

NEW THREE-STORY TWO-UNIT CONDOMINIUM:
BOTTENE RESIDENCE
 1035 LOMA DRIVE
 HERMOSA BEACH, CA 90254



2617 NORTH SEPULVEDA BLVD.
 MANHATTAN BEACH, CA 90266
 TEL: 310-318-8089 WWW.TOMARO.COM
 #TOMAROARCHITECTURE
 @TOMAROARCHITECTURE

PROJECT
BOTTENE RESIDENCE
 1035 LOMA DRIVE
 HERMOSA BEACH
 CALIFORNIA 90254

STAMP

PROJECT NUMBER
 25002

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REVISIONS

| NUMBER | REVISION SCHEDULE | DESCRIPTION | DATE |
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DRAWING
3D IMAGES

SHEET NUMBER
COVER



UNIT A



UNIT B



UNIT A



UNIT B

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GENERAL NOTES

- BUILDING COMPLIES WITH 2019 CBC, 2019 CMC, 2019 CPC, 2019 CEC, AND CITY OF HERMOSA BEACH.
- ASAP NOTIFICATION IS REQUIRED 10 DAYS BEFORE BEGINNING ANY DEMOLITION WORK. REQUIRED FORM IS AVAILABLE AT THE COMMUNITY DEVELOPMENT DEPARTMENT. PROVIDE PROOF OF NOTIFICATION (MAIL WITH RETURN RECEIPT) 10 DAYS BEFORE BUILDING PERMIT IS ISSUED, OR COMPLETE ASBESTOS NOTIFICATION WAIVER.
- ALL BUILDING FEATURES PROJECTING INTO REQUIRED SETBACKS ARE INDICATED ON SITE/PILOT PLAN.
- SOILS REPORT SHALL BE PROVIDED TO THE BUILDING DEPARTMENT FOR ALL CUTS, FILLS, AND EARTHWORK AS REQUIRED BY CBC SECTION 1804.
- STUMPS AND ROOTS SHALL BE REMOVED TO A DEPTH OF 12" IN THE AREA OCCUPIED BY THE BUILDING.
- INSTALLATION OF INTERIOR AND EXTERIOR WALL AND CEILING COVERINGS SHALL CONFORM TO CHAPTER 25 UBC.
- ALL WATER CLOSETS TO FLUSH WITH 1.6 GALLON MAX. AND ALL NEW PLUMBING FIXTURES SHALL BE CERTIFIED LOW FLOW FIXTURES.
- ALL HOSE BIBS MUST BE PROTECTED BY BACK FLOW PREVENTION AND HAVE AN ANTI-SIPHON DEVICE.
- 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. PROVIDE CAST IRON WASTE PIPE RISERS.
- ALL WINDOW COVERINGS REQUIRED BY CFIR. FORM SHALL BE POSTED PRIOR TO FINAL INSPECTION.
- WRITTEN APPROVAL FROM THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCQAMD), (714)396-2000 PER RULE 1403 FOR THE PROPER DISPOSAL OF ASBESTOS.
- ONLY LOS ANGELES COUNTY HEALTH DEPARTMENT APPROVED DEVICES MAY BE UTILIZED FOR LANDSCAPE IRRIGATION BACK FLOW PREVENTION DEVICES.
- ALL SITE DRAINAGE SHALL BE TERMINATED AT PUBLIC WAY VIA NON-EROSIVE DEVICE PER HBWC.
- PROVIDE DRIP PAN OR SIMILAR DEVICE FOR LAUNDRY ROOM, WATER HEATER, AND DISHWASHER.
- PROVIDE SURVEY STAKES PRIOR TO FOUNDATION INSPECTION TO VERIFY LOT LINES. THE ARCHITECT IS NOT RESPONSIBLE FOR SITE GRADING OR DRAINAGE.
- IAPMO APPROVAL REQUIRED FOR ONE PIECE LAVATORY.
- POST INSULATION COMPLIANCE CARD IN CONSPICUOUS LOCATION IN DWELLING PRIOR TO FINAL INSPECTION.
- IT IS THE GENERAL CONTRACTORS RESPONSIBILITY TO VERIFY THAT THE BUILDING IS WITHIN THE HEIGHT LIMIT PRIOR TO FRAMING THE ROOF RAFTERS. CONTACT THE CIVIL SURVEY CONSULTANTS.
- CONTROL VALVE FOR SHOWERS AND TUB/SHOWERS SHALL BE OF THE PRESSURE BALANCE OR THERMOSTATIC MIXING VALVE TYPE. UBC, SECT. 410.7.
- VERIFY CLEARANCES WITH OVERHEAD UTILITY LINES FROM ALL PERMANENT AND TEMPORARY STRUCTURE INCLUDING SCAFFOLDING AND OTHER WORKING AREAS DURING CONSTRUCTION. CLEARANCE TO BE 8 FT. HORIZONTAL AND 12 FT. VERTICAL. VERIFY WITH SOUTHERN CALIFORNIA EDISON CO. BEFORE COMMENCING CONSTRUCTION.
- PROVIDE PROTECTION TO PEDESTRIANS PER UBC SECTION 3303 DURING CONSTRUCTION.
- BUILDING ADDRESS SHALL BE PROVIDED ON THE BUILDING IN SUCH A POSITION AS TO BE PLAINLY VISIBLE AND LEGIBLE FROM THE STREET PER CBC SEC. 501.
- THE STRUCTURE SHALL COMPLY WITH THE SECURITY REQUIREMENTS OF APPENDIX CHAPTER 10 SECURITY OF HBWC.
- COOKING EQUIPMENT MUST BE LISTED FOR RESIDENTIAL USE.
- ALL DOORS PROVIDING DIRECT ACCESS TO THE POOL SHALL BE EQUIPPED WITH A SELF CLOSING, SELF LATCHING DEVICE WITH A RELEASE MECHANISM PLACED NO LOWER THAN 54" AFF. ALL THESE DOORS SHALL BE EQUIPPED WITH EXIT ALARMS. CBC SECTION 3109.4.1.8.
- UNDERGROUND ELECTRICAL SERVICE REQUIRED FOR ALL REPAIRS, REMODELS OR EXPANSION EXCEPT WHERE THE BUILDING VALUATION OF SUCH REPAIRS OR REMODELS IN A FIVE-YEAR PERIOD DOES NOT EXCEED FIFTY PERCENT OF THE EXISTING VALUATION PRIOR TO CONSTRUCTION.
- ALL WATER FIXTURES SHALL BE WATER CONSERVING CPC 402.0
- DRAINAGE FIXTURE LOCATED BELOW THE NEXT UPSTREAM MANHOLE OR BELOW THE MAIN SEWER LEVEL REQUIRES INVESTIGATION TO ASCERTAIN THE NECESSITY FOR SEWER BACKWATER DEVICE CPC 710.0

EXCAVATION NOTES

- PROVIDE CONTINUOUS INSPECTION DURING EXCAVATION OF SHORING AND INSTALLATION OF SHORING MEMBERS.
- AN EXCAVATION/CONSTRUCTION PERMIT SHALL BE OBTAINED PRIOR TO CONSTRUCTION OF ANY IMPROVEMENTS WITHIN PUBLIC RIGHT-OF-WAY. THIS INCLUDES, BUT IS NOT LIMITED TO, STANDARD SIDEWALKS, CURBS, GUTTERS, DRIVEWAY APPROACHES, OR UNDERGROUNDING OF UTILITIES.
- CONTRACTOR TO PROVIDE EVIDENCE OF PERMIT FROM CALIFORNIA STATE DEPARTMENT OF INDUSTRIAL SAFETY FOR EXCAVATION 5'-0" OR DEEPER. CALL 213.736.3041.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT "DIG ALERT" PRIOR TO ANY EXCAVATION IN THE PUBLIC RIGHT-OF-WAY. (800) 227-2600
- PROVIDE TEMPORARY SHORING OF ADJACENT PROPERTY. QUALIFIED PERSONS REGISTERED WITH THE STATE SHALL DESIGN SHORING.
- A PERMIT IS REQUIRED FROM THE STATE DIVISION OF INDUSTRIAL SAFETY FOR TRENCHES OR EXCAVATION 5' (1.52 METERS) OR DEEPER OR BUILDING/STRUCTURE OVER 3 STORIES HIGH, OR BUILDING OVER 36' (11 METERS) HIGH.

ENCROACHMENT NOTES

- ALL PLANT MATERIALS IN THE PLANNED LANDSCAPE SHALL NOT BE HAZARDOUS TO HEALTH AND SAFETY, SUCH AS PLANTS THAT CONTAIN THORNS, SPINES, TOXIC FRUITS OR LEAVES, AND THOSE THAT DROP EXCESSIVE SLIPPERY FRUITS AND FLOWERS, AND SURFACE ROOTING.
- ALL LANDSCAPE AREAS SHALL BE ON A FULLY AUTOMATED IRRIGATION SYSTEM SUPPLIED BY HOME OWNER.
- ALL WORKMANSHIP AND MATERIALS SHALL CONFORM WITH LOCAL BUILDING, PLUMBING AND ALL OTHER APPLICABLE CODES HAVING JURISDICTION.
- HEIGHTS OF WALLS, FENCES AND ALL OTHER ELEMENTS SHALL COMPLY WITH CITY ENCROACHMENT REGULATIONS.
- UTILITIES AND VISUAL OBSTRUCTIONS MAX. 42" HIGH SHALL GENERALLY BE AVOIDED SO AS TO MAINTAIN ACCESS TO UNDERGROUND UTILITIES AND TO PROTECT VISTAS FROM NEIGHBORING PROPERTIES.
- PLANT MATERIALS SHALL NOT EXCEED 42" IN HEIGHT. TREES AND SHRUBS MAY BE PERMITTED WITH A SEPARATE LANDSCAPE PLAN.

CITY OF HERMOSA BEACH DEPT. OF PUBLIC WORKS PUBLIC RIGHT OF WAY REQUIREMENTS

THE FOLLOWING STANDARD CONDITIONS APPLY TO ALL PROJECTS REQUIRING A BUILDING PERMIT UNLESS IT IS DETERMINED UNNECESSARY BY THE PUBLIC WORKS DIRECTOR. A GRADING PLAN IS REQUIRED FOR ANY PROJECT REQUIRING A BUILDING PERMIT UNLESS WAIVED BY THE DIRECTOR OF PUBLIC WORKS. ALL CONSTRUCTION MUST COMPLY WITH THE CITY OF HERMOSA BEACH AND LOS ANGELES COUNTY STANDARDS.

PLAN REQUIREMENTS

- ALL PLANS FOR NEW AND/OR ADDITIONS OVER FOUR HUNDRED (400) SQUARE FEET MUST BE SUBMITTED TO THE PUBLIC WORKS DEPARTMENT, PRIOR TO CONSTRUCTION, FOR PUBLIC RIGHT OF WAY REQUIRED IMPROVEMENTS.
- AN ENGINEERING PLAN SHOWING PROPOSED STORMWATER CONTROL FOR THE PROJECT SHALL BE MADE A PART OF THE PLAN. THIS PLAN SHALL SHOW THE EXISTING STREET CROSS SECTIONS, ELEVATIONS AND EXISTING CURB AND GUTTER ELEVATIONS FOR A DISTANCE OF ONE HUNDRED FEET (100') ON EACH SIDE OF THE PROPOSED PROJECT, AND THE PROPOSED ELEVATIONS FOR THE PLANNED PROJECT.
- A SURVEY OF THE PROJECT WILL BE REQUIRED WITH SURVEY POINTS SET AT THE CENTER LINE OF THE STREET AND OFFSET POINTS EITHER ON THE TOP OF THE CURB OR IN THE SIDEWALK. ALL SURVEY POINTS SHALL BE RE-ESTABLISHED IF THEY ARE REMOVED OR DESTROYED DURING CONSTRUCTION.

PERMIT REQUIREMENTS

- A SEWER CAP PERMIT MUST BE ACQUIRED BEFORE A DEMOLITION PERMIT WILL BE ISSUED.
- ALL WORK DONE WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE DONE BY A CURRENTLY 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 SINGLE FAMILY RESIDENTIAL STRUCTURE.
- ALL CONTRACTORS WORKING ON PUBLIC WORKS PROJECTS MUST HAVE A CURRENT CITY OF HERMOSA BEACH BUSINESS LICENSE.
- PUBLIC WORKS PERMITS SHALL BE REQUIRED FOR ANY SCAFFOLDING, UTILITY TRENCHING, LUMBER DROPS, CRANES, DUMPSTERS, ETC. ON PUBLIC PROPERTY. THE PUBLIC WORKS PERMIT MUST BE ON THE JOB SITE AND AVAILABLE FOR REVIEW BY CITY OFFICIALS AT ALL TIMES. ANY OF THE WORK REQUIRING PERMIT(S) AND STARTED WITHOUT NECESSARY PERMIT(S) SHALL RESULT IN THE JOB BEING STOPPED UNTIL THE PERMIT(S) ARE OBTAINED AND A DOUBLE FEE FOR PERMIT(S) WILL BE CHARGED.
- A CASH DEPOSIT WILL BE REQUIRED FOR ALL WORK WITHIN THE CITY RIGHT-OF-WAY. THE AMOUNT OF THE SAID DEPOSIT WILL BE DETERMINED BY THE ENGINEERING DEPARTMENT (THE MINIMUM DEPOSIT IS SET AT \$1,600). THE CASH DEPOSIT WILL BE REQUIRED FOR EACH PROJECT AND WILL NOT BE TRANSFERRED FROM ON PROJECT TO ANOTHER. AFTER ALL IMPROVEMENTS ARE IN PLACE AND APPROVED THE CASH DEPOSIT WILL BE REFUNDED.
- ANYTHING EXISTING OR TO BE CONSTRUCTED ON CITY RIGHT-OF-WAY OTHER THAN REQUIRED CITY IMPROVEMENTS WILL REQUIRE AN ENCROACHMENT PERMIT.
- A CONSTRUCTION PERMIT WILL NOT BE ISSUED UNTIL PROPER PERMITS HAVE BEEN ISSUED FROM OTHER AGENCIES SUCH AS CALTRANS, LOS ANGELES COUNTY, SANITARIUM DISTRICT, WATER QUALITY CONTROL BOARD, ETC. IF SAID PERMITS ARE REQUIRED.
- APPLICANT SHALL MAINTAIN AND KEEP IN FORCE AT ALL TIMES DURING CONSTRUCTION A POLICY OF LIABILITY INSURANCE, NAMING THE CITY AS ADDITIONALLY INSURED IN THE AMOUNT OF ONE MILLION DOLLARS (\$1,000,000) MINIMUM.
- SECTION 42184217 OF THE GOVERNMENT CODE REQUIRES A DIG ALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" WILL BE VALID. FOR YOUR DIG ALERT I.D. NUMBER CALL UNDERGROUND SERVICE ALERT AT (800) 227-2600 TWO WORKING DAYS BEFORE YOU DIG.

CONSTRUCTION REQUIREMENTS

- ALL EXISTING CURB, GUTTER, CONCRETE DRAINAGE SWALE, SIDEWALK AND DRIVEWAY WITHIN THE PROPERTY LIMITS SHALL BE REMOVED AND REPLACED, UNLESS IT IS DETERMINED BY THE CITY PUBLIC WORKS INSPECTOR THAT THEY MEET THE CURRENT CITY STANDARDS.
- IF THE CURB, GUTTER, CONCRETE DRAINAGE SWALE, SIDEWALK OR DRIVEWAY DO NOT EXIST THEY SHALL BE CONSTRUCTED.
- CURB AND GUTTER SHALL BE POURED MONOLITHICALLY, BUT SEPARATE FROM SIDEWALK.
- ALL DRIVEWAY SLOPES TO BE 2% FROM TOP OF CURB OR LIP OF SWALE TO RIGHT-OF-WAY.
- WHEELCHAIR RAMPS ARE REQUIRED ON CORNER LOTS AND MAY BE REQUIRED AT OTHER LOCATIONS.
- GRAFFITI IN FRESHLY POURED CONCRETE SHALL BE REMOVED BY WHATEVER MEANS NECESSARY UP TO AND INCLUDING REMOVE AND REPLACEMENT.
- ALL LANDSCAPING WITHIN THE PUBLIC RIGHT-OF-WAY MUST HAVE AN AUTOMATIC IRRIGATION SYSTEM.
- ALL LANDSCAPE IRRIGATION MUST MEET CURRENT CITY REQUIREMENTS FOR PROPER INSTALLATION. ALL SITE DRAINAGE SHALL BE TERMINATED AT PUBLIC WAY VIA NON-EROSIVE DEVICE PER HBMC.
- SUMP PUMPS REQUIRE 2" ABS. DISCHARGE LINE PER PUMP TO TERMINATE AT CURB.
- SEWER LATERALS MUST BE A MINIMUM 4" V.C.P. PIPE FOR SINGLE FAMILY HOMES ONE LATERAL PER UNIT.
- SEWER LATERALS FOR CONDOMINIUMS SHALL BE A MINIMUM 6" V.C.P. PIPE WITH A MINIMUM OF 4 UNITS PER LATERAL.
- EXISTING SEWER LATERALS MAY BE USED IF THE CRITERIA OUTLINED IN NOTES (10) AND (11) ARE MET AND A VIDEO TAPE HAS BEEN PROVIDED TO THE PUBLIC WORKS DEPARTMENT AND IF THE VIDEO SHOW THE LATERAL TO BE IN GOOD CONDITION.

DAMAGE TO PUBLIC PROPERTY

- ANY ASPHALT OR CONCRETE STREET WITHIN THE PROPERTY LIMITS THAT IS DAMAGED PRIOR TO CONSTRUCTION SHALL BE REMOVED AND REPLACED TO MEET CURRENT CITY STANDARDS.
- ANY PUBLIC PROPERTY DAMAGED DURING CONSTRUCTION SHALL BE REPLACED IN KIND TO THE SATISFACTION OF THE CITY PUBLIC WORKS INSPECTOR. THE CITY SHALL AT ITS DISCRETION AND IN THE INTEREST OF PUBLIC SAFETY, MAKE ANY REPAIRS DEEMED NECESSARY, THE COST OF WHICH WILL BE DEDUCTED FROM THE DEPOSIT HELD BY THE CITY.

UTILITY REQUIREMENTS

- ANY UTILITY CUT WITHIN CITY STREETS SHALL BE EITHER PERPENDICULAR OR PARALLEL TO THE CENTER OF THE STREET. DIAGONAL CUTS WILL NOT BE ALLOWED.
- BACKFILL OF TRENCHES SHALL BE DONE IN LIFTS OF NO MORE THAN TWO FEET (2) WITH WATER JET. PROTECTION TOOL USED BETWEEN EACH LIFT. ONE SACK SLURRY MIX CAN BE USED IN PLACE OF NATIVE SOIL.
- AFTER BACKFILLING THE TRENCH A TEMPORARY ASPHALT PATCH SHALL BE PLACED OVER THE TRENCH AND REMAIN FOR A MINIMUM OF TWO (2) WEEKS.
- THE PERMANENT PATCH WILL REQUIRE A ONE FOOT (1) MINIMUM OVERCUT ON EACH SIDE OF THE TRENCHLINE PRIOR TO THE FINAL PATCH. THE FINAL PATCH SHALL BE A MINIMUM OF FIVE INCHES (5) THICK OR ONE INCH (1) THICKER THAN THE EXISTING PAVEMENT.
- THE FINAL PATCH IN ASPHALT STREETS TO BE DONE IN TWO LIFTS, A BASE OF 3" MINIMUM 3/4 AGGREGATE AND A TOP LIFT OF 2" OF 3/8" AGGREGATE. ALL EDGES OF THE CUT ASPHALT TO BE PACKED THOROUGHLY AND THE PATCH COMPACTED BY MECHANICAL MEANS TO A HEIGHT SLIGHTLY HIGHER THAN THE EXISTING ASPHALT AND ALL EDGES TO BE TACKLED.
- THE FINAL PATCH ON CONCRETE STREETS TO BE CLASS 3500 P.S.I. (7 SACK), EXISTING CONCRETE TO BE DRILLED TWO AND HALF INCHES (2 1/2") BELOW THE SURFACE TO A DEPTH OF 6" MINIMUM AND DOWELED WITH #5 REBAR ON 18" SPACING. FINISH TO MATCH EXISTING OR MEDIUM BROOM.
- ALL UTILITY BOXES ARE TO BE NEW AND ADJUSTED TO THE NEW GRADE. KEEP ALL UTILITY BOXES OUT OF DRAINAGE FLOW LINES, CURB RETURNS, DRIVEWAY APPROACH AND WHEEL CHAIR RAMPS IF AT ALL POSSIBLE.
- ALL UTILITIES SHALL BE UNDER GROUND. CONTRACTOR TO CONTACT THE SOUTHERN CALIFORNIA EDISON COMPANY FOR THEIR REVIEW.

JOB SAFETY REQUIREMENTS

- PROPER BARRICADES SHALL BE PLACED AROUND ANY CONSTRUCTION SITE WITHIN THE PUBLIC RIGHT-OF-WAY. THESE BARRICADES SHALL COMPLY WITH THE REQUIREMENTS OF THE WORK AREA TRAFFIC CONTROL HANDBOOK (W.A.T.C.H.) MANUAL.
- ANYTIME A STREET OR ALLEY IS GOING TO BE CLOSED THE APPROVAL OF THE PUBLIC WORKS DEPARTMENT IS REQUIRED. ALSO THE POLICE AND FIRE DEPARTMENT DISPATCHER, SHALL BE NOTIFIED (310) 318-0313.
- STREET, ALLEY AND SIDEWALK CLOSURES REQUIRE PROPER SIGNAGE AND BARRICADES AS REQUIRED BY THE (W.A.T.C.H.) MANUAL.
- ALL CONSTRUCTION FENCES ARE TO BE BEHIND THE SIDEWALK AND ALL CONSTRUCTION MATERIAL WITHOUT PERMITS ARE TO BE BEHIND THE FENCE. SIDEWALKS ARE TO BE ACCESSIBLE TO PEDESTREANS AT ALL TIMES.
- IF SCAFFOLDING IS NEEDED ON THE PUBLIC RIGHT OF WAY, A PERMIT WILL BE REQUIRED AND ALL PROVISIONS OF THE 1997 UNIFORM BUILDING CODE SECTION 3303 OR THE LATEST EDITION MUST BE MET.
- NO CONSTRUCTION EQUIPMENT, CONSTRUCTION MATERIAL, PORTABLE TOILETS, DUMPSTERS, ETC. SHALL BE LEFT ON PUBLIC PROPERTY OVERNIGHT WITHOUT PROPER PERMITS. THESE OBSTRUCTIONS MUST HAVE PROPER BARRICADES WITH FLASHING YELLOW LIGHTS OPERATING AFTER DARK.
- NO OVERNIGHT CLOSURES WILL BE ALLOWED WITHOUT THE APPROVAL OF THE DIRECTOR OF PUBLIC WORKS.
- ANY PUBLIC SIDEWALK DAMAGE TO THE POINT OF CAUSING A TRIP HAZARD DURING CONSTRUCTION, THAT PANEL OF CONCRETE SHALL BE REMOVED IMMEDIATELY AND PATCHED WITH TEMPORARY ASPHALT PATCH WHICH MUST BE KEPT IN GOOD REPAIR UNTIL THE PERMANENT SIDEWALK IS CONSTRUCTED.
- ALL VEHICLES THAT INTRUDE INTO A NORMAL TRAFFIC LANE MUST HAVE PROPER SIGNAGE AND BARRICADES AS REQUIRED BY THE (W.A.T.C.H.) MANUAL.
- ALL WORK VEHICLES ARE SUBJECT TO ALL APPLICABLE PARKING RESTRICTIONS.
- MATERIAL DROPOFF IS NOT ALLOWED ON THE PUBLIC RIGHT OF WAY WITHOUT FIRST OBTAINING A PERMIT FROM THE PUBLIC WORKS DEPARTMENT.
- FLAGMEN ARE REQUIRED FOR ANY VEHICLES THAT BLOCK THE TRAVEL LANE AND REQUIRE TRAFFIC TO USE THE OPPOSING LANES TO PASS.
- PEDESTRIAN PROTECTION SHALL COMPLY WITH UBC SECTION 3303 DURING CONSTRUCTION.
- ALL ACTIVITIES PERFORMED IN PUBLIC RIGHT OF WAY DURING THE COURSE OF CONSTRUCTION REQUIRE PUBLIC WORKS PERMIT.

STORM RUNOFF REQUIREMENTS

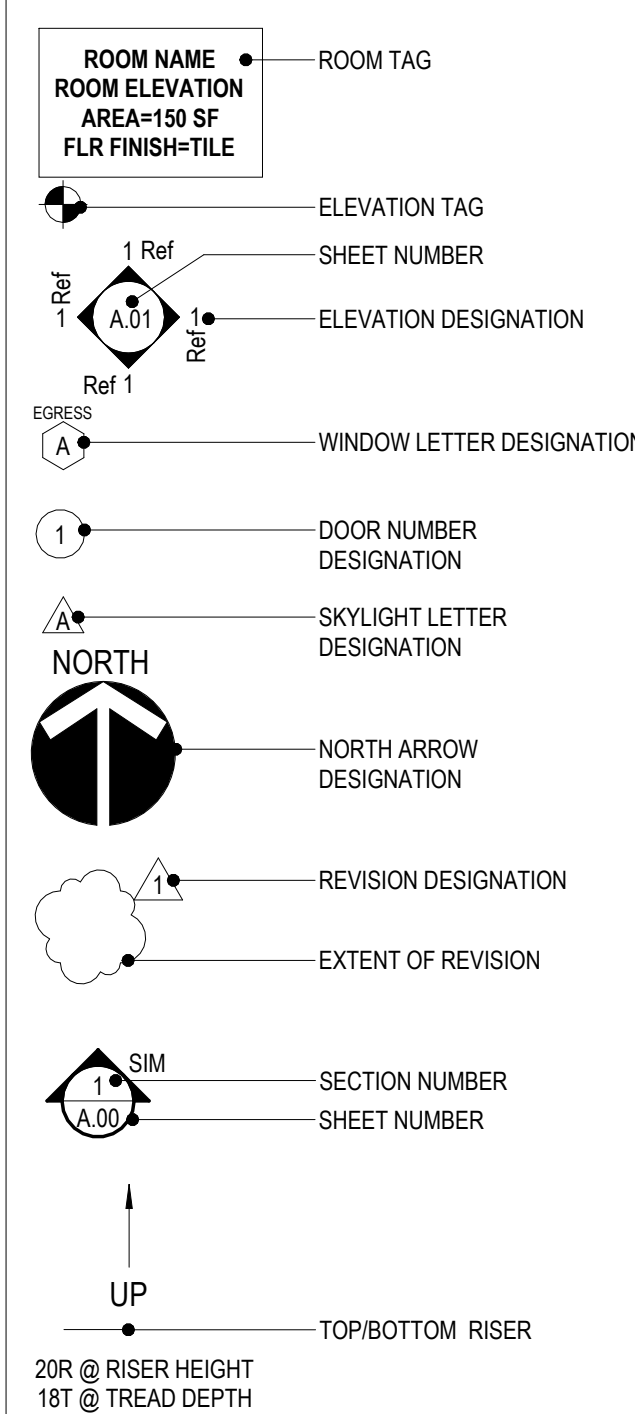
- PRECAUTIONS SHALL BE TAKEN TO PREVENT ANY CONSTRUCTION MATERIAL DEBRIS OR RUNOFF FROM ENTERING ANY CITY RIGHT-OF-WAY OR COUNTY STORM DRAIN. A SAW CUT RESIDUE MUST BE RETAINED WITH BERMS OR SAND BAGS AND VACUMMED TO PREVENT IT FROM ENTERING INTO ANY STORM DRAIN SYSTEM.
- SANDBAGS ARE REQUIRED FOR EROSION CONTROL DURING THE RAINY SEASON, OCTOBER 15th THROUGH APRIL 15th AND MAY BE REQUIRED AT OTHER TIMES.
- A POLLUTION PREVENTION PLAN IS REQUIRED FOR CONSTRUCTION SITES TWO ACRES OR MORE.
- STORM WATER MITIGATION PLANS ARE REQUIRED FOR THE FOLLOWING PROJECTS:
 - SINGLE FAMILY HILLSIDE DEVELOPMENTS WITH A SLOPE GREATER THAN 25%.
 - 10+ HOME DEVELOPMENTS.
 - PARKING LOTS, 25 SPACES OR MORE.
 - RESTAURANTS
 - SERVICE STATIONS.
 - AUTO REPAIR FACILITIES.
 - 100,000 SQUARE FEET COMMERCIAL DEVELOPMENTS.

SUCH PROJECTS MUST CAPTURE AND TREAT THE FIRST 3/4" INCH OF RAIN RUNOFF FROM THEIR SITE.

INSPECTION REQUIREMENTS

- CALL FOR INSPECTION 24 HOURS IN ADVANCE (310) 318-0214.
- INSPECTIONS WILL ONLY BE DONE MONDAY THROUGH THURSDAY 8:30 AM TO 12:30 PM AND 1:30 PM TO 4:30 PM OFFICE COUNTER HELP WILL BE AVAILABLE FROM 7:00 AM TO 8:30 AM AND 4:30 PM TO 6:00 PM.
- ALL FORMS AND COMPACTION SHALL BE INSPECTED PRIOR TO ANY CONCRETE BEING POURED OR ASPHALT BEING PLACED.
- SEWER LATERAL PERMITS WILL NOT BE FINAL UNLESS A SEWER LATERAL DIAGRAM HAS BEEN COMPLETED AND APPROVED.

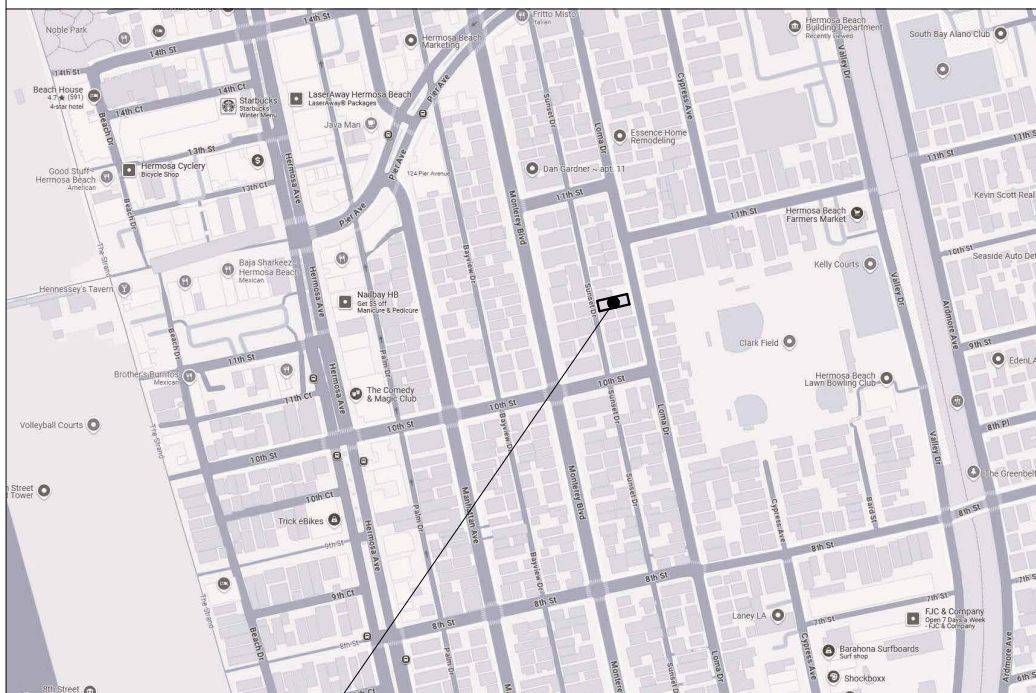
SYMBOL LEGEND



ABBREVIATION

| | |
|--------|-----------------------|
| A.H. | ACTUAL HEIGHT |
| A.W. | AWNING WINDOW |
| B.O.W. | BOTTOM OF WALL |
| C.H. | CRITICAL HEIGHT |
| CLG. | CEILING |
| CLR. | CLEAR |
| COL. | COLUMN |
| CONC. | CONCRETE |
| C.W. | CASEMENT WINDOW |
| DM. | DIMENSION |
| DN. | DOWN |
| E.G. | EXISTING GRADE |
| ELEV. | ELEVATION |
| F.A. | FROM ABOVE |
| F.G. | FINISH GRADE |
| FLR. | FLOOR |
| F.S. | FINISH SURFACE |
| FX | FIXED |
| HORIZ. | HORIZONTAL |
| HT. | HEIGHT |
| LAND. | LANDING |
| LD.WT. | LIGHT WEIGHT CONCRETE |
| MAX. | MAXIMUM |
| MIN. | MINIMUM |
| NEIGH. | NEIGHBOR GRADE |
| OP. | OPERABLE |
| PL. | PROPERTY LINE |
| REQ. | REQUIRED |
| SECT. | SECTION |
| S.F.E. | SUB FLOOR ELEVATION |
| SHT. | SHEET |
| SK. | SKEWEDED |
| SL. | SLOPED |
| T.O.C. | TOP OF CURB |
| T.O.F. | TOP OF FENCE |
| T.O.W. | TOP OF WALL |

VICINITY MAP



HERMOSA BEACH, CA

SCOPE OF WORK

A NEW THREE-STORY TWO-UNIT CONDOMINIUM RESIDENCE.

SEPARATE PERMIT

CONTRACTOR TO SUBMIT SEPARATE PERMIT APPLICATION FOR SHORING, DEMOLITION, FIRE SPRINKLER SYSTEM, PLUMBING, ELECTRICAL LOAD CALCULATIONS

PROJECT DATA

PROPERTY OWNERS

ALBERTO & MONIQUE BOTTENE
 2840 AMBY PLACE
 HERMOSA BEACH, CA 90254

LEGAL DESCRIPTION

LOT #28
 TRACT #1516
 M.B. 25/39
 APN 4187-012-013

OCCUPANCY AND ZONING

OCCUPANCY: R-3U
 ZONING: R-3
 CONSTRUCTION TYPE: V-B (FULLY SPRINKLERED)
 NUMBER OF UNITS: 2
 NUMBER OF STORIES: 3

CITY, STATE, NATIONALLY APPLICABLE CODES

2022 CBC, 2022 CBC, 2022 CMC, 2022 CPC, 2022 CEC, STATE OF CALIFORNIA, AND THE CITY OF MANHATTAN BEACH

AREA CALCULATIONS

| | | |
|-------------------------------------|-----------------|-----------------|
| LOT AREA | = 2,780 SF | |
| FIRST FLOOR LIVING | UNIT A = 327 SF | UNIT B = 327 SF |
| SECOND FLOOR LIVING | = 920 SF | 956 SF |
| THIRD FLOOR LIVING | = 784 SF | 795 SF |
| TOTAL LIVING | = 2,031 SF | 2,078 SF |
| BUILDING TOTAL | = 4,109 SF | |
| GARAGE FLOOR | = 391 SF | 430 SF |
| BALCONIES/DECKS | = 341 SF | 376 SF |
| STORAGE | = 71 SF | 38 SF |
| ENCLOSED STORAGE (200 CU. FT. MIN.) | = 405 CF | 207 CF |

HEIGHT CALCULATIONS

MAXIMUM ALLOWABLE HEIGHT = 30'-0"
 ACTUAL HEIGHT SEE SHEET A.05 FOR CRITICAL POINTS & A.06 & A.07 FOR ADDITIONAL HEIGHT INFORMATION

LOT COVERAGE CALCULATIONS

| | |
|-----------------------|------------|
| LOT AREA | = 2,780 SF |
| MAX. LOT COVERAGE | = 1,807 SF |
| = LOT AREA x 65% | |
| = 2,780 SF x 0.65 | |
| PROPOSED LOT COVERAGE | = 1,807 SF |
| (65% OF LOT AREA) | |

OPEN SPACE CALCULATIONS

| | |
|---------------------|---------------|
| OPEN SPACE REQUIRED | = 300 SF/UNIT |
| OPEN SPACE PROVIDED | = 300 SF/UNIT |

| | | |
|---------------------------|---------------|---------------|
| FIRST FLOOR | UNIT A = 0 SF | UNIT B = 0 SF |
| SECOND FLOOR | = 0 SF | 0 SF |
| THIRD FLOOR | = 200 SF | 300 SF |
| ROOF DECK | = 100 SF | 0 SF |
| TOTAL OPEN SPACE PROVIDED | = 300 SF | 300 SF |

CONSULTANTS

CIVIL SURVEY CONSULTANT

EAGLE EYE LAND & AERIAL SURVEYING
 1311 MANHATTAN BEACH BLVD
 MANHATTAN BEACH, CA 90266
 T. 562.452.3519

CIVIL CONSULTANT

FGB ENGINEERS
 572 S MOTIF STREET
 ANAHEIM, CA 92805
 T. 562.554.1071

STRUCTURAL CONSULTANT

NAME
 ADDRESS
 CITY, CA ZIP
 T.310.000.0000

GEO-TECHNICAL CONSULTANT

NORCAL ENGINEERING
 10641 HUMBOLT STREET
 LOS ALAMITOS, CA 90720
 T. 562.799.9469

ENERGY CONSULTANT

NAME
 ADDRESS
 CITY, CA ZIP
 T.310.000.0000

INTERIOR DESIGNER

NAME
 ADDRESS
 CITY, CA ZIP
 T.310.000.0000

LIGHTING CONSULTANT

NAME
 ADDRESS
 CITY, CA ZIP
 T.310.000.0000

SHEET INDEX

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PROJECT

BOTTENE RESIDENCE
 1035 LOMA DRIVE
 HERMOSA BEACH
 CALIFORNIA 90254

STAMP

PROJECT NUMBER

25002

PRINT DATE

8/13/2025 12:51:13 PM

REVISIONS

| NUMBER | REVISION SCHEDULE | DESCRIPTION | DATE |
|--------|-------------------|-------------|------|
| | | | |

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DRAWING

PROJECT INFORMATION

SHEET NUMBER

G.00

PUBLIC WORKS STANDARD NOTES

GENERAL CONSTRUCTION NOTES:

- CONSTRUCTION WORK HOURS ARE LIMITED TO 8:00 AM TO 6:00 PM, MONDAY THROUGH FRIDAY. WORK PROHIBITED ON SATURDAYS, SUNDAYS AND NATIONAL HOLIDAYS.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THESE PLANS, THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK"), AND CITY OF HERMOSA BEACH PUBLIC WORKS STANDARD PLANS.
- ALL WORK DONE WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE DONE BY A LICENSED CONTRACTOR WITH A CLASS A, C-8 OR C-12 LICENSE FOR ALL SIDEWALK, CURB AND GUTTER; C-12 LICENSE FOR ALL STREET PAVEMENT WORK; AND CLASS C-34 LICENSE FOR UTILITY WORK SUCH AS SEWER LATERAL, SEWER CAP AND UNDERGROUND UTILITY WORK IN CONJUNCTION WITH A SINGLE FAMILY RESIDENTIAL STRUCTURE.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL NECESSARY PERMITS. PUBLIC WORKS TEMPORARY RIGHT-OF-WAY PERMITS ARE REQUIRED FOR ANY SCAFFOLDING, UTILITY TRENCHING, LUMBER DROPS, CRANES, DUMPSTERS, ETC. ON PUBLIC PROPERTY. THE PUBLIC WORKS PERMIT MUST BE ON THE JOB SITE AND AVAILABLE FOR REVIEW BY CITY OFFICIALS AT ALL TIMES. IF ANY WORK HAS BEGUN BEFORE OBTAINING A PERMIT, THE JOB WILL BE STOPPED UNTIL THE PERMIT IS OBTAINED.
- ALL CONTRACTORS WORKING ON PUBLIC WORKS PROJECTS MUST HAVE A CURRENT CITY OF HERMOSA BEACH BUSINESS LICENSE.
- THE CONTRACTOR SHALL CALL IN A LOCATION REQUEST TO UNDERGROUND SERVICE ALERT (USA) AT (800) 227-2600 TWO WORKING DAYS BEFORE PERFORMING ANY DIGGING. SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES THAT A DIGALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" WILL BE VALID.
- 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.
- CONTACT PUBLIC WORKS FOR INSPECTION AT LEAST 24 HOURS IN ADVANCE. INSPECTIONS ARE AVAILABLE MONDAY THROUGH FRIDAY, 8:30 A.M. TO 12:00 A.M. AND 1:00 P.M. TO 4:30 P.M.; OFFICE COUNTER ASSISTANCE IS AVAILABLE FROM 7:00 A.M. TO 8:30 A.M. AND 4:30 P.M. TO 6:00 P.M.
- ALL FORMS AND COMPACTION SHALL BE INSPECTED PRIOR TO ANY CONCRETE POUR OR ASPHALT BEING PLACED.
- ALL SURVEY POINTS AND MONUMENTS SHALL BE PROTECTED IN PLACE OR RE-ESTABLISHED IF THEY ARE REMOVED OR DESTROYED DURING CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL, DUST CONTROL, AND TEMPORARY DRAINAGE CONTROL AT ALL TIMES.
- ALL CONSTRUCTION TO BE IN CONFORMANCE WITH THE REGULATIONS OF CAL-OSHA.

GENERAL NOTES FOR STREET AND STORM DRAIN IMPROVEMENTS:

- ALL STREET CLOSURES REQUIRE A TRAFFIC CONTROL PLAN TO BE REVIEWED AND APPROVED BY THE CITY ENGINEER PRIOR TO CONSTRUCTION. ALL TRAFFIC CONTROL SHALL BE PER THE WORK AREA TRAFFIC CONTROL HANDBOOK (WATCH) MANUAL. STREET CLOSURES APPROVED BY THE CITY ENGINEER WILL REQUIRE A MINIMUM OF 48 HOUR NOTICE TO BE POSTED AND DISTRIBUTED WITH PROPER DOOR-HANGERS TO ALL RESIDENCES ON SAME BLOCK. THE CONTRACTOR SHALL ALSO NOTIFY THE DISPATCH CENTER FOR HERMOSA BEACH POLICE AND FIRE DEPARTMENTS AT (310) 524-2750 OF ANY CLOSURES OR RESTRICTIONS IN ACCESS.
- GRAFFITI IN FRESHLY POURED CONCRETE SHALL BE REMOVED BY WHATEVER MEANS NECESSARY UP TO AND INCLUDING REMOVAL AND REPLACEMENT.
- ANY ASPHALT OR CONCRETE PAVEMENT WITHIN THE PROPERTY LIMITS THAT IS DAMAGED PRIOR TO CONSTRUCTION SHALL BE REMOVED AND REPLACED TO MEET CURRENT CITY STANDARDS.
- ANY PUBLIC PROPERTY DAMAGED DURING CONSTRUCTION SHALL BE REPLACED IN KIND OR BETTER TO THE SATISFACTION OF THE CITY PUBLIC WORKS INSPECTOR. THE CITY SHALL AT ITS DISCRETION, AND IN THE INTEREST OF PUBLIC SAFETY, MAKE ANY REPAIRS DEEMED NECESSARY; THE COST OF WHICH WILL BE DEDUCTED FROM THE DEPOSIT HELD BY THE CITY.
- ALL EXISTING PAVEMENT TO BE REMOVED SHALL BE SAW-CUT OR WHEEL-CUT AND REMOVED TO CLEAN STRAIGHT LINES.
- AT ALL LOCATIONS WHERE NEW PAVEMENT JOINS EXISTING, THE EXISTING PAVEMENT SHALL BE COATED WITH AN ASPHALTIC EMULSION.

GENERAL NOTES FOR SEWER AND UTILITY IMPROVEMENTS:

- SEPARATION OF SEWER AND WATER FACILITIES SHALL BE IN CONFORMANCE WITH LATEST EDITION OF THE STATE OF CALIFORNIA DEPT OF HEALTH SERVICES.
- SEWER LATERALS SHALL BE CONNECTED TO THE SEWER MAIN WITH WYES.
- THE SEWER LINE SHALL BE TESTED PRIOR TO MAKING PERMANENT SERVICE CONNECTIONS.
- BACKFILL OF TRENCHES SHALL BE DONE IN LIFTS OF NO MORE THAN 8-INCHES WITH WATER AND APPROPRIATE COMPACTION TOOLS USED BETWEEN EACH LIFT. ONE SACK SLURRY MIX CAN BE USED IN PLACE OF NATIVE SOIL. AFTER BACKFILLING THE TRENCH, A TEMPORARY ASPHALT PATCH SHALL BE PLACED OVER THE TRENCH AND REMAIN FOR NO MORE THAN TWO WEEKS. THE FINAL PATCH SHALL BE A MINIMUM OF 5" THICK OR 1" THICKER THAN THE EXISTING PAVEMENT. THE CONTRACTOR SHALL FOLLOW THE LATEST HERMOSA BEACH STANDARD PLANS FOR AC AND P.C.C. PAVEMENT.
- THE FINAL PATCH IN ASPHALT STREETS SHALL BE DONE IN TWO LIFTS, A BASE OF 3" MINIMUM 3/4" AGGREGATE AND A TOP LIFT OF 2" OF 3/8" AGGREGATE. ALL EDGES OF THE CUT ASPHALT TO BE TACKED THOROUGHLY AND THE PATCH COMPACTED BY MECHANICAL MEANS TO A HEIGHT SLIGHTLY HIGHER THAN THE EXISTING ASPHALT AND ALL EDGES TO BE TACKLE.
- THE FINAL PATCH ON CONCRETE STREETS TO BE CLASS 3500 P.S.I (7 SACK), EXISTING CONCRETE TO BE DRILLED TWO AND ONE HALF INCHES (2 1/2") BELOW THE SURFACE TO A DEPTH OF 6" MINIMUM AND DOWELLED WITH #5 REBAR ON 18" SPACING. FINISH TO MATCH EXISTING OR MEDIUM BROOM.
- ALL UTILITY BOXES ARE TO BE ADJUSTED TO THE NEW GRADE. DAMAGED BOXES SHALL BE REPLACED. KEEP ALL UTILITY BOXES OUT OF DRAINAGE FLOW LINES, CURB RETURNS, DRIVEWAY APPROACH AND WHEEL CHAIR RAMPS, UNLESS APPROVED BY THE CITY ENGINEER.
- SEWER MAIN/LATERAL SHALL BE CONSTRUCTED PRIOR TO CONSTRUCTION OF FIRST FLOOR.
- UTILITY LINES LOCATION SHALL BE PERMANENTLY IDENTIFIED ON CURB FACE. FONT DIMENSIONS SHALL BE 2-INCHES IN HEIGHT AND 1/4-INCHES IN DEPTH.

CONTRACTOR NOTE:

ALL EXISTING UTILITIES SHOWN ON PLANS ARE TO BE VERIFIED HORIZONTALLY AND VERTICALLY PRIOR TO ANY CONSTRUCTION. ALL EXISTING FEATURES INCLUDING BURIED UTILITIES ARE SHOWN AS INDICATED ON RECORD MAPS AND SURVEYS FURNISHED BY OTHERS. WE ASSUME NO LIABILITY FOR THE ACCURACY OF THOSE RECORDS AND SURVEYS. CONTACT THE UTILITY OWNER/AGENCY FOR THE FINAL LOCATION OF EXISTING UTILITIES IN AREAS CRITICAL TO CONSTRUCTION.

FOR PERMIT

THESE DRAWINGS ARE SUFFICIENTLY COMPLETE FOR SUBMISSION TO THE JURISDICTION HAVING AUTHORITY FOR PERMIT. THE CONTRACTOR SHALL NOT USE THESE DRAWINGS FOR CONSTRUCTION UNTIL CONTRACTOR RECEIVES WRITTEN APPROVAL FOR USE IN CONSTRUCTION BY JURISDICTION HAVING AUTHORITY AND BY THE REGISTERED PROFESSIONAL ENGINEER.

CALL: 811



TWO WORKING DAYS BEFORE YOU DIG

REVISIONS

| No. | DESCRIPTION | DATE |
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PLANS PREPARED BY:



FRANKLOYD G. BUENDIA, P.E. 84848

08/22/2025

DATE

CITY OF HERMOSA BEACH
PUBLIC WORKS DEPARTMENT

RECOMMENDED FOR PERMIT ISSUANCE:

PRIVATE IMPROVEMENT PLANS

NEW SFR
1035 LOMA DRIVE
HERMOSA BEACH, CA
TITLE SHEET

FILE NUMBER

17014-CIVIL

BUILDING #:

BXX-XXXX

C-1

SHT. 1 OF 9

IMPROVEMENT PLANS FOR NEW RESIDENCE

1035 LOMA DRIVE
HERMOSA BEACH, CA 90254

JOB SAFETY REQUIREMENTS:

- PROPER BARRICADES SHALL BE PLACED AROUND ANY CONSTRUCTION SITE WITHIN THE PUBLIC RIGHT-OF-WAY. THESE BARRICADES SHALL COMPLY WITH THE REQUIREMENTS OF THE WORK AREA TRAFFIC CONTROL HANDBOOK (WATCH) MANUAL.
- ALL CONSTRUCTION FENCING SHALL BE BEHIND THE SIDEWALK AND ALL CONSTRUCTION MATERIAL WITHOUT PERMITS ARE TO BE BEHIND THE FENCE. SIDEWALKS ARE TO BE ACCESSIBLE TO PEDESTRIANS AT ALL TIMES.
- NO CONSTRUCTION EQUIPMENT, CONSTRUCTION MATERIAL, PORTABLE TOILETS, DUMPSTERS, ETC. SHALL BE LEFT ON THE PUBLIC RIGHT-OF-WAY WITHOUT PROPER PERMITS. THESE OBSTRUCTIONS MUST HAVE PROPER BARRICADES WITH FLASHING YELLOW LIGHTS AFTER DARK.
- ANY PUBLIC SIDEWALK DAMAGED TO THE POINT OF CAUSING A TRIP HAZARD MUST BE REPAIRED IMMEDIATELY. THE PANEL OF CONCRETE SHALL BE REMOVED AND PATCHED WITH A TEMPORARY ASPHALT PATCH AND MUST BE KEPT IN GOOD REPAIR UNTIL THE PERMANENT SIDEWALK IS CONSTRUCTED.
- ALL VEHICLES THAT INTRUDE INTO A NORMAL TRAFFIC LANE MUST HAVE PROPER SIGNAGE AND BARRICADES AS REQUIRED BY THE (WATCH) MANUAL.
- ALL WORK VEHICLES ARE SUBJECT TO ALL APPLICABLE PARKING RESTRICTIONS.
- FLAGMEN ARE REQUIRED FOR ANY VEHICLES THAT BLOCK THE TRAVEL LANE AND REQUIRE TRAFFIC TO USE THE OPPOSING LANE TO PASS.

WATER QUALITY REQUIREMENTS:

- PRECAUTIONS SHALL BE TAKEN TO PREVENT ANY CONSTRUCTION MATERIAL DEBRIS OR RUNOFF FROM ENTERING ANY PUBLIC RIGHT-OF-WAY OR COUNTY STORM DRAIN. ALL SAW CUT RESIDUE MUST BE RETAINED WITH BERMS OR SANDBAGS AND VACUUMED TO PREVENT IT FROM ENTERING INTO ANY STORM DRAIN SYSTEM.
- SANDBAGS ARE REQUIRED FOR EROSION CONTROL DURING THE RAINY SEASON, OCTOBER 15TH THROUGH APRIL 15TH, AND MAY BE REQUIRED AT OTHER TIMES. SANDBAGS ARE REQUIRED AT NEARBY CATCH BASINS DURING CONSTRUCTION. SANDBAGS SHALL BE MAINTAINED AND IN GOOD CONDITION AT ALL TIMES.
- MAKE SURE BROKEN PAVEMENT DOES NOT COME IN CONTACT WITH RAINFALL OR RUNOFF.
- SHOVEL OR VACUUM SAW-CUT SLURRY AND REMOVE FROM THE SITE. FOR DISPOSAL INFORMATION CONTACT THE L.A. COUNTY DEPARTMENT OF PUBLIC WORKS AT 800-552-5218.
- COVER OR BARRICADE STORM DRAIN OPENINGS DURING SAW-CUTTING.
- DURING CONSTRUCTION:
 - PROTECT CATCH BASINS AND MAINTENANCE HOLES WHEN APPLYING SEAL COAT, SLURRY SEAL, FOG SEAL, ETC.
 - USE CHECK DAMS, DITCHES OR BERMS TO DIVERT RUNOFF AROUND EXCAVATIONS.
 - COLLECT AND RECYCLE EXCESS ABRASIVE GRAVEL OR SAND.
 - AVOID OVER-APPLICATION BY WATER TRUCKS FOR DUST CONTROL.
 - NEVER HOSE DOWN "DIRTY" PAVEMENT OR SURFACES. CLEAN UP ALL SPILLS AND LEAKS USING "DRY" METHODS (WITH ABSORBENT MATERIALS AND /OR RAGES), OR DIG UP AND REMOVE CONTAMINATED SOIL. FOR DISPOSAL INFORMATION CALL (800) 552-5218.
 - CATCH DRIPS FROM PAVER WITH DRIP PANS OR ABSORBENT MATERIAL (CLOTH, RAGS, ETC.) PLACED UNDER MACHINE WHEN NOT IN USE.

SOILS ENGINEER SIGNATURE:

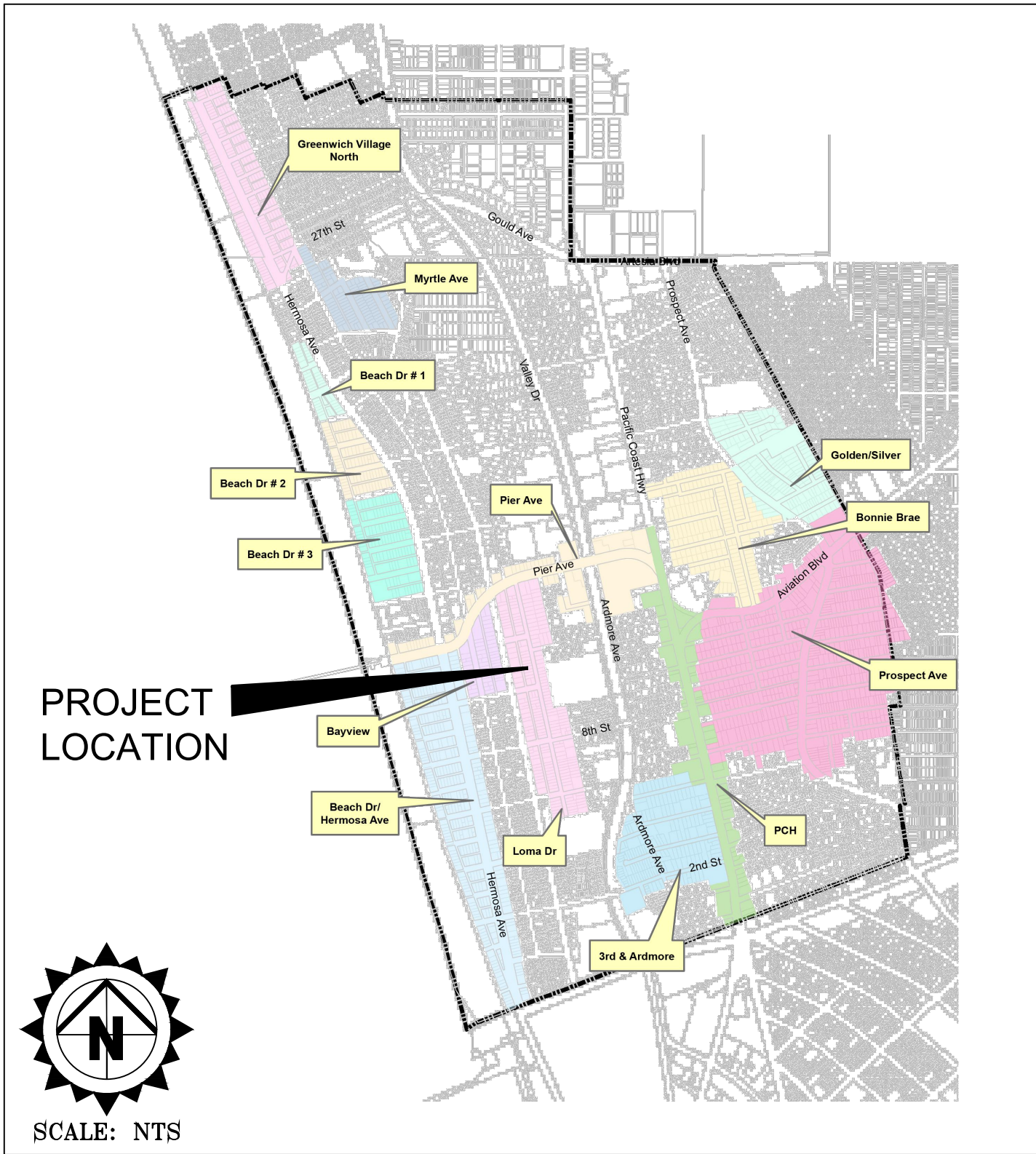
THIS PLAN HAS BEEN REVIEWED AND CONFORMS TO THE RECOMMENDATIONS AND CONCLUSIONS OF SOILS REPORT NO. 25124-25, DATED FEBRUARY 27, 2025 BY NORCAL ENGINEERING SHALL BE THOROUGHLY COMPLIED WITH. WHERE CONFLICTING INFORMATION BETWEEN THIS GRADING PLAN AND/OR THE PROJECT EARTHWORK SPECIFICATIONS & THE MENTIONED REPORT OCCUR, NOTIFY THE LOCAL AGENCY.

NAME _____ LICENSE NO. _____
SIGNATURE _____ DATE _____

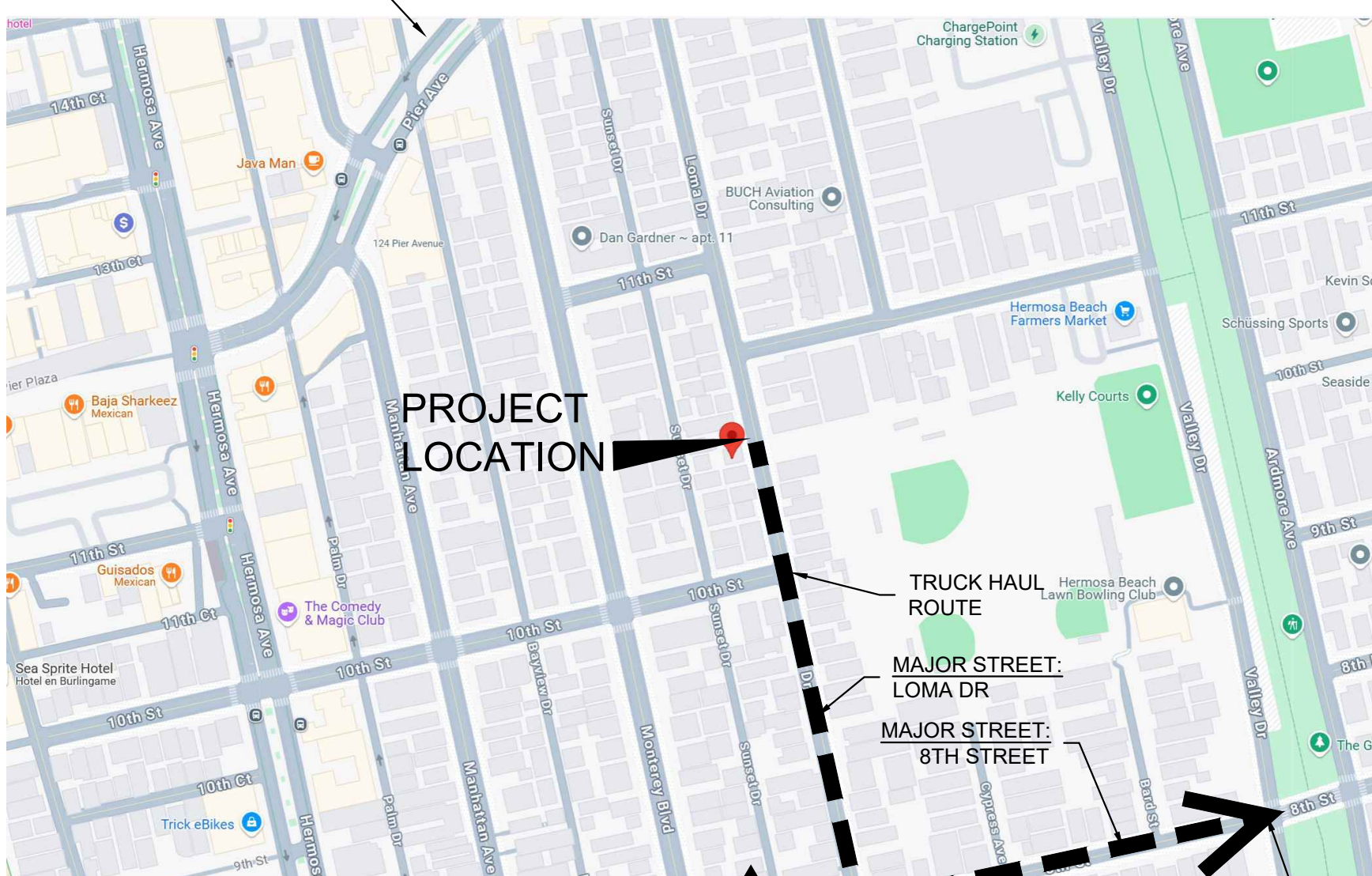
EARTHWORK QUANTITY

| EARTHWORK QUANTITY | | | |
|---------------------|--------|--|-----------|
| A) AMOUNT OF CUT | 115 CY | D) MAXIMUM HEIGHT OF CUT SLOPE | 4 FT |
| B) AMOUNT OF FILL | 2 CY | E) MAXIMUM HEIGHT OF FILL SLOPE | 4 FT |
| C) AMOUNT OF EXPORT | 113 CY | F) LOCATION OF BORROW OR DISPOSAL SITE | BY OTHERS |

NOTE:
EARTHWORK VOLUMES SHOWN ON THIS PLAN ARE ESTIMATES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ACTUAL EARTHWORK VOLUMES.

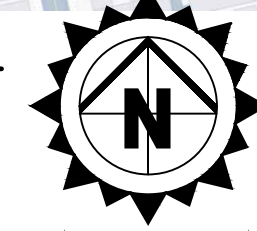


REGIONAL MAP



SITE MAP

- NOTE:
- HAUL ROUTE SHALL BE APPROVED BY ENGINEERING SERVICES
 - TRUCK HAUL ROUTE PER CONTRACTOR SHOWN FOR REFERENCE ONLY.



SCALE: NTS

SHEET INDEX

| DESCRIPTION | SHEET NUMBER |
|--------------------------|--------------|
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| EROSION CONTROL PLAN | C-5 |
| DETAILS | C-6 TO C-8 |
| PUBLIC IMPROVEMENT PLANS | C-9 |

PROJECT TEAM

OWNER
ALBERTO & MONIQUE BOTTENE
2840 AMBY PLACE
HERMOSA BEACH, CA 90254

ARCHITECT
TOMARO ARCHITECTURE
2617 NORTH SEPULVEDA BLVD.
MANHATTAN BEACH, CA 90266
(310) 318-8089

CIVIL ENGINEER
FGB ENGINEERS LLC
572 SOUTH MOTIF ST
ANAHEIM, CA 92805
TEL: (562) 584-1071

GEOTECH ENGINEER
NORCAL ENGINEERING
10641 HUMBOLDT STREET
LOS ALAMITOS, CA 90720
TEL: (562) 799-9469
PROJ NO.: 25124-25

NOTE:
PROPERTY OWNER TO PROVIDE NOTARIZED AND SIGNED "ASSUMPTION OF RISK AND RELEASE REGARDING SURFACE WATERS, GROUND WATERS, AND SEWER LINE BACK UPS" AND COVENANT AGREEMENT REGARDING BMP LID MAINTENANCE

PROPERTY INFORMATION:

APN: 4187-012-013
LOT NO. 28
TRACT NO. 1516
M.B. 25/39
LAT: 33.86176 LONG: -118.39715
SINGLE FAMILY RESIDENCE
LOT SIZE = 2,780 S.F.
BUILDING SQUARE FOOTAGE = 4,110 S.F.
SITE ADDRESS: 1035 LOMA DRIVE, HERMOSA BEACH

LID INFORMATION

SOIL INFILTRATION RATE: N/A
SOIL TYPE: BROWN FINE TO MEDIUM GRAINED, SILTY SAND
BMP TYPE: BIOFILTRATION
TOTAL DRAINAGE AREA (ACRES): 0.064 ACRES
STORM WATER QUALITY DESIGN REQUIREMENTS:
BMP#1: FLOW RATE REQ'D = 0.030 CFS
PERCENT OF IMPERVIOUSNESS OF DRAINAGE AREA: 100%
BMP DESIGN PROVIDED:
BMP#1: FLOW RATE PROVIDED = 0.057 CFS
PROPERTY OWNER INFORMATION: ALBERTO AND MONIQUE BOTTENE
PERVIOUS AREA: 0.000 ACRES
IMPERVIOUS AREA: 0.064 ACRES

APPLICABLE STANDARDS

- STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (2021)
- CALIFORNIA RESIDENTIAL CODE (2019)
- CITY OF HERMOSA BEACH STORM WATER LOW IMPACT DEVELOPMENT GUIDE
- CITY OF HERMOSA BEACH PUBLIC WORKS STANDARD PLAN
- STANDARD PLAN NO. 100

DEFERRED SUBMITTALS:

- THE SUBMITTALS OUTLINED BELOW ARE UNDER A SEPARATE PERMIT AND DONE BY OTHERS:
- DEMOLITION PLAN
 - RETAINING WALLS
 - SHORING PLANS
 - BORROW AND DISPOSAL SITE

ABBREVIATIONS

| | | |
|--|---|----------------------------------|
| ACP ASPHALT CONCRETE PAVEMENT | EQUIV. EQUIVALENT | P POWER |
| ADD'L ADDITIONAL | EVC END OF VERTICAL CURVE | PC POINT OF CURVATURE |
| AD AREA DRAIN | EXIST. EXISTING | PIV POST INDICATOR VALVE |
| ADJ ADJACENT | FD FLOOR DRAIN | PP POWER POLE |
| ANSI AMERICAN NATIONAL STANDARDS INSTITUTE | FDC FIRE DEPARTMENT CONNECTION | PL ORLP PROPERTY LINE |
| APPROX. APPROXIMATE(LY) | FDN FOUNDATION | PSF POUNDS PER SQUARE FOOT |
| ARCH ARCHITECT(URAL) | FFE FINISH FLOOR ELEVATION | PSI POUNDS PER SQUARE INCH |
| ASSY ASSEMBLY | FH FIRE HYDRANT | PT POINT OF TANGENCY |
| BLDG BUILDING | FL FLANGED | PVC POLYVINYL CHLORIDE |
| BM BENCHMARK | FLR FLOOR | PVI POINT OF VERTICAL INFLECTION |
| BNDRY BOUNDARY | FOC FACE OF CURB | QTY. QUANTITY |
| BOW BOTTOM OF WALL (AT FINISHED GRADE) | F.S. FINISHED SURFACE | RAD (R) RADIUS |
| BS BOTTOM OF STEP | FT (') FOOT (FEET) | RCP REINFORCED CONCRETE PIPE |
| CTV CABLE TV | FTG FOOTING | RD ROAD |
| C&G CURB AND GUTTER | G GAS MAIN | REF REFERENCE |
| CB CATCH BASIN | GB GRADE BREAK | REQD. REQUIRED |
| CC CONCRETE CURB | GFE GARAGE FINISH ELEVATION | RET RETAINING |
| CD CONCRETE DRIVE | GM GAS METER | ROW RIGHT OF WAY |
| CF CUBIC FEET (FOOT) | GRD GRADE | SD STORM DRAIN |
| CI CAST IRON | GV GATE VALVE | S.F. SQUARE FEET |
| CJ CONSTRUCTION JOINT | HB HOSE BIBB | SHT SHEET |
| CL CLASS | HDPE HIGH DENSITY POLYETHYLENE | SIM SIMILAR |
| CL CENTER LINE | HORIZ(H) HORIZONTAL | SPEC SPECIFICATION(S) |
| CMP CORRUGATED METAL PIPE | HT HEIGHT | SQ SQUARE |
| CONC. CONCRETE | HYD HYDRANT | SS SANITARY SEWER |
| CONST. CONSTRUCTION | ID INSIDE DIAMETER | STA STATION |
| CPEP CORRUGATED POLYETHYLENE PIPE | I.E. INVERT ELEVATION | STD STANDARD |
| CTR CENTER(ED) | IN (") INCH(ES) | TOE TOE OF WALL, OR SLOPE |
| CY CUBIC YARD | INV INVERT | T TELEPHONE WIRE |
| DCVA DOUBLE CHECK VALVE ASSEMBLY | IRR IRRIGATION WATER | TBM TEMPORARY BENCH MARK |
| DDCV DOUBLE DETECTOR CHECK VALVE | LB POUND(S) | T.C. TOP OF CURB |
| DEPT. DEPARTMENT | LCPE LINED CORRUGATED POLYETHYLENE PIPE | TG OR RIM TOP OF GRATE |
| DET DETAIL | LF LINEAR FEET | TEMP. TEMPORARY |
| D.I. DUCTILE IRON | MAT'L MATERIAL | TOP TOP OF SLOPE |
| DIA (Ø) DIAMETER | MAX MAXIMUM | TOW TOP OF WALL |
| DIM DIMENSION | MFR MANUFACTURER | TV TELEVISION WIRE |
| DS DOWN SPOUT | MH MANHOLE | TYP. TYPICAL |
| DWG DRAWING | MJ MECHANICAL JOINT | TS TOP OF STEP |
| E EAST(ING) | MIN. MINIMUM | VERT (V) VERTICAL |
| EC ELECTRICAL CONDUIT | MISC. MISCELLANEOUS | WM WATER METER |
| ECC EXTRUDED CONCRETE CURB | N NORTH(ING) | W/ WITH |
| EL.= ELEVATION | NO (#) NUMBER | WT WEIGHT |
| EOP EDGE OF PAVEMENT | OC ON CENTER | WWF WELDED WIRE FABRIC |
| | OW OIL WATER | YD YARD DRAIN |

ENGINEER'S GENERAL NOTES TO CONTRACTOR

- THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 7-10, PUBLIC CONVENIENCE AND SAFETY, OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK), IN REGARDS TO SAFETY ORDERS.
- SCOPE OF WORK:
 - FURNISH ALL LABOR, SUPERVISION, MATERIALS, EQUIPMENT & FACILITIES NECESSARY TO FURNISH, FABRICATE, DELIVER, STORE AND INSTALL ALL WORK NOTED ON THE DRAWINGS.
 - THE CONTRACTOR SHALL FURNISH & INSTALL ALL WORK NECESSARY TO MAKE A COMPLETE SYSTEM WHETHER OR NOT SUCH DETAILS ARE MENTIONED IN THESE SPECIFICATIONS OR SHOWN ON THE PLANS, BUT WHICH ARE OBVIOUSLY NECESSARY TO MAKE A COMPLETE SYSTEM, EXCEPTING ONLY THOSE PORTIONS THAT ARE SPECIFICALLY MENTIONED HEREIN OR PLAINLY MARKED ON THE ACCOMPANYING DRAWINGS AS BEING INSTALLED UNDER ANOTHER SECTION OF THE SPECIFICATION.
- SITE INSPECTION: CONTRACTOR SHALL VISIT THE SITE OF WORK PRIOR TO SUBMISSION OF HIS BID AND THOROUGHLY FAMILIARIZE HIMSELF WITH THE WORKING CONDITIONS & EXACT NATURE OF THE WORK. SUBMISSION OF A BID ACKNOWLEDGES FULL RESPONSIBILITY FOR FURNISHING A COMPLETE & FUNCTIONAL SYSTEM. NO CHANGES IN CONTRACT WILL MADE TO ACCOMMODATE OR ALLOW EXTRA FUNDING FOR ANY OMISSIONS WHICH RESULTS FROM A FAILURE TO THOROUGHLY MAKE THE EXAMINATION.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY AVAILABLE SPACES FOR INSTALLING THE WORK.
- COORDINATION: THE DRAWINGS ARE DIAGRAMMATIC & INTENDED TO SHOW SCOPE. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES TO PROVIDE BEST ARRANGEMENT OF ALL DUCT, PIPES, CONDUIT, ETC.
- WORKMANSHIP: THE WORK SHALL BE ACCOMPLISHED BY THE USE OF COMPETENT MECHANICS SKILLED IN THEIR TRADE. THE ENGINEER AND ARCHITECT SHALL HAVE THE RIGHT TO INTERPRET COMPLIANCE OF WORKMANSHIP WITH THE CONTRACT DOCUMENTS.
- GUARANTEE: CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE ALL LABOR & MATERIAL ON ALL WORK AGAINST DEFECTS IN WORKMANSHIP WITH THE CONTRACT DOCUMENTS.
- MATERIALS: ALL MATERIALS, APPLIANCES & EQUIPMENT SHALL BE NEW & THE BEST OF THEIR RESPECTIVE KIND. FREE FROM ALL DEFECTS AND OF THE MAKE, BRAND, AND QUANTITY SPECIFIED.
- CLEAN-UP: UPON COMPLETION OF THE WORK UNDER THIS SECTION THE CONTRACTOR SHALL REMOVE ALL SURPLUS MATERIALS. EQUIPMENT & DEBRIS INCIDENTAL TO THIS WORK & LEAVE THE PREMISES CLEAN AND ORDERLY.

LEGEND

| | | | |
|---|--|---|--|
| STORM DRAIN PIPE | | SLOPE INDICATORS | |
| NEW & EXISTING CATCH BASINS | | CLEANOUTS (C.O.) SS, AND RWL (NEW AND EXISTING) | |
| NEW & EXISTING AREA DRAINS | | INTERCEPTOR AND BIO-SWALES | |
| NEW AND EXISTING STORM MANHOLES | | COORDINATES, & LEADERS | |
| SANITARY SEWER PIPE | | STUBBED & PLUGGED LINE | |
| NEW AND EXISTING SANITARY SEWER MANHOLE | | CONCRETE CURB | |
| WATER METERS | | CONCRETE CURB & GUTTER | |
| SURFACE WTR AND PIPE DIRECTION FLOW | | BACKWATER VALVE | |
| EXISTING CONTOUR LABELS | | EXISTING RETAINING WALL | |
| PROPOSED CONTOUR LABELS | | GARAGE/ BASEMENT LIMIT | |
| EXISTING SURFACE ELEVATIONS | | | |
| FINISHED SURFACE ELEVATIONS | | | |
| NEW EASEMENT | | | |
| NEW DITCH | | | |

BENCH MARK:

SET L&TAG LS 9806
AT PC, EL=70.06'

CALL: 811

TWO WORKING DAYS BEFORE YOU DIG

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| No. | DESCRIPTION | DATE |
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FGB ENGINEERS
572 SOUTH MOTIF ST
ANAHEIM, CA 92805
TEL: 562.584.1071
WWW.FGBENGINEERS.COM

PLANS PREPARED BY:

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Exp. 03/31/26
CIVIL
STATE OF CALIFORNIA

08/22/2025
DATE

CITY OF HERMOSA BEACH
PUBLIC WORKS DEPARTMENT

RECOMMENDED FOR PERMIT ISSUANCE:

DATE

PRIVATE IMPROVEMENT PLANS

NEW SFR
1035 LOMA DRIVE
HERMOSA BEACH, CA

ABBREVIATIONS & LEGEND

FILE NUMBER
17014-CIVIL

BUILDING #:
BXX-XXXX

C-2

SHT. 2 OF 9

CAUTION:

- 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:

- 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.
- ALL WORK ON-SITE AND IN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO ALL APPLICABLE GOVERNING AGENCIES STANDARD DETAILS AND SPECIFICATIONS.
- 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.
- 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.
- 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.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.

DEMOLITION NOTES

- CONTRACTOR IS TO COMPLY WITH ALL GENERAL AND STATE REQUIREMENTS INVOLVING THE REMOVAL AND DISPOSAL OF HAZARDOUS MATERIAL(S).
- CONTRACTOR'S BID IS TO INCLUDE ALL VISIBLE SURFACE AND ALL SUBSURFACE FEATURES IDENTIFIED TO BE REMOVED OR ABANDONED IN THESE DOCUMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR A SITE INSPECTION TO FULLY ACKNOWLEDGE THE EXTENT OF THE DEMOLITION WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS NECESSARY FOR ENCRACEMENT, 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.
- BACKFILL ALL DEPRESSIONS AND TRENCHES FROM DEMOLITION TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
- REMOVAL OF LANDSCAPING SHALL INCLUDE ROOTS AND ORGANIC MATERIALS TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
- PRIOR TO BEGINNING DEMOLITION WORK ACTIVITIES, CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES OUTLINED IN THE EROSION CONTROL PLAN & DETAILS.
- 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.
- 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.
- 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.
- 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:

- 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.

HORIZONTAL CONTROL NOTES:

- ALL DIMENSIONS ON THE PLANS ARE IN FEET OR DECIMALS THEREOF UNLESS SPECIFICALLY CALLED OUT AS FEET AND INCHES.
- 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.
- REFER TO ARCHITECTURAL PLANS FOR MORE DIMENSION INFORMATION.

PAVEMENT SECTION:

- SEE STRUCTURAL DRAWINGS FOR BUILDING SLAB SECTIONS AND PAD PREPARATIONS.
- SEE GEOTECHNICAL REPORT FOR ALL FLATWORK AND VEHICULAR PAVEMENT SECTIONS AND BASE REQUIREMENTS.
- 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.
- ALL PAVING SHALL BE IN CONFORMANCE WITH THE LATEST GREENBOOK STANDARD SPECIFICATIONS.

SITE MAINTENANCE:

- 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.
- 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 SWEEP MANUALLY.
- 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.
- NEVER CLEAN MACHINERY, EQUIPMENT OR TOOLS INTO A STREET, GUTTER OR STORM DRAIN.
- 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.
- 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 BIENNIAL BASIS OR AS FOUND NECESSARY.

DUST CONTROL:

- 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.
- ALL PUBLIC STREETS AND MEDIANS SOILED OR LITTERED DUE TO THIS CONSTRUCTION ACTIVITY SHALL BE CLEANED AND SWEEP 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.
- ALL TRUCKS HAULING SOIL, SAND, AND OTHER LOOSE MATERIALS SHALL BE COVERED WITH TARP/AULINS OR OTHER EFFECTIVE COVERS.
- 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.
- 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).
- 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.
- THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL MEASURES AND FOR OBTAINING ALL REQUIRED PERMITS AND APPROVALS.

SITE FENCE NOTES:

- CONTRACTOR SHALL PROVIDE A CONSTRUCTION FENCE AROUND THE ENTIRE AREA OF DEMOLITION AND CONSTRUCTION, INCLUDING ALL STAGING, STORAGE, CONSTRUCTION OFFICE AND LAYDOWN AREAS.
- CONSTRUCTION FENCE SHALL BE A MINIMUM OF A 6' HIGH GALVANIZED CHAIN LINK WITH GREEN WINDSCREEN FABRIC ON THE OUTSIDE OF THE FENCE.
- 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:

- ALL TRENCHES SHALL BE BACK FILLED PER THE SPECIFICATIONS WITH APPROPRIATE TESTS BY THE GEOTECHNICAL ENGINEER TO VERIFY COMPACTION VALUES.
- 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).
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.

- 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.
- 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.
- 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.

SHORING NOTES:

- 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.
- SHORING CONTRACTOR SHALL NOTIFY THE UNDERGROUND SERVICE ALERT (1-800-422-4133) PRIOR TO ANY EXCAVATION.

CALIFORNIA GREEN BUILDING CODE (CGBC)

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

NPDES REQUIREMENTS:

- 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.
- 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.
- STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
- 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 UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
- 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.
- TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION AND DISPERSAL BY WIND.
- 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 SWEEP UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
- ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
- CLEAN UP ALL SPILLS USING DRY METHODS.
- SWEEP ALL GUTTERS AT THE END OF EACH WORKING DAY. GUTTERS SHALL BE KEPT CLEAN AFTER LEAVING CONSTRUCTION SITE.
- CALL 911 IN CASE OF A HAZARDOUS SPILL.
- 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).
- 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:

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



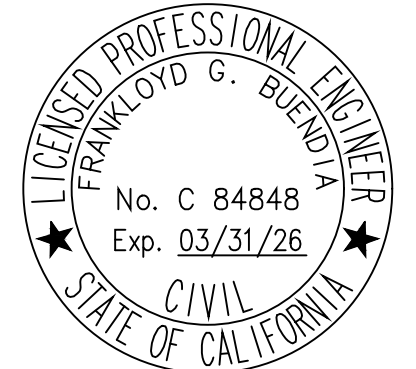
TREE/PLANT PROTECTION NOTES:

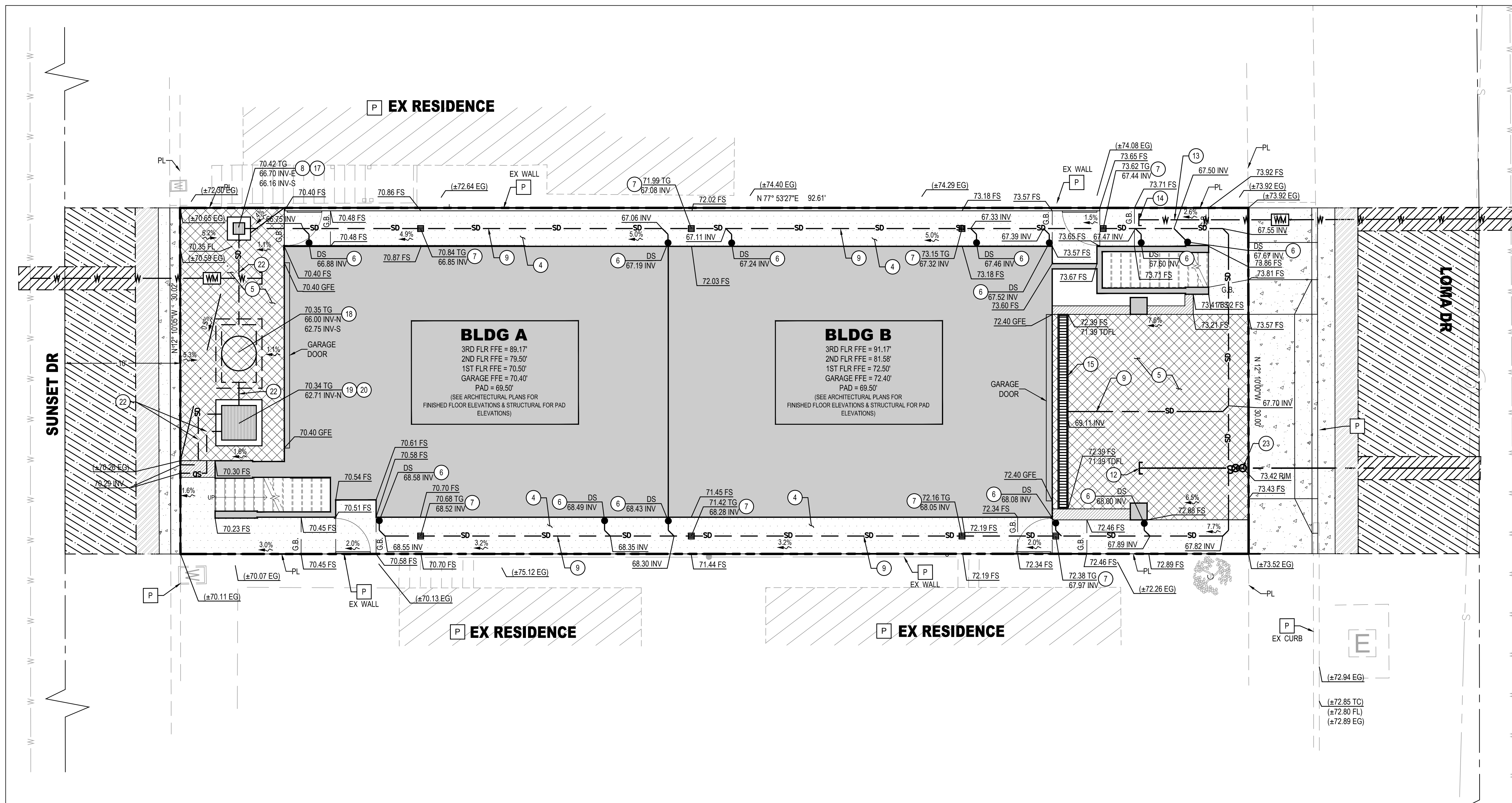
- PRIOR TO BEGINNING CONSTRUCTION ON SITE, CONTRACTOR SHALL IDENTIFY AND PROTECT EXISTING TREES AND PLANTS DESIGNATED AS TO REMAIN.
- PROTECT EXISTING TREES TO REMAIN FROM SPILLED CHEMICALS, FUEL OIL, MOTOR OIL, GASOLINE AND ALL OTHER CHEMICALLY INJURIOUS MATERIAL; AS WELL AS FROM PUDDLING OR CONTINUOUSLY RUNNING WATER. SHOULD A SPILL OCCUR, STOP WORK IN THAT AREA AND CONTACT THE CITY'S ENGINEER/INSPECTOR IMMEDIATELY. CONTRACTOR SHALL BE RESPONSIBLE TO MITIGATE DAMAGE FROM SPILLED MATERIAL AS WELL AS MATERIAL CLEAN UP.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ONGOING MAINTENANCE OF ALL TREES DESIGNATED TO REMAIN AND FOR MAINTENANCE OF RELOCATED TREES STOCKPILED DURING CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO REPLACE TREES THAT DIE DUE TO LACK OF MAINTENANCE.

ENGINEER'S NOTICE TO CONTRACTORS

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

ALL CONTRACTOR OR SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS" OF THE U.S. DEPARTMENT OF LABOR AND WITH THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS "CONSTRUCTION SAFETY ORDERS" THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTOR OR SUBCONTRACTORS COMPLIANCE WITH SAID REGULATIONS AND ORDERS.

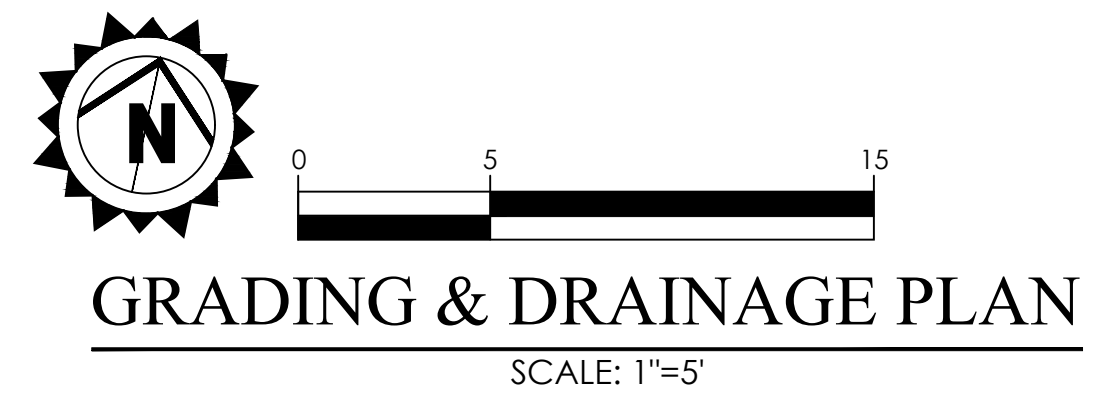
| BENCH MARK: SET L&TAG LS 9806 AT PC, EL=70.06' |  | <table border="1"> <thead> <tr> <th colspan="3">REVISIONS</th> </tr> <tr> <th>No.</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table> | | REVISIONS | | | No. | DESCRIPTION | DATE | | | | | | | | | | | | | | | | | | |  | PLANS PREPARED BY:  08/22/2025 | CITY OF HERMOSA BEACH PUBLIC WORKS DEPARTMENT | PRIVATE IMPROVEMENT PLANS | FILE NUMBER 17014-CIVIL |
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| RECOMMENDED FOR PERMIT ISSUANCE: | NEW SFR 1035 LOMA DRIVE HERMOSA BEACH, CA GENERAL NOTES | BUILDING #: BXX-XXXX | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | DATE | DATE | | C-3 | SHT. 3 OF 9 | | | | | | | | | | | | | | | | | | | | | | | | |



- ### CONSTRUCTION NOTES
- P PROTECT IN PLACE EXISTING IMPROVEMENTS
 - 1 SAWCUT AND MATCH EXISTING PAVEMENT
 - 2 CONSTRUCT 24" WIDE SWALE PER CITY OF HERMOSA BEACH STD PLAN NO. 101.
 - 3 CONSTRUCT 24" WIDE FULL DEPTH AC PAVEMENT.
 - 4 CONSTRUCT ON-SITE HARDSCAPE PER LANDSCAPE ARCHITECT
 - 5 CONSTRUCT DRIVEWAY PCC CONCRETE PER DETAIL 'A1' C-7
 - 6 DOWNSPOUT PER ARCHITECTURAL PLANS. DOWNSPOUT TO DAYLIGHT AT GRADE AND SHEET FLOW TO NEAREST AREA DRAIN INLET. PROVIDE SPLASHBLOCK AT DISCHARGE LOCATION. SEE DETAIL 'B1' C-7.
 - 7 CONSTRUCT 4" AREA DRAIN FOR CONCRETE AREAS PER DETAIL 'C1' C-7.
 - 8 CONSTRUCT 12"x12" PRECAST CONCRETE BOX WITH TRAFFIC RATED STANDARD INLET GRATE, BROOKS PRODUCT OR APPROVED EQUAL. DECORATIVE GRATES PER ARCHITECT
 - 9 CONSTRUCT 4" SDR35 PVC PIPE AND FITTINGS OR APPROVED EQUAL. SEE DETAIL 'D1' C-7 FOR TRENCHING DETAILS.
 - 10 72 HOURS PRIOR TO CONSTRUCTION, POTHOLE AND VERIFY LOCATION, DEPTH, MATERIAL, SIZE, AND CONDITION OF EXISTING SEWER LATERAL.
 - 11 72 HOURS PRIOR TO CONSTRUCTION, POTHOLE AND VERIFY LOCATION, DEPTH, MATERIAL, SIZE, AND CONDITION OF EXISTING SEWER LATERAL. REPORT FINDINGS TO CIVIL ENGINEER PRIOR TO CONSTRUCTION. CONSTRUCT NEW 6" VCP SEWER LATERAL PER SPPWC (2021) STD. PLAN 222-2.
 - 12 SEWER POC TO BUILDING. SEE PLUMBING PLANS FOR CONTINUATION
 - 13 72 HOURS PRIOR TO CONSTRUCTION, POTHOLE AND VERIFY LOCATION, DEPTH, MATERIAL, SIZE, AND CONDITION OF EXISTING WATER LATERAL.
 - 14 WATER POC TO BUILDING. SEE PLUMBING PLANS FOR CONTINUATION
 - 15 CONSTRUCT 8" WIDE TRENCH DRAIN WITH TRAFFIC RATED GRATE. SEE DETAIL 'F1' C-7 FOR CHANNEL DRAIN OUTLET DETAIL.
 - 16 UTILITY TRENCH REPAIR PER CITY OF HERMOSA BEACH STD PLAN NO. 117 (ONLY APPLIES TO UTILITY IMPROVEMENTS WITHIN PUBLIC RIGHT-OF-WAY)
 - 17 FURNISH AND INSTALL FLOGARD LOPRO FG-M12 OR APPROVED EQUAL. SEE DETAIL 'G1' C-8
 - 18 FURNISH AND INSTALL BIOFILTRATION SYSTEM. JENSEN PRECAST SVBF-LV 3X5 PER DETAIL 'A1' C-8
 - 19 CONSTRUCT 36"x36" CAST-IN PLACE CONCRETE BOX WITH TRAFFIC RATED INLET GRATE PER DETAIL 'B1' C-8
 - 20 FURNISH AND INSTALL (2) SUBMERSIBLE PUMP WITH STAND. SEE DETAIL 'B1' C-8
 - 21 CONSTRUCT 4" SCHEDULE 80 PVC FORCE MAIN PIPE TO DISCHARGE AT FACE OF WALL PER DETAIL 'E1' C-7. RESTRAINT JOINTS SHALL BE PROVIDED AT ALL BENDS
 - 22 CONSTRUCT 6" SDR35 PVC PIPE AND FITTINGS OR APPROVED EQUAL. SEE DETAIL 'D1' C-7 FOR TRENCHING DETAILS.
 - 23 CONSTRUCT SEWER CLEANOUT PER SPPWC STD PLAN NO. 204-3

- ### HATCH LEGEND
- ON-SITE PAVEMENT PER LANDSCAPE PLANS
 - NEW PCC CONCRETE
 - NEW LANDSCAPING PER LANDSCAPE PLANS
 - NEW BUILDING
 - NEW DRIVEWAY PCC
 - FULL DEPTH PAVEMENT
 - UTILITY TRENCHING
 - GRIND AND OVERLAY
 - NEW WALL PER ARCHITECTURAL PLANS.
 - AREA DRAIN PAVEMENT GRADING (TYP.). SLOPES SHALL BE 2% MAX AT PAVED AREAS AND 5% MAX AT LANDSCAPED AREAS UNLESS OTHERWISE NOTED.
 - STEP. (HEIGHT PER PLAN)

- ### CITY OF HERMOSA BEACH NOTES.
1. BORROW OR DISPOSAL SITE MUST BE PERMITTED AND BONDED (IF WITHIN THE CITY)
 2. SEWER LATERALS SHALL BE CONSTRUCTED PRIOR TO CONSTRUCTION OF FIRST FLOOR
 3. UTILITY LINES LOCATION SHALL BE PERMANENTLY IDENTIFIED ON CURB FACE. FONT 2" HEIGHT AND 1/2" DEPTH
 4. IT IS THE RESPONSIBILITY OF THE DEVELOPER TO HAVE ALL STRIPING TRENCHES PROPERLY RESTORED PER CITY STANDARD PLANS PRIOR TO RECEIVING PUBLIC WORKS FINAL SIGN OFF
 5. ANY LANDSCAPE IRRIGATION WITHIN PUBLIC RIGHT-OF-WAY WILL REQUIRE AN ENCROACHMENT PERMIT
 6. IF PROPOSED SEWER LATERAL CROSSES ABOVE WATER MIN, SEWER LATERAL SHALL BE ENCASED



BENCH MARK:
 SET L&TAG LS 9806
 AT PC, EL=70.06'

CALL: 811

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PLANS PREPARED BY:

FRANKLOYD G. BUENDIA, RCE 84848

08/22/2025

DATE

CITY OF HERMOSA BEACH
 PUBLIC WORKS DEPARTMENT

RECOMMENDED FOR PERMIT ISSUANCE:

DATE

PRIVATE IMPROVEMENT PLANS

NEW SFR
 1035 LOMA DRIVE
 HERMOSA BEACH, CA
 GRADING & DRAINAGE PLAN

FILE NUMBER
 17014-CIVIL

BUILDING #:
 BXX-XXXX

C-4

SHT. 4 OF 9

EROSION AND SEDIMENT CONTROL PLAN (ES)

- IN CASE OF EMERGENCY, CALL HARROLD TENNEN AT (310) 850-4600
- A STAND-BY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (NOVEMBER 1 TO APRIL 15). NECESSARY MATERIALS SHALL BE AVAILABLE ON-SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF EMERGENCY DEVICES WHEN RAIN IS IMMINENT.
- EROSION CONTROL DEVICES SHOWN ON THIS PLAN MAY BE REMOVED WHEN APPROVED BY THE BUILDING OFFICIAL IF THE GRADING OPERATION HAS PROGRESSED TO THE POINT WHERE THEY ARE NO LONGER REQUIRED.
- GRADED AREAS ADJACENT TO FILL SLOPES LOCATED AT THE SITE PERIMETER MUST DRAIN AWAY FROM THE TOP OF SLOPE AT THE CONCLUSION OF EACH WORKING DAY. ALL LOOSE SOILS AND DEBRIS THAT MAY CREATE A POTENTIAL HAZARD TO OFF-SITE PROPERTY SHALL BE STABILIZED OR REMOVED FROM THE SITE ON A DAILY BASIS.
- ALL SILT AND DEBRIS SHALL BE REMOVED FROM ALL DEVICES WITHIN 24 HOURS AFTER EACH RAINSTORM AND BE DISPOSED OF PROPERLY
- A GUARD SHALL BE POSTED ON THE SITE WHENEVER THE DEPTH OF WATER IN ANY DEVICE EXCEEDS TWO FEET. THE DEVICE SHALL BE DRAINED OR PUMPED DRY WITHIN 24 HOURS AFTER EACH RAINSTORM. PUMPING AND DRAINING OF ALL BASINS AND DRAINAGE DEVICES MUST COMPLY WITH THE APPROPRIATE BMP FOR DEWATERING OPERATIONS.
- THE PLACEMENT OF ADDITIONAL DEVICES TO REDUCE EROSION DAMAGE AND CONTAIN POLLUTANTS WITHIN THE SITE IS LEFT TO THE DISCRETION OF THE FIELD ENGINEER. ADDITIONAL DEVICES AS NEEDED SHALL BE INSTALLED TO RETAIN SEDIMENTS AND OTHER POLLUTANTS.
- DESILTING BASINS MAY NOT BE REMOVED OR MADE INOPERABLE BETWEEN NOVEMBER 1 AND APRIL 15 OF THE FOLLOWING YEAR WITHOUT THE APPROVAL OF THE BUILDING OFFICIAL.
- STORM WATER POLLUTION AND EROSION CONTROL DEVICES ARE TO BE MODIFIED, AS NEEDED, AS THE PROJECT PROGRESSES. THE DESIGN AND PLACEMENT OF THESE DEVICES IS THE RESPONSIBILITY OF THE FIELD ENGINEER. PLANS REPRESENTING CHANGES MUST BE SUBMITTED FOR APPROVAL BY THE BUILDING OFFICIAL.
- EVERY EFFORT SHOULD BE MADE TO ELIMINATE THE DISCHARGE OF NON-STORM WATER FROM THE PROJECT SITES AT ALL TIMES.
- 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
- STOCKPILES OF EARTH AND OTHER CONSTRUCTION-RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
- FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOILS AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
- EXCESS OR WASTE CONCRETE MAY NOT BE WASH INTO THE PUBLIC 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.
- DEVELOPERS/CONTRACTORS ARE RESPONSIBLE TO INSPECT ALL EROSION CONTROL DEVICES AND BMPs ARE INSTALLED AND FUNCTIONING PROPERLY IF THERE IS A 50% OR GREATER PROBABILITY OF PREDICTED PRECIPITATION AND AFTER ACTUAL PRECIPITATION. A CONSTRUCTION SITE INSPECTION CHECKLIST AND INSPECTION LOG SHALL BE MAINTAINED AT THE PROJECT SITE AT ALL TIMES AND AVAILABLE FOR REVIEW BY THE BUILDING OFFICIAL (COPIES OF THE SELF-INSPECTION CHECK LIST AND INSPECTION LOGS ARE AVAILABLE UPON REQUEST)
- TRASH AND CONSTRUCTION-RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
- 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 WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEEPED UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
- ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER
- AS THE ENGINEER, I HAVE SELECTED APPROPRIATE BMPs TO EFFECTIVELY MINIMIZE THE NEGATIVE IMPACTS OF THIS PROJECT'S CONSTRUCTION ACTIVITIES ON STORM WATER QUALITY. THE PROJECT OWNER AND CONTRACTOR ARE AWARE THAT THE SELECTED BMPs MUST BE INSTALLED, MONITORED, AND MAINTAINED TO ENSURE THEIR EFFECTIVENESS.

FRANKLOYD BUENDIA
CIVIL ENGINEER
08/21/2025
DATE

- AS THE PROJECT OWNER OR AUTHORIZED AGENT OF THE OWNER I CERTIFY THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ENSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE INFORMATION SUBMITTED IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT SUBMITTING FALSE AND/OR INACCURATE INFORMATION, FAILING TO UPDATE THE ESCP TO REFLECT CURRENT CONDITIONS, OR FAILING TO PROPERLY AND/OR ADEQUATELY IMPLEMENT THE ESCP MAY RESULT IN REVOCATION OF GRADING AND/OR OTHER PERMITS OR OTHER SANCTIONS PROVIDED BY LAW.
- DEVELOPERS/CONTRACTORS ARE RESPONSIBLE TO INSPECT ALL EROSION CONTROL DEVICES AND BMPs ARE INSTALLED AND FUNCTIONING PROPERLY AS REQUIRED BY THE STATE CONSTRUCTION GENERAL PERMIT. A CONSTRUCTION SITE INSPECTION CHECKLIST AND INSPECTION LOG SHALL BE MAINTAINED AT THE PROJECT SITE AT ALL TIMES AND AVAILABLE FOR REVIEW BY THE BUILDING OFFICIAL.
- THE FOLLOWING BMPs AS OUTLINED IN, BUT NOT LIMITED TO, THE LATEST EDITION OF THE CASQA CONSTRUCTION BMP ONLINE HANDBOOK OR CALTRANS STORMWATER QUALITY HANDBOOKS (CONSTRUCTION SITE BMP MANUAL), MAY APPLY DURING THE CONSTRUCTION OF THIS PROJECT (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY THE PROJECT ENGINEER OR THE BUILDING OFFICIAL)

- EROSION CONTROL**
 EC1 - SCHEDULING
 EC2 - PRESERVATION OF EXISTING VEGETATION
 EC3 - HYDRAULIC MULCH
 EC4 - HYDROSEEDING
 EC5 - SOIL BINDERS
 EC6 - STRAW MULCH
 EC7 - GEOTEXTILES & MATS
 EC8 - WOOD MULCHING
 EC9 - EARTH DIKES AND DRAINAGE SWALES
 EC10 - VELOCITY DISSIPATION DEVICES
 EC11 - SLOPE DRAINS
 EC12 - STREAMBANK STABILIZATION
 EC13 - RESEEDING
 EC14 - COMPOST BLANKETS
 EC15 - SOIL PREPARATION/ROUGHENING
 EC16 - NON-VEGETATED STABILIZATION

- TEMPORARY SEDIMENT CONTROL**
 SE1 - SILT FENCE
 SE2 - SEDIMENT BASIN
 SE3 - SEDIMENT TRAP
 SE4 - CHECK DAM
 SE5 - FIBER ROLLS
 SE6 - GRAVEL BAG BERM
 SE7 - STREET SWEEPING AND VACUUMING
 SE8 - SANDBAG BARRIER
 SE9 - STRAW BALE BARRIER
 SE10 - STORM DRAIN INLET PROTECTION

- WIND EROSION CONTROL**
 WE1 - WIND EROSION CONTROL

- EQUIPMENT TRACKING CONTROL**
 TC1 - STABILIZED CONSTRUCTION ENTRANCE EXIT
 TC2 - STABILIZED CONSTRUCTION ROADWAY
 TC3 - ENTRANCE/OUTLET TIRE WASH

- NON-STORMWATER MANAGEMENT**
 NS1 - WATER CONSERVATION PRACTICES
 NS2 - DEWATERING OPERATIONS
 NS3 - PAVING AND GRINDING OPERATIONS
 NS4 - TEMPORARY STREAM CROSSING
 NS5 - CLEAR WATER DIVERSION
 NS6 - ILLICIT CONNECTION/DISCHARGE
 NS7 - POTABLE WATER IRRIGATION
 NS8 - VEHICLE AND EQUIPMENT CLEANING
 NS9 - VEHICLE AND EQUIPMENT FUELING
 NS10 - VEHICLE AND EQUIPMENT MAINTENANCE
 NS11 - PILE DRIVING OPERATIONS
 NS12 - CONCRETE CURING
 NS13 - CONCRETE FINISHING
 NS14 - MATERIAL AND EQUIPMENT USE
 NS15 - DEMOLITION ADJACENT TO WATER
 NS16 - TEMPORARY BATCH PLANTS

- WASTE MANAGEMENT & MATERIAL POLLUTION CONTROL**
 SE11 - ACTIVE TREATMENT SYSTEMS
 SE12 - TEMPORARY SILT DIKE
 SE13 - COMPOST SOCKS & BERMS
 SE14 - BIOFILTER BAGS

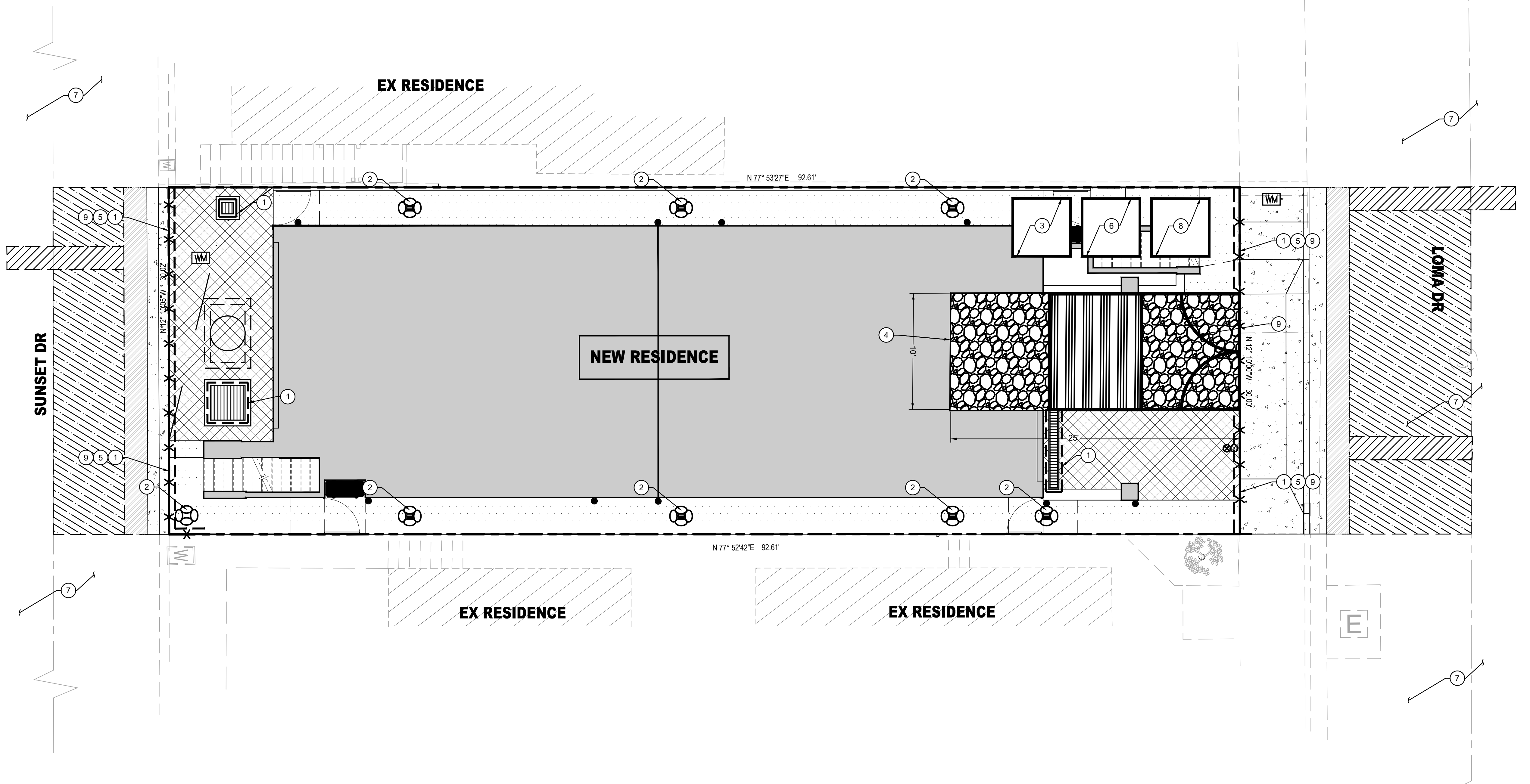
CONSTRUCTION NOTES

- INSTALL FIBER ROLLS (SE-5) PER DETAIL 'E', ON SHEET C-7
- INSTALL DRAIN INLET PROTECTION (SE-10) PER DETAIL 'A', ON SHEET C-7. THIS IS TYPICAL AT ALL PROPOSED INLET LOCATIONS ON THE PROJECT SITE.
- INSTALL MATERIAL DELIVERY AND STORAGE AREA (WM-1) PER DETAIL 'C' ON SHEET C-7 AND DETAIL WM-1 OF THE LATEST CASQA HANDBOOK.
- INSTALL STABILIZED CONSTRUCTION ENTRANCE/EXIT (TC-1, TC-2, & TC-3) PER DETAIL 'B' ON SHEET C-7
- INSTALL TEMPORARY 6' HIGH CHAIN LINK FENCE WITH VISUAL SCREEN.
- INSTALL SANITARY/SEPTIC WASTE MANAGEMENT (WM-9) PER THE LATEST CASQA HANDBOOK.
- CONDUCT STREET SWEEPING AND VACUUMING (SE-7) PER THE LATEST CASQA HANDBOOK.
- INSTALL CONCRETE WASTE MANAGEMENT (WM-8) PER DETAIL 'D' ON SHEET C-7
- CONTRACTOR SHALL IMPLEMENT AND MAINTAIN BMPs. THE PUBLIC RIGHT-OF-WAY SHALL NOT BE USED AS STORAGE AREA AND AREA SURROUNDING SITE SHALL BE CLEARED OF DEBRIS
- INSTALL TEMPORARY GATE

LEGEND:

- = SANBAGS
- = FLOW DIRECTION
- = STABILIZED CONSTRUCTION ENTRANCE
- = CONSTRUCTION FENCE
- = FIBER ROLL

EROSION CONTROL PLAN
 SCALE: 1"=5'



BENCH MARK:
 SET L&TAG LS 9806
 AT PC, EL=70.06'

CALL: 811

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 ANAHEIM, CA 92805
 TEL: 562.584.1071
 WWW.FGBENGINEERS.COM

PLANS PREPARED BY:

FRANKLOYD G. BUENDIA, RCE 84848
 DATE: 08/22/2025

CITY OF HERMOSA BEACH
 PUBLIC WORKS DEPARTMENT

RECOMMENDED FOR PERMIT ISSUANCE:

DATE

PRIVATE IMPROVEMENT PLANS

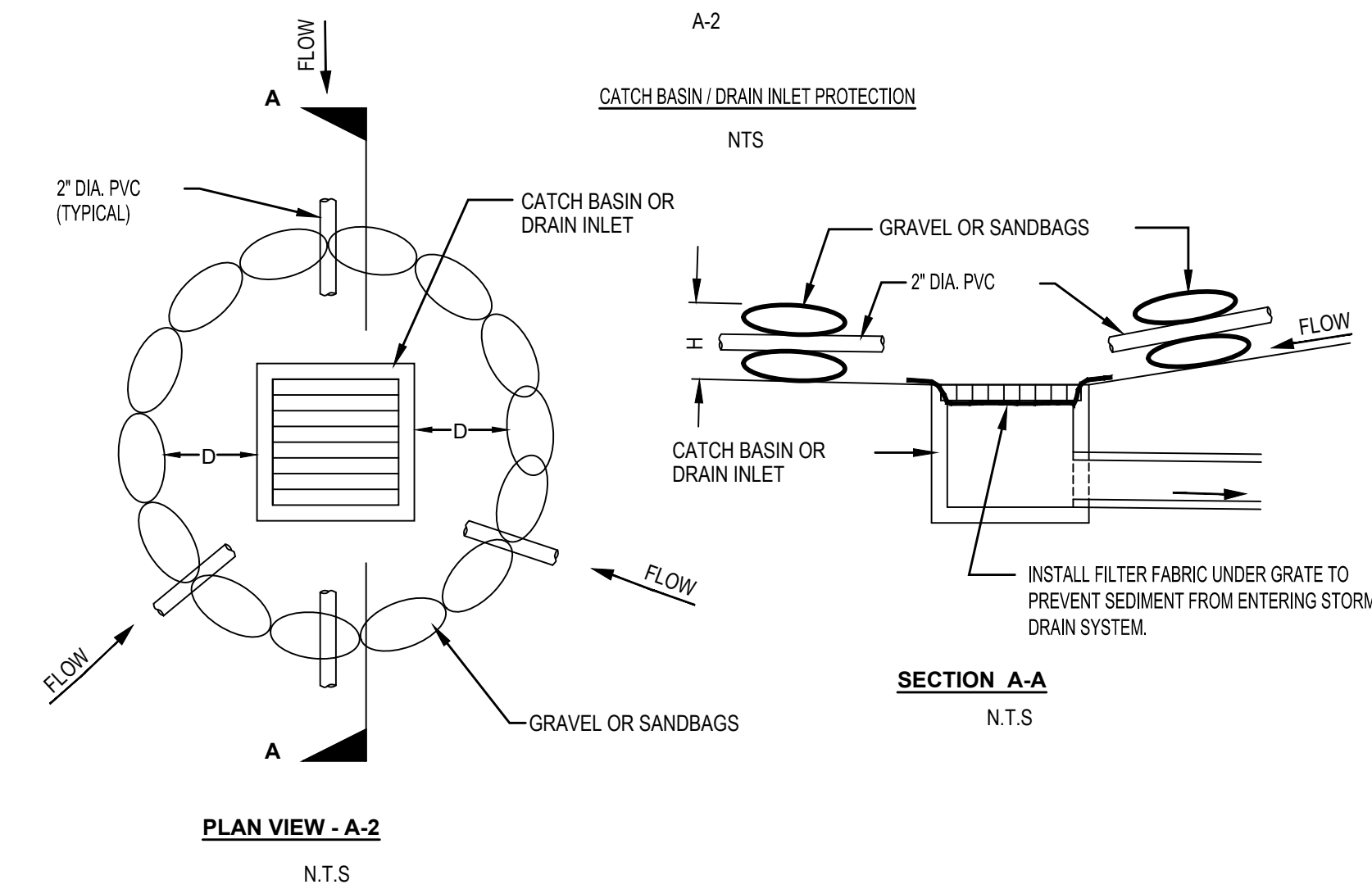
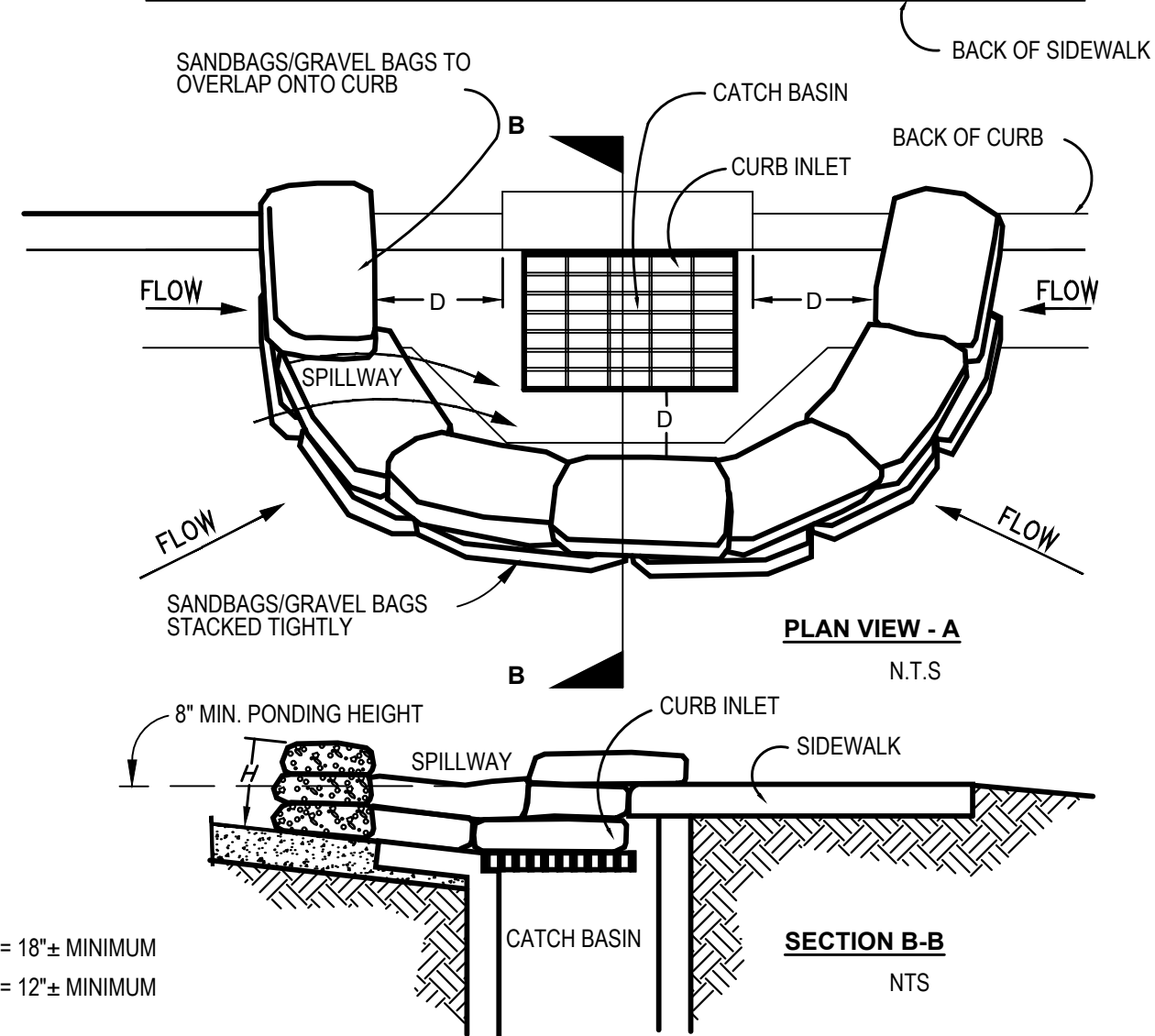
NEW SFR
 1035 LOMA DRIVE
 HERMOSA BEACH, CA
EROSION CONTROL PLAN

FILE NUMBER
 17014-CIVIL

BUILDING #:
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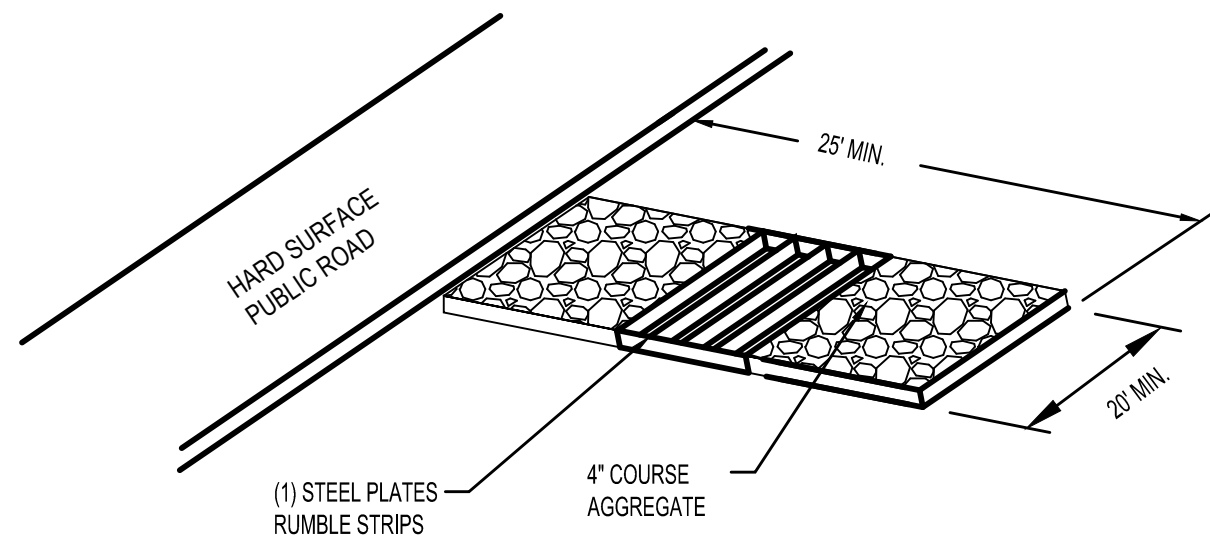
C-5

SHT. 5 OF 9



- NOTES:**
- CATCH BASIN/INLET PROTECTION SHALL BE INSTALLED WHEREVER THERE IS A POTENTIAL OF STORMWATER OR NON-STORMWATER BEING DISCHARGED INTO IT.
 - INLET PROTECTION IS REQUIRED ALONG WITH OTHER POLLUTION PREVENTION MEASURES SUCH AS; EROSION CONTROL, SOIL STABILIZATION, AND MEASURES TO PREVENT TRACKING ONTO PAVED SURFACES.
 - MODIFY INLET PROTECTION AS NEEDED TO AVOID CREATING TRAFFIC HAZARDS. INCLUDE INLET PROTECTION MEASURES AT HILLSIDE V-DITCHES AND MISC. DRAINAGE SWALES.
 - INLET PROTECTION SHALL BE INSPECTED AND ACCUMULATED SEDIMENTS REMOVED.
 - SEDIMENT SHALL BE DISPOSED OF PROPERLY AND IN A MANNER THAT ASSURES THAT THE SEDIMENT DOES NOT ENTER THE STORM DRAIN SYSTEM
 - DAMAGED BAGS SHALL BE REPLACED IMMEDIATELY. ADDITIONAL SANDBAG SEDIMENT TRAPS SHALL BE PLACED AT INTERVALS AS INDICATED ON SITE PLAN.

A CATCH BASIN/ DRAIN INLET PROTECTION (SE-10)
NOT TO SCALE

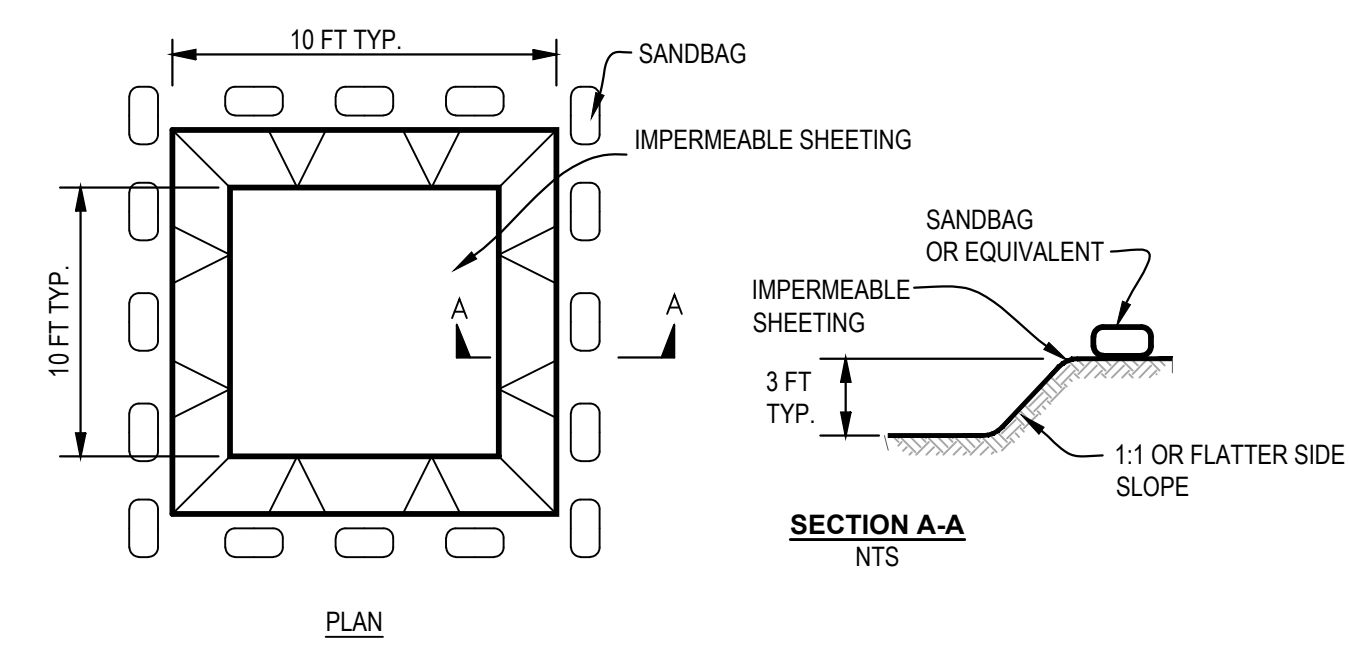


- NOTES:**
- SEDIMENTS AND OTHER MATERIALS SHALL NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS SHALL BE STABILIZED SO AS TO PREVENT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC ROADS. DEPOSITIONS MUST BE SWEEPED UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS INTO THE STORM DRAIN SYSTEM.
 - STABILIZED CONSTRUCTION ENTRANCE SHALL BE:
 - LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT OF WAY, STREET, ALLEY, AND SIDEWALK OR PARKING AREA.
 - A SERIES OF STEEL PLATES WITH "RUMBLE STRIPS", AND/OR MIN. 4" COARS AGGREGATE WITH LENGTH, WIDTH, AND THICKNESS AS NEEDED TO ADEQUATELY PREVENT ANY TRACKING ONTO PAVED AREAS.
 - ADDING A WASH RACK WITH A SEDIMENT TRAP LARGE ENOUGH TO COLLECT ALL WASH WATER CAN GREATLY IMPROVE EFFICIENCY.
 - ALL VEHICLES ACCESSING THE CONSTRUCTION SITE SHALL UTILIZE THE STABILIZED CONSTRUCTION ENTRANCE SITES.

STREET MAINTENANCE

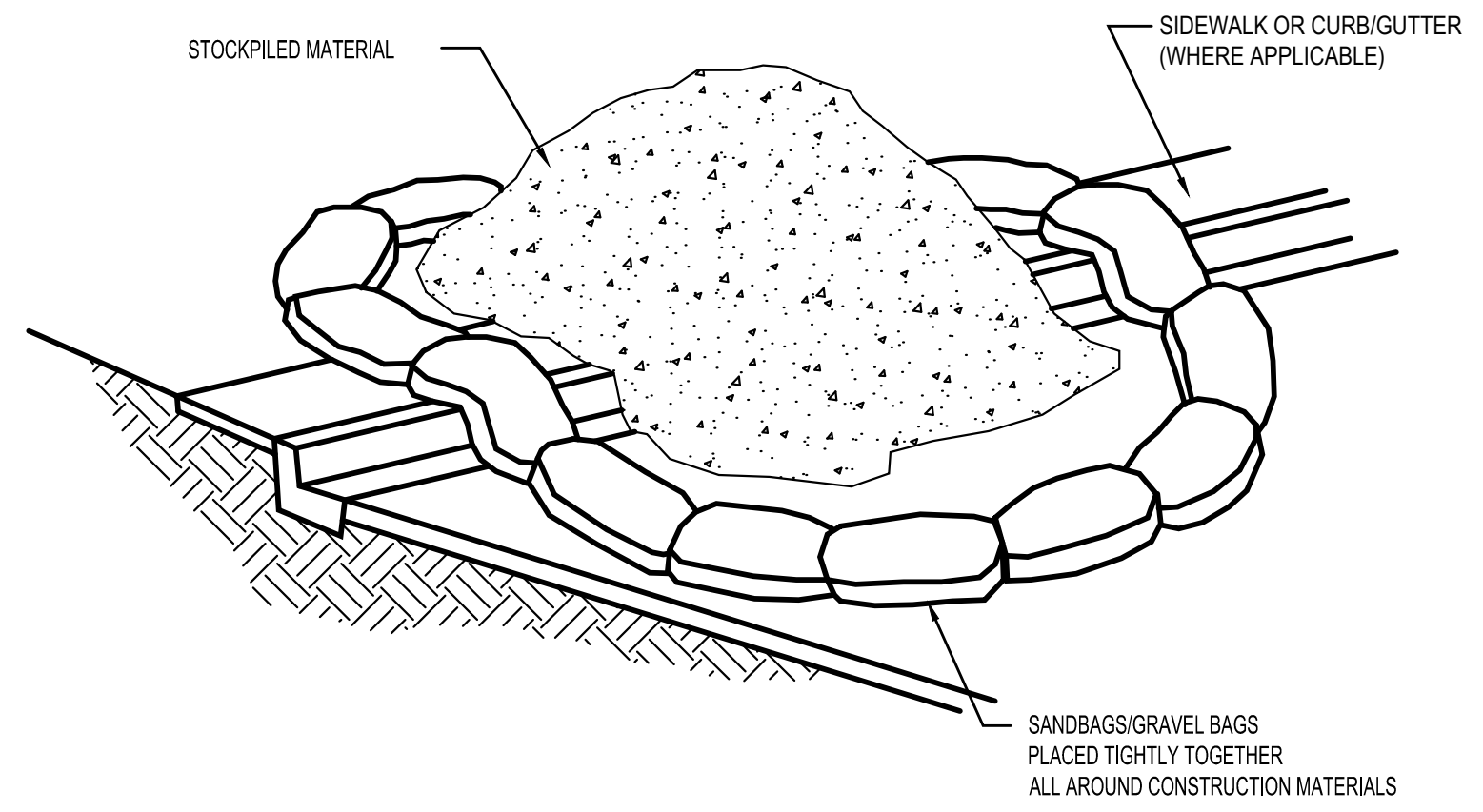
- REMOVE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS IMMEDIATELY.
- SWEEP PAVED AREAS THAT RECEIVE CONSTRUCTION TRAFFIC WHENEVER SEDIMENT BECOMES VISIBLE.
- PAVEMENT WASHING WITH WATER IS PROHIBITED IF IT RESULTS IN A DISCHARGE TO THE STORM DRAIN SYSTEM.

B STABILIZED CONSTRUCTION ENTRANCE (TC-1, TC-2, & TC-3)
NOT TO SCALE



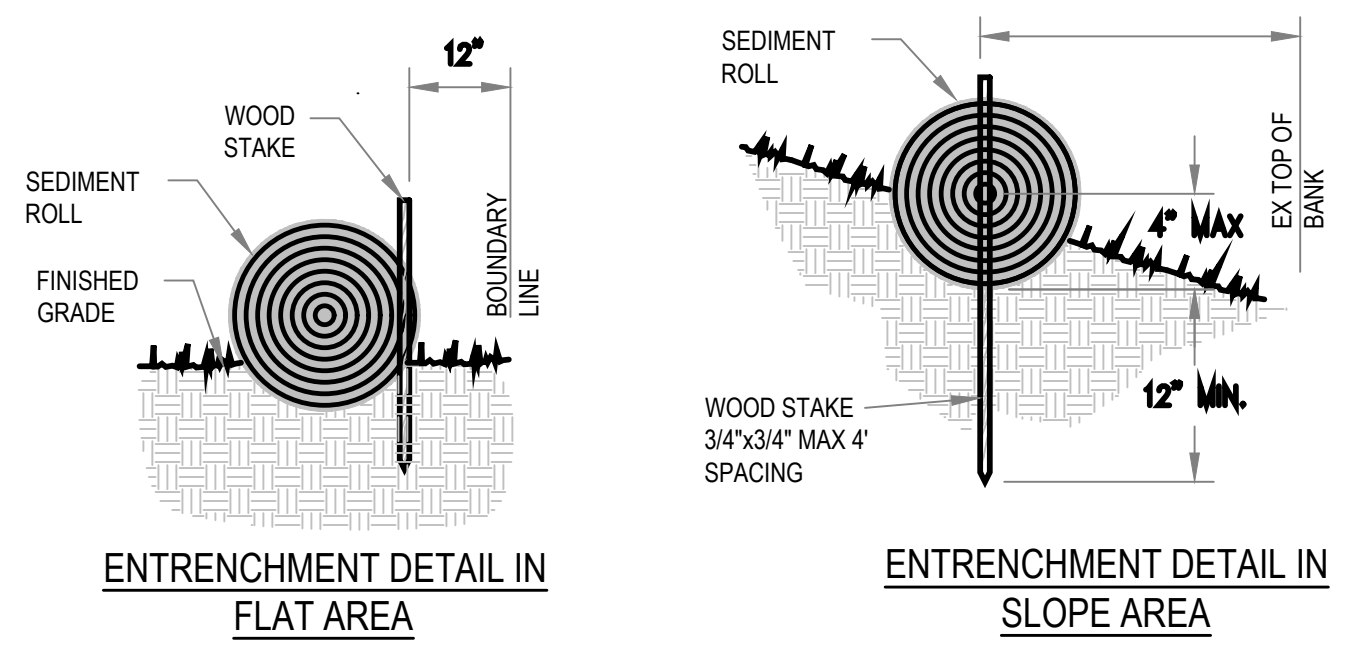
- NOTES:**
- SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
 - ACTUAL LAYOUT WILL BE DETERMINED IN THE FIELD.

D CONCRETE WASTE MANAGEMENT (WM-8)
NOT TO SCALE



- NOTES:**
- DIRT AND OTHER CONSTRUCTION RELATED MATERIALS PLACED IN THE STREET OR ON OTHER IMPERVIOUS SURFACES MUST BE CONTAINED WITH SANDBAGS OR OTHER MEASURES TO PREVENT TRANSPORT TO THE STORM DRAIN SYSTEM. ANY CONSTRUCTION MATERIAL STORED OR STOCKPILED ON-SITE SHALL BE PROTECTED FROM BEING TRANSPORTED BY THE FORCE OF WIND OR WATER. COVER MATERIAL WITH PLASTIC SHEETS (MIN. 10 MIL.) WITH SAND BAGS FOR ANCHORING.

C MATERIAL STORAGE (WM-1)
NOT TO SCALE



- INSTALLATION PROCEDURE:**
- FIBER ROLLS ARE TUBES MADE FROM POROUS BIODEGRADABLE FIBER STUFFED IN A PHOTO-DEGRADABLE OPEN WEAVE NETTING. THEY ARE APPROX. 8\"/>
 - FIBER ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 2\"/>

E FIBER ROLL (SE-5)
NOT TO SCALE

BENCH MARK:

SET L&TAG LS 9806
AT PC, EL=70.06'

CALL: 811

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PLANS PREPARED BY:

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DATE

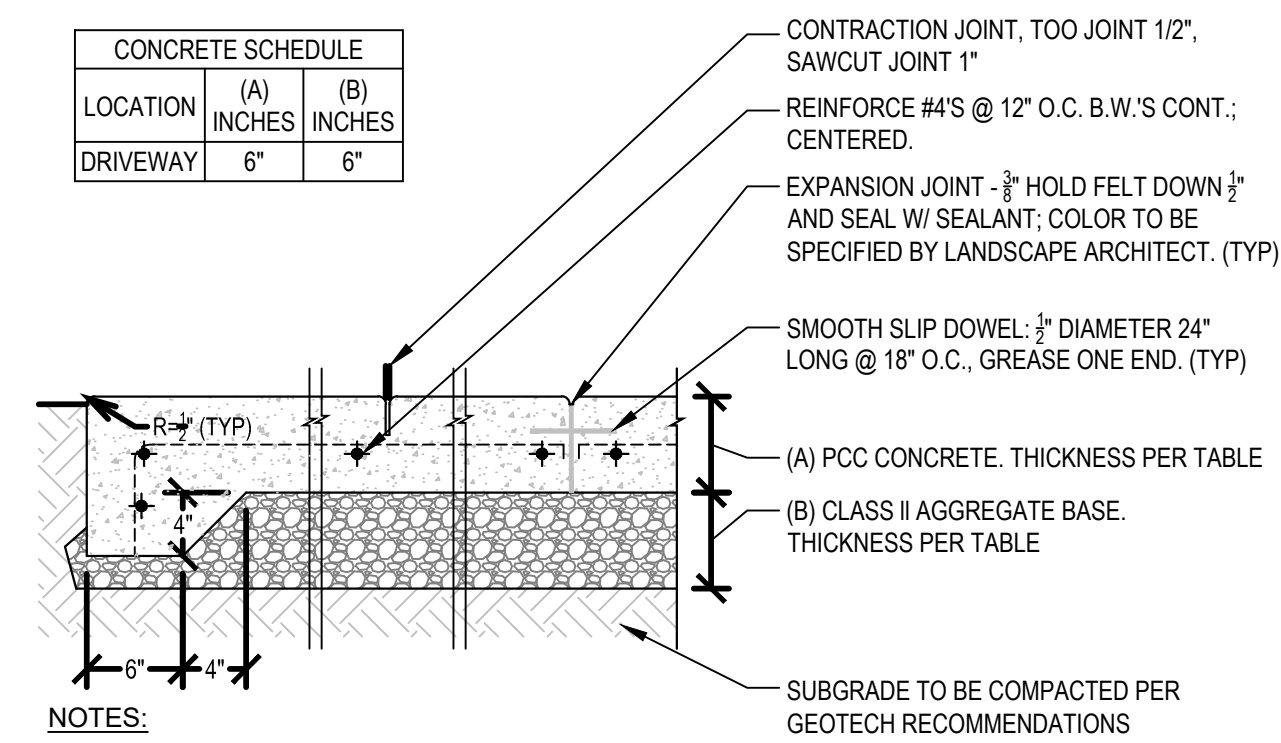
CITY OF HERMOSA BEACH
PUBLIC WORKS DEPARTMENT
RECOMMENDED FOR PERMIT ISSUANCE:
DATE

PRIVATE IMPROVEMENT PLANS

NEW SFR
1035 LOMA DRIVE
HERMOSA BEACH, CA
DETAILS

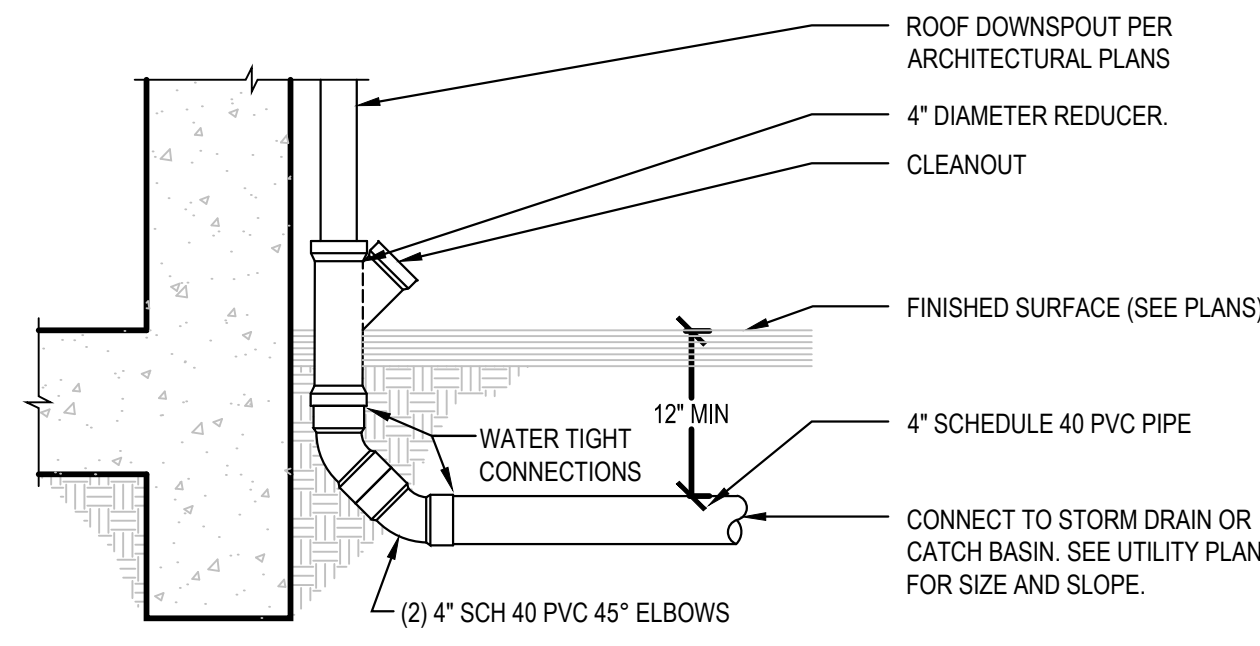
FILE NUMBER
17014-CIVIL
BUILDING #:
BXX-XXXX
C-6
SHT. 6 OF 9

| CONCRETE SCHEDULE | | |
|-------------------|------------|------------|
| LOCATION | (A) INCHES | (B) INCHES |
| DRIVEWAY | 6" | 6" |



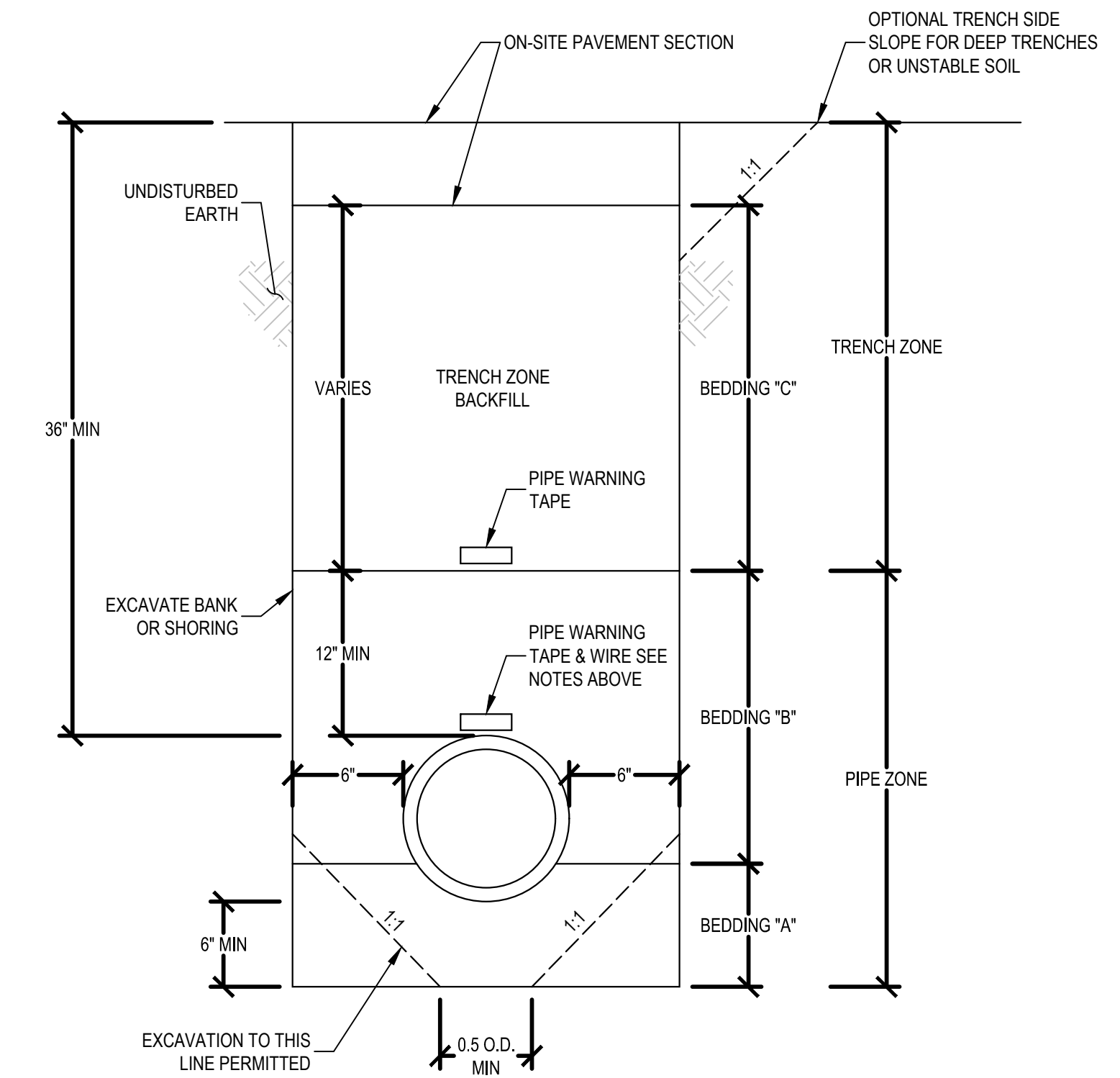
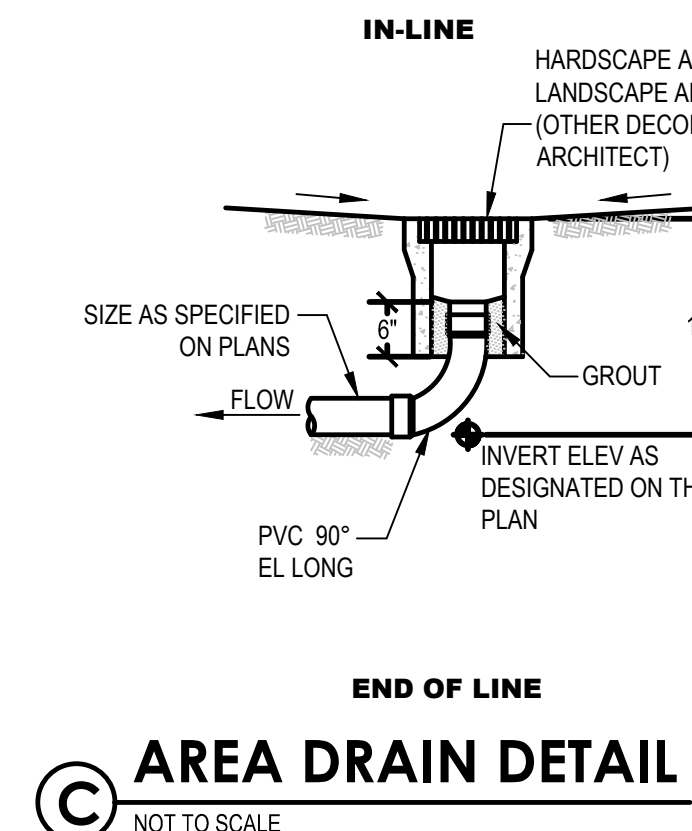
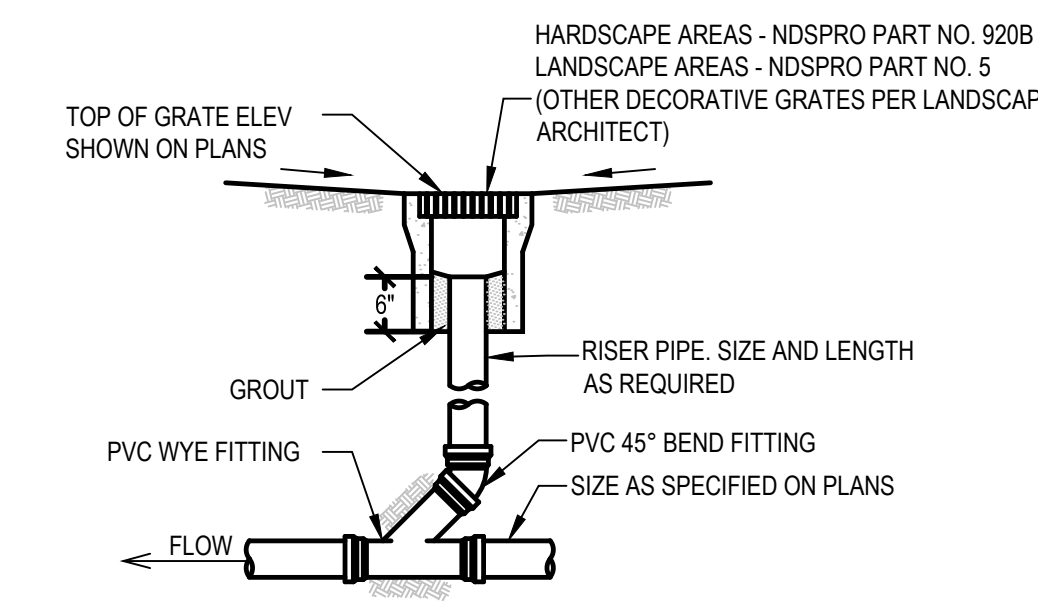
- NOTES:
- SLOPE ALL CONCRETE AS SHOWN ON PLAN
 - EASE ALL EDGES R=1/2"
 - FELT SHALL BE NON-ASPHALTIC IMPREGNATED
 - SEE LANDSCAPE PLANS FOR COLOR AND FINISH
 - PCC CONCRETE SHALL BE 520-C-2500
 - MEDIUM BROOM FINISH REQUIRED ON WALK SURFACES UP TO 6% SLOPE.
 - JOINTS AND SUBGRADE COMPACTION PER GEOTECH REPORT.

(A) CONCRETE PAVING DETAIL
NOT TO SCALE



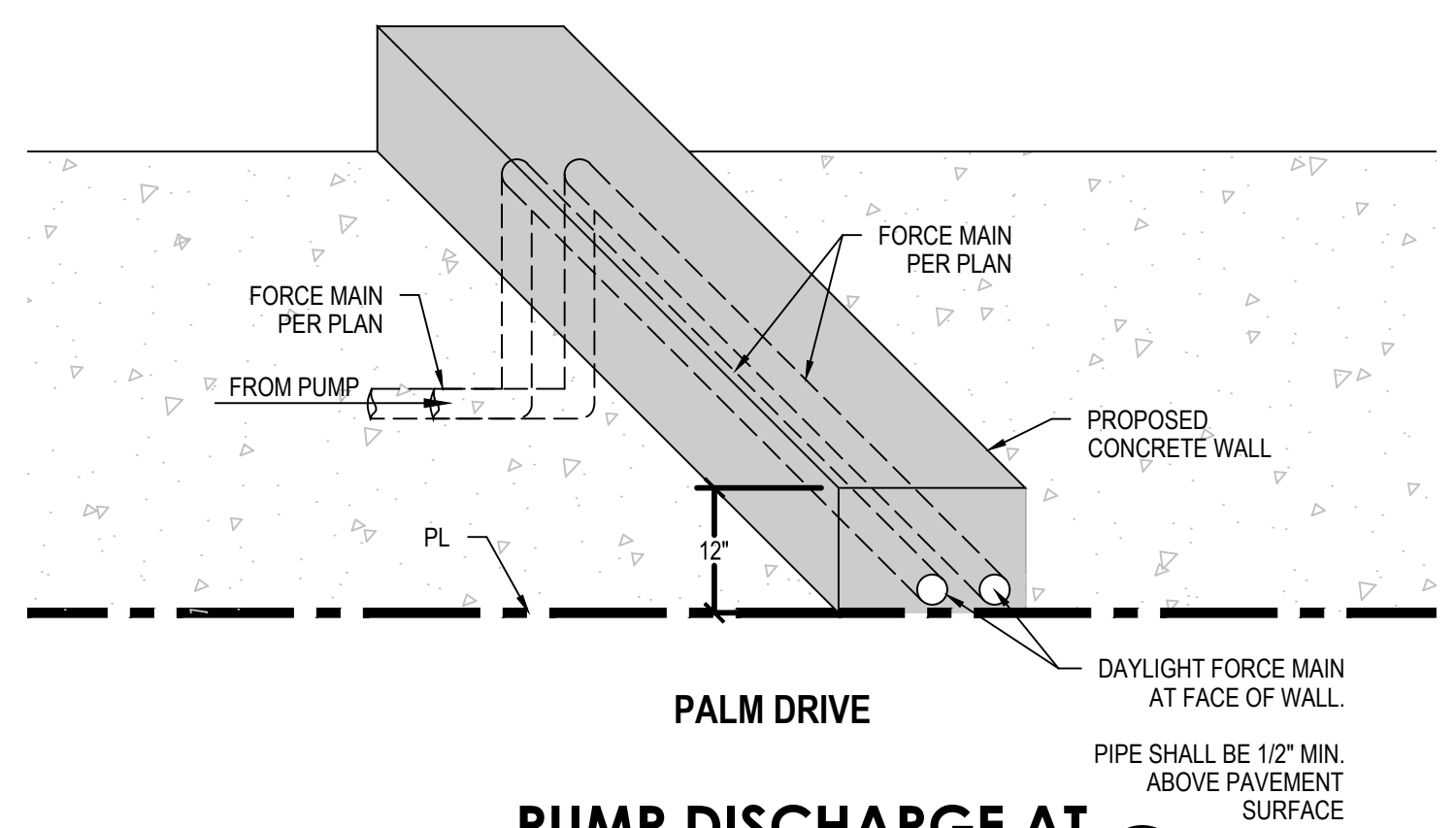
(B) DOWNSPOUT CONNECTION TO STORM DRAIN
NOT TO SCALE

GRATE OPENING NOTICE TO CONTRACTOR:
PER THE 2016 C.B.C. 11B.302.3. OPENINGS IN FLOOR OR GROUND SURFACES SHALL NOT ALLOW PASSAGE OF A SPHERE MORE THAN 1/2 INCH DIAMETER EXCEPT AS ALLOWED IN 2016 C.B.C. SECTIONS 11B-407.4.3, 11B-409.4.3, 11B-410.4, 11B-810.5.3 AND 11B-810.10. ELONGATED OPENINGS SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.

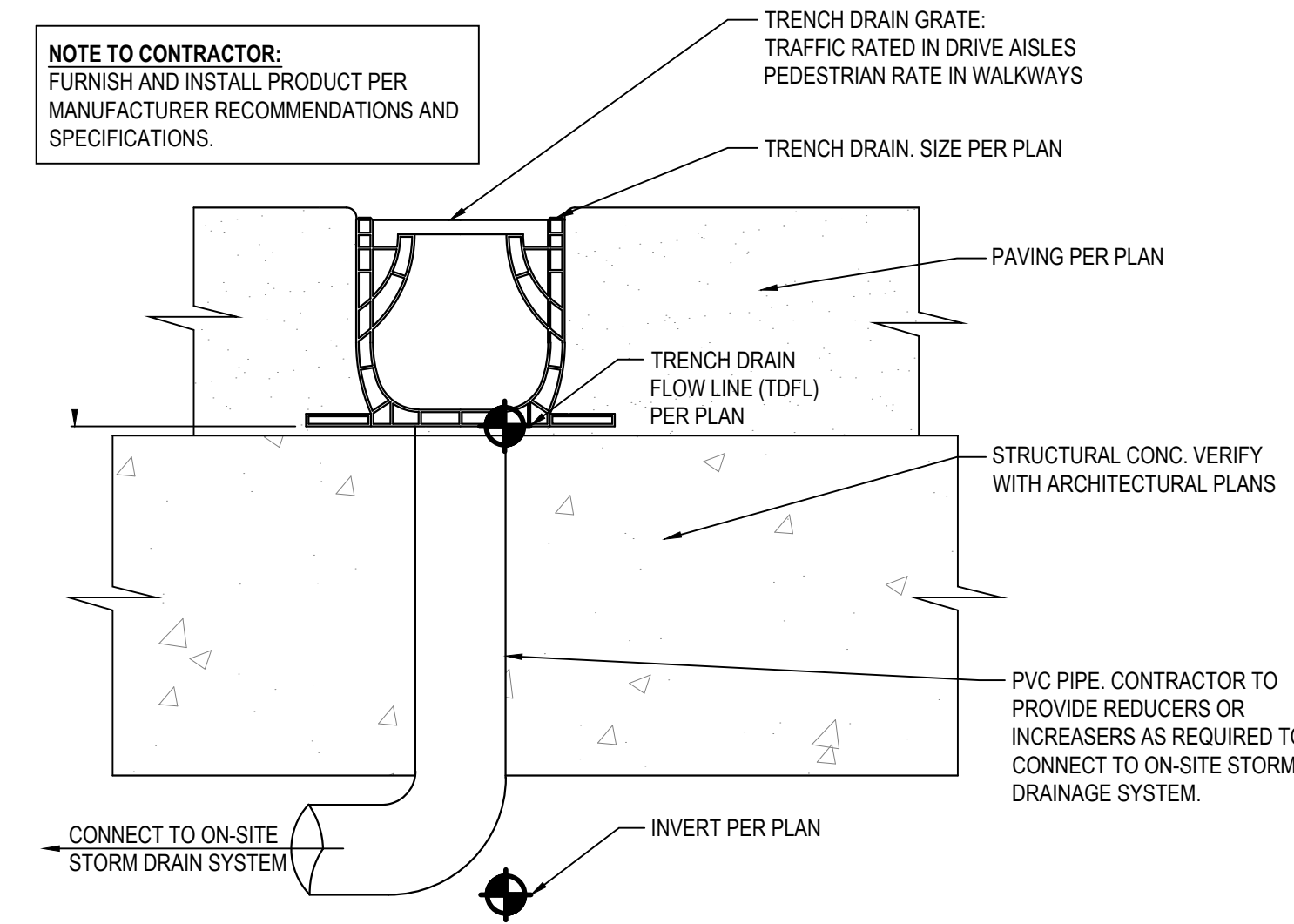


- PIPE TAPE NOTES:**
- PIPE WARNING TAPE SHALL BE CONTINUALLY INSTALLED ON ALL PIPES.
 - A METALLIC LINED TAPE SHALL BE SECURELY ATTACHED TO THE PIPE AT 5 FT INTERVALS. PIPE WRAP TAPE SHALL BE WRAPPED AROUND THE ENTIRE CIRCUMFERENCE OF PIPE.
 - ON-SITE STORM DRAIN SHALL BE GREEN COLOR TAPE STATING "CAUTION STORM DRAIN LINE BELOW"
 - DOMESTIC WATER PIPE SHALL BE BLUE COLOR TAPE STATING "CAUTION BURIED WATER LINE BELOW"
 - FIRE WATER PIPE SHALL BE BLUE COLOR TAPE STATING "FIRE WATER"
 - TRACING WIRE TO BE TAPED TO TOP OF PIPES & LOOPED/SPOOLED AT VALVE CANS FOR WATER & RECLAIMED WATER MAINS.
- BACKFILL SPECIFICATIONS:**
- BEDDING "A" = SAND (SAND EQUIVALENT NOT LESS THAN 30)
- BEDDING "B" = SAND OR OTHER GRANULAR MATERIAL (SAND EQUIVALENT OF NOT LESS THAN 30) AND COMPACTED TO NOT LESS THAN 90% RELATIVE COMPACTION.
- BEDDING "C" = NATIVE BACKFILL, MINIMUM RELATIVE COMPACTION OF 90%
- NOTE:
TRENCHING, BEDDING, AND BACKFILL SHALL BE PER GEOTECHNICAL RECOMMENDATIONS.

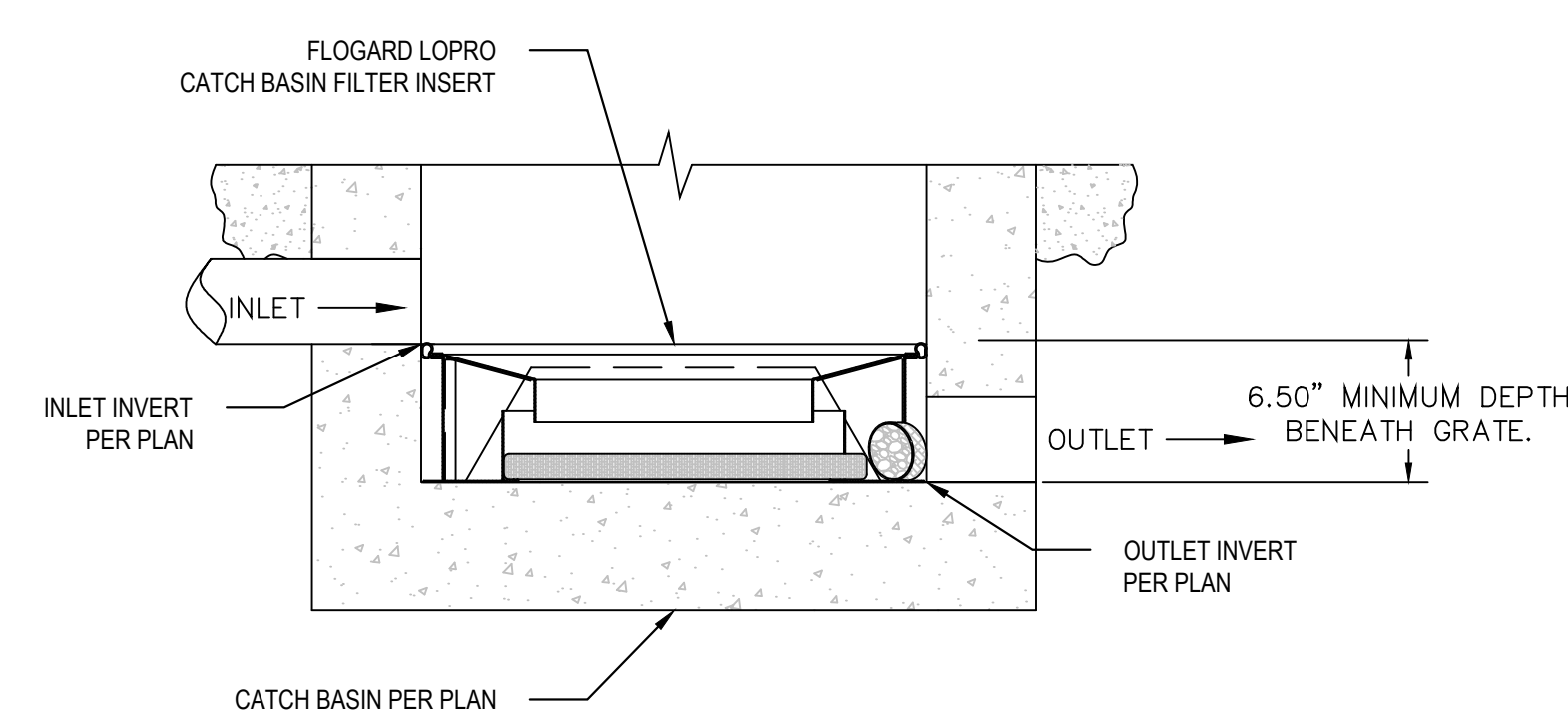
(D) UTILITY TRENCHING DETAIL
NOT TO SCALE



(E) PUMP DISCHARGE AT FACE OF WALL DETAIL
NOT TO SCALE



(F) TRENCH DRAIN BOTTOM OUT DETAIL
NOT TO SCALE



(G) CATCH BASIN FILTER INSERT DETAIL
NOT TO SCALE

BENCH MARK:

SET L&TAG LS 9806
AT PC, EL=70.06'

CALL: 811

TWO WORKING DAYS BEFORE YOU DIG

| REVISIONS | | |
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| No. | DESCRIPTION | DATE |
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FGB ENGINEERS

FGB ENGINEERS
572 SOUTH MOTIF ST
ANAHEIM, CA 92805
TEL: 562.584.1071
WWW.FGBENGINEERS.COM

PLANS PREPARED BY:

FRANKLOYD G. BUENDIA, RCE 84848

08/22/2025

DATE

CITY OF HERMOSA BEACH
PUBLIC WORKS DEPARTMENT

RECOMMENDED FOR PERMIT ISSUANCE:

DATE

PRIVATE IMPROVEMENT PLANS

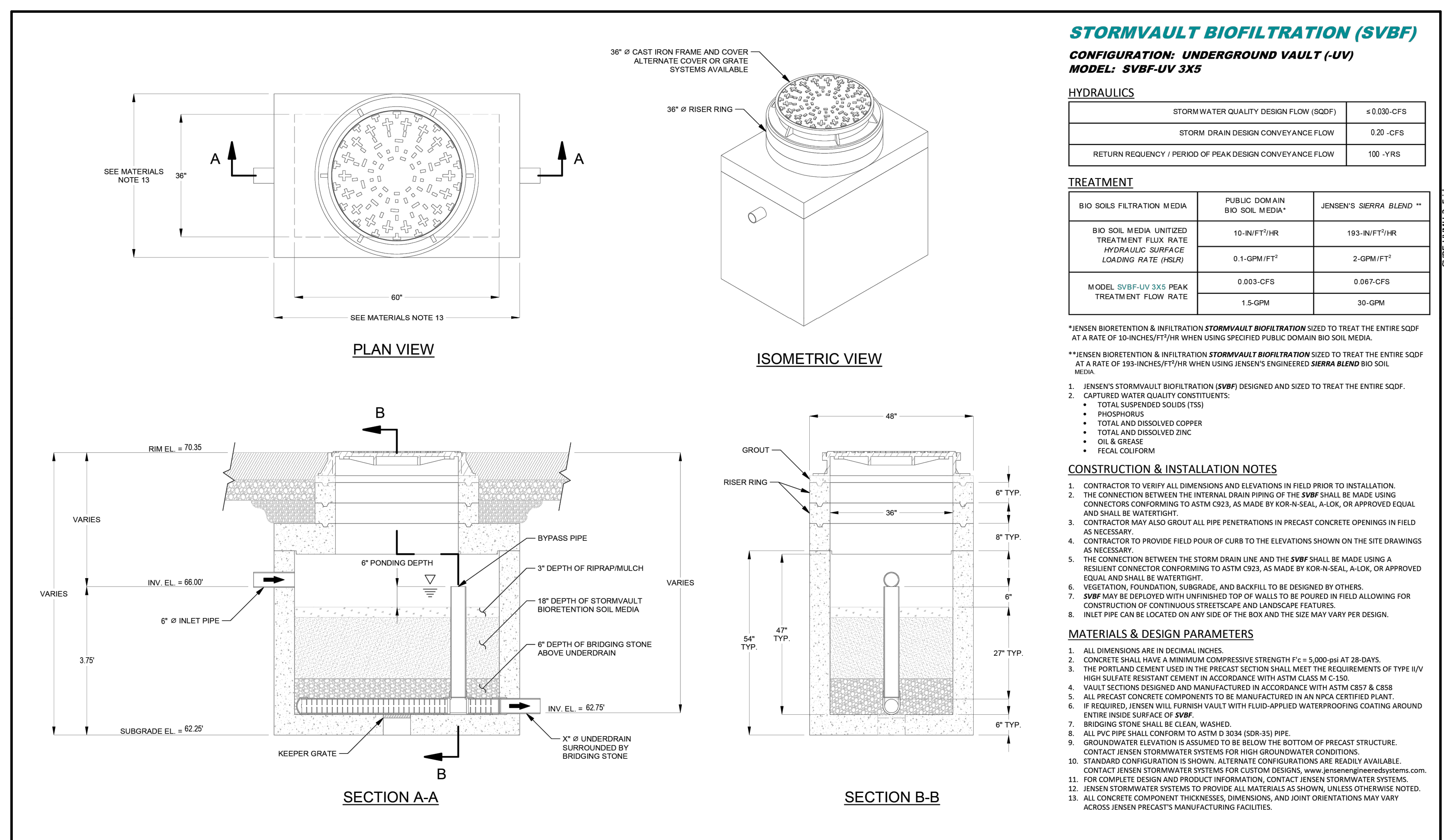
NEW SFR
1035 LOMA DRIVE
HERMOSA BEACH, CA
DETAILS

FILE NUMBER
17014-CIVIL

BUILDING #:
BXX-XXXX

C-7

SHT. 7 OF 9

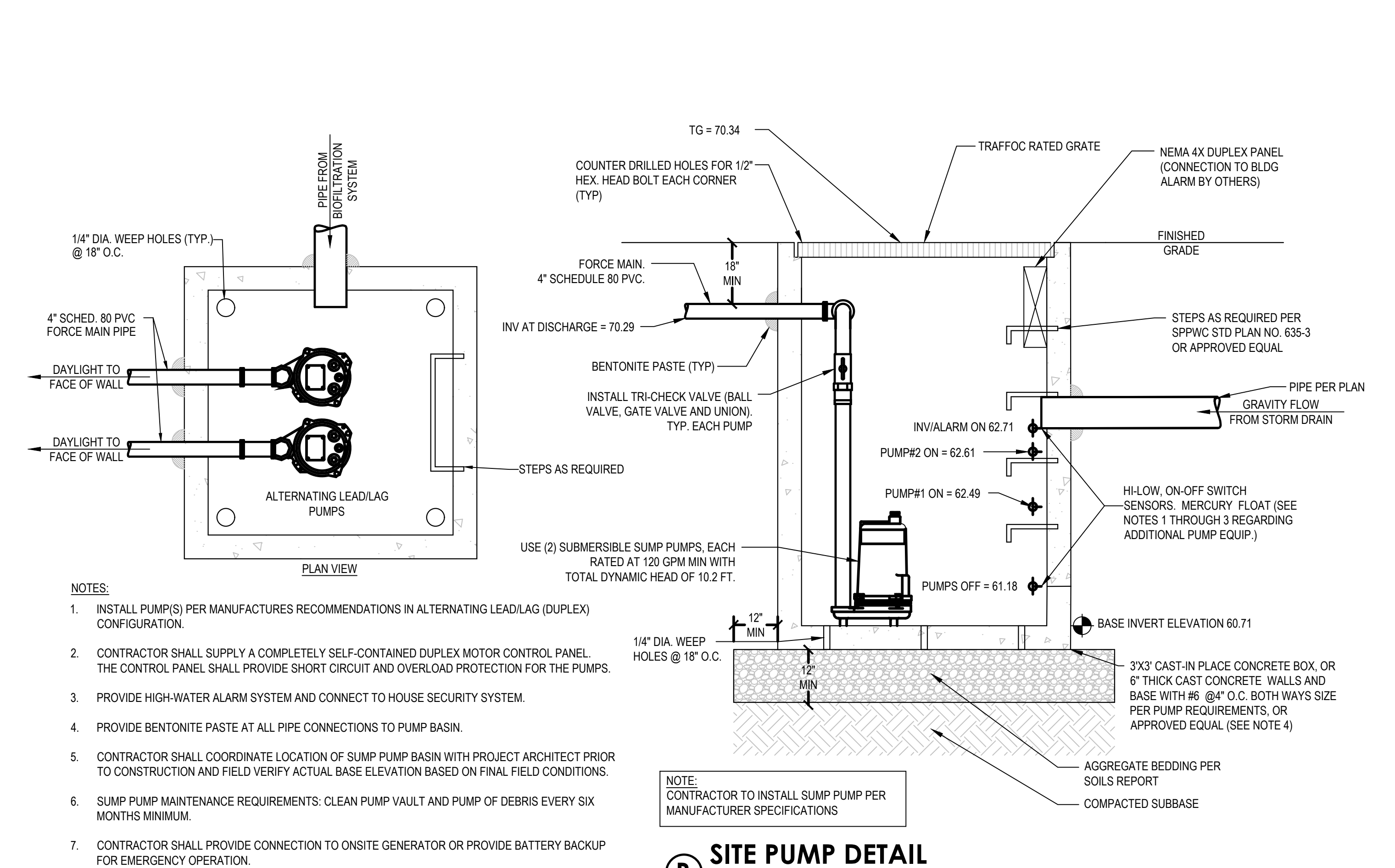


DISCLAIMERS, INCLUDING BUT NOT LIMITED TO:
 1) All elevations have been provided by others, and have not been verified by Jensen Precast. Contractor to verify all dimensions and elevations in field prior to installation.
 2) These layout drawings are intended to show overall system design only. All concrete component thicknesses, dimensions, and joint orientations may vary across Jensen Precast's manufacturing facilities. Contractor to confirm all thicknesses, dimensions, and joint orientations prior to installation.
 3) System design criteria has been provided to Jensen Precast. Others are responsible for verification that system meets intended application.
 4) Foundation, subgrade, and backfill to be designed by others.

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| | | | |
|---|--|---|-------------------|
| JENSEN STORMWATER SYSTEMS | MODEL: STORMVAULT BIOFILTRATION UNDERGROUND VAULT MODEL: SVBF-UV 3x5 | PROJECT: PROJECT NAME CITY, STATE | REV: SHEET 1 of 1 |
| 521 DUNN CIRCLE, SPARKS, NV 89431 www.jensenwaterresources.com (866) 468-6600 | | PART NUMBER: SVBF-UV 3x5 Assembly DRAWN BY: T. Schmalzing CREATED: MODIFIED: 5/29/2020 | |

A BIOFILTRATION SYSTEM DETAIL
NOT TO SCALE



BENCH MARK:
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 AT PC, EL=70.06'

CALL: 811

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PLANS PREPARED BY:

FRANKLOYD G. BUENDIA, RCE 84848
 DATE: 08/22/2025

CITY OF HERMOSA BEACH
 PUBLIC WORKS DEPARTMENT

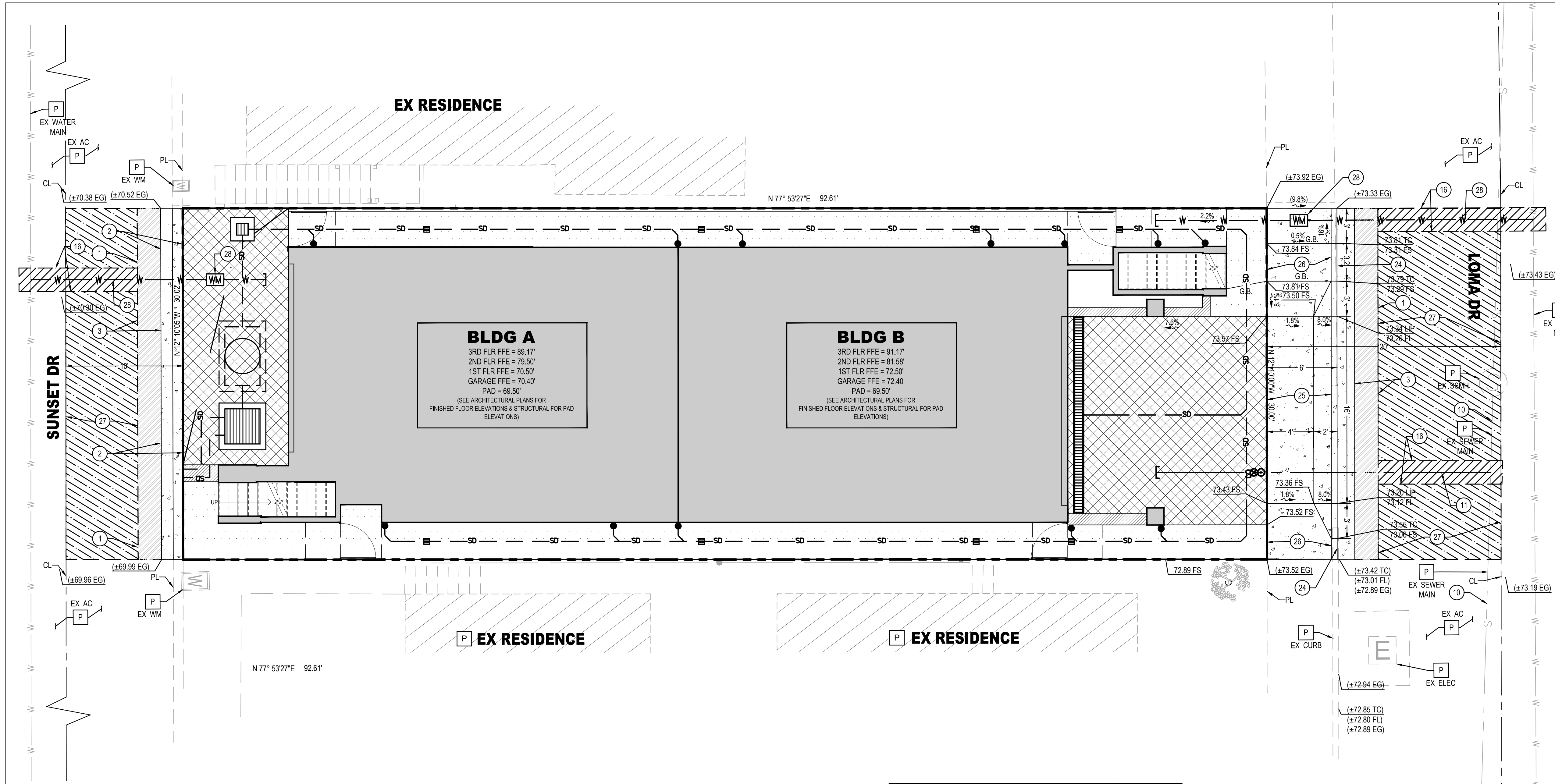
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PRIVATE IMPROVEMENT PLANS

NEW SFR
 1035 LOMA DRIVE
 HERMOSA BEACH, CA

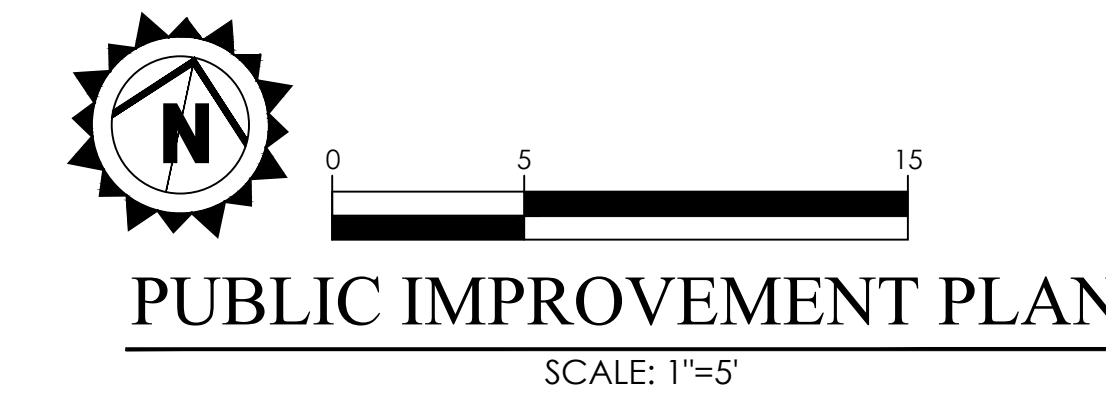
FILE NUMBER: 17014-CIVIL
 BUILDING #: BXX-XXXX
C-8
 SHT. 8 OF 9



- ### CONSTRUCTION NOTES
- [P] PROTECT IN PLACE EXISTING IMPROVEMENTS
 - ① SAWCUT AND MATCH EXISTING PAVEMENT
 - ② CONSTRUCT 24" WIDE SWALE PER CITY OF HERMOSA BEACH STD PLAN NO. 101.
 - ③ CONSTRUCT 24" WIDE FULL DEPTH AC PAVEMENT.
 - ⑩ 72 HOURS PRIOR TO CONSTRUCTION, POTHOLE AND VERIFY LOCATION, DEPTH, MATERIAL, SIZE, AND CONDITION OF EXISTING SEWER LATERAL.
 - ⑪ 72 HOURS PRIOR TO CONSTRUCTION, POTHOLE AND VERIFY LOCATION, DEPTH, MATERIAL, SIZE, AND CONDITION OF EXISTING SEWER LATERAL. REPORT FINDINGS TO CIVIL ENGINEER PRIOR TO CONSTRUCTION. CONSTRUCT NEW 6" VCP SEWER LATERAL PER SPPWC (2021) STD. PLAN 222-2.
 - ⑫ UTILITY TRENCH REPAIR PER CITY OF HERMOSA BEACH STD PLAN NO. 117 (ONLY APPLIES TO UTILITY IMPROVEMENTS WITHIN PUBLIC RIGHT-OF-WAY)
 - ⑭ CONSTRUCT 6" CURB WITH 18" GUTTER PER CITY OF HERMOSA BEACH STD PLAN NO. 101 TYPE A. FROM PL TO PL OR TO NEXT CONSTRUCTION JOINT, WHICHEVER IS GREATER
 - ⑮ CONSTRUCT DRIVEWAY APPROACH PER CITY OF HERMOSA BEACH STD PLAN NO. 102
 - ⑯ CONSTRUCT 4" PCC SIDEWALK PER CITY OF HERMOSA BEACH STD PLAN NO. 106 (CASE 3) FROM PL TO PL OR TO NEXT CONSTRUCTION JOINT, WHICHEVER IS GREATER
 - ⑰ GRIND AND CONSTRUCT 2" AC OVERLAY. REMOVE AND REPLACE DETERIORATED PCC PAVEMENT. REPLACEMENT SHALL BE PER THE CITY OF HERMOSA BEACH STD PLAN NO. 115 PL TO PL OR THE NEXT CONSTRUCTION JOINT, WHICHEVER IS GREATER
 - ⑱ CONSTRUCT 1" WATER METER WITH 1" SERVICE PER UTILITY AGENCY SPECIFICATIONS. CONTRACTOR TO VERIFY METER SIZE WITH PLUMBING ENGINEER PRIOR TO CONSTRUCTION

- ### HATCH LEGEND
- ON-SITE PAVEMENT PER LANDSCAPE PLANS
 - NEW PCC CONCRETE
 - NEW LANDSCAPING PER LANDSCAPE PLANS
 - NEW BUILDING
 - NEW DRIVEWAY PCC
 - FULL DEPTH PAVEMENT
 - UTILITY TRENCHING
 - GRIND AND OVERLAY
 - NEW WALL PER ARCHITECTURAL PLANS.
 - AREA DRAIN PAVEMENT GRADING (TYP.). SLOPES SHALL BE 2% MAX AT PAVED AREAS AND 5% MAX AT LANDSCAPED AREAS UNLESS OTHERWISE NOTED.
 - STEP. (HEIGHT PER PLAN)

- ### CITY OF HERMOSA BEACH NOTES:
1. BORROW OR DISPOSAL SITE MUST BE PERMITTED AND BONDED (IF WITHIN THE CITY)
 2. SEWER LATERALS SHALL BE CONSTRUCTED PRIOR TO CONSTRUCTION OF FIRST FLOOR
 3. UTILITY LINES LOCATION SHALL BE PERMANENTLY IDENTIFIED ON CURB FACE. FONT 2" HEIGHT AND 1/2" DEPTH
 4. IT IS THE RESPONSIBILITY OF THE DEVELOPER TO HAVE ALL STRIPING TRENCHES PROPERLY RESTORED PER CITY STANDARD PLANS PRIOR TO RECEIVING PUBLIC WORKS FINAL SIGN OFF
 5. ANY LANDSCAPE IRRIGATION WITHIN PUBLIC RIGHT-OF-WAY WILL REQUIRE AN ENCROACHMENT PERMIT
 6. IF PROPOSED SEWER LATERAL CROSSES ABOVE WATER MIN, SEWER LATERAL SHALL BE ENCASED
 7. FOUND SURVEY MONUMENTS TO BE PROTECTED IN PLACE
 8. PROVIDE POST INSTALLATION CCTV OF NEW SEWER MAIN



BENCH MARK:

SET L&TAG LS 9806
AT PC, EL=70.06'

CALL: 811

TWO WORKING DAYS BEFORE YOU DIG

| REVISIONS | | |
|-----------|-------------|------|
| No. | DESCRIPTION | DATE |
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PLANS PREPARED BY:

FRANKLOYD G. BUENDIA, RCE 84848
DATE: 08/22/2025

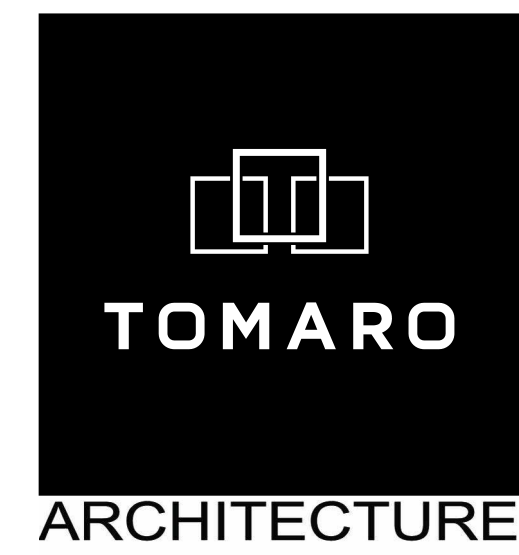
CITY OF HERMOSA BEACH
PUBLIC WORKS DEPARTMENT
RECOMMENDED FOR PERMIT ISSUANCE:
DATE: _____

PRIVATE IMPROVEMENT PLANS

NEW SFR
1035 LOMA DRIVE
HERMOSA BEACH, CA
PUBLIC IMPROVEMENT PLAN

FILE NUMBER
17014-CIVIL
BUILDING #:
BXX-XXXX
C-9
SHT. 9 OF 9

| KEYNOTE LEGEND | |
|----------------|-------------|
| SYM. | DESCRIPTION |



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PROJECT
BOTTENE RESIDENCE
1035 LOMA DRIVE
HERMOSA BEACH
CALIFORNIA 90254

STAMP

PROJECT NUMBER
25002

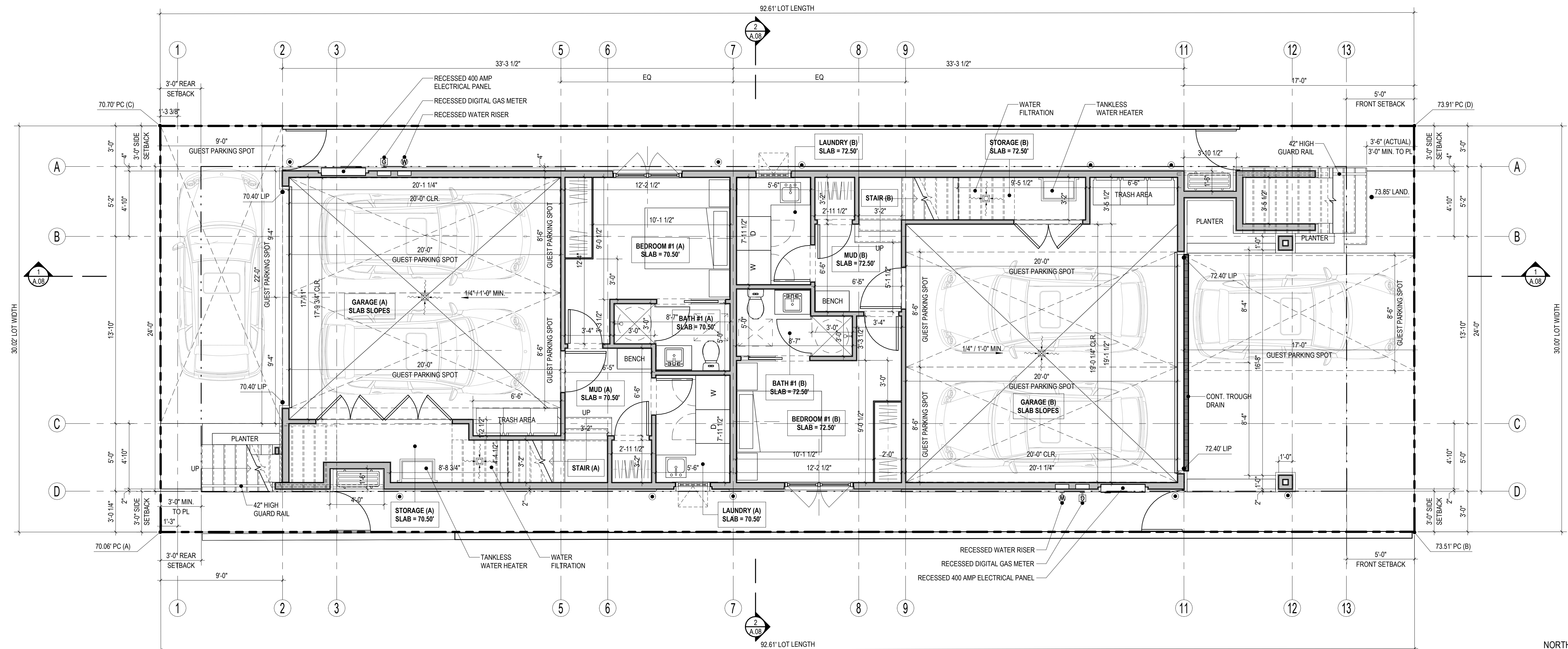
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| NUMBER | REVISION SCHEDULE | DATE |

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DRAWING
FIRST FLOOR PLAN

SHEET NUMBER
A.02



FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"
NORTH

| KEYNOTE LEGEND | |
|----------------|-------------|
| SYM. | DESCRIPTION |



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STAMP

PROJECT NUMBER
 25002

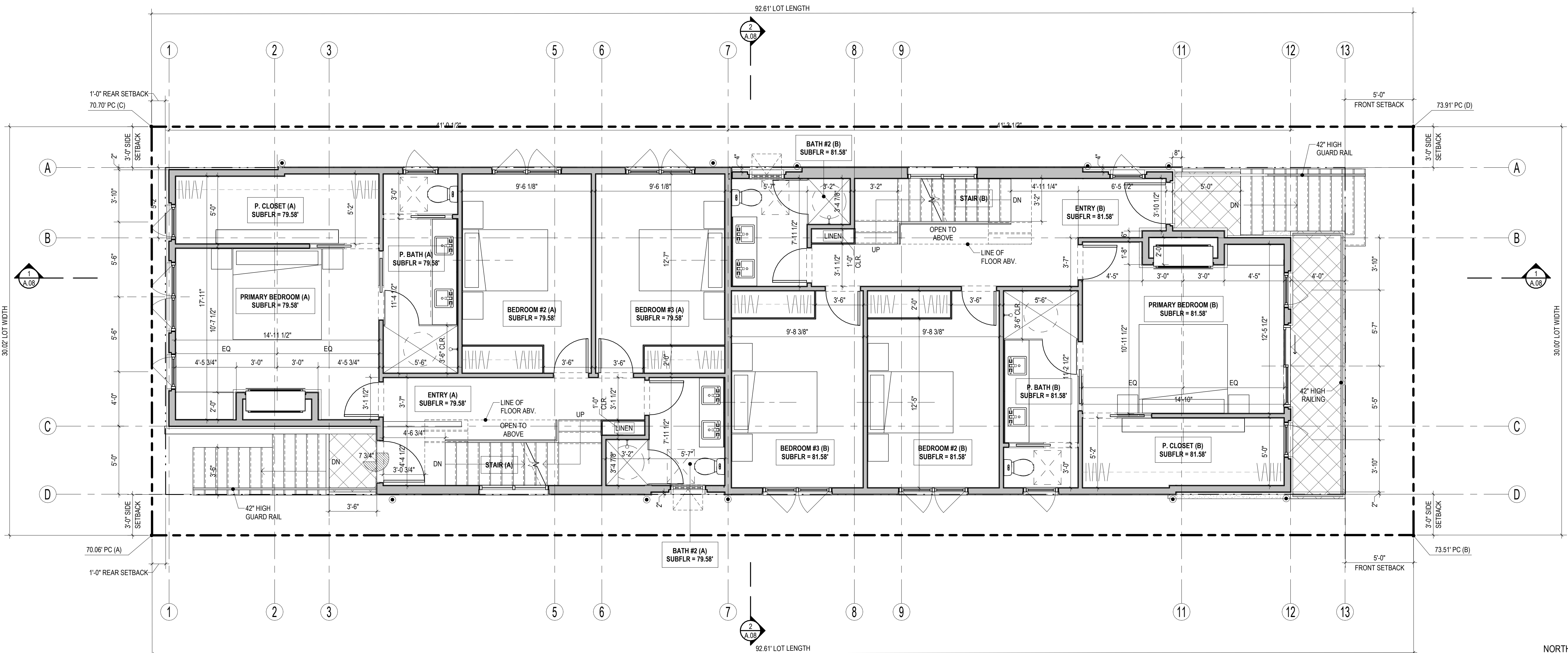
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DRAWING
SECOND FLOOR PLAN

SHEET NUMBER
A.03



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

| KEYNOTE LEGEND | |
|----------------|-------------|
| SYM. | DESCRIPTION |



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PROJECT NUMBER
25002

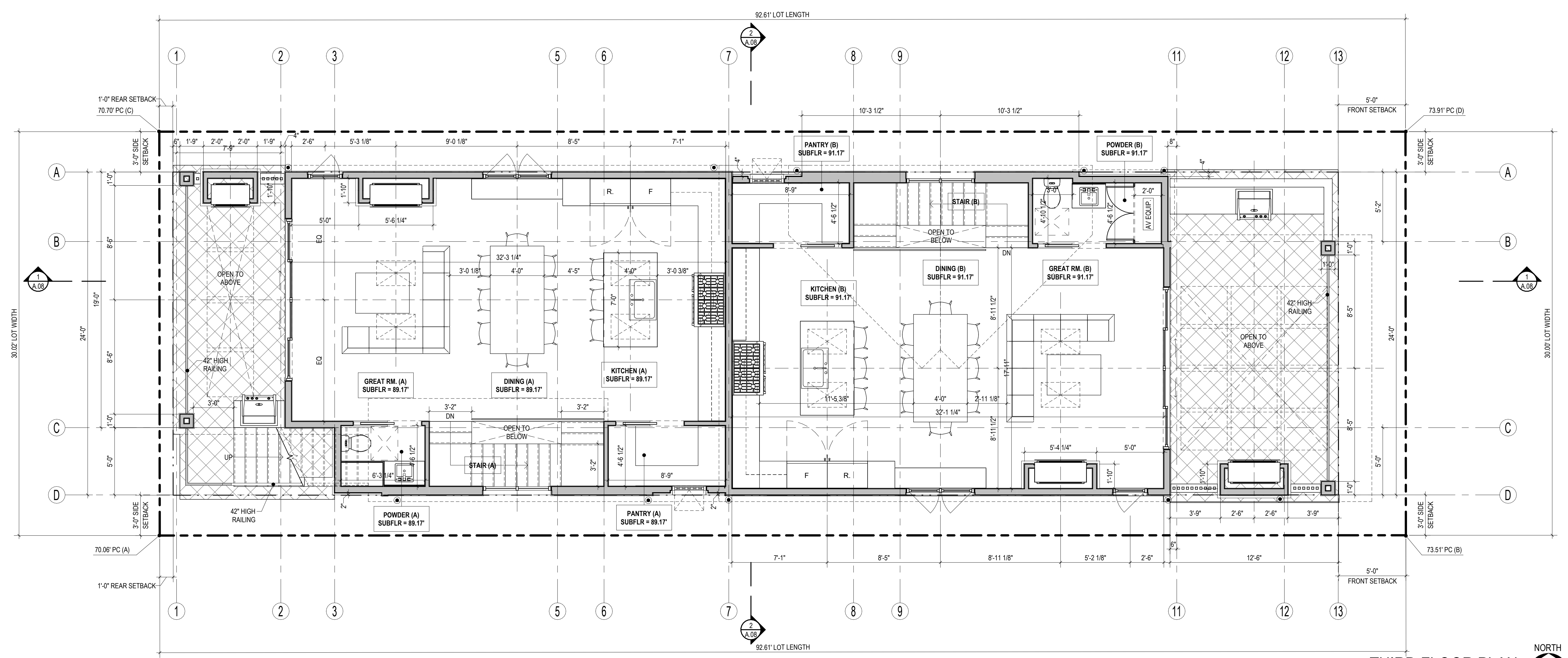
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| NUMBER | REVISION SCHEDULE | DATE |
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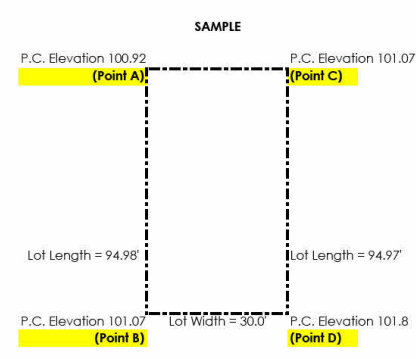
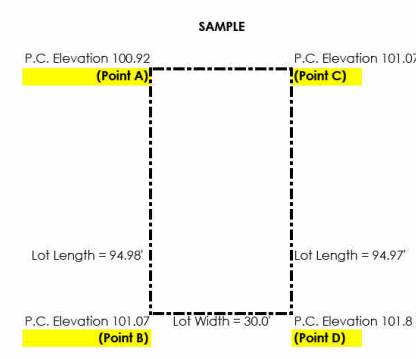
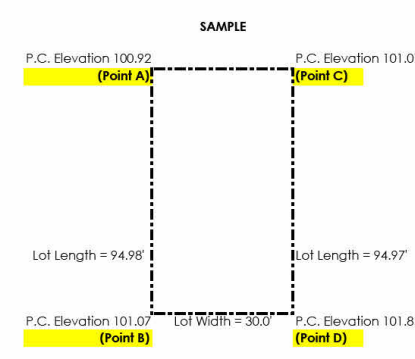
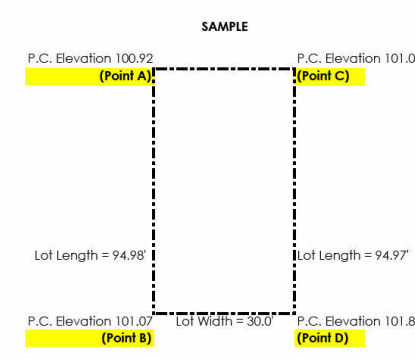
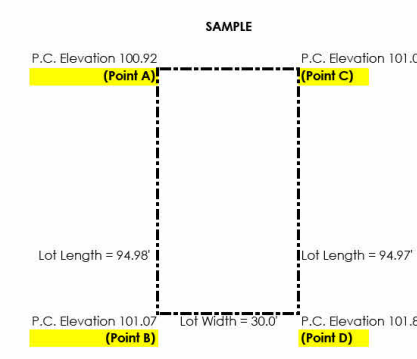
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DRAWING
THIRD FLOOR PLAN

SHEET NUMBER
A.04



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



Critical Height Calculation For: 1035 Loma Dr.

| Item No. | Description | Height |
|----------|---|--------|
| 1 | Level property corner (PC) elevation. This elevation will be reference as A from base | 100.92 |
| 2 | PC elevation of corner of end of length. This elevation point will be reference as B | 101.07 |
| 3 | Distance from A to B (Lot Length) | 94.93 |
| 4 | Distance from A to Critical Point along Line AB | 41.59 |
| 5 | PC elevation of corner across width of A. This elevation point will be reference as C from base | 101.07 |
| 6 | PC elevation of corner of end of length of C. This elevation point will be reference as D | 101.07 |
| 7 | Distance from C to D (Lot Length) | 94.93 |
| 8 | Distance from C to Critical Point along Line CD | 15.34 |
| 9 | Lot width of Critical Point | 30.00 |
| 10 | Distance from Line AB to Critical Point (width) | 17.52 |
| 11 | Allowable height limit in the R zone (20' total for 5' zone) | 100.00 |

Critical Height Calculation For: 1035 Loma Dr.

| Item No. | Description | Height |
|----------|---|--------|
| 1 | Level property corner (PC) elevation. This elevation will be reference as A from base | 100.92 |
| 2 | PC elevation of corner of end of length. This elevation point will be reference as B | 101.07 |
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Critical Height Calculation For: 1035 Loma Dr.

| Item No. | Description | Height |
|----------|---|--------|
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Critical Height Calculation For: 1035 Loma Dr.

| Item No. | Description | Height |
|----------|---|--------|
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| 4 | Distance from A to Critical Point along Line AB | 41.59 |
| 5 | PC elevation of corner across width of A. This elevation point will be reference as C from base | 101.07 |
| 6 | PC elevation of corner of end of length of C. This elevation point will be reference as D | 101.07 |
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Critical Height Calculation For: 1035 Loma Dr.

| Item No. | Description | Height |
|----------|---|--------|
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| 9 | Lot width of Critical Point | 30.00 |
| 10 | Distance from Line AB to Critical Point (width) | 17.52 |
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KEYNOTE LEGEND

| SYM. | DESCRIPTION |
|------|-------------|
| | |



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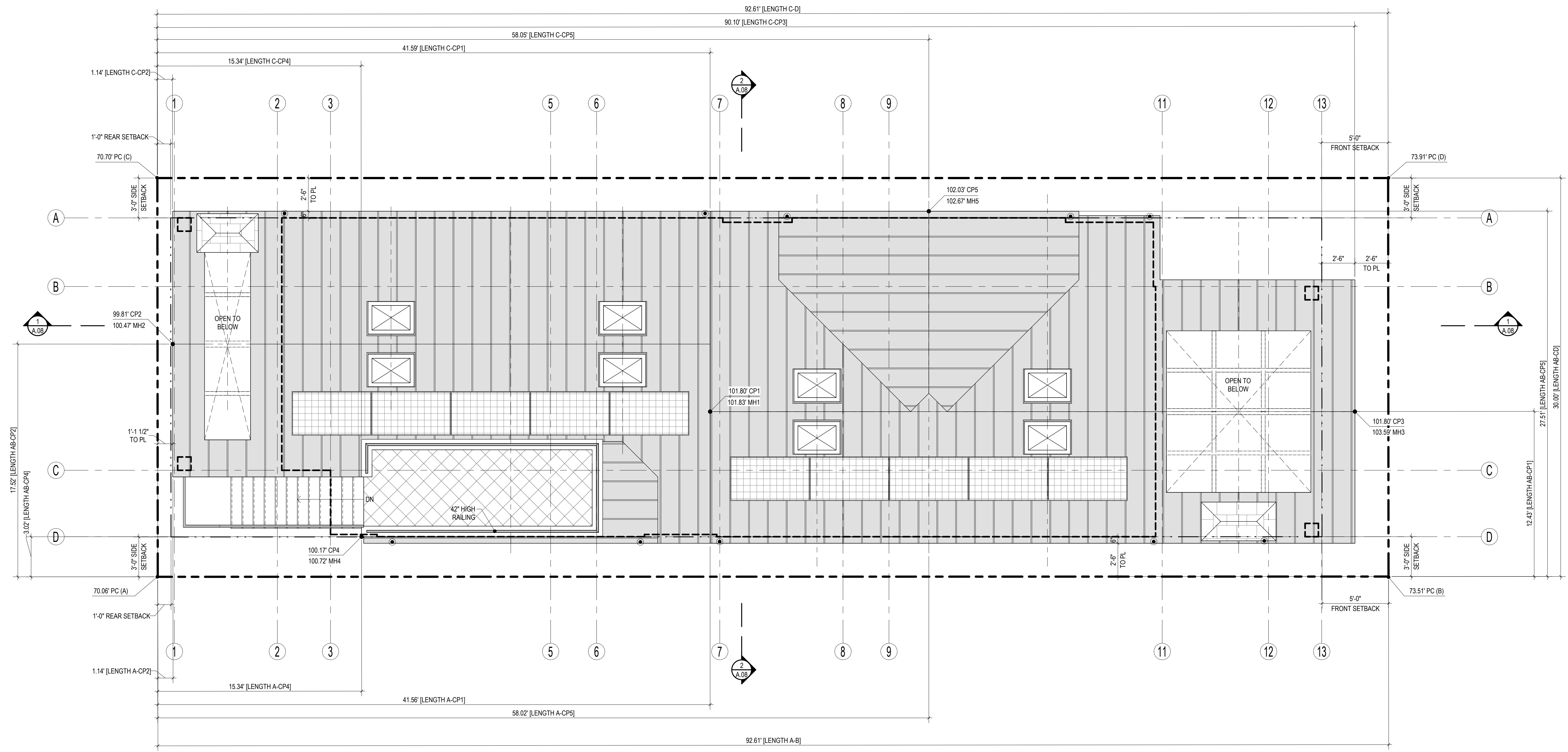
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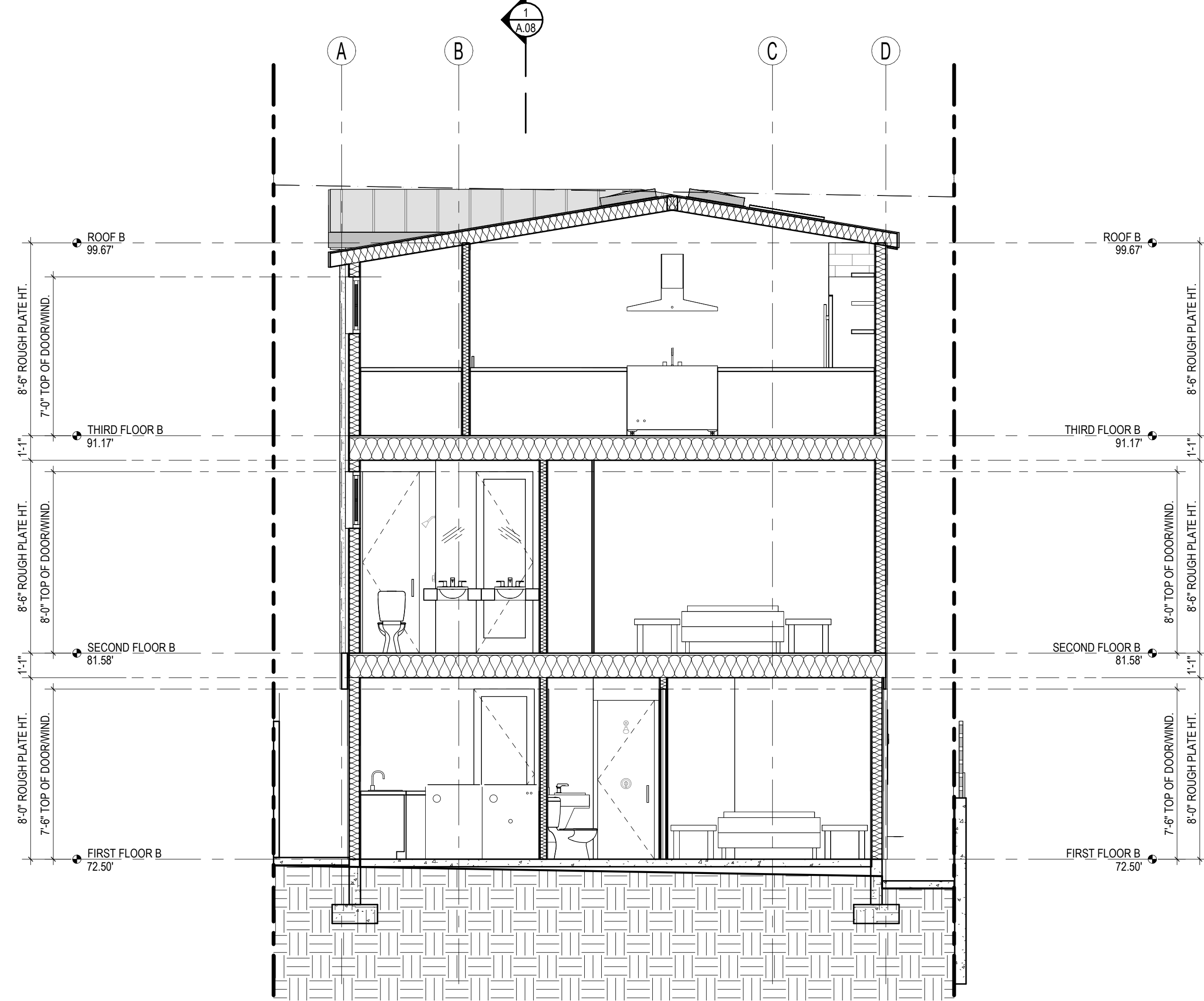
DRAWING
ROOF PLAN

SHEET NUMBER
A.05



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





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

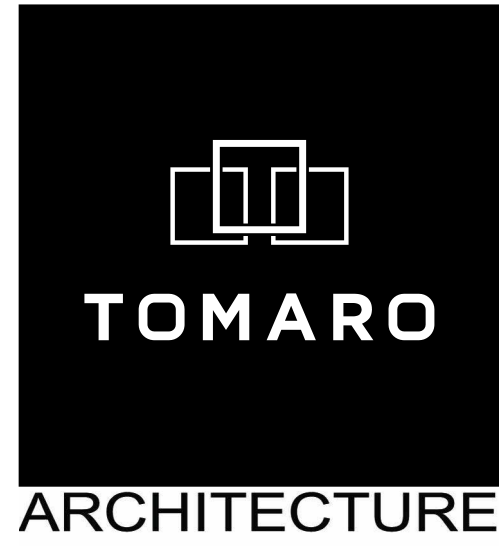


BUILDING SECTION 1
SCALE: 1/4" = 1'-0"

LANDSCAPE NOTES:
 1. ALL LANDSCAPE IRRIGATION PROVIDED BY POTABLE (NOT RECLAIMED) WATER MUST USE DRIP OR MICROSPRAY IRRIGATION SYSTEMS.
 2. PROPOSED LANDSCAPE MUST MEET HERMOSA BEACH MUNICIPAL CODES CHAPTER 8.56 - WATER CONSERVATION AND 8.60 - EFFICIENT LANDSCAPING.

| PERMEABLE AREA CALCULATION | |
|--|----------|
| LOT AREA | 2,780 SF |
| BUILDING FOOTPRINT | 1,526 SF |
| EXTERIOR SURFACE AREA | 1,254 SF |
| REQUIRED PERMEABLE AREA (50% OF EXT. SURFACE AREA) | 627 SF |
| TOTAL PERMEABLE AREA | 634 SF |
| TOTAL NON-PERMEABLE AREA | 620 SF |

| LEGEND | | | | |
|-----------|--------------------------------------|-----|------|--------------|
| SYM | BOTANICAL NAME | QTY | SIZE | WUCOLS CLASS |
| [Pattern] | LANDSCAPE (PERMEABLE SURFACE) | N/A | N/A | N/A |
| [Pattern] | PERMEABLE PAVERS (PERMEABLE SURFACE) | N/A | N/A | N/A |
| [Pattern] | CONCRETE (NON-PERMEABLE SURFACE) | N/A | N/A | N/A |



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BOTTENE RESIDENCE
 1035 LOMA DRIVE
 HERMOSA BEACH
 CALIFORNIA 90254

STAMP

PROJECT NUMBER
 25002

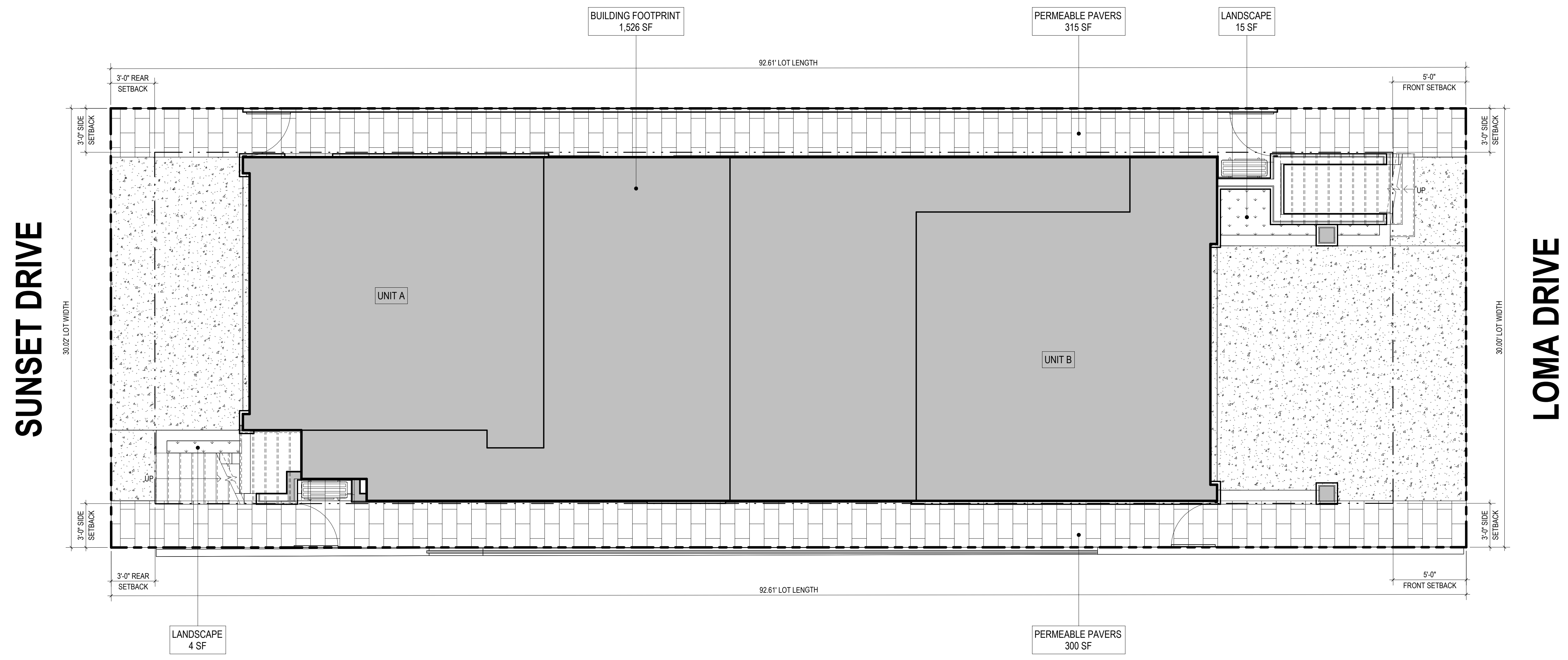
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| REVISIONS | | |
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DRAWING
SUSTAINABLE LANDSCAPE PLAN

SHEET NUMBER
L.01



LANDSCAPE PLAN
 SCALE: 1/4" = 1'-0"
 NORTH

SPECIFICATION

1. GENERAL REQUIREMENTS

1. ALL DETAILS, SPECIFICATIONS AND NOTES ON DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE UNLESS OTHERWISE NOTED. NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER TYPICAL PRACTICE.

2. THE CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO ANY WORK AND SHALL BE RESPONSIBLE FOR ALL WORK INCLUDING WORK FURNISHED BY SUBCONTRACTORS.

3. ALL WORKMANSHIP AND MATERIALS SHALL COMPLY WITH THE LATEST EDITIONS OF THE CITY, STATE, AND NATIONAL BUILDING CODES. WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS ON THE DRAWINGS. CONTRACTOR SHALL CHECK ALL DIMENSIONS.

4. THE CONTRACTOR SHALL REPORT TO THE ARCHITECT ANY ERROR, INCONSISTENCY, OR OMISSION HE MAY DISCOVER. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTING ANY ERROR AFTER THE START OF CONSTRUCTION WHICH HAS NOT BEEN BROUGHT TO THE ATTENTION OF THE ARCHITECT. THE MEANS OF CORRECTING ANY ERROR SHALL FIRST BE APPROVED BY THE ARCHITECT.

5. THE ARCHITECT WILL REVIEW AND APPROVE SHOP DRAWINGS AND SAMPLES FOR CONFIRMATION WITH THE DESIGN CONCEPT OF THE PROJECT. THE ARCHITECT'S APPROVAL OF A SEPARATE ITEM SHALL NOT INDICATE APPROVAL OF AN ASSEMBLY IN WHICH THE ITEM FUNCTIONS.

6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREIN OR NOT AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE EXECUTION OF THE WORK.

7. CONTRACTOR SHALL PROVIDE TEMPORARY WATER, POWER, AND TOILET FACILITIES AS REQUIRED BY THE CITY OR GOVERNING AGENCIES.

8. CITY APPROVED PLANS SHALL BE KEPT IN A PLAN BOX AND SHALL NOT BE USED BY WORKMEN. ALL CONSTRUCTION SETS SHALL REFLECT THE SAME INFORMATION. THE CONTRACTOR SHALL ALSO MAINTAIN, IN GOOD CONDITION, ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDUM, AND CHANGE ORDERS, ON THE PREMISES AT ALL TIMES. THESE ARE TO BE UNDER THE CARE OF THE JOB SUPERINTENDENT.

9. THE CONTRACTOR AND TRADES PARTICIPATING IN THE WORK SHALL BE REQUIRED TO MAKE APPROPRIATE ARRANGEMENTS WITH THE LANDLORD FOR (1) TEMPORARY UTILITY CONNECTIONS AS AVAILABLE WITHIN THE SUBJECT BUILDING, (2) PAYMENT OF THE COST OF SAID CONNECTIONS, (3) MAINTENANCE AND REMOVAL OF THE SAME, AND (4) PAYMENT OF ALL UTILITY CHARGES INCURRED.

11. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH ANY WORK INVOLVED.

12. THE CONTRACTOR SHALL CONSTRUCT BARRICADES WHEN REQUIRED BY CODE.

13. THE CONTRACTOR SHALL PROVIDE PEDESTRIAN PROTECTION BARRICADES AND/OR CANOPIES AS REQUIRED BY THE LOCAL AUTHORITIES, OR AS NECESSARY FOR PEDESTRIAN SAFETY.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE SITE WHILE JOB IS IN PROGRESS AND UNTIL JOB IS COMPLETED.

15. THE OWNER AND/OR AGENT RESERVE RIGHT TO REJECT FAULTY MATERIAL OR CRAFTSMANSHIP.

16. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL REPLACE OR REMEDY ANY FAULTY, IMPROPER OR INFERIOR MATERIALS OF WORKMANSHIP OR ANY DAMAGE WHICH SHALL APPEAR WITHIN ONE (1) YEAR AFTER THE COMPLETION AND ACCEPTANCE OF THE WORK UNDER THIS CONTRACT.

17. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODE REGULATIONS AND STATE DEPARTMENT OF INDUSTRIAL RELATIONS, DIVISION OF INDUSTRIAL SAFETY (O.S.H.A.) REQUIREMENTS.

18. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION IN AND AROUND THE JOB SITE AND/OR ADJACENT PROPERTIES FOR THE SAFETY OF THE OWNER'S EMPLOYEES, WORKMEN AND ALL OTHERS AT ALL TIMES DURING CONSTRUCTION.

19. THE CONTRACTOR SHALL SAFEGUARD THE OWNER'S PROPERTY DURING CONSTRUCTION AND REPLACE ANY DAMAGED PROPERTY OF THE OWNERS TO ORIGINAL CONDITION OR BETTER.

20. THE STRUCTURE IS DESIGNED AS A STABLE UNIT AFTER ALL COMPONENTS ARE IN PLACE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY BRACING AS REQUIRED FOR THE STRUCTURE OR A PORTION THEREOF DURING CONSTRUCTION.

21. ALL ITEMS SUPPLIED BY OWNER TO BE INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE.

22. THE ARCHITECT MAKES NO GUARANTEE FOR PRODUCTS NAMED BY TRADE OR MANUFACTURER.

23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE BUILDING LINES AND LEVELS. THE CONTRACTOR SHALL COMPARE CAREFULLY THE LINES AND LEVELS SHOWN ON THE DRAWING WITH EXISTING LEVELS FOR THE LOCATION AND CONSTRUCTION OF THE WORK AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

24. THE CONTRACTOR AND TRADES PARTICIPATING IN THE WORK SHALL BE REQUIRED TO REMOVE AND DISPOSE OF, AT LEAST ONCE A WEEK AND MORE FREQUENTLY AS LANDLORD MAY DIRECT, ALL DEBRIS AND RUBBISH OF WHATEVER KIND BROUGHT IN OR CREATED BY THE CONTRACTOR OR TRADES IN THE CONSTRUCTION OF THE WORK.

25. THE CONTRACTOR SHALL PROVIDE TEMPORARY TOILET FACILITIES INSTALLED ON THE JOB AS REQUIRED BY CODE.

26. THE CONTRACTOR SHALL OBTAIN AND MAINTAIN COMPREHENSIVE GENERAL LIABILITY INSURANCE FROM THE TIME THE CONTRACTOR FIRST ENTERS UPON THE PREMISES FOR THE PURPOSE OF PERFORMING ANY WORK HEREIN.

27. THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR SUBCONTRACTOR MATERIALS AND EQUIPMENT STORED ON THE SITE.

28. SEE ARCHITECTURAL DRAWINGS FOR DOORS, WINDOWS, NON-BEARING INTERIOR AND EXTERIOR WALLS, ELEVATORS, SLOPES, STAIRS, CURBS, DRAINS, DEPRESSIONS, RAILING, WATERPROOFING, FINISHES, ETC.

29. ALL ASTM DESIGNATIONS SHALL BE AS AMENDED TO DATE UNLESS OTHERWISE NOTED.

30. ALL CONCRETE IS DESIGNED BY THE ULTIMATE STRENGTH METHOD.

31. PROVIDE DRAINAGE AT THE BASE OF RETAINING WALL AND AT THE BASE OF ALL CONCRETE OR BLOCK BASEMENT WALLS.

32. CONTINUOUS INSPECTION SHALL MEAN INSPECTION DONE CONTINUOUSLY BY A REGISTERED DEPUTY INSPECTOR CURRENTLY LICENSED BY THE CITY HAVING JURISDICTION AND APPROVED BY THE ARCHITECT AND ENGINEER.

33. OBSERVATION VISITS TO THE JOBSITE BY THE ENGINEER OR HIS REPRESENTATIVES SHALL NEITHER BE CONSIDERED AS INSPECTION NOR APPROVAL OF CONSTRUCTION.

34. DURING AND AFTER CONSTRUCTION, THE BUILDER AND OWNER SHALL KEEP LOADS ON THE STRUCTURE WITHIN THE LIMITS OF DESIGN AS SET FORTH IN THE GOVERNING BUILDING CODE.

2. SITE WORK

1. ALL EXCAVATIONS TO BE KEPT WET WHILE IN PROGRESS.

2. ALL BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 90% OF MAXIMUM DENSITY, UNLESS OTHERWISE NOTED.

3. ALL EXCAVATED MATERIAL AND DEBRIS SHALL BE REMOVED FROM FOUNDATION EXCAVATIONS PRIOR TO PLACING OF CONCRETE.

4. ALL WATER SHALL BE REMOVED FROM FOUNDATION EXCAVATIONS PRIOR TO PLACING OF CONCRETE.

5. NO PERSON IS REQUIRED TO DESCEND INTO TRENCHES OR EXCAVATIONS FIVE (5) FEET OR MORE IN DEPTH, UNLESS NECESSARY PERMITS HAVE BEEN OBTAINED FROM THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY.

6. THE ARCHITECT IS NOT A LICENSED CIVIL ENGINEER AND SHALL NOT BE RESPONSIBLE FOR SITE GRADING OR DRAINAGE.

3. CONCRETE

1. CEMENT SHALL CONFORM TO ASTM C150, TYPE II OR V.

1. IF DOWELS ARE REQUIRED, PROVIDE REINFORCING THE SAME SIZE AND SPACING AS WALL REINFORCING AND LAP 48 DIAMETERS OR 24" MINIMUM, UNLESS NOTED OTHERWISE.

2. ALL DOWELS, ANCHOR BOLTS AND OTHER INSERTS SHALL BE WELL SECURED IN PLACE PRIOR TO POURING CONCRETE.

3. ALL REINFORCING STEEL SHALL BE NEW STOCK DEFORMED BARS :

- A. BARS ASTM A615 GRADE 60
- B. BARS ASTM A615 GRADE 40
- C. BARS TO BE WELDED ASTM A706 GRADE 60

4. ALL BARS SHALL BE FREE OF LOOSE FLAKES, RUST AND SCALE, GREASE, OR OTHER MATERIALS WHICH MIGHT AFFECT OR IMPAIR BOND.

5. ALL BENDS TO BE MADE COLD.

6. GRADE 40 REINFORCING MAY BE WELDED WHEN REQUIRED WITH CONTINUOUS INSPECTION BY A CERTIFIED DEPUTY INSPECTOR.

7. DO NOT WELD GRADE 60 REINFORCING UNLESS SPECIAL APPROVAL IS OBTAINED FROM THE ENGINEER.

7. STRUCTURAL STEEL AND MISCELLANEOUS METAL

1. DESIGN FABRICATION AND ERECTION PER A.I.S.C. 'S' SPECIFICATIONS AND CODE OF STANDARD PRACTICE."

2. ALL SHOP WELDING AND FABRICATION SHALL BE DONE IN THE SHOP OF A STEEL FABRICATOR, APPROVED BY THE BUILDING OFFICIAL. A CERTIFICATE OF FABRICATION SHALL BE FURNISHED BY THE SHOP TO THE FIELD INSPECTOR FOR APPROVAL.

3. ALL FIELD WELDING AND FABRICATION SHALL BE PERFORMED BY OPERATORS WHO HAVE BEEN QUALIFIED AS PRESCRIBED IN "QUALIFICATION PROCEDURE" OF THE AMERICAN WELDING SOCIETY AND WHO SHALL BE CERTIFIED OR APPROVED, AS REQUIRED, BY THE LOCAL BUILDING OFFICIAL. A REGISTERED DEPUTY INSPECTOR SHALL BE EMPLOYED AS SPECIFIED ON THE DRAWINGS FOR STRUCTURAL WELDING. THE DEPUTY INSPECTOR SHALL SUBMIT A REPORT OF THE WORK TO THE FIELD INSPECTOR FOR APPROVAL.

4. STRUCTURAL STEEL SHAPES, BARS AND PLATES SHALL CONFORM TO ASTM A572, (GRADE 50).

5. PIPE COLLUMNS SHALL CONFORM WITH ASTM A53, GRADE B, F_y = 35 KSI.

6. STEEL TUBES SHALL CONFORM WITH ASTM A500, GRADE B, F_y = 46 KSI.

7. HIGH STRENGTH BOLTS SHALL CONFORM WITH ASTM A325. A REGISTERED DEPUTY INSPECTOR SHALL INSPECT ALL HIGH STRENGTH BOLTING.

8. OTHER MACHINE BOLTS AND ANCHOR BOLTS SHALL CONFORM WITH ASTM A307.

9. WELDS SHALL BE MADE WITH ELECTRODES CONFORMING WITH ASTM A233 OR 70 SERIES. WELDING: PER AWS SPECS. USE E70XX ELECTRODES

10. HOLES FOR BOLTS IN STRUCTURAL STEEL SHALL BE DRILLED OR PUNCHED. BURNING OF HOLES SHALL NOT BE PERMITTED UNLESS SPECIFICALLY STATED ON THE DRAWINGS.

8. SHEET METAL

1. ALL SHEET METAL SHALL BE MINIMUM 26 GAUGE GALVANIZED IRON (G.I.).

2. SHEET METAL: ASTM A570, GRADE B (F_y = 30KSI).

3. CONTRACTOR TO PROVIDE CHIMNEY CAP, CHIMNEY SADDLE, CHIMNEY FLASHING, VALLEY FLASHING, ROOFWALL FLASHING, GUTTERS, DOWNSPOUTS, DIVERTERS, EAIVE, RIDGE, FOUNDATION VENTS, ETC.

4. CONTRACTOR SHALL FABRICATE AND INSTALL ALL FLASHING, GUTTERS, DOWNSPOUTS, ETC. REQUIRED TO PREVENT PENETRATION OF WATER THROUGH THE EXTERIOR SHELL OF THE BUILDING. (PER CBC, 1405.4)

5. PROVIDE G.I. VENTS FOR APPLIANCES, MECHANICAL EQUIPMENT.

6. EXTEND RAIN DIVERTERS 12" MINIMUM EACH SIDE OF DOOR.

7. PROVIDE FLASHING WHERE WOOD (OTHER THAN P.T.A.F. OR REDWOOD, UNLESS SPECIFICALLY CALLED FOR) TOUCHES CONCRETE.

9. CARPENTRY, FRAMING, LUMBER, AND MILLWORK

1. ALL LUMBER SHALL BE DOUGLAS FIR, LARCH, COAST REGION #1 OR #2 GRADE OR BETTER EXCEPT AS NOTED. STUDS, PLATES, SHEATHING AND BRACES MAY BE COMPOSED OF #2 GRADE LUMBER. ALL PLYWOOD SHEATHING SHALL BE DOUGLAS FIR PLYWOOD CONFORMING TO PRODUCT STANDARDS P.S. 1-74 U.S. DEPARTMENT OF COMMERCE, STANDARD 1 GRADE FOR SHEAR WALLS AND ROOF SHEATHING UNLESS NOTED OTHERWISE ON PLANS.

2. ALL FRAMING DIMENSIONS ARE TO FACE OF STUD (F.O.S.) UNLESS OTHERWISE INDICATED.

3. PROVIDE ALL NECESSARY BLOCKING, BACKING, SLEEVES, FRAMING FOR DRYWALL, LIGHT FIXTURES, ELECTRICAL UNITS, A/C EQUIPMENT, DRYER OR CEILING TRACKS, PLUMBING EQUIPMENT, COUNTERS, HANDRAILS, RAILINGS AND ALL OTHER ITEMS REQUIRING SAME.

4. FRAMING LUMBER: (DOUGLAS FIR-LARCH, MC19)

HORIZONTAL 2X 4X: DOUGLAS FIR LARCH NO. 2 OR BETTER

HORIZONTAL 6X 4 LARGER: DOUGLAS FIR LARCH NO. 1 OR BETTER

STUDS TO 16": DOUGLAS FIR LARCH STUD GRADE OR BETTER

ALL OTHER VERTICAL LUMBER: DOUGLAS FIR LARCH NO. 2 OR BETTER

GLU LAMS: 24F-V4 DF/DF WITH STANDARD SHOP CAMBER OF 3/8" @ 20'

EXCEPT FOR CANTILEVERED BEAMS USE 24F-V8 DF/DF

5. CBC 2308.9.10 CUTTING AND NOTCHING. IN EXTERIOR WALLS AND BEARING PARTITIONS, ANY WOOD STUD IS PERMITTED TO BE CUT OR NOTCHED TO A DEPTH NOT EXCEEDING 25 PERCENT OF ITS WIDTH. CUTTING OR NOTCHING OF STUDS TO A DEPTH NOT GREATER THAN 40 PERCENT OF THE WIDTH OF THE STUD IS PERMITTED IN NONBEARING PARTITIONS SUPPORTING NO LOADS OTHER THAN THE WEIGHT OF THE PARTITION.

6. DOUBLE FLOOR JOISTS UNDER ALL PARALLEL PARTITIONS AND TRIPLE FLOOR JOISTS UNDER ALL BEARING PARTITIONS 2X SOLID BLOCKING @ 8'-0" O.C. AND ALL SUPPORTS.

7. ALL WALL STUDS SHALL BE 2X4 @ 16" O.C. UNLESS NOTED OTHERWISE. ALL WALL STUDS SUPPORTING 3 OR MORE STORES SHALL BE 3X4 @ 16" O.C. OR 2X6 @ 16" O.C.

6. GROUT FILL ALL CELLS UNLESS OTHERWISE NOTED.

7. CONTINUOUS INSPECTION IS NOT REQUIRED FOR ALL BLOCK CONSTRUCTION UNLESS OTHERWISE SHOWN OR NOTED.

8. HIGH LIFT GROUTING SHALL FOLLOW PROCEDURES AND REQUIREMENTS OF GOVERNING AGENCY.

9. ALL BLOCK WALLS TO BE RUNNING BOND UNLESS OTHERWISE NOTED.

10. DO NOT BACKFILL BASEMENT WALLS UNTIL STRUCTURAL SLAB IS SET OR UNLESS SHORING APPROVED BY THE ENGINEER IS PROVIDED.

11. PLACEMENT OF REINFORCING STEEL, ANCHOR BOLTS, AND OTHER INSERTS. MINIMUM CLEARANCES BETWEEN REINFORCING STEEL AND OUTSIDE FACE OF MASONRY UNLESS NOTED OTHERWISE:

- A. WALLS OR COLUMNS BELOW GRADE-----2"
- B. WALLS OR COLUMNS ABOVE GRADE-----11/2"
- C. MINIMUM CLEARANCE BETWEEN REINF-----1/2"

6. REINFORCING STEEL

1. IF DOWELS ARE REQUIRED, PROVIDE REINFORCING THE SAME SIZE AND SPACING AS WALL REINFORCING AND LAP 48 DIAMETERS OR 24" MINIMUM, UNLESS NOTED OTHERWISE.

2. ALL DOWELS, ANCHOR BOLTS AND OTHER INSERTS SHALL BE WELL SECURED IN PLACE PRIOR TO POURING CONCRETE.

3. ALL REINFORCING STEEL SHALL BE NEW STOCK DEFORMED BARS :

- A. BARS ASTM A615 GRADE 60
- B. BARS ASTM A615 GRADE 40
- C. BARS TO BE WELDED ASTM A706 GRADE 60

4. ALL BARS SHALL BE FREE OF LOOSE FLAKES, RUST AND SCALE, GREASE, OR OTHER MATERIALS WHICH MIGHT AFFECT OR IMPAIR BOND.

5. ALL BENDS TO BE MADE COLD.

6. GRADE 40 REINFORCING MAY BE WELDED WHEN REQUIRED WITH CONTINUOUS INSPECTION BY A CERTIFIED DEPUTY INSPECTOR.

7. DO NOT WELD GRADE 60 REINFORCING UNLESS SPECIAL APPROVAL IS OBTAINED FROM THE ENGINEER.

8. ALL UNSUPPORTED WALLS HIGHER THAN 10'-0" SHALL BE 2X6 STUDS @ 16" O.C. AND SHALL BE SOLID BLOCKED AT MID-HEIGHT AS NECESSARY SO THAT NO CONCEALED SPACE IS OVER 10' IN LENGTH. ALL UNSUPPORTED WALLS HIGHER THAN 14'-0" SHALL BE 2X8 STUDS @ 16" O.C.

9. CBC 2308.9.11 BORED HOLES. A HOLE NOT GREATER IN DIAMETER THAN 40 PERCENT OF THE STUD WIDTH IS PERMITTED TO BE BORED IN ANY WOOD STUD. BORED HOLES NOT GREATER THAN 60 PERCENT OF THE WIDTH OF THE STUD ARE PERMITTED IN NONBEARING PARTITIONS OR IN ANY WALL WHERE EACH BORED STUD IS DOUBLED, PROVIDED NOT MORE THAN TWO SUCH SUCCESSIVE DOUBLED STUDS ARE 30 BORED.

IN NO CASE SHALL THE EDGE OF THE BORED HOLE BE NEARER THAN 5/8 INCH (15.9 MM) TO THE EDGE OF THE STUD. BORED HOLES SHALL NOT BE LOCATED AT THE SAME SECTION OF STUD AS A CUT OR NOTCH.

10. 2-X2 BEAMS SHALL BE NAILED TOGETHER W/ 16d NAILS @ 12" O.C. MAXIMUM.

11. PROVIDE MULTIPLE STUDS FOR SOLID BEARING AT END OF MISCELLANEOUS BEAMS WHERE POSTS ARE NOT SHOWN. CARRY STUDS DOWN TO FOUNDATION OR SLAB.

12. PROVIDE 2X3 CROSS BR00K10222HDGING OR 2X S00010222QD BLOCKING AT A MAXIMUM OF 8'-0" 1000010222" OC. FOR 2X12 FLOOR JOISTS AND AT A MAXIMUM OF 10'-000010222" O.C. FOR ROOF RAFTERS. METAL BRIDGING OR EQUAL MAY BE USED.

13. PLYWOOD IS TO BE STAMPED BY THE AMERICAN PLYWOOD ASSOCIATION AND SHALL CONFORM TO U.S. PRODUCT STANDARD PS1-74 WITH EXTERIOR GLUE UNLESS OTHERWISE NOTED.

14. ROOF SHEATHING AND NAILING IS TO BE APPROVED BY THE INSPECTOR BEFORE APPLICATION OF ROOFING.

15. ALL BOLT HEADS AND NUTS WHICH BEAR AGAINST THE FACE OF WOOD MEMBERS SHALL USE METAL WASHERS.

16. HOLES IN STRUCTURAL MEMBERS FOR PIPES AND CONDUIT SHALL COMPLY WITH LOCAL BUILDING DEPARTMENT REQUIREMENTS AND SHALL BE VERIFIED WITH THE ENGINEER.

17. WHERE WOOD IS IN CONTACT WITH CONCRETE OR MASONRY, USE PRESSURE TREATED DOUGLAS FIR.

18. ALL NAILING SHALL CONFORM TO TABLE TABLE NO. 23-B-1B.1. SEE NOTE 19 BELOW

19. NAILING SCHEDULE: (UNLESS OTHERWISE DETAILED.)

TABLE NO. 2304.9.1 FASTENING SCHEDULE

| CONNECTION | FASTENING |
|--|--|
| 1) JOIST TO SILL OR GIRDER, TOENAIL | 3-8d |
| 2) BRIDGING TO JOIST, TOENAIL EACH END | 2-8d |
| 3) 1"x8" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL | 2-8d |
| 4) WIDER THAN 1"x6" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL | 3-8d |
| 5) 2" SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE NAIL | 2-16d |
| 6) SOLE PLATE TO JOIST OR BLOCKING, TYPICAL FACE NAIL | 16d AT 16" O.C. |
| 7) JOIST OR BLOCKING AT BRACED WALL PANELS | 3-16d AT 16" O.C. |
| 7) TOP PLATE TO STUD, END NAIL | 2-16d |
| 8) STUD TO SOLE PLATE | 4-8d, TOENAIL OR 2-16d, END NAIL |
| 9) DOUBLE STUDS, FACE NAIL | 16d AT 24" O.C. |
| 10) DOUBLED TOP PLATES, TYPICAL FACE NAIL | 16d AT 16" O.C. |
| 10) TOP PLATES, LAP SPLICE | 8-16d |
| 11) BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOENAIL | 3-8d |
| 12) RIM JOIST TO TOP PLATE, TOENAIL | 8d AT 6" O.C. |
| 13) TOP PLATES, INTERSECTIONS, FACE NAIL | 2-16d |
| 14) CONTINUOUS HEADER, TWO PIECES | 16d AT 16" O.C. ALONG EACH EDGE |
| 15) CEILING JOISTS TO PLATE, TOENAIL | 3-8d |
| 16) CONTINUOUS HEADER TO STUD, TOENAIL | 4-8d |
| 17) CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL | 3-16d 18) CEILING JOISTS TO PARALLEL RAFTER, FACE NAIL |
| 18) RAFTER TO PLATE, TOENAIL | 3-8d |
| 20) 1" BRACE TO EACH STUD AND PLATE, FACE NAIL | 2-8d |
| 21) 1"x8 SHEATHING OR LESS TO EACH BEARING, FACE NAIL | 3-8d |
| 22) WIDER THAN 1"x8 SHEATHING OR LESS TO EACH BEARING, FACE NAIL | 3-8d |
| 23) BUILT-UP CORNER STUDS | 16d AT 24" O.C. |
| 24) BUILT-UP GIRDER AND BEAMS | 20d AT 32" O.C. AT TOP AND BOTTOM AND STAGGERED 2-20d AT ENDS AND AT EACH SPLICE |
| 25) 2" PLANKS | 2-16d AT EACH BEARING |
| 26) COLLAR TIE TO RAFTER | 3-10d |
| 27) JACK RAFTER TO HIP | 3-10d |
| 28) ROOF RAFTER TO 2-BY RIDGE BEAM | 2-16d |
| 29) JOIST TO BAND JOIST | 3-16d |
| 30) JOIST TO STRIP | 2-16d |
| 31) WOOD STRUCTURAL PANELS AND PARTICLEBOARD | 3-16d 18) |

FLOOR (COMBINATION SUBFLOOR-UNDERLAYER) TO FRAMING).....1/2" AND LESS 6dC SINGLE

32) PANEL SIDING (TO FRAMING).....1/2" OR LESS 6dF

33) FIBERBOARD SHEATHING.....1/2" - 4d

34) INTERIOR PANELING.....1/4" - 4d

AND AT EACH SPLICE

2) NUMBER OF NAILS (CONNEXION) CONNECTING WOOD MEMBERS SHALL NOT BE LESS THAN THE AMOUNTS SET FORTH IN TABLE 23-11-B-1 OF THE CURRENT EDITION OF THE CBC.

3. ALL BOLTS SHALL CONFORM TO ASTM A307.

4. BOLT HOLES TO BE NOMINAL DIAMETER OF BOLT PLUS 1/16" UNLESS NOTED OTHERWISE. PROVIDE WASHERS UNDER HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD.

5. LAG BOLTS: LEAD HOLES FOR SHANK TO BE THE SAME AS SHANK. THREADED PORTION TO BE 60-70% OF SHANK DIAMETER.

6. USE SUEE NAILING/BOLTING AT ALL CONNECTIONS UNLESS NOTED OTHERWISE.

7. NO SHEET METAL CONNECTORS ARE TO BE EXPOSED.

8. FASTNERS IN PRESSURE TREATED AND RETARDANT, TREATED WOOD SHALL BE OF HOT-DIPPED, ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.

9. FASTNERS SHALL BE PROVIDED AT ALL HOT AND COLD WATER CONNECTIONS, CHAMBERS SHALL BE 12" LONG SET VERTICALLY.

10. ALL PIPING SHALL BE SIZED AND INSTALLED TO PROVIDE FULL FLOW AT FIXTURES WITH THE MINIMUM AMOUNT OF LINE NOISE.

11. PROVIDE 3/4" HOSE BIBBS WITH ANTI SYPHON DEVICE WHERE INDICATED ON PLANS. HOSE BIBBS SHALL BE MOUNTED 12" ABOVE FINISH GRADE. PROVIDE BACKFLOW PREVENTION DEVICE.

12. ALL CLEANOUT LOCATIONS TO BE APPROVED BY OWNER. SOIL AND WASTE ACCESSIBLE CLEANOUTS AT ALL CHANGES OF DIRECTION. ALL BRANCH WASTE LINES SHALL TERMINATE IN A CLEANOUT OUTSIDE THE BUILDING.

13. ALL WASTE LINES FROM WATER CLOSETS TO BE 3".

14. ALL PLUMBING FIXTURES SHALL BE AMERICAN STANDARD BUILDER TYPE OR EQUAL APPROVED BY ARCHITECT AND OWNER.

15. VENTS SHALL BE CLUSTERED IN THE ATTIC AREA SO THAT THERE WILL BE A MINIMUM NUMBER OF VENTS THROUGH THE ROOF. ALL VENTS SHALL BREAK THROUGH THE ROOF BEHIND THE RIDGE AND OUT OF VIEW WHEREVER POSSIBLE. CONFIRM LOCATION WITH ARCHITECT.

11. EXTERNAL AND MOISTURE PROTECTION

1. ALL EXTERIOR DOORS AND WINDOWS TO BE PROVIDED WITH WEATHER PROTECTED DEVICES PER ENERGY NOTES.

12. ROOFING

1. THIS WORK SHALL RESULT IN A WATERPROOF ENCLOSURE OF GOOD APPEARANCE. CONTRACTOR SHALL COOPERATE FULLY WITH ALL RELATED TRADES. THE BEGINNING OF THIS WORK INDICATES ACCEPTANCE OF THE BASE TO WHICH IT IS APPLIED. BASED ON HIS EXPERIENCE, THIS CONTRACTOR SHALL ADVISE THE ARCHITECT IF ANYTHING WILL INTERFERE WITH THE INTENTION OF THIS WORK. THE CONTRACTOR SHALL GUARANTEE IN WRITING FOR TWO (2) YEARS FROM THE TIME OF FILING OF THE NOTICE OF COMPLETION THAT THE MATERIAL AND APPLICATION OF THE ROOF ARE FREE FROM DEFECT AND COMPLY WITH THE SPECIFICATIONS.

13. DOORS AND WINDOWS

1. SEE DOOR AND WINDOW SCHEDULE. FOR TYPE & NO. OF GLAZINGS.

2. CONTRACTOR SHALL VERIFY THE SIZES OF ALL DOORS AND WINDOWS.

3. ALL DOORS AND WINDOWS TO BE APPROVED BY OWNER OR AGENT.

4. GARAGE DOOR SPRINGS TO BE STATE APPROVED WITH BREAK RETAINERS AND MANUFACTURER'S LABELS.

14. GLASS, GLAZING AND MIRRORS

1. ALL GLASS AND GLAZING WITHIN 18" OF FLOOR AND WITHIN 24" OF DOOR SHALL BE OF APPROVED SHATTERPROOF CONSTRUCTION. ALL SHOWER ENCLOSURES TO BE FULLY TEMPERED.

15. LATH, PLASTER AND DRYWALL

1. ALL INTERIOR FINISH MATERIALS SHALL MEET CLASS 111 FLAME SPREAD CLASSIFICATION AS PER SECTION 803 OF THE C.B.C.

2. ALL INTERIOR FINISH TO BE 5/8" DRYWALL-SMOOTH, ACCORDING TO C.B.C. SPECIFICATIONS. INSPECTION OF NAILING IS REQUIRED FOR DRYWALL AND ALL LATH WHEN IN PLACE. CORNERS TO BE NAILED. DRYWALL SPACING TO BE 3/8" MAXIMUM.

3. GYPSUM WALLBOARD AND SUSPENDED CEILING SYSTEMS SHALL CONFORM TO CHAPTER 8 OF THE C.B.C.

4. PRIOR TO INSTALLATION OF LATH AND PLASTER OR DRYWALL, THE CONTRACTOR SHALL INSPECT THE FRAMING FOR ALL DEFECTS, I.E.: FRAMING OUT OF ALIGNMENT, TWISTING, WARPING, PROTRUDING HARDWARE, ETC. WHICH COULD IMPAIR THE QUALITY OF THE FINISHED SURFACE, AND REPORT SUCH DEFECTS IN WRITING TO THE ARCHITECT, OTHERWISE HE SHALL BE FULLY RESPONSIBLE FOR ALL COVERED DEFECTS. THIS CONTRACTOR SHALL PATCH ALL HOLES WHICH WERE MADE BY OTHER TRADES FOR ALL COVERED OUTLETS AND ACCESSSES WHICH CANNOT BE READILY LOCATED.

5. INSPECTION REQUIRED FOR LATH WHEN IN PLACE PRIOR TO PLASTERING, BOTH AT EXTERIOR AND INTERIOR.

6. ALL TEXTURES, COLORS, CORNER TYPES, BOTH FOR EXTERIOR AND INTERIOR SHALL BE APPROVED BY THE ARCHITECT PRIOR TO APPLICATION.

7. ALL GYPSUM DRYWALL TO BE 5/8" THICK TYPE U.S.C. SHEETROCK OR EQUAL OR 5/8" TYPE-X GYPSUM DRYWALL (GYP. BD.). ALL BATHROOMS SHALL HAVE 5/8" THICK WATERPROOF GYPSUM DRYWALL (GREENBOARD).

8. ALL GARAGE WALLS AND CEILING ADJOINING LIVING SPACE SHALL BE COVERED WITH 5/8" TYPE-X GYPSUM DRYWALL, INCLUDING ALL BEAMS AND POSTS.

9. USABLE ENCLOSED SPACE UNDER STAIRS SHALL BE COVERED WITH 5/8" TYPE-X GYPSUM DRYWALL.

10. PROVIDE #15 FELT ON ALL EXTERIOR WALLS TO RECEIVE PLASTER.

11. ALL OPENINGS AT INTERIOR PLASTERWORK SHALL RECEIVE 6"x12" METAL LATH BUTTERFLIES AT CORNERS SET AT 45 DEGREE ANGLES TO ELIMINATE CRACKING.

12. PROVIDE A CORROSION RESISTANT WEEP SCREED WHICH WILL ALLOW TRAPPED WATER TO DRAIN TO THE EXTERIOR OF THE BUILDING. REQUIRED BELOW THE STUCCO AT THE FOUNDATION LINE. MINIMUM 4" ABOVE GRADE AND 2" ABOVE FINISHED SURFACE.

CALIFORNIA RESIDENTIAL CODE 2022 CHAPTER 3 BUILDING PLANNING

SECTION R327 AGING-IN-PLACE DESIGN AND FALL PREVENTION

R327.1 AGING-IN-PLACE DESIGN AND FALL PREVENTION.

NEWLY CONSTRUCTED DWELLINGS SUBJECT TO THE REQUIREMENTS OF THIS CODE SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH SECTIONS R327.1.1 THROUGH R327.1.4. EXCEPTIONS:

1. COVERED MULTIFAMILY DWELLINGS DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH CHAPTER 11A OF THE CALIFORNIA BUILDING CODE.
2. PUBLIC HOUSING AND PLACES OF PUBLIC ACCOMMODATION REQUIRED TO COMPLY WITH CHAPTER 11B OF THE CALIFORNIA BUILDING CODE.

R327.1.1 REINFORCEMENT FOR GRAB BARS.

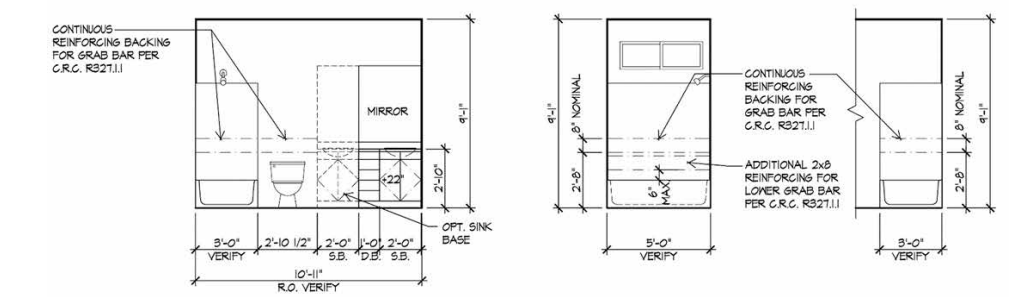
AT LEAST ONE BATHROOM ON THE ENTRY LEVEL SHALL BE PROVIDED WITH REINFORCEMENT INSTALLED IN ACCORDANCE WITH THIS SECTION: WHERE THERE IS NO BATHROOM ON THE ENTRY LEVEL, AT LEAST ONE BATHROOM ON THE SECOND OR THIRD FLOOR OF THE DWELLING SHALL COMPLY WITH THIS SECTION.

1. REINFORCEMENT SHALL BE SOLID LUMBER OR OTHER CONSTRUCTION MATERIALS APPROVED BY THE ENFORCING AGENCY.
2. REINFORCEMENT SHALL NOT BE LESS THAN 2 BY 8 INCH (51 MM BY 203 MM) NOMINAL LUMBER, (1 1/2 INCH BY 7 1/4 INCH (38 MM BY 184 MM) ACTUAL DIMENSION) OR OTHER CONSTRUCTION MATERIAL PROVIDING EQUAL HEIGHT AND LOAD CAPACITY.
3. REINFORCEMENT SHALL BE LOCATED BETWEEN 32 INCHES (812.8 MM) AND 39 1/4 INCHES (997 MM) ABOVE THE FINISHED FLOOR FLUSH WITH THE WALL FRAMING.
4. SHOWER REINFORCEMENT SHALL BE CONTINUOUS WHERE WALL FRAMING IS PROVIDED.
5. BATHUB AND COMBINATION BATHUB/SHOWER REINFORCEMENT SHALL BE CONTINUOUS ON EACH END OF THE BATHUB 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 (152.4 MM) ABOVE THE BATHUB RIM.

- EXCEPTIONS:
1. WHERE THE WATER CLOSET IS NOT PLACED ADJACENT TO A SIDE WALL CAPABLE OF ACCOMMODATING A GRAB BAR, THE BATHROOM SHALL HAVE PROVISIONS FOR INSTALLATION OF FLOOR-MOUNTED, FOLDAWAY OR SIMILAR ALTERNATE GRAB BAR REINFORCEMENTS APPROVED BY THE ENFORCING AGENCY.
 2. REINFORCEMENT SHALL NOT BE REQUIRED IN WALL FRAMING FOR PRE-FABRICATED SHOWER ENCLOSURES AND BATHUB WALL PANELS WITH INTEGRAL FACTORY-INSTALLED GRAB BARS OR WHEN FACTORY-INSTALLED REINFORCEMENT FOR GRAB BARS IS PROVIDED.
 3. SHOWER ENCLOSURES THAT DO NOT PERMIT INSTALLATION OF REINFORCEMENT AND/OR GRAB BARS SHALL BE PERMITTED, PROVIDED REINFORCEMENT FOR INSTALLATION OF FLOOR-MOUNTED GRAB BARS OR AN ALTERNATE METHOD IS APPROVED BY THE ENFORCING AGENCY.
 4. BATHUBS WITH NO SURROUNDING WALLS, OR WHERE WALL PANELS DO NOT PERMIT THE INSTALLATION OF REINFORCEMENT SHALL BE PERMITTED, PROVIDED REINFORCEMENT FOR INSTALLATION OF FLOOR-MOUNTED GRAB BARS ADJACENT TO THE BATHUB OR AN ALTERNATE METHOD IS APPROVED BY THE ENFORCING AGENCY.
 5. REINFORCEMENT OF FLOORS SHALL NOT BE REQUIRED FOR BATHUBS AND WATER CLOSETS INSTALLED ON CONCRETE SLAB FLOORS.

R327.1.1.1 DOCUMENTATION FOR GRAB BAR REINFORCEMENT.

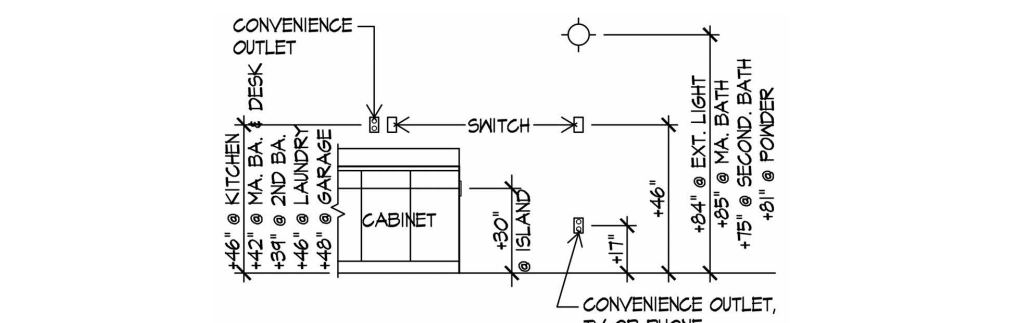
INFORMATION AND/OR DRAWINGS IDENTIFYING THE LOCATION OF GRAB BAR REINFORCEMENT SHALL BE PLACED IN THE OPERATION AND MAINTENANCE MANUAL IN ACCORDANCE WITH THE CALIFORNIA GREEN BUILDING STANDARDS CODE, CHAPTER 4, DIVISION 4.4.



R327.1.2 ELECTRICAL RECEPTACLE OUTLET, SWITCH AND CONTROL HEIGHTS.

ELECTRICAL RECEPTACLE OUTLETS, SWITCHES AND CONTROLS (INCLUDING CONTROLS FOR HEATING, VENTILATION AND AIR CONDITIONING) INTENDED TO BE USED BY OCCUPANTS SHALL BE LOCATED NO MORE THAN 48 INCHES (1219.2 MM) MEASURED FROM THE TOP OF THE OUTLET BOX AND NOT LESS THAN 15 INCHES (381 MM) MEASURED FROM THE BOTTOM OF THE OUTLET BOX ABOVE THE FINISH FLOOR.

- EXCEPTIONS:
1. DEDICATED RECEPTACLE OUTLETS; FLOOR RECEPTACLE OUTLETS; CONTROLS MOUNTED ON CEILING FANS AND CEILING LIGHTS; AND CONTROLS LOCATED ON APPLIANCES.
 2. RECEPTACLE OUTLETS REQUIRED BY THE CALIFORNIA ELECTRICAL CODE ON A WALL SPACE WHERE THE DISTANCE BETWEEN THE FINISHED FLOOR AND A BUILT-IN FEATURE ABOVE THE FINISH FLOOR, SUCH AS A WINDOW, IS LESS THAN 15 INCHES (381 MM).

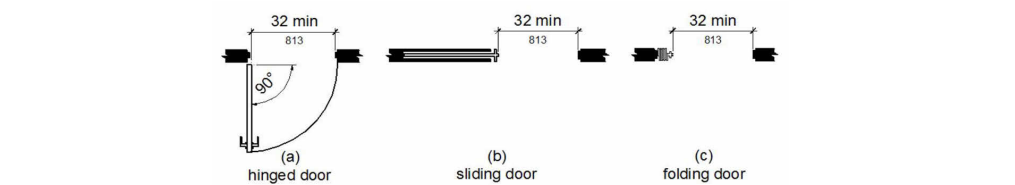


TYP. INSTALLATION HTS.

NOTE: ALL HEIGHTS TYPICAL UNLESS OTHERWISE NOTED

R327.1.3 INTERIOR DOORS

EFFECTIVE JULY 1, 2024, 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 (812.8 MM), 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 IS NOT LOCATED ON THE ENTRY LEVEL.



R327.1.4 DOORBELL BUTTONS

DOORBELL BUTTONS OR CONTROLS, WHEN INSTALLED, SHALL NOT EXCEED 48 INCHES (1219.2 MM) ABOVE EXTERIOR FLOOR OR LANDING, MEASURED FROM THE TOP OF THE DOORBELL BUTTON ASSEMBLY, WHERE DOORBELL BUTTONS INTEGRATED WITH OTHER FEATURES ARE REQUIRED TO BE INSTALLED ABOVE 48 INCHES (1219.2 MM) MEASURED FROM THE EXTERIOR FLOOR OR LANDING, A STANDARD DOORBELL BUTTON OR CONTROL SHALL ALSO BE PROVIDED AT A HEIGHT NOT EXCEEDING 48 INCHES (1219.2 MM) ABOVE EXTERIOR FLOOR OR LANDING, MEASURED FROM THE TOP OF THE DOORBELL BUTTON OR CONTROL.

SECTION R328 ENERGY STORAGE SYSTEMS

R328.1 GENERAL.

ENERGY STORAGE SYSTEMS (ESS) SHALL COMPLY WITH THE PROVISIONS OF THIS SECTION. EXCEPTIONS:

1. ESS LISTED AND LABELED IN ACCORDANCE WITH UL9540 AND MARKED "FOR USE IN RESIDENTIAL DWELLING UNITS" WHERE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE CALIFORNIA ELECTRICAL CODE.
2. ESS LESS THAN 1 KWH (3.6 MEGAJOULES).

R328.2 EQUIPMENT LISTINGS.

ENERGY STORAGE SYSTEMS (ESS) SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 9540.

R328.3 INSTALLATION.

ESS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THEIR LISTING.

R328.3.1 SPACING.

INDIVIDUAL UNITS SHALL BE SEPARATED FROM EACH OTHER BY NOT LESS THAN 3 FEET EXCEPT WHERE SMALLER SEPARATION DISTANCES ARE DOCUMENTED TO BE ADEQUATE BASED ON LARGE-SCALE FIRE TESTING COMPLYING WITH SECTION 1207.1.5 OF THE CALIFORNIA FIRE CODE.

R328.4 LOCATIONS.

- ESS SHALL BE INSTALLED ONLY IN THE FOLLOWING LOCATIONS:
1. DETACHED GARAGES AND DETACHED ACCESSORY STRUCTURES.
 2. ATTACHED GARAGES SEPARATED FROM THE DWELLING UNIT LIVING SPACE IN ACCORDANCE WITH SECTION R328.6.
 3. OUTDOORS OR ON THE EXTERIOR SIDE OF EXTERIOR WALLS LOCATED NOT LESS THAN 3 FEET FROM DOORS AND WINDOWS DIRECTLY ENTERING THE DWELLING UNIT.
 4. ENCLOSED UTILITY CLOSETS, BASEMENTS, STORAGE OR UTILITY SPACES WITHIN DWELLING UNITS WITH FINISHED OR NONCOMBUSTIBLE WALLS AND CEILINGS. WALLS AND CEILINGS OF UNFINISHED WOOD-FRAMED CONSTRUCTION SHALL BE PROVIDED WITH NOT LESS THAN 5/8-INCH TYPE X GYPSUM BOARD.

ESS SHALL NOT BE INSTALLED IN SLEEPING ROOMS, OR CLOSETS OR SPACES OPENING DIRECTLY INTO SLEEPING ROOMS.

R328.5 ENERGY RATINGS.

- INDIVIDUAL ESS UNITS SHALL HAVE A MAXIMUM RATING OF 20 KWH. THE AGGREGATE RATING OF THE ESS SHALL NOT EXCEED:
1. 40 KWH WITHIN UTILITY CLOSETS, BASEMENTS AND STORAGE OR UTILITY SPACES.
 2. 80 KWH IN ATTACHED OR DETACHED GARAGES AND DETACHED ACCESSORY STRUCTURES.
 3. 80 KWH ON EXTERIOR WALLS.
 4. 80 KWH OUTDOORS ON THE GROUND.

ESS INSTALLATIONS EXCEEDING THE PERMITTED INDIVIDUAL OR AGGREGATE RATINGS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 1207 OF THE CALIFORNIA FIRE CODE.

R328.6 ELECTRICAL INSTALLATION.

ESS SHALL BE INSTALLED IN ACCORDANCE WITH CALIFORNIA ELECTRICAL CODE. INVERTERS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 1741 OR PROVIDED AS PART OF THE UL 9540 LISTING. SYSTEMS CONNECTED TO THE UTILITY GRID SHALL USE INVERTERS LISTED FOR UTILITY INTERACTION.

R328.7 FIRE DETECTION.

ROOMS AND AREAS WITHIN DWELLING UNITS, BASEMENTS AND ATTACHED GARAGES IN WHICH ESS ARE INSTALLED SHALL BE PROTECTED BY SMOKE ALARMS IN ACCORDANCE WITH SECTION R314. A HEAT DETECTOR, LISTED AND INTERCONNECTED TO THE SMOKE ALARMS, SHALL BE INSTALLED IN LOCATIONS WITHIN DWELLING UNITS AND ATTACHED GARAGES WHERE SMOKE ALARMS CANNOT BE INSTALLED BASED ON THEIR LISTING.

[SFM] ESS INSTALLED IN GROUP R-3 AND TOWNHOMES SHALL COMPLY WITH THE FOLLOWING:

1. ROOMS AND AREAS WITHIN DWELLINGS UNITS, SLEEPING UNITS, BASEMENTS AND ATTACHED GARAGES IN WHICH ESS ARE INSTALLED SHALL BE PROTECTED BY SMOKE ALARMS IN ACCORDANCE WITH SECTION R314.
2. A LISTED HEAT ALARM INTERCONNECTED TO THE SMOKE ALARMS SHALL BE INSTALLED IN LOCATIONS WITHIN DWELLING UNITS, SLEEPING UNITS AND ATTACHED GARAGES WHERE SMOKE ALARMS CANNOT BE INSTALLED BASED ON THEIR LISTING

R328.8 PROTECTION FROM IMPACT.

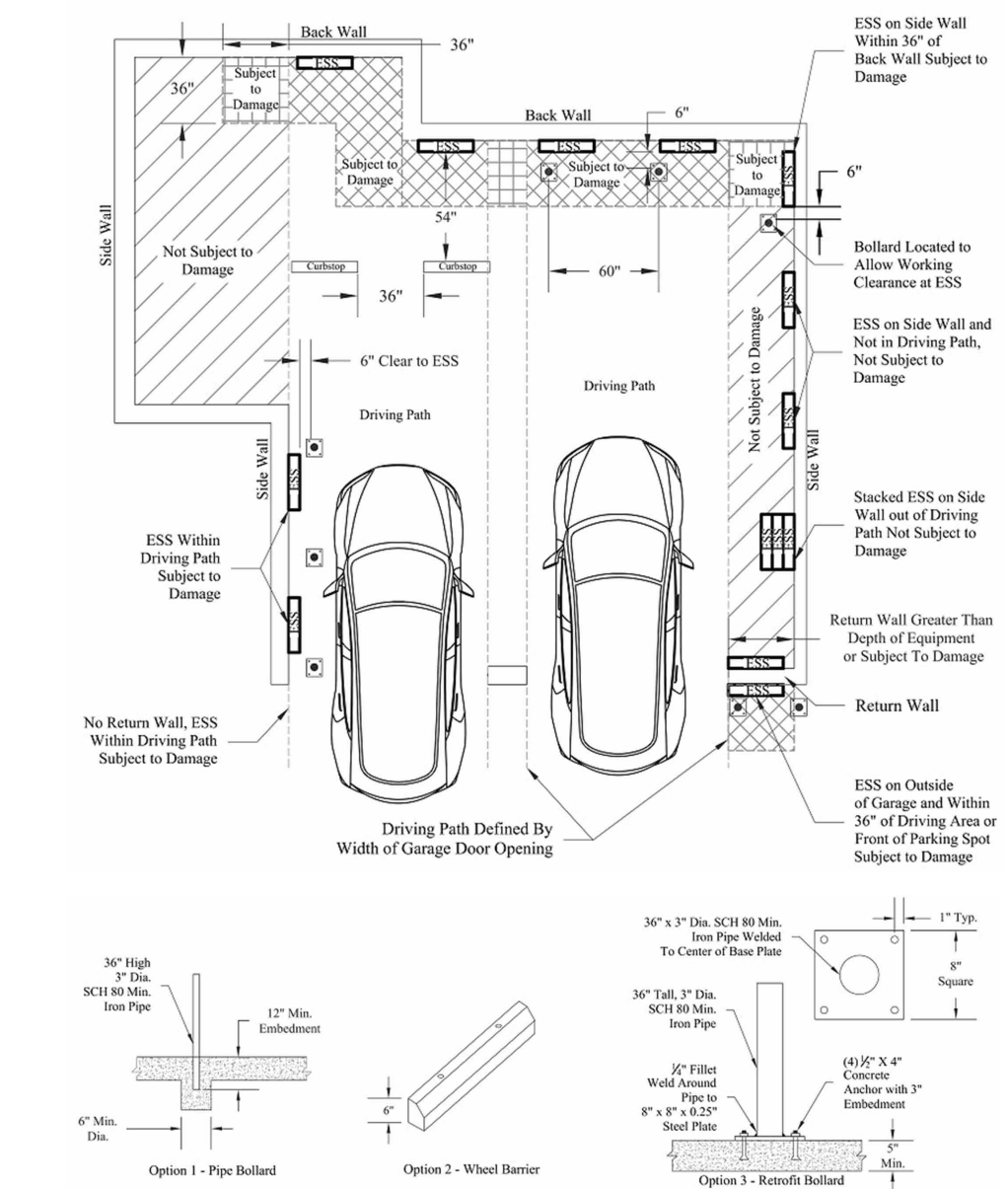
ESS INSTALLED IN A LOCATION SUBJECT TO VEHICLE DAMAGE IN ACCORDANCE WITH SECTION R328.8.1 OR R328.8.2 SHALL BE PROVIDED WITH IMPACT PROTECTION IN ACCORDANCE WITH SECTION R328.8.3.

R328.8.1 GARAGES.

WHERE AN ESS IS INSTALLED IN THE NORMAL DRIVING PATH OF VEHICLE TRAVEL WITHIN A GARAGE, IMPACT PROTECTION COMPLYING WITH SECTION R328.8.3 SHALL BE PROVIDED. THE NORMAL DRIVING PATH IS A SPACE BETWEEN THE GARAGE VEHICLE OPENING AND THE INTERIOR FACE OF THE BACK WALL TO A HEIGHT OF 48 IN. ABOVE THE FINISHED FLOOR. THE WIDTH OF THE NORMAL DRIVING PATH SHALL BE EQUAL TO THE WIDTH OF THE GARAGE DOOR OPENING. IMPACT PROTECTION SHALL ALSO BE PROVIDED FOR AN ESS INSTALLED AT EITHER OF THE FOLLOWING LOCATIONS. (SEE FIGURE R328.8.1).

1. ON THE INTERIOR FACE OF THE BACK WALL AND LOCATED WITHIN 36 INCHES TO THE LEFT OR TO THE RIGHT OF THE NORMAL DRIVING PATH.
2. ON THE INTERIOR FACE OF A SIDE WALL AND LOCATED WITHIN 24 INCHES FROM THE BACK WALL AND 36 INCHES OF THE NORMAL DRIVING PATH. EXCEPTION: WHERE THE CLEAR HEIGHT OF THE VEHICLE GARAGE OPENING IS 7 FT 6 IN. OR LESS, ESS INSTALLED NOT LESS THAN 36 INCHES ABOVE FINISHED FLOOR ARE NOT SUBJECT TO VEHICLE IMPACT PROTECTION REQUIREMENTS.

FIGURE R328.8.1 ESS VEHICLE IMPACT PROTECTION



R328.8.2 OTHER LOCATIONS SUBJECT TO VEHICLE IMPACT.

WHERE AN ESS IS INSTALLED IN A LOCATION OTHER THAN AS DEFINED IN SECTION R328.8.1, AND IS SUBJECT TO VEHICLE DAMAGE, IMPACT PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH SECTION R328.8.3.

R328.8.3 IMPACT PROTECTION OPTIONS.

WHERE ESS IS REQUIRED TO BE PROTECTED FROM IMPACT IN ACCORDANCE WITH SECTION R328.8.1 OR R328.8.2 SUCH PROTECTION SHALL COMPLY WITH ONE OF THE FOLLOWING:

1. BOLLARDS CONSTRUCTED IN ACCORDANCE WITH ONE OF THE FOLLOWING:
 1. MINIMUM 48 INCHES IN LENGTH BY 3 INCHES IN DIAMETER SCHEDULE 80 STEEL PIPE EMBEDDED IN A CONCRETE PIER NOT LESS THAN 12 INCHES (DEEP AND 8 INCHES IN DIAMETER, WITH AT LEAST 36 INCHES OF PIPE EXPOSED, FILLED WITH CONCRETE, AND SPACED AT A MAXIMUM INTERVAL OF 5 FEET. EACH BOLLARD SHALL BE LOCATED NOT LESS THAN 6 INCHES FROM AN ESS.
 2. MINIMUM 36 INCHES (914 MM) IN HEIGHT BY 3 INCHES IN DIAMETER SCHEDULE 80 STEEL PIPE FULLY WELDED TO A MINIMUM 8 INCHES BY 8 INCHES BY 1/2 INCH THICK STEEL PLATE AND BOLTED TO A CONCRETE FLOOR BY MEANS OF 4 - 1/2 INCH CONCRETE ANCHORS WITH 3 INCH MINIMUM EMBEDMENT. SPACING SHALL BE NOT GREATER THAN 60 INCHES, AND EACH BOLLARD SHALL BE LOCATED NOT LESS THAN 6 INCHES FROM THE ESS.
 3. PRE-MANUFACTURED STEEL PIPE BOLLARDS SHALL BE FILLED WITH CONCRETE AND ANCHORED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS, WITH SPACING NOT GREATER THAN 60 INCHES, AND EACH BOLLARD SHALL BE LOCATED NOT LESS THAN 6 INCHES FROM THE ESS.
2. WHEEL BARRIERS CONSTRUCTED IN ACCORDANCE WITH ONE OF THE FOLLOWING:
 1. FOUR INCHES IN HEIGHT BY 5 INCHES IN WIDTH BY 70 INCHES IN LENGTH WHEEL BARRIER MADE OF CONCRETE OR POLYMER, ANCHORED TO THE CONCRETE FLOOR NOT LESS THAN EVERY 36 INCHES AND LOCATED NOT LESS THAN 54 INCHES FROM THE ESS. MINIMUM 3/4 INCH DIAMETER CONCRETE ANCHORS WITH 3 INCH EMBEDMENT PER BARRIER SHALL BE USED. SPACING BETWEEN BARRIERS SHALL BE NO GREATER THAN 36 INCHES.
 2. PRE-MANUFACTURED WHEEL BARRIERS SHALL BE ANCHORED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS.
3. APPROVED METHOD DESIGNED TO RESIST A 2000 LBF IMPACT IN THE DIRECTION OF TRAVEL AT 24 INCHES ABOVE GRADE.

R328.9 VENTILATION.

INDOOR INSTALLATIONS OF ESS THAT PRODUCE HYDROGEN OR OTHER FLAMMABLE GASES DURING CHARGING SHALL BE PROVIDED WITH MECHANICAL VENTILATION IN ACCORDANCE WITH THE CALIFORNIA MECHANICAL CODE

R328.10 ELECTRIC VEHICLE USE.

THE TEMPORARY USE OF AN OWNER OR OCCUPANT'S ELECTRIC-POWERED VEHICLE TO POWER A DWELLING UNIT WHILE PARKED IN AN ATTACHED OR DETACHED GARAGE OR OUTDOORS SHALL COMPLY WITH THE VEHICLE MANUFACTURER'S INSTRUCTIONS AND CALIFORNIA ELECTRICAL CODE.

R328.11 DOCUMENTATION AND LABELING.

THE FOLLOWING INFORMATION SHALL BE PROVIDED:

1. A COPY OF THE MANUFACTURER'S INSTALLATION, OPERATION, MAINTENANCE AND DECOMMISSIONING INSTRUCTIONS SHALL BE PROVIDED TO THE OWNER OR PLACED IN A CONSPICUOUS LOCATION NEAR THE ESS EQUIPMENT.
2. A LABEL ON THE INSTALLED SYSTEM CONTAINING THE CONTACT INFORMATION FOR THE QUALIFIED MAINTENANCE AND SERVICE PROVIDERS.

R328.11 TOXIC AND HIGHLY TOXIC GAS

ESS THAT HAVE THE POTENTIAL TO RELEASE TOXIC OR HIGHLY TOXIC GAS DURING CHARGING, DISCHARGING AND NORMAL USE CONDITIONS SHALL NOT BE INSTALLED WITHIN GROUP R-3 OR R-4 OCCUPANCIES.



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PROJECT

BOTTENE RESIDENCE
1035 LOMA DRIVE
HERMOSA BEACH
CALIFORNIA 90254

STAMP

PROJECT NUMBER

25002

PRINT DATE

8/13/2025 12:51:16 PM

REVISIONS

| NUMBER | REVISION SCHEDULE | DESCRIPTION | DATE |
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DRAWING

BUILDING PLANNING NOTES

SHEET NUMBER

SP.02

Alberto Bottene
1035 Loma Drive
Hermosa Beach, California 90254

RE: **Geotechnical Engineering Investigation** - Proposed Single Family Residence - Located at 1035 Loma Drive, in the City of Hermosa Beach, California

Dear Mr. Bottene:
Pursuant to your request, this firm has performed a Geotechnical Engineering Investigation for the above referenced project in accordance with your approval of proposal dated February 17, 2025. The purpose of this investigation is to evaluate the geotechnical conditions of the subject site and to provide recommendations for the proposed residential development. The scope of work included the following: 1) site reconnaissance; 2) subsurface geotechnical exploration and sampling; 3) laboratory testing; 4) soils infiltration study; 5) engineering analysis of field and laboratory data; and 6) preparation of a geotechnical engineering report.

1.0 Project Description
It is proposed to construct a two and/or three-story single family residence on the 30' x 90' subject property. The residence will be supported by a conventional slab-on-grade foundation system with perimeter-spread footings and isolated interior footings. Other improvements will include driveway, site walls, hardscape and landscaping. It is anticipated that grading will consist of cuts and fills on the order of a few feet to achieve finished grade elevations. Final building plans shall be reviewed by this firm prior to submittal for city approval to determine the need for any additional study and revised recommendations pertinent to the proposed development, if necessary.

6.0 Liquefaction Evaluation
The site is expected to experience ground shaking and earthquake activity that is typical of the Southern California area. It is during severe shaking that loose, granular soils below the groundwater table can liquefy. Based upon information in the California Division of Mines and Geology "Seismic Hazard Zone Map – Redondo Beach Quadrangle" dated March 25, 1999, the subject site is not situated within an area of historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions to indicate a potential for permanent ground displacement. Thus, the design of the proposed development in conformance with the latest Building Code provisions for earthquake design is expected to provide mitigation of ground shaking hazards that are typical to Southern California.

7.0 Infiltration Characteristics
Infiltration tests within the site were performed to provide preliminary infiltration rates for the purpose of planning and design of an on-site water disposal system. Hand excavation equipment was used to excavate the exploratory test boring to a depth of 3 feet below existing ground surface into the undisturbed eolian and sand dune deposits. Based upon the results of our testing, the soils encountered in the planned on-site drainage disposal system area exhibit the following infiltration rate with calculations provided in Appendix D.

| Boring/Test No. | Depth | Soil Classification | Field Infiltration Rate | Design Rate |
|-----------------|-------|---------------------|-------------------------|-------------|
| B-1/TH-1 | 3' | Silty SAND | 144 in/hr | 72 in/hr |

The site elevation is about 74 feet above mean sea level (msl) and it is our professional opinion that the historical high groundwater depth would be greater than 50 feet below existing ground surface base on the Los Angeles County Flood Control District - Coastal Plain Well Location Map Shallow Aquifer Fall 1993. All systems must meet the latest city and/or county specifications and the California Regional Water Quality Control Board (CRWQCB) requirements.

NorCal Engineering

2.0 Site Description
The subject property is located within the 1000 block and east side of Loma Drive, in the City of Hermosa Beach. The generally rectangular shaped lot is elongated in an east to west direction with topography of the relatively level parcel descending gradually from front to back on the order of a few feet. The site is currently occupied by a single-family residence with associated site improvements.

3.0 Site Exploration
The field investigation consisted of the placement of four (4) subsurface exploratory borings by hand operated auger to depths ranging between 3 and 20 feet below current ground elevations. The explorations were visually classified and logged by a field engineer with locations of the subsurface explorations shown on the attached plan. The exploratory borings revealed the existing earth materials to consist of fill and natural soil. Detailed descriptions of the subsurface conditions are listed on the boring logs in Appendix A. It should be noted that the transition from one soil type to another as shown on the borings logs is approximate and may in fact be a gradual transition. The soils encountered are described as follows:

Fill: A fill soil classifying as a light brown fine to medium grained, slightly silty SAND was encountered to a depth of 1 to 2 feet below ground surface. These soils were noted to be loose and slightly damp.

Natural: An undisturbed eolian and sand dune deposit classifying as a light brown, fine to medium grained, slightly silty to silty SAND was encountered beneath the fill soils. These soils were observed to be medium dense and damp.

The overall engineering characteristics of the earth material were relatively uniform with each excavation. Groundwater was not encountered to the depth of our borings and slight caving occurred in the deeper cohesionless soils.

It is recommended that foundations shall be setback a minimum distance of 10 feet from the drainage disposal system and the bottom of footing shall be a minimum of 10 feet from the expected zone of saturation. The boundary of the zone of saturation may be assumed to project downward from the top of the permeable portion of the disposal system at an inclination of 1 to 1 or flatter, as determined by the geotechnical engineer.

8.0 Conclusions and Recommendations
Based upon our evaluations, the proposed development is acceptable from a geotechnical engineering standpoint. By following the recommendations and guidelines set forth in our report, the structures will be safe from excessive settlements under the anticipated design loadings and conditions. The proposed development shall meet all requirements of the City Building Ordinance and will not impose any adverse effect on existing adjacent structures.

The following recommendations are based upon soil conditions encountered in our field investigation; these near-surface soil conditions could vary across the site. Variations in the soil conditions may not become evident until the commencement of grading operations for the proposed development and revised recommendations from the soils engineer may be necessary based upon the conditions encountered.

It is recommended that site inspections are performed by a representative of this firm during all grading and construction of the development to verify the findings and recommendations documented in this report. The following sections present a discussion of geotechnical related requirements for specific design recommendations of different aspects of the project.

8.1 Site Grading Recommendations
Any vegetation and/or demolition debris shall be removed and hauled from proposed grading areas prior to the start of grading operations. Existing vegetation shall not be mixed or discsed into the soils. Any removed soils may be reutilized as compacted fill once any deleterious material or oversized materials (in excess of eight inches) is removed. Grading operations shall be performed in accordance with the attached *Specifications for Placement of Compacted Fill*.

NorCal Engineering

4.0 Laboratory Tests
Relatively undisturbed samples of the subsurface soils were obtained to perform laboratory testing and analysis for direct shear, consolidation tests, and to determine in-place moisture/densities. These relatively undisturbed ring samples were obtained by driving a thin-walled steel sampler lined with one-inch long brass rings with an inside diameter of 2.42 inches into the undisturbed soils. The sampler was driven a total of six inches into undisturbed soils. Bulk bag samples were obtained in the upper soils for expansion index tests and maximum density tests. All test results are included in Appendix B, unless otherwise noted.

4.1 **Field Moisture Content** (ASTM: D 2216) and the dry density of the ring samples were determined in the laboratory. This data is listed on the logs of explorations.

4.2 **Maximum Density tests** (ASTM: D 1557) were performed on typical samples of the upper soils. Results of these tests are shown on Table I.

4.3 **Expansion Index tests** (ASTM: D 4829) were performed on remolded samples of the upper soils to determine the expansive characteristics. Results of these tests are provided on Table II.

4.4 **Corrosion tests** consisting of sulfate, pH, resistivity and chloride analysis to determine potential corrosive effects of soils on concrete and underground utilities. Test results are provided on Table III.

4.5 **Direct Shear tests** (ASTM: D 3080) were performed on undisturbed and/or remolded samples of the subsurface soils. The test is performed under saturated conditions at loads of 1,000 lbs./sq.ft., 2,000 lbs./sq.ft., and 3,000 lbs./sq.ft. with results shown on Plate A.

4.6 **Consolidation tests** (ASTM: D 2435) were performed on undisturbed samples to determine the differential and total settlement which may be anticipated based upon the proposed loads. Water was added to the samples at a surcharge of one KSF and the settlement curves are plotted on Plates B and C.

All fill and disturbed soils shall be removed to competent native material (about 1 to 2 feet below existing ground surface), the exposed surface scarified to a depth of 12 inches, brought to within 2% of optimum moisture content and compacted to a minimum of 90% of the laboratory standard (ASTM: D 1557) prior to placement of any additional compacted fill soils, foundations, slabs-on-grade and pavement. Grading shall extend a minimum of five horizontal feet outside the edges of foundations or equidistant to the depth of fill placed, whichever is greater.

It is possible that isolated areas of undiscovered fill not described in this report are present on site; if found, these areas should be treated as discussed earlier. A diligent search shall also be conducted during grading operations in an effort to uncover any underground structures, irrigation or utility lines. If encountered, these structures and lines shall be either removed or properly abandoned prior to the proposed construction.

Any imported fill material should be preferably soil similar to the upper soils encountered at the subject site. All soils shall be approved by this firm prior to importing at the site and will be subjected to additional laboratory testing to assure concurrence with the recommendations stated in this report.

If placement of slabs-on-grade and pavement is not completed immediately upon completion of grading operations, additional testing and grading of the areas may be necessary prior to continuation of construction operations. Likewise, if adverse weather conditions occur which may damage the subgrade soils, additional assessment by the soils engineer as to the suitability of the supporting soils may be needed.

Care should be taken to provide or maintain adequate lateral support for all adjacent improvements and structures at all times during the grading operations and construction phase. Adequate drainage away from the structures, pavement and slopes should be provided at all times.

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5.0 Seismicity Evaluation
The proposed development lies outside of any Alquist-Priolo Special Studies Zone and the potential for damage due to direct fault rupture is considered unlikely. The Palos Verdes Fault is located within 2 kilometers from the site and is capable of producing a Magnitude 7.3 earthquake. Ground shaking originating from earthquakes along other active faults in the region is expected to induce lower horizontal accelerations due to smaller anticipated earthquakes and/or greater distances to other faults.

The mapped seismic design acceleration parameters for the project site in accordance with the 2022 California Building Code (CBC) are provided below and based on the ASCE/SEI 7-16 American Society of Civil Engineers (ASCE) website, <https://asce7hazardtool.online/>

2022 CBC Seismic Design Acceleration Parameters

| | |
|--|--|
| Latitude | 33.862 |
| Longitude | -118.397 |
| Site Class | D |
| Risk Category | II |
| Mapped Spectral Response Acceleration | S ₀ = 1.920 S ₁ = 0.690 |
| Adjusted Maximum Acceleration | S _{MS} = 1.920 |
| Design Spectral Response Acceleration Parameters | S _{DS} = 1.280 |
| Peak Ground Acceleration | PGA _w = 0.927 |

Use of these values is dependent on requirements of Section 11-4-8, ASCE 7-16, Supplement 3 that requires the value of the seismic response coefficient C_s be determined by Equation 12.8.2 for values of T_s ≤ 1.5T_s and taken as equal to 1.5 times the value computed in accordance with either 12.8-3 for T_s ≥ 1.5T_s or Equation 12.8-4 for T_s > T_L. Computations and verification of these conditions is referred to the structural engineer.

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8.2 **Temporary Excavations**

Temporary uncharged excavations in the existing site materials may be made at vertical inclinations up to 3 feet in height unless cohesionless soils are encountered. In areas where soils with little or no binder are encountered, where adverse geological conditions are exposed, or where excavations are adjacent to existing structures, shoring or flatter excavations may be required. The temporary cut slope gradients given above do not preclude local raveling and sloughing. Additional recommendations regarding specific excavations may be provided once typical detail sections are made available.

For deeper excavations, temporary shoring design may utilize an active earth pressure of 25 pcf without any surcharge due to adjacent traffic, equipment or structures. The passive fluid pressures of 250 pcf may be doubled to 500 pcf for temporary design. This value may be doubled for isolated piles spaced at least 2.5 times the diameter apart, center-to-center. The point of fixity should be selected at a depth of one foot below the base of the temporary cuts.

Any drilled caissons will require to be cased due to the potential of caving. The backfill placed behind wood lagging shall consist of a two-sack cement slurry mix. Shoring members should not be vibrated or driven due to the potential for damage to nearby improvements. Vertical soldier piles should be placed with a minimum diameter of 18 inches. Concrete should be placed in the drilled shafts to encase the steel beams.

Vertical steel soldier piles are typically spaced 6 to 8 feet apart with horizontal wood beams placed between the piles. Backfill placed behind the wood lagging should consist of a two-sack cement slurry mix. The soldier piles should extend at least 8 feet deep below the base of the cut. Axial loads may be resisted using a skin friction value of 500 psf along the perimeter of the pile and an allowable bearing capacity of 3,000 psf at a depth of 8 feet below the excavated pad level. The final shoring structural calculations and drawings should be reviewed by this firm prior to installation.

All excavations shall be made in accordance with the requirements of the geotechnical engineer, CAL-OSHA and other public agencies having jurisdiction. Care should be taken to provide or maintain adequate lateral support for all adjacent improvements and structures at all times during the grading operations and construction phase.

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According to Table 4.3.1 of ACI 318 Building Code and Commentary, these contents revealed negligible sulfate concentrations. Therefore, a Type II cement according to latest CBC specifications may be utilized for building foundations at this time. It is recommended that additional sulfate tests be performed at the completion of site grading to assure that the as graded conditions are consistent with the recommendations stated in this design. Corrosion test results may be found on the attached Table IV.

8.10 **Expansive Soil**

If expansive soils are encountered, special attention should be given to the project design and maintenance. The attached *Expansive Soil Guidelines* should be reviewed by the engineers, architects, owner, maintenance personnel and other interested parties and considered during the design of the project and future property maintenance.

9.0 **Closure**

The recommendations and conclusions contained in this report are based upon the soil conditions uncovered in our test excavations. No warranty of the soil condition between our excavations is implied. NorCal Engineering should be notified for possible further recommendations if unexpected to unfavorable conditions are encountered during construction phase. It is the responsibility of the owner to ensure that all information within this report is submitted to the Architect and appropriate Engineers for the project.

This firm should have the opportunity to review the final plans to verify that all our recommendations are incorporated. This report and all conclusions are subject to the review of the controlling authorities for the project.

A preconstruction conference should be held between the developer, general contractor, grading contractor, city inspector, architect, and geotechnical engineer to clarify any questions relating to the grading operations and subsequent construction. Our representative should be present during the grading operations and construction phase to certify that such recommendations are complied within the field.

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8.3 **Foundation Design**

All foundations for the proposed residence shall be designed utilizing an allowable soil bearing capacity of 2,000 psf for an embedded depth of 18 and 24 inches into approved engineered fill or competent native soils for two and three-story structures, respectively. A one-third increase may be used when considering short-term loading and seismic forces. Any foundations for smaller structures (site walls, etc.) located along property line may utilize an allowable bearing capacity of 2,000 psf and embedded a minimum depth of 18 inches into competent native soils. A representative of this firm shall inspect all foundation excavations prior to pouring concrete.

8.4 **Settlement Analysis**

Resultant pressure curves for the consolidation tests are shown on Plates B and C. Computations utilizing these curves and the recommended allowable soil bearing capacities reveal that the foundations will experience settlements on the order of ¼ inch and differential settlements of less than ¼ inch.

8.5 **Lateral Resistance**

The following values may be utilized in resisting lateral loads imposed on the structure. Requirements of the California Building Code should be adhered to when the coefficient of friction and passive pressures are combined.

Coefficient of Friction - 0.40
Equivalent Passive Fluid Pressure = 250 lbs./cu.ft.
Maximum Passive Pressure = 2,500 lbs./cu.ft.

The passive pressure recommendations are valid only for approved compacted fill soils or competent native materials.

8.6 **Retaining Wall Design Parameters**

Active earth pressures against retaining walls will be equal to the pressures developed by the following fluid densities. These values are for **granular backfill material** placed behind the walls at various ground slopes above the walls.

| Surface Slope of Retained Materials (Horizontal to Vertical) | Equivalent Fluid Density (lb./cu.ft.) |
|--|---------------------------------------|
| Level | 30 |
| 5 to 1 | 35 |
| 4 to 1 | 38 |
| 3 to 1 | 40 |
| 2 to 1 | 45 |

Any applicable short-term construction surcharges and seismic forces should be added to the above lateral pressure values. An equivalent fluid pressure of 45 pcf may be utilized for the restrained wall condition with a level grade behind the wall.

The seismic-induced lateral soil pressure for walls greater than 6 feet may be computed using a triangular pressure distribution with the maximum value at the top of the wall. The maximum lateral pressure of (20 pcf) H where H is the height of the retained soils above the wall footing should be used in final design of retaining walls. Sliding resistance values and passive fluid pressure values may be increased by 1/3 during short-term wind and seismic loading conditions.

All walls shall be waterproofed as needed and protected from hydrostatic pressure by a reliable permanent subdrain system. The subsurface drainage system shall consist of a 4-inch diameter perforated PVC pipe encased with gravel and wrapped with filter fabric. The granular backfill to be utilized immediately adjacent to retaining walls shall consist of an approved granular soil with a sand equivalency greater than 30. This backfill zone of free draining material shall consist of a wedge beginning a minimum of one horizontal foot from the base of the wall extending upward at an inclination of no less than ¾ to 1 (horizontal to vertical).

8.7 **Slab Design**

All concrete slabs including driveway and hardscape shall be a minimum of four inches in thickness and placed on approved subgrade soils. The subgrade soils shall be moisture conditioned over optimum moisture levels in the upper one foot. A vapor retarder should be utilized in areas which would be sensitive to the infiltration of moisture.

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This geotechnical investigation has been conducted in a manner consistent with the level of care and skill exercised by members of our profession currently practicing under similar conditions in the Southern California area. No other warranty, expressed or implied is made.

We appreciate this opportunity to be of service to you. If you have any further questions, please do not hesitate to contact the undersigned.

Respectfully submitted,
NORCAL ENGINEERING

Keith D. Tucker
Project Engineer
R.G.E. 841



Scott D. Spensiero
Project Manager

NorCal Engineering

This retarder shall meet requirements of ASTM E 96, *Water Vapor Transmission of Materials* and ASTM E 1745, *Standard Specification for Water Vapor Retarders used in Contact with Soil or Granular Fill Under Concrete Slabs*. The vapor retarder shall be installed in accordance with procedures stated in ASTM E 1643, *Standard practice for Installation of Water Vapor Retarders used in Contact with Earth or Granular Fill Under Concrete Slabs*.

The moisture retarder may be placed directly upon compacted subgrade soils conditioned to near optimum moisture levels, although one to two inches of sand beneath the membrane is desirable. The subgrade upon which the retarder is placed shall be smooth and free of rocks, gravel or other protrusions which may damage the retarder. Use of sand above the retarder is under the purview of the structural engineer; if sand is used over the retarder, it should be placed in a dry condition.

8.8 **Utility Trench and Excavation Backfill**

Trenches from installation of utility lines and other excavations may be backfilled with on-site soils or approved imported soils compacted to a minimum of 90% relative compaction. All utility lines shall be properly bedded with clean sand having a sand equivalency rating of 30 or more. This bedding material shall be thoroughly water jetted around the pipe structure prior to placement of compacted backfill soils.

8.9 **Corrosion Design Criteria**

Representative samples of the surficial soils, typical of the subgrade soils expected to be encountered within foundation excavations and underground utilities were tested for corrosion potential. The minimum resistivity value obtained for the samples tested is representative of an environment that may be severely corrosive to metals.

The soil pH value was considered mildly alkaline and may not have a significant effect on soil corrosivity. Consideration should be given to corrosion protection systems for buried metal such as protective coatings, wrappings or the use of PVC where permitted by local building codes.

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