENT OF LIQUIDS PER SECTION R309.1
4. AUTOMATIC GARAGE DOOR OPENER REQUIRES BACKUP BATTERIES INSTALLED PER SB 969
5. BATHTUBS AND SHOWER FLOORS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEAD AND SHOWER COMPARTMENTS SHALL BE FINISHED WITH NON-ABSORBENT SURFACE. SUCH WALL SURFACES SHALL EXTEND TO NOT LESS THAN 6 FEET ABOVE THE FLOOR (CRC R307.2; CBC 1210.2.3)
6. NEWLY CONSTRUCTED DWELLING UNITS, INCLUDING DETACHED ADUs, ARE REQUIRED TO COMPLY WITH AGING-IN-PLACE REQUIREMENTS IN ACCORDANCE WITH CRC R327
   - 6.1. AT LEAST ONE BATHROOM AND ONE BEDROOM ON THE ENTRY LEVEL SHALL PROVIDE A DOORWAY WITH A NET CLEAR OPENING OF NOT LESS THAN 32 INCHES, MEASURED WITH THE DOOR POSITIONED AT AN ANGLE OF 90 DEGREES FROM THE CLOSED POSITION; OR, IN THE CASE OF A TWO- OR THREE-STORY SINGLE FAMILY DWELLING, ON THE SECOND OR THIRD FLOOR OF THE DWELLING IF A BATHROOM OR BEDROOM IN NOT LOCATED ON THE ENTRY LEVEL
   - 6.2. AT LEAST ONE BATHROOM ON THE ENTRY LEVEL SHALL BE PROVIDED WITH REINFORCEMENT FOR GRAB BARS, INSTALLED IN ACCORDANCE WITH THIS SECTION.
     - i. REINFORCEMENT SHALL BE OF SOLID LUMBER
     - ii. REINFORCEMENT SHALL BE NOT LESS THAN 2x8 NOMINAL
     - iii. REINFORCEMENT SHALL BE LOCATED BETWEEN 32" AND 39-1/4" ABOVE THE FINISH FLOOR AND FLUSH WITH THE WALL
     - iv. WATER CLOSETS REINFORCEMENT SHALL BE INSTALLED ON ONE SIDE OF THE FIXTURE AND THE BACK WALL
     - v. SHOWER REINFORCEMENT SHALL BE CONTINUOUS WHERE WALL FRAMING IS PROVIDED
     - vi. BATHTUB AND COMBINATION BATHTUB/SHOWER REINFORCEMENT SHALL BE CONTINUOUS ON EACH END OF THE BATHTUB AND THE BACK WALL. ADDITIONALLY, BACK WALL REINFORCEMENT FOR A LOWER GRAB BAR SHALL BE PROVIDED WITH THE BOTTOM EDGE LOCATED NO MORE THAN 6 INCHES ABOVE THE BATHTUB RIM

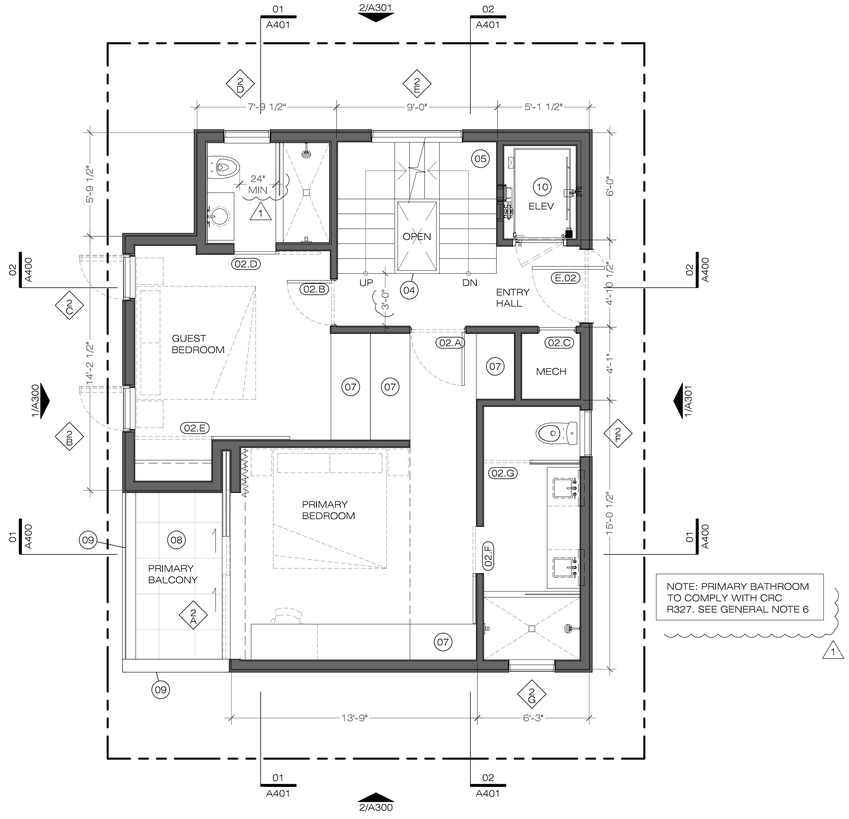
1

KEYED NOTES: (#)

1. SPACE UNDER STAIRS SHALL BE SEPARATED FROM STAIR CONSTRUCTION BY A MINIMUM OF 1/2" GYPSUM BOARD (R302.7)
2. EGRESS WELL. PROVIDE BAR GRADING OVER SUMP PIT BELOW AT WINDOW SILL HEIGHT. PROVIDE PERMANENT EGRESS LADDER TO COMPLY WITH CRC R310.4.2.1
3. ELECTRICAL PANEL. MAINTAIN 30" WIDE x 36" CLEAR FLOOR AREA
4. GUARDRAIL IN COMPLIANCE WITH R312.1. TOP OF GUARD SHALL BE 34" MINIMUM AND 36" MAXIMUM ABOVE STAIR NOSING AND SHALL ALSO SERVE WAS HANDRAIL IN ACCORDANCE WITH R311.7.8. WHERE GUARD IS NOT PART OF A HANDRAIL, HEIGHT SHALL BE 42" ABOVE FLOOR
5. WOOD FRAMED STAIRS. SEE TYPICAL PLAN AND STAIR NOTES
6. STACKABLE WASHER/DRYER. PROVIDE SHALLOW DRYER BOX AND VENT THROUGH ADJACENT SIDEWALL
7. FULL HEIGHT MILLWORK
8. STONE PAVERS ON PEDESTAL SYSTEM. SLOPE SUBDECK TO INTERNAL DRAIN AND CONNECT TO STORM DRAIN SYSTEM
9. 42" HIGH GUARD
10. ELEVATOR SHAFT TO BE A 1-HOUR RATED ENCLOSURE. PROVIDE 5/8" TYPE X DRYWALL ON BOTH SIDES OF WALLS AND CEILING. ELEVATOR SHALL COMPLY WITH ASME 17.1



2 | THIRD FLOOR PLAN
SCALE: 1/4"=1'-0"



1 | SECOND FLOOR PLAN
SCALE: 1/4"=1'-0"

0' 2' 4' 8'

the construction zone
1720 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

PERMIT SET

ocean drive residence

2800 ocean drive manhatten beach, ca 90266

04.18.25
06.06.25

UPPER FLOOR PLANS

A201

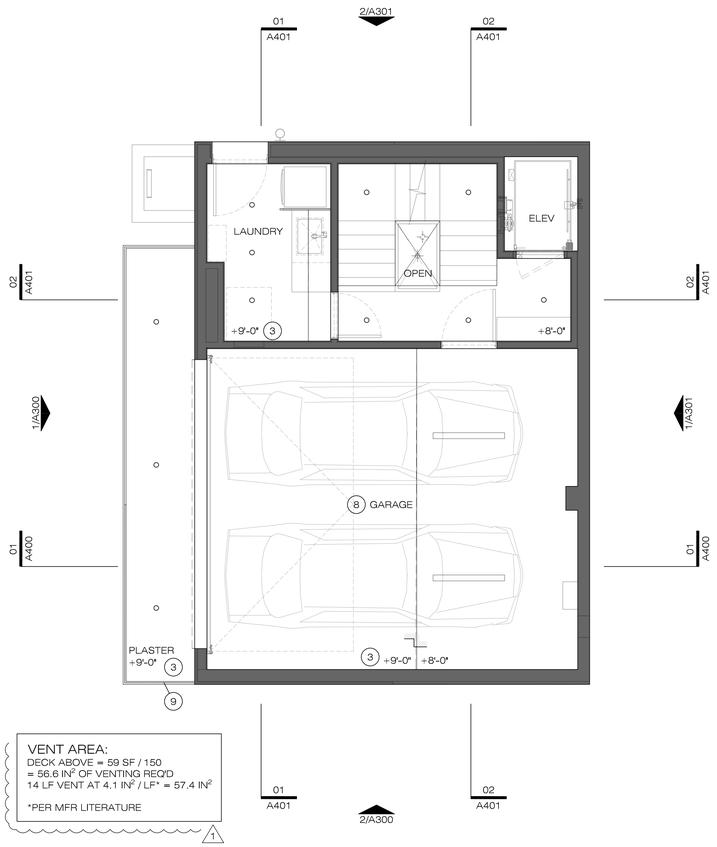
CEILING PLAN NOTES:

1. ALL CEILINGS TO BE PAINTED 5/8" GYPSUM BOARD, U.N.O.
2. REFER TO LIGHTING PLANS FOR FIXTURE TYPES
3. ALL CEILING HEIGHTS TO BE VERIFIED BY GENERAL CONTRACTOR RELATIVE TO PLUMBING, HVAC, SPRINKLER PIPES AND ANY OTHER BUILDING SYSTEMS THAT MUST BE ACCOMMODATED WITHIN THE FLOOR/CEILING ASSEMBLIES.

KEYED NOTES: (#)

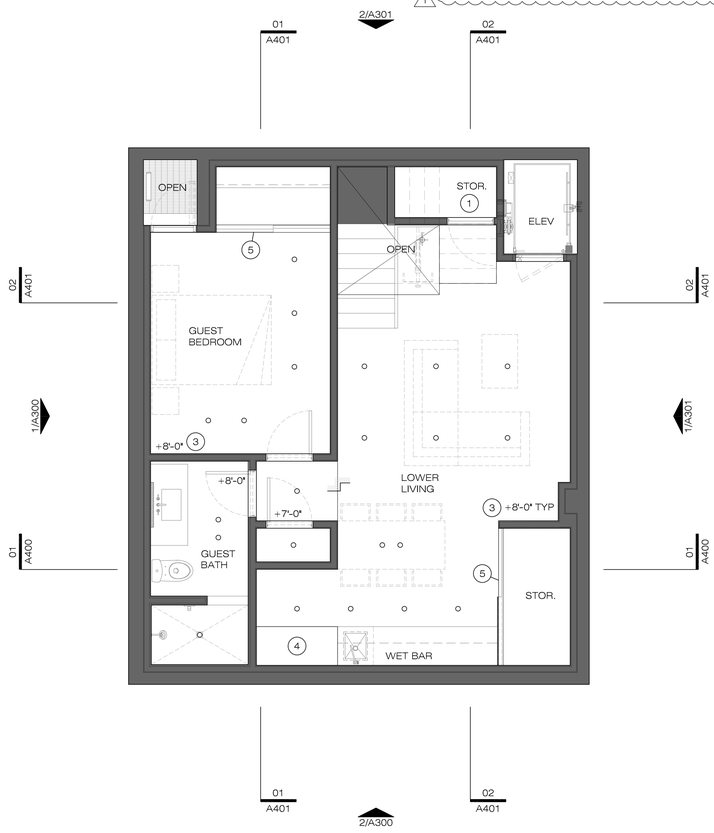
1. SPACE UNDER STAIRS SHALL BE SEPARATED FROM STAIR CONSTRUCTION BY A MINIMUM OF 1/2" GYPSUM BOARD (R302.7)
2. FUR DOWN EXTERIOR SOFFIT AT MINIMUM HEIGHT REQUIRED TO ACCOMMODATE DRAINAGE PIPES. ENTIRE SOFFIT TO BE AT ONE ELEVATION.
3. FINISHED CEILING TIGHT TO FLOOR/ROOF FRAMING ABOVE
4. FULL HEIGHT MILLWORK [BELOW]
5. SLIDING DOOR TRACK
6. CURTAIN ON TRACK MOUNTED FLUSH TO CEILING
7. FLUSH MOUNT ISLAND VENT HOOD
8. HORIZONTAL ASSEMBLY BETWEEN GARAGE AND LIVING AREA ABOVE SHALL BE PROTECTED BY A 5/8" TYPE X GYPSUM BOARD CEILING
9. CONTINUOUS LINEAR VENT. JOTO-VENT 2" REVEAL VENT OR EQ. SEE CALCULATIONS BELOW FOR VENT AREA
10. PERFORATED SOFFIT VENT. VULCAN VENT VSC120FF OR EQ. SEE CALCULATIONS BELOW FOR VENT AREA

(1)



2 | GROUND FLOOR CEILING PLAN

SCALE: 1/4"=1'-0"



1 | BASEMENT CEILING PLAN

SCALE: 1/4"=1'-0"

0' 2' 4' 8'

the construction zone
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06.06.25

REFLECTED CEILING PLANS

A220

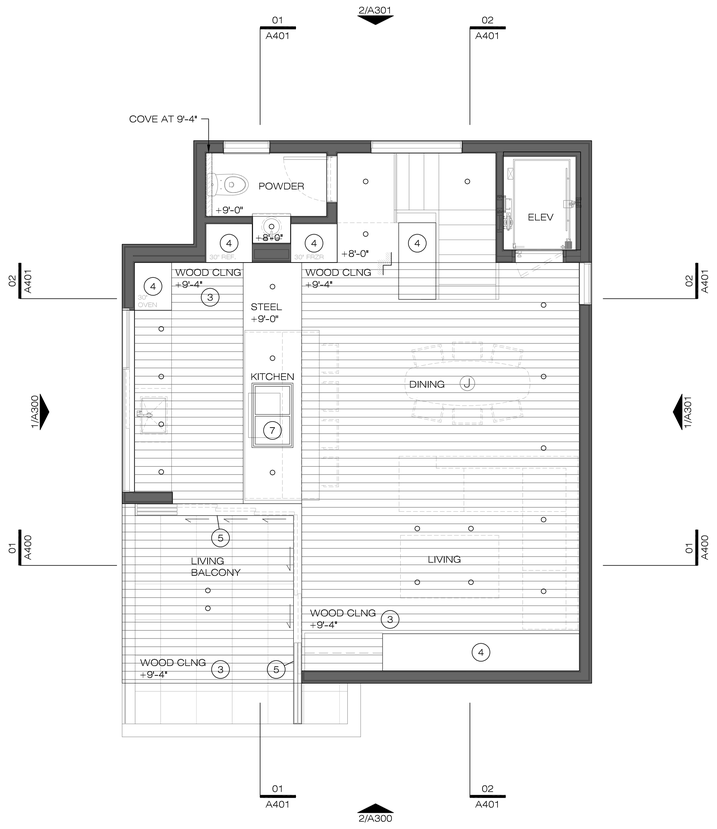
CEILING PLAN NOTES:

1. ALL CEILINGS TO BE PAINTED 5/8" GYPSUM BOARD, U.N.O.
2. REFER TO LIGHTING PLANS FOR FIXTURE TYPES
3. ALL CEILING HEIGHTS TO BE VERIFIED BY GENERAL CONTRACTOR RELATIVE TO PLUMBING, HVAC, SPRINKLER PIPES AND ANY OTHER BUILDING SYSTEMS THAT MUST BE ACCOMMODATED WITHIN THE FLOOR/CEILING ASSEMBLIES.

KEYED NOTES: (#)

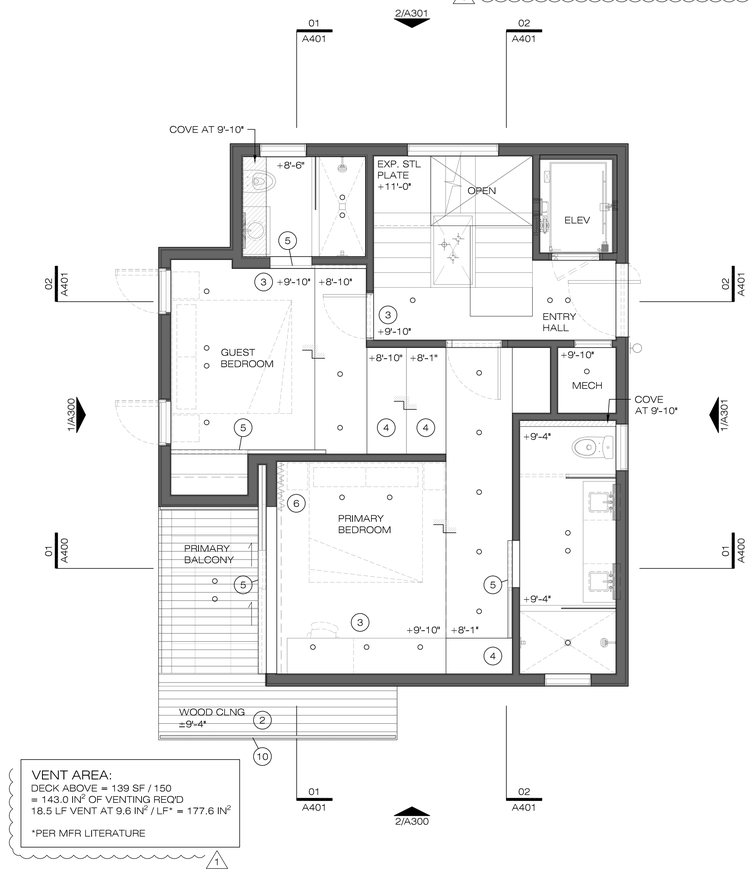
1. SPACE UNDER STAIRS SHALL BE SEPARATED FROM STAIR CONSTRUCTION BY A MINIMUM OF 1/2" GYPSUM BOARD (R302.7)
2. FUR DOWN EXTERIOR SOFFIT AT MINIMUM HEIGHT REQUIRED TO ACCOMMODATE DRAINAGE PIPES. ENTIRE SOFFIT TO BE AT ONE ELEVATION.
3. FINISHED CEILING TIGHT TO FLOOR/ROOF FRAMING ABOVE
4. FULL HEIGHT MILLWORK [BELOW]
5. SLIDING DOOR TRACK
6. CURTAIN ON TRACK MOUNTED FLUSH TO CEILING
7. FLUSH MOUNT ISLAND VENT HOOD
8. HORIZONTAL ASSEMBLY BETWEEN GARAGE AND LIVING AREA ABOVE SHALL BE PROTECTED BY A 5/8" TYPE X GYPSUM BOARD CEILING
9. CONTINUOUS LINEAR VENT. JOTO-VENT 2" REVEAL VENT OR EQ. SEE CALCULATIONS BELOW FOR VENT AREA
10. PERFORATED SOFFIT VENT. VULCAN VENT VSC120FF OR EQ. SEE CALCULATIONS BELOW FOR VENT AREA

1



2 | THIRD FLOOR CEILING PLAN

SCALE: 1/4"=1'-0"



1 | SECOND FLOOR CEILING PLAN

SCALE: 1/4"=1'-0"

0' 2' 4' 8'

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REFLECTED CEILING PLANS

04.18.25
06.06.25

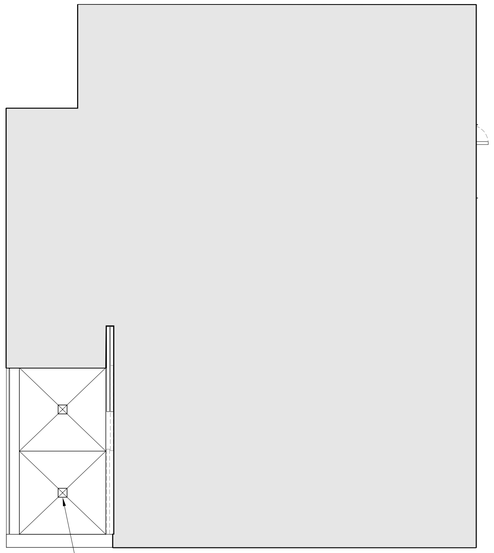
A221

ROOF GENERAL NOTES:

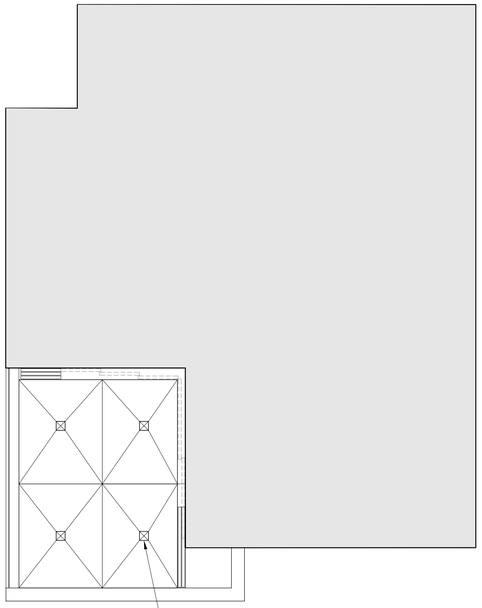
1. ALL ROOF DRAINAGE TO BE CONNECTED INTO SITE DRAINAGE LINE AND DRAIN THROUGH POSITIVE FLOW
2. UNVENTED ROOF ASSEMBLY AND ENCLOSED RAFTER SPACES SHALL COMPLY WITH CRC R806.5
3. A LADDER MAY BE USED TO ACCESS THE SOLAR PANELS FROM THE CANTILEVERED THIRD FLOOR DECK, WITH MINIMAL OBSTRUCTIONS SUCH AS VENT PIPES, CONDUIT OR MECHANICAL EQUIPMENT (CBC 3111.2; CRC R324.6.1)

PATIO GENERAL NOTES:

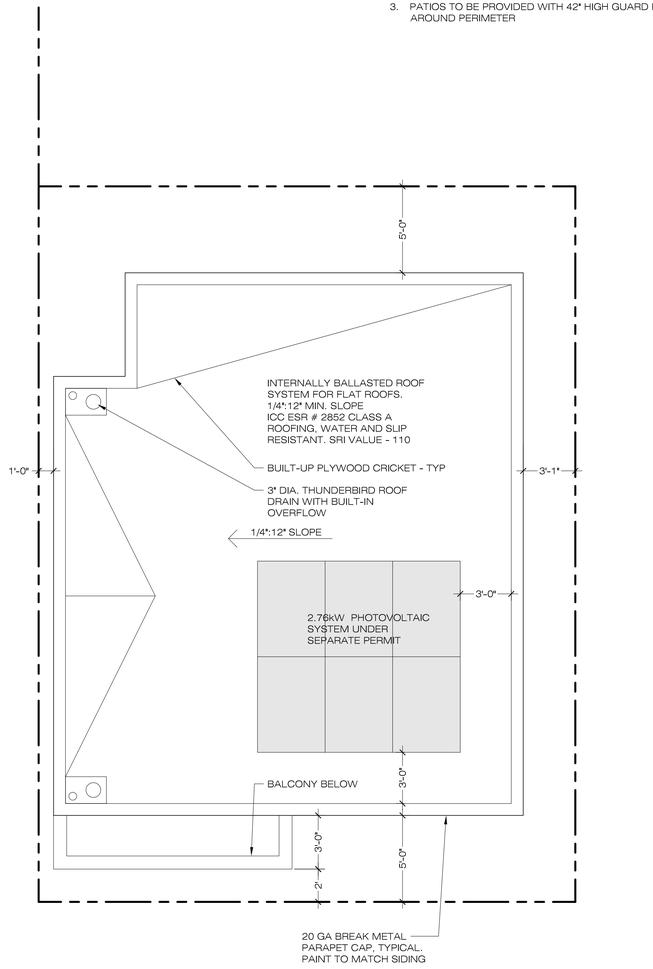
1. PATIO WALKABLE SURFACE TO BE STONE PAVERS SRI <50 ON PEDESTAL SYSTEM. SUBDECK AS SHOWN ON PLAN WITH HYDROTECH OR EQ. WATERPROOFING SYSTEM
2. PATIOS TO BE PROVIDED WITH OVERFLOW DRAIN 2" ABOVE LOWEST POINT OF DECK
3. PATIOS TO BE PROVIDED WITH 42" HIGH GUARD RAIL AROUND PERIMETER



3 | SECOND FLOOR PATIO PLAN
SCALE: 1/4"=1'-0"



2 | THIRD FLOOR PATIO PLAN
SCALE: 1/4"=1'-0"



1 | ROOF PLAN
SCALE: 1/4"=1'-0"

0' 2' 4' 8'

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ROOF PLAN

04.18.25
06.06.25

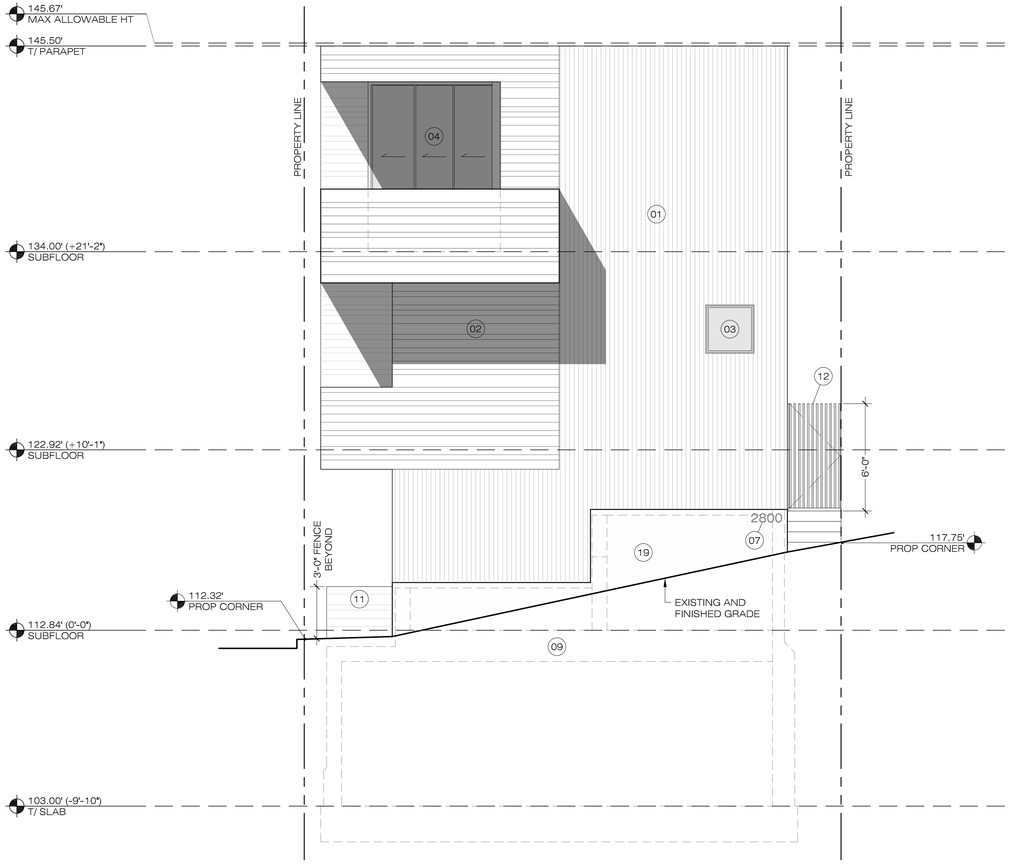
A230

GENERAL NOTES

1. DO NOT SCALE DRAWINGS
2. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS
3. PARAPETS, SATELLITE, ANTENNAE, RAILS, SKYLIGHTS AND ROOF EQUIPMENT MUST ALL BE WITHIN HEIGHT LIMIT
4. FINISHED GRADE TO ALIGN WITH EXISTING GRADE AT PROPERTY LINES ADJOINING PUBLIC R.O.W. CONTRACTOR TO COORDINATE FINAL GRADES

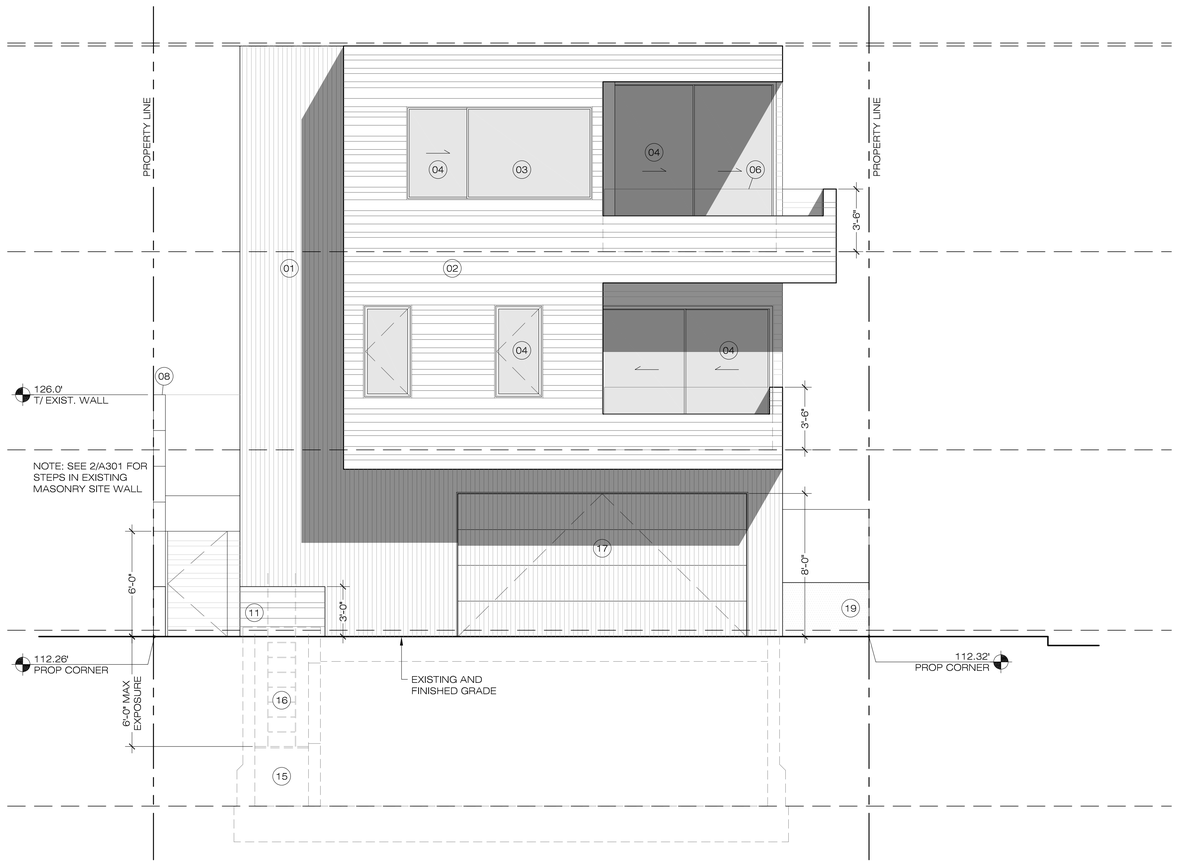
KEYED NOTES (XX)

1. CORRUGATED METAL PANEL. METAL SALES T-10B OR APPROVED EQ. MATTE BLACK FACTORY FINISH W/ EXPOSED FASTENERS TO MATCH
2. T&G SHOU SUGI BAN WOOD CLADDING
3. FIXED ALUMINUM WINDOW. AWAKE WINDOW & DOOR CO. OR APPROVED EQ. BLACK ANODIZED FINISH
4. OPERABLE ALUMINUM WINDOW. AWAKE WINDOW & DOOR CO. OR APPROVED EQ. BLACK ANODIZED FINISH
5. CUSTOM ENTRY DOOR
6. CLEAR TEMPERED GLASS GUARD
7. ADDRESS SIGN. 6" HIGH LETTERS
8. EXISTING MASONRY RETAINING / SCREEN WALL ALONG PROPERTY LINE
9. LINE OF BASEMENT CONSTRUCTION
10. HEAT PUMP CONDENSER UNIT ON CONC. PAD (SCREENED)
11. SITE FENCE. SHOU SUGI BAN WOOD ON TUBE STEEL FRAME
12. CUSTOM TUBE STEEL GATE
13. COMBUSTION AIR VENT
14. FIRE SUPPRESSION SYSTEM LOCATION (VERIFY LOCATION WITH MB FIRE DEPARTMENT)
15. SUMP PIT WITH WALKABLE METAL GRATE AT +/- 36 AFF.
16. EGRESS LADDER BOLTED TO CONCRETE WALL TO COMPLY WITH R310.4.2
17. GARAGE DOOR CLAD IN CORRUGATED SIDING
18. NEW FENCE ALONG PROPERTY LINE
19. PAINTED STEEL PANELS APPLIED TO FACE OF MASONRY PLANTER BOXES



2 | SOUTH ELEVATION

SCALE: 1/4"=1'-0"



1 | WEST ELEVATION

SCALE: 1/4"=1'-0"

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06.05.25

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EXTERIOR ELEVATIONS

04.18.25
06.06.25

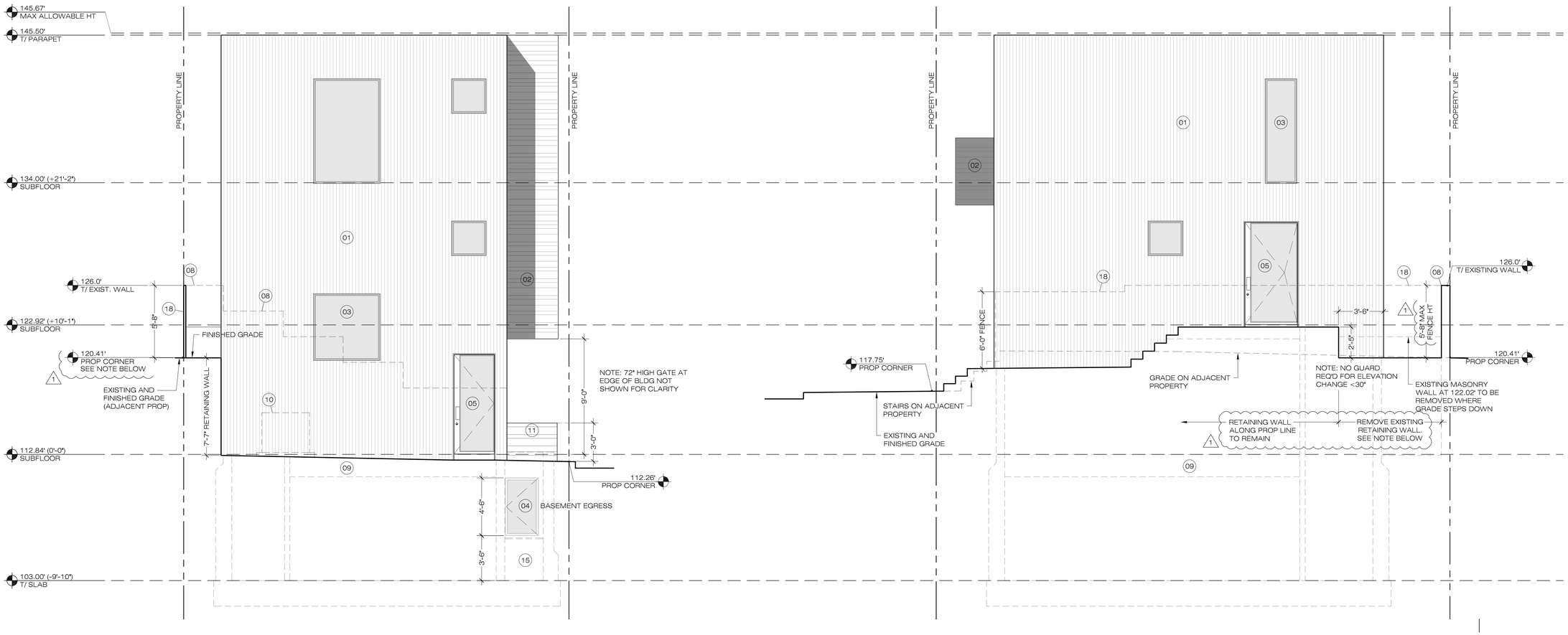
A300

GENERAL NOTES

1. DO NOT SCALE DRAWINGS
2. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS
3. PARAPETS, SATELLITE, ANTENNAE, RAILS, SKYLIGHTS AND ROOF EQUIPMENT MUST ALL BE WITHIN HEIGHT LIMIT
4. FINISHED GRADE TO ALIGN WITH EXISTING GRADE AT PROPERTY LINES ADJOINING PUBLIC R.O.W. CONTRACTOR TO COORDINATE FINAL GRADES

KEYED NOTES (XX)

1. CORRUGATED METAL PANEL. METAL SALES T-10B OR APPROVED EQ. MATTE BLACK FACTORY FINISH W/ EXPOSED FASTENERS TO MATCH
2. T&G SHOU SUGI BAN WOOD CLADDING
3. FIXED ALUMINUM WINDOW. AWAKE WINDOW & DOOR CO. OR APPROVED EQ. BLACK ANODIZED FINISH
4. OPERABLE ALUMINUM WINDOW. AWAKE WINDOW & DOOR CO. OR APPROVED EQ. BLACK ANODIZED FINISH
5. CUSTOM ENTRY DOOR
6. CLEAR TEMPERED GLASS GUARD
7. ADDRESS SIGN. 6" HIGH LETTERS
8. EXISTING MASONRY RETAINING / SCREEN WALL ALONG PROPERTY LINE
9. LINE OF BASEMENT CONSTRUCTION
10. HEAT PUMP CONDENSER UNIT ON CONC. PAD (SCREENED)
11. SITE FENCE. SHOU SUGI BAN WOOD ON TUBE STEEL FRAME
12. CUSTOM TUBE STEEL GATE
13. COMBUSTION AIR VENT
14. FIRE SUPPRESSION SYSTEM LOCATION (VERIFY LOCATION WITH MB FIRE DEPARTMENT)
15. SUMP PIT WITH WALKABLE METAL GRATE AT +/- 36 AFF.
16. EGRESS LADDER BOLTED TO CONCRETE WALL TO COMPLY WITH R310.4.2
17. GARAGE DOOR CLAD IN CORRUGATED SIDING
18. NEW FENCE ALONG PROPERTY LINE
19. PAINTED STEEL PANELS APPLIED TO FACE OF MASONRY PLANTER BOXES

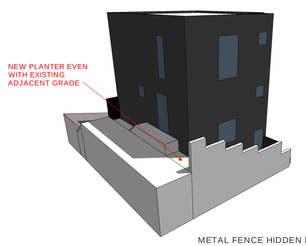


2 | NORTH ELEVATION

SCALE: 1/4"=1'-0"

NOTE REGARDING ELEVATIONS ALONG PROPERTY LINE:

THERE IS AN EXISTING LOW MASONRY RETAINING WALL ALONG THE EAST PROPERTY LINE THAT TRANSITIONS THE GRADE BETWEEN THE TWO PARCELS (±20" MAX DIFFERENCE)
WE ARE LOWERING THE GRADE ON OUR SIDE OF THE PROPERTY LINE TO MATCH THE ADJACENT GRADE ON THE NEIGHBOR'S LOT FOR THE NORTHERNMOST ±8' OF THIS DISTANCE. SINCE THE TWO GRADES WILL BE MORE OR LESS EQUAL, WE ARE REMOVING THE RETAINING WALL FOR THIS PORTION, ALTHOUGH THERE WILL STILL BE A FENCE ALONG THE PROPERTY LINE (5'-8" MAXIMUM HEIGHT)



METAL FENCE HIDDEN FOR CLARITY

1

1 | EAST ELEVATION

SCALE: 1/4"=1'-0"

the construction zone
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LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

ocean drive residence

2800 ocean drive manhatten beach, ca 90266

PERMIT SET

EXTERIOR ELEVATIONS

04.18.25
06.06.25

A301

MAXIMUM HEIGHT NOTE:

PARAPETS, SATELLITE ANTENNAE, RAILS, SKYLIGHTS AND ROOF EQUIPMENT MUST BE WITHIN HEIGHT LIMIT

KEYED NOTES (#)

1. MILLWORK
2. WINDOW SYSTEM. REFER TO GLAZING SCHEDULE
3. 2-PIECE METAL PARAPET CAP TO MATCH METAL SIDING
4. PLANTER
5. WALL / PARAPET BEYOND
6. SITE WALL / FENCE. SEE EXTERIOR ELEVATIONS
7. EPOXY COATING ON HARD TROWEL CONCRETE SLAB
8. FRAMED SOFFIT. SEE RCP
9. GUARDRAIL TO 42" AFF
10. WOOD FRAMED STAIR TO COMPLY WITH 311.7. MAX RISER TO BE 7-3/4" / TREADS TO BE 10" MINIMUM WITH 3/4" NOSING
11. INTEGRAL COLOR EXTERIOR PLASTER ON 5/8" DENSGLASS
12. PAVER SYSTEM OVER PLYWOOD SUBDECK W/ FLUID APPLIED WATERPROOFING
13. STAIR HEADROOM SHALL NOT BE LESS THAN 6'-8", MEASURED FROM THE TREAD NOSING

GENERAL NOTES

1. DO NOT SCALE PLANS
2. ROOF SLOPES SHOWN ARE APPROXIMATE / REFER TO ROOF PLAN FOR SLOPE
3. REFER TO STRUCTURAL FOR ALL FOOTING AND FRAMING MEMBER SIZES
4. ALL INTERIOR WALLS TO BE INSULATED WITH SOUND BATTS / NOT SHOWN FOR CLARITY

ASSEMBLIES (XX)

A. ROOF ASSEMBLY: IB FLAT ROOF SYSTEM. MAX 1:12 SLOPE ICC ESR #2852 CLASS A ROOFING. WATER & SLIP RESISTANT. SRI VALUE - 110
ROOF SHEATHING PER STRUCTURAL DRAWINGS
ROOF JOISTS PER STRUCTURAL DRAWINGS
R-30 MIN. BATT INSULATION
SEE RCP FOR CEILING FINISH AND HEIGHT

B. WALL ASSEMBLY: 22 GA CORRUGATED EXP. FASTENER METAL SIDING / METAL SALES T10-A W/ KYNAR FINISH TO BE APPROVED BY ARCHITECT
WRB
EXTERIOR SHEATHING PER STRUCTURAL
R-21 BATT INSULATION (5-1/2")
2x WOOD FRAMING

C. WALL ASSEMBLY: SHOU SUGI BAN NATURAL WOOD CLADDING
WRB
EXTERIOR SHEATHING PER STRUCTURAL
R-21 BATT INSULATION (5-1/2")
2x WOOD FRAMING

D. WALL ASSEMBLY: CAST-IN-PLACE CONC. WALL W/ FLUID APPLIED WATERPROOFING
R-15 BATT INSULATION (3-1/2")
2x WOOD FRAMING

E. FLOOR ASSEMBLY: FINISH FLOOR PER FINISH SCHEDULE
PLYWOOD SUBLFOOR PER STRUCTURAL
FLOOR JOISTS PER STRUCTURAL
NOTE: PROVIDE R-30 MIN. BATT INSULATION AT CANTILEVERED FLOOR STRUCTURE AND FLOOR STRUCTURE OVER GARAGE
SEE RCP FOR CEILING FINISH AND HEIGHT

F. FLOOR ASSEMBLY: 3" MIN. CONCRETE TOPPING SLAB
1-1/8" PLYWOOD SUBFLOOR PER STRUCTURAL
R-30 BATT INSULATION
FLOOR JOISTS PER STRUCTURAL
SEE RCP FOR CEILING FINISH AND HEIGHT

3 | GARAGE DOOR HEAD

N.T.S.

2 | BUILDING SECTION

SCALE: 1/4"=1'-0"

1 | BUILDING SECTION

SCALE: 1/4"=1'-0"

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06.05.25

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BUILDING SECTIONS

04.18.25
06.06.25

A400

MAXIMUM HEIGHT NOTE:

PARAPETS, SATELLITE ANTENNAE, RAILS, SKYLIGHTS AND ROOF EQUIPMENT MUST BE WITHIN HEIGHT LIMIT

KEYED NOTES (#)

1. MILLWORK
2. WINDOW SYSTEM. REFER TO GLAZING SCHEDULE
3. 2-PIECE METAL PARAPET CAP TO MATCH METAL SIDING
4. PLANTER
5. WALL / PARAPET BEYOND
6. SITE WALL / FENCE. SEE EXTERIOR ELEVATIONS
7. EPOXY COATING ON HARD TROWEL CONCRETE SLAB
8. FRAMED SOFFIT. SEE RCP
9. GUARDRAIL TO 42" AFF
10. WOOD FRAMED STAIR TO COMPLY WITH 311.7. MAX RISER TO BE 7-3/4" / TREADS TO BE 10" MINIMUM WITH 3/4" NOSING
11. INTEGRAL COLOR EXTERIOR PLASTER ON 5/8" DENSGLASS
12. PAVER SYSTEM OVER PLYWOOD SUBDECK W/ FLUID APPLIED WATERPROOFING
13. STAIR HEADROOM SHALL NOT BE LESS THAN 6'-8", MEASURED FROM THE TREAD NOSING

GENERAL NOTES

1. DO NOT SCALE PLANS
2. ROOF SLOPES SHOWN ARE APPROXIMATE / REFER TO ROOF PLAN FOR SLOPE
3. REFER TO STRUCTURAL FOR ALL FOOTING AND FRAMING MEMBER SIZES
4. ALL INTERIOR WALLS TO BE INSULATED WITH SOUND BATTS / NOT SHOWN FOR CLARITY

ASSEMBLIES (XX)

A. ROOF ASSEMBLY:
IB FLAT ROOF SYSTEM. MAX 1:12 SLOPE ICC ESR #2852 CLASS A ROOFING. WATER & SLIP RESISTANT. SRI VALUE - 110
ROOF SHEATHING PER STRUCTURAL DRAWINGS
ROOF JOISTS PER STRUCTURAL DRAWINGS
R-30 MIN. BATT INSULATION
SEE RCP FOR CEILING FINISH AND HEIGHT

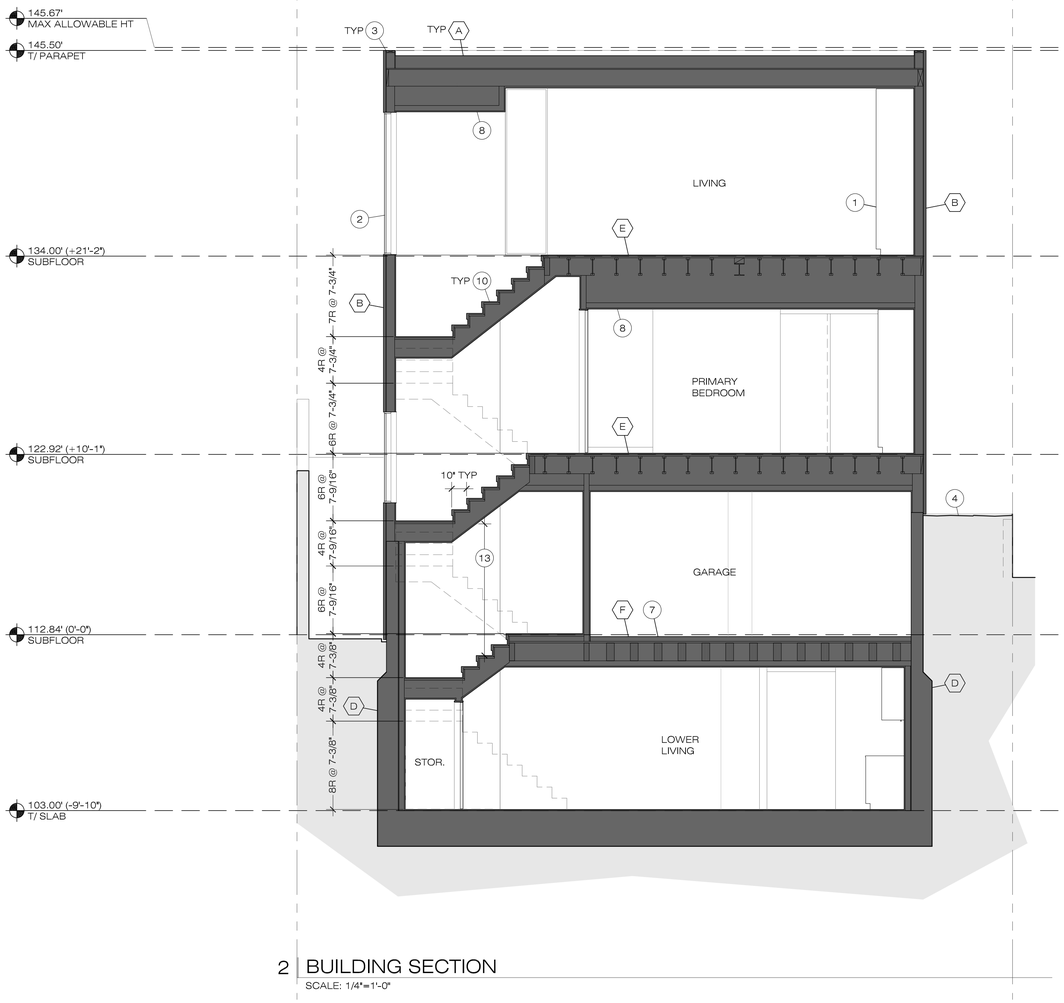
B. WALL ASSEMBLY:
22 GA CORRUGATED EXP. FASTENER METAL SIDING / METAL SALES T10-A W/ KYNAR FINISH TO BE APPROVED BY ARCHITECT
WRB
EXTERIOR SHEATHING PER STRUCTURAL
R-21 BATT INSULATION (5-1/2")
2x WOOD FRAMING

C. WALL ASSEMBLY:
SHOU SUGI BAN NATURAL WOOD CLADDING
WRB
EXTERIOR SHEATHING PER STRUCTURAL
R-21 BATT INSULATION (5-1/2")
2x WOOD FRAMING

D. WALL ASSEMBLY:
CAST-IN-PLACE CONC. WALL W/ FLUID APPLIED WATERPROOFING
R-15 BATT INSULATION (3-1/2")
2x WOOD FRAMING

E. FLOOR ASSEMBLY:
FINISH FLOOR PER FINISH SCHEDULE
PLYWOOD SUBLFOOR PER STRUCTURAL
FLOOR JOISTS PER STRUCTURAL
NOTE: PROVIDE R-30 MIN. BATT INSULATION AT CANTILEVERED FLOOR STRUCTURE AND FLOOR STRUCTURE OVER GARAGE
SEE RCP FOR CEILING FINISH AND HEIGHT

F. FLOOR ASSEMBLY:
3" MIN. CONCRETE TOPPING SLAB
1-1/8" PLYWOOD SUBFLOOR PER STRUCTURAL
R-30 BATT INSULATION
FLOOR JOISTS PER STRUCTURAL
SEE RCP FOR CEILING FINISH AND HEIGHT



2 | BUILDING SECTION
SCALE: 1/4"=1'-0"

1 | BUILDING SECTION
SCALE: 1/4"=1'-0"

the construction zone
1720 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

PERMIT SET

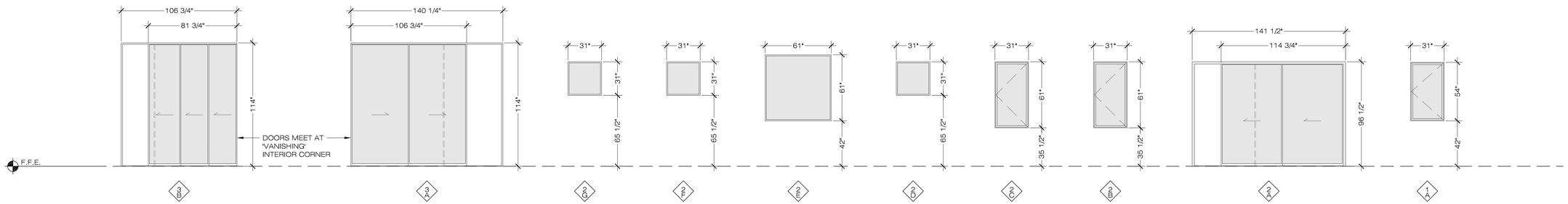
ocean drive residence

2800 ocean drive manhatten beach, ca 90266

BUILDING SECTIONS

04.18.25
06.06.25

A401



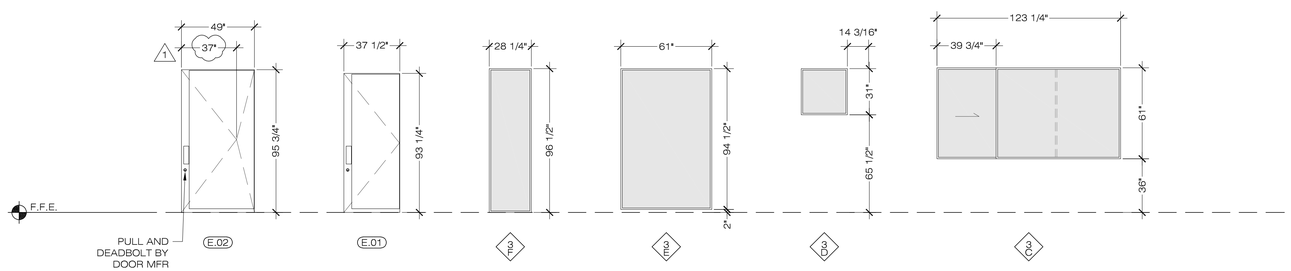
WINDOW SCHEDULE

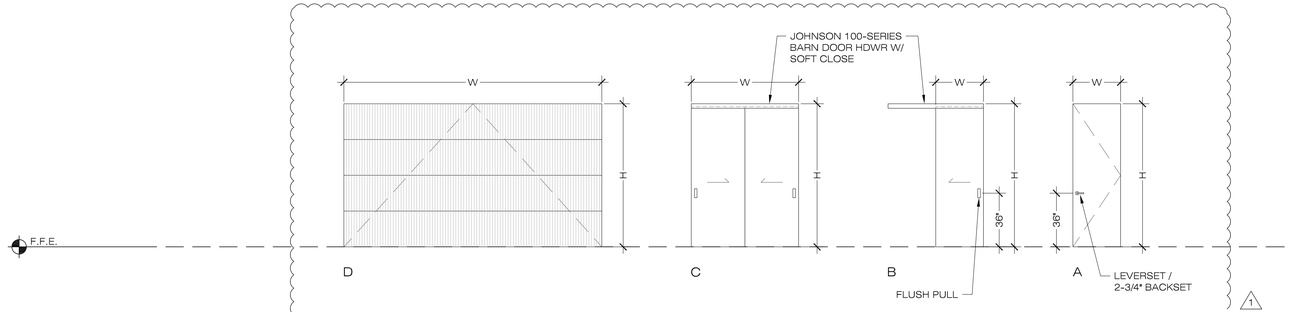
MARK	TYPE	SIZE (WxH)[1]	SILL HT	U-VALUE	SHGC	EXIST. OPENING[3]	NOTES
1A	CASEMENT	31"x54"	42"	0.29	0.23	YES	EGRESS WINDOW[4]
2A	MULTI-SLIDE	114-3/4"x96-1/2"	0"[2]	0.35	0.25	NO[5]	PARTIAL POCKET INTO ADJACENT WALL CAVITY
2B	CASEMENT	31"x61"	35-1/2"	0.4	0.22	YES	EGRESS WINDOW[4]
2C	CASEMENT	31"x61"	35-1/2"	0.4	0.22	YES	EGRESS WINDOW[4]
2D	FIXED	31"x31"	65-1/2"	0.29	0.23	YES	
2E	FIXED	61"x61"	42"	0.27	0.23	NO	SILL HEIGHT MEASURED FROM STAIR LANDING
2F	FIXED	31"x31"	65-1/2"	0.29	0.23	NO	
2G	FIXED	31"x31"	65-1/2"	0.29	0.23	YES	
3A	MULTI-SLIDE	106-3/4"x114"	0"[2]	0.35	0.25	NO[5]	DOORS STACK OUTSIDE OF OPENING
3B	MULTI-SLIDE	81-3/4"x114"	0"[2]	0.35	0.25	NO[5]	DOORS STACK OUTSIDE OF OPENING
3C	SLIDING WINDOW	123-1/4"x61"	36"	0.29	0.23	NO[5]	SLIDING WINDOW SEPARATED APPROX. 1/3 : 2/3
3D	FIXED	31"x31"	65-1/2"	0.29	0.23	YES	
3E	FIXED	61"x94-1/2"	2"	0.31	0.23	NO[5]	
3F	FIXED	28-1/4"x96-1/2"	0"	0.29	0.23	NO	
E.01	HINGED DOOR	37-1/2"x93-1/4"	0"[6]	0.31	0.23	YES	CUSTOM GLASS DOOR
E.02	PIVOT DOOR	49"x95-3/4"	0"[6]	0.31	0.23	YES	CUSTOM GLASS DOOR

[1] CONTRACTOR TO FIELD VERIFY WINDOW SIZES
[2] SLIDING DOOR WITH FACTORY WEATHERPROOF THRESHOLD
[3] RE-USE OPENING IN EXISTING CONSTRUCTION - CONTRACTOR TO VERIFY R.O.
[4] WINDOW SHALL COMPLY WITH R311 AND HAVE A NET CLEAR OPENING OF 5.7 SF MIN. / 20" CLEAR WIDTH MIN. / 24" CLEAR HEIGHT MIN.
[5] RE-USE EXISTING HEADER / MODIFY SILL + JAMBS AS REQ'D
[6] DOOR WITH CUSTOM STAINLESS STEEL THRESHOLD TO BE MINIMUM OF 1" AND A MAXIMUM OF 7-3/4" ABOVE ADJACENT EXTERIOR GRADE

GENERAL WINDOW NOTES

1. CONTRACTOR TO REMOVE ALL EXISTING WINDOWS
2. CONTRACTOR TO PROVIDE SUBMITTAL FOR NFRC-RATED WINDOW SYSTEM MEETING OR EXCEEDING THE PERFORMANCE REQUIREMENTS IN THIS SCHEDULE
3. ALL GLAZING TO BE TEMPERED
4. REFER TO ENERGY COMPLIANCE SHEETS FOR REQUIRED U-VALUES AND SHGC. CONTRACTOR TO VERIFY WINDOW SPECIFICATION MEETS MINIMUM REQUIREMENTS





DOOR SCHEDULE

MARK	TYPE	SIZE (WxH)[1]	NOTES
00.A	A	30"x84"	PRIVACY LATCH
00.B	A	30"x84"	PRIVACY LATCH
00.C	A	30"x84	
00.D	A	30"x72"	
00.E	C	76"x96"	
01.A	D	194"x96"	CLOPAY 2" CLASSIC STEEL OR EQ. W/ JAMB MOUNT OPERATOR. DOOR TO BE CLAD WITH CORRUGATED SIDING TO MATCH BLDG
01.B	A	36"x96"	SOLID CORE DOOR W/ SELF-CLOSING HINGES, SMOKE SEALS, SELF-LATCHING
01.C	A	30"x96"	
02.A	A[2]	36"x96"	PRIVACY LATCH
02.B	A	30"x96"	PRIVACY LATCH
02.C	A	24"x96"	
02.D	B	30"x96"	
02.E	B	52"x96"	
02.F	B[2]	34"x96"	
02.G	B[2]	34"x96"	
03.A	A	30"x96"	PRIVACY LATCH

[1] LISTED SIZES ARE NOMINAL. CONTRACTOR TO VERIFY ALL OPENINGS PRIOR TO ORDERING DOORS
[2] DOORS TO PROVIDE A MINIMUM 32" CLEAR TO COMPLY WITH CRC R327

GENERAL DOOR NOTES

1. ALL INTERIOR DOORS TO BE SOLID CORE WOOD DOORS WITH STANDARD HARDWARE PREP, U.N.O.

the construction zone
1720 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
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06.05.25

PERMIT SET

ocean drive residence
2800 ocean drive manhatten beach, ca 90266
GLAZING SCHEDULE
04.18.25
06.06.25

A800

STRUCTURAL NOTES:

1. A SPECIAL INSPECTION OF HIGH STRENGTH A325 AND A490 BOLTS SHALL BE IN ACCORDANCE WITH APPROVED PANELS SHALL BE BLOCKED.

2. THE MINIMUM SHEET DIMENSION OF SHEAR WALL SHALL BE 24" AND SHALL BE MANUFACTURED WITH EXTERIOR GLUE AND NAILED NOT CLOSER THAN 1/2" TO THE PANEL EDGE AND NAILING SHALL NOT FRACTURE THE SURFACE OF THE SHEATHING.

4. NOTCHING AND BORING OF STUDS AND JOISTS SHALL CONFORM TO SECTIONS 2308.9.10 & 2308.9.11 CBC.

5. STUCCO LATH AND DRYWALL SHALL BE NAILED TO ALL STUDS AND TO TOP AND BOTTOM OF PLATES.

6. CARRY ALL PS AND DOUBLE STUDS DOWN TO THE FOUNDATION OR SUPPORTING BEAMS BELOW. SOLID BLOCK TO PROVIDE FULL BEARING @ FLOOR LEVELS.

7. FLOOR SHEATHING SPECIFICATIONS:
1 1/8" T&G CDX, PANEL IDENTIFICATION = 48/24
W/10d NAILS @ 6" & 10" O.C., FACE GRAIN PERPENDICULAR TO JOISTS, JOINTS STAGGERED. FLOOR PLYWOOD SHALL BE TONGUE AND GROOVE OR HAVE BLOCKED PANEL EDGES.

8. ROOF SHEATHING SPECIFICATIONS:
5/8" CDX, PANEL IDENTIFICATION = 24/0,
W/8d NAILS @ 6" & 12" O.C., FACE GRAIN PERPENDICULAR TO RAFTERS, JOINTS STAGGERED.

9. DECK SHEATHING SPECIFICATIONS:
3/4" EXTERIOR RATED SHEATHING, PANEL IDENTIFICATION = 32/16
W/10d NAILS @ 6" & 10" O.C., FACE GRAIN PERPENDICULAR TO JOISTS, JOINTS STAGGERED. SHEATHING SHALL BE TONGUE AND GROOVE OR HAVE BLOCKED PANEL EDGES.

10. ALL DIAPHRAGM AND SHEAR NAILING TO BE WITH "COMMON NAILS OR BOX NAILS".

11. SEE DETAIL 1/S-06 FOR FLOOR AND ROOF DIAPHRAGM NAILING.

14. A CERTIFICATE OF COMPLIANCE MUST BE PROVIDED FOR ALL GLUE LAMINATED BEAMS.

15. STRAP ALL NEW TOP PLATES TO EXISTING WITH ST6224 @ ALL LOCATIONS AS REQUIRED.

16. ALL LUMBER AND PLYWOOD WILL BE GRADE STAMPED BY AN APPROVED INSPECTION AGENCY.

17. PROVIDE SOLID BLOCKING OR CROSS BRACING AT INTERVALS NOT EXCEEDING 8 FEET FOR RAFTERS OR JOISTS WITH A DEPTH TO WIDTH RATIO OF 6:1 UNLESS BOTH EDGES ARE HELD IN LINE.

20. STRUCTURAL OBSERVATION SHALL BE PROVIDED BY THE ENGINEER OF RECORD UPON COMPLETION OF FOUNDATION FORM WORK, COMPLETION OF FLOOR FRAMING, AND COMPLETION OF SHEAR WALLS. (CHAPTER 1709 CBC).

21. MICROLAM BEAMS TO BE PER I.C.B.O. NER 126.

22. TRUSS JOISTS TO BE BY `TRUSS JOIST MACMILLAN CO.'.

23. STUDS IN EXTERIOR WALLS OF ROOMS WITH OPEN BEAM/SLOPING CEILINGS, SHALL EXTEND FROM FLOOR TO ROOF WITHOUT INTERMEDIATE PLATES UNLESS PLATES ARE DESIGNED. MAXIMUM HEIGHT OF BEARING STUDS IS 10' SEE FRAMING PLANS FOR LOCATIONS.

24. LICENSED FABRICATOR REQUIRED FOR MICROLAMS, GLULAMS, ENGINEERED JSTS, TRUSSES, AND STRUCTURAL STEEL.

25. FIRE BLOCK STUD WALLS (AT 10' INTERVALS HORIZONTAL AND VERTICAL) ENCLOSED AND CONCEALED SPACES, AND AT OPENINGS AROUND VENTS, PIPES, DUCTS, CHIMNEYS, BETWEEN ATTIC AND CHIMNEY CHASE, AT STAIR STRINGERS, AND SIMILAR PLACES AT CEILING AND FLOOR LEVELS.

27. SEE DETAILS 2/S-06 3/S-06 FOR WINDOW AND DOOR FRAMING IN BEARING WALLS.

28. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR WOOD SHEAR WALLS, SHEAR PANELS, AND DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORING, AND OTHER FASTENING OF COMPONENTS OF THE SEISMIC FORCE RESISTING SYSTEM WHERE THE NAIL SPACING OF THE SHEATHING IS LESS THAN 4" ON CENTER. (CBC 1707.3)

29. WHERE SPECIAL INSPECTION OR TESTING IS REQUIRED, THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE SHALL INCLUDE A `STATEMENT OF SPECIAL INSPECTIONS.

30. FRAMING HARDWARE: SIMPSON STRONG TIE CONNECTORS OR AN APPROVED EQUAL.

31. WOOD FRAMING MEMBERS, INCLUDING WOOD SHEATHING, THAT REST ON EXTERIOR FOUNDATION WALLS AND ARE LESS THAN 8 INCHES FROM EXPOSED EARTH SHALL BE OF NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD (CBC 2304.11.2.2)

32. PROVIDE EQUIVALENT OPTIONS TO ENGINEER OF RECORD FOR APPROVAL PRIOR TO INSTALLATIONS.

33. STRUCTURAL OBSERVATION IS REQUIRED PER CBC 1709.2 & 1709.3. FOUNDATION INSPECTION, SHEAR WALLS, ROOF FRAMING.

34. STRUCTURAL OBSERVATIONS FOR SEISMIC RESISTANCE: STRUCTURAL OBSERVATIONS SHALL BE PROVIDED FOR THOSE STRUCTURES INCLUDED IN SEISMIC DESIGN CATEGORY D, E OR F, AS DETERMINED IN CBC 1613, WHERE ONE OR MORE OF THE FOLLOWING CONDITIONS EXIST: (LARUCP 17-04)
-WHEN SO DESIGNATED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE OF THE DESIGN.
-WHEN SUCH OBSERVATION IS SPECIFICALLY REQUIRED BY THE BUILDING OFFICIAL.

35. CONTINUOUS SPECIAL INSPECTION BY A REGISTERED DEPUTY INSPECTOR IS REQUIRED AS PER CBC 1704 & CHAPTERS 19, 21 & 22 FOR:
-CONCRETE OVER 2500 PSI -FIRE PROOFING
-HIGH STRENGTH BOLTS -ENGINEERED MASONRY
-FIELD WELDING -HIGH LIFT GROUTING
-PRE STRESSED CONCRETE -HIGH LOAD DIAPHRAGMS
-SPECIAL MOMENT RESISTING CONCRETE FRAMES

38. CONTRACTOR'S RESPONSIBLE FOR THE CONSTRUCTION OF A WIND OR SEISMIC FORCE RESISTING SYSTEM / COMPONENT LISTED IN THE `STATEMENT OF SPECIAL INSPECTION' SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO COMMENCEMENT OF WORK ON SUCH SYSTEM OR COMPONENT PER CBC 1706.1

39. SPECIAL INSPECTIONS OF CONCRETE ELEMENTS IN BUILDINGS AND STRUCTURES AND CONCRETING OPERATIONS SHALL BE AS REQUIRED BY CBC 1704.4 AND CBC T-1704.4 (CBC 1704.4 & 1901.7)

41. GRADING AND FOUNDATION SHALL BE INSPECTED AND CERTIFIED BY THE SOILS ENGINEER PRIOR TO PLACEMENT OF CONCRETE.

42. ANCHOR BOLTS IN CONTACT WITH PRESSURE TREATED SILL PLATE SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICONE BRONZE OR COPPER - PER CBC SECTION 2304.9.5.1.

43. SPECIAL INSPECTION IS REQUIRED FOR WOOD SHEAR WALLS AND DIAPHRAGMS, INCLUDING CONNECTIONS TO OTHER COMPONENTS OF THE SEISMIC-FORCE RESISTING SYSTEM WHEN NAIL SPACING OF THE SHEATHING IS 4" OR LESS O.C. -PER CBC SECT. 1707.3

DESIGN PARAMETER

A. FLOOR LOADS: DEAD LOAD 14 #/SF: LIVE LOAD 40 #/SF; DECK LOADS: DEAD LOAD 25 #/SF: LIVE LOAD 60 #/SF

B. ROOF LOADS: DEAD LOAD 25 #/SF: LIVE LOAD 20 #/SF

C. WIND DESIGN DATA:

I. BASIC WIND SPEED: 110 MPH (ASD)

II. WIND IMPORTANCE FACTOR AND OCCUPANCY CATEGORY: 1.0 AND II

III. WIND EXPOSURE: C

IV. INTERNAL PRESSURE COEFFICIENT: 0.18

D. EARTHQUAKE DESIGN DATA:

I. SEISMIC IMPORTANCE FACTOR AND RISK CATEGORY: 1.0 AND II

II. MAPPED SS AND S1 : SS=1.628 G, S1=0.613 G

III. SITE CLASS: D

IV. SDS AND SD1 : SDS=1.085 G, SD1=0.613 G

V. SEISMIC DESIGN CATEGORY: D

VI. BASIC SEISMIC-FORCE-RESISTING SYSTEM : W. S. WALLS, HFX'S

VII. DESIGN BASE SHEAR: 10.85 KIP (ASD)

VIII. CS=0.12 (ASD)

IX. R=6.5

X. ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE PROCEDURE

E. SPECIAL LOADS: NONE

F. SYSTEM AND COMPONENTS REQUIRING SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE:W. S. WALLS, HFX S

GARAGE FLOOR: 3" CONCRETE

DEAD LOAD: 48#/ S.F. LIVE LOAD 40#/S,F, POINT LOAD: 3000#

DRIVEWAY: 6" CONCRETE

DEAD LOAD: 85#/ S.F. LIVE LOAD 40#/S,F, POINT LOAD: 3000#

ICC & LA RESEARCH REPORTS

TJI:	WEYERHAEUSER:	LARR# 25538	ESR#1153
PSL:	WEYERHAEUSER:	LARR# 25202	ESR#1387
HOLDDOWNS:	SIMPSON:	LARR#25720	ESR# 2330
HFX.	HARDY FRAMES:	LARR# 25759	ESR# 2089
STRAPS:	SIMPSON:	LARR# 25713	ESR# 2105
HANGERS:	SIMPSON:	LARR# 25806	ESR# 2877

ABBREVIATIONS:

AB	ANCHOR BOLT	JST	JOIST
BLKG	BLOCKING	KP	KING POST
BM	BEAM	MB	MACHINE BOLT
BN	BOUNDARY NAILING	MST	STRAP TIE
CLR	CLEAR	OC	ON CENTER
CANT	CANTILEVER	P	POST
CB	CEILING BEAM	PA	POST ABOVE
CC	SIMPSON COLUMN CAP	P&S	POST AND STRAP ABOVE
CB	SIMPSON COLUMN BASE	PC	SIMPSON POST CAP
CMSTC	COILED STRAP	PL	PLATE
CONT	CONTINUOUS	PSL	PARALLAM WOOD BEAM
CS	CORNER STRAP, MSTC28	REQ'D	REQUIRED
CCQ	COLUMN CAP	RR	ROOF RAFTER
DJ	DECK JOIST	SIM	SIMILAR
ECCQ	COLUMN CAP	STD	STANDARD
EN	EDGE NAILING	SIM	SIMILAR
ELEV	ELEVATOR	T/	TOP OF
EPC	END POST CAP	TYP	TYPICAL
FLR	FLOOR	TJI	PLYWOOD WEB JOIST
FJ	FLOOR JOIST	TS	TUBE STEEL
GLTV	H.D. BEAM HANGER	HU	WOOD BEAM HANGER
HB	HIGH BEAM	HUC	WOOD BEAM HANGER
HD	HEAVY DUTY	UNO	UNLESS NOTED OTHERWISE
HDR	HEADER	VIF	VERIFY IN FIELD
HFX	HARDY FRAME	W	WIDE FLANGE BEAM
ITS	TRUSS JOIST HANGER	W/	WITH

SYMBOL LEGEND

(#)→	VERICAL SHEAR LINE
□	POST / COLUMN
▭	SLAB
▬	CONCRETE WALL
▭	CONCRETE WALL (LOW)
■	PAD FOUNDATION
••••	SHEAR WALL W/ A.B.
▭	FRAME WALL
⬚	CONT. FOOTING

DESIGN CRITERIA:

CODE 2022 CBC, ASCE 7-10, 2024 NDS

MATERIALS TIMBER (D.F. LARCH GRADING RULES AGENCY WCLI/WWPA)

SIZE	GRADE	F_b (PSI)	F_v (PSI)	E (PSI)
2x	#2-DF	900	180	1.6x10E6
4x	#2-DF	900	180	1.6x10E6
6x	#1-DF	1,350	170	1.6x10E6
GLULAM	24F	2,400	210	1.7x10E6
PARALLAM	2.0E PSL	2,900	290	2.0x10E6
MICROLLAM	1.9E LVL	2,600	285	1.8x10E6

CONCRETE 2,500 PSI
3,000 PSI / GRADE BEAMS AND RETAINING WALLS

STEEL STRUCTURAL STEEL SHALL CONFORM TO ASTM A-572 (GRADE 50)
PIPE COLUMNS SHALL CONFORM TO ASTM A-53, GRADE B, U.N.O.
TUBE STEEL SHALL CONFORM TO ASTM A500 GRADE B (F_y=46KSI)
UNFINISHED NUTS AND BOLTS SHALL CONFORM TO ASTM A307

SOIL SOIL BEARING PRESSURE = 1,600 PSF + 200d, WHERE d=18"
BELOW EXISTING GRADE / MAX 2,000 PSF

REINF. STEEL ASTM A615-40 FOR BARS #4 AND SMALLER
ASTM A615-60 FOR BARS #5 AND LARGER
ASTM A706-60 FOR WELDED BARS

CONC BLOCK ASTM C90, GRADE N

STRUCTURAL CONSULTANTS

M.S. STRUCTURAL ENGINEERING INC. 310.809.7061
3719 EMERALD STREET, UNIT A
TORRANCE, CA 90503

GEOTECHNICAL CONSULTANTS

T.I.N. ENGINEERING CO. 310.371.7045
17834 BAILEY DRIVE
TORRANCE, CA 90504

SOILS ENGINEER APPROVAL
THIS PLAN HAS BEEN REVIEWED AND CONFORMS TO THE RECOMMENDATIONS OF SOILS ENGINEERING / GEOLOGICAL REPORT #172287 DATED 08.21.2017

SIGNATURE AND DATE ____________

FOUNDATION NOTES

1. ALL HOLDOWNS MUST BE SECURED IN PLACE PRIOR TO FOUNDATION INSPECTION AND RE-TIGHTN JUST PRIOR TO TO COVERING WALL FRAMING (109.3 APPENDIX C.B.C)

2. PROVIDE UNDER FLOOR FOUNDATION VENTS OF NOT LESS THAN 1 S.F. OF VENT AREA FOR EVERY 150 S.F. OF UNDER FLOOR AREA. - VERIFY EXISTING

3. THE SOIL BEARING VALUE USED IS 1600 PSF.+200d , PER SOILS REPORT #172287 PREPARED BY T.I.N. ENGINEERING.

4. FOUNDATION CONCRETE WITH DESIGN STRENGTH OVER 2500 PSI REQUIRES SPECIAL INSPECTION.

5. ALL ANCHOR BOLTS TO BE 5/8" DIA X 10" LONG (12" WHEN USING 3X PLATE) WITH 7" MIN. EMBEDMENT. SPACED 6'-0" O.C. MAX. AND BEGINNING 0'-9" FROM ENDS. MINIMUM TWO BOLTS PER PIECE OF SILL PLATE. (CBC 2308.6)

6. MIXING, CONVEYING, DEPOSITING AND CURING CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 1905 OF THE CBC.

7. ALL FOUNDATION SILL PLATES SHALL BE PRESSURE TREATED.

8. CRIPPLE WALLS EXCEEDING 4'-0" IN HEIGHT SHALL BE 2X6 OR 3X4 STUDS WITH BRACING. CRIPPLES LESS THAN 14" IN HEIGHT SHALL BE SOLID BLOCKED.

9. RETAINING WALL WATERPROOFING WILL BE INSPECTED PRIOR TO BACKFILLING.

10. MINIMUM DISTANCE FROM FOUNDATION FOOTING TO DAYLIGHT TO BE H/3 OR 5', WHICHEVER IS GREATER. SEE FIGURE 1805.3.1. [1805.3.1 CBC].

11. BACKFILL AND COMPACTION BEHIND CANTILEVER RETAINING WALL MUST BE COMPLETE PRIOR TO FLOOR JOISTS.

12. VERIFY LOCATION OF HOLDOWNS WITH STRUCTURAL PLANS. DO NOT SCALE PLANS.

13. PROVIDE 5/8" DIA. ANCHOR BOLTS AT 24" O.C. AT ALL CRIPPLE WALL LOCATIONS. UNLESS NOTED OTHERWISE.

14. MINIMUM CONCRETE COMPRESSIVE STRENGTH TO BE 2500 P.S.I. PER A.C.I. 1.1.1

15. ALL GRADE BEAMS & PADS SHALL BE 3000 PSI CONCRETE AT 28 DAYS. SPECIAL INSPECTION IS REQUIRED.

16. USE OF A615 GRADE 40 AND 60 REINFORCING STEEL REQUIRES MIL TESTING FOR OVER STRENGTH. PROVIDE COPY OF REPORT.

17. EPOXY HOLDOWN AND ANCHORAGE SYSTEMS REQUIRE SPECIAL INSPECTION.

18. FOUNDATION ANCHOR BOLTS SHALL HAVE MININUM 3" X 3" X 0.229" PLATE WASHERS PER CBC SECTION 2308.12.8 U.N.O. FOR SEISMIC DESIGN CATEGORY D, E, & F.

19. FOUNDATION ANCHOR BOLTS SHALL HAVE THE FOLLOWING MIN. STEEL PLATE WASHERS UNLESS NOTED OTHERWISE
5/8" DIA. - 2-1/2" SQ. X 1/4" WASHER
3/4" DIA. - 3 " SQ. X 5/16" WASHER
7/8" DIA. - 3" SQ. X 5/16" WASHER
1" DIA. - 3 1/2" SQ. X 3/8" WASHER

20. PROVIDE SURVEY STAKES PRIOR TO FOUNDATION INSPECTION TO VERIFY LOT LINES.

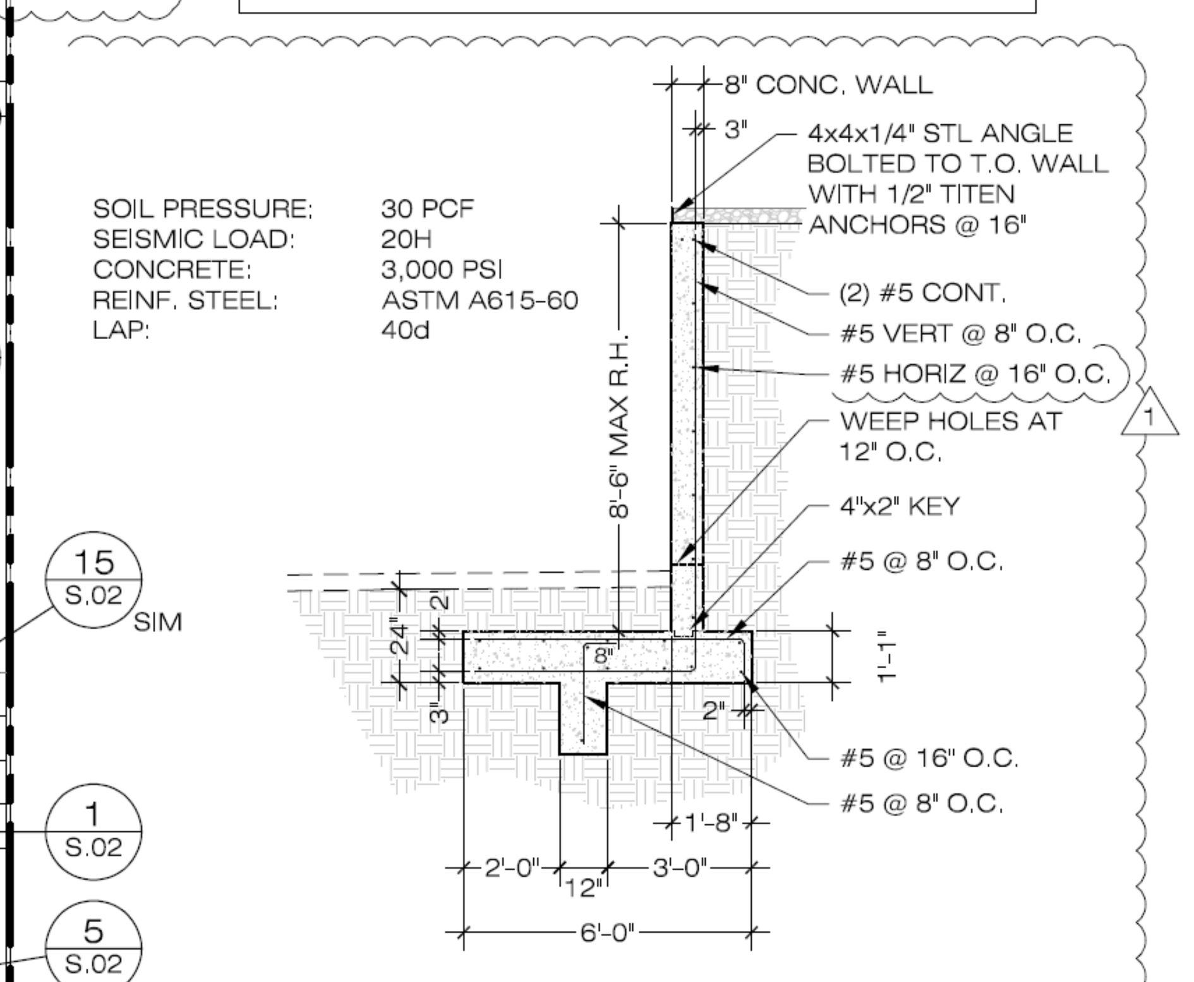
21. HOLDOWNS SHALL BE RE-TIGHTENED JUST PRIOR TO COVERING THE WALL FRAMING.

22. SEE DETAIL 13/S-01 FOR TYPICAL ANCHOR BOLT PLACEMENT.

23. CERTIFICATION OF FOUNDATION FORMS REQUIRED PRIOR TO FOUNDATION INSPECTION.

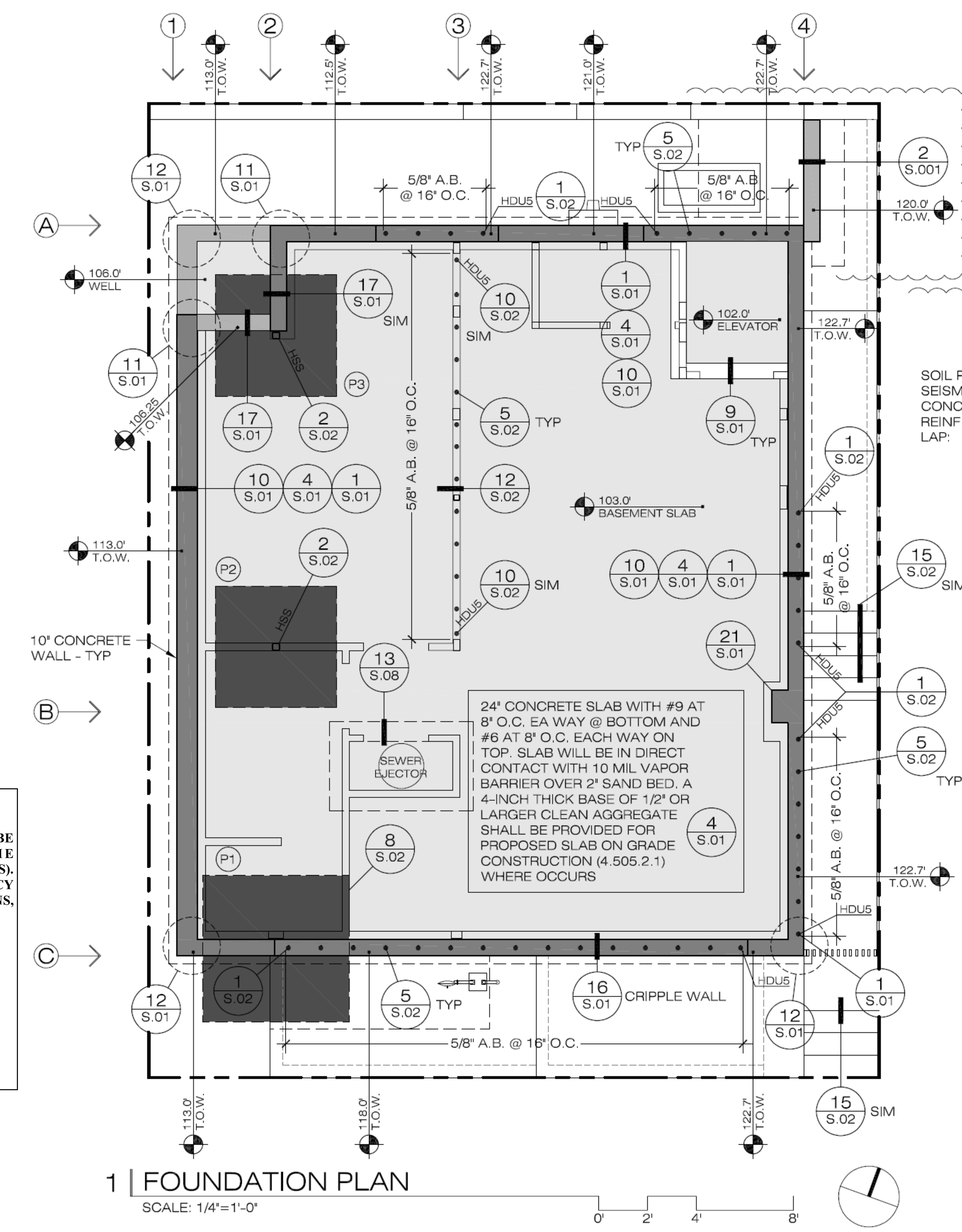
PAD FOUNDATIONS

	PAD	REINFORCEMENT
P1	6'-0"x6'-0"x2'-0"	(7) #6 EA WAY @ BTM
P2 + P3	5'-0"x5'-0"x2'-0"	(6) #6 EA WAY @ BTM
SOIL BEARING CAPACITY : 1,600 PSF + 200d		
d = MEASURED FROM 18" BELOW EXIST GRADE		
MAX PRESSURE: 2,000 LBS / SF		



2 | SITE RETAINING WALL
SCALE: 1/4"=1'-0"

NOTE: ALL FOUNDATIONS EXCEPT NORTH RETAINING WALL (CLOUDED) ARE EXISTING CONSTRUCTION COMPLETED UNDER PERMIT 18-02269



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

GEOTECHNICAL REVIEW

THIS PLAN HAS BEEN REVIEWED AND APPEARS TO BE IN GENERAL CONFORMITY WITH THE RECOMMENDATIONS PRESENTED IN OUR REPORT(S). NO PRESENTATION IS MADE AS TO THE ACCURACY OF MEASUREMENTS, DIMENSIONS, CALCULATIONS, OR ANY DESIGN.

REGISTERED PROFESSIONAL ENGINEER SHYAN CHYUN TONY LEE C 44045 EXP. 6-30-27 CIVIL STATE OF CALIFORNIA

06/06/2025

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fax 602.230.0535

ocean drive residence **PERMIT SET**

2800 ocean drive manhatten beach, ca 90266

FOUNDATION PLAN + NOTES

DELTA 1 SET 01.24.25
DELTA 2 SET 03.18.25
DELTA 3 SET 04.04.25
PERMIT SET 04.18.25

S.001
PAGE #

SHEAR PANEL SCHEDULE

PNL	TYPE OF SHEATHING	NAILING		ANCHORAGE			MAX ALLOW. LOADING #/LF
		EDGES	FIELD	TOP PL	SOLE PL BETWEEN FLOORS	SILL PLATE AT FOUND.	
A	15/32" STRUCT. 1 PLYWOOD	10d @ 6" O.C.	10d @ 12" O.C.	LTP 4 OR A-35 @ 18" O.C.	3/8" Ø x 7" LAG BOLTS @ 16" O.C.	5/8" Ø A.B. @ 24" O.C.	255
B	15/32" STRUCT. 1 PLYWOOD	10d @ 4" O.C.	10d @ 12" O.C.	LTP 4 OR A-35 @ 12" O.C.	3/8" Ø x 7" LAG BOLTS @ 16" O.C.	5/8" Ø A.B. @ 16" O.C.	383
C	15/32" STRUCT. 1 PLYWOOD	10d @ 3" O.C.	10d @ 12" O.C.	LTP 4 OR A-35 @ 10" O.C.	3/8" Ø x 7" LAG BOLTS @ 12" O.C.	5/8" Ø A.B. @ 16" O.C.	499
D	15/32" STRUCT. 1 PLYWOOD	10d @ 2" O.C.	10d @ 12" O.C.	LTP 4 OR A-35 @ 8" O.C.	3/8" Ø x 7" LAG BOLTS @ 8" O.C.	5/8" Ø A.B. @ 16" O.C.	653
E	15/32" (2 SIDES) STRUCT. 1 PLYWOOD	10d @ 3" O.C.	10d @ 12" O.C.	LTP 4 OR A-35 @ 5" O.C.	3/8" Ø x 7" LAG BOLTS @ 6" O.C.	5/8" Ø A.B. @ 8" O.C.	998
F	15/32" (2 SIDES) STRUCT. 1 PLYWOOD	10d @ 2" O.C.	10d @ 12" O.C.	LTP 4 OR A-35 @ 4" O.C.	3/8" Ø x 7" LAG BOLTS @ 4" O.C.	5/8" Ø A.B. @ 8" O.C.	1305

HOLDOWN SCHEDULE

HOLDOWN SYMBOL
SHEAR WALL LENGTH
SHEAR WALL SYMBOL

SYMBOL	MIN. END POST	STRAPS BETWEEN FLOORS	HOLDOWNS AT FOUNDATIONS
1	4x4	MST-37	———
2	4x4	MST-48	———
3	4x4	MST-60	———
4	4x4	MST-72	———
5	4x6	(2x) MST-60	———
6	4x6	(2x) MST-72	———
7	4x4	———	HDU2
8	4x4	———	HDU4
9	4x4	———	HDU5
10	4x6	———	HDU8
11	4x8 / 6x6	———	HDU11
12	4x8 / 6x6	———	HDU14

GENERAL NOTES:

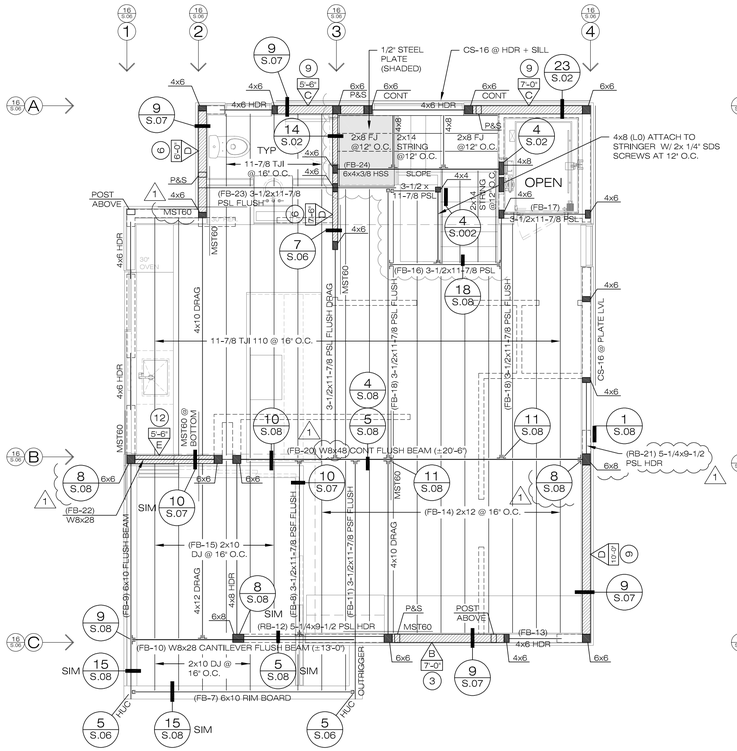
1. USE 3x FRAMING MEMBERS FOR FOUNDATION SILL PLATES AND ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS (S. WALLS B, C, D, E, AND F- ALLOWABLE SHEAR > 300 LB/LF). PROVIDE 1/2" MIN. EDGE DISTANCE FOR NAILING AT 3x MEMBERS. USE DOUBLE TOP PLATE TYPICAL. ALL NAILS TO BE STAGGERED COMMON NAILS.
2. SPECIAL INSPECTION IS REQUIRED AT ALL SHEAR WALLS
3. SEE APPROPRIATE SHEAR WALL TRANSFER DETAILS ON PLANS
4. HOLD DOWNS AS INDICATED ON PLANS TO BE LOCATED AT EACH END OF SHEAR WALL.
5. HOLD DOWNS AS INDICATED ON PLANS BETWEEN FLOORS TO BE LOCATED AT EACH END OF EACH PANEL TO POST OR BEAM BELOW, U.N.O.
6. 0.25 THICK x 3"x3" PLATE WASHER REQUIRED AT ALL SILL PLATE BOLTING, AND ALL HD'S AS REQUIRED BY THE LOCAL BUILDING OFFICIAL
7. BOLT HOLES FOR HOLD DOWN SHALL BE A MAXIMUM OF 1/16" OVERSIZE, INSPECTOR TO VERIFY
8. HOLD DOWN CONNECTORS SHALL BE TIGHTENED JUST PRIOR TO COVERING THE WALL
9. PROVIDE MINIMUM 1/2" FROM EDGE OF PANEL TO NAILS
10. PROVIDE 3x MIN. BEAM OR BLOCKING UNDER ALL SHEAR WALLS BETWEEN FLOORS TO ACCEPT LAG BOLTING

ABBREVIATIONS:

AB	ANCHOR BOLT	JST	JOIST
BLKG	BLOCKING	KP	KING POST
BM	BEAM	MB	MACHINE BOLT
BN	BOUNDARY NAILING	MST	STRAP TIE
CLR	CLEAR	OC	ON CENTER
CANT	CANTILEVER	P	POST
CB	CEILING BEAM	PA	POST ABOVE
CC	SIMPSON COLUMN CAP	P&S	POST AND STRAP ABOVE
CB	SIMPSON COLUMN BASE	PC	SIMPSON POST CAP
CMSTC	COILED STRAP	PL	PLATE
CONT	CONTINUOUS	PSL	PARALLAM WOOD BEAM
CS	CORNER STRAP, MSTC28	REQ'D	REQUIRED
CCQ	COLUMN CAP	RR	ROOF RAFTER
DJ	DECK JOIST	SIM	SIMILAR
ECCQ	COLUMN CAP	STD	STANDARD
EN	EDGE NAILING	SIM	SIMILAR
ELEV	ELEVATOR	T/	TOP OF
EPC	END POST CAP	TYP	TYPICAL
FLR	FLOOR	TJI	PLYWOOD WEB JOIST
FJ	FLOOR JOIST	TS	TUBE STEEL
GLTV	H.D. BEAM HANGER	HU	WOOD BEAM HANGER
HB	HIGH BEAM	HUC	WOOD BEAM HANGER
HD	HEAVY DUTY	UNO	UNLESS NOTED OTHERWISE
HDR	HEADER	VIF	VERIFY IN FIELD
HFX	HARDY FRAME	W	WIDE FLANGE BEAM
ITS	TRUSS JOIST HANGER	W/	WITH

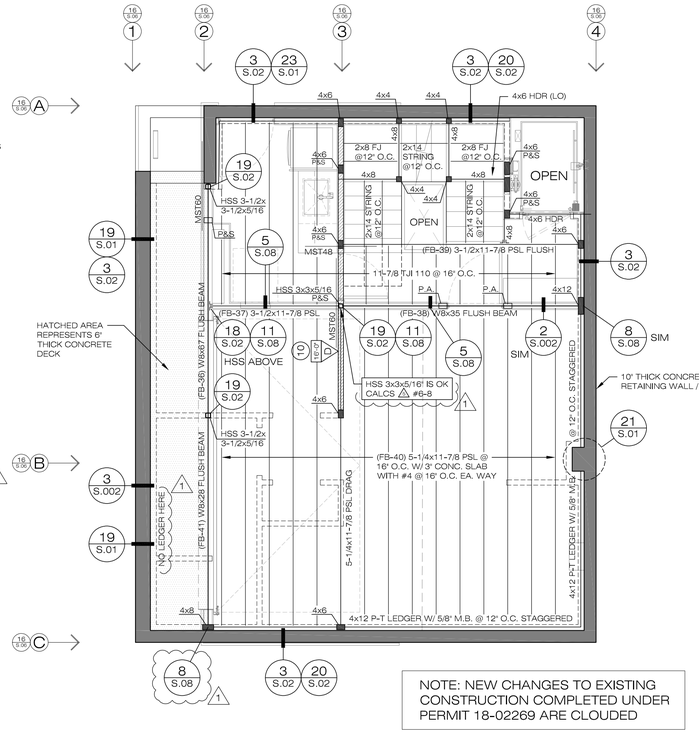
SYMBOL LEGEND

- VERICAL SHEAR LINE
- POST
- POST ABOVE
- SHEAR WALL
- CONCRETE WALL
- WALL BELOW
- STEEL BEAM
- WOOD BEAM
- WOOD JOIST



7 | THIRD FLOOR FRAMING PLAN

SCALE: 1/4"=1'-0"

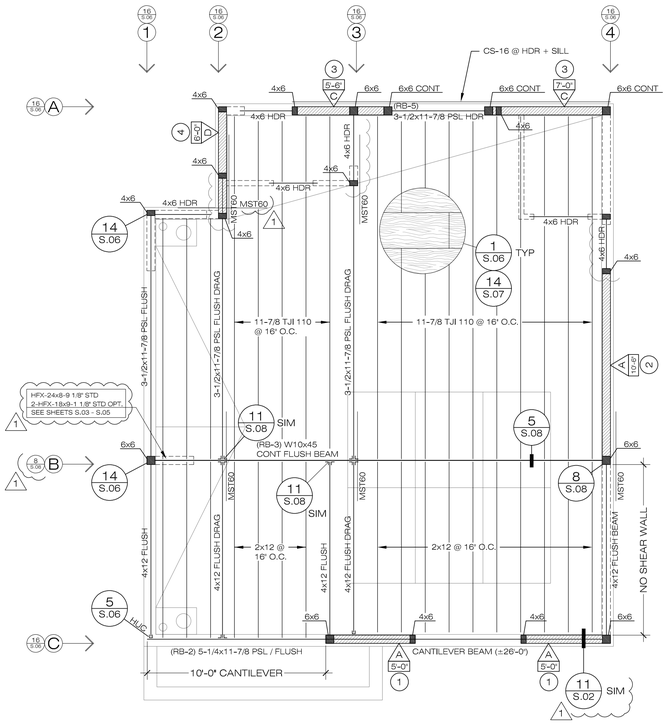


NOTE: NEW CHANGES TO EXISTING CONSTRUCTION COMPLETED UNDER PERMIT 18-02269 ARE CLOUDED

5 | FIRST FLOOR FRAMING PLAN

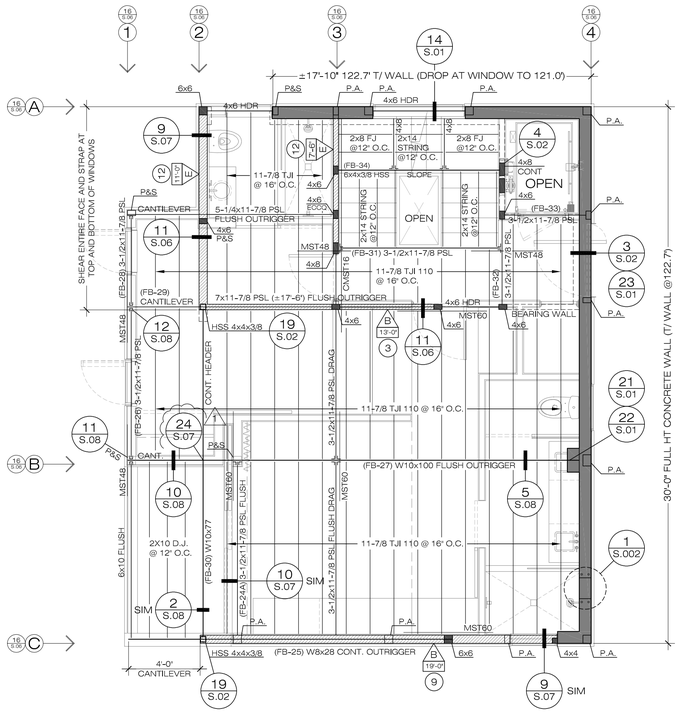
SCALE: 1/4"=1'-0"

0' 2' 4' 8'



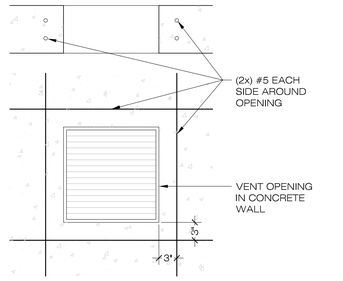
8 | ROOF FRAMING PLAN

SCALE: 1/4"=1'-0"



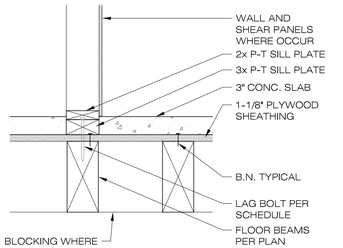
6 | SECOND FLOOR FRAMING PLAN

SCALE: 1/4"=1'-0"



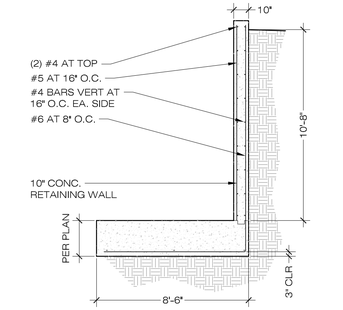
1 | VENT OPENING IN CONC. WALL

SCALE: 1"=1'-0"



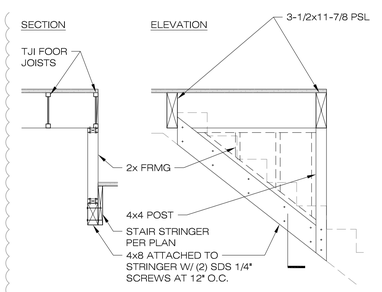
2 | FLUSH BEAM AT FLR W/ CONC.

SCALE: 1"=1'-0"



3 | 10" RETAINING WALL

SCALE: 1/4"=1'-0"



4 | NEW FL00R DECK AT STAIR

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

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LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

PERMIT SET

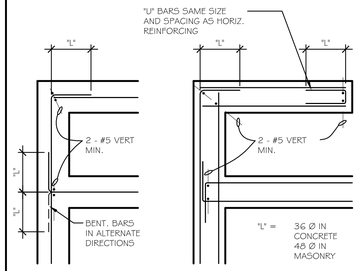
ocean drive residence

2800 ocean drive manhatten beach, ca 90266

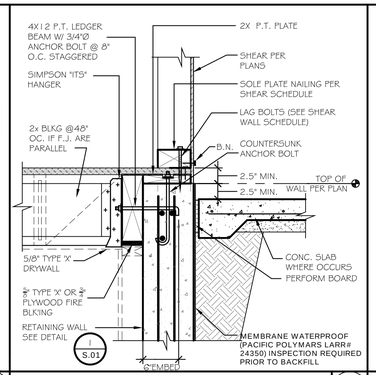
04.18.25
06.06.25

FRAMING PLANS

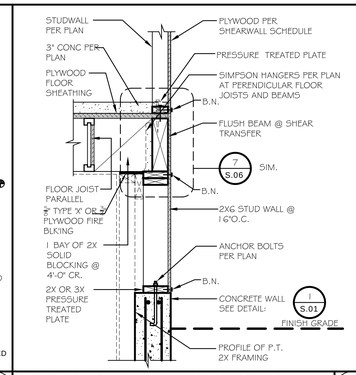
s.002



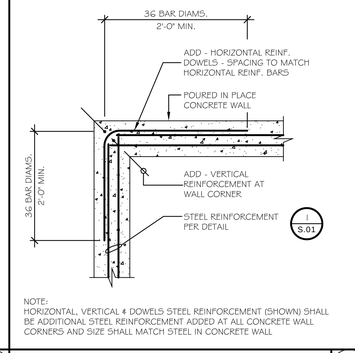
TYPICAL REINFORCEMENT DETAIL 1"=1'-0" 24



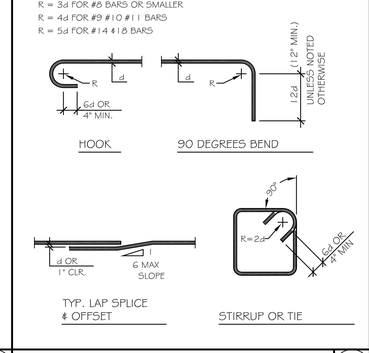
WOOD LEDGER AT RETAINING WALL 1"=1'-0" 20



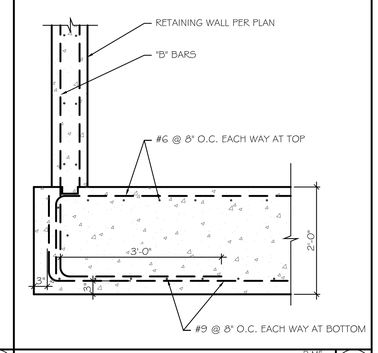
CRIPPLE STUD WALL AT CONCRETE WALL DETAIL 3/4"=1'-0" 16



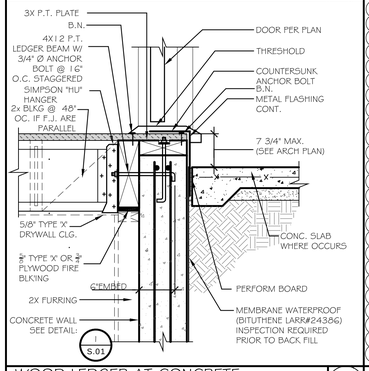
TYPICAL REINFORCEMENT DETAIL 3/4"=1'-0" 12



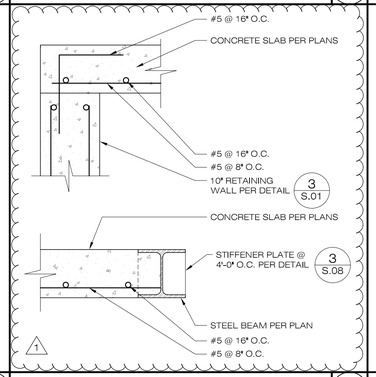
REBAR HOOK(BENDS,SPLICES & OFFSETS) 1 1/2"=1'-0" 8



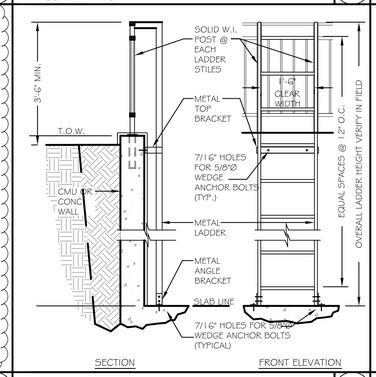
FOUNDATION AND SLAB DETAIL D-MF 3/4"=1'-0" 4



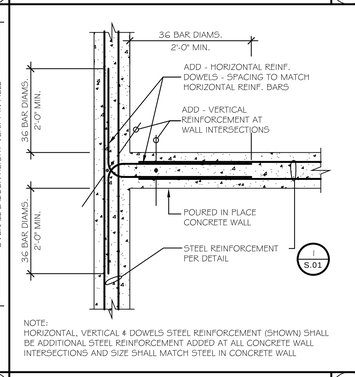
WOOD LEDGER AT CONCRETE WALL AND THRESHOLD DETAIL 1"=1'-0" 23



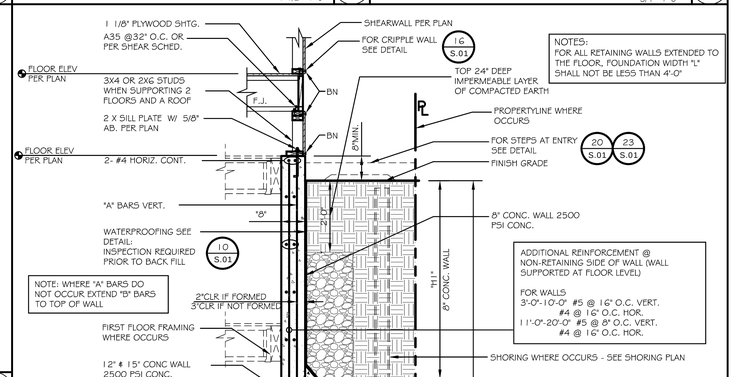
CONCRETE SLAB TO STEEL BEAM DETAIL 1"=1'-0" 19



WINDOW WELL LADDER DETAIL 1/2"=1'-0" 15

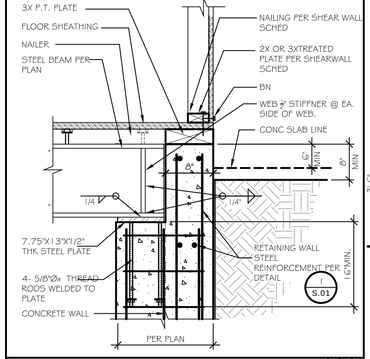


TYPICAL REINFORCEMENT DETAIL 3/4"=1'-0" 11

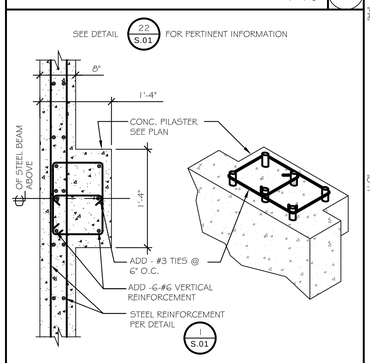


Hr	T	L	'A' BARS	'B' BARS	HORZ. BARS	TOE	HEEL	D(CONC.)	H1	H2	KEY	INSP
3'	12"	2'-0"	-	#5 @ 16" O.C.	#4 @ 16" O.C.	1'-2"	10"	8"	3'-0"	-	-	YES
4'	12"	2'-6"	-	#5 @ 16" O.C.	#4 @ 16" O.C.	1'-8"	10"	8"	4'-0"	-	3"	YES
5'	12"	3'-3"	-	#5 @ 16" O.C.	#4 @ 16" O.C.	2'-5"	10"	8"	5'-0"	-	5"	YES
6'	12"	4'-3"	-	#5 @ 8" O.C.	#4 @ 16" O.C.	3'-5"	10"	8"	6'-0"	-	11"	YES
7'	12"	5'-6"	-	#5 @ 8" O.C.	#4 @ 16" O.C.	4'-8"	10"	8"	7'-0"	-	16"	YES
8'	12"	6'-6"	#5 @ 8" O.C.	#5 @ 8" O.C.	#4 @ 16" O.C.	5'-4"	1'-2"	12"	5'-0"	3'-0"	19"	YES
9'	12"	7'-6"	#5 @ 8" O.C.	#5 @ 8" O.C.	#4 @ 16" O.C.	6'-4"	1'-2"	12"	6'-0"	3'-0"	24"	YES
10'	15"	8'-9"	#5 @ 8" O.C.	#5 @ 8" O.C.	#4 @ 16" O.C.	7'-7"	1'-2"	12"	7'-0"	3'-0"	25"	YES
11'	15"	9'-6"	#6 @ 8" O.C.	#6 @ 8" O.C.	#4 @ 16" O.C.	8'-1"	1'-5"	15"	7'-0"	4'-0"	26"	YES
12'	15"	10'-6"	#6 @ 8" O.C.	#6 @ 8" O.C.	#4 @ 16" O.C.	9'-1"	1'-5"	15"	7'-0"	5'-0"	30"	YES
13'	15"	11'-6"	#6 @ 8" O.C.	#7 @ 8" O.C.	#4 @ 16" O.C.	10'-1"	1'-5"	15"	7'-0"	6'-0"	35"	YES
14'	18"	12'-9"	#6 @ 8" O.C.	#7 @ 8" O.C.	#4 @ 16" O.C.	11'-4"	1'-5"	15"	7'-0"	7'-0"	37"	YES
15'	18"	14'-3"	#6 @ 8" O.C.	#8 @ 8" O.C.	#4 @ 16" O.C.	12'-10"	1'-5"	15"	7'-0"	8'-0"	43"	YES
16'	24"	16'-0"	#6 @ 8" O.C.	#9 @ 8" O.C.	#4 @ 16" O.C.	14'-7"	1'-5"	15"	7'-0"	9'-0"	44"	YES
17'	24"	16'-9"	#6 @ 8" O.C.	#9 @ 8" O.C.	#4 @ 16" O.C.	15'-1"	1'-8"	18"	7'-0"	10'-0"	45"	YES
18'	24"	18'-0"	#6 @ 8" O.C.	#9 @ 8" O.C.	#4 @ 16" O.C.	16'-4"	1'-8"	18"	7'-0"	11'-0"	54"	YES
19'	24"	19'-6"	#6 @ 8" O.C.	#9 @ 6" O.C.	#4 @ 16" O.C.	17'-10"	1'-8"	18"	7'-0"	12'-0"	60"	YES
20'	24"	21'-0"	#6 @ 8" O.C.	#9 @ 6" O.C.	#4 @ 16" O.C.	19'-4"	1'-8"	18"	7'-0"	13'-0"	62"	YES

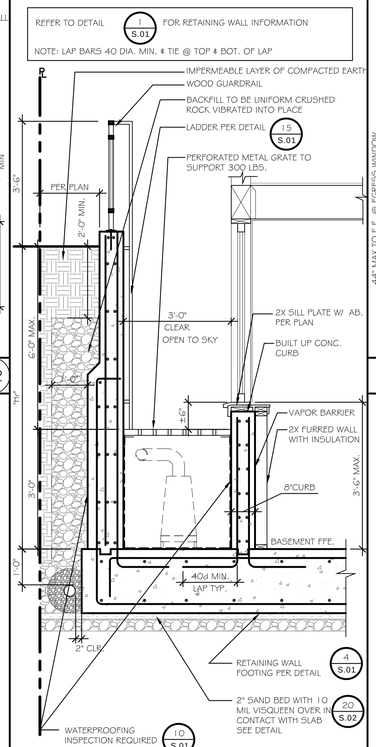
CONCRETE RETAINING WALL 1/2"=1'-0" 1



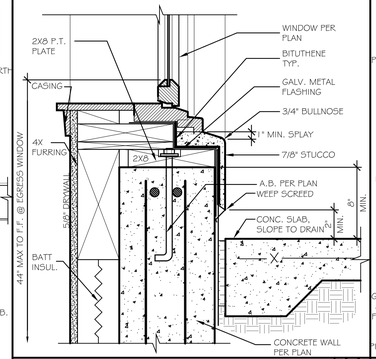
STEEL BEAM AT CONCRETE WALL 1"=1'-0" 22



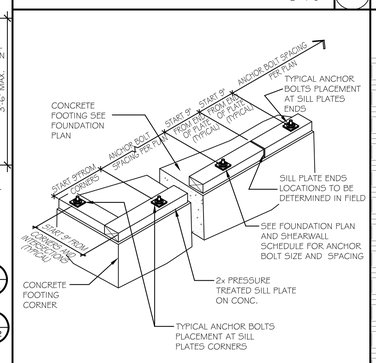
TYPICAL REINF. @ PILASTER DETAIL 3/4"=1'-0" 21



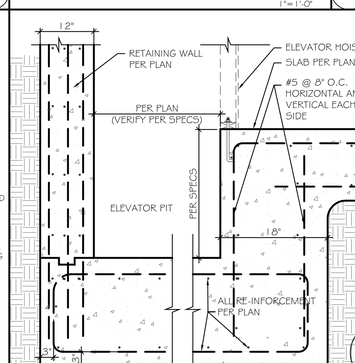
WINDOW WELL DETAIL 1/2"=1'-0" 17



WINDOW SILL DETAIL 2"=1'-0" 14



TYPICAL ANCHOR BOLT AT SILL DETAIL 1"=1'-0" 13



RETAINING WALL WATER-PROOFING DETAIL 1"=1'-0" 10

ELEVATOR PIT DETAIL 3/4"=1'-0" 9

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LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

PERMIT SET

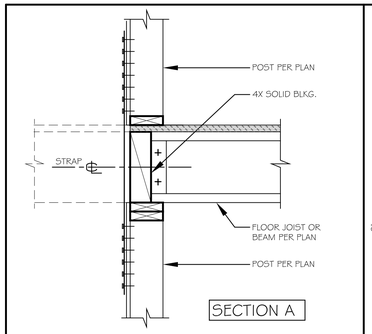
ocean drive residence

2800 ocean drive manhatten beach, ca 90266

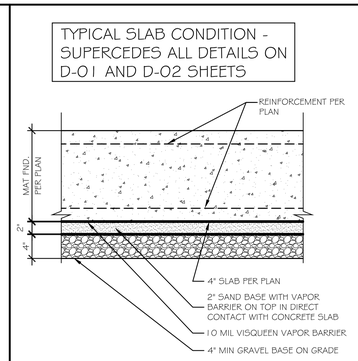
04.18.25

STRUCTURAL DETAILS

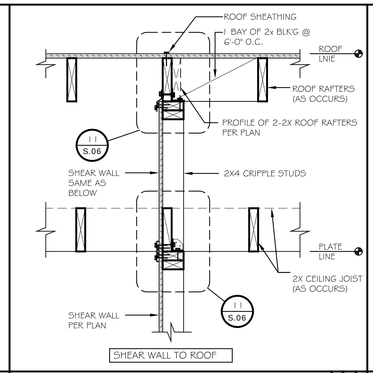
S.01



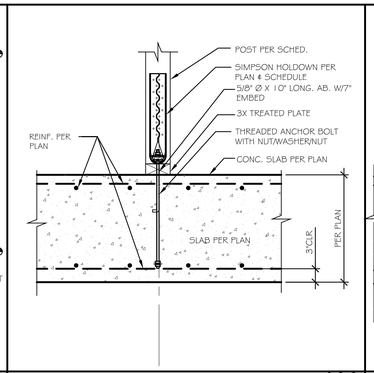
SHEARWALL STRAPPING DETAIL 1"=1'-0" 23



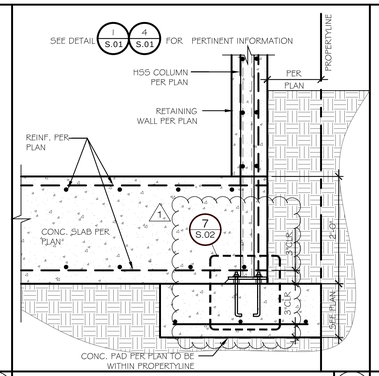
CONCRETE SLAB DETAIL - CGBC D001 1"=1'-0" 20



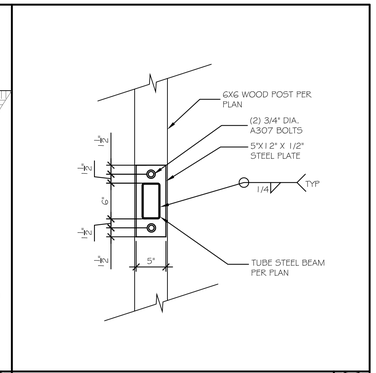
SHEAR TRANSFER DETAIL 1"=1'-0" 16



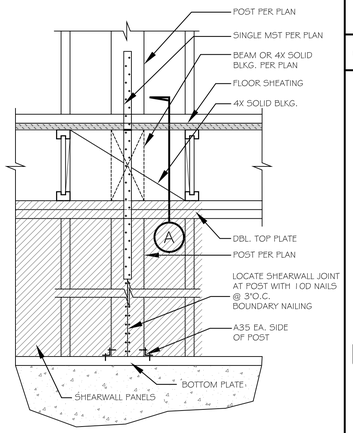
HOLD DOWN AT MAT-SLAB DETAIL 3/4"=1'-0" 12



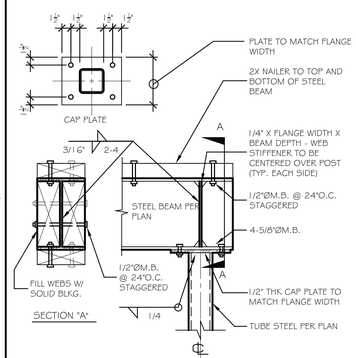
CONC PAD @ STEEL DETAIL 3/4"=1'-0" 8



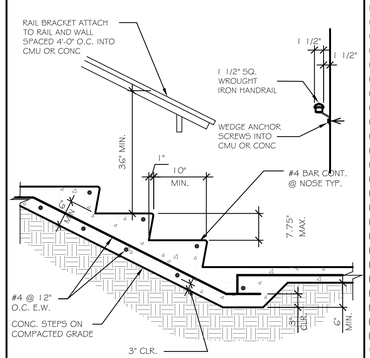
STEEL TO WOOD POST DETAIL D1105 1"=1'-0" 4



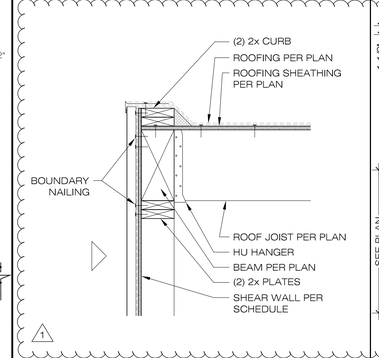
DOUBLE STRAP HOLDOWN DOWN TO HOLDOWN TO FOOTING 1"=1'-0" 21



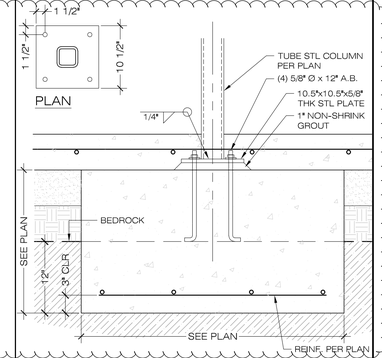
TUBE COLUMN TO BEAM DETAIL 1"=1'-0" 19



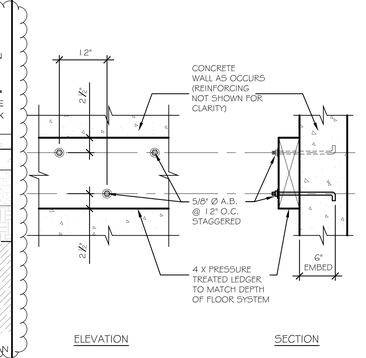
CONCRETE STEP DETAIL 3/4"=1'-0" 15



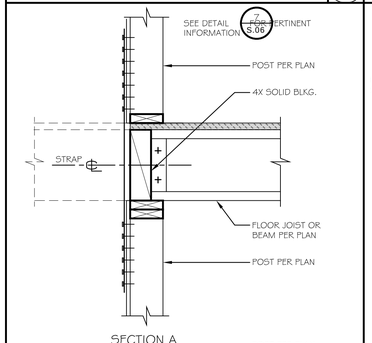
SHEAR TRANSFER 1" = 1'-0" 1



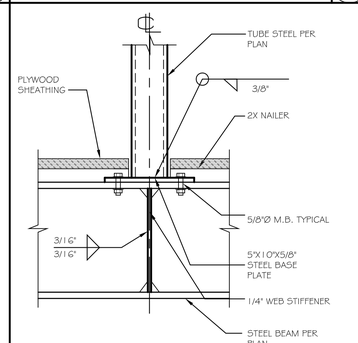
HSS COLUMN FOOTING DETAIL 1" = 1'-0" 7



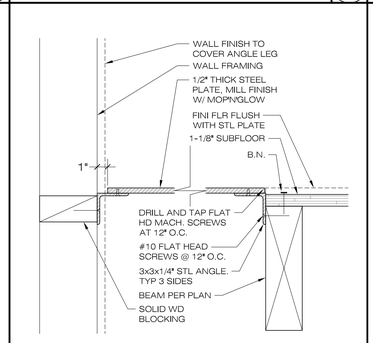
TYPICAL LEDGER DETAIL 1"=1'-0" 3



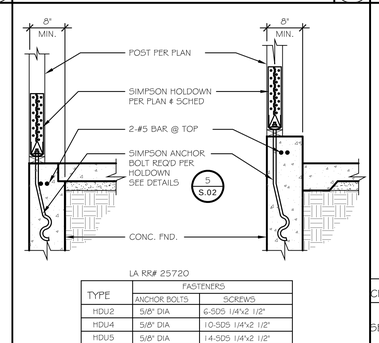
DOUBLE STRAP HOLDOWN DOWN TO HOLDOWN TO FOOTING 1"=1'-0" 21



SHEAR TRANSFER AT STEEL BEAM BEAM DETAIL 1 1/2"=1'-0" 18



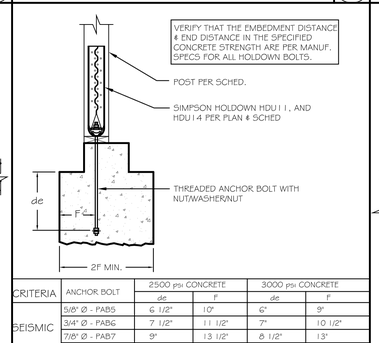
SUPPORT AT STEEL PLATE FLOOR 14



LA RR# 25720

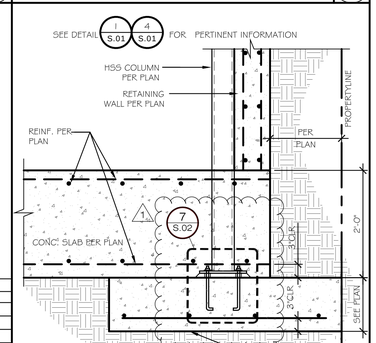
TYPE	FASTENERS	
	ANCHOR BOLTS	SCREWS
HDU2	5/8" DIA	6-SDS 1/4"x2 1/2"
HDU4	5/8" DIA	10-SDS 1/4"x2 1/2"
HDU5	5/8" DIA	14-SDS 1/4"x2 1/2"
HDU8	7/8" DIA	20-SDS 1/4"x2 1/2"

"HDU" HOLDOWN DETAIL 3/4"=1'-0" 10

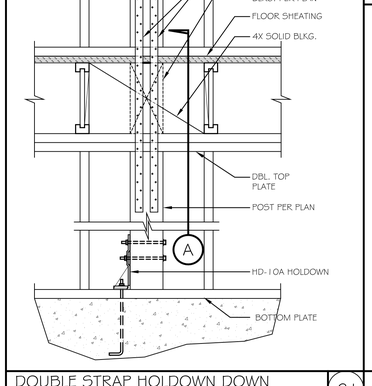


CRITERIA	ANCHOR BOLT	2500 psi CONCRETE		3000 psi CONCRETE	
		de	F'	de	F'
SEISMIC	5/8" Ø - PAB5	6 1/2"	10"	6"	9"
	3/4" Ø - PAB6	7 1/2"	11 1/2"	7"	10 1/2"
	7/8" Ø - PAB7	9"	13 1/2"	8 1/2"	13"
	1" Ø - PAB8	11"	16 1/2"	10 1/2"	16"

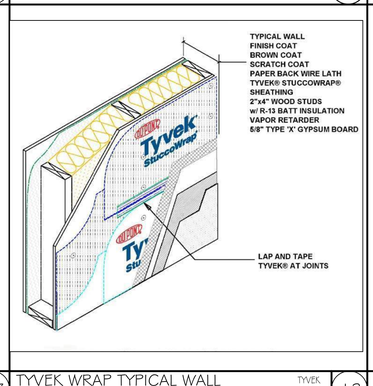
HDU-14 HOLDDOWN DETAIL 3/4"=1'-0" 6



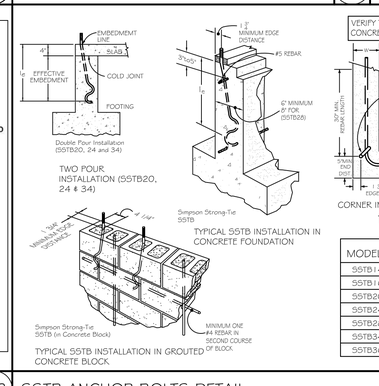
CONC PAD @ STEEL DETAIL 3/4"=1'-0" 2



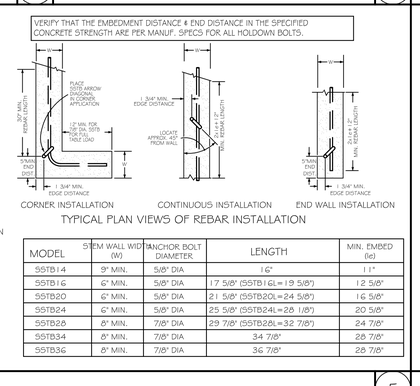
FAU PLATFORM DETAIL 3/4"=1'-0" 17



TYVEK WRAP TYPICAL WALL ISOMETRIC DETAIL TYVEK N.T.S 13



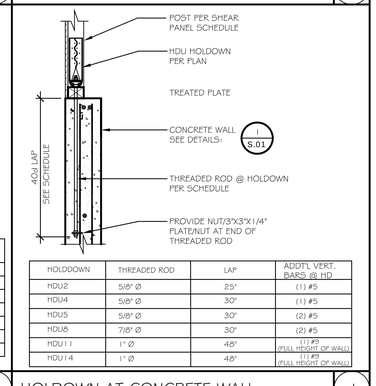
VERIFY THAT THE EMBEDMENT DISTANCE & END DISTANCE IN THE SPECIFIED CONCRETE STRENGTH ARE PER MANUF. SPECS FOR ALL HOLDOWN BOLTS.



TYPICAL PLAN VIEWS OF REBAR INSTALLATION

MODEL	STEM WALL WIDTH (W)	ANCHOR BOLT DIAMETER	LENGTH	MIN. EMBED (le)
SSTB14	9" MIN.	5/8" DIA	16"	11"
SSTB16	6" MIN.	5/8" DIA	17 5/8" (SSTB16L=19 5/8")	12 5/8"
SSTB20	6" MIN.	5/8" DIA	21 5/8" (SSTB20L=24 5/8")	16 5/8"
SSTB24	6" MIN.	5/8" DIA	25 5/8" (SSTB24L=28 1/8")	20 5/8"
SSTB28	6" MIN.	7/8" DIA	29 7/8" (SSTB28L=32 7/8")	24 7/8"
SSTB34	6" MIN.	7/8" DIA	34 7/8"	28 7/8"
SSTB36	6" MIN.	7/8" DIA	36 7/8"	28 7/8"

SSTB ANCHOR BOLTS DETAIL 3/4"=1'-0" 5



HOLDDOWN	THREADED ROD	LAP	ADDTL VERT. BARS @ HD
HDU2	5/8" Ø	25"	(1) #5
HDU4	5/8" Ø	30"	(1) #5
HDU5	5/8" Ø	30"	(2) #5
HDU8	7/8" Ø	30"	(2) #5
HDU11	1" Ø	48"	(1) #7 (FULL HEIGHT OF WALL)
HDU14	1" Ø	48"	(1) #7 (FULL HEIGHT OF WALL)

HOLDOWN AT CONCRETE WALL 3/4"=1'-0" 1

the construction zone
1720 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

PERMIT SET

ocean drive residence

2800 ocean drive manhatten beach, ca 90266

STRUCTURAL DETAILS

04.18.25

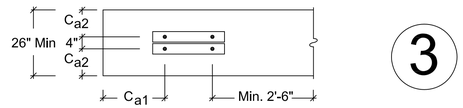
S.02

BACK TO BACK REINFORCED ANCHORAGE (BB-RA)

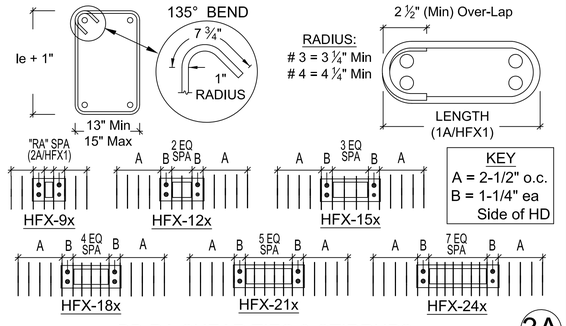
Model	Panel Width (in)	Anchorage [1]	Rod Dia (in)	Rod [2,3] Grade	BB-RA Ie [4] (in)	BB-RA C_{a1} [5] (in)	BB-RA C_{a2} [6] (in)	Stirrups [9] (in)	Shear [7] Ties
HFX-9x	9	1-1/8-STD-BB-RA	1-1/8	STD	15	19-3/4	11	8 - # 4	# 3 (min) @ 3-3/4" OC
HFX-12x	12	1-1/8-STD-BB-RA		STD	23			13 - # 4	# 3 (min) @ 4" OC
		1-1/8-HS-BB-RA		HS					
HFX-15x	15	1-1/8-STD-BB-RA		STD		20-5/8		14 - # 4	# 4 (min) @ 4" OC
		1-1/8-HS-BB-RA		HS					
HFX-18x	18	1-1/8-STD-BB-RA		STD				15 - # 4	
		1-1/8-HS-BB-RA		HS					
HFX-21x	21	1-1/8-STD-BB-RA		STD				16 - # 4	
		1-1/8-HS-BB-RA		HS					
HFX-24x	24	1-1/8-STD-BB-RA		STD				18 - # 4	
		1-1/8-HS-BB-RA		HS					

BACK TO BACK REINFORCED ANCHORAGE NOMENCLATURE

1-1/8 - STD - BB - RA
- REINFORCED ANCHORAGE
- "BACK TO BACK" INSTALLATION
- ROD GRADE
- ROD DIAMETER

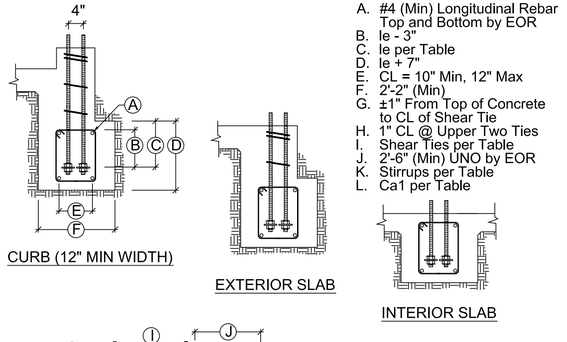


3



BB-RA SHEAR TIES & STIRRUPS

3A



BB-RA SECTIONS & ELEVATIONS

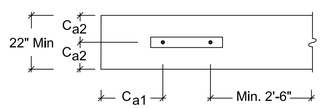
3B

REINFORCED ANCHORAGE (RA)

Model	Panel Width (in)	Anchorage [1]	Rod Dia (in)	Rod [2,3] Grade	RA Ie [4] (in)	RA C_{a1} [5] (in)	RA C_{a2} [6] (in)	Stirrups [9] (in)	Shear [7] Ties
HFX-9x	9	1-1/8-STD-RA	1-1/8	STD	15	19-3/4	11	8 - # 4	# 3 (min) @ 3-3/4" OC
HFX-12x	12	1-1/8-STD-RA		STD				9 - # 4	# 3 (min) @ 4" OC
		1-1/8-HS-RA		HS					
HFX-15x	15	1-1/8-STD-RA		STD		20-5/8		10 - # 4	
		1-1/8-HS-RA		HS					
HFX-18x	18	1-1/8-STD-RA		STD					
		1-1/8-HS-RA		HS					
HFX-21x	21	1-1/8-STD-RA		STD				11 - # 4	
		1-1/8-HS-RA		HS					
HFX-24x	24	1-1/8-STD-RA		STD				12 - # 4	# 4 (min) @ 4" OC
		1-1/8-HS-RA		HS					

REINFORCED ANCHORAGE NOMENCLATURE

1-1/8 - STD - RA
- REINFORCED ANCHORAGE
- ROD GRADE
- ROD DIAMETER



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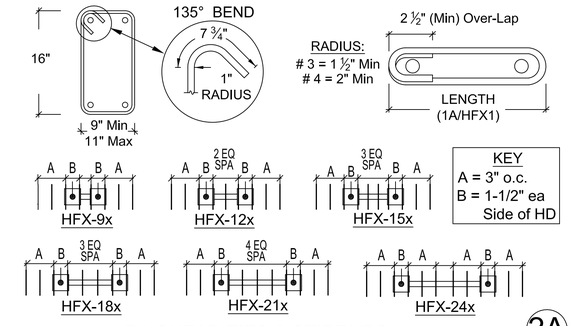
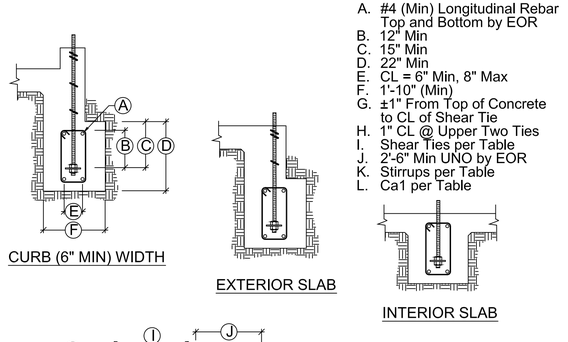


RA SHEAR TIES & STIRRUPS

2A



RA SECTIONS & ELEVATIONS

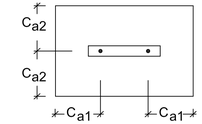
2B

UNREINFORCED ANCHORAGE (UA)

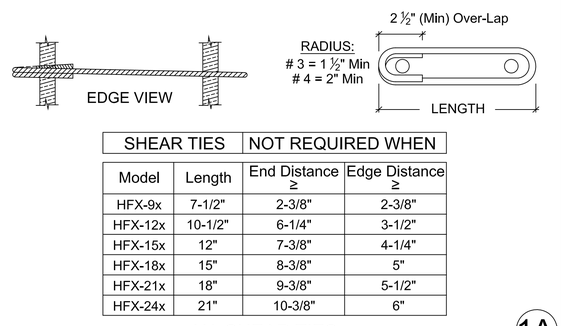
Model	Panel Height	Anchorage [1]	Rod Dia (in)	Rod [2,3] Grade	UA Ie [4] (in)	UA C_{a1} [5] & C_{a2} [6] (in)	Shear [7,8] Ties
HFX-9x	79.5" - 8'	1-1/8-STD-13-19	1-1/8	STD	13	19	1 - # 3
HFX-12x	78" - 10'	1-1/8-HS-20-30		HS	20	30	
HFX-15x, 18x	78" - 13'	1-1/8-STD-14-20		STD	14	20	
HFX-15x, 18x Balloon	14' - 20'	1-1/8-HS-20-30		HS	20	30	
HFX-21x, 24x	78" - 13'	1-1/8-STD-14-20		STD	14	20	
		1-1/8-HS-23-34			23	34	2 - # 3
HFX-21x, 24x Balloon	14' - 20'	1-1/8-HS-20-30		HS	20	30	

UNREINFORCED ANCHORAGE NOMENCLATURE

1-1/8 - STD - 14 - 20
- END & EDGE DISTANCE (C_{a1} & C_{a2})
- EMBEDMENT DEPTH (l_e)
- ROD GRADE
- ROD DIAMETER



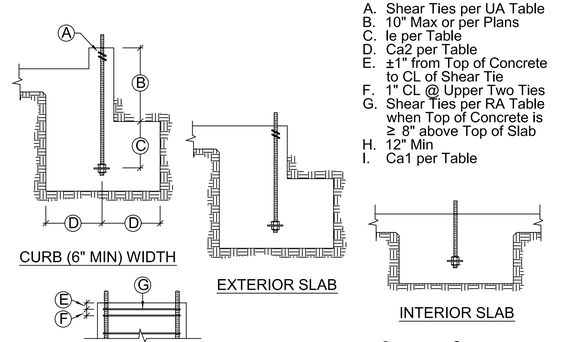
1



SHEAR TIES	NOT REQUIRED WHEN		
Model	Length	End Distance ≥	Edge Distance ≥
HFX-9x	7-1/2"	2-3/8"	2-3/8"
HFX-12x	10-1/2"	6-1/4"	3-1/2"
HFX-15x	12"	7-3/8"	4-1/4"
HFX-18x	15"	8-3/8"	5"
HFX-21x	18"	9-3/8"	5-1/2"
HFX-24x	21"	10-3/8"	6"

UA SHEAR TIES

1A

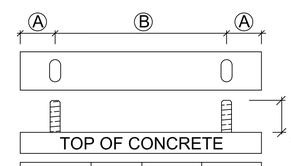


UA SECTIONS & ELEVATIONS

1B

TABLE NOTES

1. DESIGNS ARE TO RESIST LOADING PER ACI 318-14, SECTION 17.2.3.4.3.
2. STD INDICATES ANCHORS COMPLYING WITH ASTM F1554 GRADE 36 WITH A HARDY FRAME BOLT BRACE (HFXBB) INSTALLED WITH DOUBLE NUTS ON THE EMBED END.
3. HS INDICATES ANCHORS COMPLYING WITH ASTM A193 GRADE B7 WITH A 1/2"X3"X3"(MIN) HFPW PLATE WASHER INSTALLED WITH DOUBLE NUTS ON THE EMBED END (HFXBB NOT REQUIRED).
4. LE = LENGTH OF EMBEDMENT FROM THE TOP OF FOOTING OR GRADE BEAM TO THE TOP OF THE HFXBB BOLT BRACE (TOP OF THE EMBEDDED HFPW PLATE WASHER @ HS ANCHORS)
5. CA1 = DISTANCE FROM HD CENTERLINE TO THE END OF THE FOOTING OR GRADE BEAM.
6. CA2 = DISTANCE FROM HD CENTERLINE TO BOTH THE FRONT AND THE BACK FACE OF THE FOOTING OR GRADE BEAM.
7. SHEAR TIES ARE GRADE 60 (MIN) REBAR AND REQUIRED FOR NEAR EDGE DISTANCE CONDITIONS PER ACI-318-14, F'C = 2,500 PSI. CURBS AND STEM WALLS MUST BE 6 INCH (MIN) WIDTH FOR UA AND RA, 12 INCH (MIN) WIDTH FOR BB-RA.
8. FOR UA APPLICATIONS, ADDITIONAL TIES MAY BE REQUIRED AT STEM WALLS. SHEAR TIES ARE NOT REQUIRED FOR INSTALLATION AWAY FROM EDGE (SEE DETAIL 1A), INSTALLATION ON WOOD FRAMING, OR FOR IRC BRACED WALL PANEL APPLICATIONS.
9. STIRRUPS ARE GRADE 60 (MIN) REBAR. SEE TABLE FOR SIZE AND SPACING. SEE "STIRRUP LAYOUT" DIAGRAMS AND "KEY" FOR LAYOUT PATTERNS.
10. CONCRETE EDGE DISTANCES MUST COMPLY WITH ACI 318-14, SECTION 17.7.1



Model	Width	Ⓐ	Ⓑ
HFX-9x	9"	1-3/4"	5-1/2"
HFX-12x	12"		8-1/2"
HFX-15x	15"		9-3/4"
HFX-18x	18"	2-5/8"	12-3/4"
HFX-21x	21"		15-3/4"
HFX-24x	24"		18-3/4"

HFX ANCHOR CENTERLINES

A

IMPORTANT!

1. ANCHORAGE IS DESIGNED FOR TENSION AND SHEAR TRANSFER ONLY, FOUNDATION DESIGN PER EOR.
2. REINFORCEMENT SHOWN IS THE MINIMUM REQUIREMENT AND IS NOT INTENDED TO REPLACE REINFORCEMENT DESIGNED BY THE EOR.
3. FOR RA AND BB-RA INSTALLATIONS, THE HFXBB BOLT BRACE MAY BE PLACED ON TOP OF THE STIRRUPS WITH DOUBLE-NUTS INSTALLED AT EMBED END OF STANDARD GRADE ANCHOR RODS. (NOTE: ½" x 3" x 3" MIN. HFPW PLATE WASHERS ARE REQUIRED TO BE DOUBLE-NUTTED AT EMBED END OF HIGH STRENGTH ANCHOR RODS.)
4. HIGH STRENGTH ALL-THREAD RODS PROVIDED BY HARDY FRAMES ARE STAMPED ON BOTH ENDS.

HF B7

IMPORTANT NOTES

B

the construction zone
1720 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

PERMIT SET

ocean drive residence

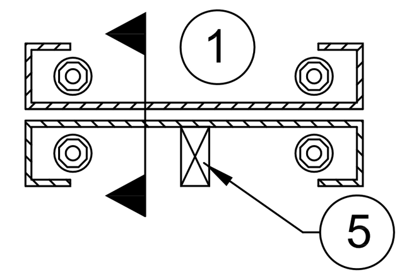
2800 ocean drive manhatten beach, ca 90266

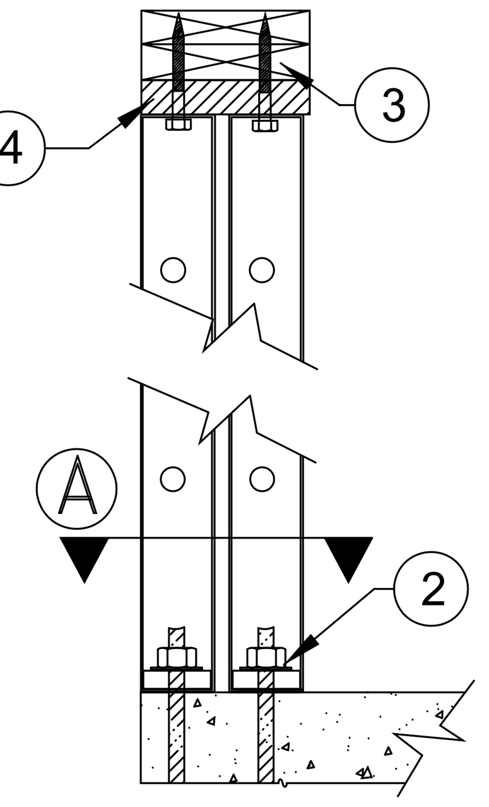
TYPICAL DETAILS

04.18.25

S.03

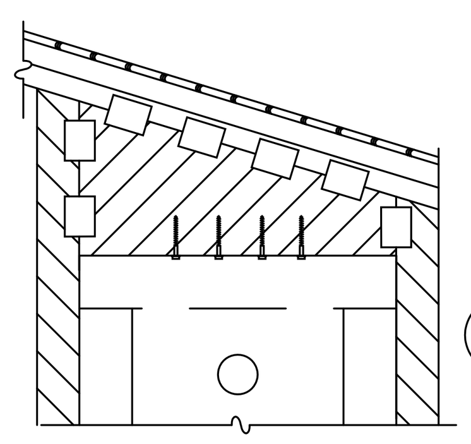
SECTION A



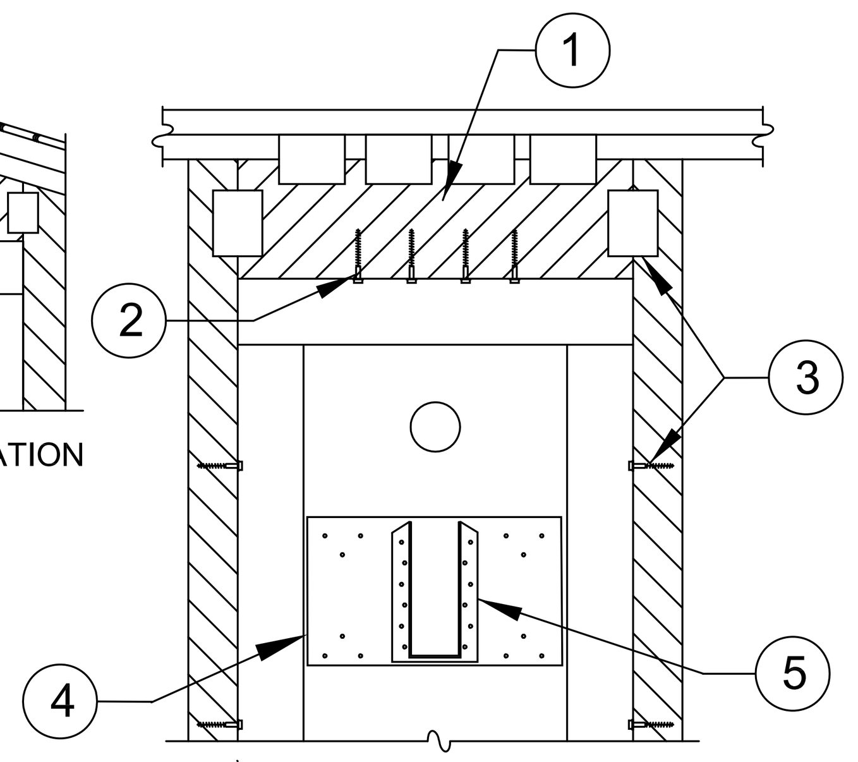


1. CAVITY ORIENTED FOR CONNECTION ACCESS.
2. NUTS AND WASHERS PER TABLE NOTE 1.
3. NOMINAL 8 INCH FRAMING ABOVE (MIN).
4. A 2x FILLER WITH 1/4" x 4-1/2" MINIMUM WS SCREWS IS PERMITTED.
5. FIELD INSTALLED WOOD BACKING AS NEEDED.

BACK TO BACK INSTALLATION (3)

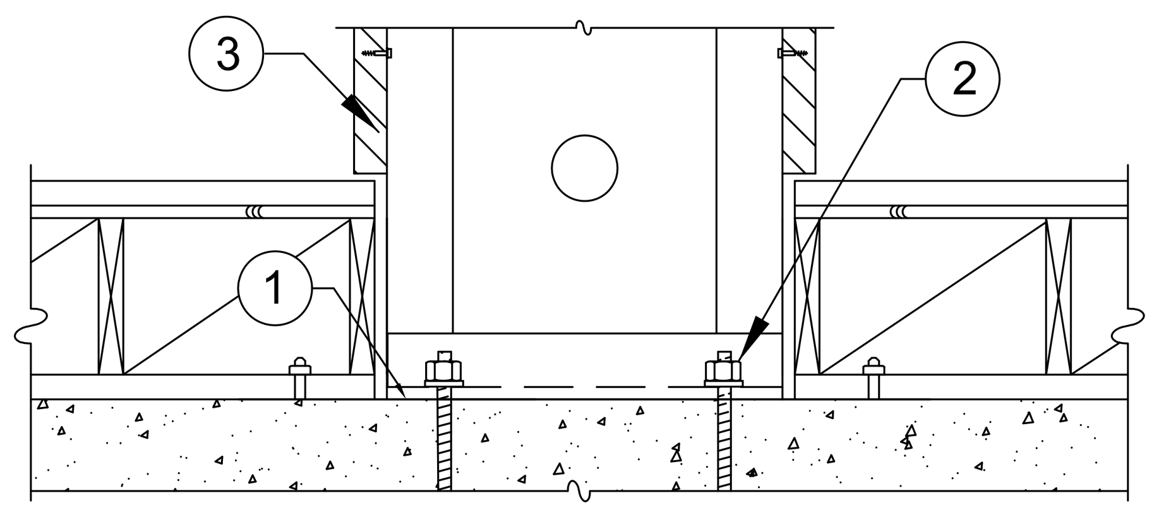


RAKE WALL INSTALLATION



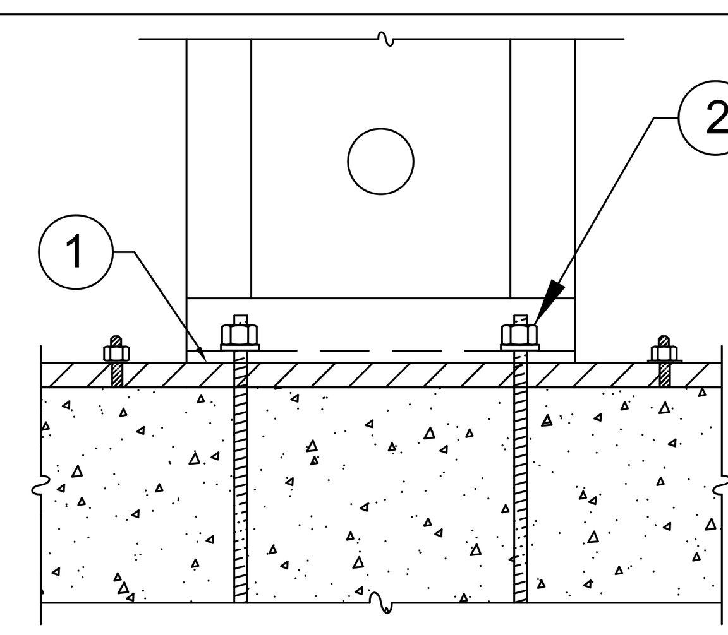
1. WOOD FILLER WITH USP MP4F CONNECTORS BOTH SIDES, QUANTITY BY BUILDING DESIGN PROFESSIONAL.
2. 1/4" x 3" (MINIMUM) WS SCREWS, QUANTITY PER TABLES
3. ADJACENT FRAMING WITH 1/4" DIAMETER SCREWS INSTALLED THROUGH PRE-PUNCHED HOLES IN PANEL EDGES REQUIRED WHEN INSTALLING A FILLER GREATER THAN 1-1/2" ABOVE TO BRACE OUT-OF-PLANE HINGE OR WHEN SPECIFIED BY THE DESIGN PROFESSIONAL.
4. PRE-DRILL 3/16" DIA. HOLES, EVENLY SPACED IN FACE OF PANEL NO LESS THAN 2-1/4" OC AND INSTALL 1/4" DIA. WOOD SCREWS INTO 2x (MIN.) WOOD "LEDGER" IN PANEL CAVITY.
5. CONNECTOR AND ATTACHMENT BY BUILDING DESIGN PROFESSIONAL.

FILLER GREATER THAN 1-1/2 IN. (6)



1. 15# FELT OR EQUIVALENT MOISTURE BARRIER RECOMMENDED BETWEEN PANEL BASE AND CONCRETE.
2. NUTS AND WASHERS PER TABLE NOTE 1.
3. ADJACENT FRAMING WITH 1/4" DIAMETER SCREWS INSTALLED AT THE PANEL EDGES WHEN INSTALLING A FILLER GREATER THAN 1-1/2" ABOVE OR WHEN SPECIFIED BY DESIGN PROFESSIONAL.

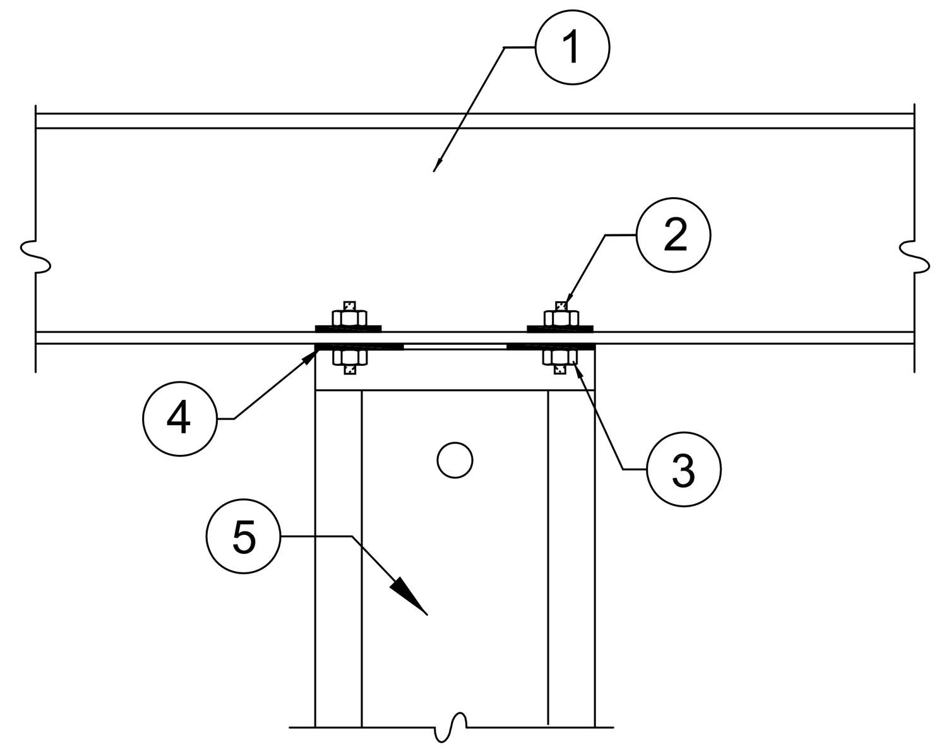
RAISED FLOOR HEAD-OUT (8)



ALLOWABLE VALUES ON 2x PLATE ARE LESS THAN INSTALLATION ON CONCRETE

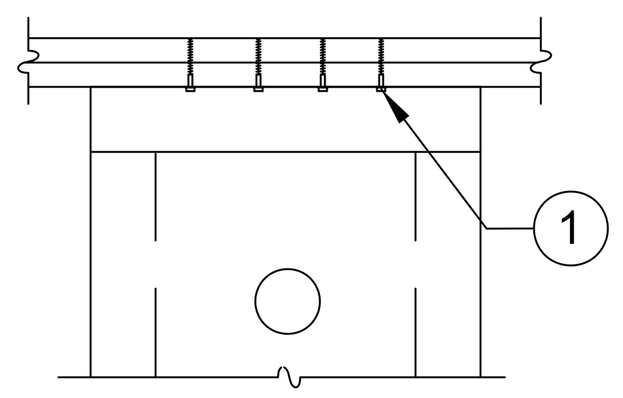
1. 15# FELT OR EQUIVALENT MOISTURE BARRIER RECOMMENDED BETWEEN PANEL BASE AND TREATED PLATE.
2. NUTS AND WASHERS PER TABLE NOTE 1.

INSTALLATION ON 2x PLATE (11)

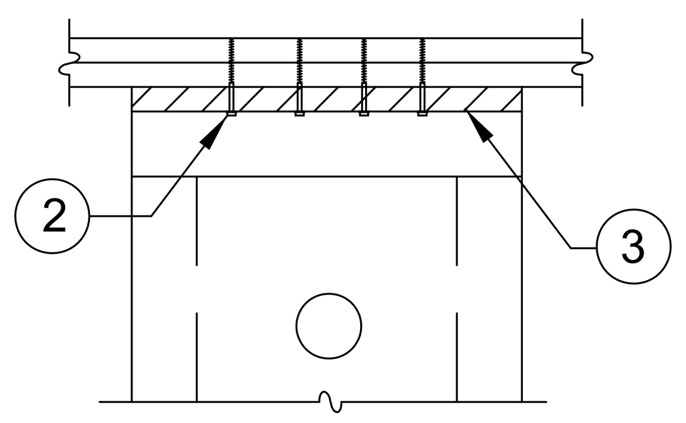


1. STEEL BEAM PER PLANS
2. ALL THREAD RODS THRU-BOLTED TO STEEL BEAM BY BUILDING DESIGN PROFESSIONAL.
3. NUTS AND WASHERS PER TABLE NOTE 1.
4. *HARDY FRAME®* STACKING WASHERS (HFSW(REQUIRED TO BE WELDED INSIDE TOP CHANNEL OF LOWER PANEL.
5. *HARDY FRAME®* "STK" PANEL WITH STACKING WASHERS WELDED INSIDE THE TOP CHANNEL BY MANUFACTURER.

STEEL BEAM ABOVE THRU-BOLT (2)



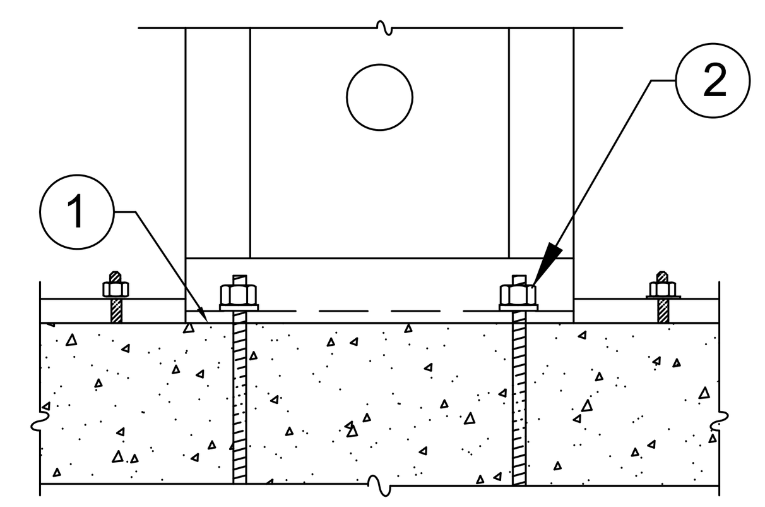
5a



5b

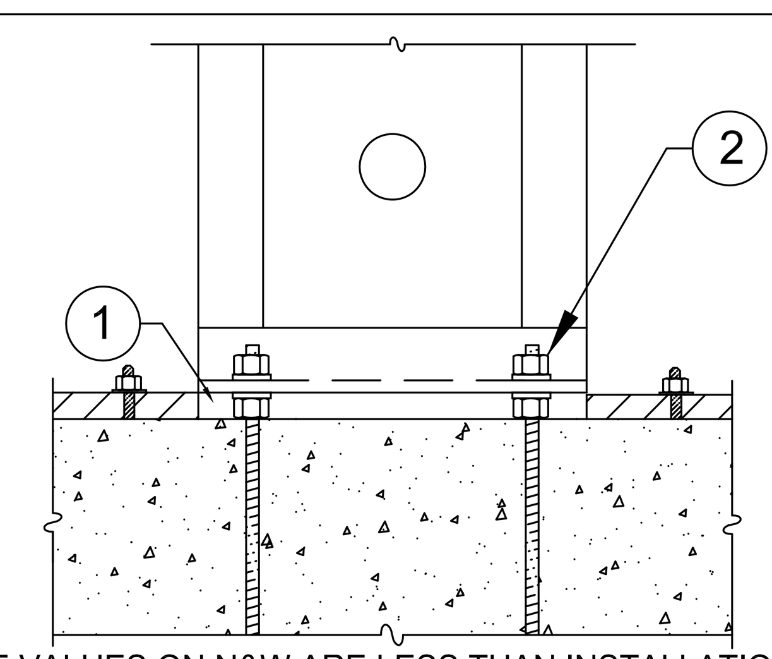
1. 1/4" x 3" (MINIMUM) WS SCREWS, QUANTITY PER TABLES
2. 1/4" x 4-1/2" (MINIMUM) WS SCREWS, QUANTITY PER TABLES
3. 2x WOOD FILLER.

TOP PLATE CONNECTIONS (5)



1. 15# FELT OR EQUIVALENT MOISTURE BARRIER RECOMMENDED BETWEEN PANEL BASE AND CONCRETE.
2. NUTS AND WASHERS PER TABLE NOTE 1.

INSTALLATION ON CONCRETE (7)

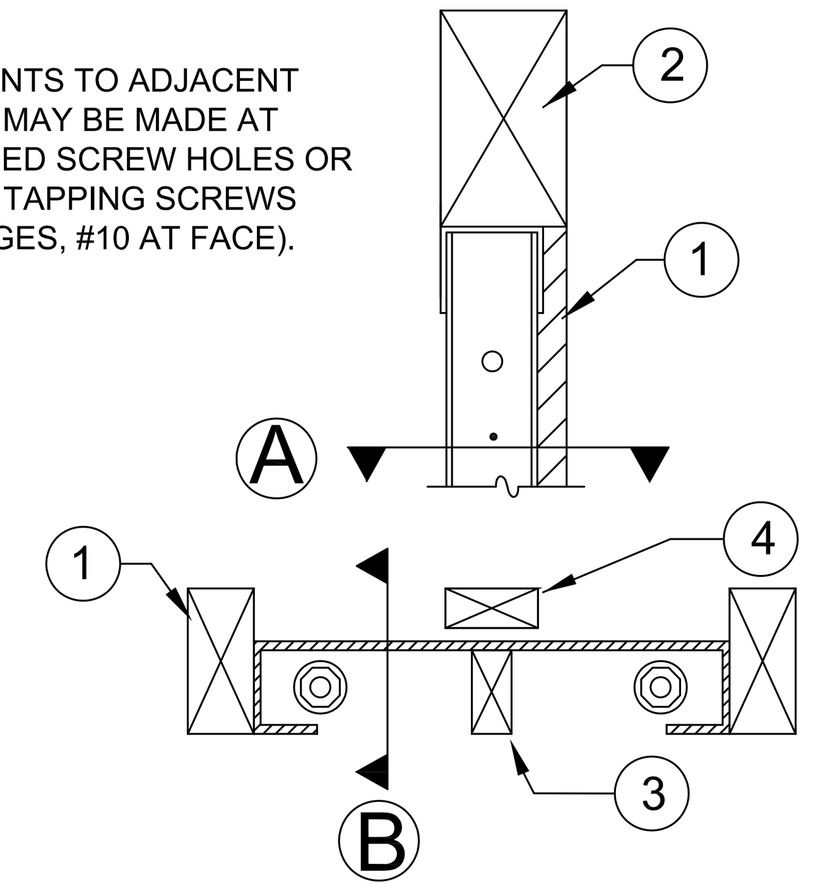


ALLOWABLE VALUES ON N&W ARE LESS THAN INSTALLATION ON CONCRETE

1. PLUS OR MINUS 1-1/2" GAP TO BE FILLED WITH 5,000 PSI NON-SHRINK GROUT (MINIMUM).
2. NUT AND WASHER GRADES PER TABLE NOTE 1.

INSTALLATION ON NUTS & WASHERS (10)

NOTE:
ATTACHMENTS TO ADJACENT TRIMMERS MAY BE MADE AT PREPUNCHED SCREW HOLES OR WITH SELF TAPPING SCREWS (#12 AT EDGES, #10 AT FACE).



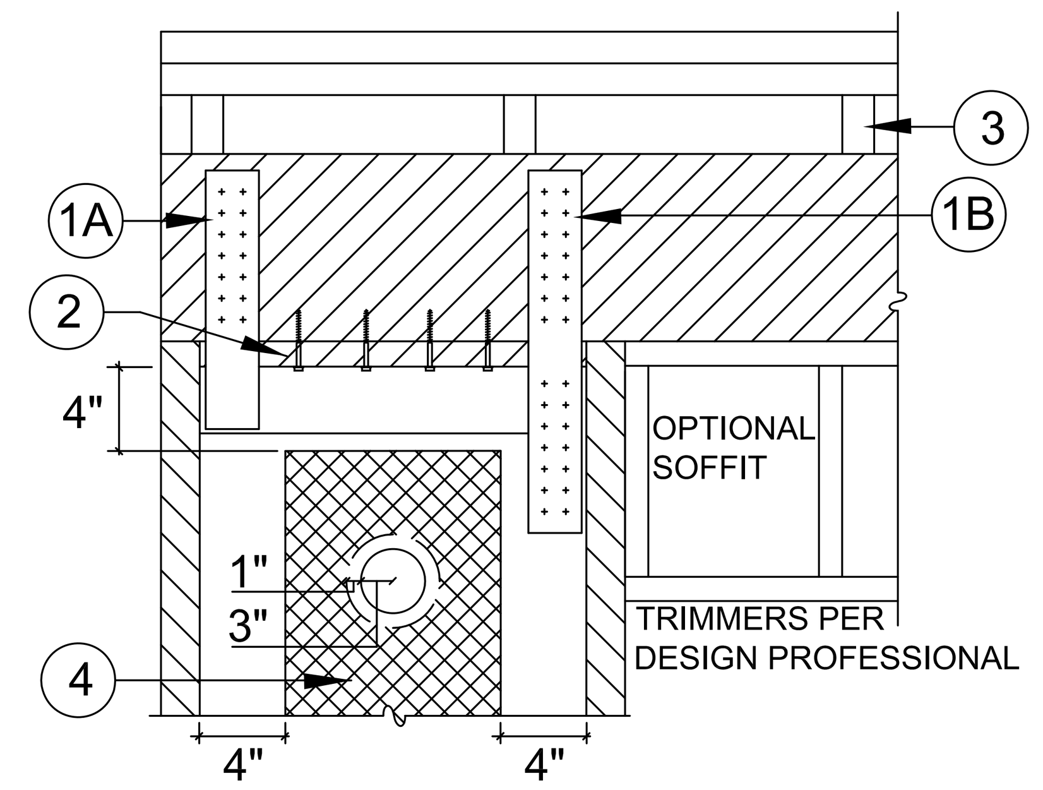
SECTION B

SECTION A

1. TRIMMERS PROVIDE FULL BEARING FOR HEADER ABOVE, DESIGN AND CONNECTIONS BY BUILDING DESIGN PROFESSIONAL.
2. 6x HEADER.
3. WOOD MEMBERS FOR BACKING MAY BE INSERTED VERTICALLY OR HORIZONTALLY IN THE PANEL CAVITY AS NEEDED.
4. WOOD MEMBER FLUSH TO FACE OF WALL FOR BACKING AS NEEDED.

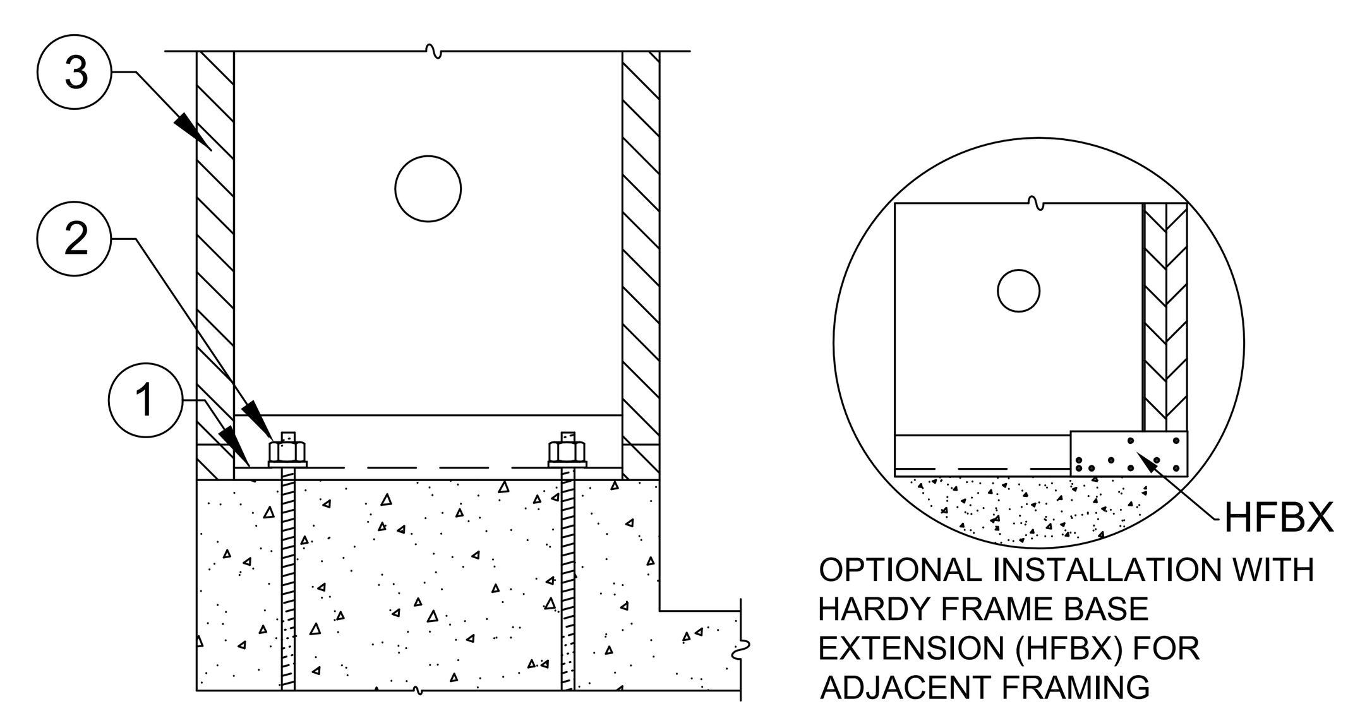
6x HEADER ABOVE-SECTIONS (1)

NOTE:
TO PREVENT DRILLING ADDITIONAL HOLES ORIENT THE PANEL CAVITY TOWARD THE FIXTURE BEING INSTALLED.



1. (A) PRE-WELDED STRAPS ARE PROVIDED ON 78" AND 79-1/2" PANEL HEIGHTS. THEY ARE AVAILABLE FOR OTHER HEIGHTS UPON REQUEST.
(B) FIELD INSTALLED STRAPS WITH SELF TAPPING SCREWS ARE PERMITTED. THE DESIGN AND CONNECTION IS BY THE DESIGN PROFESSIONAL.
2. A 2x WOOD FILLER WITH 1/4"x4-1/2" (MIN.) WS SCREWS IS PERMITTED.
3. WHEN CRIPPLE STUDS OCCUR, SHEAR TRANSFER DESIGN TO BE PER THE BUILDING DESIGN PROFESSIONAL.
4. A 1" DIA. HOLE MAY BE ADDED IN THE PANEL FACE WHEN IT IS LOCATED IN THE UPPER HALF OF THE PANEL HEIGHT AND IS 4" MINIMUM FROM ANY EDGE. FOR PANELS MORE THAN 12" WIDE, ADDITIONAL HOLES MUST BE OFFSET 1" MINIMUM FROM THE 3" DIA. PREPUNCHED HOLE. FOR HOLES LARGER THAN 1" DIAMETER OR TO ADD MORE THAN ONE HOLE CONTACT MITEK HARDY FRAME TECHNICAL SUPPORT AT (800) 754-3030.

TOP CONNECTION TO HEADER (4)



1. 15# FELT OR EQUIVALENT MOISTURE BARRIER RECOMMENDED BETWEEN PANEL BASE AND CONCRETE.
2. NUTS AND WASHERS PER TABLE NOTE 1.
3. ADJACENT FRAMING OPTIONAL U.N.O. BY BUILDING DESIGN PROFESSIONAL.

INSTALLATION ON CURB (9)

HFX PANELS 78 IN. THROUGH NOMINAL 13 FEET

Model Number	Net Height (in)	Depth (in)	Hold Down Diameter[1] (in)	Top Screw Qty[2] (ea)	Screw Qty Available at Edges (ea)[3]
HFX-12,15,18,21 & 24x78	78	3-1/2	1-1/8	9" Width = 5	4
HFX-9x79.5	79-1/2			12" Width = 6	
HFX-12,15,18,21 & 24x8	92-1/4			15" Width = 8	
HFX-9x8	93-3/4			18" Width = 10	
HFX-12,15,18,21 & 24x9	104-1/4			21" Width = 12	
HFX-12,15,18,21 & 24x10	116-1/4			24" Width = 14	5
HFX-15,18,21 & 24x11	128-1/4				
HFX-15,18,21 & 24x12	140-1/4				6
HFX-15,18,21 & 24x13	152-1/4				

BALLOON PANELS 14 FEET THROUGH 20 FEET

Model Number	Net Height (in)	Depth (in)	Hold Down Diameter[1] (in)	Top Screw Qty[2] (ea)	Screw Qty Available at Edges (ea)[3]
HFX-15,18,21 & 24x14	164-1/4	3-1/2	1-1/8	15" Width = 8	6
HFX-15,18,21 & 24x15	176-1/4			18" Width = 10	
HFX-15,18,21 & 24x16	188-1/4			21" Width = 12	
HFX-15,18,21 & 24x17	200-1/4			24" Width = 14	7
HFX-15,18,21 & 24x18	212-1/4				
HFX-15,18,21 & 24x19	224-1/4				8
HFX-15,18,21 & 24x20	236-1/4				

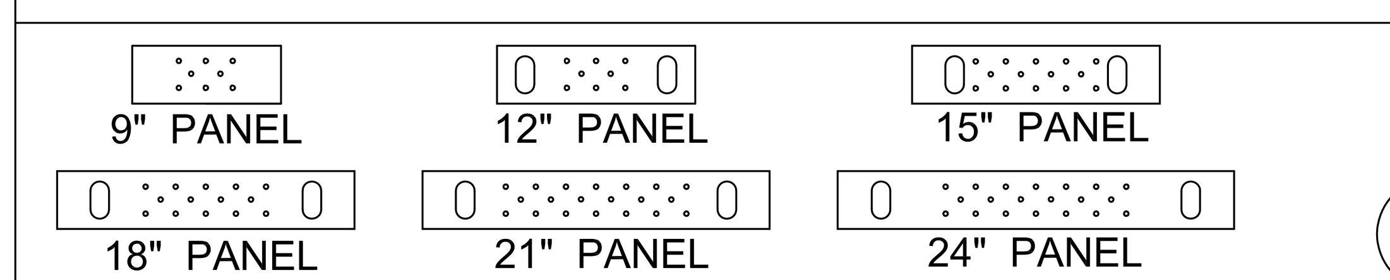
1. HOLD DOWN ANCHOR BOLTS CONNECT TO THE PANEL BASE WITH HARDENED ROUND WASHERS BELOW GRADE 8 NUTS. ALTERNATE WASHERS ARE (2 EA) ROUND-FLAT OR (2 EA) SAE WASHERS ON EACH BOLT. ALTERNATE NUTS ARE 2H HEAVY HEX.
2. 1/4" DIAMETER MITEK®PRO SERIES™ WS SCREWS. LENGTH IS 3" (MINIMUM) WHEN ATTACHED DIRECTLY TO THE COLLECTOR AND 4-1/2" (MINIMUM) WHEN INSTALLING A 2x FILLER ABOVE THE PANEL.
3. ADJACENT FRAMING WITH 1/4" DIAMETER SCREWS IS REQUIRED AT THE PANEL EDGES WHEN INSTALLING A FILLER ABOVE THE TOP CHANNEL THAT IS GREATER THAN 1-1/2" OR WHEN SPECIFIED BY THE DESIGN PROFESSIONAL.

(A)

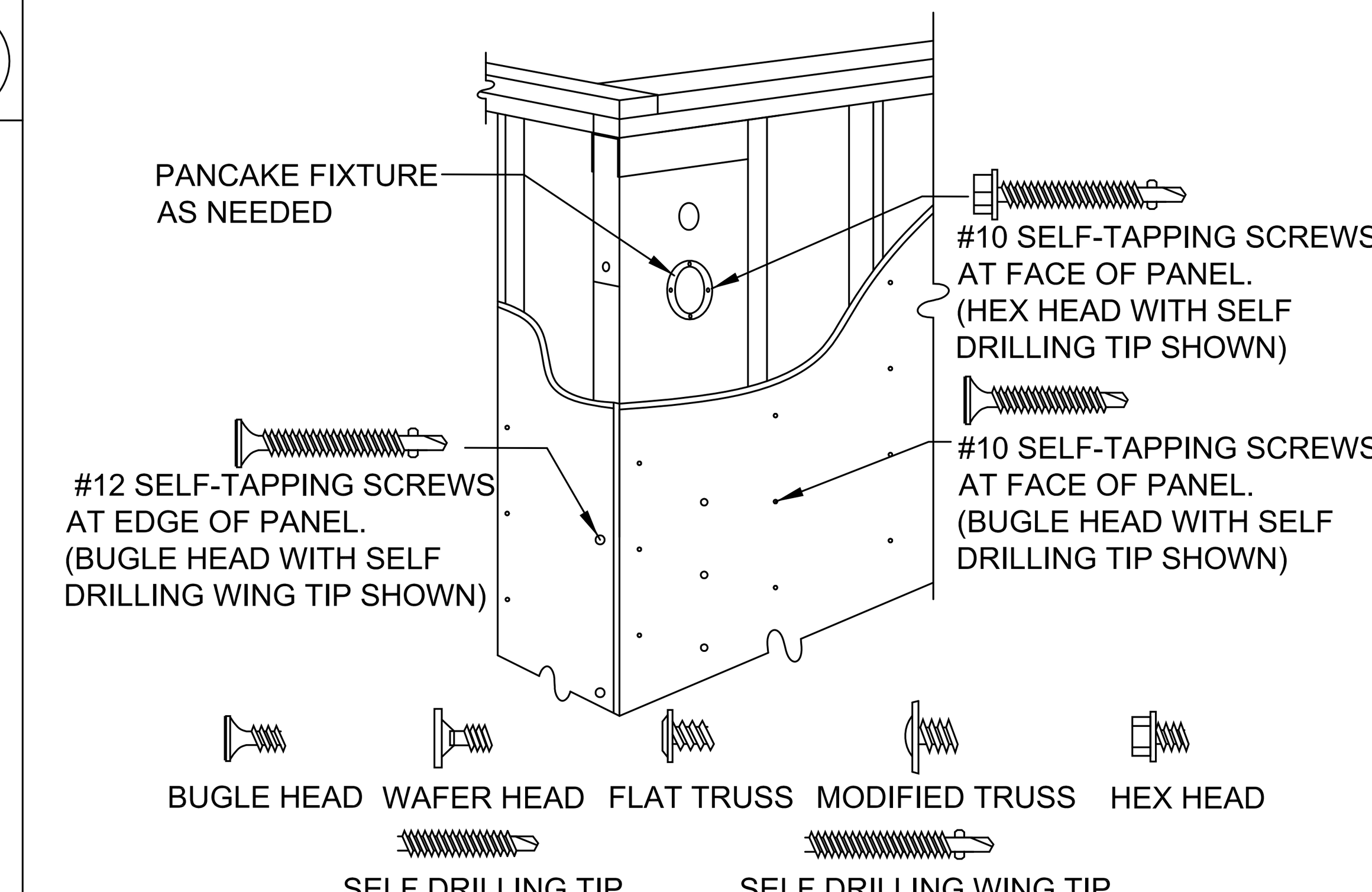
INSTALLATION INSTRUCTIONS

1. WHEN INSTALLING ON CONCRETE CONNECT WITH (1 EA) HARDENED ROUND WASHER BELOW (1 EA) GRADE 8 NUT, SECURE WITH A DEEP SOCKET (RECOMMENDED) UNTIL SNUG TIGHT. ALTERNATE WASHERS AND NUTS ARE PROVIDED IN TABLE NOTE 1.
2. INSTALLATION ON CONCRETE PROVIDES THE HIGHEST ALLOWABLE VALUES. CONFIRM WITH THE DESIGN PROFESSIONAL BEFORE INSTALLING ON OTHER SUPPORTING SURFACES.
3. USE 1/4"X4-1/2" MITEK® PRO SERIES™ WS SCREWS AT TOP CONNECTIONS WITH A 2x FILLER. IF THE TOP OF PANEL IS IN DIRECT CONTACT WITH THE COLLECTOR ABOVE (TOP PLATES, HEADER, BEAM, ETC.) USE1/4 x 3" (MINIMUM)
4. FOR INSTALLATIONS WITH A FILLER GREATER THAN 1-1/2" ABOVE, OR WHEN SPECIFIED BY THE DESIGN PROFESSIONAL, ADJACENT KING POSTS TO BRACE THE OUT-OF-PLANE HINGE CAN BE CONNECTED WITH 1/4" DIA. SCREWS THROUGH PRE-PUNCHED HOLES AT THE PANEL EDGES.

(B)



(C)



NOTES:
A. SURFACE FINISHES, CONNECTORS AND FIXTURES ARE ATTACHED TO THE PANEL FACE WITH # 10 SELF-TAPPING SCREWS SPACED NO LESS THAN 2-1/4" OC.
B. ATTACHMENTS TO THE PANEL EDGES ARE MADE WITH # 12 SELF-TAPPING SCREWS.
C. STRUCTURAL CONNECTIONS ARE TO BE DESIGNED BY THE DESIGN PROFESSIONAL.
D. STRUCTURAL HARDWARE USED TO TRANSFER LOADS SHOULD NOT EXCEED 12 GAUGE.

(D)

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1729 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

ocean drive residence PERMIT SET

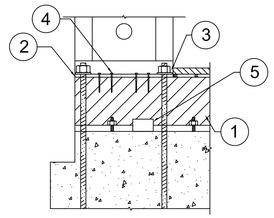
2800 ocean drive manhatten beach, ca 90266

TYPICAL DETAILS

PERMIT SET 04.18.25

S.04

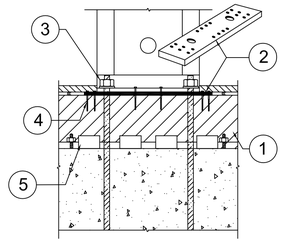
NOTES:
A. INSTALLATION WITHOUT *HARDY FRAME*® BEARING PLATE (HFXBP) MAY INCREASE DEFLECTION AND RESULT IN A DECREASE OF ALLOWABLE SHEAR VALUE, BUILDING DESIGN PROFESSIONAL MUST ANALYZE EFFECTS
B. COUPLERS MAY BE USED WHEN THREADED ROD IS SUBJECT TO TENSION LOADS ONLY.



1. 4x (MIN) RIM, ALLOWABLE VALUE TABLES ASSUME ENGINEERED WOOD PRODUCT.
2. NOTCH FLOOR SHEATHING THEN INSTALL *HARDY FRAME*® PANEL DIRECTLY ON RIM.
3. NUTS AND WASHERS PER TABLE NOTE 1.
4. 1/4" x 4-1/2" (MINIMUM) WS SCREWS THROUGH BOTTOM OF PANEL MINIMUM QUANTITY PER TABLE.
5. USP MP4F CONNECTORS, QUANTITY BY BUILDING DESIGN PROFESSIONAL.

RAISED-OS CORNER 4

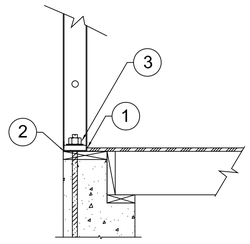
NOTE:
COUPLERS MAY BE USED WHEN THREADED ROD IS SUBJECT TO TENSION LOADS ONLY.



1. 4x (MIN) RIM, ALLOWABLE VALUE TABLES ASSUME ENGINEERED WOOD PRODUCT.
2. NOTCH FLOOR SHEATHING THEN INSTALL *HARDY FRAME*® BEARING PLATE (HFXBP) AND PANEL PER INSTALLATION NOTES 3-6, DETAIL B/HFX3.
3. NUTS AND WASHERS PER TABLE NOTE 1.
4. 1/4" x 4-1/2" (MIN) WS SCREWS, QUANTITY PER TABLE.
5. USP MP4F CONNECTORS, QUANTITY BY BUILDING DESIGN PROFESSIONAL.

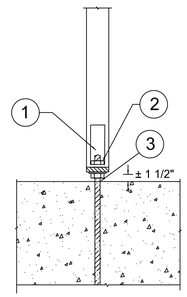
RAISED BEARING PLATE 3

NOTES:
A. CHECK WALL HEIGHT, *HARDY FRAME*® BEARING PLATES BELOW THE PANEL BASE OR CUSTOM HEIGHT PANELS ARE AVAILABLE TO AVOID FILLERS GREATER THAN 1-1/2".
B. FOR MAXIMUM ALLOWABLE VALUES INSTALL PANEL ON CONCRETE



1. FLOOR SHEATHING NOTCHED, INSTALL PANEL ON WOOD PLATE.
2. 15# FELT OR EQUIVALENT RECOMMENDED BETWEEN PANEL BASE AND TREATED MUDSILL.
3. NUTS AND WASHERS PER TABLE NOTE 1.

RAISED STEM WALL 2



1. ACCESS HOLE LOCATED AT EDGE OF POST.
2. NUTS AND WASHERS PER TABLE NOTE 1.
3. PLUS OR MINUS 1-1/2" GAP TO BE FILLED WITH 5,000 PSI STRENGTH NON-SHRINK GROUT (MIN).

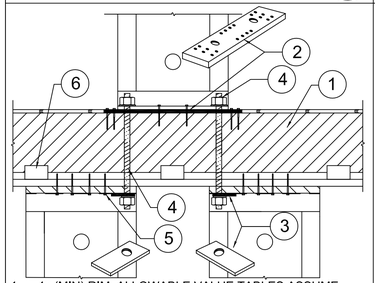
POST ON N&W 1

Model Number	Net Height (in)	Depth (in)	Hold Down Diameter[1] (in)	Screw Quantity			Screw Qty[4] Available at Edges (ea)
				Panel	Top[2] (ea)	Bott[3] (ea)	
HFX-12,15,18,21 & 24x8	92-1/4	3-1/2	1-1/8	12" Width	6	6	4
HFX-12,15,18,21 & 24x9	104-1/4			15" Width	8	8	
HFX-12,15,18,21 & 24x10	116-1/4			18" Width	10	10	5
HFX-15,18,21 & 24x11	128-1/4			21" Width	12	12	
HFX-15,18,21 & 24x12	140-1/4			24" Width	14	14	6
HFX-15,18,21 & 24x13	152-1/4						

NOTE: *HARDY FRAME*® STACKING WASHERS (HFSW) ARE REQUIRED IN THE TOP OF PANELS WHEN CONNECTING TO TENSION ANCHORS FROM ABOVE. *HARDY FRAME*® "STK PANELS" INCLUDE HFSW WASHERS PRE-WELDED IN THE TOP CHANNEL.

1. HOLD DOWN TENSION ANCHORS SPECIFIED AS STANDARD GRADE (STD) MUST COMPLY WITH ASTM F1554 GRADE 36 (OR EQUAL). HOLD DOWN TENSION ANCHORS SPECIFIED AS HIGH STRENGTH (HS) MUST COMPLY WITH ASTM A 193 GRADE B7 (OR EQUAL). TENSION ANCHORS (BOTH GRADES) CONNECT TO THE UPPER AND LOWER PANELS WITH HARDENED ROUND WASHERS AND GRADE 8 NUTS. A *HARDY FRAME*®"HFSW" STACKING WASHER IS REQUIRED IN THE TOP CHANNEL OF THE LOWER PANEL (AVAILABLE PRE-WELDED IN A *HARDY FRAME*®"STK" PANEL). ALTERNATE WASHERS ARE (2 EA) ROUND-FLAT OR (2 EA) SAE WASHERS AT EACH ANCHOR CONNECTION. ALTERNATE NUTS ARE 2H HEAVY HEX.
2. 1/4" DIAMETER MITEK®PRO SERIES™ WS SCREWS. LENGTH IS 3" (MINIMUM) WHEN ATTACHING DIRECTLY TO THE COLLECTOR AND 4-1/2" (MINIMUM) WHEN INSTALLING A 2x FILLER ABOVE THE PANEL.
3. 1/4" DIAMETER MITEK®PRO SERIES™ WS SCREWS. LENGTH IS 4-1/2" (MINIMUM) AT CONNECTIONS TO FLOOR SYSTEMS AND BEAMS BELOW.
4. 1/4" DIAMETER SCREWS ARE REQUIRED AT THE EDGES WHEN INSTALLING A FILLER GREATER THAN 1-1/2 INCH ABOVE OR WHEN SPECIFIED BY THE DESIGN PROFESSIONAL.

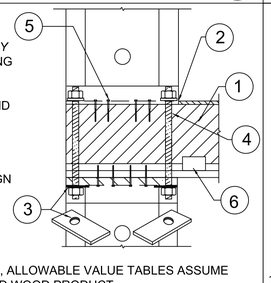
A



1. 4x (MIN) RIM, ALLOWABLE VALUE TABLES ASSUME ENGINEERED WOOD PRODUCT.
2. NOTCH FLOOR SHEATHING THEN INSTALL *HARDY FRAME*® BEARING PLATE (HFXBP) AND PANEL PER INSTALLATION NOTES 3-6, DETAIL B/HFX3.
3. *HARDY FRAME*® STACKING WASHER (HFSW) AT TOP OF PANEL REQUIRED WHEN CONNECTING TO TENSION ANCHOR FROM ABOVE.
4. 1-1/8 IN. DIA HOLD DOWN, HFSW AND N&W PER TABLE NOTE 1 ARE PROVIDED IN *HARDY FRAME*® HFTC KIT.
5. 1/4" x 4-1/2" (MIN) WS SCREWS, QUANTITY PER TABLE.
6. USP MP4F CONNECTORS, QUANTITY BY BUILDING DESIGN PROFESSIONAL.

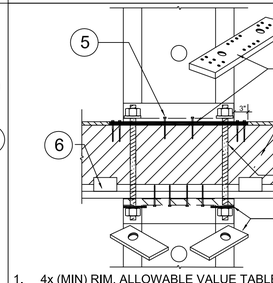
PYRAMID STACK 8

NOTE:
INSTALLATION WITHOUT *HARDY FRAME*® BEARING PLATE (HFXBP) MAY INCREASE DEFLECTION AND RESULT IN A DECREASE OF ALLOWABLE SHEAR VALUE, BUILDING DESIGN PROFESSIONAL MUST ANALYZE EFFECTS.



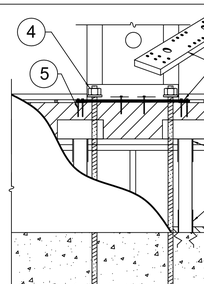
1. 4x (MIN) RIM, ALLOWABLE VALUE TABLES ASSUME ENGINEERED WOOD PRODUCT.
2. NOTCH FLOOR SHEATHING THEN INSTALL *HARDY FRAME*® PANEL DIRECTLY ON RIM.
3. *HARDY FRAME*® STACKING WASHER (HFSW) AT TOP OF PANEL REQUIRED WHEN CONNECTING TO TENSION ANCHOR FROM ABOVE.
4. 1-1/8" DIA. HOLD DOWN, HFSW AND N&W PER TABLE NOTE 1 ARE PROVIDED IN *HARDY FRAME*® HFTC KIT.
5. 1/4" x 4-1/2" (MIN) WS SCREWS, QUANTITY PER TABLE.
6. USP MP4F CONNECTORS, QUANTITY BY BUILDING DESIGN PROFESSIONAL.

STACK @ OS CORNER 7



1. 4x (MIN) RIM, ALLOWABLE VALUE TABLES ASSUME ENGINEERED WOOD PRODUCT.
2. NOTCH FLOOR SHEATHING THEN INSTALL *HARDY FRAME*® BEARING PLATE (HFXBP) AND PANEL PER INSTALLATION NOTES 3-6, DETAIL B/HFX3.
3. *HARDY FRAME*® STACKING WASHER (HFSW) AT TOP OF PANEL REQUIRED WHEN CONNECTING TO TENSION ANCHOR FROM ABOVE.
4. 1-1/8" DIA. HOLD DOWN, HFSW AND N&W PER TABLE NOTE 1 ARE PROVIDED IN *HARDY FRAME*® HFTC KIT.
5. 1/4" x 4-1/2" (MIN) WS SCREWS, QUANTITY PER TABLE.
6. USP MP4F CONNECTORS, QUANTITY BY BUILDING DESIGN PROFESSIONAL.

STRAIGHT STACK 6



1. 4x (MIN) RIM, ALLOWABLE VALUE TABLES ASSUME ENGINEERED WOOD PRODUCT.
2. NOTCH FLOOR SHEATHING THEN INSTALL *HARDY FRAME*® BEARING PLATE (HFXBP) AND PANEL PER INSTALLATION NOTES 3-6, DETAIL B/HFX3.
3. *HARDY FRAME*® STACKING WASHER (HFSW) AT TOP OF PANEL REQUIRED WHEN CONNECTING TO TENSION ANCHOR FROM ABOVE.
4. 1-1/8" DIA. HOLD DOWN, HFSW AND N&W PER TABLE NOTE 1 ARE PROVIDED IN *HARDY FRAME*® HFTC KIT.
5. 1/4" x 4-1/2" (MIN) WS SCREWS, QUANTITY PER TABLE.
6. USP POST CAP AND POST BASE BY THE BUILDING DESIGN PROFESSIONAL.
7. NUTS AND WASHERS PER TABLE NOTE 1.
8. 1/4" x 4-1/2" (MIN) WS SCREWS, QUANTITY PER TABLE.

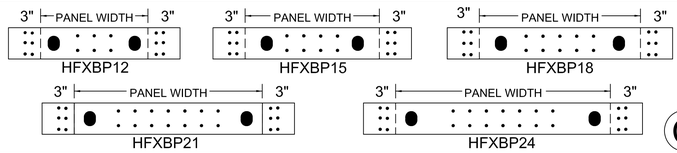
CRIPPLE WALL 5

INSTALLATION ON FLOOR SYSTEMS WITH *HARDY FRAME*® BEARING PLATE (HFXBP)

1. WITH HOLES PRE-DRILLED FOR 1-1/8" DIA.TENSION ANCHORS, INSTALL A SOLID 4x (MINIMUM) RIM IN FLOOR SYSTEM AT PANEL LOCATION. ALLOWABLE VALUE TABLES ASSUME THE RIM IS ENGINEERED WOOD PRODUCT (EWP).
2. NOTCH FLOOR SHEATHING THEN INSTALL HFXBP ON RIM WITH 6 EACH 1/4"X4-1/2" (MIN) "WS" SCREWS AT EACH END.
3. PLACE PANEL ON HFXBP.
4. WHEN STACKING PANELS, INSTALL "HFSW" STACKING WASHERS IN THE TOP CHANNEL OF THE LOWER PANEL. CONNECT LOWER TO UPPER PANELS WITH TENSION ANCHORS (GRADE PER PLANS) AND SECURE AT BOTH ENDS WITH HARDENED ROUND WASHERS AND GRADE 8 NUTS TO BE SNUG TIGHT. *HARDY FRAME* "STK" PANELS THAT INCLUDE "HFSW" STACKING WASHERS PRE-WELDED IN THE TOP CHANNEL ARE AVAILABLE,
5. WHEN MORE THAN 12 SCREWS ARE REQUIRED FOR THE BOTTOM CONNECTION OR JOINTS IN FRAMING MEMBERS OCCUR AT SCREW LOCATIONS, INSTALL ADDITIONAL 1/4"x4-1/2" WS SCREWS THROUGH THE BASE OF PANEL WHERE THEY ALIGN WITH HOLES IN THE HFXBP.
6. FOR STANDARD WALL HEIGHTS, INSTALL A 2x FILLER ABOVE PANEL (DTL 5/HFX2). FOR FILLERS GREATER THAN 1-1/2 IN. SEE DETAIL 6/HFX2.

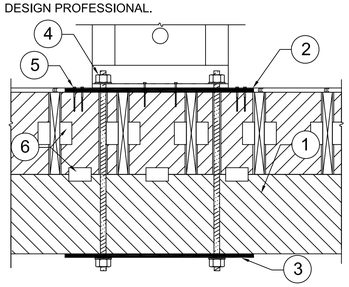
NOTE: INSTALLATIONS MAY VARY WITH JOB SPECIFIC CONDITIONS AND/OR SPECIFICATIONS BY THE BUILDING DESIGN PROFESSIONAL.

B



C

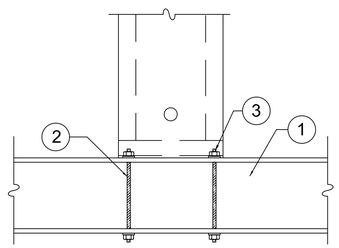
LOAD PATH FROM BEAM TO FOUNDATION AND CHECK THAT PANEL DRIFT IS WITHIN CODE LIMIT BY BUILDING DESIGN PROFESSIONAL.



1. DROP BEAM WITH FLOOR JOIST ABOVE PER PLAN.
2. NOTCH FLOOR SHEATHING THEN INSTALL *HARDY FRAME*® BEARING PLATE (HFXBP) AND PANEL PER INSTALLATION NOTES 3-6, DETAIL B/HFX3.
3. *HARDY FRAME*® BEARING PLATE (HFXBP) OR BEARING PLATE WASHER AT UNDERSIDE OF BEAM SIZED PER BUILDING DESIGN PROFESSIONAL TO LIMIT CRUSHING FROM TENSION ANCHOR FORCES.
4. NUTS AND WASHERS PER TABLE NOTE 1.
5. 1/4" x 4-1/2" (MIN) WS SCREWS, QUANTITY PER TABLE.
6. USP CONNECTORS BY DESIGN PROFESSIONAL

DROP BM - FL SYSTEM 14

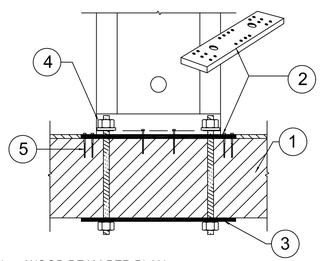
LOAD PATH FROM BEAM TO FOUNDATION AND CHECK THAT PANEL DRIFT IS WITHIN CODE LIMIT BY BUILDING DESIGN PROFESSIONAL.



1. STEEL BEAM PER PLANS
2. HOLD DOWN ALL THREAD RODS THRU-BOLTED TO BOTTOM FLANGE OF STEEL BEAM BY BUILDING DESIGN PROFESSIONAL.
3. NUTS AND WASHERS AT PANEL BASE PER TABLE NOTE 1

STEEL BM THRU-BOLT 13

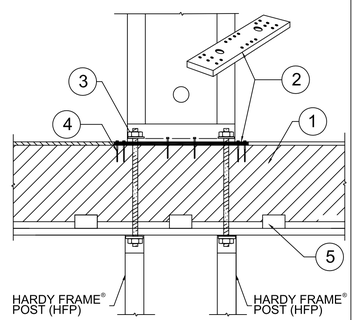
LOAD PATH FROM BEAM TO FOUNDATION AND CHECK THAT PANEL DRIFT IS WITHIN CODE LIMIT BY BUILDING DESIGN PROFESSIONAL.



1. WOOD BEAM PER PLAN.
2. NOTCH FLOOR SHEATHING THEN INSTALL *HARDY FRAME*® BEARING PLATE (HFXBP) AND PANEL PER INSTALLATION NOTES 3-6, DETAIL B/HFX3.
3. *HARDY FRAME*® BEARING PLATE (HFXBP) OR BEARING PLATE WASHER AT UNDERSIDE OF BEAM SIZED PER BUILDING DESIGN PROFESSIONAL TO LIMIT CRUSHING FROM TENSION ANCHOR FORCES.
4. 1-1/8" DIA. HOLD DOWN, HFSW AND N&W PER TABLE NOTE 1 ARE PROVIDED IN *HARDY FRAME*® HFTC KIT.
5. 1/4" x 4-1/2" (MIN) WS SCREWS, QUANTITY PER TABLE.

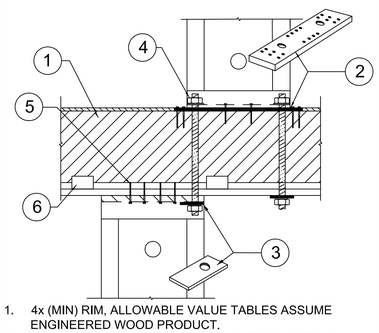
WOOD BM THRU-BOLT 12

LOAD PATH FROM BEAM TO FOUNDATION AND CHECK THAT PANEL DRIFT IS WITHIN CODE LIMIT BY BUILDING DESIGN PROFESSIONAL.



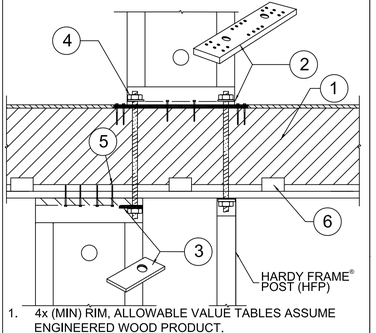
1. 4x (MIN) RIM, ALLOWABLE VALUE TABLES ASSUME ENGINEERED WOOD PRODUCT.
2. NOTCH FLOOR SHEATHING THEN INSTALL *HARDY FRAME*® BEARING PLATE (HFXBP) AND PANEL PER INSTALLATION NOTES 3-6, DETAIL B/HFX3.
3. 1-1/8" DIA. HOLD DOWN, HFSW AND N&W PER TABLE NOTE 1 ARE PROVIDED IN *HARDY FRAME*® HFTC KIT.
4. 1/4" x 4-1/2" (MIN) WS SCREWS, QUANTITY PER TABLE.
5. USP MP4F CONNECTORS, QUANTITY BY BUILDING DESIGN PROFESSIONAL.

HFP POSTS BELOW 11



1. 4x (MIN) RIM, ALLOWABLE VALUE TABLES ASSUME ENGINEERED WOOD PRODUCT.
2. NOTCH FLOOR SHEATHING THEN INSTALL *HARDY FRAME*® BEARING PLATE (HFXBP) AND PANEL PER INSTALLATION NOTES 3-6, DETAIL B/HFX3.
3. *HARDY FRAME*® STACKING WASHER (HFSW) AT TOP OF PANEL REQUIRED WHEN CONNECTING TO TENSION ANCHOR FROM ABOVE.
4. 1-1/8" DIA. HOLD DOWN, HFSW AND N&W PER TABLE NOTE 1 ARE PROVIDED IN *HARDY FRAME*® HFTC KIT.
5. 1/4" x 4-1/2" (MIN) WS SCREWS, QUANTITY PER TABLE.
6. USP MP4F CONNECTORS, QUANTITY BY BUILDING DESIGN PROFESSIONAL.

STAGGERED THRU-BOLT 10



1. 4x (MIN) RIM, ALLOWABLE VALUE TABLES ASSUME ENGINEERED WOOD PRODUCT.
2. NOTCH FLOOR SHEATHING THEN INSTALL *HARDY FRAME*® BEARING PLATE (HFXBP) AND PANEL PER INSTALLATION NOTES 3-6, DETAIL B/HFX3.
3. *HARDY FRAME*® STACKING WASHER (HFSW) AT TOP OF PANEL REQUIRED WHEN CONNECTING TO TENSION ANCHOR FROM ABOVE.
4. 1-1/8" DIA. HOLD DOWN, HFSW AND N&W PER TABLE NOTE 1 ARE PROVIDED IN *HARDY FRAME*® HFTC KIT.
5. 1/4" x 4-1/2" (MIN) WS SCREWS, QUANTITY PER TABLE.
6. USP MP4F CONNECTORS, QUANTITY BY BUILDING DESIGN PROFESSIONAL.

STAGGERED-HFP POST 9

the construction zone
1720 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

PERMIT SET

ocean drive residence

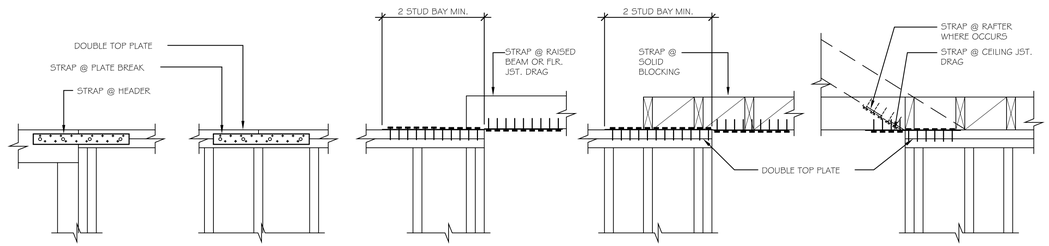
2800 ocean drive manhatten beach, ca 90266

TYPICAL DETAILS

04.18.25

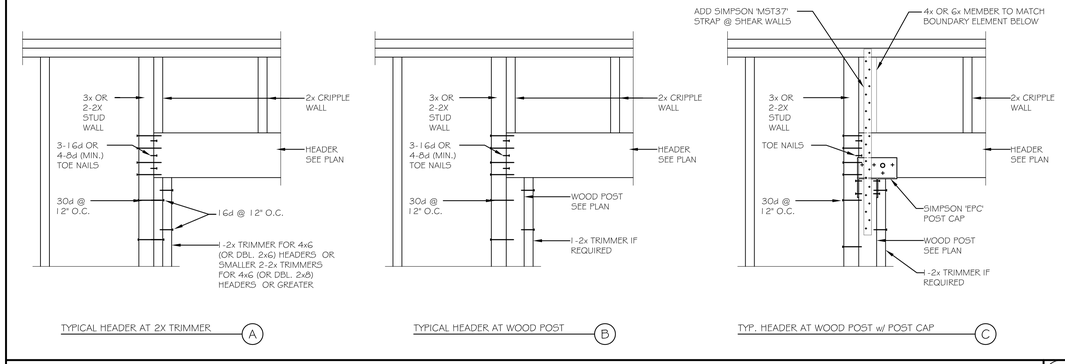
S.05

THIS SYMBOL DENOTES A DRAG LINE. PROVIDE MINIMUM MST48 STRAP AT ALL PLATE BREAKS UNLESS NOTED OTHERWISE.



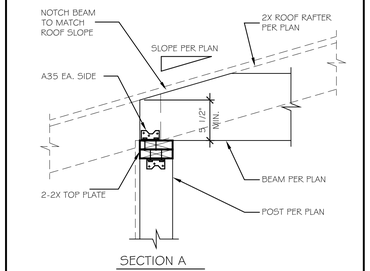
DRAG STRAP @ PLATE BREAKS DETAIL

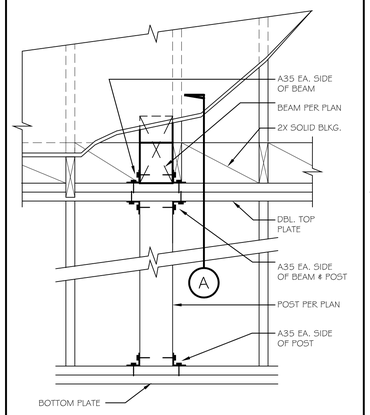
D6211A 1"=1'-0" **16**



TYPICAL HEADER DETAIL

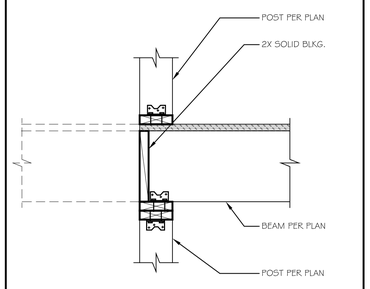
D6006 1"=1'-0" **15**

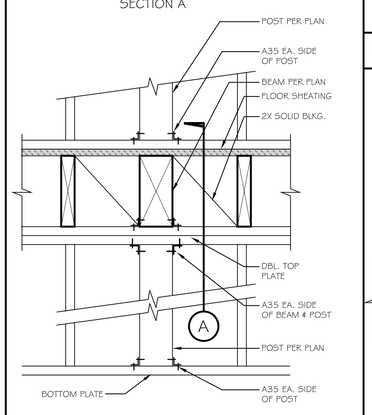




POST IN BEARING WALL

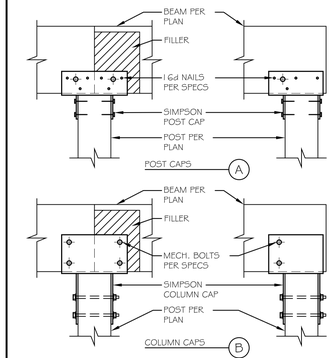
D6610C 1"=1'-0" **21**





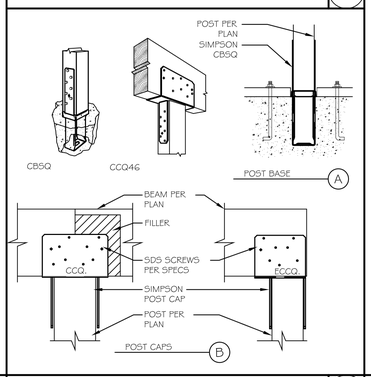
POST IN BEARING WALL

D6610D 1"=1'-0" **17**



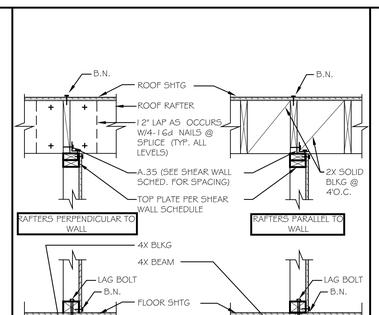
POST TO BEAM DETAIL

D6601 1"=1'-0" **14**



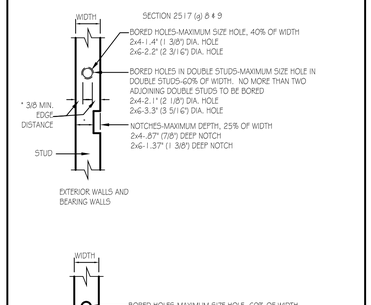
POST CAP & BASE DETAIL

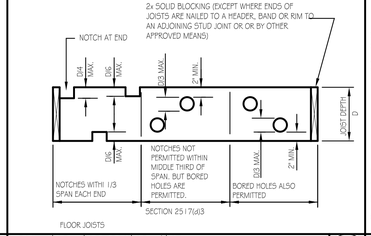
D6601B 1"=1'-0" **13**



INTERIOR SHEAR TRANSFER DETAIL

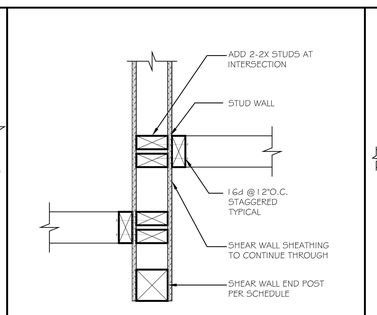
D6208A 3/4"=1'-0" **11**





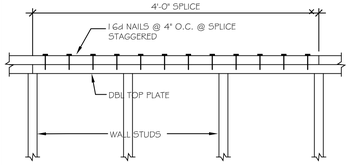
CUTTING, NOTCHING AND BORING OF STUDS & JSTS

D6004 3/4"=1'-0" **9**



SHEARWALL INTERSECTION

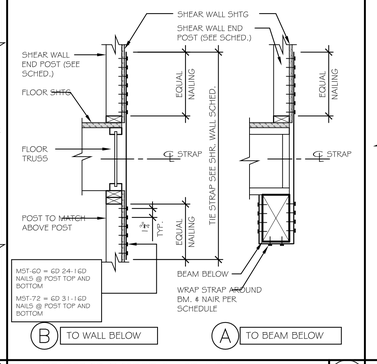
D6021 1 1/2"=1'-0" **8**



NOTE:
WHERE 4'-0" SPLICE IS NOT AVAILABLE PROVIDE CS150 x 26" LONG w/8d EVERY OTHER HOLE.

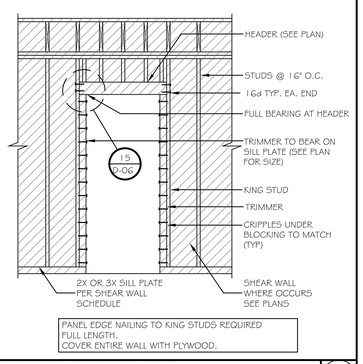
TOP PLATE SPLICE DETAIL

D6207 1"=1'-0" **4**



STRAP HOLDOWN BETWEEN FLOORS

D6209 3/4"=1'-0" **7**



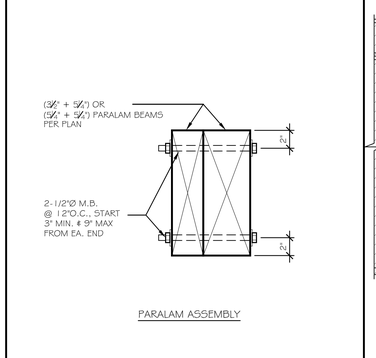
PANEL EDGE NAILING TO KING STUDS REQUIRED FULL LENGTH.
COVER ENTIRE WALL WITH PLYWOOD.

TYPICAL HEADER AND TRIMMER DETAIL

D6000 3/8"=1'-0" **3**

PARALAM ASSEMBLY DETAIL

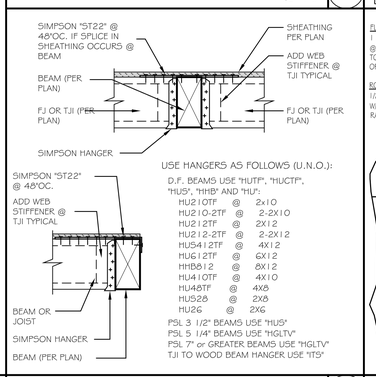
PSL TO PSL 1 1/2"=1'-0" **6**



PANEL EDGE NAILING TO KING STUDS REQUIRED FULL LENGTH.
COVER ENTIRE WALL WITH PLYWOOD.

VOID IN SHEAR PANEL DETAIL

D6204 3/8"=1'-0" **2**



USE HANGERS AS FOLLOWS (U.N.O.):

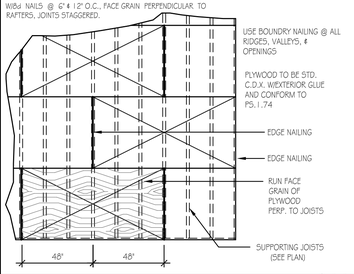
D.F. BEAMS USE "HUTF", "HUCTF", "HUS", "HHB" AND "HLP":

HU210TF	@	2x10
HU210-2TF	@	2-2X10
HU212TF	@	2X12
HU212-2TF	@	2-2X12
HU5412TF	@	4X12
HU612TF	@	6X12
HH8812	@	8X12
HU410TF	@	4X10
HU48TF	@	4X8
HU528	@	2X8
HU26	@	2X6

PSL 3 1/2" BEAMS USE "HUS"
PSL 5 1/4" BEAMS USE "HGLTV"
PSL 7" or GREATER BEAMS USE "HGLTV"
TJI TO WOOD BEAM HANGER USE "ITS"

SHEAR TRANSFER

D6225A 3/4"=1'-0" **5**



FLOOR AND ROOF DIAPHRAM DETAIL

D6201 1/4"=1'-0" **1**

the construction zone
1720 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

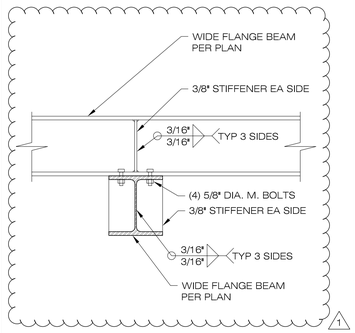
PERMIT SET

ocean drive residence

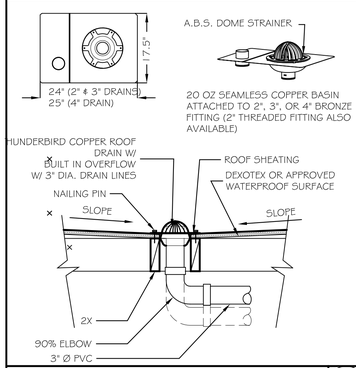
2800 ocean drive manhatten beach, ca 90266

04.18.25

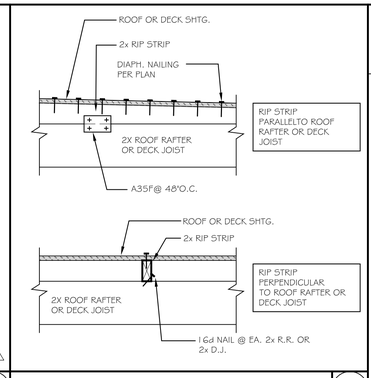
S.06 STRUCTURAL DETAILS



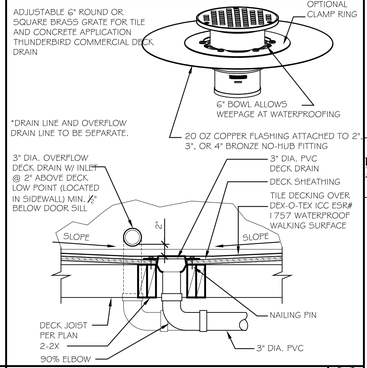
W- FLANGE TO W- FLANGE CONNECTION 1"=1'-0" 24



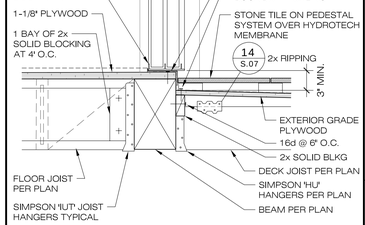
DRAIN @ FLAT ROOF DETAIL 1"= 1'-0" 23



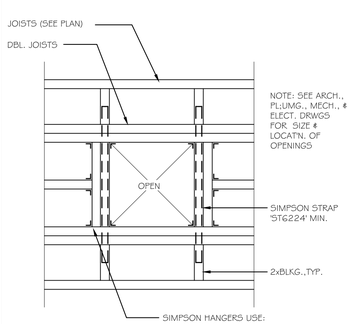
RIP STRIP TO RAFTER OR DECK JOIST 1"= 1'-0" 14



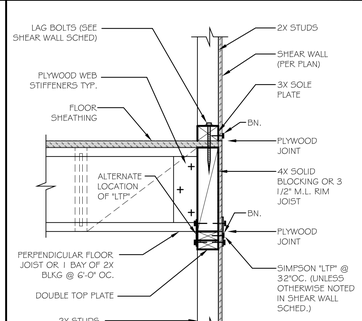
DECK DRAIN DETAIL 1"= 1'-0" 13



FLUSH BEAM AT DECK 1"= 1'-0" 10



TYPICAL ROOF AND FLOOR OPENING 1"= 1'-0" 21



TYPICAL SHEAR TRANSFER DETAIL 1"= 1'-0" 9

INCLINATOR COMPANY OF AMERICA

HARRISBURG, PA

TYPICAL DRAWING NOT TO BE USED FOR CONSTRUCTION

ORDER REFERENCE

PROJECT: UCG01 HYDRAULIC DRIVE TYPICAL LAYOUT

PLEASE REFER TO PAGE 7 OF THE PLANNING GUIDE FOR ADDITIONAL SIZING OPTIONS

HYDRAULIC DRIVE OFFERS A MAXIMUM OF: 6 STOPS 50'-0" OF TRAVEL 15 SQ. FT. CAB SIZE

SPECIFICATIONS

DRIVE: UCG01 HYDRAULIC DRIVE

CAPACITY: 1000#

MANUFACTURED TO MEET: ASME A17.1 - 2016

IT IS THE RESPONSIBILITY OF THE INSTALLER OF THE UNIT TO SATISFY ASME, NEC, STATE, AND LOCAL BUILDING CODES

LANDINGS: 3

CODE(S): 6 (INCLINATOR LAYOUT DESIGN)

SPEED: AT 36 F.P.M. ±4

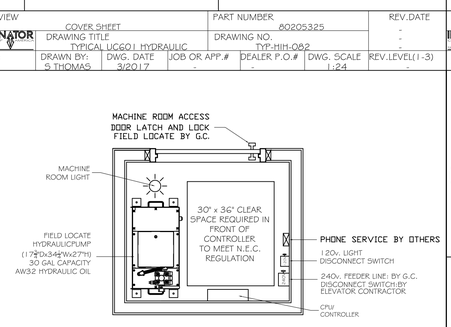
SUSPENSION MEDIA: STEEL WIRE ROPES 12,100# BREAKING STRENGTH Ø3/8 - 8 x 19 IWRC

CAR CONSTRUCTION: 3/4" HARDWOOD VENEER

NOTE: ALL MANUFACTURER SUPPLIED CAR AND EQUIPMENT OPTIONS ARE NOTED ON THE CONFIRMING ORDER SHEET.

DISCLAIMER: ONCE DRAWINGS HAVE BEEN APPROVED, SIGNED AND WITHIN 5 DAYS OF PRODUCTION, THE CUSTOMER WILL BEAR ALL RESPONSIBILITY AND LIABILITY OF FINISHED UNIT.

DWG VIEW	COVER SHEET			PART NUMBER	80205325		REV.DATE
INCLINATOR	DRAWING TITLE TYPICAL UCG01 HYDRAULIC			DRAWING NO. TYP-HIH-082			-
PAGE: 1/5	DRAWN BY: S THOMAS	DWG. DATE 3/2017	JOB OR APP.# -	DEALER P.O.# -	DWG. SCALE 1:24	REV.LEVEL(1-3) -	-



CONTROLLER SPACE:

1. THE CPU AND PUMP UNIT SHOULD BE LOCATED IN THE SAME LOCATION. THE RECOMMENDED MAXIMUM DISTANCE FROM THE CPU TO THE PUMP UNIT TO BE 10'. LONGER MOTOR CABLES UP TO 40 ARE AVAILABLE. CONSULT WITH INCLINATOR WHEN ORDERING.

2. CONTROLLER SHOULD BE MOUNTED IN A TEMPERATURE CONTROLLED ENVIRONMENT BETWEEN 40ºF TO 120ºF (4ºC - 49ºC).

3. CPU AND PUMP UNIT SHOULD NOT BE EXPOSED TO OUTDOOR ELEMENTS.

4. N.E.C. REGULATIONS REQUIRE A MINIMUM OF 30" WIDE x 36" DEEP x 6'-6" HIGH CLEAR UNOBSTRUCTED SPACE IN FRONT OF CONTROLLER.

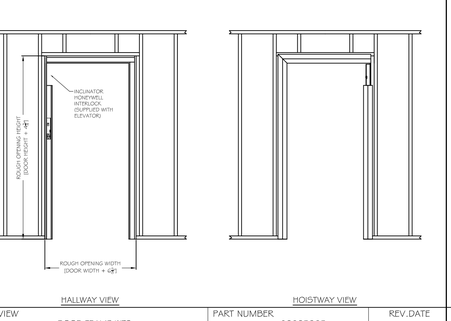
5. MACHINE ROOM TO HAVE NATURAL/MECHANICAL VENTILATION IF REQUIRED BY STATE OR LOCAL CODES.

6. MACHINE ROOM LAYOUT MUST COMPLY WITH LOCAL, STATE, AND NATIONAL CODES.

NOTICE TO ELECTRICAL CONTRACTOR:

- ALL ELECTRICAL WIRING MUST BE DONE BY A JOURNEYMAN MECHANIC AND MUST MEET ALL NATIONAL, STATE, AND LOCAL CODES.
- BRING (2) #10 W/GND FROM RESIDENCE INCOMING POWER PANEL 30AMP BREAKER (240V, & GROUND) TO THE CONTROLLER SPACE.
- BRING (2) #12 W/GND FROM RESIDENCE INCOMING POWER PANEL 20AMP CFI BREAKER (120V, NEUTRAL GROUND) TO THE MACHINE ROOM.
- REQUIRED LOW VOLTAGE WIRING IS SUPPLIED BY MANUFACTURER, ALL EXTENSIONS ADDITIONS, ETC. SHALL BE DONE WITH THE SAME SIZE AND TYPE OF WIRE AS ORIGINALLY SUPPLIED BY THE MANUFACTURER.
- A TELEPHONE LINE SHALL BE SUPPLIED TO THE CONTROLLER SPACE AND SHALL BE CONNECTED TO A 24 HOUR CENTRAL EXCHANGE.
- ALL MEANS FOR ACCESS TO EQUIPMENT SHALL BE PROVIDED WITH A LOCK. ALL SHAFT DOORS MUST BE INTERLOCKED.

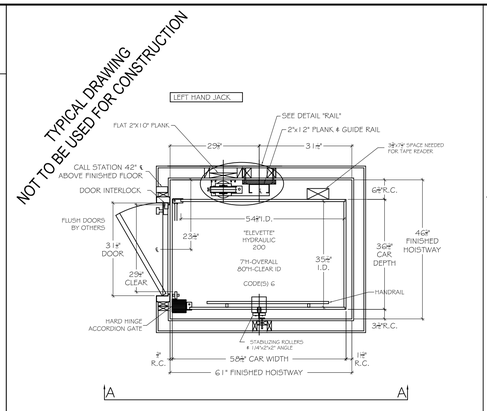
DWG VIEW	CONTROLLER SPACE REQUIREMENTS			PART NUMBER	80205325		REV.DATE
INCLINATOR	DRAWING TITLE TYPICAL UCG01 HYDRAULIC			DRAWING NO. TYP-HYDRO			-
PAGE: 4/5	DRAWN BY: S THOMAS	DWG. DATE 3/2017	JOB OR APP.# -	DEALER P.O.# -	DWG. SCALE 1:24	REV.LEVEL(1-3) -	-



HALLWAY VIEW HOISTWAY VIEW

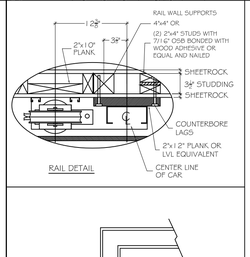
DWG VIEW	DOOR FRAME KITS			PART NUMBER	80205325		REV.DATE
INCLINATOR	DRAWING TITLE TYPICAL UCG01 HYDRAULIC			DRAWING NO. TYP-HYDRO			-
PAGE: AUX 3	DRAWN BY: S THOMAS	DWG. DATE 3/2017	JOB OR APP.# -	DEALER P.O.# -	DWG. SCALE 1:24	REV.LEVEL(1-3) -	-

TYPICAL DRAWING NOT TO BE USED FOR CONSTRUCTION

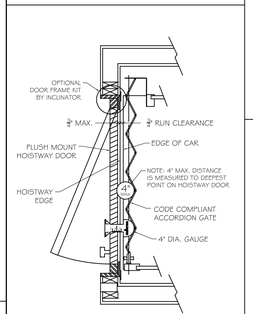


NOTE:
ALL HOISTWAY CONSTRUCTION MUST COMPLY WITH NATIONAL, STATE, AND LOCAL CODES. HOISTWAY MUST BE PLUMB AND STRAIGHT FROM TOP TO BOTTOM WITH NO PROJECTIONS INTO THE HOISTWAY.

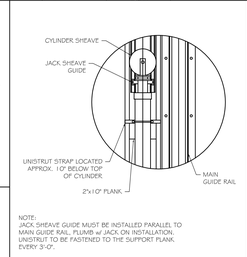
DWG VIEW	HOISTWAY LAYOUT			PART NUMBER	80205325		REV.DATE
INCLINATOR	DRAWING TITLE TYPICAL UCG01 HYDRAULIC			DRAWING NO. TYP-HIH-082			-
PAGE: 2/5	DRAWN BY: S THOMAS	DWG. DATE 3/2017	JOB OR APP.# -	DEALER P.O.# -	DWG. SCALE 1:24	REV.LEVEL(1-3) -	-



RAIL DETAIL



DOOR FRAME DETAILS
REF: ASME 17.1-2016 5.3.1.4.2, 5.3.1.7.2, & 5.3.1.8.3



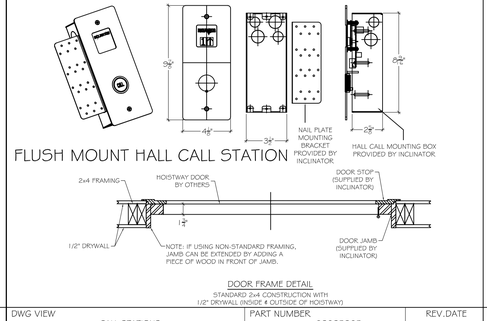
NOTE:
JACK SHEAVE GUIDE MUST BE INSTALLED PARALLEL TO MAIN GUIDE RAIL, PLUMB w/ JACK ON INSTALLATION. UNISTRUT TO BE FASTENED TO THE SUPPORT PLANK EVERY 3'-0".

JACK GUIDE DETAIL

1. VERTICAL LOAD FORCES
   STATIC = 2,230 LBS.
   IMPACT = 4,460 LBS.
2. RAIL FASTENING TO 2"x12" PLANK:
   #14 x 1 3/4" TYPE A S.M.S. RAIL IS PRE-DRILLED AT FACTORY.
3. BOLT FASTENING OF CAR TO TROLLEY:
   1/2" - 13 x 4" SOCKET HD CAP SCREWS
4. JACK SPECIFICATIONS
   A. SINGLE PC JACKS
      PISTON DIA. 2 5/16"
      WALL THICK. 1 1/32"
   B. SPLICED JACKS
      PISTON DIA. 2 13/16"
      WALL THICK. 9/32"
   C. ALL CYLINDERS
      OUTSIDE DIA. 4"
      WALL THICK. 3/16"
   D. MAX WORKING PRESS. 1000 PSI
5. ALL SHEAVE DIA. 8 5/16"

TECHNICAL DATA

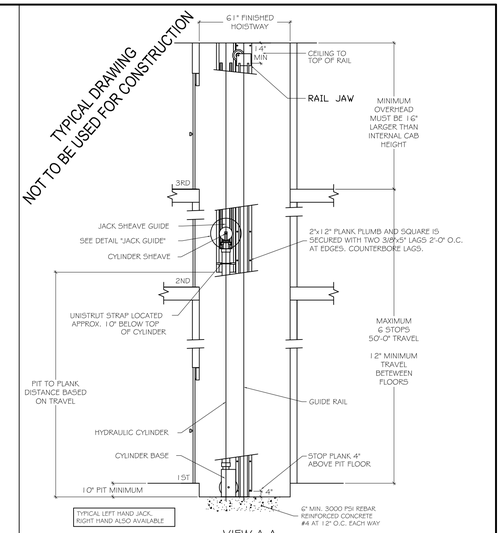
DWG VIEW	DETAILS, DATA, CODES			PART NUMBER	80205325		REV.DATE
INCLINATOR	DRAWING TITLE TYPICAL UCG01 HYDRAULIC			DRAWING NO. TYP-HYDRO			-
PAGE: 5/5	DRAWN BY: S THOMAS	DWG. DATE 3/2017	JOB OR APP.# -	DEALER P.O.# -	DWG. SCALE 1:24	REV.LEVEL(1-3) -	-



DOOR FRAME DETAIL
STANDARD 2x4 CONSTRUCTION WITH 1/2" DRYWALL INSIDE & OUTSIDE OF HOISTWAY)

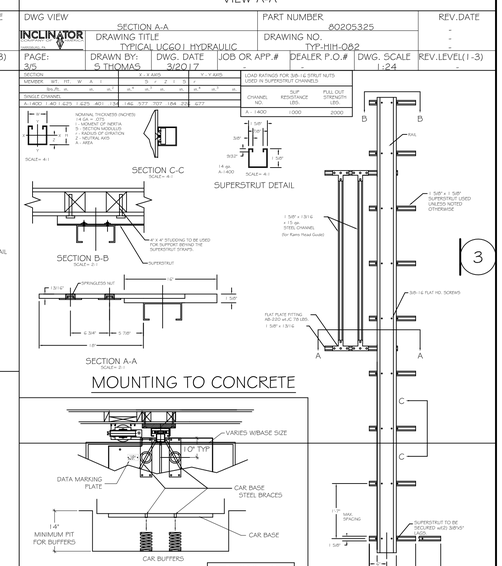
DWG VIEW	CALL STATIONS			PART NUMBER	80205325		REV.DATE
INCLINATOR	DRAWING TITLE TYPICAL UCG01 HYDRAULIC			DRAWING NO. TYP-HYDRO			-
PAGE: AUX 2	DRAWN BY: S THOMAS	DWG. DATE 3/2017	JOB OR APP.# -	DEALER P.O.# -	DWG. SCALE 1:24	REV.LEVEL(1-3) -	-

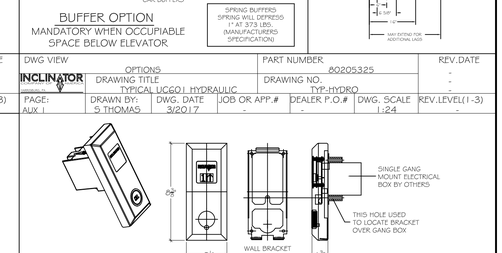
TYPICAL DRAWING NOT TO BE USED FOR CONSTRUCTION



VIEW A-A

DWG VIEW	SECTION A-A			PART NUMBER	80205325		REV.DATE
INCLINATOR	DRAWING TITLE TYPICAL UCG01 HYDRAULIC			DRAWING NO. TYP-HIH-082			-
PAGE: 3/5	DRAWN BY: S THOMAS	DWG. DATE 3/2017	JOB OR APP.# -	DEALER P.O.# -	DWG. SCALE 1:24	REV.LEVEL(1-3) -	-





DWG VIEW	OPTIONS			PART NUMBER	80205325		REV.DATE
INCLINATOR	DRAWING TITLE TYPICAL UCG01 HYDRAULIC			DRAWING NO. TYP-HYDRO			-
PAGE: AUX 1	DRAWN BY: S THOMAS	DWG. DATE 3/2017	JOB OR APP.# -	DEALER P.O.# -	DWG. SCALE 1:24	REV.LEVEL(1-3) -	-

RAISED MOUNT HALL CALL STATION

DWG VIEW	CALL STATIONS			PART NUMBER	80205325		REV.DATE
INCLINATOR	DRAWING TITLE TYPICAL UCG01 HYDRAULIC			DRAWING NO. TYP-HYDRO			-
PAGE: AUX 2	DRAWN BY: S THOMAS	DWG. DATE 3/2017	JOB OR APP.# -	DEALER P.O.# -	DWG. SCALE 1:24	REV.LEVEL(1-3) -	-

INCLINATOR ELEVATOR - THIS DETAIL IS FOR REFERENCE PURPOSE ONLY. CONTRACTOR TO PROVIDE SHOP DRAWINGS TO CITY FOR APPROVAL PRIOR TO INSTALLATION

D14203 1/2"= 1'-0" 1

the construction zone
1720 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

PERMIT SET

ocean drive residence

2800 ocean drive manhatten beach, ca 90266

04.18.25

S.07 STRUCTURAL DETAILS

ALLOWABLE HOLES

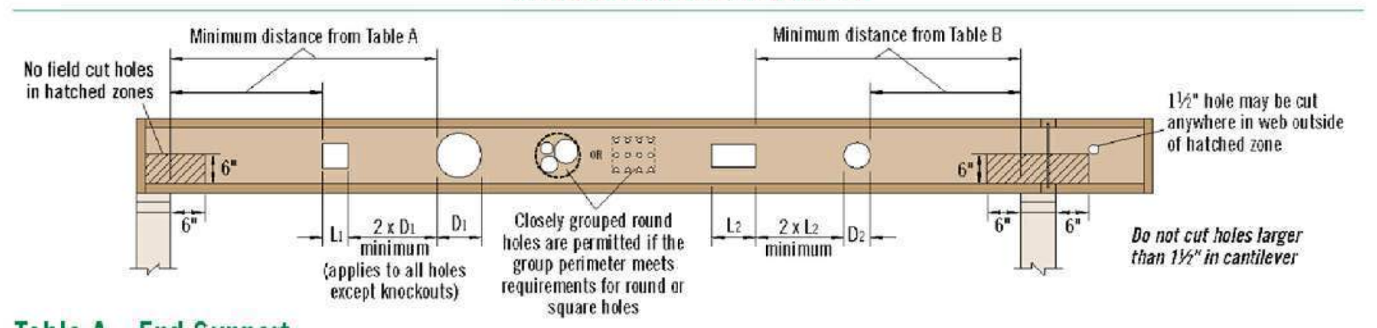


Table A—End Support
Minimum distance from edge of hole to inside face of nearest end support

Depth	TJI®	Round 2"	Round 3"	Round 4"	Round 5"	Round 6½"	Round 7"	Round 8⅝"	Round 11"	Round 13"	Square 2"	Square 3"	Square 4"	Square 5"	Square 6½"	Square 7"	Square 8⅝"	Square 11"	Square 13"
9½"	110	1'-0"	1'-6"	2'-0"	3'-0"	5'-0"					1'-0"	1'-6"	2'-6"	3'-6"	4'-6"				
	210	1'-0"	1'-6"	2'-6"	3'-0"	5'-6"					1'-0"	2'-0"	2'-6"	4'-0"	5'-0"				
	230	1'-6"	2'-0"	2'-6"	3'-6"	5'-6"					1'-0"	2'-0"	3'-0"	4'-6"	5'-0"				
11⅞"	110	1'-0"	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	5'-6"			1'-0"	1'-6"	2'-0"	2'-6"	4'-6"	5'-0"	6'-0"		
	210	1'-0"	1'-6"	2'-0"	2'-0"	3'-0"	3'-6"	6'-0"			1'-0"	1'-6"	2'-6"	3'-0"	5'-0"	5'-6"	6'-6"		
	230	1'-0"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"	6'-6"			1'-0"	2'-0"	2'-6"	3'-6"	5'-6"	5'-6"	7'-0"		
	360	1'-6"	2'-0"	3'-0"	3'-6"	4'-6"	5'-0"	7'-0"			1'-6"	2'-6"	3'-6"	4'-6"	6'-6"	6'-6"	7'-6"		
	560	1'-6"	2'-6"	3'-0"	4'-0"	5'-6"	6'-0"	8'-0"			2'-6"	3'-6"	4'-6"	5'-6"	7'-0"	7'-6"	8'-0"		
14"	110	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	3'-0"	5'-6"		1'-0"	1'-0"	1'-6"	2'-0"	3'-6"	4'-0"	6'-0"	8'-0"	
	210	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	2'-6"	3'-6"	6'-0"		1'-0"	1'-0"	2'-0"	2'-6"	4'-0"	4'-6"	6'-6"	8'-6"	
	230	1'-0"	1'-0"	1'-0"	1'-6"	2'-6"	2'-6"	4'-0"	7'-0"		1'-0"	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"	7'-0"	9'-0"	
	360	1'-0"	1'-0"	1'-6"	2'-6"	3'-6"	4'-0"	5'-6"	8'-0"		1'-0"	1'-6"	2'-6"	4'-0"	6'-0"	6'-6"	8'-0"	9'-6"	
	560	1'-0"	1'-0"	2'-0"	3'-0"	4'-6"	5'-0"	6'-6"	9'-0"		1'-6"	3'-0"	4'-0"	5'-0"	7'-0"	7'-6"	9'-0"	10'-0"	
16"	210	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-6"	3'-6"	6'-0"	1'-0"	1'-0"	1'-0"	2'-0"	3'-0"	3'-6"	6'-6"	8'-0"	11'-0"
	230	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	1'-6"	3'-0"	4'-0"	7'-0"	1'-0"	1'-0"	1'-0"	2'-0"	3'-6"	4'-0"	7'-0"	9'-0"	11'-0"
	360	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	2'-6"	4'-6"	6'-6"	9'-0"	1'-0"	1'-0"	1'-6"	3'-0"	5'-0"	5'-6"	9'-0"	10'-0"	11'-6"
	560	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-0"	5'-0"	7'-6"	10'-0"	1'-0"	2'-0"	3'-0"	4'-6"	6'-6"	7'-0"	10'-0"	11'-0"	12'-0"

Table B—Intermediate or Cantilever Support
Minimum distance from edge of hole to inside face of nearest intermediate or cantilever support

Depth	TJI®	Round 2"	Round 3"	Round 4"	Round 5"	Round 6½"	Round 7"	Round 8⅝"	Round 11"	Round 13"	Square 2"	Square 3"	Square 4"	Square 5"	Square 6½"	Square 7"	Square 8⅝"	Square 11"	Square 13"
9½"	110	2'-0"	2'-6"	3'-6"	4'-6"	7'-6"					1'-6"	2'-6"	3'-6"	5'-6"	6'-6"				
	210	2'-0"	2'-6"	3'-6"	5'-0"	8'-0"					2'-0"	3'-0"	4'-0"	6'-6"	7'-6"				
	230	2'-6"	3'-0"	4'-0"	5'-6"	8'-6"					2'-0"	3'-6"	4'-6"	6'-6"	7'-6"				
11⅞"	110	1'-0"	1'-0"	1'-6"	2'-6"	4'-0"	4'-6"	8'-6"			1'-0"	1'-6"	2'-6"	4'-0"	7'-0"	7'-0"	9'-6"		
	210	1'-0"	1'-0"	2'-0"	3'-0"	4'-6"	5'-0"	9'-0"			1'-0"	2'-0"	3'-0"	4'-6"	8'-0"	8'-0"	10'-0"		
	230	1'-0"	2'-0"	2'-6"	3'-6"	5'-0"	5'-6"	10'-0"			1'-0"	2'-6"	3'-6"	5'-0"	8'-6"	9'-0"	10'-6"		
	360	2'-0"	3'-0"	4'-0"	5'-6"	7'-0"	7'-6"	11'-0"			2'-0"	3'-6"	5'-0"	7'-0"	9'-6"	9'-6"	11'-0"		
	560	1'-6"	3'-0"	4'-6"	5'-6"	8'-0"	8'-6"	12'-0"			3'-0"	4'-6"	6'-0"	8'-0"	10'-6"	11'-0"	12'-0"		
14"	110	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	2'-6"	4'-6"	8'-6"		1'-0"	1'-0"	1'-0"	2'-6"	5'-0"	6'-0"	9'-0"	12'-0"	
	210	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-0"	5'-6"	9'-6"		1'-0"	1'-0"	2'-0"	3'-6"	6'-0"	7'-0"	10'-0"	13'-0"	
	230	1'-0"	1'-0"	1'-0"	2'-0"	3'-6"	4'-0"	6'-0"	10'-6"		1'-0"	1'-0"	2'-6"	4'-0"	6'-6"	7'-6"	11'-0"	13'-6"	
	360	1'-0"	1'-0"	2'-0"	3'-6"	5'-6"	6'-0"	8'-6"	12'-6"		1'-0"	2'-0"	4'-0"	5'-6"	9'-0"	10'-0"	12'-0"	14'-0"	
	560	1'-0"	1'-0"	1'-6"	3'-6"	5'-6"	6'-6"	9'-6"	13'-6"		1'-0"	3'-0"	5'-0"	7'-0"	10'-0"	11'-0"	13'-6"	15'-0"	
16"	210	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	3'-6"	6'-0"	10'-0"	1'-0"	1'-0"	1'-0"	1'-6"	4'-6"	5'-6"	10'-0"	12'-6"	16'-0"
	230	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	2'-0"	4'-0"	6'-6"	11'-0"	1'-0"	1'-0"	1'-0"	2'-6"	5'-0"	6'-0"	10'-6"	13'-6"	16'-6"
	360	1'-0"	1'-0"	1'-0"	1'-0"	3'-0"	4'-0"	6'-6"	10'-0"	13'-6"	1'-0"	1'-0"	2'-0"	4'-0"	7'-6"	8'-6"	13'-0"	14'-6"	17'-0"
	560	1'-0"	1'-0"	1'-0"	1'-0"	2'-6"	3'-6"	7'-0"	11'-0"	15'-0"	1'-0"	1'-0"	3'-6"	5'-6"	9'-0"	10'-0"	14'-6"	16'-0"	18'-0"

• Rectangular holes based on measurement of longest side.

How to Use These Tables

1. Using **Table A, Table B,** or both if required, determine the hole shape/size and select the TJI® joist and depth.
2. Scan horizontally until you intersect the correct hole size column.
3. Measurement shown is minimum distance from edge of hole to support.
4. Maintain the required minimum distance from the end **and** the intermediate or cantilever support.

***WARNING:** Drilling, sawing, sanding or machining wood products generates wood dust, a substance known to the State of California to cause cancer. For more information on Proposition 65, visit www.wy.com/inform.*

General Notes

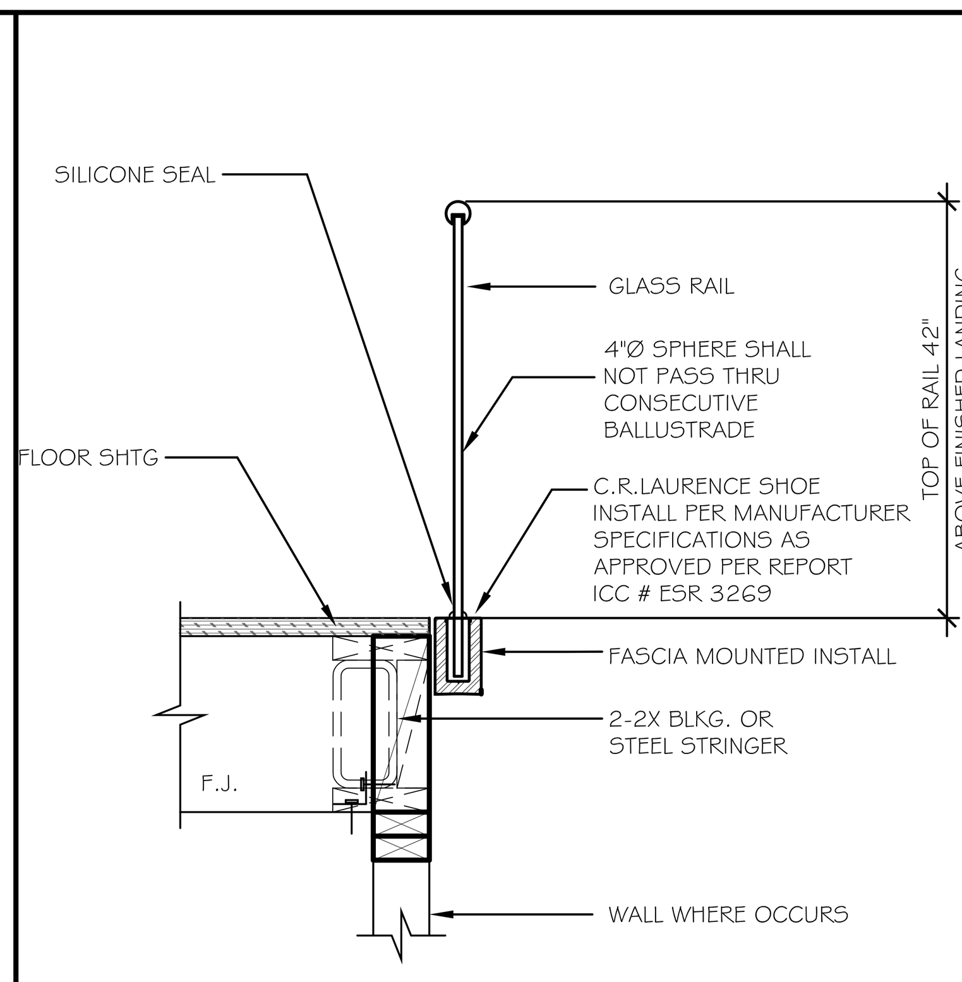
- Holes may be located vertically anywhere within the web. Leave ⅛" of web (minimum) at top and bottom of hole.
- Knockouts are located in web at approximately 12" on-center; they do not affect hole placement.
- For simple span (5' minimum) uniformly loaded joists meeting the requirements of this guide, one maximum size round hole may be located at the center of the joist span **provided that no other holes occur in the joist.**
- Distances are based on the maximum uniform loads shown in this guide. For other load conditions or hole configurations, use Forte® software or contact your Weyerhaeuser representative.

DO NOT cut or notch flange.

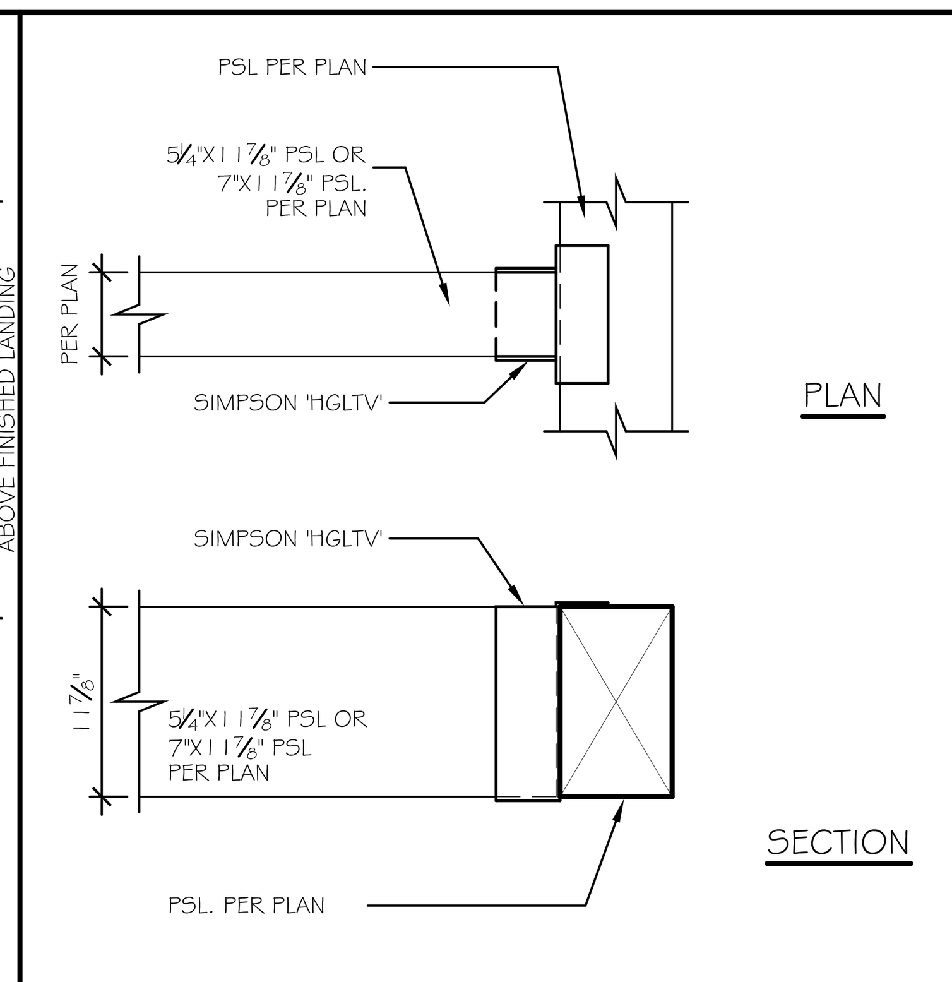
DO NOT cut holes in cantilever reinforcement.

Trus Joist® TJI® Joist Specifier's Guide TJ-4000 October 2011
9

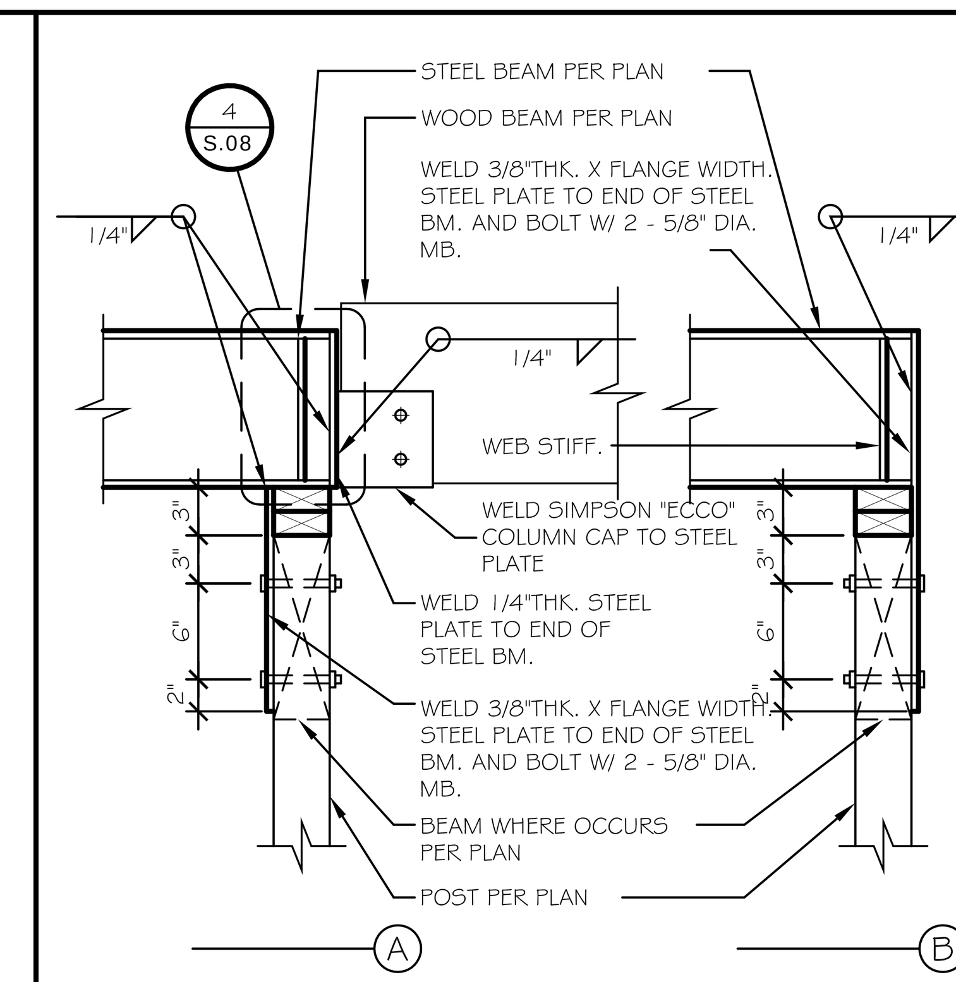
BORING HOLES IN TJI FLOOR OR DECK SYSTEM — TJI HOLES NTS — 19



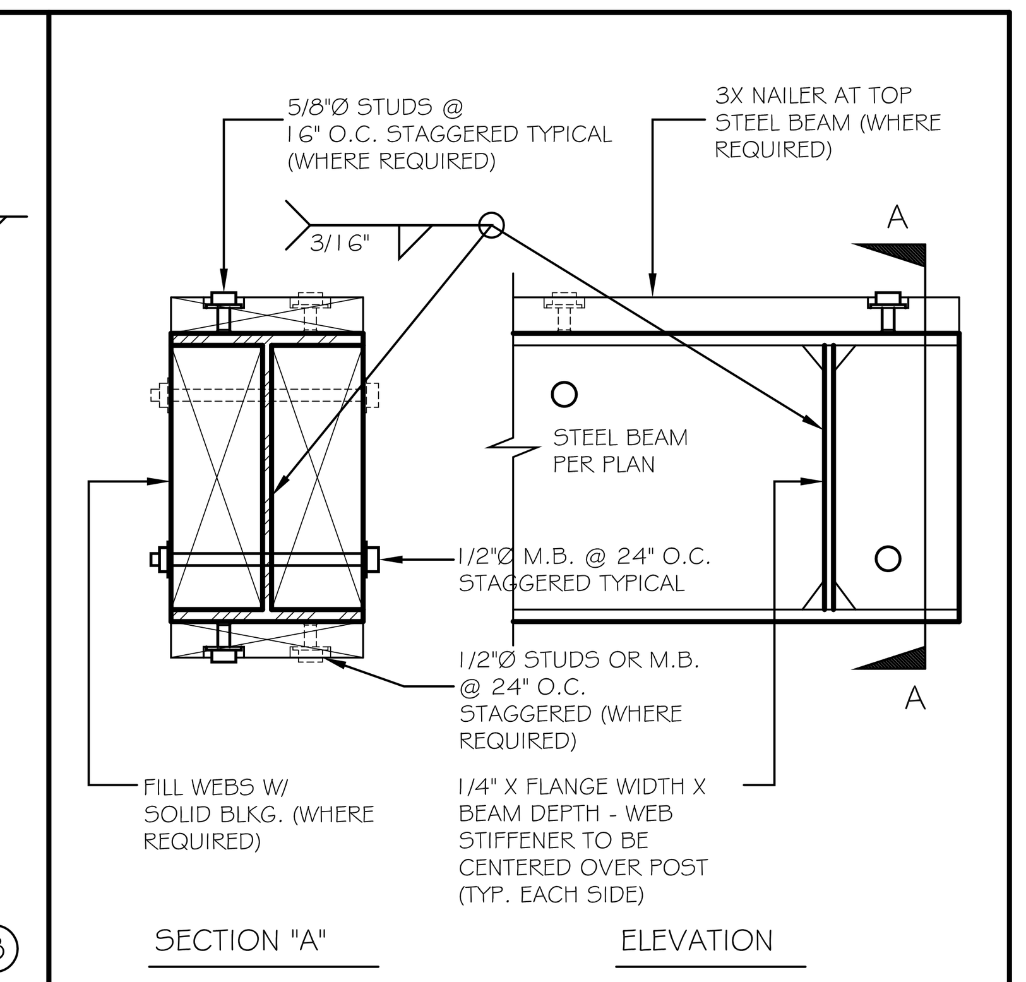
INTERIOR RAIL DETAIL 1"=1'-0" — 16



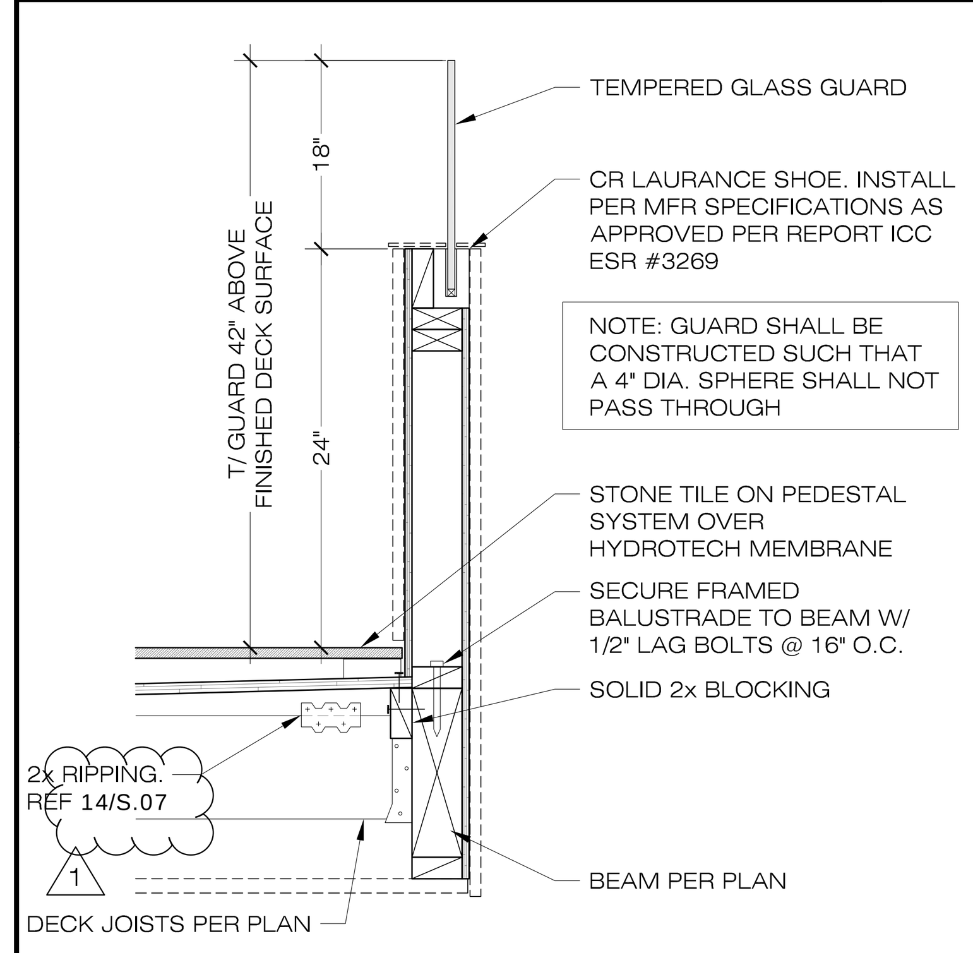
PSL. BEAM TO PSL. BEAM DETAIL 1"=1'-0" — 12



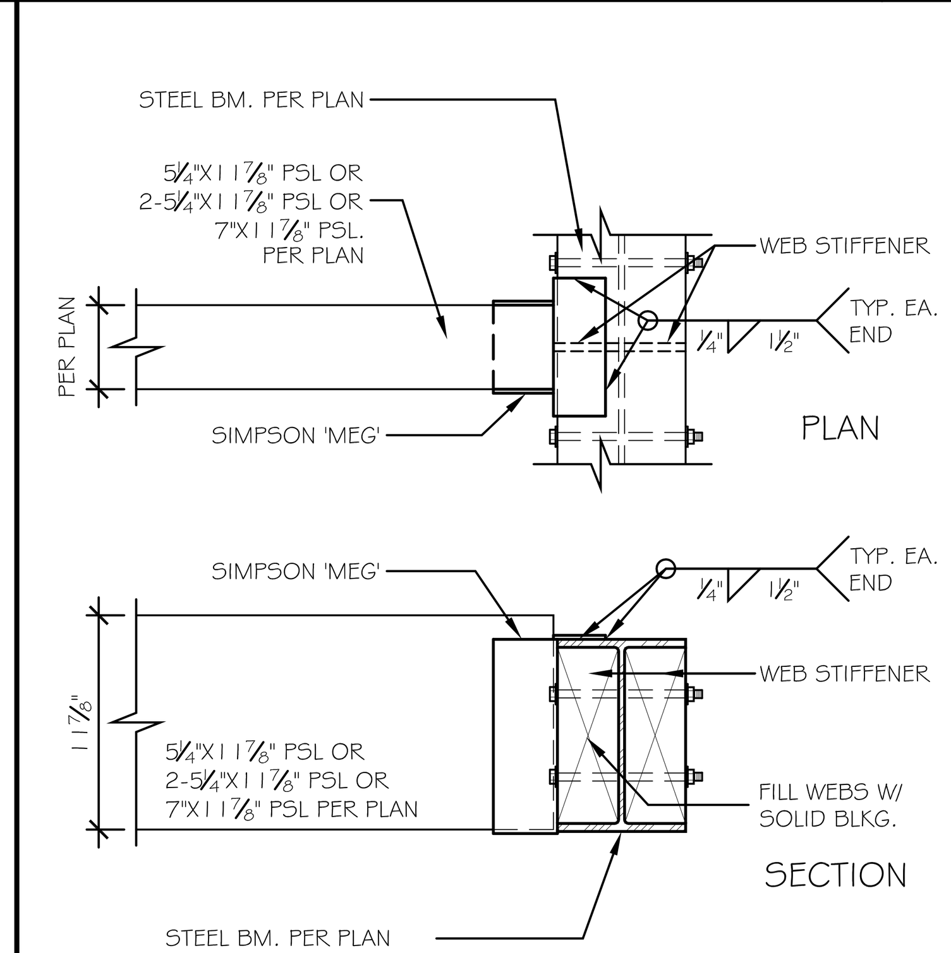
WOOD POST AND BEAM TO STEEL BEAM 1"=1'-0" — 8



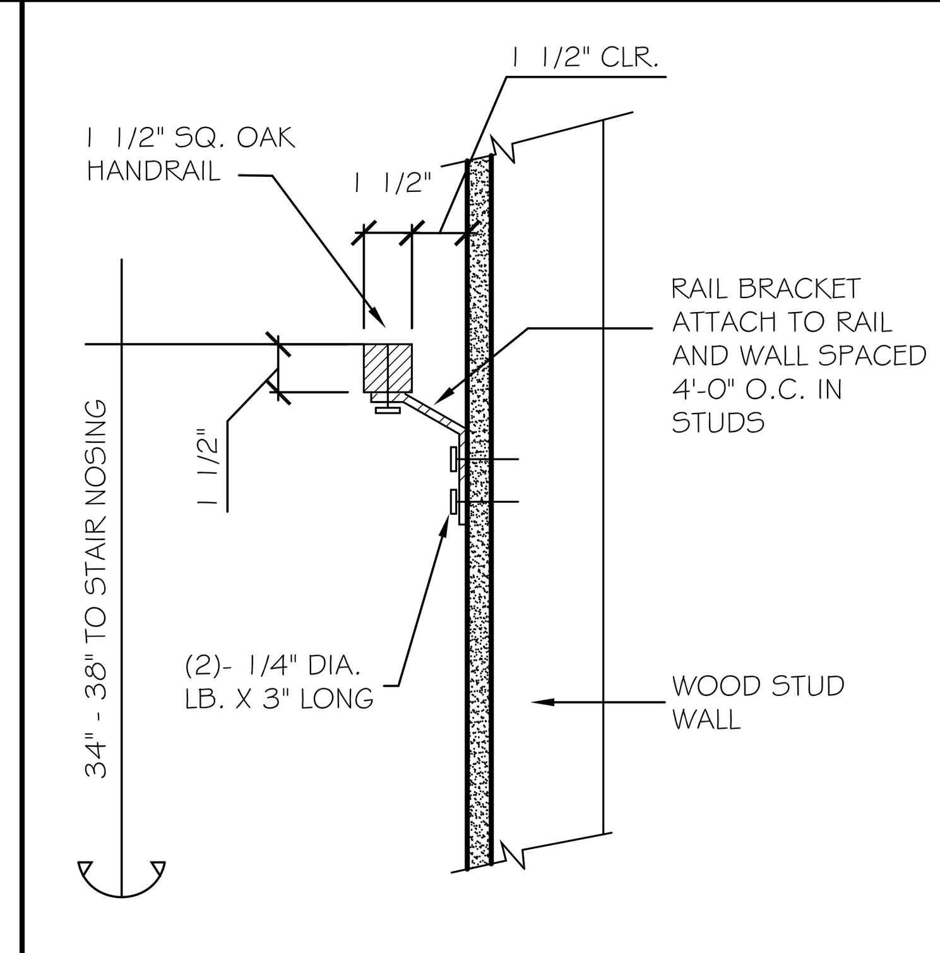
STEEL BEAM WEB FILLER DETAIL 1 1/2"=1'-0" — 4



EXTERIOR RAIL DETAIL — D-RAIL METAL 1"=1'-0" — 15

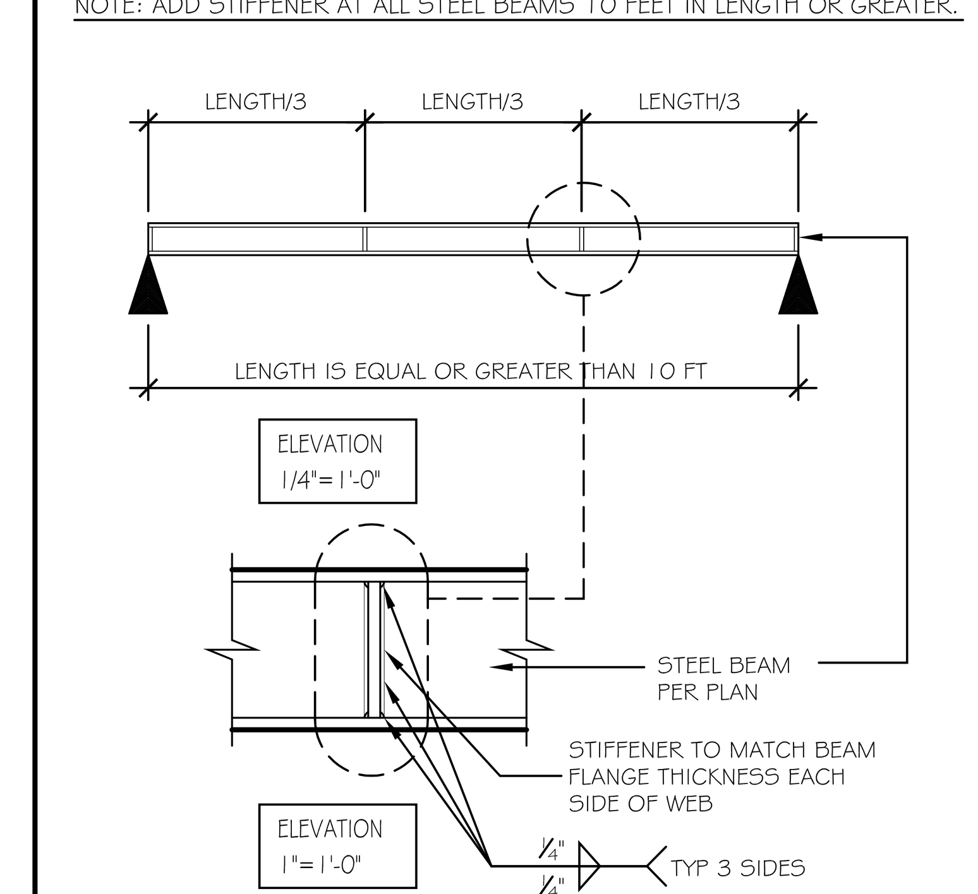


PSL BEAM TO STEEL BEAM DETAIL 1"=1'-0" — 11

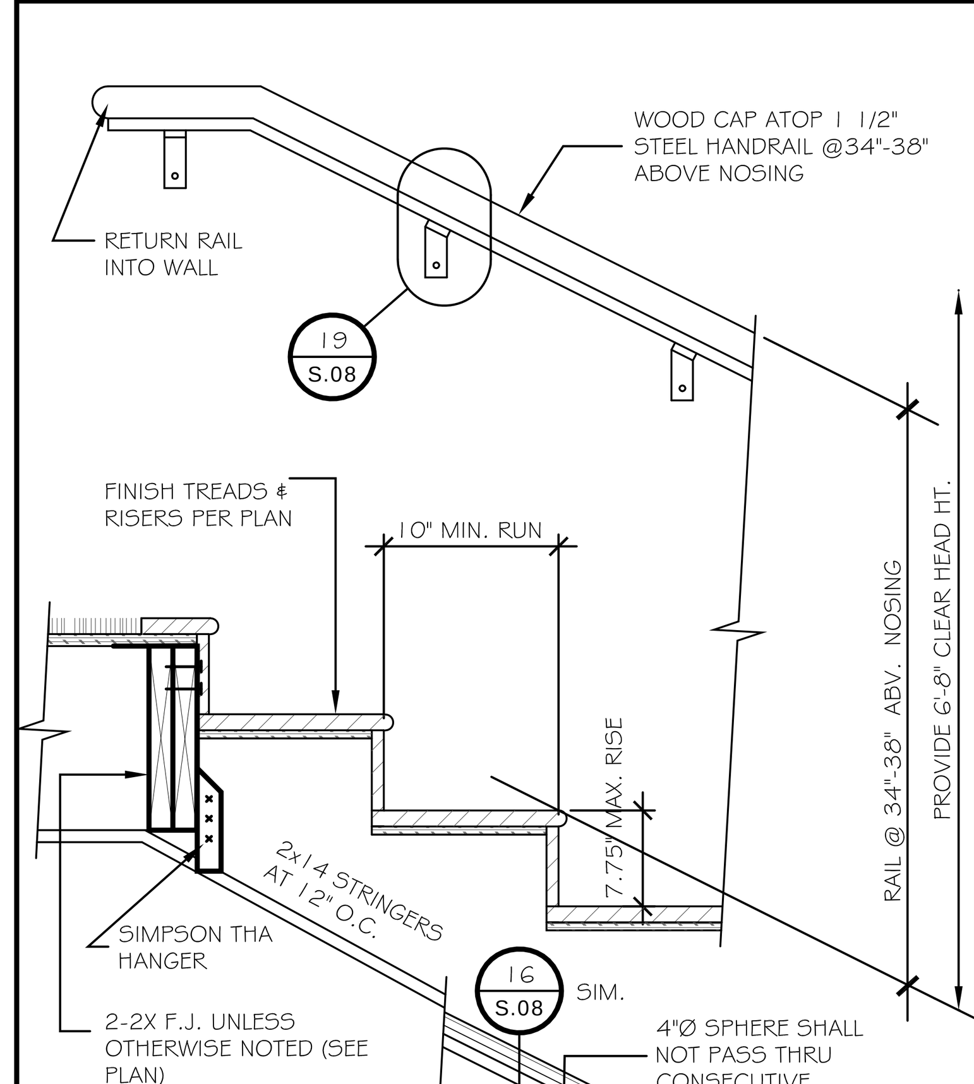


INTERIOR HANDRAIL DETAIL 2"=1'-0" — 7

NOTE: ADD STIFFENER AT ALL STEEL BEAMS 10 FEET IN LENGTH OR GREATER.



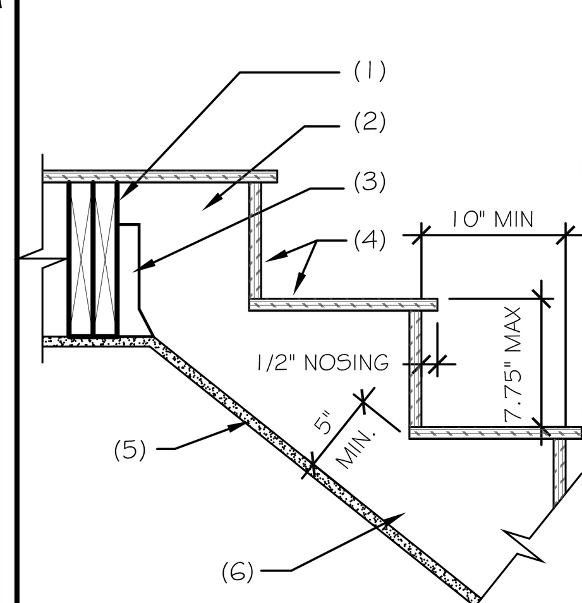
STEEL BEAM STIFFENER DETAIL 1"=1'-0" — 3



A. MAX 7.75" RISER HEIGHT (CRC R311.7.4.1)
B. THE TOLERANCE BETWEEN THE LARGEST AND SMALLEST RISER HEIGHT OR TREAD DEPTH SHALL NOT EXCEED 0.375" IN ANY FLIGHT OF STAIR. (CRC R311.7.4.1)
C. MIN. 36" CLEAR WIDTH. (CRC R311.7.1)
D. MIN. 10" TREAD DEPTH. (CRC R311.7.4.2)
E. MIN. 6'-8" VERTICAL HEADROOM MEASURED VERTICALLY FROM A LINE CONNECTING THE EDGE OF THE NOSING. (CRC R311.7.2)
F. THE RADIUS OF CURVATURE AT THE LEADING EDGE OF THE TREAD OR BEVELING OF NOSING SHALL NOT EXCEED 0.5". (CRC R311.7.4.3)
G. RISERS SHALL BE VERTICAL OR SLOPED A MAX. 30 DEGREES FROM THE VERTICAL. (CRC R311.7.4.3)
H. LEADING EDGE OF TREAD SHALL NOT PROJECT MORE THAN 1.25" BEYOND TREAD BELOW. (CRC R311.7.4.3)
I. OPENING BETWEEN TREADS SHALL NOT PERMIT THE PASSAGE OF A 4" DIAMETER SPHERE. (CRC R311.7.4.3)

INTERIOR STAIR AND HAND RAIL DETAIL 1"=1'-0" — 21

KEYNOTES:
1. 1 1/8" PLYWD TREADS & RISERS EQUAL
2. 2x14 STRINGER @ 12" O.C.
3. 2x PLATE CONTINUOUS
4. PLYWD SUBFLOOR OR EQUAL
5. BEAM PER PLAN
6. 5/8" TYPE 'X' GYPBD, WHERE UNDERSIDE OF STAIR IS ACCESSABLE, TYPICAL



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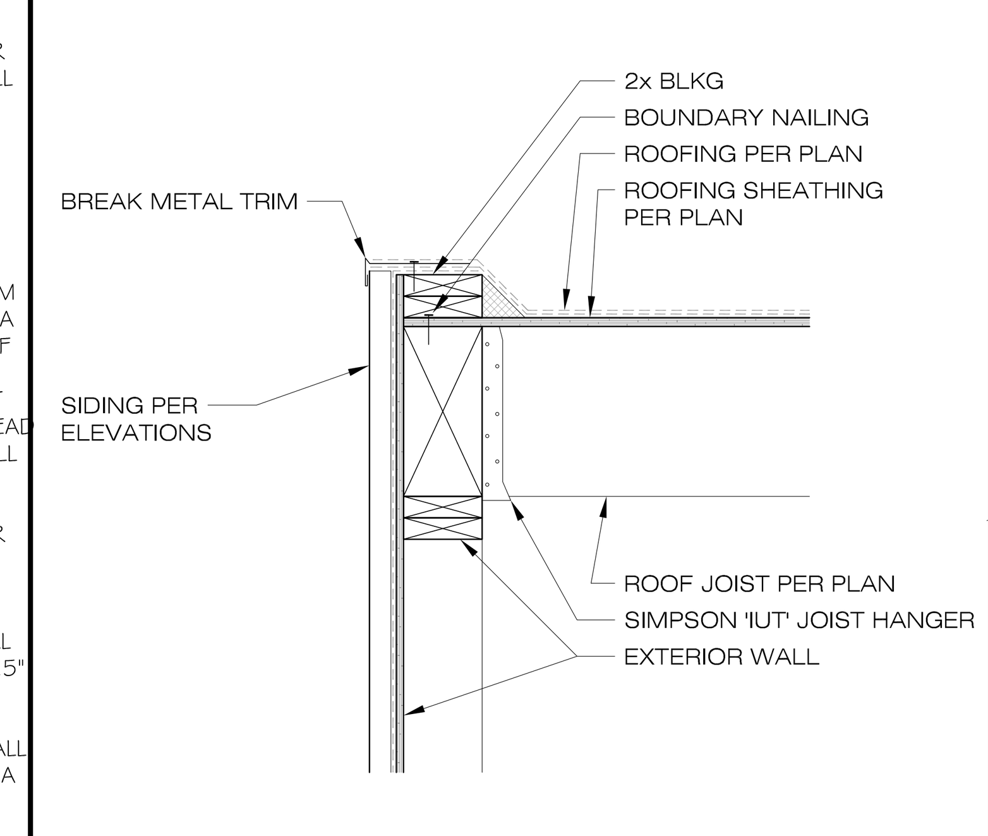
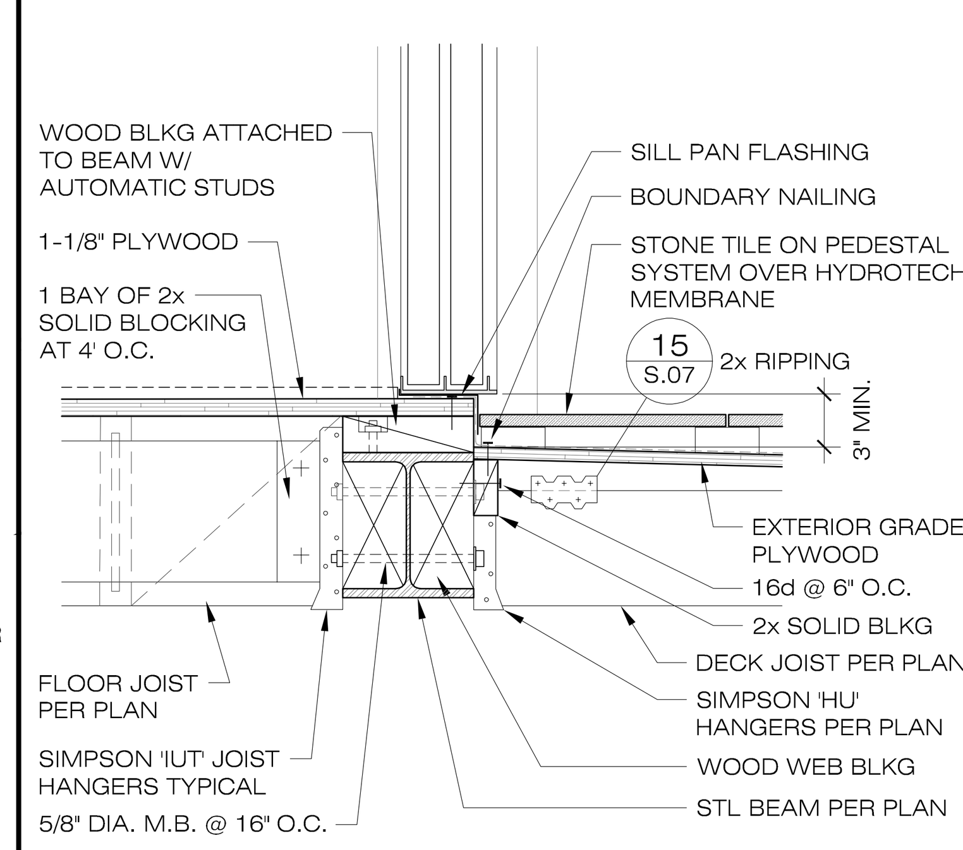
STAIRS AT LANDING DETAIL 1"=1'-0" — 18



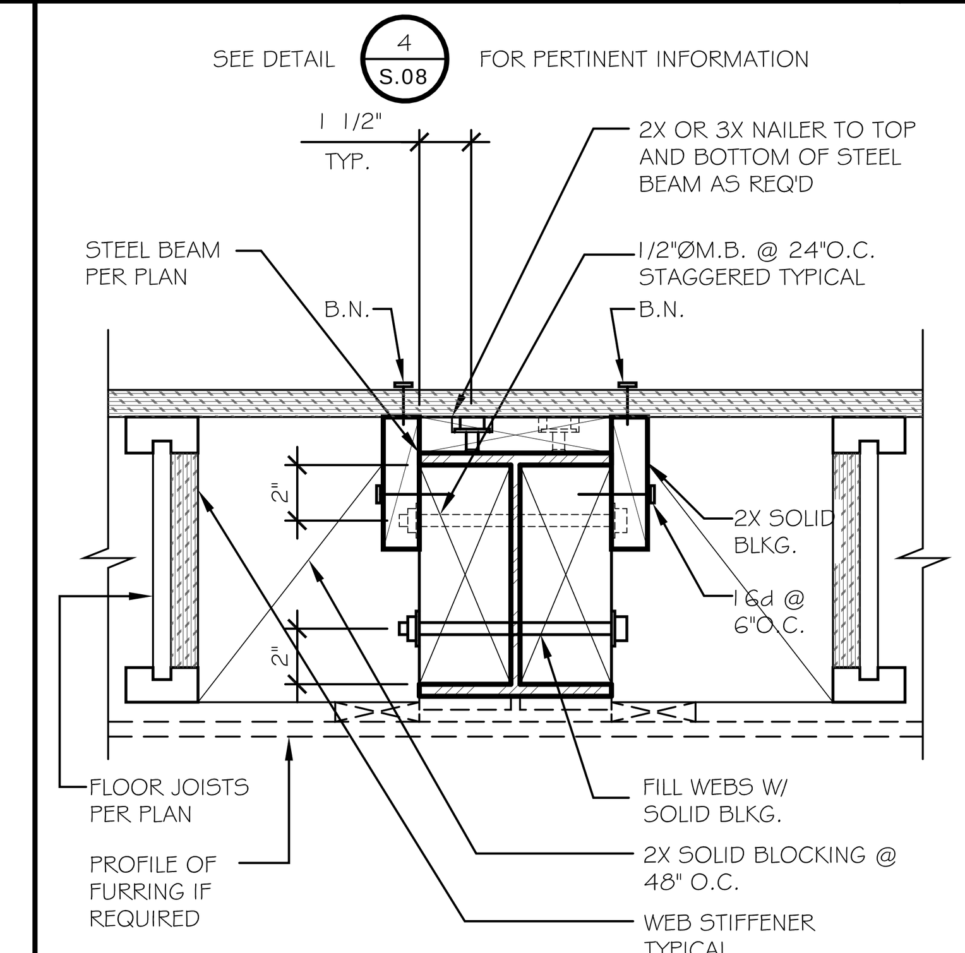
FLAT ROOF EAVE DETAIL 1"=1'-0" — 14



FLUSH BEAM AT DECK DETAIL 1"=1'-0" — 10

S.08

NOT USED — 6



STEEL BEAM IN FLOOR DETAIL 1 1/2"=1'-0" — 2

KEYNOTES:
1. 1 1/8" PLYWD TREADS & RISERS EQUAL
2. 2x14 STRINGER @ 12" O.C.
3. 2x PLATE CONTINUOUS
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5. BEAM PER PLAN
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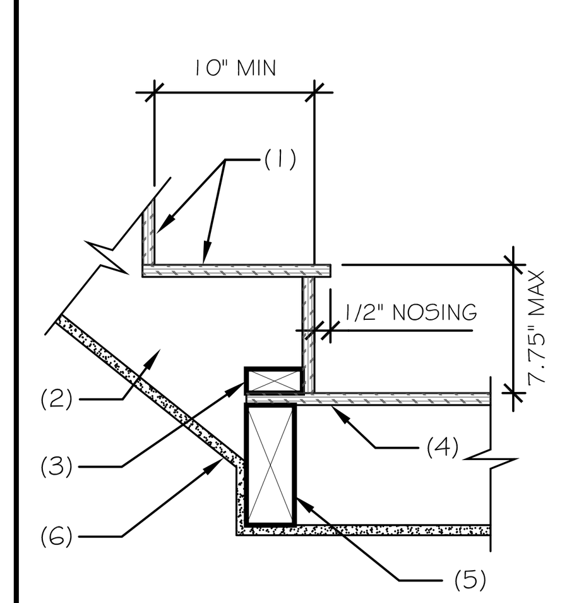

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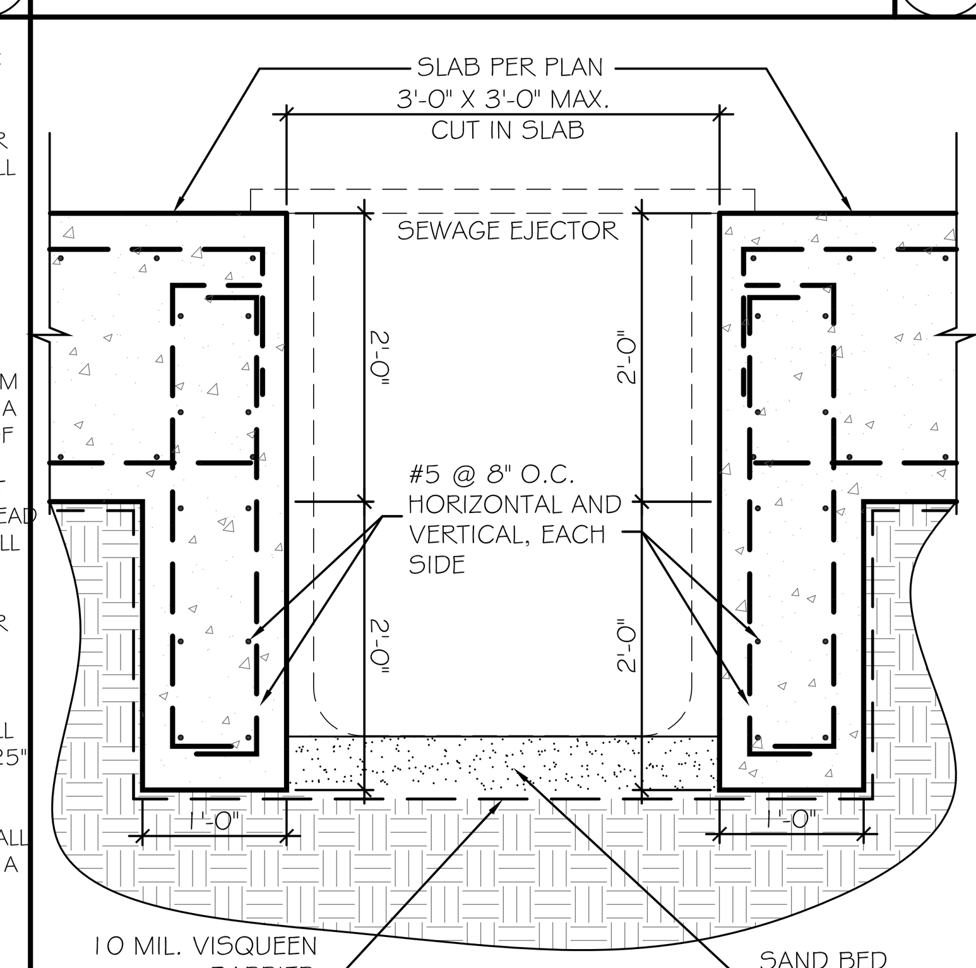
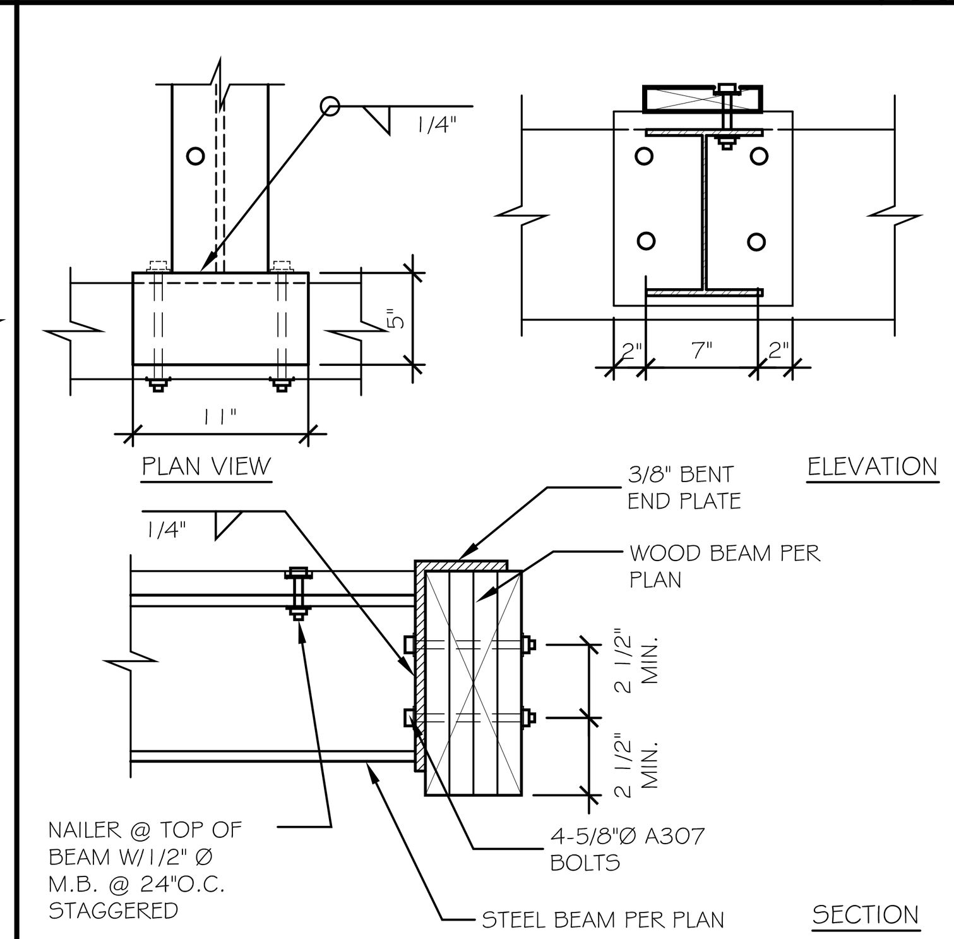
I. OPENING BETWEEN TREADS SHALL NOT PERMIT THE PASSAGE OF A 4" DIAMETER SPHERE. (CRC R311.7.4.3)

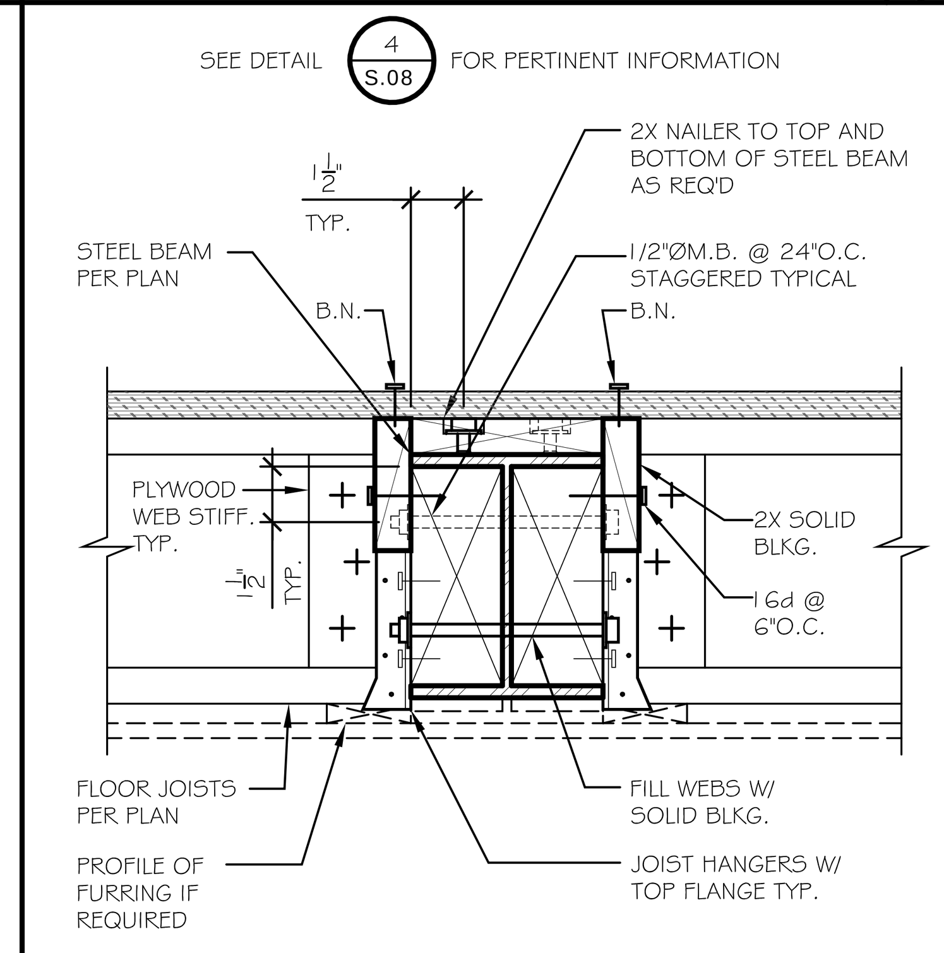
STAIRS AT INTERMEDIATE LANDING 1"=1'-0" — 17



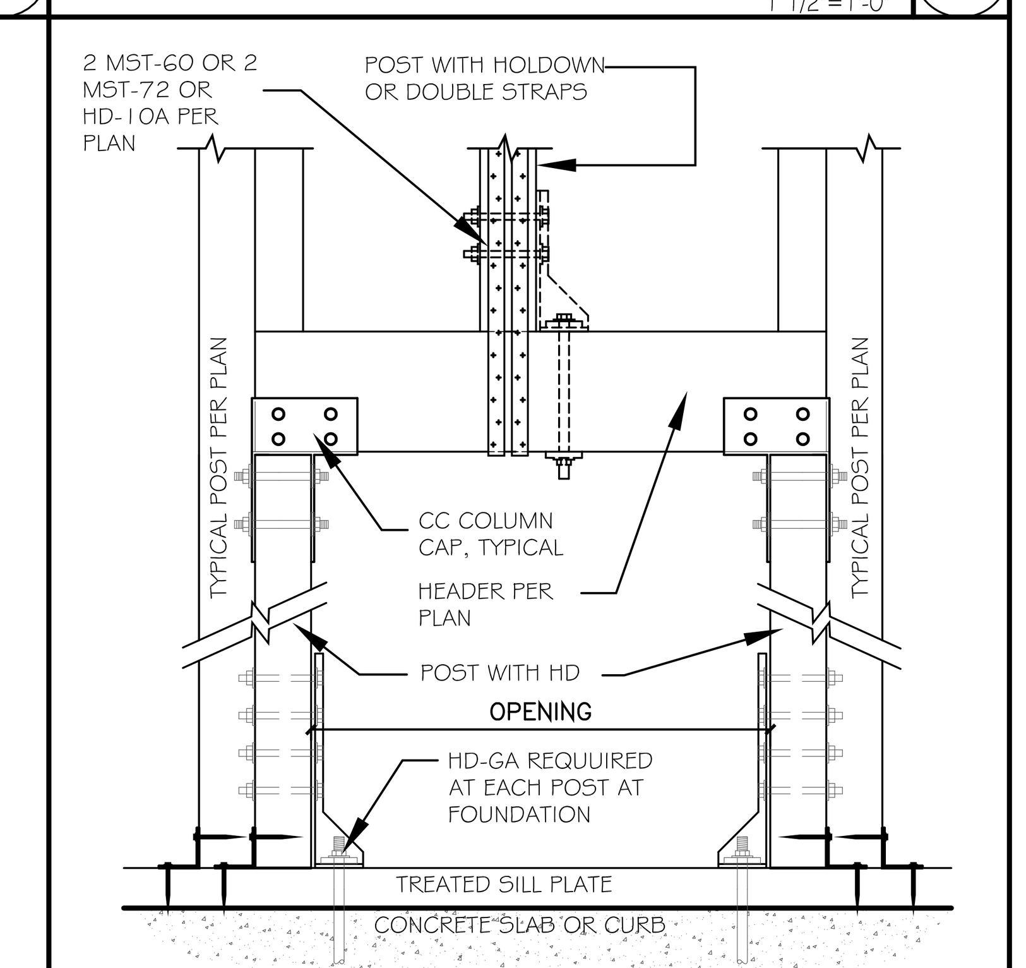
SEWAGE EJECTOR PIT DETAIL — D-SEP 3/4"=1'-0" — 13



STEEL TO WOOD BEAM DETAIL 1"=1'-0" — 9



FLUSH STEEL BEAM IN FLOOR DETAIL 1 1/2"=1'-0" — 5



BEAM OR HEADER SUPPORT AT SHEARWALL 1"=1'-0" — 1

the construction zone
1729 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

ocean drive residence PERMIT SET

2800 ocean drive manhatten beach, ca 90266

STRUCTURAL DETAILS

PERMIT SET 04.18.25

S.08

MECHANICAL NOTES:

1. LOCATIONS OF DUCTS, REGISTERS AND MECHANICAL EQUIPMENT ARE DIAGRAMMATIC. THE CONTRACTOR SHALL COORDINATE REQUIRED SIZES WITH MECHANICAL SUBCONTRACTOR AND SUBMIT PROPOSED LAYOUT TO ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO BEGINNING INSTALLATION
2. ALL DUCTS IN GARAGES AND DUCTS PENETRATING GARAGE WALLS OR CEILING SHALL BE CONSTRUCTED OF A MINIMUM 26 GA SHEET METAL AND HAVE NO OPENINGS INTO GARAGE PER R302.5.2
3. PROVIDE FRESH AIR INTAKE HOOD AT ROOF TO HONEYWELL EARD6 MOTORIZED DAMPER CONTROLLED BY ACONT850 VENTILATION OPERATION TO PROVIDE 75 CFM CONSTANT VENTILATION PER TABLE M1507.3.3(2) OF THE 2015 IRC. LOCAL EXHAUST RATES SHALL MEET TABLE M1507.4
4. PROVIDE COMBUSTION AIR TO EXTERIOR FOR H.W. HEATER AS REQUIRED BY MANUFACTURER AND CPC CHAPTERS 3, 5 AND CMC CHAPTER 7
5. MECHANICAL VENTILATION IN LAUNDRY, BATHROOMS, AND TOILET ROOMS SHALL FURNISH NOT LESS THAN 5 AIR CHANGES PER HOUR DIRECT TO OUTSIDE AIR
6. ALL HEATING SYSTEMS SHALL HAVE AN AUTOMATIC THERMOSTAT WITH A CLOCK MECHANISM WHICH THE BUILDING OCCUPANT CAN MANUALLY PROGRAM TO AUTOMATICALLY SET BACK THE THERMOSTAT SET POINTS AT LEAST 2 PERIODS WITHIN 24 HOURS (CEC250(i))
7. THE AIR HANDLING DUCT SYSTEM WILL BE CONSTRUCTED, INSTALLED AND SEALED AS PROVIDED IN SECTIONS 603 AND 604 OF THE STATE MECHANICAL CODE (CEC150(m))
8. ALL ELECTRICAL, MECHANICAL AND PLUMBING FIXTURES AND EQUIPMENT SHALL BE LISTED AND LABELED BY AN APPROVED TESTING AGENCY. TESTING BY AN APPROVED TESTING LABORATORY WILL BE REQUIRED BEFORE FINAL APPROVAL IS GRANTED, OR SPECIAL INSPECTION BILL BE REQUIRED TO ENSURE COMPLIANCE WITH THE NEC, ANSI AND NEMA STANDARDS. MANUFACTURER'S DATA SHEETS, TEST REPORTS, ETC SHALL BE PROVIDED TO ALLOW FOR EVALUATION.
9. REFRIGERANT LINE SETS CANNOT EXCEED MANUFACTURER'S DISTANCE ALLOWANCES. CONFIRM LOCATION FOR LINE SETS WITH ARCHITECT.
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11. EXHAUST HOOD SHALL COMPLY WITH UMC SECTION 505.7
12. CONTRACTOR SHALL POST THE INSTALLATION CERTIFICATE (CF-6R) FORM AND INSULATION CERTIFICATE (IC-1) FORM IN A CONSPICUOUS LOCATION OR KEPT WITH PLANS AND MADE AVAILABLE TO THE INSPECTOR
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14. A DOMESTIC CLOTHES DRYER DUCT SHALL BE OF METAL AND A MINIMUM OF 4" IN DIAMETER. THE EXHAUST DUCT SHALL NOT EXCEED A TOTAL COMBINED HORIZONTAL AND VERTICAL LENGTH OF 14', INCLUDING (2) 90-DEGREE ELBOS. TWO FEET SHALL BE DEDUCTED FOR EACH 90-DEGREE ELBOW IN EXCESS OF TWO (CMU 504.4.2)
15. ALL NEW CONSTRUCTION AND ADDITIONS EXCEEDING 1,000 SF SHALL MEET THE REQUIREMENTS OF ANSI/ASHRAE 62.2 VENTILATION AND ACCEPTABLE INDOOR AIR QUALITY IN LOW-RISE RESIDENTIAL BUILDINGS

KEYED NOTES (#)

1. 4" DRYER VENT THOUGH WALL. INSTALL METAL DRYER BOX TO ALLOW FOR "NO KINK" CONNECTION. GC/OWNER SHALL PROVIDE ACTUAL DRYER SPECS BEFORE ROUGH-IN.
2. 8" RANGE HOOD EXHAUST PROVIDE FULL SIZE DUCT THROUGH ROOF TO WEATHER CAP WITH BACKDRAFT DAMPER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. FAN MUST MEET IRC EFFICACY STANDARDS PER TABLE N1103.6.1 OF THE 2018 IRC.
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4. AIR HANDLER ON SEALED METAL RETURN AIR PLENUM. AIR HANDLER SHALL MEET MIN. 2% LEAKAGE STANDARD. 3/4" TYPE M COPPER OR PVC PIPING SHALL RUN TO APPROVED DISPOSAL SITE.
5. MOUNT EXHAUST FAN IN SIDE WALL LIGHT COVE
6. WALL MOUNTED EXHAUST FAN
7. SUPPLY DUCT RISER TO ADJACENT LEVEL
8. DIFFUSER INTEGRATED WITH MILLWORK

MECHANICAL SYMBOLS

- WALL MOUNTED SUPPLY AIR DIFFUSER
- CEILING MOUNTED SUPPLY AIR DIFFUSER
- WALL MOUNTED RETURN AIR GRILL
- CEILING MOUNTED RETURN AIR GRILL
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- SUPPLY DUCT
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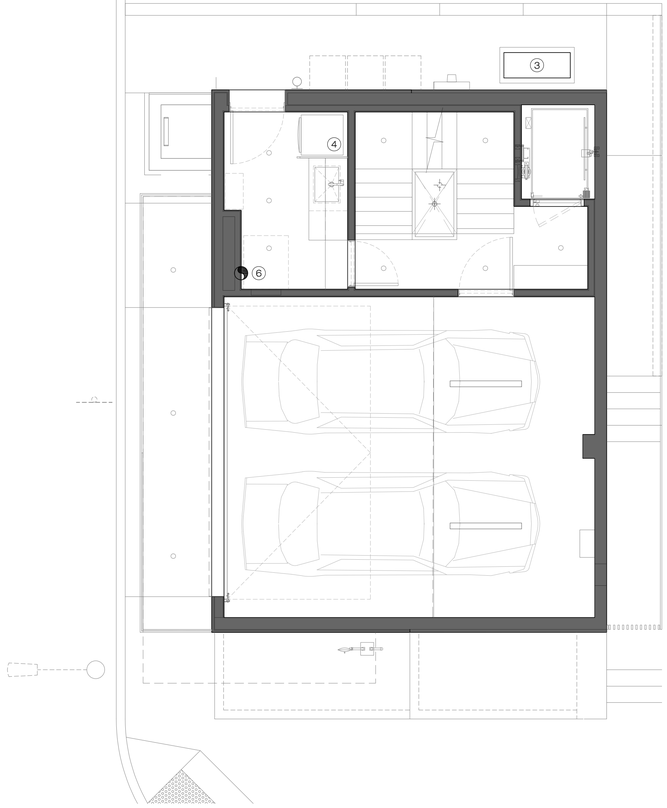
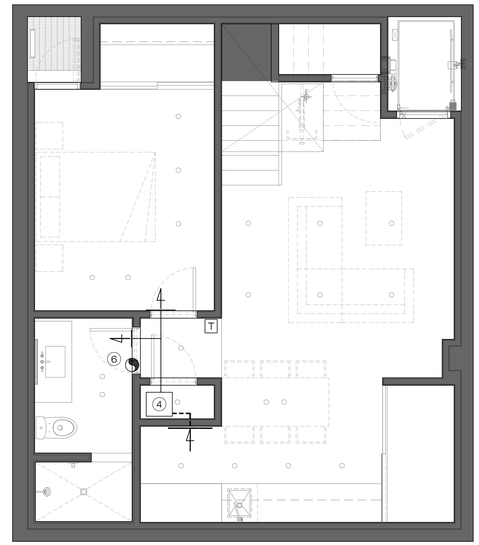


2 | GROUND FLOOR MECHANICAL PLAN
SCALE: 1/4"=1'-0"



1 | BASEMENT MECHANICAL PLAN
SCALE: 1/4"=1'-0"

0' 2' 4' 8'

the construction zone
1720 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

PERMIT SET

ocean drive residence

2800 ocean drive manhatten beach, ca 90266

MECHANICAL PLANS

04.18.25
06.06.25

M100

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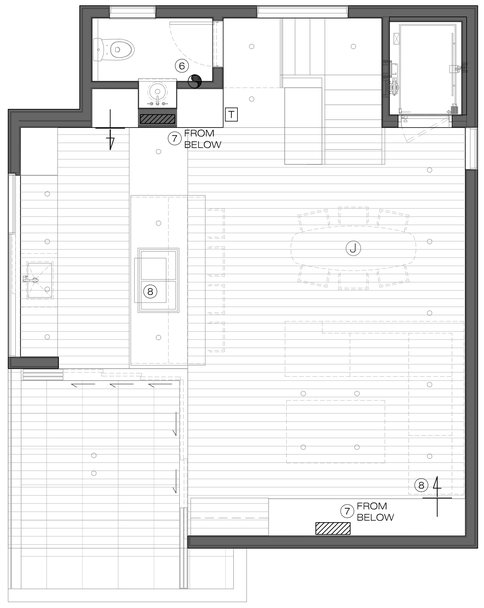
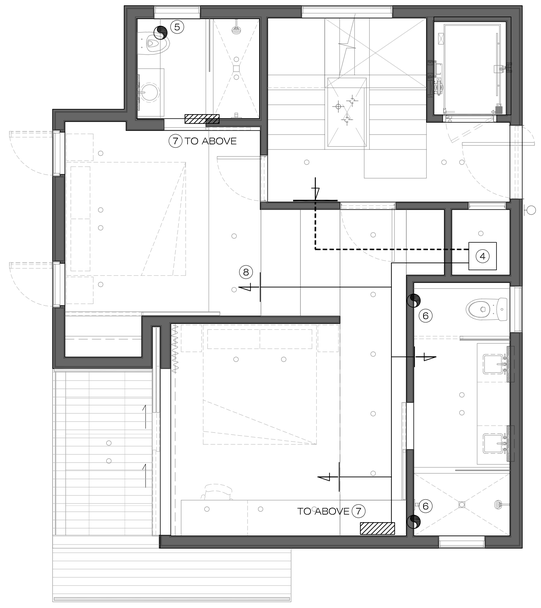


2 | THIRD FLOOR MECHANICAL PLAN
SCALE: 1/4"=1'-0"



1 | SECOND FLOOR MECH PLAN
SCALE: 1/4"=1'-0"
0' 2' 4' 8'

the construction zone
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ocean drive residence

2800 ocean drive manhatten beach, ca 90266

MECHANICAL PLANS

04.18.25
06.06.25

M101

ELECTRICAL SYMBOLS

- DUPLEX CONVENIENCE OUTLET, 15A, 125V MTD @ 12" AFF, U.N.O.
- QUAD CONVENIENCE OUTLET, 15A, 125V MTD @ 12" AFF, U.N.O.
- GFI, DUPLEX CONVENIENCE OUTLET, 15A, 125V, MTD @ 12" AFF, U.N.O. PROVIDE LISTED WEATHER RESISTANT DEVICES FOR ALL DAMP AND WET LOCATIONS (IN ADDITION TO THE WP OR WP-WHILE-IN-USE COVER)
- DUPLEX CONVENIENCE OUTLET, 15A, 125V, MTD @ 42" AFF, U.N.O.
- GFI, DUPLEX CONVENIENCE OUTLET, 15A, 125V, MTD 3" ABOVE COUNTERTOP OR APPROXIMATELY 42" AFF, U.N.O.
- FLUSH MOUNTED FLOOR DUPLEX CONVENIENCE OUTLET, 15A, 125V
- DUPLEX CONVENIENCE OUTLET; SPLIT WIRE, WITH TIE-BAR REMOVED. 15A, 125V MTD @ 18" AFF U.N.O.
- JUNCTION BOX ABOVE CEILING OR FLUSH IN WALL - REFER TO EQUIPMENT SPEC'S
- DISCONNECT SWITCH, WITH RATING PER EQUIPMENT SPECIFICATIONS
- 120-VOLT SMOKE & CARBON MONOXIDE DETECTOR WITH BATTER BACK-UP. MOUNT ON WALL WITHIN 4-12" OF CEILING, U.N.O. INTERCONNECT DETECTORS FOR SIMULTANEOUS OPERATION

ELECTRICAL NOTES

1. ALL DEVICES TO BE DECORA STYLE, COLOR AND FINISH TO BE SELECTED BY ARCHITECT. DEVICE COVER PLATE COLOR AND FINISH TO BE SELECTED BY ARCHITECT
2. ALL 15- AND 20-AMP, 125 VOLT AND 240 VOLT NONLOCKING-TYPE RECEPTACLES TO BE TAMPER RESISTANT PER NEC 406.12
3. ALL 120 VOLT, SINGLE PHASE, 15- AND 20-AMP BRANCH RECEPTACLES AT ALL LIVING AREAS, KITCHEN AND LAUNDRY TO BE AFCI C/B PROTECTED PER NEC 210.12(A)
4. COORDINATE MOUNTING HEIGHT AND POWER REQUIREMENTS FOR OUTLETS/J-BOXES AT ALL APPLIANCES AND EQUIPMENT

KEYED NOTES (#)

1. SWITCHED OUTLET
2. OVEN: PROVIDE J-BOX (HEIGHT TO BE VERIFIED)
3. DISHWASHER/DISPOSAL: PROVIDE HALF SWITCHED DUPLEX RECEPTACLE BELOW SINK.
4. GARBAGE DISPOSAL SWITCH: GANG WITH RECEPTACLE UNDER COMMON COVER.
5. ALL RECEPTACLES WITHIN SIX FEET OF THE SINK TO BE GFCI LABELED AND PROTECTED.
6. CLOTHES WASHER: PROVIDE DUPLEX RECEPTACLE ABOVE WASHER, COORDINATE WITH WASHER UTILITY BOX
7. LOCATION FOR AV AND LIGHTING CONTROL PANELS
8. WALL MOUNTED TV OUTLET / VERIFY HEIGHT IN FIELD
9. ELECTRIC VEHICLE CHARGING PORT. VERIFY REQUIREMENTS
10. OUTLET LOCATED IN MILLWORK TOEKICK
11. OUTLET INSIDE MILLWORK
12. RECEPTACLE FLUSH MOUNTED IN WALL FOR GARAGE DOOR OPERATOR. VERIFY HEIGHT WITH OPERATOR MANUFACTURER
13. JUNCTION BOX MOUNTED IN WALL FOR GARAGE DOOR L.V. CONTROL CABLING
14. JUNCTION BOX @ +12" A.F.F. FOR GARAGE DOOR SENSOR LOW VOLTAGE CABLING
15. WALL MOUNTED RECEPTACLE UNDER COUNTER

APPLIANCES/EQUIP (#)

1. ELECTRIC CLOTHES DRYER
2. MICROWAVE
3. HVAC EQUIPMENT. COORDINATE REQUIREMENTS WITH MECHANICAL SUBCONTRACTOR
4. EXHAUST FAN / 300 CFM MAX
5. KITCHEN EXHAUST. ZEPHYR LUX ISLAND RANGE HOOD MODEL ALU-E43CSX W/ EXTERNAL BLOWER. FAN TO BE INTERLOCKED WITH MOTORIZED DAMPER CONTROLLING FRESH AIR INTAKE SYSTEM PROVIDING MAKEUP AIR
6. 36" INDUCTION COOKTOP
7. 30" COLUMN REFRIGERATOR
8. 30" COLUMN FREEZER
9. UNDER COUNTER REFRIGERATOR
10. EJECTOR PUMP / SUMP PUMP. GENERAL CONTRACTOR TO COORDINATE ELECTRICAL REQUIREMENTS
11. TANKLESS WATER HEATER
12. MIRROR W/ INTEGRAL LIGHTING
13. DISHWASHER
14. ELEVATOR. CONTRACTOR TO COORDINATE ELECTRICAL REQUIREMENTS

GENERAL NOTES

1. NO ALUMINUM CONDUCTORS PERMITTED (NEC 310 AND 331 - 351)
2. RECEPTACLE OUTLETS SHALL BE LOCATED 12" AFF U.N.O.
3. ANY FIXED APPLIANCE SUCH AS DISPOSAL, DISHWASHER, CLOTHES WASHER, DRYER OR ANY OTHER FIXED APPLIANCE WITH 1/4 H.P. MOTOR OR LARGER SHALL BE ON SEPARATE @12 AWG WIRE BRANCH CIRCUIT. EACH DWELLING UNIT SHALL HAVE INSTALLED AN INDIVIDUAL DISPOSAL CIRCUIT WITH MIN. 12 AWG WIRE AND A 15-AMP INDICATING TYPE SWITCH (NEC 210-23 AND 220)
4. A MINIMUM OF (1) 20-AMP CIRCUIT SHALL BE PROVIDED FOR BATHROOM OUTLETS. THIS CIRCUIT MAY SERVE MORE THAN ONE BATHROOM, BUT SHALL HAVE NO OTHER OUTLETS (CEC 210-11(C))
5. ALL BRANCH CIRCUITS THAT SUPPLY 15- AND 20-AMP, SINGLE PHASE, 15 AND 20-AMP RECEPTACLES INSTALLED IN FAMILY, LIVING, BEDROOM, CLOSETS, HALLWAYS OR OTHER LIVING AREAS SHALL BE PROTECTED BY ARC-FAULT CIRCUIT INTERRUPTERS, COMBINATION-TYPE PER CEC 210-12(A)
6. ALL RECEPTACLES IN BATHROOM SHALL BE PROTECTED WITH GFI PER CEC ARTICLE 210.8(A). BATHROOM RECEPTACLES SHALL BE SERVED BY A DEDICATED 20-AMP CIRCUIT PER SECTION 210.11(C)(3)
7. ALL 125-V RECEPTACLES IN GARAGE (INCLUDING CEILING OUTLETS) SHALL HAVE GFCI PROTECTION PER CEC SECTION 210.8(A)(2)
8. ALL RECEPTACLE OUTLETS SHALL BE LISTED TAMPER-RESISTANT RECEPTACLE PER CEC 406.12(A)
9. PROVIDE A MINIMUM OF (2) 20-AMP SMALL APPLIANCE CIRCUITS FOR THE KITCHEN COUNTERTOPS. SUCH CIRCUITS SHALL HAVE NO OTHER OUTLETS AND LOADS SHALL BE BALANCED (CEC 210-11(C))
10. PROVIDE A MINIMUM OF (1) 20-AMP LAUNDRY BRANCH CIRCUIT. SUCH CIRCUIT SHALL HAVE NO OTHER OUTLETS (CEC 210-11(C))
11. PROVIDE A MINIMUM OF (1) 20-AMP BATHROOM BRANCH CIRCUIT. SUCH CIRCUIT SHALL HAVE NO OTHER OUTLETS (CEC 210-11(C))
12. RECEPTACLE OUTLETS IN HABITABLE ROOMS SHALL BE SPACED AT 12' O.C. MAX AND SHALL BE LOCATED WITHIN 6' OF WALL ENDS, DOOR OPENINGS AND AT EVERY 2' OR WIDER WALL (CEC 210.52(A))
13. PROVIDE UNDERGROUND ELECTRICAL AND COMMUNICATION SERVICE LATERALS PER CITY ORDINANCE SECTION 9.12.050
14. PANEL CIRCUIT DIRECTORY SHALL COMPLY WITH CEC SECTION 408.4

ENERGY EFFICIENCY NOTES

1. DWELLING UNIT SHALL HAVE A DEDICATED 240 VOLT BRANCH CIRCUIT SERVING THE COOKTOP
2. DWELLING UNIT SHALL HAVE A DEDICATED 240 VOLT BRANCH CIRCUIT SERVING AN ELECTRIC DRYER
3. ENERGY STORAGE SYSTEM (ESS) PER SECTION 150.0(S): ALL SINGLE FAMILY RESIDENCES THAT INCLUDE ONE OR TWO DWELLING UNITS SHALL MEET THE FOLLOWING:
   - 3.1. AT LEAST ONE OF THE FOLLOWING SHALL BE PROVIDED:
     ESS READY INTERCONNECTION EQUIPMENT WITH A MINIMUM BACKED UP CAPACITY OF 60 AMPS AND A MINIMUM OF FOUR ESS SUPPLIED BRANCH CIRCUITS

     A DEDICATED 1" MINIMUM RACEWAY FROM THE MAIN SERVICE TO A SUBPANEL THAT SUPPLIES THE BRANCH CIRCUITS IN #3.2 BELOW. THE SUBPANEL MUST BE LABELED "SUBPANEL SHALL INCLUDE ALL BACKED UP LOAD CIRCUITS." ALL BRANCH CIRCUITS ARE PERMITTED TO BE SUPPLIED TO THE MAIN SERVICE PANEL PRIOR TO THE INSTALLATION OF AN ESS
   - 3.2. A MINIMUM OF FOUR BRANCH CIRCUITS SHALL BE IDENTIFIED AND HAVE THEIR SOURCE OF SUPPLY CO-LOCATED AT THE SUBPANEL REFERENECED IN 3.1 ABOVE TO BE SUPPLIED BY THE ESS. AT LEAST ONE CIRCUIT MUST SUPPLY THE REFRIGERATOR, ONE LIGHTING CIRCUIT NEAR THE PRIMARY EGRESS, AND AT LEAST ONE CIRCUIT SHALL SUPPLY A SLEEPINNG ROOM RECEPTACLE OUTLET. THERE IS NO REQUIREMENT FOR WHAT IS TO BE SUPPLIED BY THE FOURTH CIRCUIT.
   - 3.3. THE MAIN PANEL BOARD SHALL HAVE A MINIMUM BUSBAR RATING OF 225 AMPS
   - 3.4. SUFFICIENT SPACE SHALL BE RESERVED TO ALLOW FUTURE INSTALLATION OF A SYSTEM ISOLATION EQUIPMENT/TRANSFER SWITCH WITHIN 3 FEET OF THE MAIN PANEL BOARD. RACEWAYS SHALL BE INSTALLED BETWEEN THE PANEL BOARD AND THE SYSTEM ISOLATION EQUIPMENT TRANSFER SWITCH LOCATION TO ALLOW THE CONNECTION OF BACKUP POWER SOURCE.

HERS RATER INFORMATION

1. CERTIFICATE OF INSTALLATION (CF2R-ENV, CF2R-LTG AND CF2R-MECH) SHALL BE COMPLETED BY THE APPLICABLE SUBCONTRACTORS INSTALLING ENERGY FEATURES. WHEN COMPLIANCE REQUIRES HERS FIELD VERIFICATION OR TESTING, ALL CF2R FORMS SHALL BE SUBMITTED ELECTRONICALLY TO AN APPROVED HERS PROVIDER DATE REGISTRY. THE CF2R FORMS SHALL BE POSTED AT THE JOB SITE IN A CONSPICUOUS LOCATION
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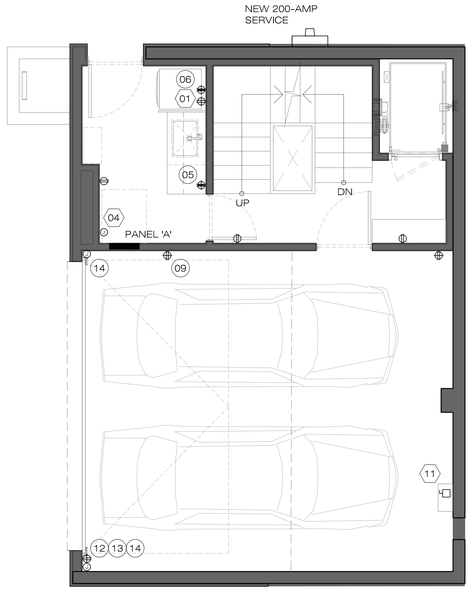
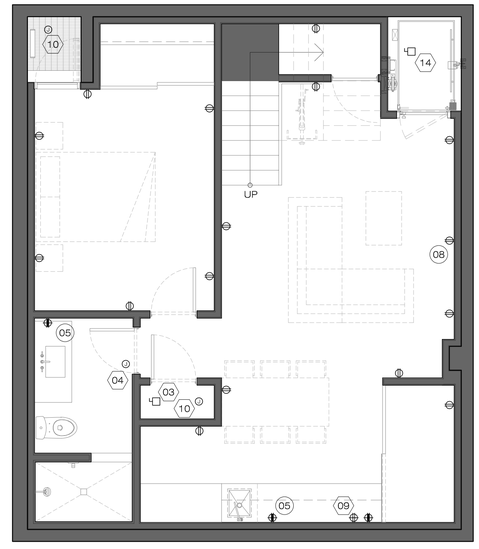


2 | GROUND FLOOR POWER PLAN
SCALE: 1/4"=1'-0"



1 | BASEMENT POWER PLAN
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0' 2' 4' 8'

the construction zone
1720 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

PERMIT SET

ocean drive residence

2800 ocean drive manhatten beach, ca 90266

04.18.25

POWER PLANS

E100

ELECTRICAL SYMBOLS

- DUPLEX CONVENIENCE OUTLET, 15A, 125V MTD @ 12" AFF, U.N.O.
- QUAD CONVENIENCE OUTLET, 15A, 125V MTD @ 12" AFF, U.N.O.
- GFI, DUPLEX CONVENIENCE OUTLET, 15A, 125V, MTD @ 12" AFF, U.N.O. PROVIDE LISTED WEATHER RESISTANT DEVICES FOR ALL DAMP AND WET LOCATIONS (IN ADDITION TO THE WP OR WP-WHILE-IN-USE COVER)
- DUPLEX CONVENIENCE OUTLET, 15A, 125V, MTD @ 42" AFF, U.N.O.
- GFI, DUPLEX CONVENIENCE OUTLET, 15A, 125V, MTD 3" ABOVE COUNTERTOP OR APPROXIMATELY 42" AFF, U.N.O.
- FLUSH MOUNTED FLOOR DUPLEX CONVENIENCE OUTLET, 15A, 125V
- DUPLEX CONVENIENCE OUTLET; SPLIT WIRE, WITH TIE-BAR REMOVED. 15A, 125V MTD @ 18" AFF U.N.O.
- JUNCTION BOX ABOVE CEILING OR FLUSH IN WALL - REFER TO EQUIPMENT SPEC'S
- DISCONNECT SWITCH, WITH RATING PER EQUIPMENT SPECIFICATIONS
- SCO 120-VOLT SMOKE & CARBON MONOXIDE DETECTOR WITH BATTER BACK-UP. MOUNT ON WALL WITHIN 4-12" OF CEILING, U.N.O. INTERCONNECT DETECTORS FOR SIMULTANEOUS OPERATION

ELECTRICAL NOTES

1. ALL DEVICES TO BE DECORA STYLE, COLOR AND FINISH TO BE SELECTED BY ARCHITECT. DEVICE COVER PLATE COLOR AND FINISH TO BE SELECTED BY ARCHITECT
2. ALL 15- AND 20-AMP, 125 VOLT AND 240 VOLT NONLOCKING-TYPE RECEPTACLES TO BE TAMPER RESISTANT PER NEC 406.12
3. ALL 120 VOLT, SINGLE PHASE, 15- AND 20-AMP BRANCH RECEPTACLES AT ALL LIVING AREAS, KITCHEN AND LAUNDRY TO BE AFCI C/B PROTECTED PER NEC 210.12(A)
4. COORDINATE MOUNTING HEIGHT AND POWER REQUIREMENTS FOR OUTLETS/J-BOXES AT ALL APPLIANCES AND EQUIPMENT

KEYED NOTES (#)

1. SWITCHED OUTLET
2. OVEN: PROVIDE J-BOX (HEIGHT TO BE VERIFIED)
3. DISHWASHER/DISPOSAL: PROVIDE HALF SWITCHED DUPLEX RECEPTACLE BELOW SINK.
4. GARBAGE DISPOSAL SWITCH: GANG WITH RECEPTACLE UNDER COMMON COVER.
5. ALL RECEPTACLES WITHIN SIX FEET OF THE SINK TO BE GFCI LABELED AND PROTECTED.
6. CLOTHES WASHER: PROVIDE DUPLEX RECEPTACLE ABOVE WASHER, COORDINATE WITH WASHER UTILITY BOX
7. LOCATION FOR AV AND LIGHTING CONTROL PANELS
8. WALL MOUNTED TV OUTLET / VERIFY HEIGHT IN FIELD
9. ELECTRIC VEHICLE CHARGING PORT. VERIFY REQUIREMENTS
10. OUTLET LOCATED IN MILLWORK TOEKICK
11. OUTLET INSIDE MILLWORK
12. RECEPTACLE FLUSH MOUNTED IN WALL FOR GARAGE DOOR OPERATOR. VERIFY HEIGHT WITH OPERATOR MANUFACTURER
13. JUNCTION BOX MOUNTED IN WALL FOR GARAGE DOOR L.V. CONTROL CABLING
14. JUNCTION BOX @ +12" A.F.F. FOR GARAGE DOOR SENSOR LOW VOLTAGE CABLING
15. WALL MOUNTED RECEPTACLE UNDER COUNTER

APPLIANCES/EQUIP (#)

1. ELECTRIC CLOTHES DRYER
2. MICROWAVE
3. HVAC EQUIPMENT. COORDINATE REQUIREMENTS WITH MECHANICAL SUBCONTRACTOR
4. EXHAUST FAN / 300 CFM MAX
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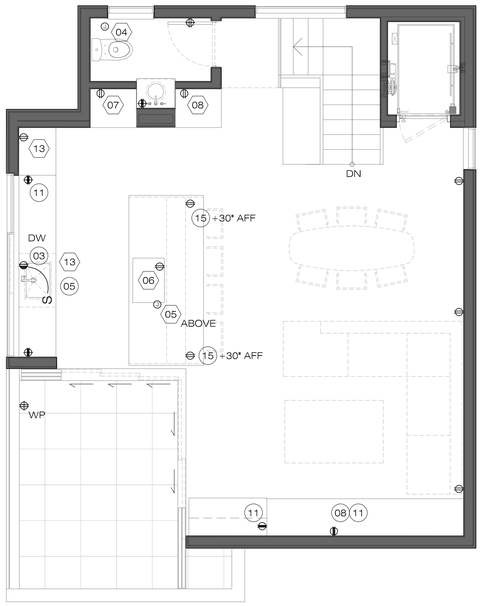
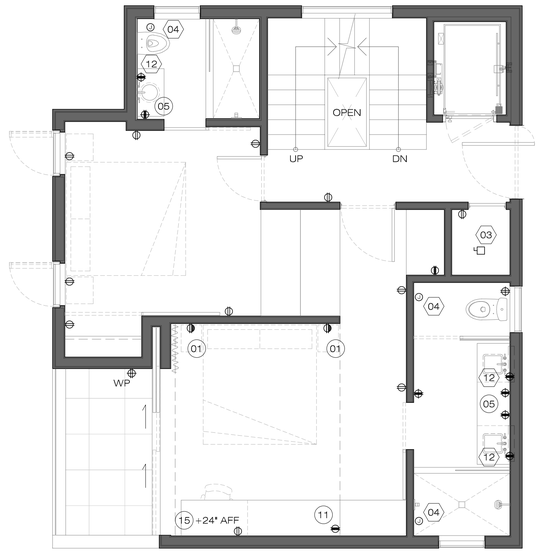


2 | THIRD FLOOR POWER PLAN
SCALE: 1/4"=1'-0"



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0' 2' 4' 8'

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ocean drive residence
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04.18.25
06.06.25

E101

ELECTRICAL NOTES

1. ALL FIXTURES TO BE LED AND TO BE 2700 KELVIN TEMPERATURE, UNLESS NOTED OTHERWISE
2. PROVIDE POWER AT ALL SHADE / CURTAIN LOCATIONS FOR ROLLER SHADE SYSTEM
3. ALL INTERIOR FIXTURES NOT IN STORAGE OR UTILITY AREAS SHALL BE DIMMABLE
4. SEE POWER PLAN FOR SWITCHED OUTLETS
5. LOCATION OF ALL LIGHTING AND SWITCHES TO BE VERIFIED IN WALKTHROUGH WITH ARCHITECT AND OWNER PRIOR TO RUNNING WIRES.
6. OUTDOOR LIGHTING ATTACHED TO THE BUILDING SHALL BE HIGH EFFICACY AND CONTROLLED BY A MANUAL ON/OFF SWITCH AND BY A MOTION SENSOR WITH INTEGRAL PHOTO CONTROL PER SECTION 150.0(K)3
7. ALL NE W CONSTRUCTION SHALL BE PROVIDED WITH CARBON MONOXIDE AND SMOKE DETECTORS INSTALLED IN THE FOLLOWING LOCATIONS: IN EACH SLEEPING ROOM; OUTSIDE EACH SLEEPING AREA IN THE VICINITY OF THE BEDROOMS; ON EACH HABITABLE STORY OF THE DWELLING, INCLUDING BASEMENTS. DEVICES SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL THE ALARMS WITHIN THE DWELLING UNIT.

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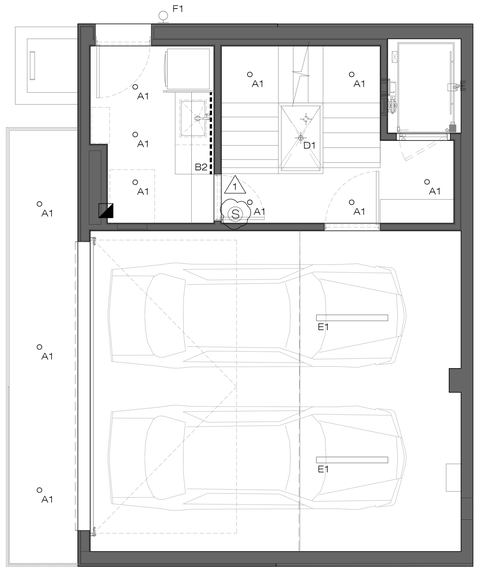
LIGHT FIXTURE LEGEND

GRAPHIC	TAG	MOUNTING	DESCRIPTION	WET-RATED	REMARKS
	A1	RECESSED	2" DOWNLIGHT / GIMBLE	YES	NORA IOLITE 2 OR APPROVED EQ.
	B1	SURFACE	LED TAPE LIGHT	NO	MOUNT TO UNDERSIDE OF SHELF / UPPER CAB
	B2	SURFACE	LED TAPE LIGHT IN ALUMINUM CHANNEL W/ FROSTED LENS	YES	MOUNT IN LIGHT COVE
	B3	SURFACE	LED TAPE LIGHT	YES	MOUNT TO TOP OF STL TRIM (CLNG WASH)
	B4	SURFACE	LED TAPE LIGHT IN ALUMINUM CHANNEL W/ FROSTED LENS	NO	MOUNT FLUSH WITH CEILING
	C1	RECESSED	INTEGRAL MIRROR LIGHT	YES	ROBERN OR APPROVED EQ
	D1	PENDANT	DECORATIVE FIXTURE TBD	NO	
	E1	SURFACE	FLUSH PANEL LED	DAMP	
	F1	SURFACE	WALL SCONCE	YES	DECORATIVE FIXTURE TBD / FULL CUTOFF
J	G1	SURFACE	DECORATIVE FIXTURE TBD	NO	
		RECESSED	EXHAUST FAN	N/A	80 CFM
S		SURFACE	CO / SMOKE DETECTOR	N/A	SEE NOTES



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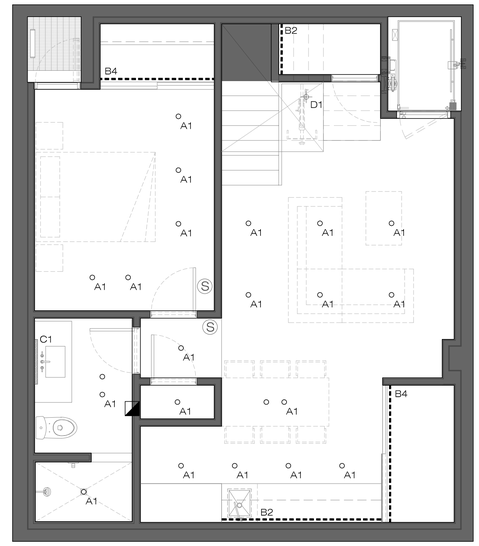
SCALE: 1/4"=1'-0"



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LIGHTING PLANS

04.18.25
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E110

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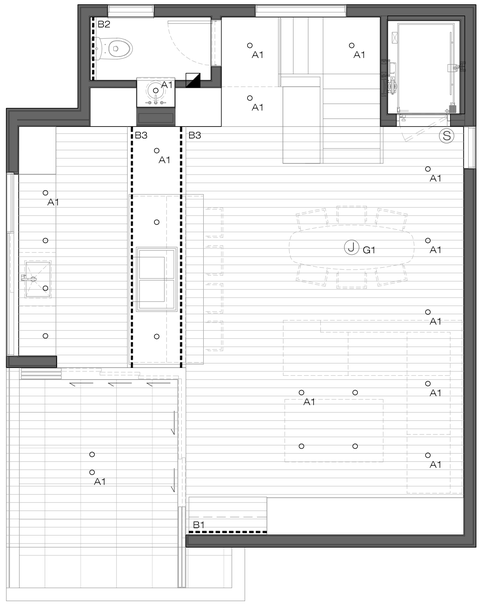
S		SURFACE	CO / SMOKE DETECTOR	N/A	SEE NOTES



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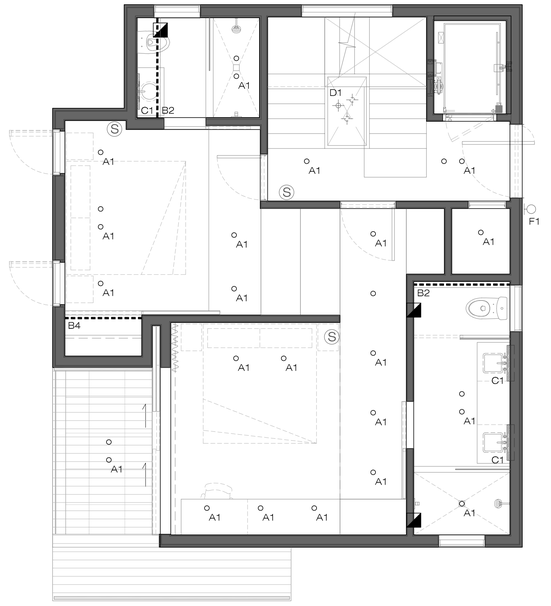

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LIGHTING PLANS

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E111

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
RESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2023)

MARK YES ON BOXES THAT APPLIES

REFERENCE WHERE, ON THE PLAN SET, COMPLIANCE PROVIDED

Y = YES
N/A = NOT APPLICABLE
RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

CHAPTER 3
GREEN BUILDING
SECTION 301 GENERAL

301.1 SCOPE. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.

301.1.1 Additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration.

The mandatory provision of Section 4.106.4.2 may apply to additions or alterations of existing parking facilities or the addition of new parking facilities serving existing multifamily buildings. See Section 4.106.4.3 for application.

Note: Repairs including, but not limited to, resurfacing, restriping and repairing or maintaining existing lighting fixtures are not considered alterations for the purpose of this section.

Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of individual sections of CALGreen may apply to either low-rise residential buildings high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used.

SECTION 302 MIXED OCCUPANCY BUILDINGS

302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.

Exceptions:

1. [HCD] Accessory structures and accessory occupancies serving residential buildings shall comply with Chapter 4 and Appendix A4, as applicable.
2. [HCD] For purposes of *CALGreen*, live/work units, complying with Section 419 of the *California Building Code*, shall not be considered mixed occupancies. Live/Work units shall comply with Chapter 4 and Appendix A4, as applicable.

DIVISION 4.1 PLANNING AND DESIGN

ABBREVIATION DEFINITIONS:

HCD	Department of Housing and Community Development
BSC	California Building Standards Commission
DSA-SS	Division of the State Architect, Structural Safety
OSHPD	Office of Statewide Health Planning and Development
LR	Low Rise
HR	High Rise
AA	Additions and Alterations
N	New

CHAPTER 4
RESIDENTIAL MANDATORY MEASURES

SECTION 4.102 DEFINITIONS

4.102.1 DEFINITIONS
The following terms are defined in Chapter 2 *(and are included here for reference)*

FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar pervious material used to collect or channel drainage or runoff water.

WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also used for perimeter and inlet controls.

4.106 SITE DEVELOPMENT

4.106.1 GENERAL. Preservation and use of available natural resources shall be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section.

4.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION. Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site.

1. Retention basins of sufficient size shall be utilized to retain storm water on the site.
2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency.
3. Compliance with a lawfully enacted storm water management ordinance.

Note: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or are part of a larger common plan of development which in total disturbs one acre or more of soil.

(Website: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html)

4.106.3 GRADING AND PAVING. Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:

1. Swales
2. Water collection and disposal systems
3. French drains
4. Water retention gardens
5. Other water measures which keep surface water away from buildings and aid in groundwater recharge.

Exception: Additions and alterations not altering the drainage path.

4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Sections 4.106.4.1 or 4.106.4.2 to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the *California Electrical Code,* Article 625.

Exceptions:

1. On a case-by-case basis, where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions:
   1.1 Where there is no local utility power supply or the local utility is unable to supply adequate power.
   1.2 Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 4.106.4, may adversely impact the construction cost of the project.
2. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional parking facilities.

4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere 208/240-volt minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.

Exemption: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the proposed location of an EV charger at the time of original construction in accordance with the *California Electrical Code*.

4.106.4.1.1 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".

4.106.4.2 New multifamily dwellings, hotels and motels and new residential parking facilities.
When parking is provided, parking spaces for new multifamily dwellings, hotels and motels shall meet the requirements of Sections 4.106.4.2.1 and 4.106.4.2.2. Calculations for spaces shall be rounded up to the nearest whole number. A parking space served by electric vehicle supply equipment or designed as a future EV charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by a local jurisdiction. See Vehicle Code Section 22511.2 for further details.

4.106.4.2.1Multifamily development projects with less than 20 dwelling units; and hotels and motels with less than 20 sleeping units or guest rooms.
The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to this section.

1.EV Capable. Ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE. Electrical load calculations shall demonstrate that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at a minimum of 40 amperes.

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.

Exceptions:

1.When EV chargers (Level 2 EVSE) are installed in a number equal to or greater than the required number of EV capable spaces.

2.When EV chargers (Level 2 EVSE) are installed in a number less than the required number of EV capable spaces, the number of EV capable spaces required may be reduced by a number equal to the number of EV chargers installed.

Notes:

a.Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.

b.There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or EV chargers are installed for use.

2.EV Ready. Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required per dwelling unit when more than one parking space is provided for use by a single dwelling unit.

Exception: Areas of parking facilities served by parking lifts.

4.106.4.2.2 Multifamily development projects with 20 or more dwelling units, hotels and motels with 20 or more sleeping units or guest rooms.
The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to this section.

1.EV Capable. Ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE. Electrical load calculations shall demonstrate that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at a minimum of 40 amperes.

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.

Exception: When EV chargers (Level 2 EVSE) are installed in a number greater than five (5) percent of parking spaces required by Section 4.106.4.2.2, Item 3, the number of EV capable spaces required may be reduced by a number equal to the number of EV chargers installed over the five (5) percent required.

Notes:

a.Construction documents shall show locations of future EV spaces.

b.There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or EV chargers are installed for use.

2.EV Ready. Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required per dwelling unit when more than one parking space is provided for use by a single dwelling unit.

Exception: Areas of parking facilities served by parking lifts.

3.EV Chargers. Five (5) percent of the total number of parking spaces shall be equipped with Level 2 EVSE. Where common use parking is provided, at least one EV charger shall be located in the common use parking area and shall be available for use by all residents or guests.

When low power Level 2 EV charging receptacles or Level 2 EVSE are installed beyond the minimum required, an automatic load management system (ALMS) may be used to reduce the maximum required electrical capacity to each space served by the ALMS. The electrical system and any on-site distribution transformers shall have sufficient capacity to deliver at least 3.3 kW simultaneously to each EV charging station (EVCS) served by the ALMS. The branch circuit shall have a minimum capacity of 40 amperes, and installed EVSE shall have a capacity of not less than 30 amperes. ALMS shall not be used to reduce the minimum required electrical capacity to the required EV capable spaces.

4.106.4.2.2.1 Electric vehicle charging stations (EVCS).
Electric vehicle charging stations required by Section 4.106.4.2.2, Item 3, shall comply with Section 4.106.4.2.2.1.

Exception: Electric vehicle charging stations serving public accommodations, public housing, motels and hotels shall not be required to comply with this section. See California Building Code, Chapter 11B, for applicable requirements.

4.106.4.2.2.1.1 Location.
EVCS shall comply with at least one of the following options:

1.The charging space shall be located adjacent to an accessible parking space meeting the requirements of the California Building Code, Chapter 11A, to allow use of the EV charger from the accessible parking space.

2.The charging space shall be located on an accessible route, as defined in the California Building Code, Chapter 2, to the building.

Exception: Electric vehicle charging stations designed and constructed in compliance with the California Building Code, Chapter 11B, are not required to comply with Section 4.106.4.2.2.1.1 and Section 4.106.4.2.2.1.2, Item 3.

4.106.4.2.2.1.2 Electric vehicle charging stations (EVCS) dimensions.
The charging spaces shall be designed to comply with the following:

1.The minimum length of each EV space shall be 18 feet (5486 mm).

2.The minimum width of each EV space shall be 9 feet (2743 mm).

3.One in every 25 charging spaces, but not less than one, shall also have an 8-foot (2438 mm) wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658 mm).

a.Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.

4.106.4.2.2.1.3 Accessible EV spaces.
In addition to the requirements in Sections 4.106.4.2.2.1.1 and 4.106.4.2.2.1.2, all EVSE, when installed, shall comply with the accessibility provisions for EV chargers in the California Building Code, Chapter 11B. EV ready spaces and EVCS in multifamily developments shall comply with California Building Code, Chapter 11A, Section 1109A.

4.106.4.2.3 EV space requirements.
1.Single EV space required. Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the location or the proposed location of the EV space. Construction documents shall identify the raceway termination point, receptacle or charger location, as applicable. The service panel and/ or subpanel shall have a 40-ampere minimum dedicated branch circuit, including branch circuit overcurrent protective device installed, or space(s) reserved to permit installation of a branch circuit overcurrent protective device.

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the location or the proposed location of the EV space, at the time of original construction in accordance with the California Electrical Code.

2.Multiple EV spaces required. Construction documents shall indicate the raceway termination point and the location of installed or future EV spaces, receptacles or EV chargers. Construction documents shall also provide information on amperage of installed or future receptacles or EVSE, raceway method(s), wiring schematics and electrical load calculations. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the location or the proposed location of the EV space at the time of original construction in accordance with the California Electrical Code.

4.106.4.2.4 Identification.
The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.

4.106.4.2.5 Electric Vehicle Ready Space Signage.
Electric vehicle ready spaces shall be identified by signage or pavement markings, in compliance with Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s).

4.106.4.3 Electric vehicle charging for additions and alterations of parking facilities serving existing multifamily buildings.
When new parking facilities are added, or electrical systems or lighting of existing parking facilities are added or altered and the work requires a building permit, ten (10) percent of the total number of parking spaces added or altered shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE.

Notes:

1.Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.

2.There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

DIVISION 4.2 ENERGY EFFICIENCY

4.201 GENERAL

4.201.1 SCOPE. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.

DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION

4.303 INDOOR WATER USE

4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.4.4.

Note: All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy, or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

4.303.1.1 Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets.

Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

4.303.1.2 Urinals. The effective flush volume of wall mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of all other urinals shall not exceed 0.5 gallons per flush.

4.303.1.3 Showerheads.

4.303.1.3.1 Single Showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

4.303.1.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to only allow one shower outlet to be in operation at a time.

Note: A hand-held shower shall be considered a showerhead.

4.303.1.4 Faucets.

4.303.1.4.1 Residential Lavatory Faucets. The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi.

4.303.1.4.2 Lavatory Faucets in Common and Public Use Areas. The maximum flow rate of lavatory faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings shall not exceed 0.5 gallons per minute at 60 psi.

4.303.1.4.3 Metering Faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.2 gallons per cycle.

4.303.1.4.4 Kitchen Faucets. The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.

Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

4.303.1.4.5 Pre-rinse spray valves.
When installed, shall meet the requirements in the *California Code of Regulations*, Title 20 (Appliance Efficiency Regulations), Sections 1605.1 (h)(4) Table H-2, Section 1605.3 (h)(4)(A), and Section 1607 (d)(7) and shall be equipped with an integral automatic shutoff.

FOR REFERENCE ONLY: The following table and code section have been reprinted from the *California Code of Regulations*, Title 20 (Appliance Efficiency Regulations),Section 1605.1 (h)(4) and Section 1605.3 (h)(4)(A).

TABLE H-2

STANDARDS FOR COMMERCIAL PRE-RINSE SPRAY VALUES MANUFACTURED ON OR AFTER JANUARY 28, 2019

PRODUCT CLASS [spray force in ounce force (ozf)]	MAXIMUM FLOW RATE (gpm)
Product Class 1 (≤ 5.0 ozf)	1.00
Product Class 2 (> 5.0 ozf and ≤ 8.0 ozf)	1.20
Product Class 3 (> 8.0 ozf)	1.28

Title 20 Section 1605.3 (h)(4)(A): Commercial prerinse spray values manufactured on or after January 1, 2006, shall have a minimum spray force of not less than 4.0 ounces-force (ozf)[113 grams-force(gf)]

4.303.2 Submeters for multifamily buildings and dwelling units in mixed-used residential/commercial buildings.
Submeters shall be installed to measure water usage of individual rental dwelling units in accordance with the *California Plumbing Code*.

4.303.3 Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall be installed in accordance with the *California Plumbing Code*, and shall meet the applicable standards referenced in Table 1701.1 of the *California Plumbing Code*.

NOTE:
THIS TABLE COMPILES THE DATA IN SECTION 4.303.1, AND IS INCLUDED AS A CONVENIENCE FOR THE USER.

TABLE - MAXIMUM FIXTURE WATER USE

FIXTURE TYPE	FLOW RATE
SHOWER HEADS (RESIDENTIAL)	1.8 GMP @ 80 PSI
LAVATORY FAUCETS (RESIDENTIAL)	MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 PSI
LAVATORY FAUCETS IN COMMON & PUBLIC USE AREAS	0.5 GPM @ 60 PSI
KITCHEN FAUCETS	1.8 GPM @ 60 PSI
METERING FAUCETS	0.2 GAL/CYCLE
WATER CLOSET	1.28 GAL/FLUSH
URINALS	0.125 GAL/FLUSH

4.304 OUTDOOR WATER USE

4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.

NOTES:

1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the *California Code Regulations,* Title 23, Chapter 2.7, Division 2, MWELO and supporting documents, including water budget calculator, are available at: https://www.water.ca.gov/

DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE

4.406.1 RODENT PROOFING. Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.

4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

4.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65 percent of the non-hazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance.

Exceptions:

1. Excavated soil and land-clearing debris.
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.
3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.

4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN. Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.

1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single stream).
3. Identify diversion facilities where the construction and demolition waste material collected will be taken.
4. Identify construction methods employed to reduce the amount of construction and demolition waste generated.
5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

4.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1.

Note: The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.

4.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR]. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 lbs./sq.ft. of the building area shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1

4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1

4.408.5 DOCUMENTATION. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, items 1 through 5, Section 4.408.3 or Section 4.408.4..

Notes:

1. Sample forms found in "A Guide to the California Green Building Standards Code (Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in documenting compliance with this section.
2. Mixed construction and demolition debris (C & D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

4.410 BUILDING MAINTENANCE AND OPERATION

4.410.1 OPERATION AND MAINTENANCE MANUAL. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:

1. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
2. Operation and maintenance instructions for the following:
   a. Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, electric vehicle chargers, water-heating systems and other major appliances and equipment.
   b. Roof and yard drainage, including gutters and downspouts.
   c. Space conditioning systems, including condensers and air filters.
   d. Landscape irrigation systems.
   e. Water reuse systems.
3. Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.
4. Public transportation and/or carpool options available in the area.
5. Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range.
6. Information about water-conserving landscape and irrigation design and controllers which conserve water.
7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
8. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.
9. Information about state solar energy and incentive programs available.
10. A copy of all special inspections verifications required by the enforcing agency or this code.
11. Information from the Department of Forestry and Fire Protection on maintenance of defensible space around residential structures.
12. Information and/or drawings identifying the location of grab bar reinforcements.

4.410.2 RECYCLING BY OCCUPANTS. Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waster, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive.

Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42649.82 (a)(2)(A) et seq. are note required to comply with the organic waste portion of this section.

DIVISION 4.5 ENVIRONMENTAL QUALITY

SECTION 4.501 GENERAL

4.501.1 Scope
The provisions of this chapter shall outline means of reducing the quality of air contaminants that are odorous, irritating and/or harmful to the comfort and well being of a building's installers, occupants and neighbors.

SECTION 4.502 DEFINITIONS

5.102.1 DEFINITIONS
The following terms are defined in Chapter 2 *(and are included here for reference)*

AGRIFIBER PRODUCTS. Agrifiber products include wheatboard, strawboard, panel substrates and door cores, not including furniture, fixtures and equipment (FF&E) not considered base building elements.

COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section 93120.1.

DIRECT-VENT APPLIANCE. A fuel-burning appliance with a sealed combustion system that draws all air for combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.

DISCLAIMER:*THIS DOCUMENT IS PROVIDED AND INTENDED TO BE USED AS A MEANS TO INDICATE AREAS OF COMPLIANCE WITH THE CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING DEPARTMENT JURISDICTIONS, THIS CHECKLIST IS TO BE USED ON AN INDIVIDUAL PROJECT BASIS AND MAY BE MODIFIED BY THE END USER TO MEET THOSE INDIVIDUAL NEEDS. THE END USER ASSUMES ALL RESPONSIBILITY ASSOCIATED WITH THE USE OF THIS DOCUMENT, INCLUDING VERIFICATION WITH THE FULL CODE.*

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LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

PERMIT SET

ocean drive residence
2800 ocean drive manhatten beach, ca 90266

CALGREEN NOTES
04.18.25

CG-1

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
RESIDENTIAL MANDATORY MEASURES, SHEET 2 (January 2023)

MARK YES ON BOXES THAT APPLIES
REFERENCE WHERE, ON THE PLAN SET, COMPLIANCE PROVIDED

Y = YES
N/A = NOT APPLICABLE
RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g O^3/g ROC).
Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700 and 94701.

MOISTURE CONTENT. The weight of the water in wood expressed in percentage of the weight of the oven-dry wood.

PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).
Note: PWMIR is calculated according to equations found in CCR, Title 17, Section 94521 (a).

REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.

VOC. A volatile organic compound (VOC) broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a).

4.503 FIREPLACES
4.503.1 GENERAL. Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.

4.504 POLLUTANT CONTROL
4.504.1 COVERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of water, dust or debris which may enter the system.

4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with this section.

4.504.2.1 Adhesives, Sealants and Caulks. Adhesives, sealant and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:

1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products, as specified in Subsection 2 below.
2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of *California Code of Regulations*, Title 17, commencing with section 94507.

4.504.2.2 Paints and Coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 4.504.3 shall apply.

4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) of *California Code of Regulations*, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.

4.504.2.4 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:

1. Manufacturer's product specification.
2. Field verification of on-site product containers.

TABLE 4.504.1 - ADHESIVE VOC LIMIT[1,2]

(Less Water and Less Exempt Compounds in Grams per Liter)

ARCHITECTURAL APPLICATIONS	VOC LIMIT
INDOOR CARPET ADHESIVES	50
CARPET PAD ADHESIVES	50
OUTDOOR CARPET ADHESIVES	150
WOOD FLOORING ADHESIVES	100
RUBBER FLOOR ADHESIVES	60
SUBFLOOR ADHESIVES	50
CERAMIC TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	50
MULTIPURPOSE CONSTRUCTION ADHESIVE	70
STRUCTURAL GLAZING ADHESIVES	100
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250
OTHER ADHESIVES NOT LISTED	50
SPECIALTY APPLICATIONS	
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
PLASTIC CEMENT WELDING	250
ADHESIVE PRIMER FOR PLASTIC	550
CONTACT ADHESIVE	80
SPECIAL PURPOSE CONTACT ADHESIVE	250
STRUCTURAL WOOD MEMBER ADHESIVE	140
TOP & TRIM ADHESIVE	250
SUBSTRATE SPECIFIC APPLICATIONS	
METAL TO METAL	30
PLASTIC FOAMS	50
POROUS MATERIAL (EXCEPT WOOD)	50
WOOD	30
FIBERGLASS	80

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

TABLE 4.504.2 - SEALANT VOC LIMIT

(Less Water and Less Exempt Compounds in Grams per Liter)

SEALANTS	VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NON-POROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

TABLE 4.504.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2,3]

GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS

COATING CATEGORY	VOC LIMIT
FLAT COATINGS	50
NON-FLAT COATINGS	100
NONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS[1]	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS

2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.

3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.

TABLE 4.504.5 - FORMALDEHYDE LIMITS[1]

MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION

PRODUCT	CURRENT LIMIT
HARDWOOD PLYWOOD VENEER CORE	0.05
HARDWOOD PLYWOOD COMPOSITE CORE	0.05
PARTICLE BOARD	0.09
MEDIUM DENSITY FIBERBOARD	0.11
THIN MEDIUM DENSITY FIBERBOARD[2]	0.13

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIF. AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIF. CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.

2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16" (8 MM).

DIVISION 4.5 ENVIRONMENTAL QUALITY (continued)
4.504.3 CARPET SYSTEMS. All carpet installed in the building interior shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350)

See California Department of Public Health's website for certification programs and testing labs.

https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350)

See California Department of Public Health's website for certification programs and testing labs.

https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

4.504.3.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1.

4.504.4 RESILIENT FLOORING SYSTEMS. Where resilient flooring is installed , at least 80% of floor area receiving resilient flooring shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350)

See California Department of Public Health's website for certification programs and testing labs.

hhttps://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

4.504.5 COMPOSITE WOOD PRODUCTS. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5

4.504.5.1 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:

1. Product certifications and specifications.
2. Chain of custody certifications.
3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).
4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269, European 636 3S standards, and Canadian CSA 0121, CSA 0151, CSA 0153 and CSA 0325 standards.
5. Other methods acceptable to the enforcing agency.

4.505 INTERIOR MOISTURE CONTROL
4.505.1 General. Buildings shall meet or exceed the provisions of the *California Building Standards Code*.

4.505.2 CONCRETE SLAB FOUNDATIONS. Concrete slab foundations required to have a vapor retarder by California Building Code, Chapter 19, or concrete slab-on-ground floors required to have a vapor retarder by the California Residential Code, Chapter 5, shall also comply with this section.

4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the following:

1. A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm) or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06.
2. Other equivalent methods approved by the enforcing agency.
3. A slab design specified by a licensed design professional.

4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent moisture content. Moisture content shall be verified in compliance with the following:

1. Moisture content shall be determined with either a probe-type or contact-type moisture meter.Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code.
2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end of each piece verified.
3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.

Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.

4.506 INDOOR AIR QUALITY AND EXHAUST
4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the following:

1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.
2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control.
   a. Humidity controls shall be capable of adjustment between a relative humidity range less than or equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic means of adjustment.
   b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in)

Notes:

1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination.
2. Lighting integral to bathroom exhaust fans shall comply with the *California Energy Code*.

4.507 ENVIRONMENTAL COMFORT
4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be sized, designed and have their equipment selected using the following methods:

1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2011 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.
2. Duct systems are sized according to ANSI/ACCA 1 Manual D - 2014 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods.
3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 (Residential Equipment Selection), or other equivalent design software or methods.

Exception: Use of alternate design temperatures necessary to ensure the system functions are acceptable.

CHAPTER 7
INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS
702 QUALIFICATIONS
702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following:

1. State certified apprenticeship programs.
2. Public utility training programs.
3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.
4. Programs sponsored by manufacturing organizations.
5. Other programs acceptable to the enforcing agency.

702.2 SPECIAL INSPECTION [HCD]. When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector:

1. Certification by a national or regional green building program or standard publisher.
2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors.
3. Successful completion of a third party apprentice training program in the appropriate trade.
4. Other programs acceptable to the enforcing agency.

Notes:

1. Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.
2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS).

[BSC] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency.

Note: Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

703 VERIFICATIONS
703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.

the construction zone
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LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

PERMIT SET

ocean drive residence
2800 ocean drive manhatten beach, ca 90266

CALGREEN NOTES
DATE 04.18.25
G-2

2022 Single-Family Residential Mandatory Requirements Summary

NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information.
(04/2022)

Building Envelope:

§ 110.6(a)1:	**Air Leakage.** Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283, or AAMA/WDMA/CSA 101/I.S.2/A440-2011. *
§ 110.6(a)5:	**Labeling.** Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	**Field fabricated exterior doors and fenestration** products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather-stripped.
§ 110.7:	**Air Leakage.** All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped.
§ 110.8(a):	**Insulation Certification by Manufacturers.** Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.8(g):	**Insulation Requirements for Heated Slab Floors.** Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(i):	**Roofing Products Solar Reflectance and Thermal Emittance.** The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a cool roof is specified on the CF1R.
§ 110.8(j):	**Radiant Barrier.** When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	**Roof Deck, Ceiling and Rafter Roof Insulation.** Roof decks in newly constructed attics in climate zones 4 and 8-16 area-weighted average U-factor not exceeding U-0.184. Ceiling and rafter roofs minimum R-22 insulation in wood-frame ceiling; or area-weighted average U-factor must not exceed 0.043. Rafter roof alterations minimum R-19 or area-weighted average U-factor of 0.054 or less. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a roof or ceiling which is sealed to limit infiltration and exfiltration, as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling. *
§ 150.0(b):	**Loose-fill Insulation.** Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	**Wall Insulation.** Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 150.1-A or B. *
§ 150.0(d):	**Raised-floor Insulation.** Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor. *
§ 150.0(f):	**Slab Edge Insulation.** Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	**Vapor Retarder.** In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to §150.0(d).
§ 150.0(g)2:	**Vapor Retarder.** In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	**Fenestration Products.** Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.45, or area-weighted average U-factor of all fenestration must not exceed 0.45. *

Fireplaces, Decorative Gas Appliances, and Gas Log:

§ 110.5(e)	**Pilot Light.** Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(e)1:	**Closable Doors.** Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)2:	**Combustion Intake.** Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device.
§ 150.0(e)3:	**Flue Damper.** Masonry or factory-built fireplaces must have a flue damper with a readily accessible control. *

Space Conditioning, Water Heating, and Plumbing System:

§ 110.0-§ 110.3:	**Certification.** Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission.
§ 110.2(a):	**HVAC Efficiency.** Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-N. *
§ 110.2(b):	**Controls for Heat Pumps with Supplementary Electric Resistance Heaters.** Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.
§ 110.2(c):	**Thermostats.** All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat. *
§ 110.3(c)3:	**Insulation.** Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank surface heat loss rating.
§ 110.3(c)6:	**Isolation Valves.** Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.

2022 Single-Family Residential Mandatory Requirements Summary

§ 110.5:	**Pilot Lights.** Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool and spa heaters.
§ 150.0(h)1:	**Building Cooling and Heating Loads.** Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.
§ 150.0(h)3A:	**Clearances.** Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer.
§ 150.0(h)3B:	**Liquid Line Drier.** Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(j)1:	**Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation.** All domestic hot water piping must be insulated as specified in § 609.11 of the California Plumbing Code. *
§ 150.0(j)2:	**Insulation Protection.** Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment' maintenance, and wind as required by §120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(n)1:	**Gas or Propane Water Heating Systems.** Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2.5' x 2.5' x 7' suitable for the future installation of a heat pump water heater, and meet electrical and plumbing requirements, based on the distance between this designated space and the water heater location; and a condensate drain no more than 2" higher than the base of the water heater
§ 150.0(n)3:	**Solar Water-heating Systems.** Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the executive director.

Ducts and Fans:

§ 110.8(d)3:	**Ducts.** Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	**CMC Compliance.** All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to R-6.0 or higher; ducts located entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8) do not require insulation. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 723. The combination of mastic and either mesh or tape must be used to seal openings greater than ¼", If mastic or tape is used. Building cavities, air handler support platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in these spaces must not be compressed. *
§ 150.0(m)2:	**Factory-Fabricated Duct Systems.** Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	**Field-Fabricated Duct Systems.** Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	**Backdraft Damper.** Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
§ 150.0(m)8:	**Gravity Ventilation Dampers.** Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9:	**Protection of Insulation.** Insulation must be protected from damage due tosunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover). Cellular foam insulation must be protected as above or painted with a water retardant and solar radiation-resistant coating.
§ 150.0(m)10:	**Porous Inner Core Flex Duct.** Porous inner cores of flex ducts must have a non-porous layer or air barrier between the inner core and outer vapor barrier.
§ 150.0(m)11:	**Duct System Sealing and Leakage Test.** When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.1.
§ 150.0(m)12:	**Air Filtration.** Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A. Clean-filter pressure drop and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service. Filter racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters to and prevents air from bypassing the filter. *

2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(m)13:	**Space Conditioning System Airflow Rate and Fan Efficacy.** Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.45 watts per CFM for gas furnace air handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3. *

Ventilation and Indoor Air Quality:

§ 150.0(o)1:	**Requirements for Ventilation and Indoor Air Quality.** All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)1. *
§ 150.0(o)1B:	**Central Fan Integrated (CFI) Ventilation Systems.** Continuous operation of CFI air handlers is not allowed to provide the whole-dwelling unit ventilation airflow required per §150.0(o)1C. A motorized damper(s) must be installed on the ventilation duct(s) that prevents all airflow through the space conditioning duct system when the damper(s) is closed andcontrolled per §150.0(o)1Biii&iv. CFI ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for compliance with §150.0(o)1C.
§ 150.0(o)1C:	**Whole-Dwelling Unit Mechanical Ventilation for Single-Family Detached and townhouses .** Single-family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow specified in § 150.0(o)1Ci-iii.
§ 150.0(o)1G:	**Local Mechanical Exhaust.** Kitchens and bathrooms must have local mechanical exhaust; nonenclosed kitchens must have demand-controlled exhaust system meeting requirements of §150.0(o)1Gii,enclosed kitchens and bathrooms can use demand-controlled or continuous exhaust meeting §150.0(o)1Giii-iv. Airflow must be measured by the installer per §150.0(o)1Gv, and rated for sound per §150.0(o)1Gvi. *
§ 150.0(o)1H&I:	**Airflow Measurement and Sound Ratings of Whole-Dwelling Unit Ventilation Systems.** The airflow required per § 150.0(o)1C must be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminals/grilles per Reference Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 §7.2 at no less than the minimum airflow rate required by §150.0(o)1C.
§ 150.0(o)2:	**Field Verification and Diagnostic Testing.** Whole-Dwelling Unit ventilation airflow, vented range hood airflow and sound rating, and HRV and ERV fan efficacy must be verified in accordance with Reference Residential Appendix RA3.7. Vented range hoods must be verified per Reference Residential Appendix RA3.7.4.3 to confirm if it is rated by HVI or AHAM to comply with the airflow rates and sound requirements per §150.0(o)1G

Pool and Spa Systems and Equipment:

§ 110.4(a):	**Certification by Manufacturers.** Any pool or spa heating system or equipment must be certified to have all of the following: compliance with the Appliance Efficiency Regulations and listing in MAEDbS; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating. *
§ 110.4(b)1:	**Piping.** Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2:	**Covers.** Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3:	**Directional Inlets and Time Switches for Pools.** Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.5:	**Pilot Light.** Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	**Pool Systems and Equipment Installation.** Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves.

Lighting:

§ 110.9:	**Lighting Controls and Components.** All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9. *
§ 150.0(k)1A:	**Luminaire Efficacy.** All installed luminaires must meet the requirements in Table 150.0-A, except lighting integral to exhaust fans, kitchen range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 5 watts; and lighting internal to drawers, cabinets, and linen closets with an efficacy of at least 45 lumens per watt.
§ 150.0(k)1B:	**Screw based luminaires.** Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. *
§ 150.0(k)1C:	**Recessed Downlight Luminaires in Ceilings.** Luminaires recessed into ceilings must not contain screw based sockets, must be airtight, and must be sealed with a gasket or caulk. California Electrical Code § 410.116 must also be met.
§ 150.0(k)1D:	**Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1E:	**Blank Electrical Boxes.** The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device shall be no more than the number of bedrooms. These boxes must be served by a dimmer, vacancy sensor control, low voltage wiring, or fan speed control.
§ 150.0(k)1F:	**Lighting Integral to Exhaust Fans.** Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k). *

2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(k)1G:	**Screw based luminaires.** Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. *
§ 150.0(k)1H:	**Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1I:	**Light Sources in Drawers, Cabinets, and Linen Closets.** Light sources internal to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(k)2A:	**Interior Switches and Controls.** All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B:	**Interior Switches and Controls.** Exhaust fans must be controlled separately from lighting systems. *
§ 150.0(k)2A:	**Accessible Controls.** Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned on and off. *
§ 150.0(k)2B:	**Multiple Controls.** Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the dimmer or sensor is installed to comply with § 150.0(k).
§ 150.0(k)2C:	**Mandatory Requirements.** Lighting controls must comply with the applicable requirements of § 110.9.
§ 150.0(k)2D:	**Energy Management Control Systems.** An energy management control system (EMCS) may be used to comply with dimming, occupancy, and control requirements if it provides the functionality of the specified control per § 110.9 and the physical controls specified in § 150.0(k)2A.
§ 150.0(k)2E:	**Automatic Shutoff Controls.** In bathrooms, garages, laundry rooms, utility rooms and walk-in closets, at least one installed luminaire must be controlled by an occupancy or vacancy sensor providing automatic-off functionality. Lighting inside drawers and cabinets with opaque fronts or doors must have controls that turn the light off when the drawer or door is closed.
§ 150.0(k)2F:	**Dimmers.** Lighting in habitable spaces (e.g., living rooms, dining rooms, kitchens, and bedrooms) must have readily accessible wall-mounted dimming controls that allow the lighting to be manually adjusted up and down. Forward phase cut dimmers controlling LED light sources in these spaces must comply with NEMA SSL 7A.
§ 150.0(k)2K:	**Independent controls.** Integrated lighting of exhaust fans shall be controlled independently from the fans. Lighting under cabinets or shelves, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting.
§ 150.0(k)3A:	**Residential Outdoor Lighting.** For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must have a manual on/off switch and either a photocell and motion sensor or automatic time switch control) or an astronomical time clock. An energy management control system that provides the specified control functionality and meets all applicable requirements may be used to meet these requirements.
§ 150.0(k)4:	**Internally illuminated address signs.** Internally illuminated address signs must either comply with § 140.8 or consume no more than 5 watts of power.
§ 150.0(k)5:	**Residential Garages for Eight or More Vehicles.** Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in §§ 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.

Solar Readiness:

§ 110.10(a)1:	**Single-family Residences.** Single-family residences located in subdivisions with 10 or more single-family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b)-(e).
§110.10(b)1A:	**Minimum Solar Zone Area.** The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single-family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. *
§ 110.10(b)2:	**Azimuth**. All sections of the solar zone located on steep-sloped roofs must have an azimuth between 90-300° of true north.
§ 110.10(b)3A:	**Shading.** The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.
§ 110.10(b)3B:	**Shading.** Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the horizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.'
§ 110.10(b)4:	**Structural Design Loads on Construction Documents.** For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c):	**Interconnection Pathways.** The construction documents must indicate: a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single-family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.
§ 110.10(d):	**Documentation.** A copy of the construction documents or a comparable document indicating the information from § 110.10(b)-(c) must be provided to the occupant.
§ 110.10(e)1:	**Main Electrical Service Panel.** The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(e)2:	**Main Electrical Service Panel.** The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric."

Electric and Energy Storage Ready:

2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(s)	**Energy Storage System (ESS) Ready.** All single-family residences must meet all of the following: Either ESS-ready interconnection equipment with backed up capacity of 60 amps or more and four or more ESS supplied branch circuits, or a dedicated raceway from the main service to a subpanel that supplies the branch circuits in § 150.0(s); at least four branch circuits must be identified and have their source collocated at a single panelboard suitable to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the main panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source.
§ 150.0(t)	**Heat Pump Space Heater Ready.** Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(u)	**Electric Cooktop Ready.** Systems using gas or propane cooktop to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(v)	**Electric Clothes Dryer Ready.** Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

*Exceptions may apply.

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LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA

06.05.25

e PERMIT SET

ocean drive residence
2800 ocean drive manhatten beach, ca 90266
04.18.25
SFR MANDATORY REQ'MENTS
G-3

GENERAL INFORMATION					
01	**Project Name**	3 Story + Basement New Construction			
02	**Run Title**	3 Story + Basement New Construction			
03	**Project Location**	2800 Ocean Drive			
04	**City**	Manhattan Beach, CA	05	**Standards Version**	2022
06	**Zip code**	90266	07	**Software Version**	CBECC-Res 2022.3.0
08	**Climate Zone**	6	09	**Front Orientation (deg/ Cardinal)**	70
10	**Building Type**	Single family	11	**Number of Dwelling Units**	1
12	**Project Scope**	Newly Constructed	13	**Number of Bedrooms**	3
14	**Addition Cond. Floor Area (ft²)**	0	15	**Number of Stories**	3
16	**Existing Cond. Floor Area (ft²)**	n/a	17	**Fenestration Average U-factor**	0.34
18	**Total Cond. Floor Area (ft²)**	2150	19	**Glazing Percentage (%)**	23.51%
20	**ADU Bedroom Count**	n/a	21	**ADU Conditioned Floor Area**	n/a
22	**Fuel Type**	Natural gas	23	**No Dwelling Unit:**	No

COMPLIANCE RESULTS	
01	**Building Complies with Computer Performance**
02	**This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.**
03	**This building incorporates one or more Special Features shown below**

ENERGY DESIGN RATINGS

	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)
Standard Design	39.7	44	31.6			
Proposed Design	33.1	38.3	29.1	6.6	5.7	2.5

RESULT[3]: PASS

[1]Efficiency EDR includes improvements like a better building envelope and more efficient equipment
[2]Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries
[3]Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

- Standard Design PV Capacity: 2.42 kWdc
- PV System resized to 2.42 kWdc (a factor of 0.807) to achieve 'Standard Design PV' PV scaling

ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft²-yr)	Standard Design TDV Energy (EDR2) (kTDV/ft²-yr)	Proposed Design Source Energy (EDR1) (kBtu/ft²-yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft²-yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	3.35	15.02	1.93	13.83	1.42	1.19
Space Cooling	0.03	2.43	0	0.12	0.03	2.31
IAQ Ventilation	0.33	3.51	0.33	3.51	0	0
Water Heating	1.12	12.26	0.92	11.47	0.2	0.79
Self Utilization/Flexibility Credit				0		0
Efficiency Compliance Total	**4.83**	**33.22**	**3.18**	**28.93**	**1.65**	**4.29**
Photovoltaics	-1.28	-34.92	-1.28	-35.11		
Battery			0	0		
Flexibility						
Indoor Lighting	0.74	7.46	0.74	7.46		
Appl. & Cooking	2.8	19.39	2.82	19.55		
Plug Loads	2.55	26.61	2.55	26.61		
Outdoor Lighting	0.19	1.73	0.19	1.73		
TOTAL COMPLIANCE	**9.83**	**53.49**	**8.2**	**49.17**		

ENERGY USE INTENSITY

	Standard Design (kBtu/ft² - yr)	Proposed Design (kBtu/ft² - yr)	Compliance Margin (kBtu/ft² - yr)	Margin Percentage
Gross EUI[1]	13.7	11.31	2.39	17.45
Net EUI[2]	7.22	4.83	2.39	33.1

Notes
1. Gross EUI is Energy Use Total (not including PV) / Total Building Area.
2. Net EUI is Energy Use Total (including PV) / Total Building Area.

REQUIRED PV SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	**Exception**	**Module Type**	**Array Type**	**Power Electronics**	**CFI**	**Azimuth (deg)**	**Tilt Input**	**Array Angle (deg)**	**Tilt: (x in 12)**	**Inverter Eff. (%)**	**Annual Solar Access (%)**
2.42	NA	Standard (14-17%)	Fixed	none	true	150-270	n/a	n/a	<=7:12	96	98

REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.

- PV System: 2.42 kWdc
- Cool roof
- Non-standard duct location (any location other than attic)
- Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed

HERS FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry

- Quality insulation installation (QII)
- Indoor air quality ventilation
- Kitchen range hood
- Minimum Airflow
- Verified Refrigerant Charge
- Fan Efficacy Watts/CFM
- Verified heat pump rated heating capacity
- Duct leakage testing
- Ducts located within the conditioned space (except < 12 lineal ft)

BUILDING - FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	**Conditioned Floor Area (ft²)**	**Number of Dwelling Units**	**Number of Bedrooms**	**Number of Zones**	**Number of Ventilation Cooling Systems**	**Number of Water Heating Systems**
3 Story + Basement New Construction	2150	1	3	2	0	1

ZONE INFORMATION

01	02	03	04	05	06	07
Zone Name	**Zone Type**	**HVAC System Name**	**Zone Floor Area (ft²)**	**Avg. Ceiling Height**	**Water Heating System 1**	**Status**
Basement-Zone 1- 705	Conditioned	HVAC-Zone 1	705	8	DHW System	New
1st, 2nd + 3rd Floor-Zone 2- 661 + 584 +200	Conditioned	HVAC-Zone 2	1445	9.3	DHW System	New

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	**Zone**	**Construction**	**Azimuth**	**Orientation**	**Gross Area (ft²)**	**Window and Door Area (ft2)**	**Tilt (deg)**
Front Wall-Z2-336.1+303.4	1st, 2nd + 3rd Floor-Zone 2- 661 + 584 +200	Ext Wall- 2x6 R21	70	Front	639.5	253.58	90
Left Wall-Z2-290.9+262.6	1st, 2nd + 3rd Floor-Zone 2- 661 + 584 +200	Ext Wall- 2x6 R21	160	Left	553.5	41.62	90
Back Wall-Z2-336.2+303.4	1st, 2nd + 3rd Floor-Zone 2- 661 + 584 +200	Ext Wall- 2x6 R21	250	Back	639.6	61	90
Right Wall-Z2-289.1+261	1st, 2nd + 3rd Floor-Zone 2- 661 + 584 +200	Ext Wall- 2x6 R21	340	Right	550.1	111.29	90
Front Wall-1st Floor	1st, 2nd + 3rd Floor-Zone 2- 661 + 584 +200	Ext Wall- 2x6 R21	70	Front	118.4	0	90
Left Wall-1st Floor	1st, 2nd + 3rd Floor-Zone 2- 661 + 584 +200	Ext Wall- 2x6 R21	160	Left	230.6	38.04	90
Back Wall-1st Floor	1st, 2nd + 3rd Floor-Zone 2- 661 + 584 +200	Ext Wall- 2x6 R21	250	Back	458.1	0	90
Right Wall-1st Floor	1st, 2nd + 3rd Floor-Zone 2- 661 + 584 +200	Ext Wall- 2x6 R21	340	Right	626.8	0	90
HouseToGarage	Garage>>Basement-Zone 1- 705	R21 IntWall Cons	n/a	n/a	208	21.6	n/a
Garage Below	Garage	Ext Floor Cons	n/a	n/a	420	n/a	n/a
Underground Wall-Front	Basement-Zone 1- 705	Below Grade Walls	n/a	n/a	282.5	n/a	n/a
Underground Wall-Left	Basement-Zone 1- 705	Below Grade Walls	n/a	n/a	228.8	n/a	n/a

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PERMIT SET

ocean drive residence
2800 ocean drive manhatten beach, ca 90266

ENERGY COMPLIANCE
04.18.25

T24-1

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft^2)	Window and Door Area (ft2)	Tilt (deg)
Underground Wall-Back	Basement-Zone 1- 705	Below Grade Walls	n/a	n/a	228.8	n/a	n/a
Underground Wall-Right	Basement-Zone 1- 705	Below Grade Walls	n/a	n/a	245.1	n/a	n/a
Garage Above	Basement-Zone 1- 705	Garage Ceiling	n/a	n/a	420	n/a	n/a
GarWallFront	Garage	Garage Ext Wall 1	70	Front	195	128	90
GarWallBack	Garage	Garage Ext Wall 1	250	Back	42	0	90
GarWallRight	Garage	Garage Ext Wall 1	340	Right	120	0	90

OPAQUE SURFACES - CATHEDRAL CEILINGS

01	02	03	04	05	06	07	08	09	10	11
Name	Zone	Construction	Azimuth	Orientation	Area (ft^2)	Skylight Area (ft^2)	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Cool Roof
FSlope-.5:12	1st, 2nd + 3rd Floor-Zone 2- 661 + 584 +200	Low Slope Cathedral	70	Front	662	0	0.5	0.2	0.85	Yes
LSlope-.5:12	1st, 2nd + 3rd Floor-Zone 2- 661 + 584 +200	Low Slope Cathedral	160	Left	28.5	0	0.5	0.2	0.85	Yes
RSlope-.5:12	1st, 2nd + 3rd Floor-Zone 2- 661 + 584 +200	Low Slope Cathedral	340	Right	96	0	0.5	0.2	0.85	Yes

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft^2)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
FWall-Kitchen-SGD	Window	Front Wall-Z2-336.1+303.4	Front	70	13	8	1	104	0.35	NFRC	0.25	NFRC	Bug Screen
FWall-Kitchen-OP	Window	Front Wall-Z2-336.1+303.4	Front	70	10	5.2	1	52	0.4	NFRC	0.29	NFRC	Bug Screen
FWall-Kitchen-FX	Window	Front Wall-Z2-336.1+303.4	Front	70	2.7	5	1	13.5	0.29	NFRC	0.23	NFRC	Bug Screen
FWall-Primary Bedroom-DR	Window	Front Wall-Z2-336.1+303.4	Front	70	7	8	1	56	0.35	NFRC	0.25	NFRC	Bug Screen
FWall-Guest Bedroom-OP	Window	Front Wall-Z2-336.1+303.4	Front	70	2.7	5.2	2	28.08	0.4	NFRC	0.22	NFRC	Bug Screen
LWall-Powder-FX	Window	Left Wall-Z2-290.9+262.6	Left	160	2.7	2.7	1	7.29	0.29	NFRC	0.23	NFRC	Bug Screen
LWall-Stair-FX 1	Window	Left Wall-Z2-290.9+262.6	Left	160	5.2	5.2	1	27.04	0.27	NFRC	0.23	NFRC	Bug Screen
LWall-Guest Bath-OP	Window	Left Wall-Z2-290.9+262.6	Left	160	2.7	2.7	1	7.29	0.29	NFRC	0.23	NFRC	Bug Screen
BWall-Dining-FX	Window	Back Wall-Z2-336.2+303.4	Back	250	2.5	8	1	20	0.29	NFRC	0.23	NFRC	Bug Screen

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft^2)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
BWall-Entry Hall-DR	Window	Back Wall-Z2-336.2+303.4	Back	250	4	8	1	32	0.31	NFRC	0.23	NFRC	Bug Screen
BWall-Primary Bath-OP	Window	Back Wall-Z2-336.2+303.4	Back	250	3	3	1	9	0.29	NFRC	0.23	NFRC	Bug Screen
RWall-Kitchen-SGD	Window	Right Wall-Z2-289.1+261	Right	340	13	8	1	104	0.35	NFRC	0.25	NFRC	Bug Screen
RWall-Primary Bath-FX	Window	Right Wall-Z2-289.1+261	Right	340	2.7	2.7	1	7.29	0.29	NFRC	0.23	NFRC	Bug Screen
LWall-Laundry-DR	Window	Left Wall-1st Floor	Left	160	3	8	1	24	0.31	NFRC	0.23	NFRC	Bug Screen
LWall-Guest Bedroom-OP	Window	Left Wall-1st Floor	Left	160	2.7	5.2	1	14.04	0.4	NFRC	0.22	NFRC	Bug Screen

OPAQUE DOORS

01	02	03	04
Name	Side of Building	Area (ft^2)	U-factor
GarDoor	GarWallFront	128	1
Fire-Rated Door-H	HouseToGarage	21.6	0.5

SLAB FLOORS

01	02	03	04	05	06	07	08
Name	Zone	Area (ft^2)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
GarSlab	Garage	420	58.8	none	0	0%	No
Slab On Grade	1st, 2nd + 3rd Floor-Zone 2- 661 + 584 +200	2107	196	none	0	80%	No
Underground Floor 1	Basement-Zone 1- 705	705	n/a	n/a	n/a	80%	No

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
Ext Wall- 2x6 R21	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.062	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Sheathing / Insulation: Wood Siding/sheathing/decking Exterior Finish: Wood Siding/sheathing/decking
Garage Ext Wall 1	Exterior Walls	Concrete / ICF / Brick	None	n/a	None / None	0.461	Inside Finish: Gypsum Board Mass Layer: 8 in. Concrete Exterior Finish: All Other Siding
Low Slope Cathedral	Cathedral Ceilings	Built-up Roof	2x10 @ 16 in. O. C.	R-30	None / None	0.037	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x10 Inside Finish: Gypsum Board

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R21 IntWall Cons	Interior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.064	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Other Side Finish: Gypsum Board
Ext Floor Cons	Exterior Floors	Wood Framed Floor	2x10 @ 16 in. O. C.	R-21	None / None	0.044	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-21 / 2x10
Below Grade Walls	Underground Walls	Concrete / ICF / Brick	None	n/a	15 / None	0.073	Inside Finish: Gypsum Board Insulation/Furring: R-15 / 3.5in. wd Mass Layer: 8 in. Concrete
Garage Ceiling	Interior Ceiling	Wood Framed Ceiling	2x12 @ 16 in. O. C.	R-19	None / None	0.047	Floor Surface: Hardwood Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x12 Ceiling Below Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION

01	02	03	04	05
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50	CFM50
Required	Not Required	N/A	n/a	n/a

WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08	09
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	HERS Verification	Water Heater Name (#)
DHW System	Domestic Hot Water (DHW)	Standard	Heat Pump	1	n/a	None	n/a	Heat Pump (1)

WATER HEATERS - NEEA HEAT PUMP

01	02	03	04	05	06	07	08
Name	# of Units	Tank Vol. (gal)	NEEA Heat Pump Brand	NEEA Heat Pump Model	Tank Location	Duct Inlet Air Source	Duct Outlet Air Source
Heat Pump	1	80	Generic	Tier3Generic80	TankZone	1st, 2nd + 3rd Floor-Zone 2- 661 + 584 +200	1st, 2nd + 3rd Floor-Zone 2- 661 + 584 +200

WATER HEATING - HERS VERIFICATION

01	02	03	04	05	06	07
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Shower Drain Water Heat Recovery
DHW System - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type
HVAC-Zone 1	Heat pump heating cooling	Heat Pump System 1	1	Heat Pump System 1	1	HVAC Fan System 1	Distribution System-Z1	Setback
HVAC-Zone 2	Heat pump heating cooling	Heat Pump System 2	1	Heat Pump System 2	1	HVAC Fan System 2	Distribution System-Z2	Setback

the construction zone
1720 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

e PERMIT SET

ocean drive residence
2800 ocean drive manhatten beach, ca 90266

ENERGY COMPLIANCE
04.18.25

T24-2

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD **CF1R-PRF-01-E**

Project Name: 3 Story + Basement New Construction **Calculation Date/Time:** 2025-03-27T13:21:57-04:00 **(Page 13 of 16)**

Calculation Description: 3 Story + Basement New Construction **Input File Name:** 2800 Ocean Dr..ribd22

HVAC - HEAT PUMPS

01	02	03	04	05	06	07	08	09	10	11	12	13
			Heating				Cooling					
Name	System Type	Number of Units	Heating Efficiency Type	HSPF/HSPF2/COP	Cap 47	Cap 17	Cooling Efficiency Type	SEER/SEER2	EER/EER2/CEER	Zonally Controlled	Compressor Type	HERS Verification
Heat Pump System 1	Central split HP	1	HSPF2	7.5	24000	18000	EER2SEER2	14.3	11.7	Not Zonal	Single Speed	Heat Pump System 1-hers-htpump
Heat Pump System 2	Central split HP	1	HSPF2	7.5	24000	18000	EER2SEER2	14.3	11.7	Not Zonal	Single Speed	Heat Pump System 2-hers-htpump

HVAC HEAT PUMPS - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER/EER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-hers-htpump	Required	350	Not Required	Not Required	Yes	No	Yes	Yes
Heat Pump System 2-hers-htpump	Required	350	Not Required	Not Required	Yes	No	Yes	Yes

HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
Name	Type	Design Type	Duct Ins. R-value		Duct Location		Surface Area		Bypass Duct	Duct Leakage	HERS Verification
			Supply	Return	Supply	Return	Supply	Return			
Distribution System-Z1	Conditioned space - except 12ft	Non-Verified	R-6	R-6	Conditioned Zone	Conditioned Zone	n/a	n/a	No Bypass Duct	Sealed and Tested	Distribution System-Z1-hers-dist
Distribution System-Z2	Conditioned space - except 12ft	Non-Verified	R-6	R-6	Conditioned Zone	Conditioned Zone	n/a	n/a	No Bypass Duct	Sealed and Tested	Distribution System-Z2-hers-dist

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD **CF1R-PRF-01-E**

Project Name: 3 Story + Basement New Construction **Calculation Date/Time:** 2025-03-27T13:21:57-04:00 **(Page 14 of 16)**

Calculation Description: 3 Story + Basement New Construction **Input File Name:** 2800 Ocean Dr..ribd22

HVAC DISTRIBUTION - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Ducts	Deeply Buried Ducts	Low-leakage Air Handler	Low Leakage Ducts Entirely in Conditioned Space
Distribution System-Z1-hers-dist	Yes	5.0	Required	Not Required	Not Required	Credit not taken	Not Required	No
Distribution System-Z2-hers-dist	Yes	5.0	Required	Not Required	Not Required	Credit not taken	Not Required	No

HVAC - FAN SYSTEMS

01	02	03	04
Name	Type	Fan Power (Watts/CFM)	Name
HVAC Fan System 1	HVAC Fan	0.45	HVAC Fan System 1-hers-fan
HVAC Fan System 2	HVAC Fan	0.45	HVAC Fan System 2-hers-fan

HVAC FAN SYSTEMS - HERS VERIFICATION

01	02	03
Name	Verified Fan Watt Draw	Required Fan Efficacy (Watts/CFM)
HVAC Fan System 1-hers-fan	Required	0.45
HVAC Fan System 2-hers-fan	Required	0.45

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD **CF1R-PRF-01-E**

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Calculation Description: 3 Story + Basement New Construction **Input File Name:** 2800 Ocean Dr..ribd22

INDOOR AIR QUALITY (IAQ) FANS

01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - SRE/ASRE	Includes Fault Indicator Display?	HERS Verification	Status
SFam IAQVentRpt	91	0.35	Exhaust	No	n/a / n/a	No	Yes	

PROJECT NOTES

!!! I M P O R T A N T !!

CONTACT DOCUMENTATION AUTHOR REGARDING ANY CHANGES THAT MAY EFFECT T24 DURING CONSTRUCTION AT EARLIEST DATE POSSIBLE. IF CHANGES ARE NOT REPORTED CONSTRUCTION AND INSPECTION DELAYS WILL OCCUR AND COSTLY CHANGES MAY BE REQUIRED.

MELISSA ALVES
(562) 362-7922

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD **CF1R-PRF-01-E**

Project Name: 3 Story + Basement New Construction **Calculation Date/Time:** 2025-03-27T13:21:57-04:00 **(Page 16 of 16)**

Calculation Description: 3 Story + Basement New Construction **Input File Name:** 2800 Ocean Dr..ribd22

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Melissa Alves	Documentation Author Signature: Melissa Alves
Company: Melissa Alves Drafting	Signature Date: 03/27/2025
Address: 922 Coquina Lane #3	CEA/ HERS Certification Identification (If applicable):
City/State/Zip: Vero Beach, FL 32963	Phone: 5623627922

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.
2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

Responsible Designer Name: michael groves	Responsible Designer Signature: michael groves
Company: the construction zone	Date Signed: 03/27/2025
Address: 1729 E Osborn Rd	License: C35038
City/State/Zip: Phoenix, AZ 85016	Phone: 6022300383

Digitally signed by California Home Energy Efficiency Rating Services (CHEERS). This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

the construction zone
1729 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
MICHAEL SCOTT GROVES
No. C-35038
REN. 12.31.2025
STATE OF CALIFORNIA
06.05.25

ocean drive residence **PERMIT SET**

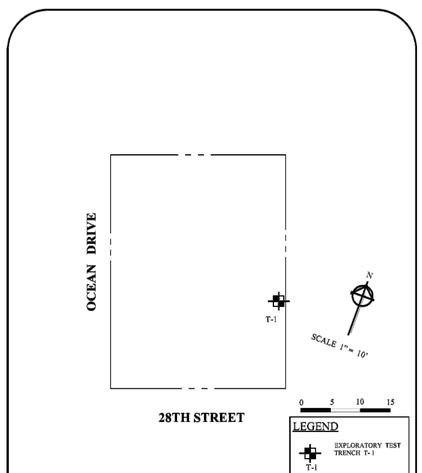
2800 ocean drive manhatten beach, ca 90266

ENERGY COMPLIANCE

PERMIT SET 04.18.25

T24-3

NOTE: BUILDING FOUNDATIONS HAVE ALREADY BEEN INSTALLED UNDER PREVIOUS PERMIT



SITE PLAN

JOB No. : 172287	DATE: August 21, 2017	PLATE 2

SITE: Mr. Michael Seitz
2800 Ocean Drive, Manhattan Beach, California

T.I.N. ENGINEERING COMPANY
17834 BAILEY DRIVE •TORRANCE • CALIFORNIA (310) 371-7045

Thank you for this opportunity to be of service. If you have any questions regarding this report, please contact the undersigned at the letterhead location.

Very truly yours,

T.I.N. ENGINEERING COMPANY

Tony S. C. Lee, M.S., P.E.
Project Engineer

TSCL:ir

Enclosures:

Vicinity Map	Plate	1
Site Plan	Plate	2
Test Trench Logs	Plate	3
Moisture Density Test Results	Plate	4
Direct Shear Test Results	Plate	5
Consolidation Test Results	Plate	6
Design of Freestanding Wall	Plate	7.1
Design of Non-Freestanding Wall	Plate	7.2
Calculations of Seismic Earth Pressures	Plate	7.3
Exploration and Laboratory Testing	Appendix	A
General Grading	Appendix	B

Distribution: Client (3)

Groundwater

No groundwater was encountered, nor were any springs or seeps observed during the course of this investigation. However, it should be noted that fluctuations in the level of the ground water may occur due to variations in rainfall, temperature, and other factors not evident at the time of our study.

Conclusions and Recommendations

General

Based upon our evaluation of the site and soil conditions, the foregoing data and information, the following conclusions and recommendations are made. Construction of the proposed residential building development is feasible from the standpoint of geotechnical engineering practice at the subject site, provided all recommendations and conditions made herein are incorporated into all design. The thickness of earth materials and the depths to foundation stratum indicated in this report are based on the data obtained from the exploratory trench. The actual thickness of earth materials and depths to foundation stratum beyond the exploratory trench may vary from that indicated herein. The design and construction procedures should take this into account.

1. The foundations of the proposed residential building should be founded on spread footings penetrating into firm beach sand as specified below. The depth to firm beach sand at the subject site is estimated to be approximately 1 foot below the existing grade, although it may be deeper.

2. The foundation trenches of the proposed residential building should be re-moistened prior to pouring of concrete.

Spread Footing Foundations

Spread footings founded into firm beach sand may be used for support of the proposed residential building and new basement retaining wall. The allowable bearing value for foundation placed as recommended may by calculated from the following. The allowable bearing value should not exceed 2,000 pounds per square foot.

Allowable Bearing Capacity…1,600 psf + 200d

where:
d = depth of foundation into firm beach sand in feet, "d" measured from 1.5 feet below existing grade.

Minimum Embedment Below Lowest Adjacent Grade and into Firm Beach Sand

One-Story and Retaining Wall	12 inches
Two-Story	18 inches
Three-Story	24 inches

Minimum Width of Spread Foundation:

One-Story	15 inches
Two-Story and Three-Story	18 inches

All continuous footings should be reinforced with a minimum of two #4 steel bars, one placed near the top, and one placed near the bottom of the footings.

Lateral Design

Resistance to lateral loading may be provided by friction acting at the base of foundations and by passive earth pressure within firm beach sand. An allowable coefficient of friction of 0.35 may be used with the dead load forces.

For spread footings in firm beach sand the allowable passive earth pressure may be computed as an equivalent fluid having a density of 250 pounds per square foot per foot with a maximum earth pressure of 2,500 pounds per square foot.

When combining the passive and friction values for calculating the lateral resistance, the passive component shall be reduced by one third.

The vertical and lateral bearing values indicated above are for the total of dead and all frequently applied live loads and may be increased by one-third for short duration loading which includes the effects of wind or seismic forces.

Foundation Settlement

Settlement of the foundation system is expected to occur on initial application of loading. The settlement is expected to be ¼ to ¾ inch, depending upon final loads. Differential settlement is not expected to exceed 1/3 inch for a horizontal distance of 30 feet.

Seismic Coefficients

Beach sand was encountered at the subject site. The foundations of the proposed residential building are to be founded into firm beach sand. Therefore, the following seismic coefficients should be utilized for designs of the proposed structures at the subject site:

- Site Latitude = 33.895022, Longitude = -118.416840
- Site Class: D
- Site Coefficient, F_a = 1.0
- Site Coefficient, F_v = 1.5
- Spectral Acceleration for Short Periods, S_s = 1.628g
- Spectral Acceleration for a 1-Second Period, S_1 = 0.613g
- Maximum Spectral Acceleration for Short Periods, $S_{MS} = F_a S_s$ = 1.628g
- Maximum Spectral Acceleration for a 1-Second Period, $S_{M1} = F_v S_1$ = 0.919g
- Design Spectral Acceleration at Short Periods, $S_{DS} = 2/3\ S_{MS}$ = 1.085g
- Design Spectral Acceleration at 1-Second Period, $S_{D1} = 2/3\ S_{M1}$ = 0.613g
- Seismic Design Category: D

Retaining and Basement Walls

Freestanding walls should be designed for static earth pressure as shown in Plate 7.1. Where basement/retaining walls exceed 6 feet in retained height, the walls should be designed for dynamic seismic lateral earth pressures based on the Building Code requirements plus the static lateral earth pressures. Based upon the one-half of 2/3 of the MCE_R value (0.613g), the seismic earth pressures used for design of the retaining wall should be designed with an equivalent fluid pressure of 28 pounds per cubic foot per foot wide as calculated in Plate 7.3. For allowable bearing values see "Spread Wall Foundations." For resistance of lateral loads see "Lateral Design."

Basement wall or similar walls retaining earth where the top of the wall is restricted from deflecting outward under the lateral earth pressure, such as by a concrete floor slab, should be considered as non-freestanding walls. The wall should be considered as being supported by the foundation and the upper floor slabs with those elements being designed to support the earth pressures. The earth pressure may be computed as equivalent to a trapezoidal pressure block as shown in the attached Plate 7.2. The Engineer or Architect should indicate where the wall may be backfilled.

Wall should be backfilled with on-site soil materials, compacted as described under "Grading", or with uniform crushed rock vibrated into place, and provided with backfill subdrains. If the wall is backfilled with the latter, the upper two feet should be backfilled with an impermeable layer of compacted earth. The subdrains should consist of 4-inch minimum diameter perforated pipe placed within filter material 3 to 5 inches vertically above the earth, 12 inches horizontally to any soil and 2 inches clear of any masonry or concrete surface. The filter material should consist of ¾ inch crushed rock. The base of the filter material should be two feet wide, or the width of the area to be backfilled whichever is less, placed up against the stem of the wall and a one-foot thickness continued up along the stem of the wall to within 24 inches of the finish grade surface. The invert of the perforated pipe should be at least 12 inches below finished floor slab elevation. Perforated pipe should slope

at least one percent, preferably two percent to daylight, with perforations pointing down and out to the side. Open head joints in concrete block are often inadequate as grout flow may seal them off. The 4-inch perforated pipe, encased in at least one cubic foot of ¾" crushed rock for the subdrain system behind walls, should be wrapped with geo-textile filter cloth.

Where penetration of moisture or water through walls is undesirable, the designer should take appropriate measures. As a minimum the designer should give consideration to treatment of the backfill side of the wall with a bituminous coating for resistance to penetration of water vapor. Troweled mortar coats, particularly for masonry surfaces, may be required to level irregular wall surfaces before application of bituminous coatings. In more critical applications, particularly where there may be a hydrostatic head of water, a bituminous membrane or similar system should be considered. All concrete and masonry should be of durable materials and carefully constructed to obtain a watertight member.

Shoring

Shoring may consist of steel soldier piles, placed in drilled holes are to be filled with concrete. For the design of soldier piles, a minimum of two diameters on center, the allowable lateral bearing value of the soils below the excavated level may be assumed to be equal to the pressure developed by a fluid with a density of 250 pounds per square foot per foot of depth, up to a maximum of 2,500 pounds per square foot, assuming firm contact between the soldier piles and the undisturbed soils. Structural concrete should be used for that portion of soldier pile which is below the excavated level; lean mix concrete may be used above the level. Frictional resistance between the soldier piles and the retained earth may be used in resisting the downward component of the anchor load. The coefficient of friction between the soldier piles and the retained earth may be taken as 0.4 assuming that uniform full bearing will be developed between the steel soldier beam and the lean-mix concrete and between the lean mix concrete and the retained earth.

Continuous lagging will be required between the soldier piles within most existing soils, and where any water seepage occurs. The soldier piles should be designed for the full anticipated pressure. However, the pressure on the lagging will be less due to arching in the soil. We recommend that the lagging be designed for the recommended earth pressure but limited to maximum value of 400 pounds per square foot.

Some deflection of the shoring should be anticipated although it is difficult to predict. It could be on the order of one inch at the top of 30 foot high shoring. If greater deflections occur during construction, bracing should be added to minimize damage to adjacent buildings and utilities. A greater active pressure should be used in the shoring design during the planning stages if it is desirable to reduce deflections.

Shoring should be monitored during the entire construction by surveying methods of the top of the steel beams and periodic photographs taken of adjacent structural existing cracks to aid in the resolution of possible disputes.

The hydrostatic pressure of water where water is not drained should be added to the above described pressure.

Temporary drainage devices should be installed at the top of the shored banks to divert water away from the banks. Shoring should be monitored during the entire construction to detect incipient movement which may indicate possible failure. The contractor should be solely responsible for safety during construction.

We should review shoring plans and specifications before bidding and are available to assist further in their preparation.

Temporary Construction Excavations

Excavations will be required for the proposed construction. The excavation is expected to expose on-site beach sand soil which is not suitable for vertical excavations over 1 foot. Portions of excavations over one foot should be trimmed to a 3:1 slope gradient. All excavations should be stabilized within 30 days of initial excavation. Water should not be allowed to pond on top of the excavation nor to flow toward it. No vehicular surcharge should be allowed within five feet of the top of cut.

All safety provisions of Cal OSHA and other related statutory agencies should be adhered to, especially as related to support of adjacent structures.

Temporary shoring should be designed for an active equivalent fluid pressure of 30 pounds per cubic foot.

Temporary excavations during the raining season are subject to potential hazards, such as caving, floods, erosion, raveling of the cuts and concentrated drainage. The potential damage from these hazards can be greatly reduced by maintenance of cuts and drainage facilities and erosion controls in the surrounding areas of the cuts. It is the responsibility of the owner or the project contractors to maintain the excavated areas and to improve any deficiencies found during the raining season.

Slabs On-Grade

The on-site soils are classified to be non-expansive. Slabs should be cast over a minimum of two inches of vibrated sand or miscellaneous base material placed on firm subgrade soil. The subgrade soil should be proof-rolled to remove any soft spots prior to covering of sand bedding and vapor barrier. Slabs should be reinforced with a minimum of #4 rebars at 24 inches on center each way. Slabs which will be provided with a floor covering should be protected by a polyethylene plastic vapor barrier. The barrier should be covered with a minimum two-inch layer of clean sand or miscellaneous base material to prevent punctures and aid in the concrete cure.

A minimum 4 inch concrete slab should be designed for interior and exterior concrete slabs.

As is typical in reinforced concrete construction, cracking of concrete can occur and is a common process. Reinforcement and crack control joints are intended to minimize this risk. In addition, irregularities of new slabs are common. A completed slab is generally not perfectly level and not free of some type of cracking.

Grading

The General Earthwork Specifications, Appendix B, should be used in preparation of the grading plans and job specifications where engineered fills are used and constitute our definition of an engineered fill. We should review all documents prior to submittal for statutory permits or contracting in order to ascertain that the intents of our recommendations are conveyed.

Drainage Control

Control of soil moisture is essential for the long term performance of improvements. All roof and surface drainage should be conducted away from the development in engineered non-erosive devices to a safe point of discharge and to the streets.

Slabs and planted areas immediately adjacent to the dwelling or appurtenant structures should slope away from said structures to mitigate pooling of water. All slabs and planted areas should be sloped to drain to a safe point of collection. Slabs should have a minimum slope of one percent and planted areas a minimum of two percent. All roof drainage should be collected in eave gutters that discharge directly into engineered non-erosive drainage devices. All joints in slab and swales should be maintained sealed with an appropriate joint compound.

Drainage devices shall be provided as specified by the Building Code and Grading Ordinances.

Plan Reviews

Final development plans should be reviewed by this office to ascertain that the general intents of the recommendations of this report have been incorporated into the plans. Additional structures not analyzed during this investigation should be reviewed by a representative of this office.

On-Site Construction Reviews

On-site construction reviews of all grading, drainage, and foundation work should be performed by a field representative of this office to ascertain compliance with the recommendations of this report. Final grading and/or construction should be observed and a

written observation form or report issued by this office stating that the work meets the recommendations of this report. The stages at which our on-site construction reviews are to be performed should include, but are not necessarily limited to, the following stages of work:

1. Observation of footing excavations prior to placement of form boards or reinforcing steel.

2. Observation of installation of shoring system.

3. As called for in Appendix B for on-site construction reviews and testing of all grading work and of compacted earth backfilling behind new retaining walls.

4. During proof rolling of subgrade soil before placement of base material or reinforcing steel, and again following the placement of base material prior to placing reinforcing.

5. Observation of installation of subdrain perforated pipes before covering with gravel or filter material, and again after placing the filter material over perforated pipes before covering with backfill.

6. Observation of installation of drainage structures and completion of all work.

All work and materials should comply with the latest applicable specifications of the City of Manhattan Beach.

Permits

Design and construction should be carried out under applicable conditions and permits of the City of Manhattan Beach Building Code and other concerned statutory authorities.

Remark

The conclusions and recommendations submitted in this report are based in part upon the data obtained from one exploratory test trench excavated by this office and site observations during the field exploration operations. The nature and extent of variations beyond the trench may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report. No warranty is made nor should any be construed that deep-seated soil or geological weaknesses may not exist below the depths explored. This office shall be notified if any unusual conditions differing from that disclosed by this report are encountered during construction.

In the event of any change in the assumed nature, or design of the proposed project as planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed by this office and the conclusions of this report modified or verified in writing.

This report is issued with the understanding that it is the responsibility of the owner, or of their representative to insure that the information and recommendations contained herein are called to the attention of the architect and engineers for the project and incorporated into the plan, and that the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

This report has been prepared for the exclusive use of the client and authorized agents, and in accordance with generally accepted soil and foundation engineering practices. No other warranties either expressed or implied are made as to the professional advice provided under the terms of this agreement and included in the report.

It is recommended that this office be provided the opportunity for a general review of final design and specifications in order that earthwork and foundation recommendations may be properly interpreted and implemented in the design specifications. As a condition for use of this report the above described "Plan Reviews" and "On-Site Construction Reviews" are to be performed. (If this office is not accorded the privilege of making the recommended reviews, we can assume no responsibility for misinterpretation of their recommendations).

The statements contained in this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they be due to natural processes or to the works of man, on this or adjacent properties. In addition, if changes in applicable or appropriate standards occur, whether they result from legislation or the broadening of knowledge, the conclusions of this report could be invalidated, wholly or partially, by changes outside of our control.

the construction zone
1720 east osborn road
phoenix, arizona 85016
office 602.230.0383
fax 602.230.0535

LICENSED ARCHITECT
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06.05.25

PERMIT SET

ocean drive residence
2800 ocean drive manhatten beach, ca 90266
GEOTECHNICAL REPORT
04.18.25
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