

SONOMA COUNTY DRC PROBATION LA PLAZA RELOCATE

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ABBREVIATIONS				SYMBOLS				PROJECT DATA							
& @ A.B. A.C. ACOUST. A.C.T. A.D. ADDENDUM ADDN. ADJ. A.F.F. AGGR. ALTERATE ALUM. ARCH. AVG. AV. BD. BDRM. B.F. BLDG. BLKG. BM. B.P. B.O. B.O.D. B.O.H. BRKT. BRNZ. BTW. BULL. B.U.R. BVL. C.B. C.B.U. CAB. CATV C.C. C.F. C.F.C.I. C.I.P. C.J. C.L. CLG. CLR. CMU. C.O. COL. CONC. CONC. CONSTR. CONT. CORR. COORD. CPT. C.T. CTR. CTSK. CUSTODIAN CUST. C.W. C.Y. DBL. DEMO. DEPT. D.F. DIA. DIAPH. DIMENSION DISP. DIV. DN. DR. DET.L. D.W. DWG(S). AND AT ANCHOR BOLT AIR CONDITIONING ACOUSTICAL ACOUSTICAL CEILING TILE AREA DRAIN ADDENDUM ADJACENT ABOVE FINISHED FLOOR AGGREGATE ALTERNATE ALUMINUM ARCHITECT OR ARCHITECTURAL AVERAGE AUDIO VISUAL BOARD BEDROOM BOTH FACES BUILDING BLOCKING BEAM BUILDING PAPER BOTTOM OF BASIS OF DESIGN BACK OF HOUSE BRACKET BRONZE BETWEEN BULLETIN BUILT-UP ROOFING BEVEL OR BEVELED CATCH BASIN CEMENTITIOUS BACKER UNIT CABINET CABLE TELEVISION CENTER TO CENTER CUBIC FEET CONTRACTOR FURNISHED / CONTRACTOR INSTALLED CAST-IN-PLACE CONTROL JOINT CENTER LINE CENTER LINE CEILING CLEAR CONCRETE MASONRY UNIT CLEAN OUT COLUMN CONCRETE CONNECTION CONSTRUCTION CONTINUED OR CONTINUOUS CORRIDOR COORDINATE CARPET CERAMIC TILE CENTER COUNTERSUNK CUSTODIAN COLD WATER CUBIC YARD DOUBLE DEMOLITION OR DEMOLISH DEPARTMENT DRINKING FOUNTAIN DIAMETER DIAPHRAGM DIMENSION DISPENSER DIVISION / DIVIDER DOWN DOOR DETAIL DISHWASHER DRAWING(S) F.R.T. F.S. FT. FTG. FURR. G. GA. GALV. G.B. G.C. GEN. GFCI GL. G.L. G.L.B. GND. G.S.M. G.W.B. GYP. H.B. H.C. H.D. HDR. HDWR. HGR. H.M. HORIZ. HR. HT. HTG. HVAC H.W. HYD. I.D. IN. INCL. INFO. INSUL. INT. INV. JST. JT. K.P. KIT. LAM. LAV. LBS. L.F. L.L. LT. LKR. L.P.G. LVR. L.V.L. MACH. MANUF. MASONRY MAX. M.B. M.C. MDF M.E.P. MECH. MEMB. MEZZ. MFR. MGR. M.H. MIN. MIR. MISC. MOD. MOV. MTD. MTG. MTL. MULL. MW. FIRE RETARDANT TREATED FIRE SPRINKLER OR FLOOR SINK FOOT / FEET FOOTING FURRED / FURRING GAS GAUGE GALVANIZED GRAB BAR GENERAL CONTRATOR GENERAL GROUND FAULT CIRCUIT INTERRUPTER GLASS GRIDLINE GLU-LAM BEAM GROUND GALVANIZED SHEET METAL GYPSUM WALL BOARD GYPSUM HOSE BIB HOLDICAPPED HOLD DOWN HEADER HARDWARE HANGER HOLLOW METAL HORIZONTAL HOUR HEIGHT HEATING HEATING, VENTILATION & AIR CONDITIONING HOT WATER HYDRANT INSIDE DIAMETER INCLUDING INFORMATION INSULATION INTERIOR INVERT JOIST JOINT KICK PLATE KITCHEN LAMINATE LAVATORY POUNDS LINEAR FOOT LANDLORD OR LEASE LINE LIGHT LOCKER LOW PRESSURE GAS LOUVER LAMINATED VENEER LUMBER MACHINE MANUFACTURER MASONRY MAXIMUM MACHINE BOLT MEDICINE CABINET MEDIUM DENSITY FIBERBOARD MECHANICAL/ ELECTRICAL /PLUMBING MECHANICAL MEMBRANE MEZZANINE MANUFACTURER MANAGER MANHOLE MINIMUM MIRROR MISCELLANEOUS MODULE MOVABLE MOUNTED MOUNTING METAL MULLION MICROWAVE (N) NEW NOT APPLICABLE NOT IN CONTRACT NUMBER NOT TO SCALE O/ O.C. O.D. O.F.C.I. OFF. O.H. OPNG. OPP. OVHG. P.A.F. PERF. PKT. PLT. P.L. P.LAM. PLYWD. PLUMB. P.O.S. P.S.F. P.S.I. P.T. PT. PTD. P.T.D. P.T.R. P.V.C. P.V.M. R R.A. RAD. R.B. R.C.P. R.D. RDWD. REC. REF. REG. REINF. REQ'D RET. REV. RM. R.O. ROOF'G R.W.L. S.A. S.A.F. S.C. SCHED. S.C. S.C.D. S.D. SECT. S.E.D. S.F. S.F.S.D. SHT. SHT'G SHLV. SHWR. SIM. S.L.D. SLR. S.P.M.D. S.N.D. S.N.R. S.O.W. S.P.D. SPEC. S&P SQ. S.S. S.S.D. S.T.C. STD. STL. STOR. STRUC.T. SUSP. S.W. S.Y. SYS. T T&B TB. T.B.D. T.C. TEL. TEMP. T.O.C. T & G THR. T.O. T.O.B. T.O.P. T.O.S. T.O.S.T. T.O.W. T.P.H. T.S. T.V. TYP. UNF. U.O.N. UR. V.B. V.C.T. VENT. VERT. VEST. V.I.F. VIN. VEN. V.T. W/ W.C. WD. WD/D W.G. W.H. WDW. W/O WP. W.R.B. WT. W.W.F. YD. POWDER ACTIVATED FASTENER PERFORATED POCKET PLATE PROPERTY LINE PLASTIC LAMINATE PLYWOOD PLUMBING P.O.S. POUNDS PER SQUARE FOOT P.S.F. POUNDS PER SQUARE INCH PRESSURE TREATED POINT PAINTED PAPER TOWEL DISPENSER PAPER TOWEL RECEPTACLE POLY VINYL CHLORIDE PIPE PAVEMENT RISER RETURN AIR RADIUS RESILIENT BASE REFLECTED CEILING PLAN ROOF DRAIN REDWOOD RECOMMENDED REFRIGERATOR, REFERENCE OR REFER REGISTER REINFORCING REQUIRED RETAIN / RETAINING REVISION ROOM ROUGH OPENING ROOFING RAIN WATER LEADER SUPPLY AIR SELF-ADHERED FLASHING SOLID CORE SCHEDULE SUSPENDED CEILING SEE CIVIL DRAWINGS STORM DRAIN SECTION SEE ELECTRICAL DRAWINGS SQUARE FEET SEE FOOD SERVICE DRAWINGS OR SEE FIRE SUPPRESSION DRAWINGS SHEET SHEATHING SHELVES / SHELVING SHOWER SIMILAR SEE LANDSCAPE DRAWINGS SEALER SEE MECHANICAL DRAWINGS SANITARY NAPKIN DISPENSER SANITARY NAPKIN RECEPTACLE SCOPE OF WORK SEE PLUMBING DRAWINGS SPECIFICATION (S) SHELF AND POLE SQUARE SANITARY SEWER OR STAINLESS STEEL SEE STRUCTURAL DRAWINGS SOUND TRANSMISSION COEFFICIENT STANDARD(S) STEEL STORAGE STRUCTURE OR STRUCTURAL SUSPENDED SHEAR WALL SQUARE YARD SYSTEM TREAD TOP AND BOTTOM TOWEL BAR TO BE DETERMINED TRASH COMPACTOR TELEPHONE TEMPERED TOP OF CONCRETE TONGUE AND GROOVE THRESHOLD TOP OF TOP OF BEAM TOP OF PAVING TOP OF SLAB TOP OF STEEL TOP OF WALL TOILET PAPER HOLDER TUBE STEEL TELEVISION TYPICAL UNFINISHED UNLESS OTHERWISE NOTED URNAL VAPOR BARRIER VINYL COMPOSITION TILE VENTILATOR/VENTILATION VERTICAL VESTIBULE VERIFY IN FIELD VINYL VENEER VINYL TILE WITH WATER CLOSET WOOD WASHER/DRYER WIRED GLASS WATER HEATER WINDOW WITHOUT WATERPROOF / WEATHERPROOF WEATHER RESISTIVE BARRIER WEIGHT WELDED WIRE FABRIC YARD				ROOM NAME 101 ROOM NAME & NUMBER 999 WINDOW NUMBER 11 DOOR NUMBER Name Elevation ELEV. HT. REFERENCE PROJECT NORTH TRUE NORTH NORTH ARROW ? KEYED NOTE XX-00 MATERIAL TAG 1 REVISION A 1 A INTERIOR ELEVATION 1 A101 DETAIL REFERENCE 1 A101 ELEVATION REFERENCE 1 A101 SECTION REFERENCE 1L WALL ASSEMBLY TYPE 1 A101 SIM 1 A101 DETAIL CALLOUT VICINITY MAP PROJECT LOCATION 2300 COUNTY CENTER DR.				SITE INFORMATION: ADDRESS: 2300 COUNTY CENTER DRIVE, BUILDING A, SANTA ROSA, CA 95403 PARCEL NUMBER: 180-260-055 PARCEL SIZE: 3.34 ACRES NUMBER OF STORIES: 2 HAZARD CATEGORY: II ZONING: PD 0013 (PLANNED DEVELOPMENT) BUILDING INFORMATION: TYPE OF CONSTRUCTION: TYPE V-B OCCUPANCY GROUP(S): B PROPOSED USE(S): OFFICE FIRE SUPPRESSION SYSTEM: NO SPRINKLERS FIRE ALARM: YES FIRE RESPONSIBILITY AREA: LRA TOTAL BUILDING AREA: 68,600 SF BUILDING A: 34,300 SF BUILDING B: 34,300 SF SCOPE OF WORK: INTERIOR MODIFICATION OF (E) OFFICE SPACE ON THE FIRST FLOOR OF THE "LA PLAZA BUILDING A" TO PROVIDE (N) TENANT OFFICE SPACE WITH SITE MODIFICATIONS FOR AN ACCESSIBLE PATH-OF-TRAVEL WALKWAY TO ITS (N) ACCESSIBLE ENTRANCE. AREA OF INTERIOR WORK: 3,650 SF OWNER COUNTY OF SONOMA, FACILITIES DEVELOPMENT & MANAGEMENT 400 AVIATION BLVD., SANTA ROSA, CA 95403 CONTACT: SCOT STANLEY PHONE: 707-565-6116 EMAIL: SCOT.STANLEY@SONOMA-COUNTY.ORG CIVIL ENGINEER SANDIS ENGINEERING 636 9TH ST. OAKLAND, CA 94607 CONTACT: MIKE KUYKENDALL PHONE: 510.590.3415 EMAIL: MKUYKENDALL@SANDIS.NET MECHANICAL, ELCTRICAL AND PLUMBING ENGINEERS INTERFACE ENGINEERING, INC. 49 STEVENSON STREET, SUITE 660 SAN FRANCISCO, CA 94105 CONTACT: WESLEY LAU PHONE: 415.489.7257 EMAIL: WESLEYL@INTERFACEENG.COM STRUCTURAL ENGINEER ZFA STRUCTURAL ENGINEERS 250 D STREET, SUITE 200 SANTA ROSA, CA 95404 CONTACT: KEVIN ZUCCO PHONE: 707.526.0992 EMAIL: KEVINZ@ZFA.COM ARCHITECT WILLIAM DUFF ARCHITECTS, INC. 1275 FOLSOM STREET SAN FRANCISCO, CA 94103 CONTACT: DAVID K. PLOTKIN PHONE: 415.371.0900 EMAIL: DPLTKIN@WDARCH.COM CONTACT: KENNY K. ENDO PHONE: 415.604.4263 EMAIL: KENDO@WDARCH.COM				GENERAL DWG NO DRAWING TITLE 100% CD RESUBMITTAL #1 A0.01 TITLE SHEET, PROJECT DATA A0.10 GENERAL NOTES A0.11 CALGREEN CHECKLIST A0.20 EGRESS PLANS / CODE ANALYSIS A0.31 ACCESSIBILITY DETAILS A0.32 ACCESSIBILITY DETAILS A0.33 ACCESSIBILITY DETAILS CIVIL C0.0 NOTES, LEGEND, AND ABBREVIATIONS C0.1 TOPOGRAPHIC SURVEY (FOR REFERENCE ONLY) C1.0 SITE, DEMO, AND HORIZONTAL CONTROL PLAN C2.0 GRADING PLAN C3.0 CONSTRUCTION DETAILS C3.1 CONSTRUCTION DETAILS C4.0 EROSION CONTROL PLAN C5.0 WATER POLLUTION CONTROL DETAILS ARCHITECTURAL A1.02 PROPOSED SITE PLAN A2.01 DEMOLITION PLAN - FIRST FLOOR A2.11 DEMOLITION REFLECTED CEILING PLAN - FIRST FLOOR A2.21 PROPOSED PLAN - FIRST FLOOR A2.31 REFLECTED CEILING PLAN - FIRST FLOOR A4.10 ENLARGED PLANS & INTERIOR ELEVATIONS A8.00 INTERIOR DETAILS A9.00 SCHEDULES - DOORS, WINDOWS AND DOOR HARDWARE A10.00 SHEET SPECIFICATIONS STRUCTURAL S0.1 GENERAL NOTES AND SPECIFICATIONS S1.0 FRAMING PLAN AND DETAILS MECHANICAL M0.01 SYMBOLS LIST AND GENERAL NOTES - MECHANICAL M0.02 T24 - MECHANICAL M2.01 FIRST FLOOR PLAN - MECHANICAL M3.01 SPECIFICATIONS - MECHANICAL ELECTRICAL E0.01 SYMBOLS LIST, GENERAL NOTES, DETAILS, AND LUMINAIRE SCHEDULE - ELECTRICAL ED2.01 PARTIAL FIRST FLOOR DEMOLITION PLAN - ELECTRICAL E2.01 PARTIAL FIRST FLOOR PLAN - ELECTRICAL E3.01 SPECIFICATIONS - ELECTRICAL E3.02 SPECIFICATIONS - ELECTRICAL E3.03 SPECIFICATIONS - FIRE ALARM E3.04 SPECIFICATIONS - FIRE ALARM PLUMBING P0.01 SYMBOLS LIST AND GENERAL NOTES - PLUMBING P2.01 PARTIAL FIRST FLOOR PLAN - PLUMBING P3.01 SPECIFICATIONS - PLUMBING P3.02 SPECIFICATIONS - PLUMBING SHEET TOTAL: 41			
F.A. F.A.C.P. F.A.U. F.C.C. F.C.U. F.D. F.D.C. F.E. F.E.C. F.F. F.F.&E. F.H. F.H.C. F.H.V. FIN. FIXT. FLR. FLSH'G FLUOR. F.O.C. F.O.FIN. F.O.M. F.O.S. FOUN. F.O.W. F.P. FRMG. FIRE ALARM FIRE ALARM CONTROL PANEL FORCED AIR UNIT FIRE CONTROL CENTER FAN COIL UNIT FLOOR DRAIN FIRE DEPARTMENT CONNECTION FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FINISH FLOOR FURNITURE, FIXTURES AND EQUIPMENT FIRE HYDRANT FIRE HOSE CABINET FIRE HOSE VALVE FINISH OR FINISHED FIXTURE FLOOR FLASHING FLUORESCENT FACE OF CONCRETE FACE OF FINISH FACE OF MASONRY FACE OF STUD FOUNDATION FACE OF WALL FIREPLACE FRAMING OPNG. OVHG. PART. P.C. P.C.F. P.A.F. PERF. PKT. PLT. P.L. P.LAM. PLYWD. PLUMB. P.O.S. P.S.F. P.S.I. P.T. PT. PTD. P.T.D. P.T.R. P.V.C. P.V.M. P.C.F.				DEFERRED SUBMITTALS NONE											

GENERAL NOTES

1.

CONTRACTOR IS HEREBY SPECIFICALLY DIRECTED AS A CONDITION OF THE CONTRACT TO ACQUAINT HIMSELF/HERSELF WITH THE ARTICLES CONTAINED IN THE GENERAL NOTES AND TO NOTIFY AND APPRISE ALL SUBCONTRACTORS AND ALL OTHER PARTIES OF THE CONTRACT OF, AND BIND THEM TO, ITS CONDITIONS.
2.

DRAWINGS OF BASE BUILDING CONDITIONS ARE GENERATED FROM AS-BUILT DRAWINGS AND LIMITED FIELD OBSERVATION BY THE ARCHITECT. ACTUAL CONDITIONS MAY DIFFER FROM THOSE SHOWN.
3.

CONTRACTOR SHALL FILE, OBTAIN AND PAY FEES FOR BUILDING DEPARTMENT AND ALL OTHER AGENCY APPROVALS AND PERMITS, CONTROLLED INSPECTIONS, AND FINAL SIGN-OFFS FOR PROJECT COMPLETION. COPIES OF TRANSACTIONS SHALL BE FORWARDED TO THE OWNER/OWNER'S REP PRIOR TO COMMENCING WORK.
4.

CONTRACTOR SHALL VERIFY THAT DRAWINGS ARE THE LATEST ISSUANCE PRIOR TO BEGINNING OF CONSTRUCTION.
5.

CONTRACTOR SHALL COORDINATE AND SCHEDULE WORK BY OUTSIDE VENDORS INCLUDING, BUT NOT LIMITED TO, TELEPHONE, DATA AND 'OWNER'S FORCES". CONTRACTOR SHALL COORDINATE EXACT LOCATIONS AND SHALL DO THE CUTTING, FITTING AND PATCHING REQUIRED TO RECEIVE THE WORK OF OTHERS AS SHOWN OR REASONABLY IMPLIED BY THE DRAWINGS AND SPECIFICATIONS.
6.

ALL IDENTIFIED SCOPE OF WORK SHALL BE PROVIDED NEW, UNLESS OTHERWISE NOTED.
7.

WORK NOT SPECIFICALLY DETAILED, NOTED OR SPECIFIED, SHALL BE THE SAME AS SIMILAR PARTS THAT ARE DETAILED, NOTED OR SPECIFIED.
8.

IN THE EVENT OF INCONSISTENCIES AMONG THE CONTRACT DOCUMENTS, THE ARCHITECT SHALL INTERPRET THEM WHEN ASKED TO DO SO BY THE OWNER OR CONTRACTOR. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE RESULTS OF SUCH INTERPRETATIONS MADE BY OTHERS.
9.

THE GENERAL CHARACTER OF DETAIL WORK IS SHOWN ON THE CONTRACT DOCUMENTS. SUBSEQUENT CLARIFICATIONS MAY BE MADE BY ADDITIONAL LAYOUTS OR LARGE SCALE OR FULL SIZE DETAILS.
10.

VERIFY ALL EQUIPMENT SIZES BEFORE BEGINNING WORK
11.

"TYPICAL" OR "TYP." SHALL MEAN THAT THE CONDITION IS REPRESENTATIVE FOR SIMILAR CONDITIONS THROUGHOUT, UNLESS OTHERWISE NOTED. DETAILS OR DIMENSIONS ARE USUALLY KEYED, AND NOTED "TYP" ONLY WHEN THEY FIRST OCCUR.
12.

"SIMILAR" OR "SIM." MEANS COMPARABLE CHARACTERISTICS FOR THE CONDITIONS NOTED. VERIFY DIMENSIONS, ORIENTATION, AND CONDITIONS ON PLANS AND ELEVATIONS
13.

ARCHITECT SHALL HAVE THE AUTHORITY TO REJECT ANY WORK THAT IS NOT IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS
14.

CONTRACTOR SHALL PREPARE AND IMPLEMENT A CONSTRUCTION WASTE MANAGEMENT PLAN (CWMP) FOR ALL CONSTRUCTION AND DEMOLITION ACTIVITIES PER CALGREEN 5.408. SUBMIT PLAN PRIOR TO CONSTRUCTION AND PROVIDE WEIGHT TICKETS AND FINAL DIVERSION REPORT AT CLOSEOUT.BMIT FINAL DIVERSION SUMMARY AS A CONDITION OF PROJECT CLOSEOUT.
15.

SPACE ALLOCATION FOR RECYCLING AREAS SHALL COMPLY WITH CHAPTER 18, PART 3, DIVISION 30 OF THE PUBLIC RESOURCES CODE.



STANDARDS AND CODES

1.

REFER TO TITLE SHEET FOR APPLICABLE CODES
2.

GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, CODES, RULES AND REGULATIONS BEARING ON THE CONDUCT OF (A). IF THE CONTRACTOR OBSERVES THAT THE DRAWINGS AND SPECIFICATIONS ARE AT VARIANCE THEREWITH, PROMPTLY NOTIFY THE PROJECT MANAGER AND/OR ARCHITECT. NECESSARY CHANGES SHALL BE MADE IN ACCORDANCE WITH THE GENERAL CONDITIONS.
3.

IF CONTRACTOR KNOWINGLY PERFORMS ANY WORK WHICH IS CONTRARY TO SUCH LAWS, ORDINANCES, CODES, RULES AND REGULATIONS, HE/SHE SHALL PROMPTLY MAKE ALL CHANGES AS REQUIRED TO COMPLY THEREWITH AND BEAR ALL COSTS ARISING THEREFROM.
4.

CONFLICTS: IN CASE OF CONFLICTS IN THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION, THE MOST RESTRICTIVE REQUIREMENTS SHALL GOVERN.
5.

WHERE CODES OR REGULATIONS, OTHER THAN THOSE LISTED IN THIS SECTION, ARE REFERRED TO IN VARIOUS SECTIONS OF THE SPECIFICATIONS, IT SHALL BE UNDERSTOOD THAT THEY APPLY TO THIS WORK AS FULLY AS IF CITED HEREIN.
6.

ALL COMBUSTIBLE MATERIALS SHALL MEET APPLICABLE CODES. WOOD SHALL BE FIRE RETARDANT TREATED WHERE REQUIRED BY LOCAL BUILDING CODES AND BUILDING OWNER'S REQUIREMENTS.

CONTRACTOR USE OF PREMISES

1.

CONSTRUCTION OPERATIONS INCLUDING STAGING AREAS SHALL BE LIMITED TO AREAS NOTED ON DRAWINGS OR AS AGREED TO BY THE OWNER/OWNER'S REP.
2.

TIME RESTRICTIONS FOR PERFORMING WORK: AS AGREED TO BY THE OWNER/OWNER'S REP AND AS PERMITTED BY THE AUTHORITY HAVING JURISDICTION. CONSTRUCTION WORK SHALL BE SCHEDULED TO BE PERFORMED DURING NORMAL BUSINESS HOURS ONLY (UNLESS OTHERWISE AGREED TO BY THE OWNER AND AS PERMITTED BY THE AUTHORITY HAVING JURISDICTION).
3.

DELIVERY OF CONSTRUCTION MATERIALS OR EQUIPMENT SHALL BE MADE DURING NORMAL BUSINESS HOURS AS AGREED UPON BY OWNER/OWNER'S REP. DELIVERY OF LARGE ITEMS CAN BE MADE AT OTHER TIMES ONLY AFTER OWNER HAS BEEN GIVEN ADEQUATE ADVANCED NOTICE. ALL DELIVERIES SHOULD CLEARLY IDENTIFY PROJECT NAME.
4.

UTILITY OUTAGES AND SHUTDOWN SHALL BE COORDINATED WITH OWNER/OWNER'S REP.
5.

AT ALL TIMES CONDUCT OPERATIONS TO ENSURE THE LEAST INCONVENIENCE TO THE GENERAL PUBLIC AND COMPLY WITH APPLICABLE CODES AND ORDINANCES FOR SAFETY.
6.

CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR JOB SITE SECURITY AND THE PROTECTION AND SAFEKEEPING OF PRODUCTS STORED ON THE SITE UNDER THIS CONTRACT. JOB SITE SECURITY MAY INCLUDE, BUT IS NOT LIMITED TO: EMPLOYING UNIFORMED GUARD SERVICE DURING NON-WORKING HOURS, ALLOWING ENTRANCE ONLY TO AUTHORIZED PERSONS WITH PROPER IDENTIFICATION, AND MAINTAINING A LOG OF ALL WORKERS AND VISITORS.
7.

CONTRACTOR SHALL PERFORM DEMOLITION WORK AND SPRINKLER WORK, CONCRETE SAW CUTTING, PAINTING AND SIMILAR WORK CAUSING EXCESSIVE NOISE, DUST OR ODORS DISTURBING BUILDING OCCUPANTS, OR ANY WORK DISRUPTING TENANTS OR PUBLIC TRAFFIC WHEN OWNER WILL BE MINIMALLY IMPACTED OR AT TIMES AND IN SUCH A MANNER AS OTHERWISE APPROVED BY OWNER/OWNER'S REP.
8.

CONTRACTOR SHALL COORDINATE USE OF PREMISES FOR WORK WITH THE OWNER/OWNER'S REP.
9.

CONTRACTOR SHALL LIMIT USE OF SITE FOR WORK AND STORAGE TO AREAS DESIGNATED UNLESS SPECIFIC ADDITIONAL AREAS ARE ALLOWED IN WRITING BY THE OWNER/OWNER'S REP.
10.

CONTRACTOR SHALL MAINTAIN FOR THE ENTIRE DURATION OF THE CONTRACT, EXITS, EXIT LIGHTING, FIRE PROTECTIVE DEVICES, AND ALARMS TO CONFORM TO LOCAL BUILDING CODE REQUIREMENTS AND/OR OWNER/OWNER'S REP REQUIREMENTS. CONTRACTOR SHALL PROTECT ALL AREAS IN, ON, OR ABOUT THE JOB SITE (INCLUDING NEW OR EXISTING MATERIALS & FINISHES) FROM DAMAGE WHICH MAY RESULT FROM, BUT IS NOT LIMITED TO: CONSTRUCTION, DEMOLITION, DUST, OR WATER. DAMAGE TO NEW OR EXISTING MATERIALS, FINISHES, STRUCTURES, AND EQUIPMENT SHALL BE REPLACED OR REPAIRED AT THE EXPENSE OF THE GENERAL CONTRACTOR.
11.

CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, DISTORTION AND/OR MISALIGNMENT IN ACCORDANCE WITH APPLICABLE CODES, STANDARDS AND INDUSTRY STANDARD PRACTICE.
12.

WORK AND/OR CONSTRUCTION OPERATIONS SHALL NOT UNDERMINE THE STRUCTURAL INTEGRITY OF THE BUILDING.
13.

CONTRACTOR SHALL MAINTAIN FIRE RATING OF ALL EXISTING STRUCTURAL COLUMNS AND OTHER RATED ASSEMBLIES.
14.

DO NOT ALTER BUILDING STRUCTURE UNLESS SPECIFICALLY DIRECTED TO DO SO BY ARCHITECT OR STRUCTURAL ENGINEER.
15.

DAMAGES WHICH OCCUR DURING DEMOLITION AND/OR CONSTRUCTION SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY AND EXPENSE TO RESTORE/REPAIR TO ORIGINAL CONDITION.

SUBMITTAL SCHEDULE

CONTRACTOR SHALL SUBMIT THE FOLLOWING SAMPLES, SHOP DRAWINGS, AND OTHER INFORMATION AS REQUESTED TO BE REVIEWED BY THE ARCHITECT AND RELEVANT CONSULTANTS FOR APPROVAL IN SUCH A MANNER THAT ALLOWS FOR SUFFICIENT REVIEW TIME AND DOES NOT DELAY THE WORK. INDUSTRY STANDARD REVIEW TIME BY ALL TEAM MEMBERS IS 10 BUSINESS DAYS.

- SAMPLES & PRODUCT CUT SHEETS:
- PLUMBING FIXTURE PRODUCT DATA CUTSHEETS & FINISH SAMPLE
 - RESTROOM ACCESSORIES CUTSHEETS
 - DOOR & WINDOW HARDWARE CUTSHEETS
 - PAINT BRUSHOUT

- SHOP DRAWINGS:
- STRUCTURAL SHOP DRAWINGS
 - DOOR HARDWARE PACKAGE
 - WINDOW SHOP DRAWINGS
 - INTERIOR SIGNAGE

BIDDING AND/OR PRICING NOTES

1.

CONTRACTOR SHALL REVIEW DOCUMENTS AND VERIFY DIMENSIONS AND FIELD CONDITIONS. ANY CONFLICTS OR DISCREPANCIES SHALL BE REPORTED IN WRITING. THE GENERAL CONTRACTOR WARRANTS, BY TENDERING HIS BID, THAT WORK IS BUILDABLE AS SHOWN.

HAZARDOUS MATERIALS

1.

IF ANY MATERIALS SUSPECTED OF CONTAINING ASBESTOS OR ANY OTHER HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB THE MATERIALS. IMMEDIATELY NOTIFY THE OWNER AND ARCHITECT.
2.

A PRE-DEMOLITION HAZMAT REPORT DATED MARCH 10, 2025 HAS BEEN CONDUCTED AND AVAILABLE FOR REVIEW.

TESTING (& INSPECTION)

1.

GENERAL CONTRACTOR SHALL ARRANGE FOR ALL INSPECTIONS NECESSARY TO OBTAIN CERTIFICATE OF OCCUPANCY.

DIMENSION NOTES

1.

DIMENSIONS ARE AS FOLLOWS, UNLESS OTHERWISE NOTED :

A) TO FACE OF FINISH

B) TO CENTER OF DOORS AND OTHER OPENINGS

C) TO TOP OF FINISHED FLOORS

D) TO BOTTOM OF FINISH AT CEILINGS

E) TO OUTSIDE FACE OF FINISHED MILLWORK

F) TO WINDOW FRAME ROUGH OPENING
2.

DIMENSIONS SHOWN AS V.I.F. SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES IN DIMENSIONS PRIOR TO PROCEEDING WITH THE WORK IN THAT AREA.
3.

DIMENSIONS MARKED "CLEAR" SHALL BE MAINTAINED AND SHALL ALLOW FOR THICKNESS OF FINISHES INCLUDING CERAMIC TILE, VCT, ETC. DIMENSIONS MARKED "CLEAR" ARE TO BE WITHIN 1/8" OF GIVEN DIMENSION ALONG FULL HEIGHT/WIDTH/LENGTH OF SURFACES.
4.

DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN PARTITION LOCATIONS, DIMENSIONS AND TYPES. DOOR AND WINDOW LOCATIONS SHALL BE AS SHOWN ON CONSTRUCTION PLAN. IN CASE OF CONFLICT, NOTIFY ARCHITECT FOR WRITTEN CLARIFICATION PRIOR TO PROCEEDING WITH CONSTRUCTION. CONSTRUCTION PLAN BY ARCHITECT SUPERSEDES OTHER PLANS.

CONSTRUCTION STANDARDS

1.

CONTRACTOR TO ENSURE THAT SURFACE TO RECEIVE FINISHES ARE CLEAN, TRUE AND FREE OF IRREGULARITIES. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED. COMMENCEMENT OF WORK SHALL INDICATE INSTALLER'S ACCEPTANCE OF SUBSTRATE.
2.

CONTRACTOR TO REPAIR AND PREPARE EXISTING SURFACES SCHEDULED TO REMAIN AS NECESSARY FOR APPLICATION OF NEW FINISHES.
3.

CONTRACTOR SHALL PATCH SURFACES TO MATCH ADJACENT IN A MANNER SUITABLE TO RECEIVE FINISHES.
4.

GYPSUM BOARD CONSTRUCTION SHALL ALIGN WITH EXISTING, ADJACENT, OR ADJOINING SURFACES. JOINTS SHALL BE TAPED AND SANDED SMOOTH WITH NO VISIBLE JOINTS, UNLESS OTHERWISE NOTED.
5.

CONTRACTOR TO INSURE DELIVERY AND INSTALLATION OF CASEWORK AND FINISH CARPENTRY WILL NOT BE DAMAGED BY OTHER CONSTRUCTION WORK.
6.

ALL CODE-REQUIRED LABELS SUCH AS "UL", FACTORY MUTUAL OR ANY EQUIPMENT IDENTIFICATION, PERFORMANCE RATING, NAME OR NOMENCLATURE PLATES SHALL REMAIN READABLE AND NOT PAINTED.
7.

COORDINATE WITH OWNER/OWNER'S REP FOR DELIVERY AND PLACEMENT OF ALL FURNITURE AND WALL-HUNG EQUIPMENT.
8.

REFER TO FINISH SCHEDULE FOR SPECIFIED FINISHES.
9.

REFER TO INTERIOR ELEVATIONS FOR MOUNTING HEIGHT REQUIREMENTS.
10.

FOR BUILT-IN WORK SURROUNDED BY PARTITIONS, INCLUDING BUT NOT LIMITED TO APPLIANCES AND MILLWORK, CONTRACTOR SHALL CONFIRM THAT FINISHED FLOOR, WALL AND/OR SOFFIT SURFACES DO NOT VARY BY MORE THAN [1/4" IN 20'-0" (NON-CUMULATIVE). NOTIFY ARCHITECT IF THIS TOLERANCE IS EXCEEDED.
11.

CONTRACTOR SHALL, IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, APPLY, INSTALL, CONNECT, ERECT, CLEAN, AND/OR CONDITION MANUFACTURED ARTICLES, MATERIALS AND/OR EQUIPMENT.
12.

UNLESS OTHERWISE NOTED, IT IS THE INTENTION OF THE DRAWINGS AND SPECIFICATIONS FOR ALL WORK, EQUIPMENT, CASEWORK, MECHANICAL, ELECTRICAL AND SIMILAR DEVICES OF WHATEVER NATURE, BE COMPLETELY INSTALLED, CONNECTED, MADE OPERATIONAL AND FUNCTIONAL FOR THE PURPOSE INTENDED, AND THAT ALL COSTS FOR THIS BE INCLUDED IN THE CONTRACTOR'S PROPOSAL.
13.

COORDINATE LOCATION AND PROVIDE BLOCKING, BACKING, AND/OR REINFORCEMENTS IN PARTITIONS FOR ALL CABINETS, COUNTERTOPS AND ANY WALL-MOUNTED ITEMS. REFER TO ELEVATIONS AND DETAILS FOR LOCATIONS OF WALL STANDARDS AND OTHER SUPPORTS.
14.

CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY FRAMING, BRACING, AND STRUCTURING ALL WALL, BULKHEAD, AND OTHER DRYWALL CONSTRUCTION IN ACCORDANCE WITH APPLICABLE TYPICAL DETAILS CONTAINED IN THE DRAWINGS WHETHER OR NOT SPECIFICALLY REFERENCED IN THE PLANS OR DETAILS. PROVIDE BLOCKING / BACKING AND REINFORCEMENT ABOVE AS REQUIRED FOR SUPPORT OF LIGHT FIXTURES, EQUIPMENT, OR ANY OTHER CEILING-MOUNTED ITEMS.
15.

REPAIR AND PATCH ANY/ALL PENETRATIONS THROUGH RATED ASSEMBLIES TO MAINTAIN REQUIRED RATING.
16.

UNLESS OTHERWISE NOTED IN DRAWINGS, FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS, INSTALLATION INSTRUCTIONS, AND BEST PRACTICES FOR INSTALLING EQUIPMENT, FURNISHINGS, FITTINGS, ETC. BRING CONFLICTS BETWEEN DRAWINGS AND MANUFACTURER'S RECOMMENDATIONS TO THE ATTENTION OF THE ARCHITECT.

CALGREEN NOTES

5.201.1 SCOPE. CALIFORNIA ENERGY CODE, FOR THE PURPOSES OF MANDATORY ENERGY EFFICIENCY STANDARDS IN THIS CODE, THE CALIFORNIA ENERGY COMMISSION WILL CONTINUE TO ADOPT MANDATORY BUILDING STANDARDS.

5.303.3 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS
5.303.3.4.2 KITCHEN FAUCETS. KITCHEN FAUCETS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE AT 60 PSI. KITCHEN FAUCETS MAY TEMPORARILY INCREASE THE FLOW ABOVE THE MAXIMUM RATE, BUT NOT TO EXCEED 2.2 GALLONS PER MINUTE AT 60 PSI, AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTE AT 60 PSI.
5.303.3.4.3 WASH FOUNTAINS. WASH FOUNTAINS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE/20 [RIM SPACE (INCHES) AT 60 PSI].
5.303.3.4.4 METERING FAUCETS. METERING FAUCETS SHALL NOT DELIVER MORE THAN 0.20 GALLONS PER CYCLE.
5.303.3.4.5 METERING FAUCETS FOR WASH FOUNTAINS. METERING FAUCETS FOR WASH FOUNTAINS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 0.20 GALLONS PER CYCLE/20 [RIM SPACE (INCHES) AT 60 PSI].
NOTE: WHERE COMPLYING FAUCETS ARE UNAVAILABLE, AERATORS OR OTHER MEANS MAY BE USED TO ACHIEVE REDUCTION.

5.303.4.1 FOOD WASTE DISPOSERS. DISPOSERS SHALL EITHER MODULATE THE USE OF WATER TO NO MORE THAN 1 GPM WHEN THE DISPOSER IS NOT IN USE (NOT ACTIVELY GRINDING FOOD WASTE/NO-LOAD) OR SHALL AUTOMATICALLY SHUT OFF AFTER NO MORE THAN 10 MINUTES OF INACTIVITY. DISPOSERS SHALL USE NO MORE THAN 8 GPM OF WATER.

5.303.5 AREAS OF ADDITION OR ALTERATION. FOR THOSE OCCUPANCIES WITHIN THE AUTHORITY OF THE CALIFORNIA BUILDING STANDARDS COMMISSION AS SPECIFIED IN SECTION 103, THE PROVISIONS OF SECTIONS 5.303.3 AND 5.303.4 SHALL APPLY TO NEW FIXTURES IN ADDITIONS OR AREAS OF ALTERATION TO THE BUILDING.
5.303.6 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. PLUMBING FIXTURES AND FITTINGS SHALL COMPLY WITH THE CALIFORNIA PLUMBING CODE, AND SHALL MEET THE APPLICABLE STANDARDS REFERENCED IN TABLE 1701.1 OF THE CALIFORNIA PLUMBING CODE AND IN CHAPTER 6 OF THIS CODE.

SECTION 5.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING
5.408.1 CONSTRUCTION WASTE MANAGEMENT
RECYCLE AND/OR SALVAGE FOR REUSE A MINIMUM OF 65 PERCENT OF THE NONHAZARDOUS CONSTRUCTION AND DEMOLITION WASTE IN ACCORDANCE WITH SECTION 5.408.1.1, 5.408.1.2 OR 5.408.1.3, OR MEET A LOCAL CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT ORDINANCE, WHICHEVER IS MORE STRINGENT.

5.408.1.1 CONSTRUCTION WASTE MANAGEMENT PLAN
WHERE A LOCAL JURISDICTION DOES NOT HAVE A CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT ORDINANCE THAT IS MORE STRINGENT, SUBMIT A CONSTRUCTION WASTE MANAGEMENT PLAN THAT IDENTIFIES THE CONSTRUCTION AND DEMOLITION WASTE MATERIALS TO BE DIVERTED FROM DISPOSAL BY EFFICIENT USAGE, RECYCLING, REUSE ON THE PROJECT OR SALVAGE FOR FUTURE USE OR SALE.
DETERMINES IF CONSTRUCTION AND DEMOLITION WASTE MATERIALS WILL BE SORTED ON-SITE (SOURCE-SEPARATED) OR BULK MIXED (SINGLE STREAM). IDENTIFIES DIVERSION FACILITIES WHERE CONSTRUCTION AND DEMOLITION WASTE MATERIAL COLLECTED WILL BE TAKEN.
SPECIFIES THAT THE AMOUNT OF CONSTRUCTION AND DEMOLITION WASTE MATERIALS DIVERTED SHALL BE CALCULATED BY WEIGHT OR VOLUME, BUT NOT BY BOTH.

5.408.1.2 WASTE MANAGEMENT COMPANY
UTILIZE A WASTE MANAGEMENT COMPANY THAT CAN PROVIDE VERIFIABLE DOCUMENTATION THAT THE PERCENTAGE OF CONSTRUCTION AND DEMOLITION WASTE MATERIAL DIVERTED FROM THE LANDFILL COMPLIES WITH THIS SECTION.
NOTE: THE OWNER OR CONTRACTOR SHALL MAKE THE DETERMINATION IF THE CONSTRUCTION AND DEMOLITION WASTE MATERIAL WILL BE DIVERTED BY A WASTE MANAGEMENT COMPANY.
EXCEPTIONS TO SECTIONS 5.408.1.1 AND 5.408.1.2:
EXCAVATED SOIL AND LAND-CLEARING DEBRIS.
ALTERNATE WASTE REDUCTION METHODS DEVELOPED BY WORKING WITH LOCAL AGENCIES IF DIVERSION OR RECYCLE FACILITIES CAPABLE OF COMPLIANCE WITH THIS ITEM DO NOT EXIST.
DEMOLITION WASTE MEETING LOCAL ORDINANCE OR CALCULATED IN CONSIDERATION OF LOCAL RECYCLING FACILITIES AND MARKETS.

5.408.1.3 WASTE STREAM REDUCTION ALTERNATIVE
THE COMBINED WEIGHT OF NEW CONSTRUCTION DISPOSAL THAT DOES NOT EXCEED TWO POUNDS PER SQUARE FOOT OF BUILDING AREA MAY BE DEEMED TO MEET THE 65 PERCENT MINIMUM REQUIREMENT AS APPROVED BY THE ENFORCING AGENCY.

5.408.1.4 DOCUMENTATION
DOCUMENTATION SHALL BE PROVIDED TO THE ENFORCING AGENCY WHICH DEMONSTRATES COMPLIANCE WITH SECTIONS 5.408.1.1 THROUGH 5.408.1.3. THE WASTE MANAGEMENT PLAN SHALL BE UPDATED AS NECESSARY AND SHALL BE ACCESSIBLE DURING CONSTRUCTION FOR EXAMINATION BY THE ENFORCING AGENCY. NOTES:

5.408.2 UNIVERSAL WASTE. [A] ADDITIONS AND ALTERATIONS TO A BUILDING OR TENANT SPACE THAT MEET THE SCOPING PROVISIONS IN SECTION 301.3 FOR NONRESIDENTIAL ADDITIONS AND ALTERATIONS, SHALL REQUIRE VERIFICATION THAT UNIVERSAL WASTE ITEMS SUCH AS FLUORESCENT LAMPS AND BALLAST AND MERCURY CONTAINING THERMOSTATS AS WELL AS OTHER CALIFORNIA PROHIBITED UNIVERSAL WASTE MATERIALS ARE DISPOSED OF PROPERLY AND ARE DIVERTED FROM LANDFILLS. A LIST OF PROHIBITED UNIVERSAL WASTE MATERIALS SHALL BE INCLUDED IN THE CONSTRUCTION DOCUMENTS.
NOTE: REFER TO THE UNIVERSAL WASTE RULE LINK AT: [HTTPS://DTSC.CA.GOV/UNIVERSAL-WASTE/](https://dtsc.ca.gov/universal-waste/)

UNIVERSAL WASTE: THE WASTES LISTED BELOW ARE SUBJECT TO REGULATION PURSUANT TO CHAPTER 23 OF TITLE 22, CALIFORNIA CODE OF REGULATIONS, AND SHALL BE KNOWN AS "UNIVERSAL WASTES".
A. BATTERIES, AS DESCRIBED IN TITLE 22 CCR, SECTION 66273.2, SUBSECTION (A);
B. ELECTRONIC DEVICES, AS DESCRIBED IN TITLE 22 CCR, SECTION 66273.3, SUBSECTION (A);
C. MERCURY-CONTAINING EQUIPMENT, AS DESCRIBED IN TITLE 22 CCR, SECTION 66273.4, SUBSECTION (A);
D. LAMPS, AS DESCRIBED IN TITLE 22 CCR, SECTION 66273.5, SUBSECTION (A);
E. CATHODE RAY TUBES, AS DESCRIBED IN TITLE 22 CCR, SECTION 66273.6, SUBSECTION (A);
F. CATHODE RAY TUBE GLASS, AS DESCRIBED IN TITLE 22 CCR, SECTION 66273.7, SUBSECTION (A); AND
G. AEROSOL CANS, AS SPECIFIED IN HEALTH AND SAFETY CODE, SECTION 25201.16.

5.504.4.1 ADHESIVES, SEALANTS AND CAULKS. ADHESIVES, SEALANTS, AND CAULKS USED ON THE PROJECT SHALL MEET THE REQUIREMENTS OF THE FOLLOWING STANDARDS:
A. ADHESIVES, ADHESIVE BONDING PRIMERS ADHESIVE PRIMERS, SEALANTS, SEALANT PRIMERS AND CAULKS SHALL COMPLY WITH LOCAL OR REGIONAL AIR POLLUTION CONTROL OR AIR QUALITY MANAGEMENT DISTRICT RULES WHERE APPLICABLE, OR SCAQMD RULE 1168 VOC LIMITS, AS SHOWN IN TABLES 5.504.4.1 AND 5.504.4.2. SUCH PRODUCTS ALSO SHALL COMPLY WITH THE RULE 1168 PROHIBITION ON THE USE OF CERTAIN TOXIC COMPOUNDS (CHLOROFORM, ETHYLENE DICHLORIDE, METHYLENE CHLORIDE, PERCHLOROETHYLENE AND TRICHLOROETHYLENE), EXCEPT FOR AEROSOL PRODUCTS AS SPECIFIED IN SUBSECTION 2, BELOW.
B. AEROSOL ADHESIVES, AND SMALLER UNIT SIZES OF ADHESIVES, AND SEALANT OR CAULKING COMPOUNDS (IN UNITS OF PRODUCT, LESS PACKAGING, WHICH DO NOT WEIGH MORE THAN ONE POUND AND DO NOT CONSIST OF MORE THAN 16 FLUID OUNCES) SHALL COMPLY WITH STATEWIDE VOC STANDARDS AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS, OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94507.

5.504.4.3 PAINTS AND COATINGS
ARCHITECTURAL PAINTS AND COATINGS SHALL COMPLY WITH VOC LIMITS IN TABLE 1 OF THE ARB ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, AS SHOWN IN TABLE 5.504.4.3, UNLESS MORE STRINGENT LOCAL LIMITS APPLY. THE VOC CONTENT LIMIT FOR COATINGS THAT DO NOT MEET THE DEFINITIONS FOR THE SPECIALTY COATINGS CATEGORIES LISTED IN TABLE 5.504.4.3 SHALL BE DETERMINED BY CLASSIFYING THE COATING AS A FLAT, NONFLAT OR NONFLAT-HIGH GLOSS COATING, BASED ON ITS GLOSS, AS DEFINED IN SUBSECTIONS 4.21, 4.36 AND 4.37 OF THE 2007 CALIFORNIA AIR RESOURCES BOARD SUGGESTED CONTROL MEASURE, AND THE CORRESPONDING FLAT, NONFLAT OR NONFLAT-HIGH GLOSS VOC LIMIT IN TABLE 5.504.4.3 SHALL APPLY.
5.504.4.3.1 AEROSOL PAINTS AND COATINGS. AEROSOL PAINTS AND COATINGS SHALL MEET THE PWMIR LIMITS FOR ROC IN SECTION 94522(A)(3) AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS AND OZONE DEPLETING SUBSTANCES, IN SECTIONS 94522(C)(2) AND (D)(2) OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94520; AND IN AREAS UNDER THE JURISDICTION OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT ADDITIONALLY COMPLY WITH THE PERCENT VOC BY WEIGHT OF PRODUCT LIMITS OF REGULATION 8 RULE 49.
5.504.4.3.2 VERIFICATION. VERIFICATION OF COMPLIANCE WITH THIS SECTION SHALL BE PROVIDED AT THE REQUEST OF THE ENFORCING AGENCY. DOCUMENTATION MAY INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING:
A. MANUFACTURER'S PRODUCT SPECIFICATION
B. FIELD VERIFICATION OF ON-SITE PRODUCT CONTAINERS

5.504.4.4 CARPET SYSTEMS ALL CARPET INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE REQUIREMENTS OF THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS," VERSION 1.2, JANUARY 2017 (EMISSION TESTING METHOD FOR CALIFORNIA SPECIFICATION 01350).

5.504.4.4.1 CARPET CUSHION. ALL CARPET CUSHION INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE REQUIREMENTS OF THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS," VERSION 1.2, JANUARY 2017 (EMISSION TESTING METHOD FOR CALIFORNIA SPECIFICATION 01350).
5.504.4.4.2 CARPET ADHESIVE. ALL CARPET ADHESIVE SHALL MEET THE REQUIREMENTS OF TABLE 5.504.4.1.

5.504.4.5 COMPOSITE WOOD PRODUCTS. HARDWOOD PLYWOOD, PARTICLEBOARD AND MEDIUM DENSITY FIBERBOARD COMPOSITE WOOD PRODUCTS USED ON THE INTERIOR OR EXTERIOR OF THE BUILDINGS SHALL MEET THE REQUIREMENTS FOR FORMALDEHYDE AS SPECIFIED IN ARB'S AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD (17 CCR 93120 ET SEQ.). THOSE MATERIALS NOT EXEMPTED UNDER THE ATCM MUST MEET THE SPECIFIED EMISSION LIMITS, AS SHOWN IN TABLE 5.504.4.5.
5.504.4.5.3 DOCUMENTATION. VERIFICATION OF COMPLIANCE WITH THIS SECTION SHALL BE PROVIDED AS REQUESTED BY THE ENFORCING AGENCY. DOCUMENTATION SHALL INCLUDE AT LEAST ONE OF THE FOLLOWING:
A. PRODUCT CERTIFICATIONS AND SPECIFICATIONS.
B. CHAIN OF CUSTODY CERTIFICATIONS.
C. PRODUCT LABELED AND INVOICED AS MEETING THE COMPOSITE WOOD PRODUCTS REGULATION (SEE CCR, TITLE 17, SECTION 93120, ET SEQ.).
D. EXTERIOR GRADE PRODUCTS MARKED AS MEETING THE PS-1 OR PS-2 STANDARDS OF THE ENGINEERED WOOD ASSOCIATION, THE AUSTRALIAN AS/NZS 2269 OR EUROPEAN 636 3S STANDARDS.
E. OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY.

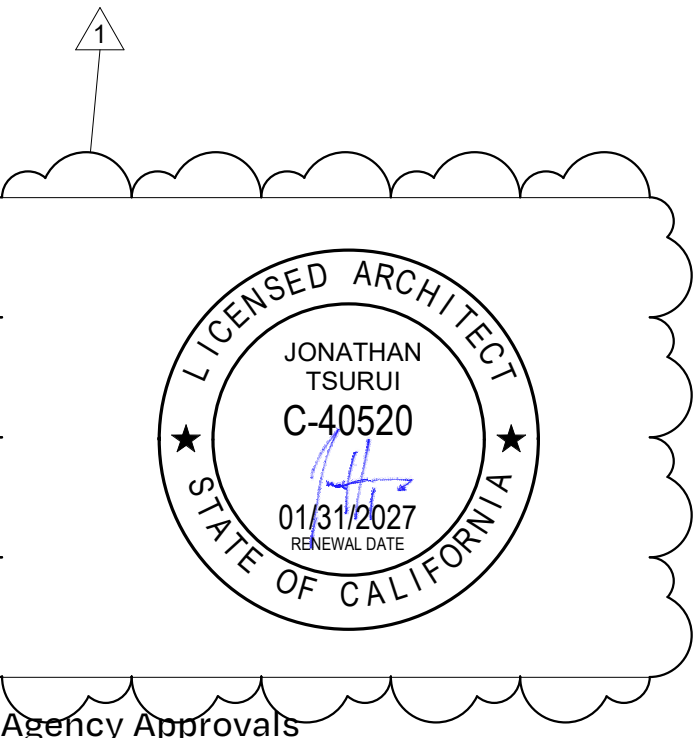
5.504.4.8 ACOUSTICAL CEILINGS AND WALL PANELS. COMPLY WITH THE REQUIREMENTS OF THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS," VERSION 1.2, JANUARY 2017 (EMISSION TESTING METHOD FOR CALIFORNIA SPECIFICATION 01350).
5.504.4.8.1 VERIFICATION OF COMPLIANCE. DOCUMENTATION SHALL BE PROVIDED VERIFYING THAT ACOUSTICAL FINISH MATERIALS MEET THE POLLUTANT EMISSION LIMITS.



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Agency Approvals

Revision No.	Date
1	2/2/2026

Resubmittal 1

Written dimensions on these drawings shall have precedence over scaled dimensions. Drawings shall not be scaled. Contractors shall verify, and be responsible for, all dimensions and conditions shown by these drawings. Shop details must be submitted to this office for approval before proceeding with fabrications. The drawings and their design content are the sole property of William Duff Architects, Inc. and may not be reused or reproduced in any manner without our express written consent.

Job Title
SONOMA DRC

Job Address
**2300 COUNTY CENTER DRIVE
SANTA ROSA, CA 95403**

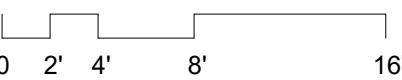
Date: **18 APR 2025**

Issued For
100% CD

Job Number: **24015**

Drawn By: **JK** Checked By: **KE**

Scale



Sheet Title
GENERAL NOTES

Sheet No.

A0.10



County of Sonoma
Permit & Resource Management Department

2022 CALGREEN CHECKLIST NONRESIDENTIAL CONSTRUCTION
ADDITIONS AND ALTERATIONS

BPC-069

This checklist is effective January 5, 2023 and applies to nonresidential building additions of 1,000 square feet or greater and/or building alterations with a permit valuation of \$200,000 or above, and only apply to the portions of the building being added to or altered within the scope of the permitted work. The provisions of this checklist also apply to all tenant improvement projects meeting the criteria listed above. Repairs to existing structures are not subject to the requirements of CALGreen. Sonoma County has only adopted the mandatory measures of the 2022 California Green Building Code.

Newly constructed nonresidential buildings should use the CALGreen checklist for New Nonresidential Buildings (BPC-xxx).

(This checklist is based on 2022 CALGreen and has been revised to include County of Sonoma requirements)

Building Permit Number: BLD25-0564 Project Name: Sonoma DRC La Plaza Building A
Project Address: 2300 County Center Drive, Building A, Santa Rosa CA 95403
Interior Office T.I. with site modifications for an accessible path-of-travel walkway to building entry.
Project Description: Limited Electrical, and minor mechanical and plumbing for new restroom.

Instructions:

- A. The Owner or the Owner's agent shall employ a qualified CALGreen Special Inspector, listed by the County of Sonoma Building Department, to perform CALGreen Special Inspector services and to verify and assure the Owner and the Building Department that all required work described herein is properly planned and implemented in the project. County listed CALGreen inspectors can be found on the County's web site at <http://www.sonoma-county.org/pjrm/docs/grnbldg/index.htm>
- B. All CALGreen Mandatory Measure Locations must be located and identified within the plan set and their locations noted within this document or provide an explanation.
- C. The CALGreen Special Inspector shall not be the design professional or contractor for the project and shall not have a financial interest in the project for which services are being provided except for the cost of providing said services.
- D. The CALGreen Special Inspector, in collaboration with the owner and the design professional shall review and incorporate all applicable provisions of Columns 1 and 2 of this checklist into the project, sign and date the Design Verification section at the end of this checklist and have the checklist printed on the approved plans for the project. The CALGreen Special Inspector must indicate in Column 2 of the checklist all applicable measures which must be met and incorporated into the project.
- E. Prior to final inspection by Permit Sonoma, the CALGreen Special Inspector shall complete Column 3 and sign and date the Implementation Verification section at the end of this checklist.

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2022 CALGREEN CHECKLIST NONRESIDENTIAL CONSTRUCTION
ADDITIONS AND ALTERATIONS

BPC-069

MANDATORY OR ELECTIVE	MEASURE SECTION TITLE See Chapter 5 of the 2022 California Green Building Code - complete requirements for measures listed here.	CODE SECTION	REQUIRED	N/A	PLAN SHEET NUMBER OR EXPLANATION	FIELD VERIFIED
Division 5.5 - Environmental Quality						
Mandatory	Fireplaces, For Wood-Burning Appliances see Sonoma County Code Chapter 7C	5.503.1.	☐	☒	not in scope of wd	☐
Mandatory	Woodstoves	5.503.1.1	☐	☒	not in scope of wd	☐
Mandatory	Temporary ventilation	5.504.1	☐	☒	permanent HVAC	☐
Mandatory	Covering of ducts openings and protection of mechanical equipment during construction	5.504.3	☐	☐	M0.01	☐
Mandatory	Adhesives, sealants, and caulks	5.504.4.1	☒	☐	A0.10	☐
Mandatory	Paints and coatings	5.504.4.3	☒	☐	A0.10	☐
Mandatory	Aerosol paints and coatings	5.504.4.3.1	☒	☐	A0.10	☐
Mandatory	Aerosol paints and coatings: verification	5.504.4.3.2	☒	☐	A0.10	☐
Mandatory	Carpet systems	5.504.4.4	☒	☐	A0.10	☐
Mandatory	Carpet cushion	5.504.4.4.1	☒	☐	A0.10	☐
Mandatory	Carpet adhesives per Table 5.504.4.1	5.504.4.4.2	☒	☐	A0.10	☐
Mandatory	Composite wood products	5.504.4.5	☒	☐	A0.10	☐
Mandatory	Composite wood products: documentation	5.504.4.5.3	☒	☐	A0.10	☐
Mandatory	Resilient flooring systems	5.504.4.6	☒	☐	not in scope of wd	☐
Mandatory	Resilient flooring: verification of compliance	5.504.4.6.1	☒	☐	not in scope of wd	☐
Mandatory	Filters (with exceptions)	5.504.5.3	☒	☐	mechanical equip	☐
Mandatory	Filters: labeling	5.504.5.3.1	☒	☐	not in scope of wd	☐
Mandatory	Environmental tobacco smoke (ETS) control.	5.504.7	☐	☒	not in scope of wd	☐
Mandatory	Indoor moisture control	5.505.1	☐	☒	not in scope of wd	☐
Mandatory	Outside air delivery	5.506.1	☒	☐	M0.02	☐
Mandatory	Carbon Dioxide (CO ₂) monitoring	5.506.2	☒	☐	not in scope of wd	☐
Mandatory	Carbon Dioxide (CO ₂) monitoring in classrooms	5.506.3	☒	☐	not DSA project	☐
Mandatory	Acoustical control (with exception) (Support documentation required prior to permit issuance)	5.507.4	☐	☒	not in scope of wd	☐
Mandatory	Exterior noise transmission, prescriptive method (with exceptions)	5.507.4.1	☐	☒	envelope is existir	☐
Mandatory	Noise exposure where noise contours are not readily available	5.507.4.1.1	☐	☒	envelope and ass	☐
Mandatory	Performance method	5.507.4.2	☐	☒	not in scope of wd	☐
Mandatory	Site features	5.507.4.2.1	☐	☒	not in scope of wd	☐
Mandatory	Documentation of compliance	5.507.4.2.2	☐	☒	not in scope of wd	☐
Mandatory	Interior sound transmission (with note)	5.507.4.3	☐	☒	assemblies are ex	☐
Mandatory	Ozone depletion and greenhouse gas reductions	5.508.1	☐	☒	not in scope of wd	☐
Mandatory	Chlorofluorocarbons (CFCs)	5.508.1.1	☐	☒	not in scope of wd	☐
Mandatory	Halons	5.508.1.2	☐	☒	not in scope of wd	☐

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2022 CALGREEN CHECKLIST NONRESIDENTIAL CONSTRUCTION
ADDITIONS AND ALTERATIONS

BPC-069

CALGREEN CHECKLIST LEGEND

MANDATORY	MANDATORY indicates that the measure is a requirement of the project when applicable.
MEASURE SECTION TITLE	Reference to the section title of a CALGreen measure. The specific Section(s) of CALGreen must be reviewed to fully understand the requirements of a CALGreen measure.
REQUIRED	The column on the checklist indicates that the CALGreen measure is Required and has been included in the plans and specifications as a requirement of the project.
NOT APPLICABLE (N/A)	The N/A column on the checklist indicates that the CALGreen measure is Not Applicable or not a requirement of the project. The CALGreen special inspector shall provide an explanation why a particular measure is Not Applicable.
CODE SECTION	Indicates the referenced or applicable Section(s) of the California Green Building Code (CALGreen) unless otherwise specified.
PLAN SHEET NUMBER OR EXPLANATION	Provides a location for the CALGreen Special Inspector or the design professional to indicate the plan sheet number where the full CALGreen measure or requirement is shown or specified on the construction drawings. Also, provides an area to provide an explanation for non-applicable items.
FIELD VERIFIED	Provides a location for the CALGreen Special Inspector to indicate each measure that has been implemented into the project and installation verified by the CALGreen Special Inspector. [NOTE: Required prior to final inspection approval]

MANDATORY OR ELECTIVE	MEASURE SECTION TITLE See Chapter 5 of the 2022 California Green Building Code - complete requirements for measures listed here.	CODE SECTION	REQUIRED	N/A	PLAN SHEET NUMBER OR EXPLANATION	FIELD VERIFIED
Division 5.1 - Planning and Design						
Mandatory	Storm water pollution prevention for projects that disturb less than 1 acre of land must comply with Sonoma County Code Section 11A-8(d)	5.106.1 through 5.106.2	☐	☒	not new construction or an addition	☐
Mandatory	Short-term bicycle parking	5.106.4.1.1	☐	☒	no parking spaces being added	☐
Mandatory	Long-term bicycle parking	5.106.4.1.2 through 5.106.4.1.5	☐	☒	not a new building	☐
Mandatory	Designated parking for clean air vehicles	5.106.5.2	☐	☒	no parking being added	☐
Mandatory	Parking stall marking	5.106.5.2.1	☐	☒	no parking being added	☐
Mandatory	Single charging space requirements	5.106.5.3.1	☐	☒	not a new building	☐
Mandatory	Grading and paving (exception for additions and alterations not altering the drainage path)	5.106.10	☐	☒	drainage path not	☐
Division 5.2 - Energy Efficiency						
Mandatory	Meet the minimum energy efficiency standard	5.201.1	☒	☐	M0.02	☐

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2022 CALGREEN CHECKLIST NONRESIDENTIAL CONSTRUCTION
ADDITIONS AND ALTERATIONS

BPC-069

Mandatory	Supermarket refrigerant leak reduction for retail food stores: 8,000 square feet or more Sections 5.508.2 through 5.508.2.6.3	5.508.2 through 5.508.2.6.3	☐	☒	not in scope of wd	☐
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GREEN BUILDING ACKNOWLEDGMENTS

Project Address: 2300 County Center Drive, Building A, Santa Rosa CA 95403

Project Description: Interior Office T.I. with site modifications for an accessible path-of-travel walkway to building entry. Limited Electrical, and minor mechanical and plumbing for new restroom.

Section 1 - Design Verification

Complete all lines of Section 1 - "Design Verification" and submit the completed checklist (Columns 1 and 2) with the plans and building permit application to Permit Sonoma.

The owner/owner's agent, design professional, Sonoma County Plan's Examiner and the Sonoma County approved CALGreen special inspector have reviewed the plans and certify that the items checked above are hereby incorporated into the project plans in accordance with the requirements set forth in the 2022 California Green Building Standards Code as amended by the Sonoma County Code.

Owner Signature: Scot Stanley Digitally signed by Scot Stanley Date: 2025.03.21 10:44:02 -07'00' Date: 03/21/2025

Owner Name: Scot Stanley

Design Professional Signature: Jonathan Tsurui Digitally signed by Jonathan Tsurui Date: 2025.03.21 10:44:02 -07'00' Date: 1.30.2026

Design Professional Name: Jonathan Tsurui

Signature of Plans Examiner: Date:

Per Section 703.1 of the 2022 CALGreen Building Standards Code, the signee below has verified that adequate documentation has been provided to show compliance with the specified mandatory measures of the 2022 CALGreen Building Standards Code as amended by Chapter 7 of the Sonoma County Code.

Signature of County Listed CALGreen Special Inspector: Caroline Digitally signed by Caroline Date: 2025.03.21 10:44:02 -07'00' Date: 1/29/26

Date: 1/29/26 Phone: 707/577/0363

County Listed CALGreen Special Inspector's Name: Caroline Kabe

CALGreen Special Inspector E-mail Address: caroline@15000inc.com

CALGreen Certification No.: 8714577

Version: 01/05/2023 2550 Ventura Avenue, Santa Rosa, CA 95403-2829 (707) 565-1900 Page 6 of 7

2022 CALGREEN CHECKLIST NONRESIDENTIAL CONSTRUCTION
ADDITIONS AND ALTERATIONS

BPC-069

MANDATORY OR ELECTIVE	MEASURE SECTION TITLE See Chapter 5 of the 2022 California Green Building Code - complete requirements for measures listed here.	CODE SECTION	REQUIRED	N/A	PLAN SHEET NUMBER OR EXPLANATION	FIELD VERIFIED
Division 5.3 - Water Efficiency & Conservation						
Mandatory	Separate meters (new buildings or additions > 50,000 sf that consume more than 100 gal/day)	5.303.1.1	☐	☒	not a new building	☐
Mandatory	Separate meters (for tenants in new buildings or additions that consume more than 1,000 gal/day)	5.303.1.2	☐	☒	see above	☐
Mandatory	Water closets shall not exceed 1.28 gallons per flush (gpf)	5.303.3.1	☒	☐	P2.01	☐
Mandatory	Wall-mounted urinals shall not exceed 0.125 gpf	5.303.3.2.1	☐	☒	not in scope of wd	☐
Mandatory	Floor-mounted urinals shall not exceed 0.5 gpf	5.303.3.2.2	☐	☒	not in scope of wd	☐
Mandatory	Single showerhead shall have maximum flow rate of 1.8 gpm (gallons per minute) at 80 psi	5.303.3.3.1	☐	☒	not in scope of wd	☐
Mandatory	Multiple showerheads serving one shower shall have a combined flow rate of 1.8 gpm at 80 psi	5.303.3.3.2	☐	☒	not in scope of wd	☐
Mandatory	Nonresidential lavatory faucets	5.303.3.4.1	☒	☐	P2.01	☐
Mandatory	Kitchen faucets	5.303.3.4.2	☐	☒	not in scope of wd	☐
Mandatory	Wash fountains	5.303.3.4.3	☐	☒	not in scope of wd	☐
Mandatory	Metering faucets	5.303.3.4.4	☒	☐	P2.01 & A0.10	☐
Mandatory	Metering faucets for wash fountains	5.303.3.4.5	☐	☒	not in scope of wd	☐
Mandatory	Food waste disposers	5.303.4.1	☐	☒	not in scope of wd	☐
Mandatory	Areas of additions or alterations	5.303.5	☒	☐	A0.01	☐
Mandatory	Standards for plumbing fixtures and fittings	5.303.6	☒	☐	P3.01 & A0.10	☐
Mandatory	Outdoor potable water use in landscape areas and applicable provisions of Chapter 7D3 of the Sonoma County Code (Water Efficient Landscape)	5.304.1	☐	☒	not in scope of pr	☐

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2022 CALGREEN CHECKLIST NONRESIDENTIAL CONSTRUCTION
ADDITIONS AND ALTERATIONS

BPC-069

GREEN BUILDING ACKNOWLEDGMENTS

Project Address: 2300 County Center Drive, Building A, Santa Rosa CA 95403

Project Description: Interior Office T.I. with site modifications for an accessible path-of-travel walkway to building entry. Limited Electrical, and minor Mechanical and Plumbing for new restroom.

Section 2 - Implementation Verification

Complete all lines of Section 1 - "Design Verification" and submit the completed checklist (Columns 1 and 2) with the plans and building permit application to Permit Sonoma.

The signee below has inspected the work and has received sufficient documentation to verify and certify that the project identified above was constructed in accordance with this Green Building Checklist and in accordance with the requirements set forth in the 2022 California Green Building Standards Code as amended by Chapter 7 of the Sonoma County Code.

Signature of County Listed CALGreen Special Inspector: _____

Date: _____ Phone: _____

County Listed CALGreen Special Inspector's Name: _____

CALGreen Special Inspector E-mail Address: _____

CALGreen Certification No.: _____

Version: 01/05/2023 2550 Ventura Avenue, Santa Rosa, CA 95403-2829 (707) 565-1900 Page 7 of 7

2022 CALGREEN CHECKLIST NONRESIDENTIAL CONSTRUCTION
ADDITIONS AND ALTERATIONS

BPC-069

MANDATORY OR ELECTIVE	MEASURE SECTION TITLE See Chapter 5 of the 2022 California Green Building Code - complete requirements for measures listed here.	CODE SECTION	REQUIRED	N/A	PLAN SHEET NUMBER OR EXPLANATION	FIELD VERIFIED
Division 5.4 - Material Conservation and Resource Efficiency						
Mandatory	Weather protection	5.407.1	☐	☒	exterior of building	☐
Mandatory	Moisture control: sprinklers	5.407.2.1	☐	☒	not in scope of wd	☐
Mandatory	Moisture control: exterior door protection	5.407.2.2.1	☐	☒	exterior doors exist	☐
Mandatory	Moisture control: flashing	5.407.2.2.2	☐	☒	not in scope of wd	☐
Mandatory	Construction waste management—comply with either: Sections 5.408.1.1, 5.408.1.2, 5.408.1.3 or more stringent local ordinance (Support documentation required at application submittal)	5.408.1.1, 5.408.1.2, 5.408.1.3	☒	☐	A0.10	☐
Mandatory	Construction waste management: documentation [A]	5.408.1.4	☒	☐	A0.10	☐
Mandatory	Universal waste	5.408.2	☒	☐	A0.10	☐
Mandatory	Excavated soil and land dealing debris (100% reuse or recycle)	5.408.3	☐	☒	not in scope of wd	☐
Mandatory	Recycling by occupants (with exception)	5.410.1	☒	☐	A0.20, A0.10	☐
Mandatory	Recycling by occupants: additions (with exception)	5.410.1.1	☐	☒	not an addition	☐
Mandatory	Recycling by occupants: sample ordinance	5.410.1.2	☒	☐		☐
Mandatory	Testing and adjusting for new buildings < 10,000 sf or new systems that serve additions or alterations [A]	5.410.4	☐	☒	not a new building	☐
Mandatory	System Testing Plan for renewable energy, landscape irrigation and water reuse [A] (Support documentation required at application submittal)	5.410.4.2	☐	☒	not in scope of wd	☐
Mandatory	Procedures for testing and adjusting	5.410.4.3	☒	☐	M3.01	☐
Mandatory	Procedures for HVAC balancing	5.410.4.3.1	☒	☐	M3.01	☐
Mandatory	Reporting for testing and adjusting	5.410.4.4	☒	☐	M3.01	☐
Mandatory	Operation and maintenance (O&M) manual	5.410.4.5	☒	☐	M3.01	☐
Mandatory	Inspection and reports	5.410.4.5.1	☒	☐	M3.01	☐

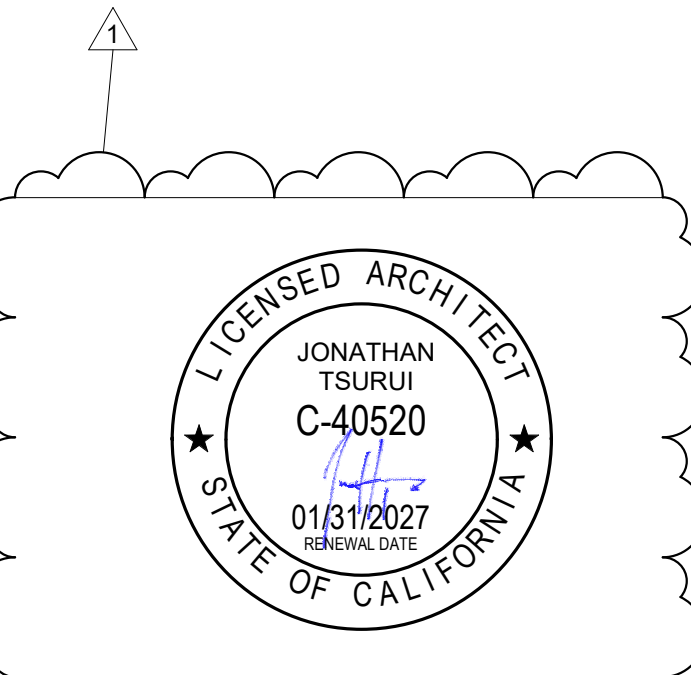
Version: 01/05/2023 2550 Ventura Avenue, Santa Rosa, CA 95403-2829 (707) 565-1900 Page 4 of 7



William Duff
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Agency Approvals

Revision No. 1 Date 2/2/2026
Resubmittal 1

Job Title
SONOMA DRC

Job Address
2300 COUNTY CENTER DRIVE
SANTA ROSA, CA 95403

Date: 18 APR 2025

Issued For
100% CD

Job Number: 24015

Drawn By: JK Checked By: KE

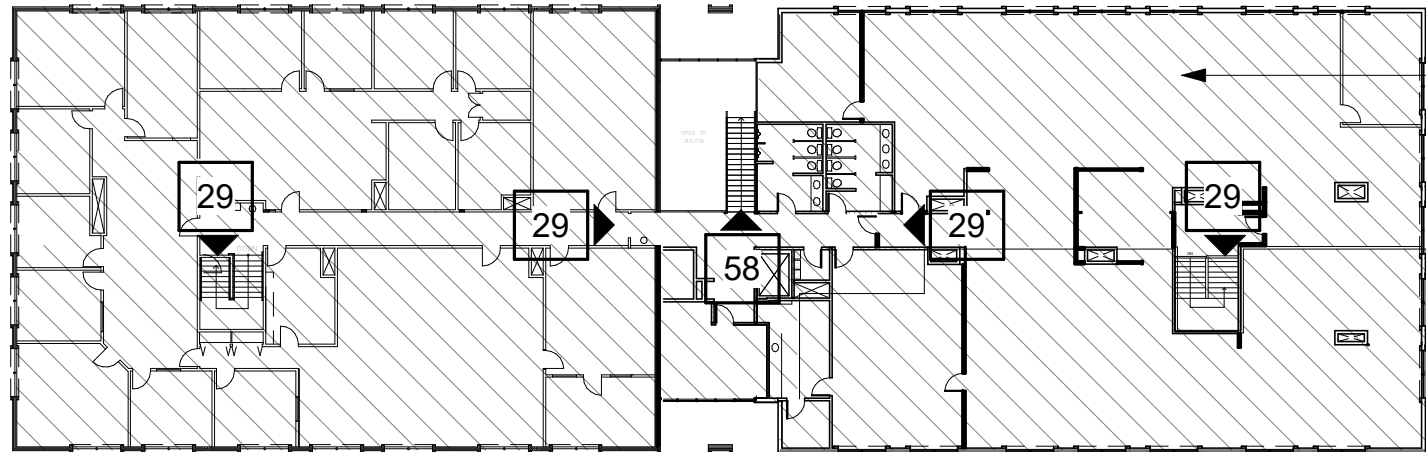
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Sheet Title
CALGREEN CHECKLIST

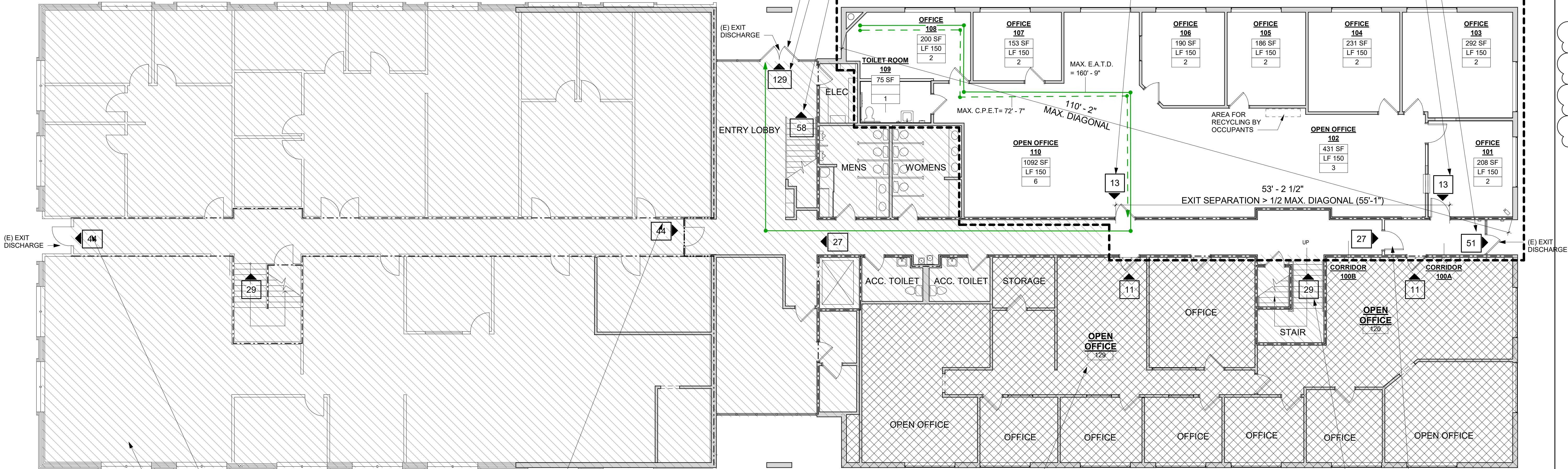
Sheet No.

A0.11



TOTAL 2ND FLOOR AREA = 17,150 SF
/2 SIDES = 8,575 SF /150 LF = 58 OCC PER SIDE
/2 EXITS = 29 EXIT STAIR

SECOND FLOOR PLAN FOR REFERENCE
1/32" = 1'-0" 2



OCCUPANT LOAD CALCULATION:
1ST FLOOR OCC. = 8,575 SF / 150 LF = 58 OCC. / 2 EXITS = 29 OCC. PER EXIT +
2ND FLOOR OCC. = 29 OCC. FROM STAIRS / 2 EXITS = 15 OCC. PER EXIT =
TOTAL OCCUPANT LOAD PER EXIT = 44 OCCUPANTS PER EXIT

DIAGONAL HATCH REPRESENTS TENANT
SPACE AREA NOT INCLUDED IN THE AREA
OF WORK / ALTERATION

CROSS HATCH REPRESENTS TENANT
SPACE AREA* = 3,200 SF
OCCUPANT LOAD CALCULATION:
3,200 SF / 150 LF = 22 OCCUPANTS / 2 EXITS
= 11 OCC. PER EXIT
*NOT INCLUDED IN THE AREA OF WORK /
ALTERATION WITH THE EXCEPTION OF
OFFICE RM 130

CALCULATED EXIT WIDTH:
27 OCC. x 0.2 = 5.4"
MIN. REQUIRED WIDTH = 32"
EXIT WIDTH PROVIDED = 36"

STAIR SERVES 1/2 OF SOUTH HALF OF THE
TOTAL 2ND FLOOR AREA = 8,575 SF*
OCCUPANT LOAD CALCULATION:
8,575 SF / 150 LF = 58 OCCUPANTS / 2 EXITS
= 29 OCC. PER EXIT AT STAIR
*TOTAL 2ND FLOOR AREA = 17,150 SF / 2

FLOOR PLAN - FIRST FLOOR EGRESS
1/8" = 1'-0" 1

CODE ANALYSIS SUMMARY

Chapter 3. - USE & OCCUPANCY

BUSINESS GROUP - B

Chapter 6. - TYPES OF CONSTRUCTION

TYPE V-B

Chapter 10. - MEANS OF EGRESS

1004.5 (TABLE) MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT FOR BUSINESS AREAS
OCCUPANT LOAD FACTOR = 150 GROSS

1006.2.1 (TABLE) COMMON PATH OF EGRESS TRAVEL (C.P.E.T.): 100' MAX FOR B-OCCUPANCY
NON-SPRINKLERED WHERE OCCUPANT LOAD IS ≤ 30
MAX. COMMON PATH OF TRAVEL = 72'-7" (< 100'-0")

1006.3.3 EXITS REQUIRED - TOTAL OCC. LOAD 1-500: 2
EXITS PROVIDED: 3

1007.1.1 SEPARATION OF EXITS REQUIRED: MIN. 1/2 DIAGONAL SEPARATION FOR NON-
SPRINKLERED.
MAX. DIAGONAL: 110'-2" (x 1/2 = 55'-1")
EXIT SEPARATION: 55'-0" > 55'-1"

1009.1 ex. 1 ACCESSIBLE EGRESS 36" PROVIDED; NOT REQUIRED IN EXISTING BUILDING.

1017.2 (TABLE) EXIT ACCESS TRAVEL DISTANCE (E.A.T.D.): 200' MAX FOR B-OCCUPANCY, NON-
SPRINKLERED. 160'-0" < 200'-0"

BUILDING AREA

TOTAL BUILDING 'A' AREA (GROSS) = 34,300 SF
1ST FLOOR = 17,150 SF (T.I. AREA = APPROX. 3,660 SF)
1ST FLOOR = 17,150 SF

NO CHANGE TO BUILDING AREA OR BUILDING HEIGHT

NO CHANGE TO OCCUPANCY CLASSIFICATION OF BUILDING OR PORTION THEREOF

EGRESS OCCUPANT LOAD CALC.

NO.	ROOM	AREA	LOAD	OCC.
100A	CORRIDOR	89 SF		
100B	CORRIDOR	685 SF		
101	OFFICE	208 SF	150 SF	2
102	OPEN OFFICE	431 SF	150 SF	3
103	OFFICE	292 SF	150 SF	2
104	OFFICE	231 SF	150 SF	2
105	OFFICE	186 SF	150 SF	2
106	OFFICE	190 SF	150 SF	2
107	OFFICE	153 SF	150 SF	2
108	OFFICE	200 SF	150 SF	2
109	TOILET ROOM	75 SF	0 SF	
110	OPEN OFFICE	1092 SF	150 SF	8
		3833 SF		25
		3833 SF		25

EGRESS TRAVEL DISTANCE LEGEND

= X'-X"	EXIT ACCESS TRAVEL DISTANCE (E.A.T.D.)
= X'-X"	COMMON PATH OF EGRESS TRAVEL (C.P.E.T.)
30	EGRESS OCCUPANT LOAD

LEGEND - NEW CONSTRUCTION

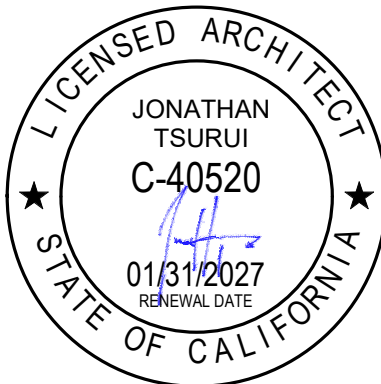
---	1 HR FIRE RESISTANCE
	[N.I.C.] NOT IN CONTRACT
Room name 101	ROOM NAME & NUMBER
XX SF	AREA
LF XX	LOAD FACTOR
# OCC.	# OF OCCUPANTS
---	30X48 CLEAR FLOOR AREA
---	60" DIA. TURNING SPACE



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Agency Approvals

Revision No.
1 Resubmittal 1

Date
2/2/2026

Written dimensions on these drawings shall have precedence over
scaled dimensions. Drawings shall not be scaled. Contractors shall
verify, and be responsible for, all dimensions and conditions shown by
these drawings. Shop details must be submitted to this office for
approval before proceeding with fabrications. The drawings and their
design content are the sole property of William Duff Architects, Inc. and
may not be reused or reproduced in any manner without our express
written consent.

Job Title
SONOMA DRC

Job Address
**2300 COUNTY CENTER DRIVE
SANTA ROSA, CA 95403**

Date: **18 APR 2025**

Issued For
100% CD

Job Number: **24015**

Drawn By: **JK** Checked By: **KE**

Scale

As indicated

0 2' 4' 8' 16'

Sheet Title

**EGRESS PLANS / CODE
ANALYSIS**

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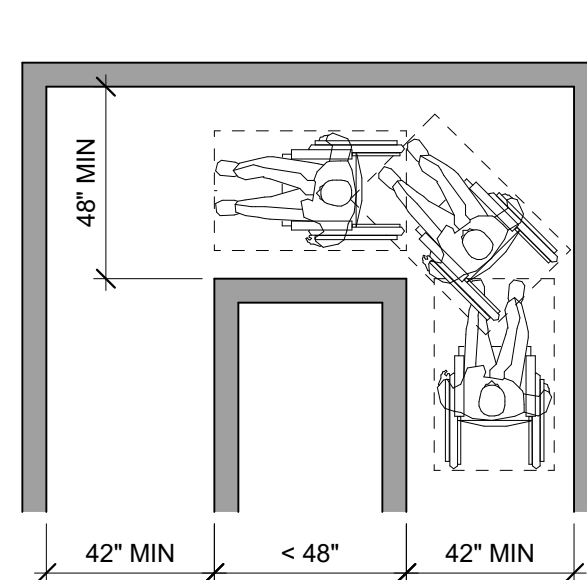
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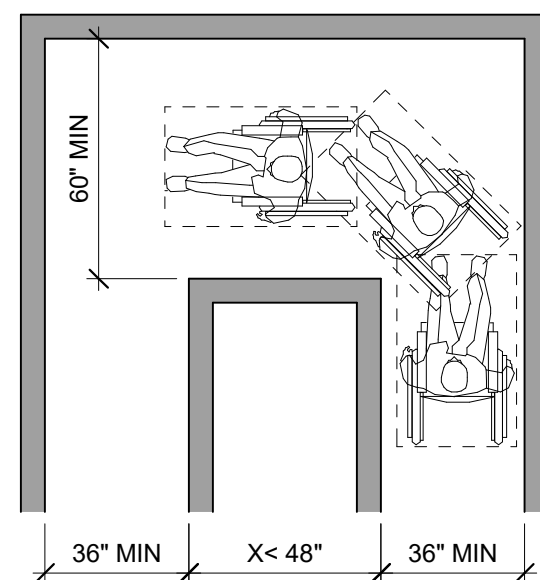
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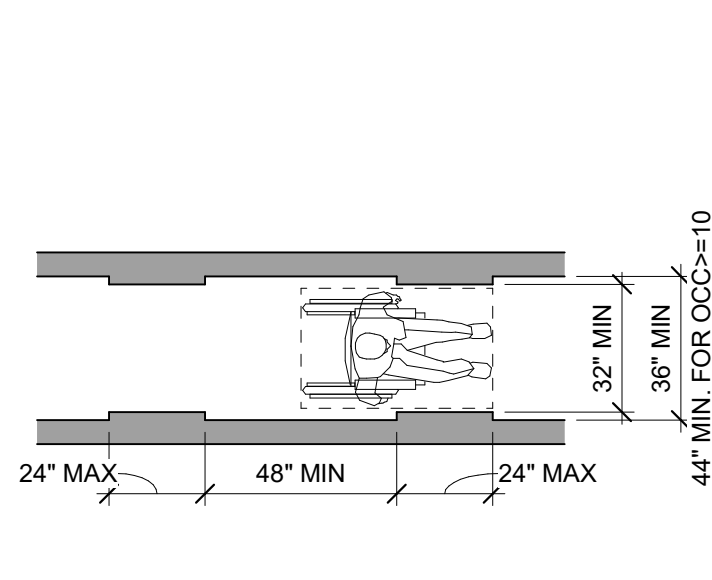
wdarch.com



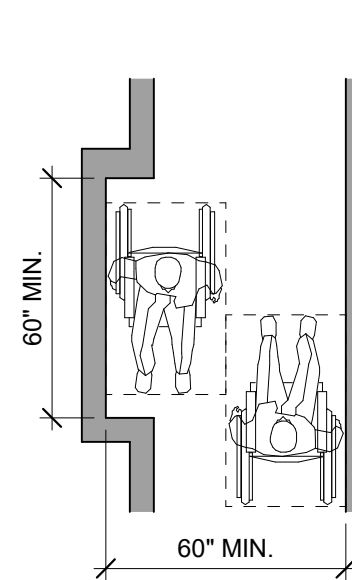
180 TURN
11B-403.5.2



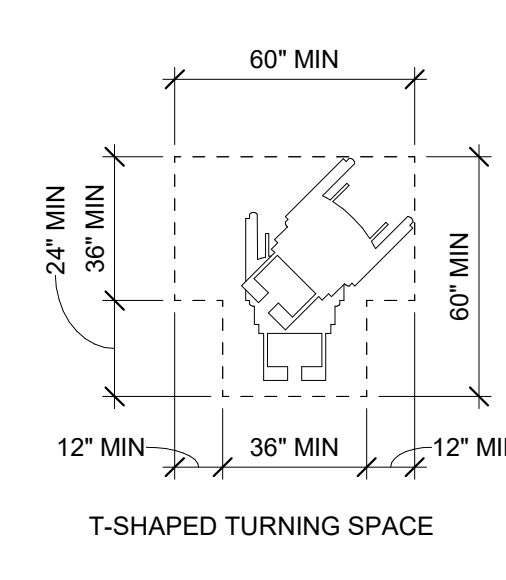
180 TURN EXCEPTION
11B-403.5.2



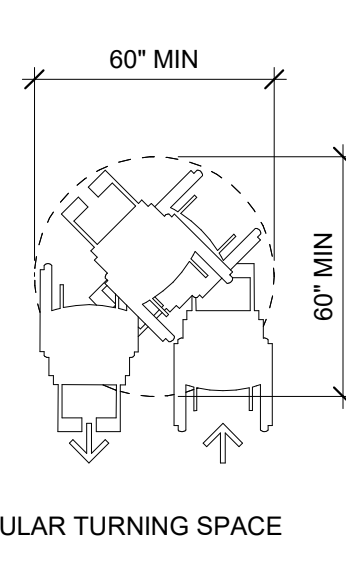
MIN CLEAR WIDTHS @ ACCESSIBLE ROUTE
11B-403.5.1



PASSING SPACE FOR
CORRIDORS > 200' AND < 60"W
11B-403.5.3



T-SHAPED TURNING SPACE



CIRCULAR TURNING SPACE

ACCESSIBILITY - PASSAGE CLEARANCE

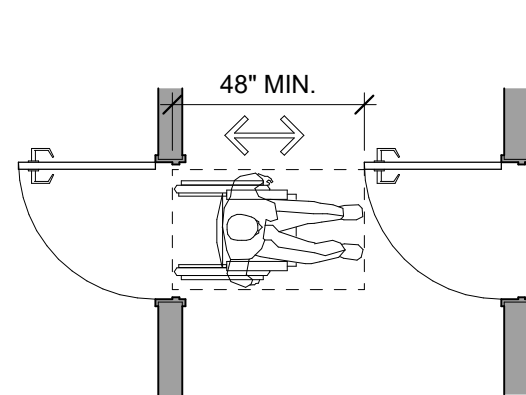
1/4" = 1'-0"

8

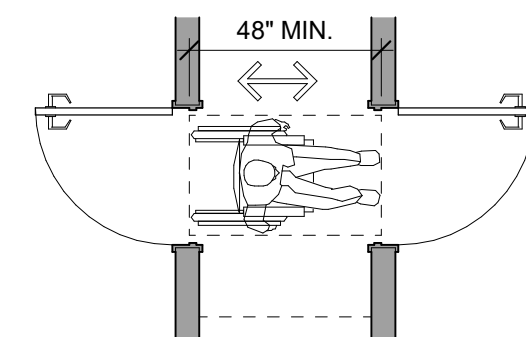
ACCESSIBILITY - TURNING SPACE

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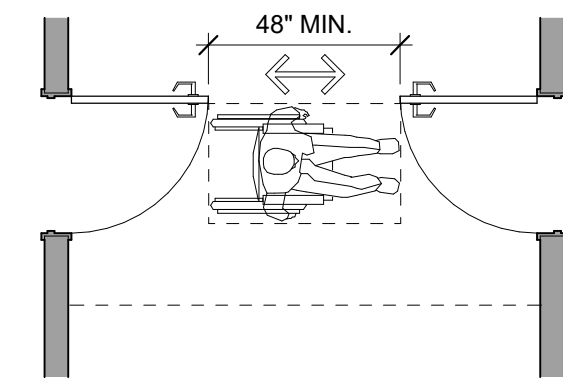
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CBC 11B-404.2.6 (a)

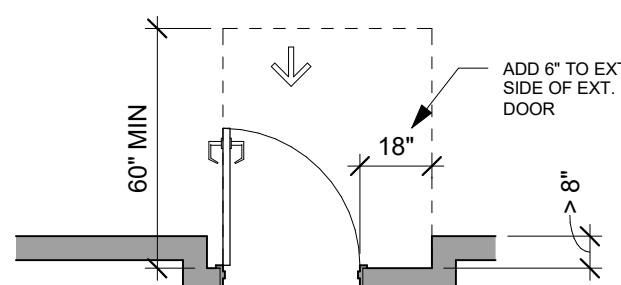


CBC 11B-404.2.6 (b)

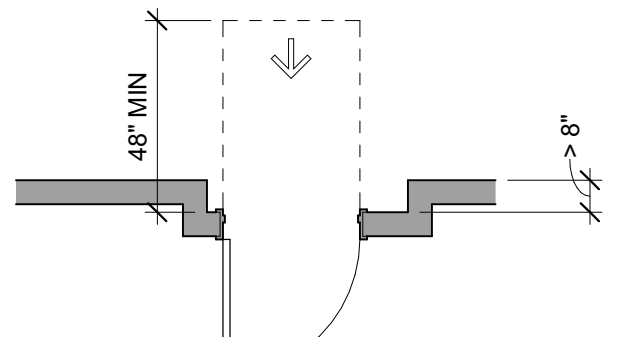


CBC11B-404.2.6 (c)

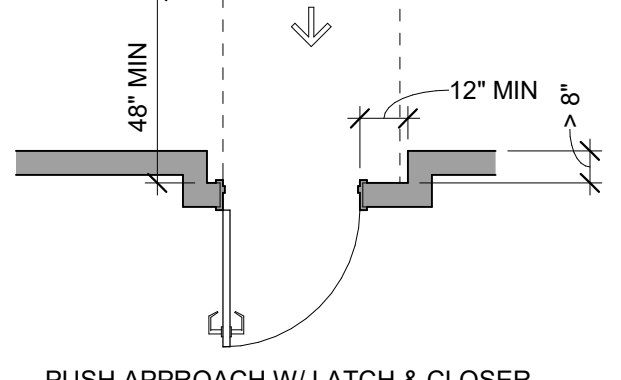
MANEUVERING CLEARANCES
@ DOORS AND GATES IN SERIES



PULL APPROACH
CBC 11B-404.2.4.3 (a)

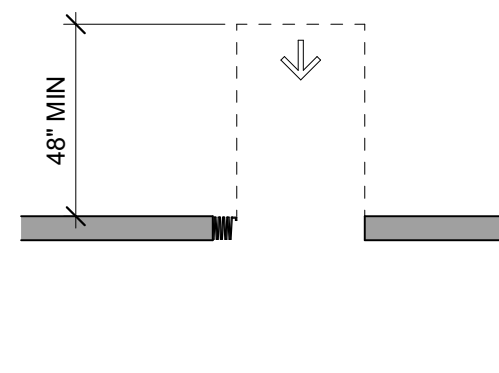


PUSH APPROACH
CBC 11B-404.2.4.3 (b)

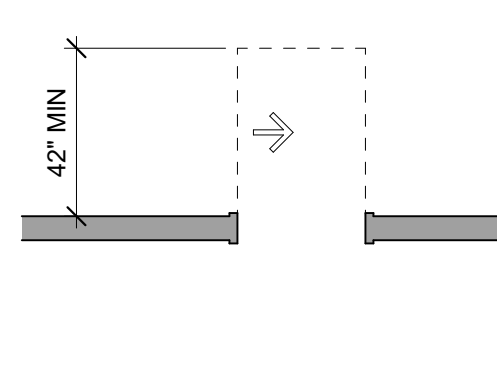


PUSH APPROACH W/ LATCH & CLOSER
CBC 11B-404.2.4.3 (c)

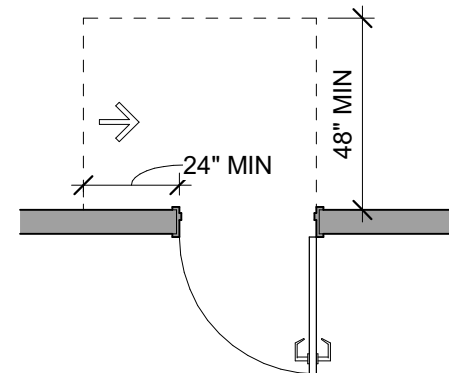
MANEUVERING CLEARANCES
@ RECESSED DOORS (& GATES)



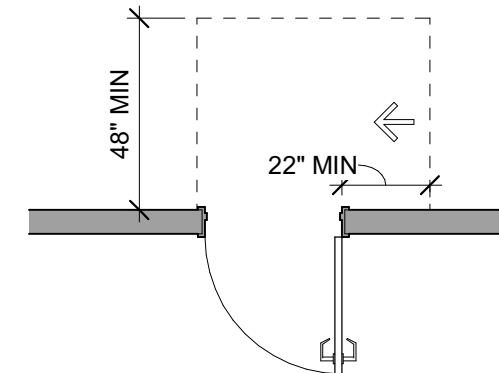
FRONT APPROACH
CBC 11B-404.2.4.2 (a)



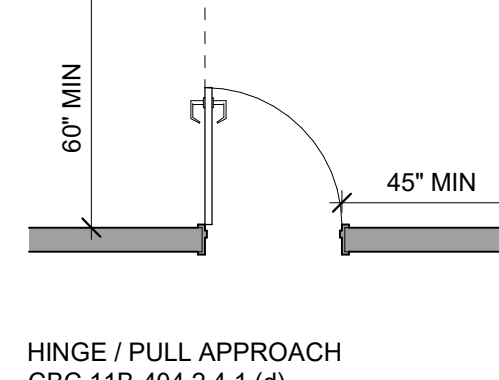
SIDE APPROACH
CBC 11B-404.2.4.2 (b)



LATCH / PUSH APPROACH
CBC 11B-404.2.4.1 (j,k)

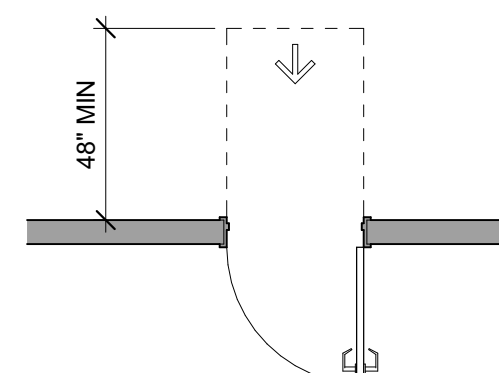


HINGE / PUSH APPROACH
CBC 11B-404.2.4.1 (f,g)

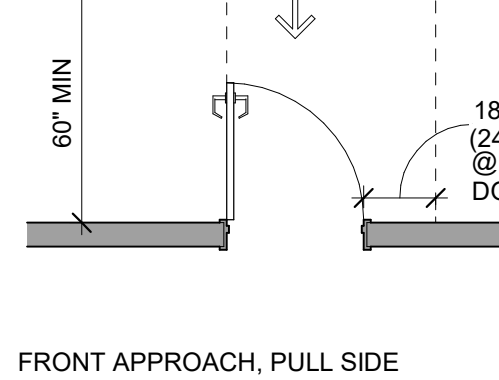


HINGE / PULL APPROACH
CBC 11B-404.2.4.1 (d)

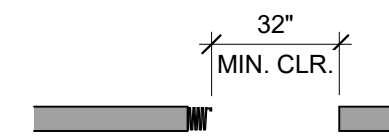
MANEUVERING CLEARANCES @ MANUAL SWINGING DOORS (& GATES)
CBC11B-404.2.4.1



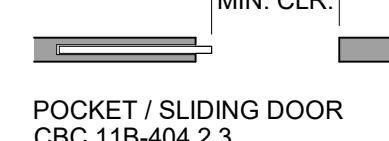
FRONT APPROACH, PUSH SIDE
(W/ CLOSER & LATCH)



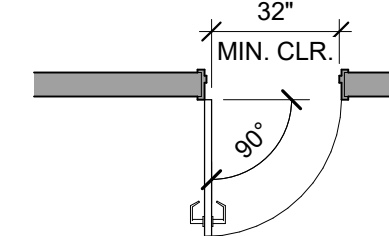
FRONT APPROACH, PULL SIDE
CBC11B-404.2.4.1 (a)



FOLDING DOOR
CBC 11B-404.2.3



POCKET / SLIDING DOOR
CBC 11B-404.2.3



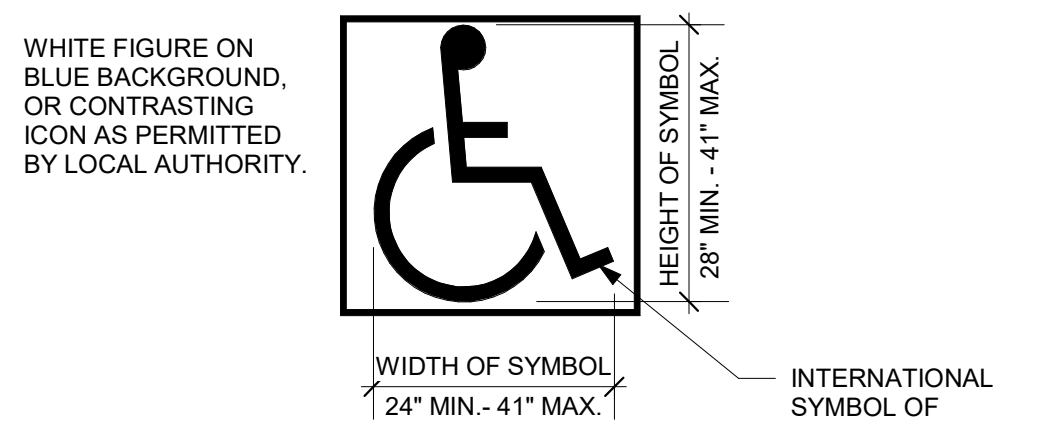
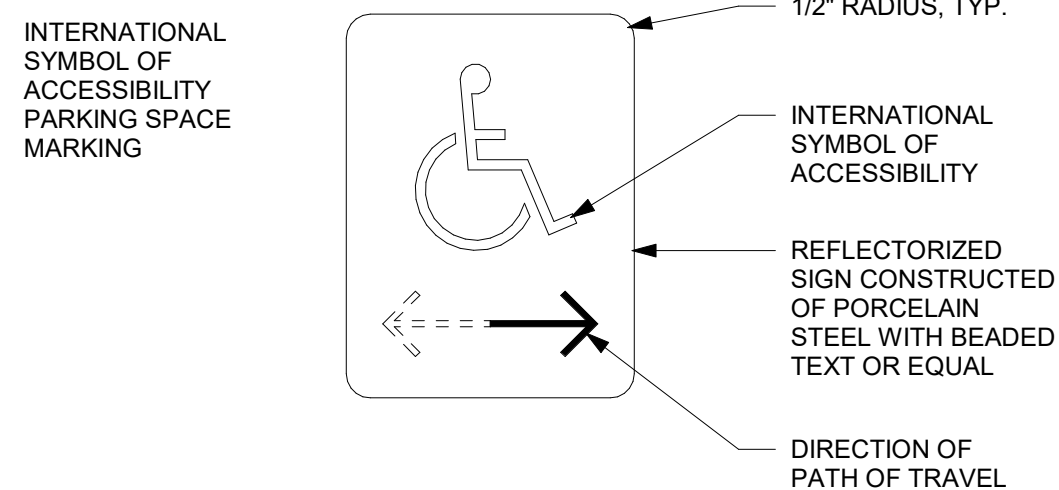
HINGED DOOR
CBC11B-404.2.3

DOORWAY CLEARANCES (NET)
CBC11B-404.2.3

ACCESSIBILITY - MANEUVERING CLEARANCES AT DOORS

1/4" = 1'-0"

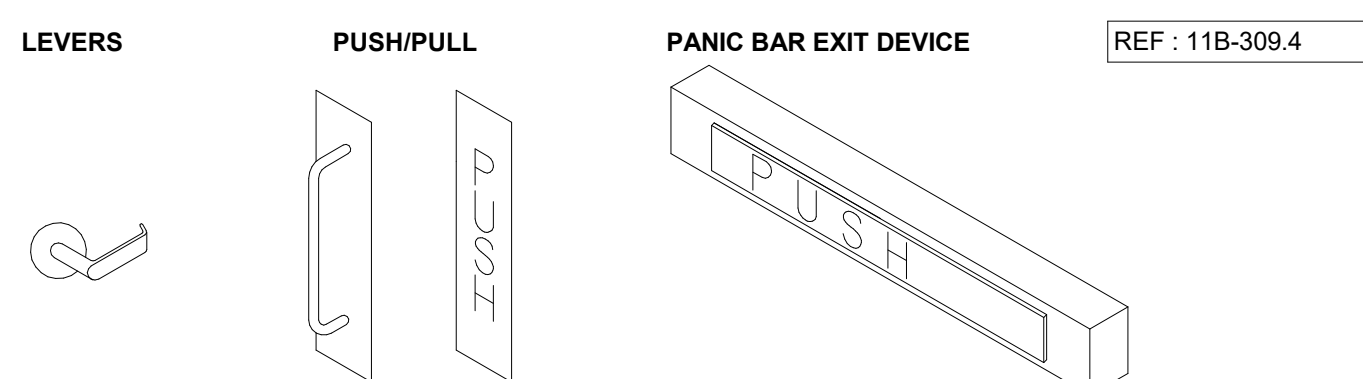
2



ACCESSIBILITY - ACCESSIBLE SIGNAGE

3" = 1'-0"

13



NOTE: OPERABLE PARTS OF DOOR HARDWARE MOUNTED 34" MIN (FROM FINISH FLOOR TO BOTTOM OF DEVICE) - 44" MAX (FROM FINISH FLOOR TO TOP OF THE DEVICE).

LATCHING & LOCKING DOORS THAT ARE HAND OPERATED AND WHICH ARE IN A PATH OF TRAVEL SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST (LEVER, PUSH/PULL, PANIC BAR OR OTHER HARDWARE ASSIGNED TO PROVIDE PASSAGE).

DOOR CLOSERS AND GATE CLOSERS. DOOR CLOSERS AND GATE CLOSERS SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12 DEGREES FROM THE LATCH IS 5 SECONDS MINIMUM.

MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 LB. WHEN FIRE DOORS ARE REQUIRED THE MAX EFFORT TO OPERATE THE DOOR MAY BE INCREASED TO THE MINIMUM ALLOWABLE BY THE APPROPRIATE AUTHORITY, NOT TO EXCEED 15 LB.

CALIFORNIA REFERENCE STANDARDS SEC. 12-10-202(F) THE LEVER OF LEVER ACTUATED LATCHES OR LOCKS SHALL BE CURVED WITH A RETURN TO WITHIN 1/2" OF THE DOOR TO PREVENT CATCHING ON THE CLOTHING OF PERSONS DURING EGRESS.

ACCESSIBILITY - DOOR HARDWARE

1" = 1'-0"

9

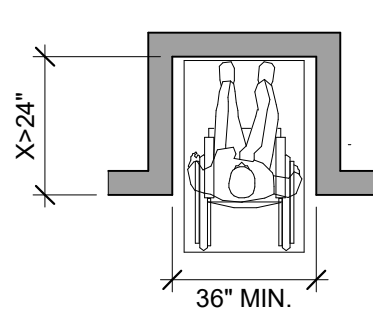
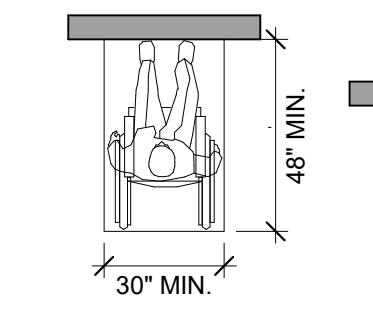
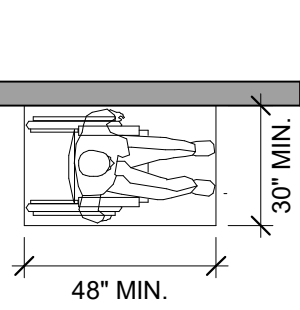


FIGURE 11B-305.7.1
MANEUVERING CLEARANCE IN AN
ALCOVE, FORWARD APPROACH



(a) forward



(b) parallel

FIGURE 11B-305.5
POSITION OF CLEAR FLOOR OR
GROUND SPACE

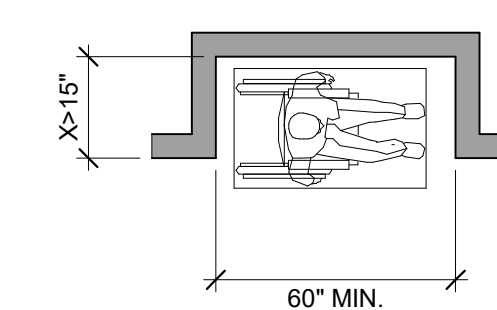


FIGURE 11B-305.7.2
MANEUVERING CLEARANCE
IN AN ALCOVE, PARALLEL
APPROACH

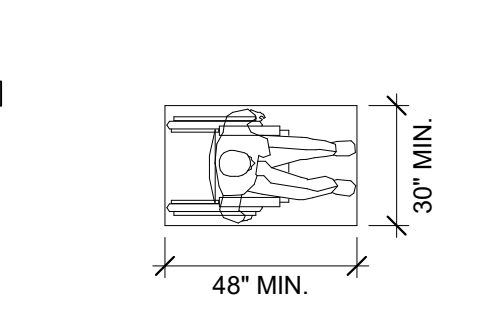
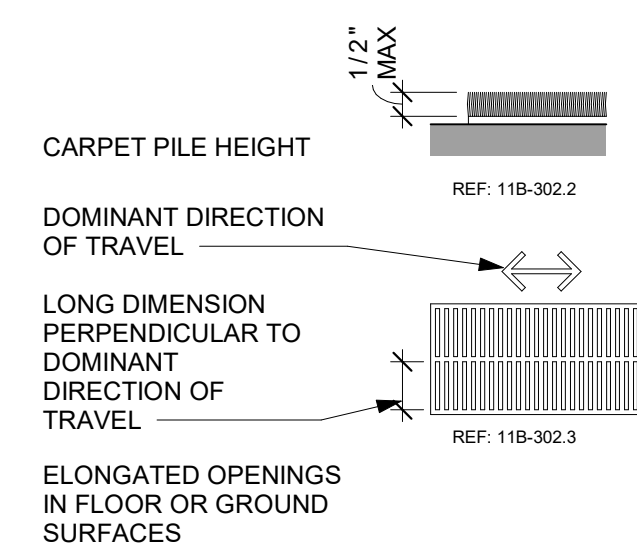


FIGURE 11B-305.3
CLEAR FLOOR OR
GROUND SPACE

ACCESSIBILITY - CLEAR FLOOR OR GROUND SPACE

1/4" = 1'-0"

5



CARPET PILE HEIGHT
REF: 11B-302.2

DOMINANT DIRECTION
OF TRAVEL
REF: 11B-302.3

LONG DIMENSION
PERPENDICULAR TO
DOMINANT
DIRECTION OF
TRAVEL
REF: 11B-302.3

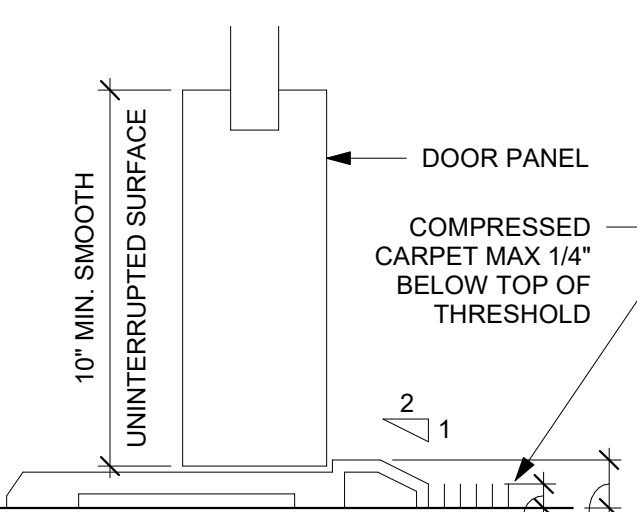
ELONGATED OPENINGS
IN FLOOR OR GROUND
SURFACES

CARPET OR CARPET TILE SHALL BE SECURELY ATTACHED AND SHALL EITHER HAVE A FIRM CUSHION, PAD OR BACKING, OR SHALL HAVE NO CUSHION OR PAD. CARPET OR CARPET TILE SHALL HAVE A LEVEL LOOP, TEXTURED LOOP, LEVEL CUT PILE, OR LEVEL CUT OR UNCUT TEXTURED PILE. PILE DEPTH SHALL BE 1/2" MAXIMUM. EXPOSED EDGES OF CARPET OR CARPET TILE SHALL BE SECURELY FASTENED TO FLOOR SURFACES AND SHALL HAVE TRIM ALONG THE ENTIRE LENGTH OF THE EXPOSED EDGE. CARPET EDGE TRIM SHALL COMPLY WITH CBC SECTION 11B-303.

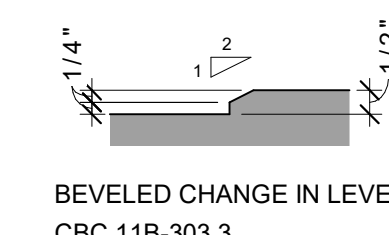
ACCESSIBILITY - FLOOR & GROUND SURFACES

1/4" = 1'-0"

1c



CBC 11B-404.2.10



BEVELED CHANGE IN LEVEL
CBC 11B-303.3



VERTICAL CHANGE IN LEVEL
CBC 11B-303.2

ACCESSIBILITY - DOOR & GATE SURFACES

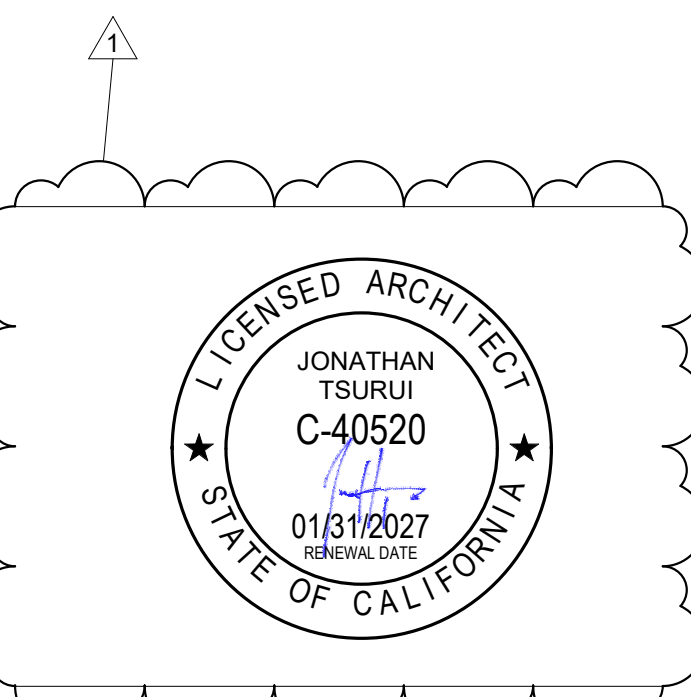
1/2" = 1'-0"

1b

ACCESSIBILITY - CHANGES IN LEVEL

1/4" = 1'-0"

1a



Agency Approvals

Revision No. 1
Resubmittal 1
Date 2/2/2026

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Job Title
SONOMA DRC

Job Address
**2300 COUNTY CENTER DRIVE
SANTA ROSA, CA 95403**

Date: **18 APR 2025**

Issued For
100% CD

Job Number: **24015**

Drawn By: **JK** Checked By: **KE**

Scale

As indicated

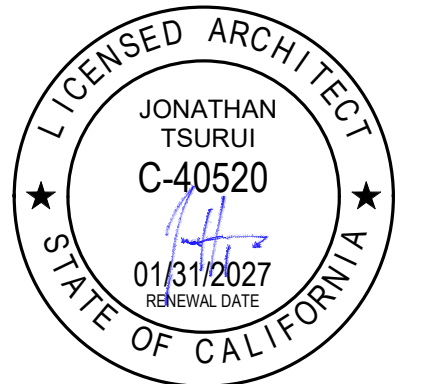
0 2' 4' 8' 16'

Sheet Title

**ACCESSIBILITY
DETAILS**

Sheet No.

A0.31



Agency Approvals

Revision No.
1 Resubmittal 1

Date
2/2/2026

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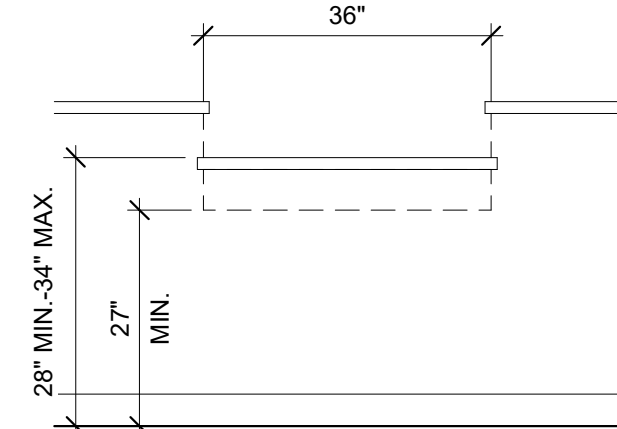
Scale

As indicated

Sheet Title

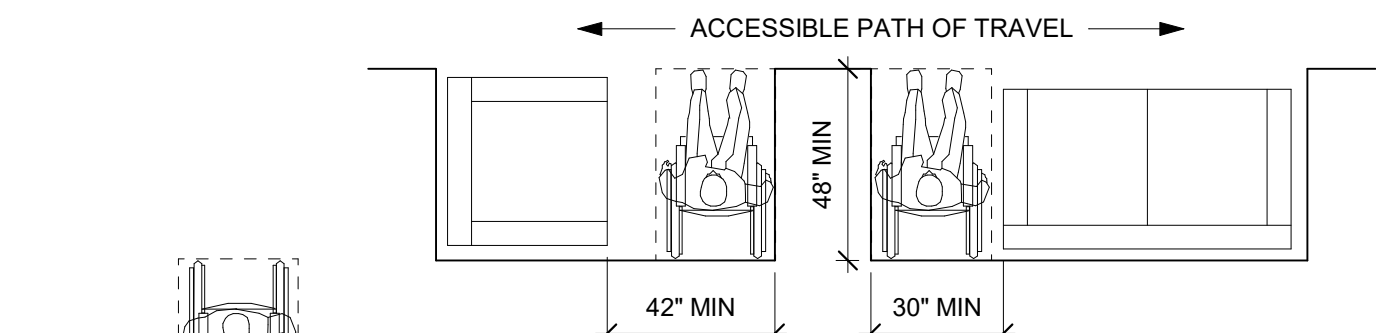
ACCESSIBILITY DETAILS

Sheet No.

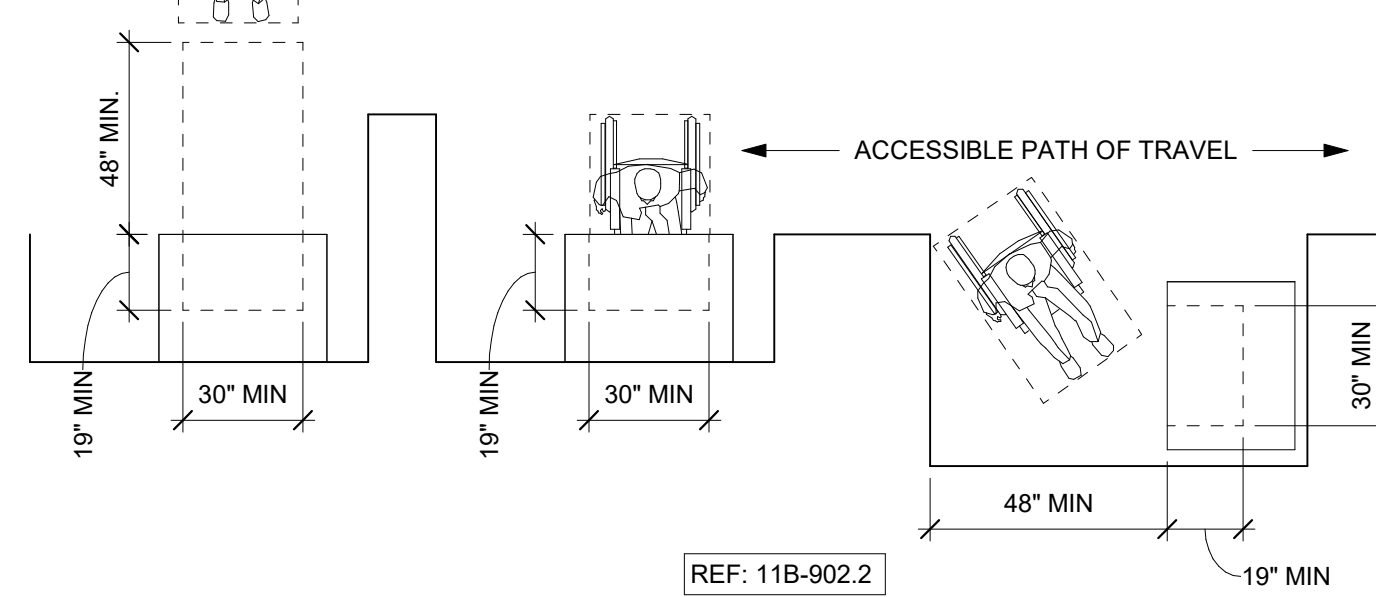


REF: 11B-902.3
11B-306.2
11B-306.3
FIG 11B=5C
G015-310

ACCESSIBILITY - MINIMUM CLEARANCE FOR COUNTER 8
1/2" = 1'-0"

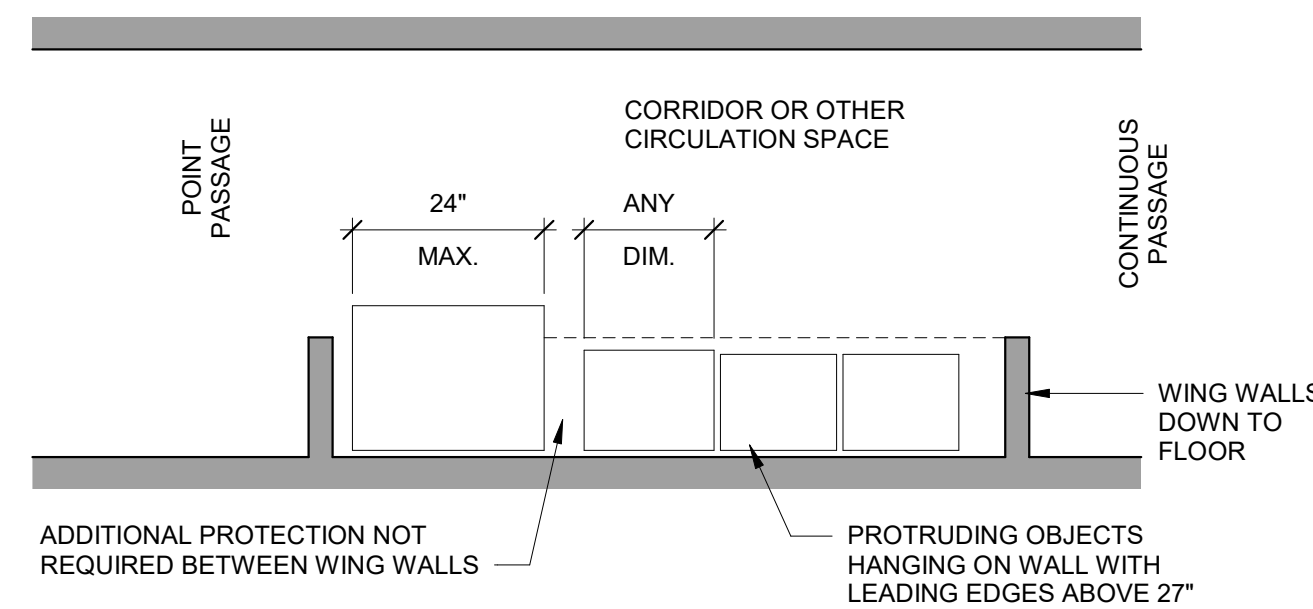


A. CLEARANCES FOR SEATING

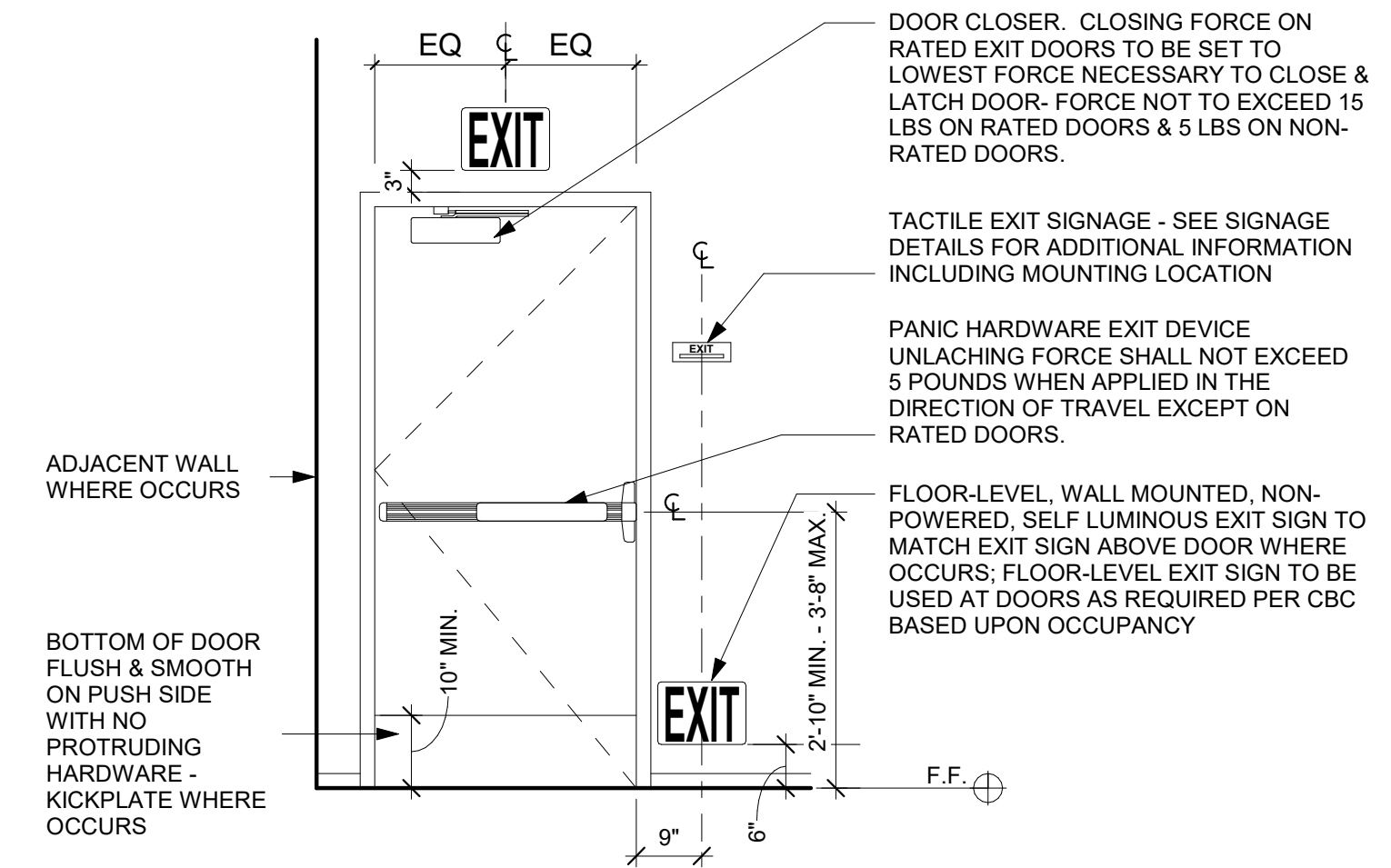


B. CLEARANCES FOR TABLES

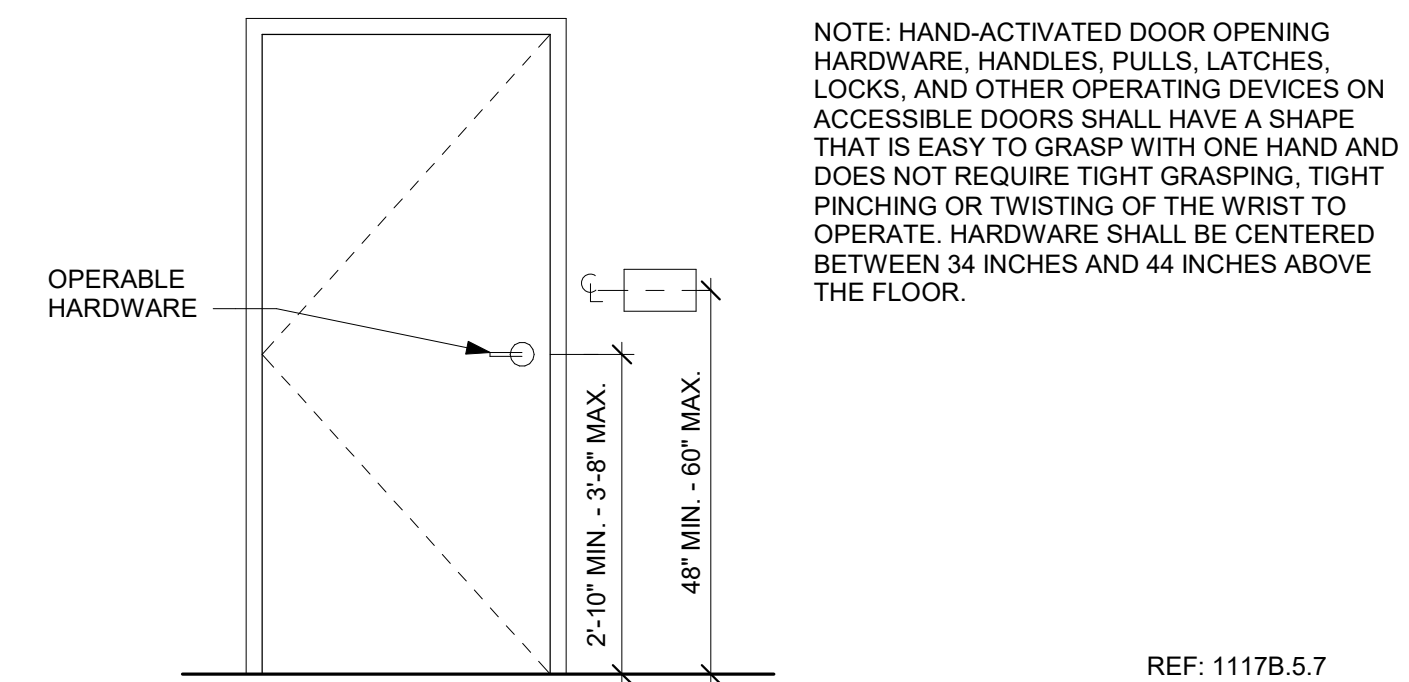
ACCESSIBILITY - MINIMUM CLEARANCES FOR SEATING 7
1/4" = 1'-0"



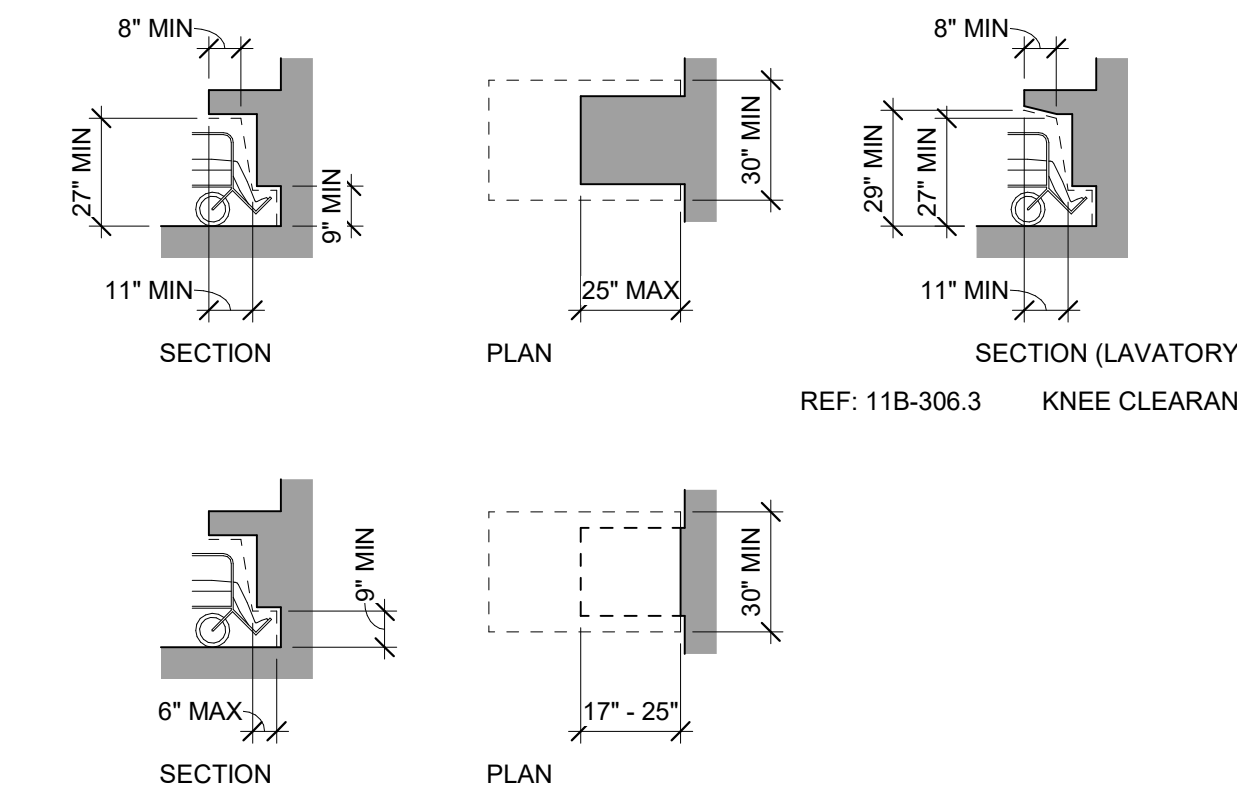
ACCESSIBILITY - PROTECTION AROUND WALL-MOUNTED OBJECTS



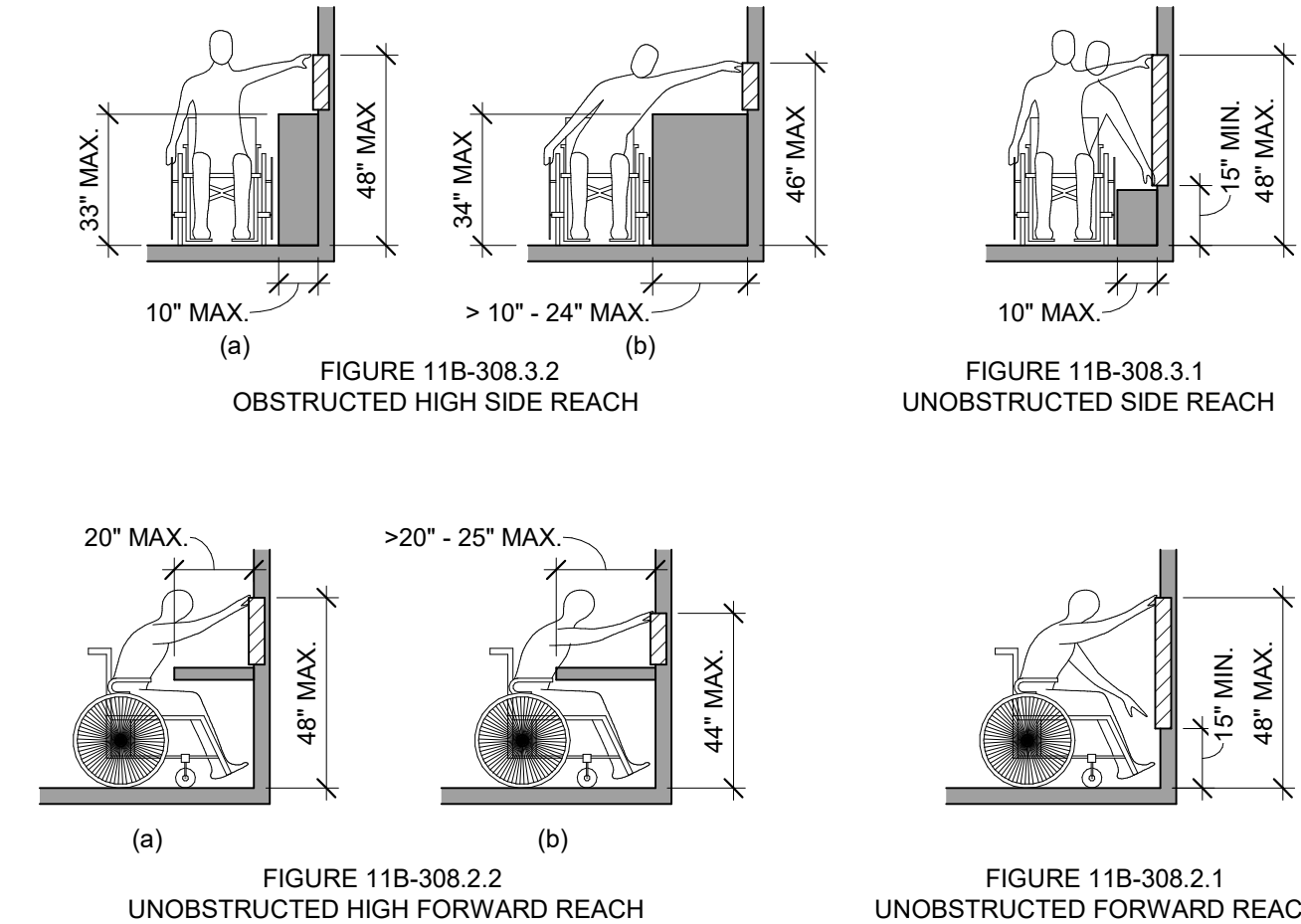
ACCESSIBILITY - TYPICAL EXIT DOOR DETAILS 4
1/2" = 1'-0"



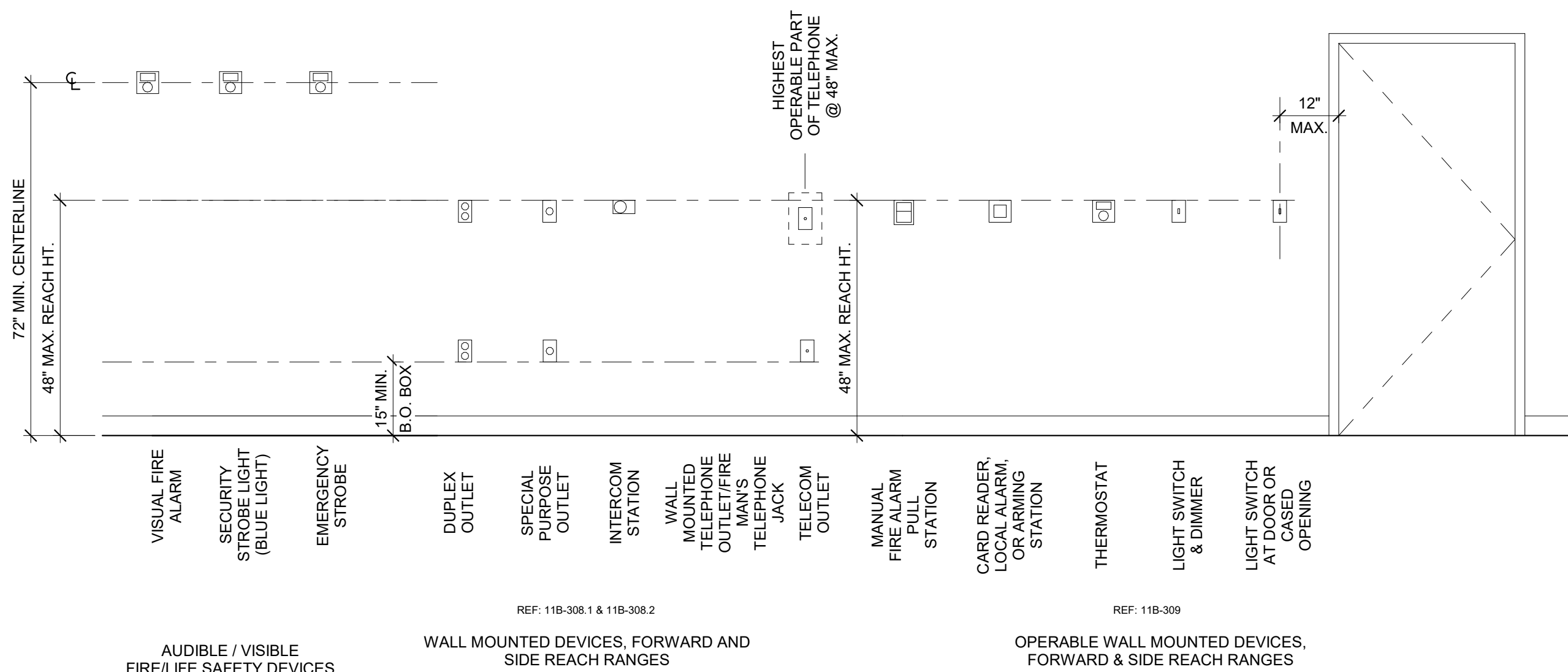
ACCESSIBILITY - TYPICAL DOOR HARDWARE MOUNTING HEIGHT 3
1/2" = 1'-0"



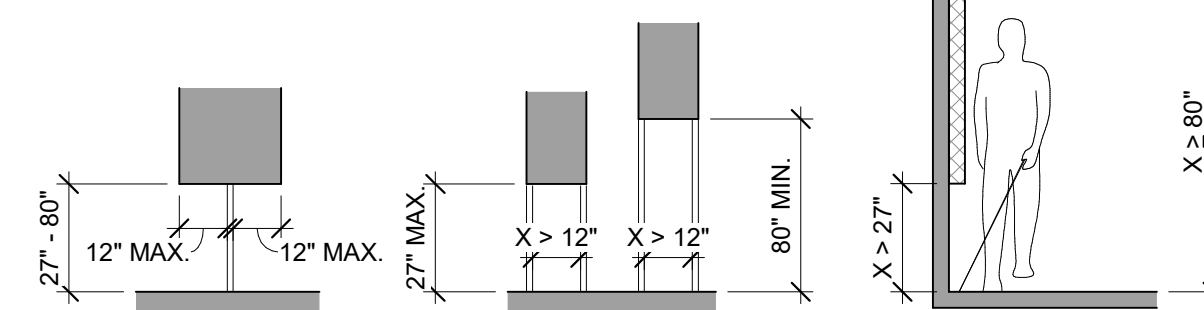
ACCESSIBILITY - KNEE & TOE CLEARANCE 2
1/4" = 1'-0"



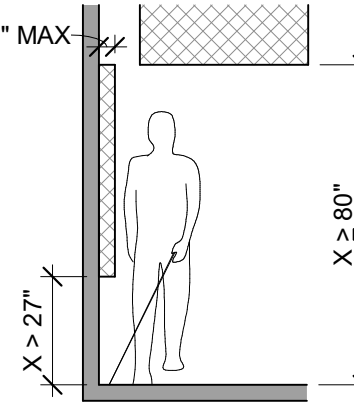
ACCESSIBILITY - REACH RANGES 1



ACCESSIBILITY - MOUNTING HEIGHTS 9

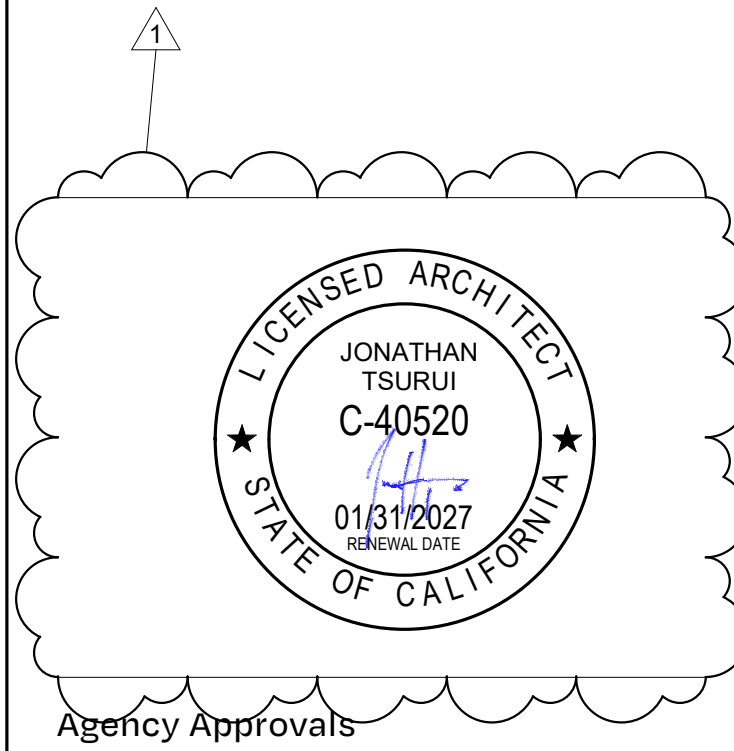


POST-MOUNTED PROTRUDING OBJECTS
FIGURE 11B-307.3



LIMITS OF PROTRUDING OBJECTS
FIGURE 11B-307.2

ACCESSIBILITY - PROTRUDING OBJECTS 5



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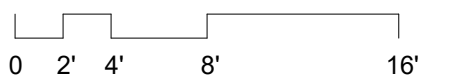
Issued For
100% CD

Job Number: **24015**

Drawn By: **JK** Checked By: **KE**

Scale

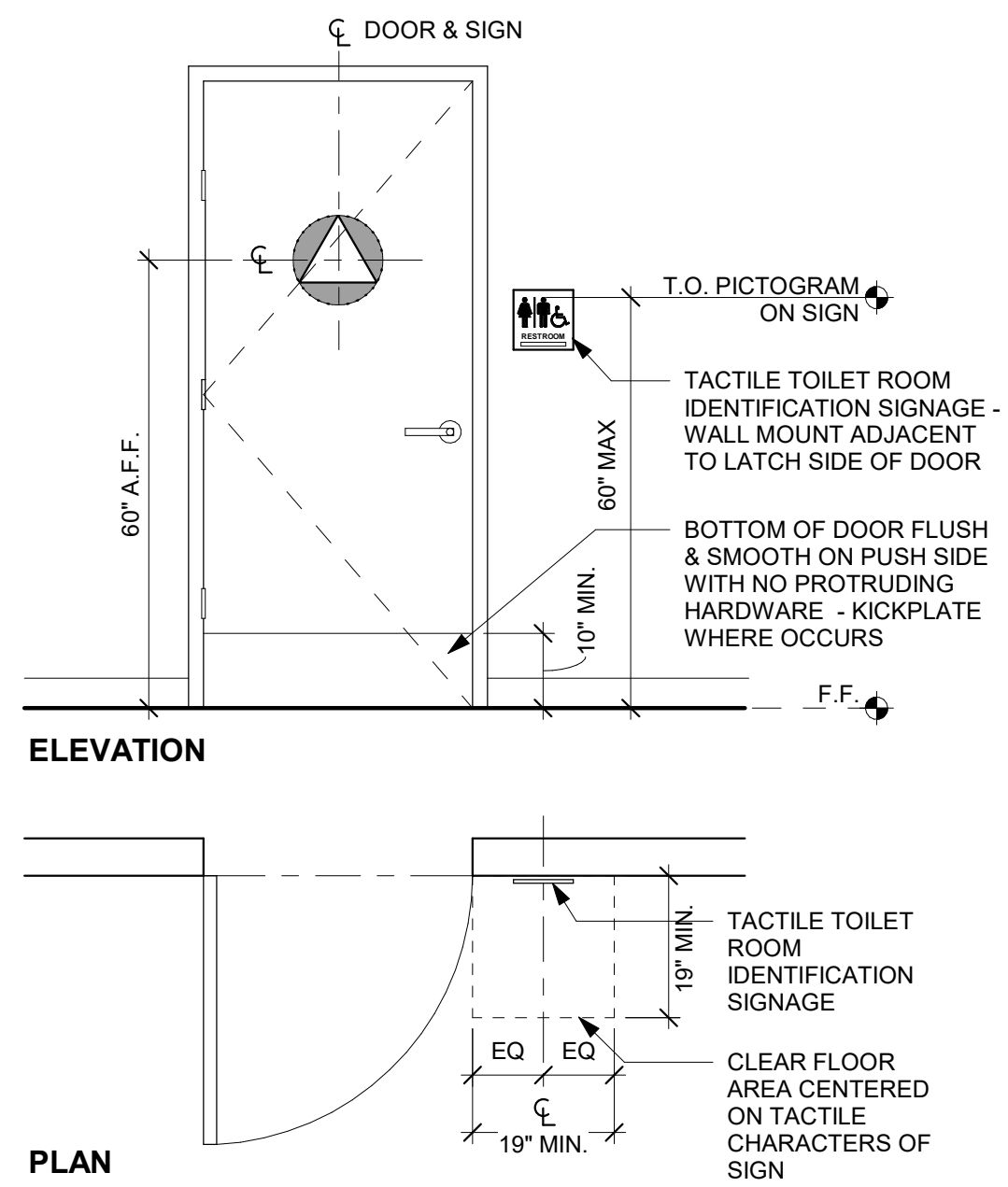
As indicated



Sheet Title
ACCESSIBILITY
DETAILS

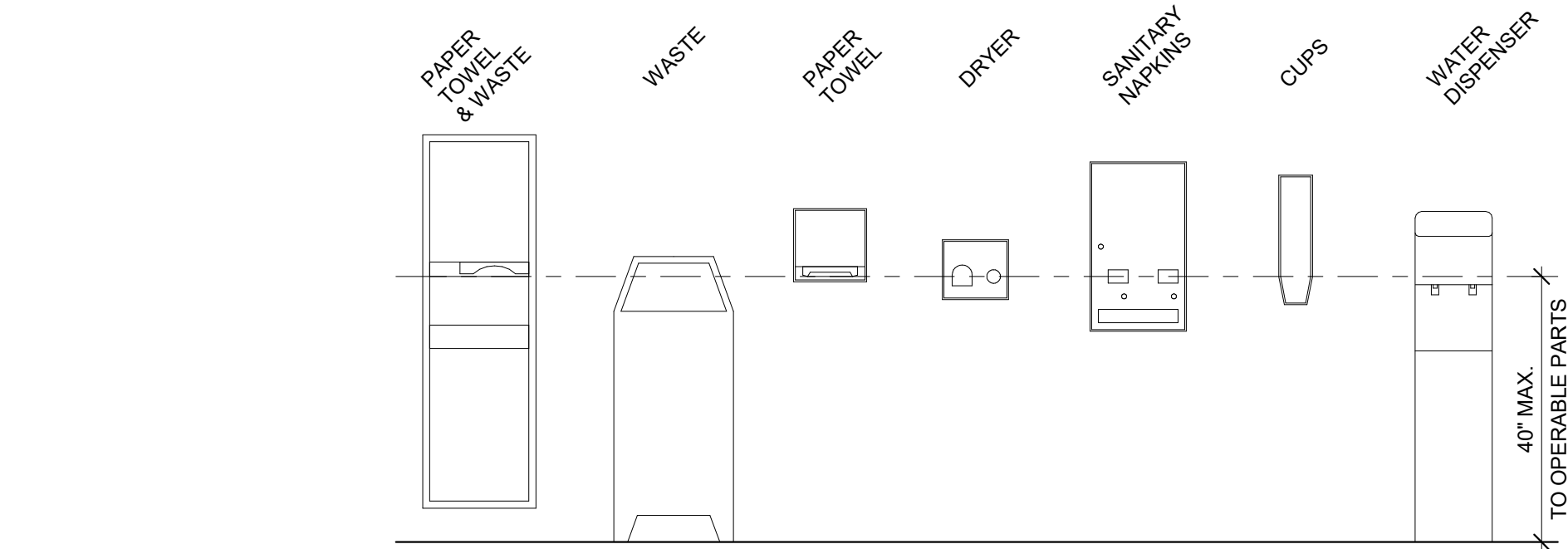
Sheet No.

A0.33



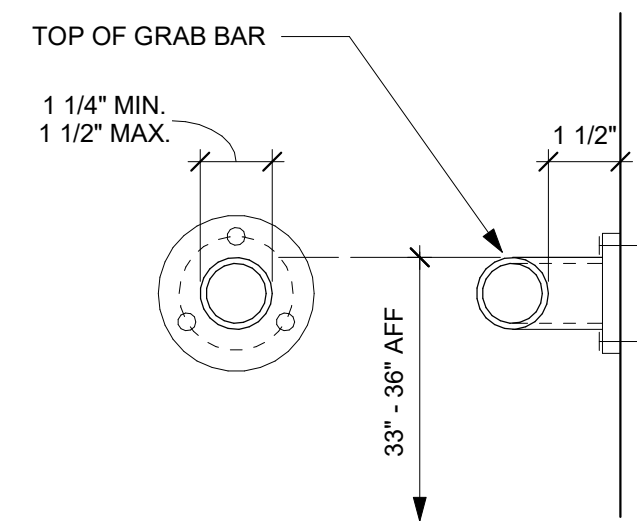
CBC - 11B-703.4.1-4.2

ACCESSIBILITY - TYPICAL RESTROOM SIGNAGE 15
1/2" = 1'-0"



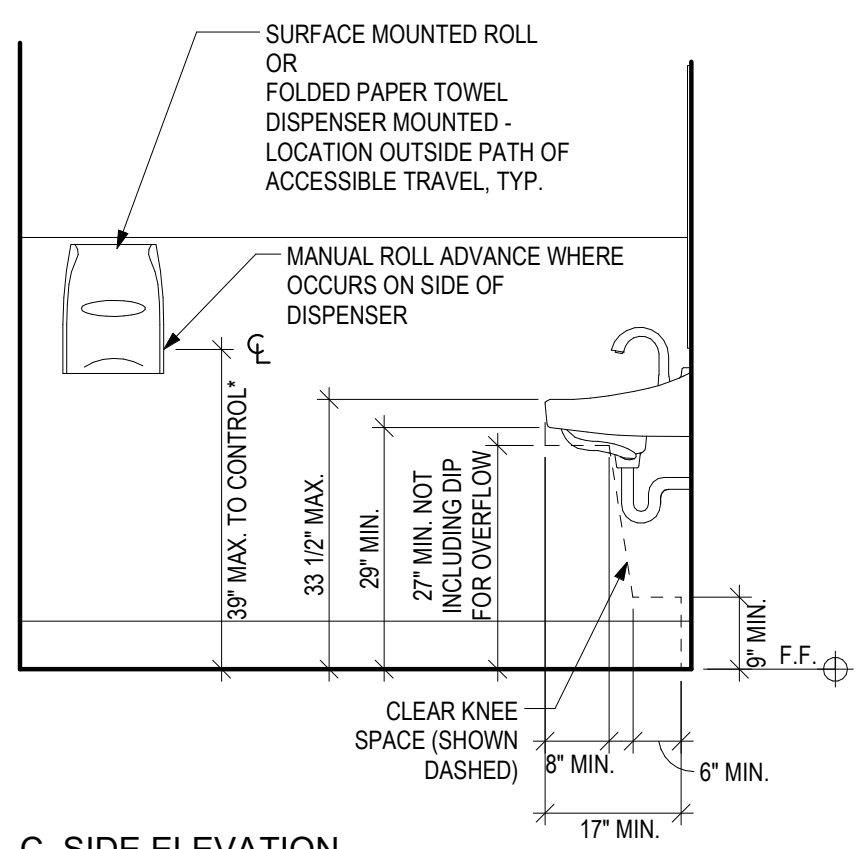
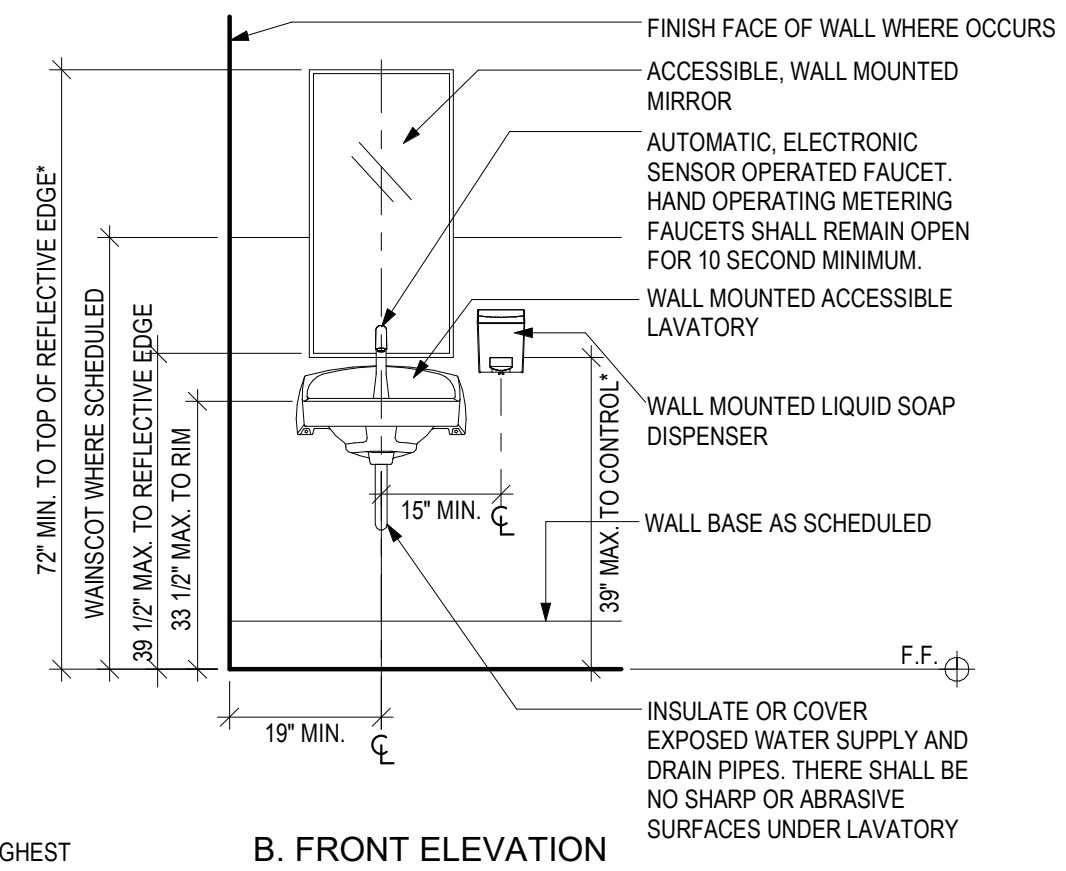
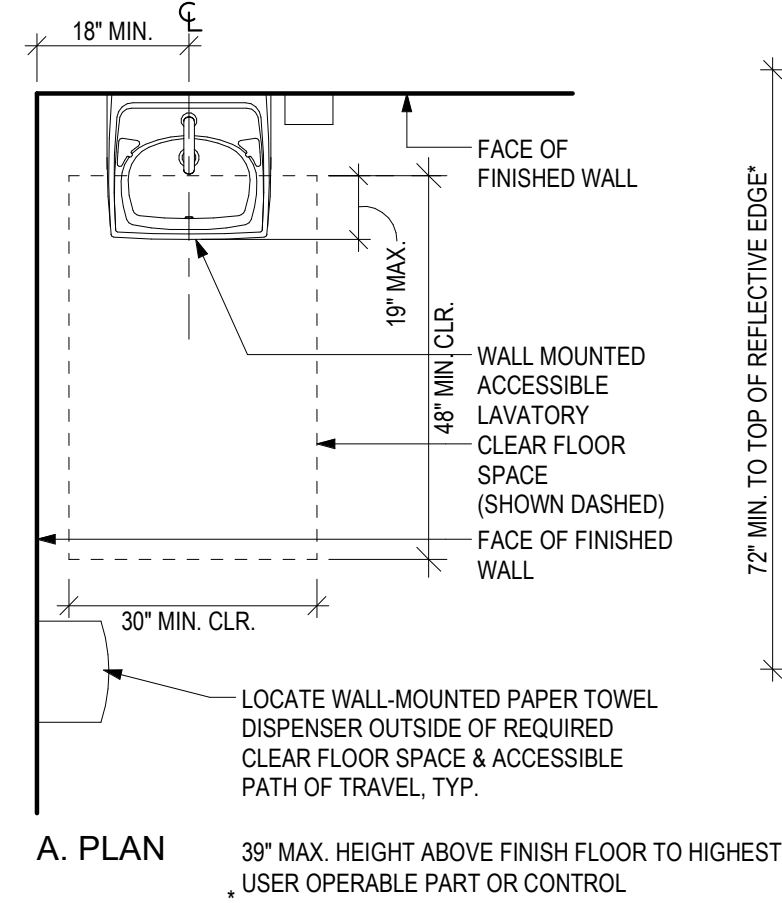
ACCESSIBILITY - TYPICAL STANDARD ACCESSORIES 8
1/2" = 1'-0"

NOTE: PIPE DIMENSIONS ARE SHOWN AS NOMINAL DIMENSIONS

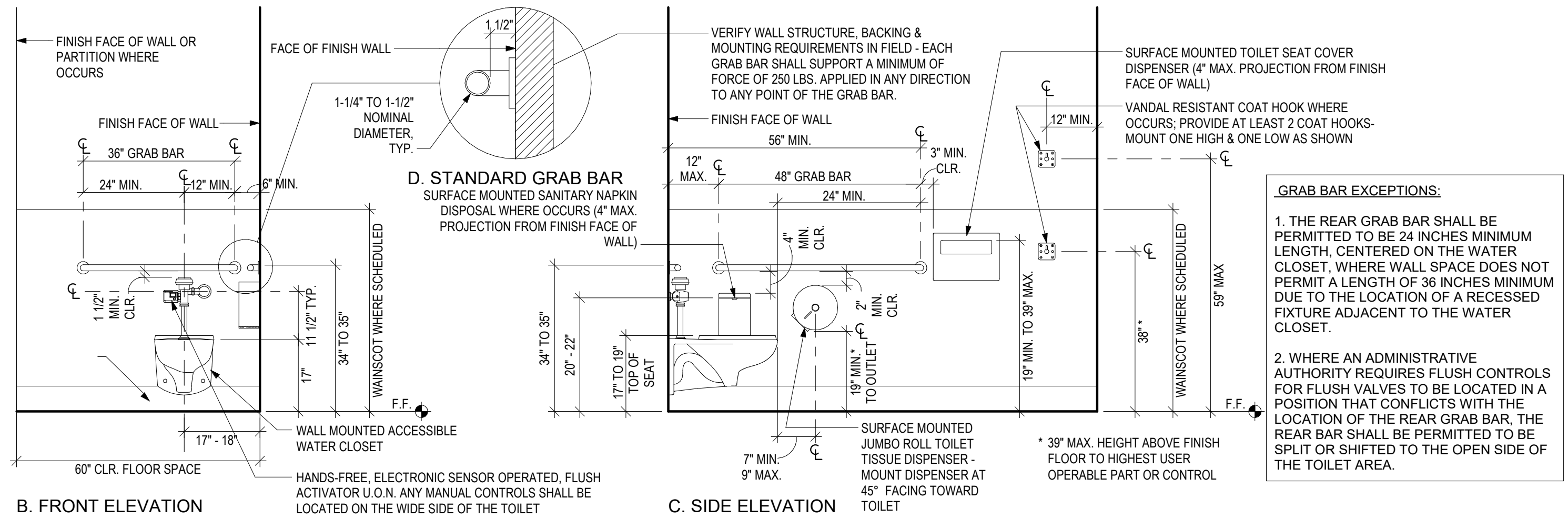
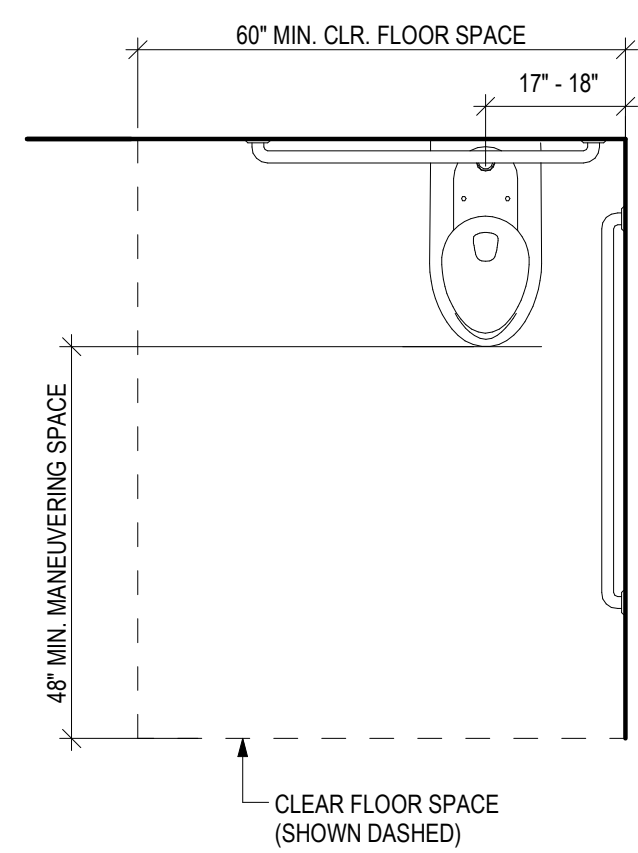


NOTE: ALLOWABLE STRESSES SHALL NOT BE EXCEEDED FOR MATERIALS USED WHERE A VERTICAL OR HORIZONTAL FORCE OF 250 LBS. IS APPLIED AT ANY POINT ON THE GRAB BAR, FASTENER MOUNTING DEVICE OR SUPPORTING STRUCTURE. PROVIDE 1-1/2" MIN CLEAR ACCESS AROUND THE PERIMETER OF THE GRAB BAR

REF: CBC 11B-609.1, 11B-609.3, 11B-610.1



ACCESSIBILITY - STANDARD WALL-MOUNTED LAVATORY 1/2" = 1'-0" 3



ACCESSIBILITY - STANDARD WALL-MOUNTED TOILET 2
1/2" = 1'-0"

LEGEND

	EXISTING	PROPOSED
SAWCUT AND CONFORM LINE		
RETAINING WALL		
A.C. PAVEMENT		
CONC. VALLEY GUTTER		
CONC. SIDEWALK OR PAD		
6" CURB & GUTTER		
EDGE OF A.C. PAVEMENT		
6" VERTICAL CURB		
CENTER LINE		
SANITARY SEWER MAIN	8" SS	8" SS
STORM DRAIN MAIN	12" SD	15" SD
PERFORATED PIPE		6"
WATER MAIN	6" W	6" W
FIRE WATER MAIN	6" FW	4" FW
DOMESTIC WATER MAIN	6" DW	4" DW
CHILLED WATER MAIN	6" CHW	4" CHW
IRRIGATION LINE	2" IRR	4" IRR
HOT WATER SUPPLY & RETURN	HW	HWS HWR
STEAM LINE	ST	ST
TRENCH DRAIN		
CONDENSATE RETURN	CR	CR
FLOW LINE		
CHAIN LINK FENCE	X	X
GAS MAIN	G	2" G
ELECTRIC AND SIGNAL DUCT BANK	E	E
OVERHEAD ELECTRIC LINE	OHE	OHE
UNDERGROUND ELECTRIC LINE	UGE	UGE
STREET LIGHT CONDUIT	SL	SL
CONTOUR ELEVATION LINE	85	89
SPOT ELEVATION	x 95.94	FG 95.94
DIRECTION OF SLOPE		2:1 1%
GAS METER		GM
GAS VALVE		GV
WATER METER		WM
WATER VALVE		WV
FIRE HYDRANT		
BACK FLOW PREVENTOR		PfV
POST INDICATOR VALVE		
FIRE DEPARTMENT CONNECTION		
WATER LINE TEE		
CAP AND PLUG END		
AIR RELEASE VALVE		
SIGN		
ACCESSIBLE RAMP		
CONCRETE THRUST BLOCK		
REDUCER		
SANITARY SEWER MANHOLE	○	●
SANITARY SEWER CLEANOUT	SSCo	SSCo
STORM DRAIN MANHOLE	⊙ ⊕	⊙ ⊕
STORM DRAIN AREA DRAIN	□	●
STORM DRAIN CATCH BASIN	□ CB	■
STORM DRAIN CURB INLET	SDCo	SDCo
STORM DRAIN CLEANOUT	SDCo	SDCo
ELECTROLIER		
JOINT POLE		
OVERLAND RELEASE		
CONSTRUCTION DETAIL REFERENCE		

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR SHALL 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 SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

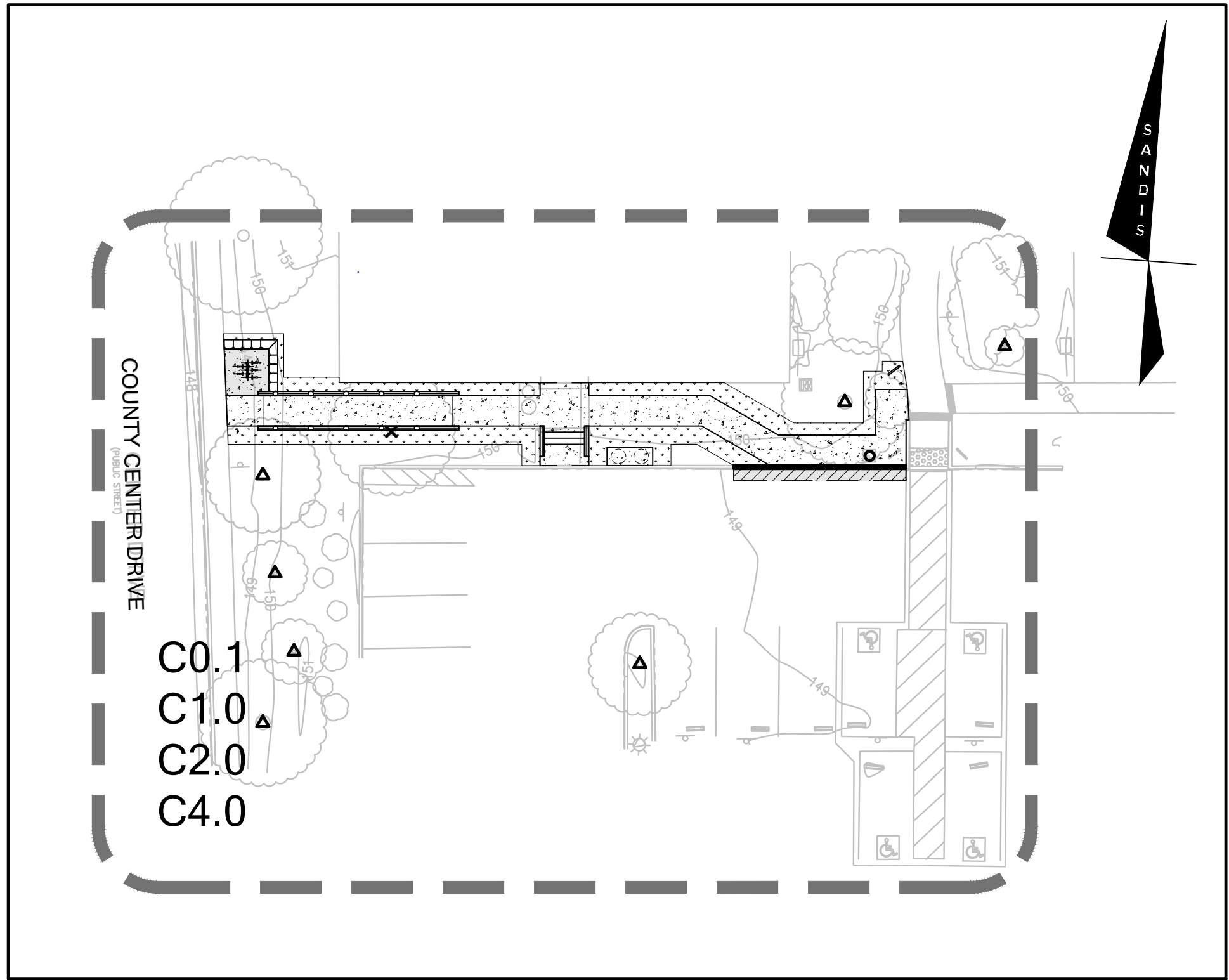
ABBREVIATIONS

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
AD	AREA DRAIN
ADA	AMERICANS WITH DISABILITIES ACT
ASB	AGGREGATE SUBBASE
BC	BEGINNING OF CURVE
BFP	BACK FLOW PREVENTOR
BLDC	BUILDING CORNER
BLDG	BUILDING
BOD	BOTTOM OF DOCK
BOL	BOLLARD
BOS	BOTTOM OF STEP
BOW	FG @ BOTTOM OF WALL
BVC	BEGIN VERTICAL CURVE
BW	BACK OF WALK
C	CONCRETE OR CIVIL
C&G	CURB AND GUTTER
CB	CATCH BASIN
CI	COMBINATION INLET
CIP	CAST IRON PIPE
CL	CENTER LINE OR CLASS
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
COI	CURB OPENING INLET
CONC	CONCRETE
CONST	CONSTRUCTION OR CONSTRUCT
CY	CUBIC YARD
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
DI	DROP INLET
DIP	DUCTILE IRON PIPE
DOM	DOMESTIC
DW	DOMESTIC WATER
DWG	DRAWING
E	EAST
EC	END OF CURVE
EP	EDGE OF PAVEMENT
ER	END OF RETURN
EVC	END VERTICAL CURVE
ELEV	ELEVATION
EX., EXIST.	EXISTING
FC	FACE OF CURB
FDC	FIRE DEPARTMENT CONNECTION
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FOUND	FOUNDATION
FS	FINISHED SURFACE
FT	FOOT
FW	FIRE WATER
G	GROUND ELEVATION
GB	GRADE BREAK
GV	GATE VALVE
HCR	ACCESSIBLE RAMP
HP	HIGH POINT
INV	INVERT ELEVATION
JP	JOINT POLE
JT	JOINT TRENCH
LP	LIP OF GUTTER
LP	LOW POINT
LSA	LANDSCAPE ARCHITECT
MAX	MAXIMUM
MEP	MECHANICAL/ELECTRICAL/PLUMBING
MH	MANHOLE
MIN	MINIMUM
MPVC	MIDPOINT OF VERTICAL CURVE
MON	MONUMENT
N	NORTH
NTS	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
P	PAVEMENT ELEVATION
PCC	PORTLAND CEMENT CONCRETE / POINT OF CONTINUOUS CURVATURE
PIV	POST INDICATOR VALVE
PL	PROPERTY LINE
PMH	POWER MANHOLE
PCC	POINT ON CURVE
PP	POWER POLE
PRC	POINT OF REVERSE CURVATURE
PVC	POLYVINYL CHLORIDE PIPE
R	RADIUS
RC	RELATIVE COMPACTION
RCP	REINFORCED CONCRETE PIPE
RPPA	REDUCED PRESSURE PRINCIPLE ASSEMBLY
R/W	RIGHT OF WAY
S	SLOPE OR SOUTH
S.A.D.	SEE ARCHITECTURAL DRAWINGS
SB	SEEDMENT BASIN
SD	STORM DRAIN
S.E.D.	SEE ELECTRICAL DRAWINGS
SF	SILT FENCE
SG	SUBGRADE
S.L.D.	SEE LANDSCAPE DRAWINGS
S.M.D.	SEE MECHANICAL DRAWINGS
SMH	SIGNAL MANHOLE
S.P.D.	SEE PLUMBING DRAWINGS
SS	SANITARY SEWER
STA	STATION
STD	STANDARD
S/W	SIDEWALK
TC	TOP OF CURB
TD	TRENCH DRAIN
TOE	TOP OF DOCK
TOS	TOE OF SLOPE
TOW	TOP OF STAIR
TS	FG @ TOP OF WALL
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
U/G	UNDERGROUND
VC	VERTICAL CURVE
WM	WATER METER
WV	WATER VALVE
W	WEST
WWF	WELDED WIRE FABRIC
W/	WITH

UNAUTHORIZED CHANGES AND USES

CAUTION: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THE PLANS.

SONOMA DRC
100% CONSTRUCTION DOCUMENTS
2300 COUNTY CENTER DRIVE
SANTA ROSA, CA



KEY MAP

1" = 20'

CONSTRUCTION NOTES

- ALL CONSTRUCTION MATERIAL AND METHODS SHALL COMPLY WITH THE LATEST EDITION OF THE COUNTY OF SONOMA, 2024 CBC VOLUMES 1 & 2 (EFFECTIVE JULY 1), AND THE LATEST CALTRANS STANDARD PLANS & SPECIFICATIONS.
- CONTRACTOR SHALL LEAVE AN EMERGENCY PHONE NUMBER WITH THE CITY OF SANTA ROSA POLICE AND FIRE DEPARTMENTS.
- CONTRACTOR SHALL POST ON THE SITE, EMERGENCY TELEPHONE NUMBERS FOR PUBLIC WORKS, AMBULANCE, POLICE, AND FIRE DEPARTMENTS.
- CONTRACTOR SHALL NOTIFY ALL PUBLIC OR PRIVATE UTILITY OWNERS 48 HOURS PRIOR TO COMMENCEMENT OF WORK ADJACENT TO THE UTILITY UNLESS AN EXCAVATION PERMIT SPECIFIES OTHERWISE.
- THE CONTRACTOR SHALL HIRE A STREET CLEANING CONTRACTOR TO CLEAN UP DIRT AND DEBRIS FROM CITY STREETS THAT ARE ATTRIBUTABLE TO THE DEVELOPMENT'S CONSTRUCTION ACTIVITIES.
- ALL GRADING SHALL BE PERFORMED IN SUCH A MANNER AS TO COMPLY WITH THE STANDARDS ESTABLISHED BY THE AIR QUALITY MAINTENANCE DISTRICT FOR AIRBORNE PARTICULATES (DUST).
- ALL GRADING SHALL CONFORM TO APPROVED SPECIFICATIONS PRESENTED HEREON OR ATTACHED HERETO. ALL GRADING WORK SHALL BE OBSERVED AND APPROVED BY THE SOILS ENGINEER. THE GEOTECHNICAL ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS BEFORE BEGINNING ANY GRADING. UNOBSERVED AND UNAPPROVED GRADING WORK SHALL BE REMOVED AND REDONE AT THE CONTRACTORS EXPENSE.
- ALL MATERIALS, REQUIRED FOR THE COMPLETE EXECUTION OF THE PROJECT, SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY DURING THE CONSTRUCTION PERIOD.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE

ANY EXISTING IMPROVEMENTS OF UNDERGROUND FACILITIES DAMAGED DURING THE CONSTRUCTION PERIOD.

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL ENCROACHMENT, EXCAVATION, CONCRETE, ELECTRICAL, PLUMBING, ETC. PERMITS NECESSARY PRIOR TO BEGINNING CONSTRUCTION FOR ANY WORK.
- THE CONTRACTOR SHALL HAVE A SUPERINTENDENT OR REPRESENTATIVE ON SITE AT ALL TIMES DURING CONSTRUCTION.
- STORAGE OF CONSTRUCTION MATERIAL AND EQUIPMENT ON CITY STREETS WILL NOT BE PERMITTED.
- CONSTRUCTION EQUIPMENT SHALL BE PROPERLY MUFFLED. UNNECESSARY IDLING OF GRADING CONSTRUCTION EQUIPMENT IS PROHIBITED.
- CONSTRUCTION EQUIPMENT, TOOLS, ETC. SHALL NOT BE CLEANED OR RINSED INTO A STREET, GUTTER OR STORM DRAIN.
- A CONTAINED AND COVERED AREA ON-SITE SHALL BE USED FOR STORAGE OF CEMENT BAGS, PAINTS, FLAMMABLE, OILS, FERTILIZERS, PESTICIDES, OR ANY OTHER MATERIALS THAT HAVE POTENTIAL FOR BEING DISCHARGED TO THE STORM DRAIN SYSTEM BY WIND OR IN THE EVENT OF A MATERIAL SPILL.
- ALL CONSTRUCTION DEBRIS SHALL BE GATHERED ON A REGULAR BASIS AND PLACED IN A DUMPSTER WHICH IS EMPTIED OR REMOVED WEEKLY. WHEN FEASIBLE, TARPS SHALL BE USED ON THE GROUND TO COLLECT FALLEN DEBRIS OR SPLATTERS THAT COULD CONTRIBUTE TO STORMWATER POLLUTION.
- ANY TEMPORARY ON-SITE CONSTRUCTION PILES SHALL BE SECURELY COVERED WITH A TARP OR OTHER DEVICE TO CONTAIN DEBRIS.
- CONCRETE TRUCKS AND CONCRETE FINISHING OPERATIONS SHALL NOT DISCHARGE WASH WATER INTO THE STREET GUTTERS OR DRAINS.

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF EXTERIOR PATHWAY IMPROVEMENTS ASSOCIATED WITH THE ACCESSIBLE PATH-OF-TRAVEL REQUIRED AT THE NEW SONOMA COUNTY PROBATION DEPARTMENT DAY REPORTING CENTER (DRC) LOCATED AT 2300 COUNTY CENTER DRIVE.

THE IMPROVEMENTS CONSISTS OF THE CONSTRUCTION OF A CONCRETE PATHWAY CONNECTING THE EXISTING CIRCULATION PATHWAY FOR THE ADJACENT BUILDINGS TO THE PUBLIC RIGHT-OF-WAY AND ACCESS TO ACCESSIBLE PARKING STALLS. A SERIES OF STAIRS, RAMPS, CURBS, AND SIGNAGE WILL ALSO BE REQUIRED TO MEET THE PROPOSED PATHWAY TO THE ADJACENT SITE.

PROJECT INFO

ARCHITECT
WILLIAM DUFF ARCHITECTS
CONTACT PERSON: KENNY ENDO
1275 FOLSOM STREET
SAN FRANCISCO, CA 94103
PH: (415)604-4263
EMAIL: kendo@wdarch.com

OWNER
COUNTY OF SONOMA
CONTACT PERSON: SCOT STANLEY
400 AVIATION BOULEVARD, SUITE 100
SANTA ROSA, CA 95403
PH: (707)565-6116
EMAIL: Scot.Stanley@sonoma-county.org

CIVIL SHEET INDEX

- C0.0 NOTES, LEGEND, AND ABBREVIATIONS
- C0.1 TOPOGRAPHIC SURVEY (FOR REFERENCE ONLY)
- C1.0 SITE, DEMO, AND HORIZONTAL CONTROL PLAN
- C2.0 GRADING PLAN
- C3.0 CONSTRUCTION DETAILS
- C3.1 CONSTRUCTION DETAILS
- C4.0 EROSION CONTROL PLAN
- C5.0 WATER POLLUTION CONTROL DETAILS



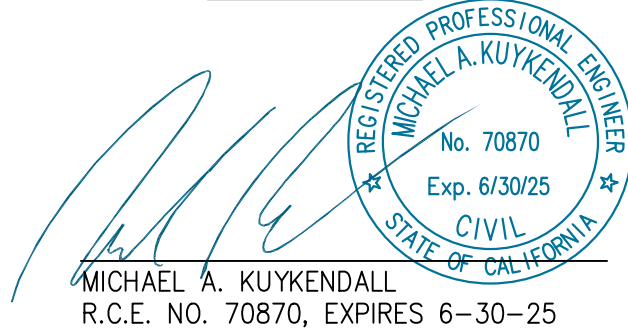
William Duff
Architects

1275 Folsom Street
San Francisco, CA 94103
(415) 371-0900

wdarch.com



DATE 04/17/2025



Agency Approvals

Revision No.

Date

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Job Address
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SANTA ROSA, CA 95403**

Date: 18 APRIL 2025

Issued For
100% CD

Job Number: 24015

Drawn By: CS

Checked By: MK

Scale

As indicated

Sheet Title

**NOTES, LEGEND, AND
ABBREVIATIONS**

Sheet No.

C0.0

Agency Approvals

Revision No.

Date _____

Job Title

SONOMA DRC

Job Address

2300 COUNTY CENTER DRIVE
SANTA ROSA, CA 95403

Date: 18 APRIL 2025

Issued For

100% CD

Job Number: 24015

Drawn By:

Checked By: **M**

Scale

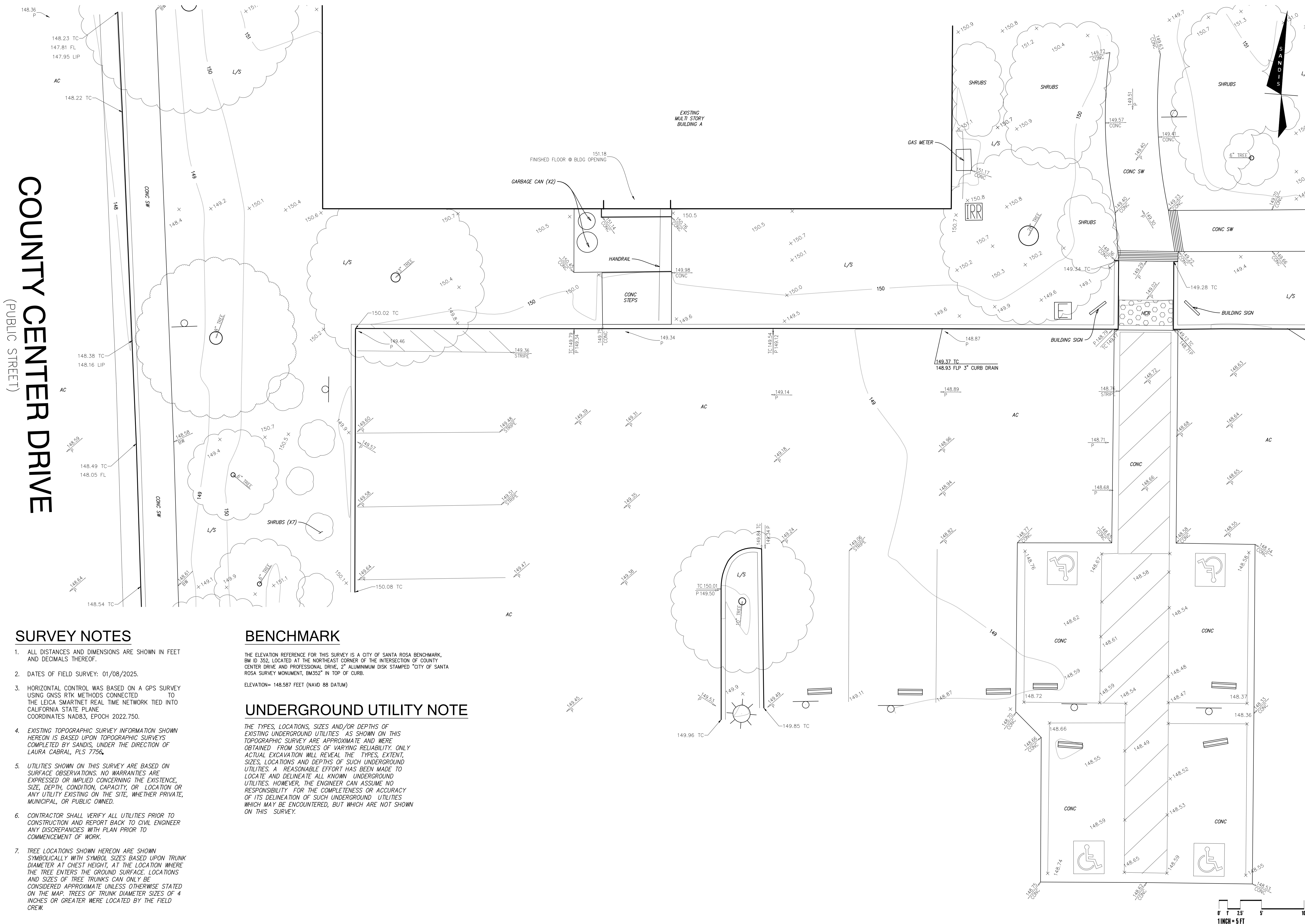
As indicated

Sheet Title

**TOPOGRAPHIC SURVEY
(FOR REFERENCE ONLY)**

Sheet No

C0.1



COUNTY CENTER DRIVE

LEGEND

- SAWCUT LINE
- BIKE RACK PAD (7) C3.0
- CONCRETE SIDEWALK (1) C3.0
- AC DEEP LIFT (5) C3.0
- PLANTING
- CURB LINE
- WHEEL STOP

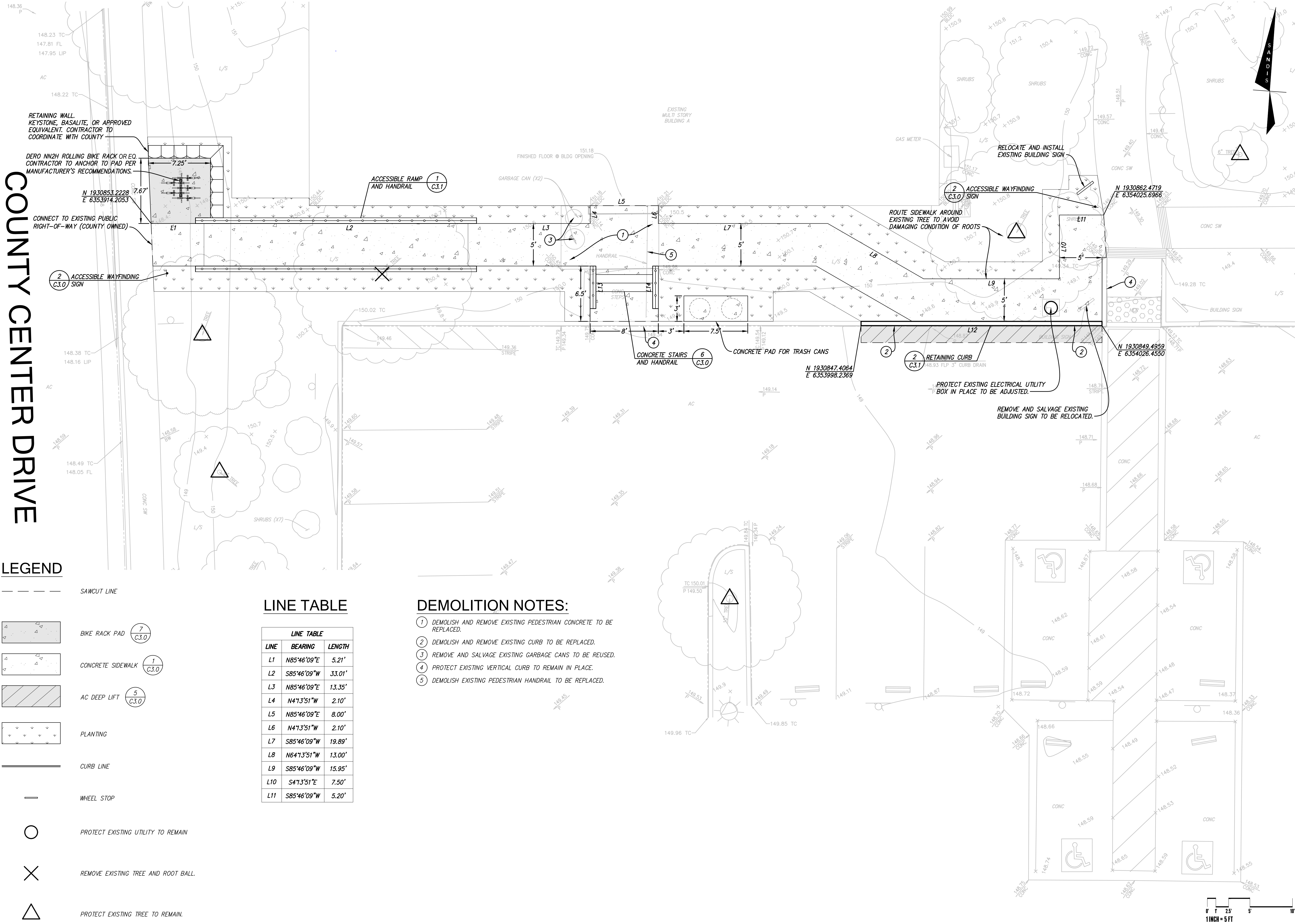
- PROTECT EXISTING UTILITY TO REMAIN
- REMOVE EXISTING TREE AND ROOT BALL.
- PROTECT EXISTING TREE TO REMAIN.

LINE TABLE

LINE TABLE		
LINE	BEARING	LENGTH
L1	N85°46'09"E	5.21'
L2	S85°46'09"W	33.01'
L3	N85°46'09"E	13.35'
L4	N4°13'51"W	2.10'
L5	N85°46'09"E	8.00'
L6	N4°13'51"W	2.10'
L7	S85°46'09"W	19.89'
L8	N64°13'51"W	13.00'
L9	S85°46'09"W	15.95'
L10	S4°13'51"E	7.50'
L11	S85°46'09"W	5.20'

DEMOLITION NOTES:

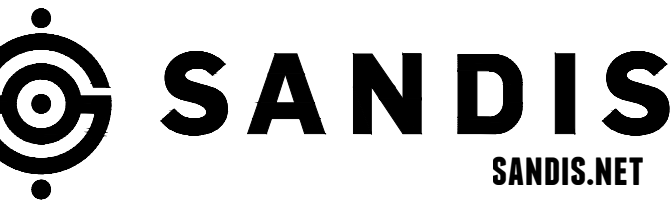
- 1 DEMOLISH AND REMOVE EXISTING PEDESTRIAN CONCRETE TO BE REPLACED.
- 2 DEMOLISH AND REMOVE EXISTING CURB TO BE REPLACED.
- 3 REMOVE AND SALVAGE EXISTING GARBAGE CANS TO BE REUSED.
- 4 PROTECT EXISTING VERTICAL CURB TO REMAIN IN PLACE.
- 5 DEMOLISH EXISTING PEDESTRIAN HANDRAIL TO BE REPLACED.



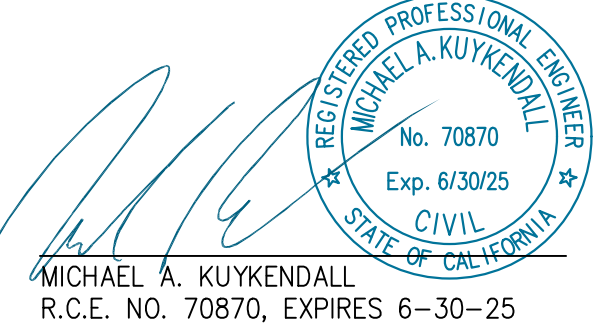
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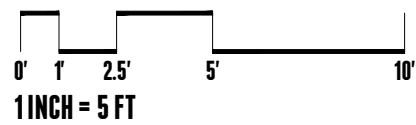
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Sheet Title
**SITE, DEMO, AND
HORIZONTAL
CONTROL PLAN**

Sheet No.

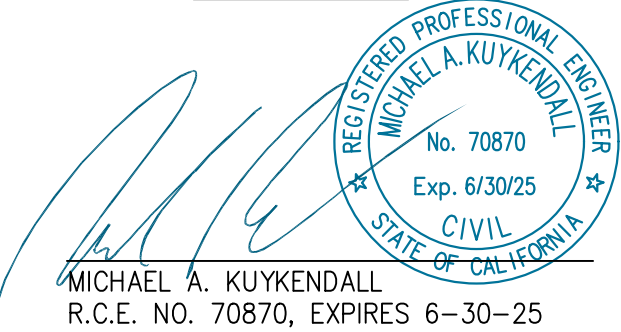
C1.0

LEGEND



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Checked By: **MM**

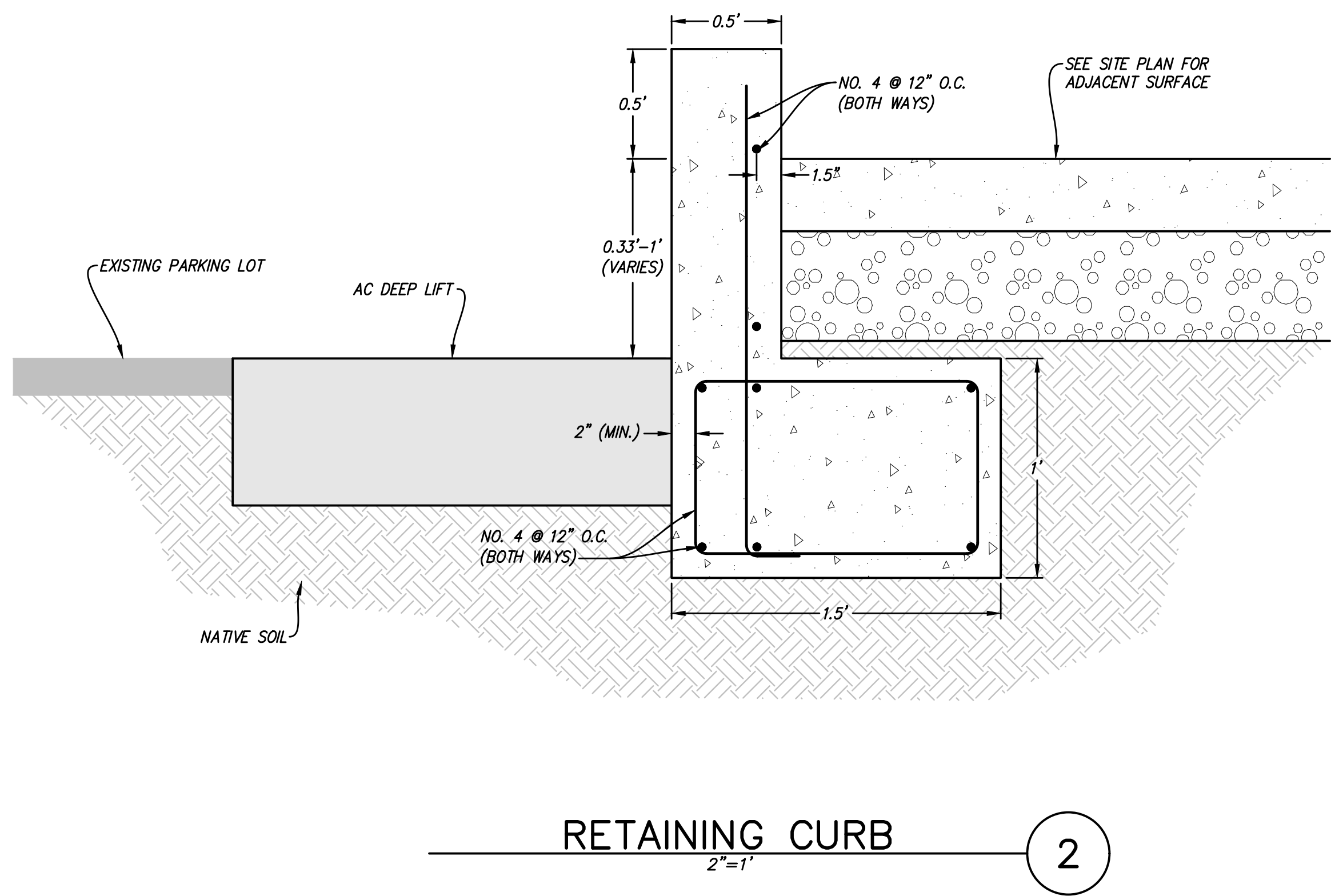
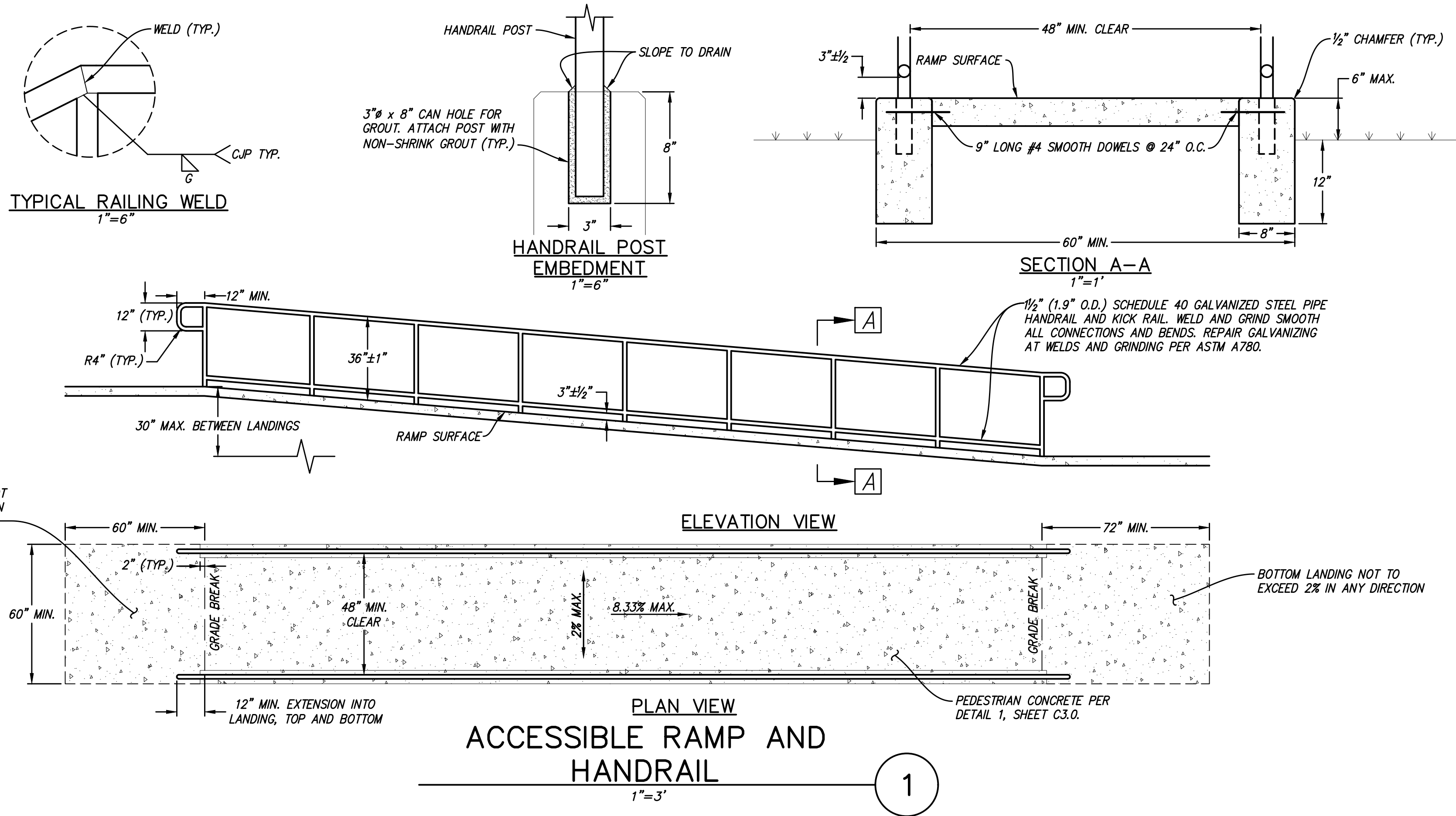
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Sheet Title
GRADING PLAN

Sheet No.

C2.0



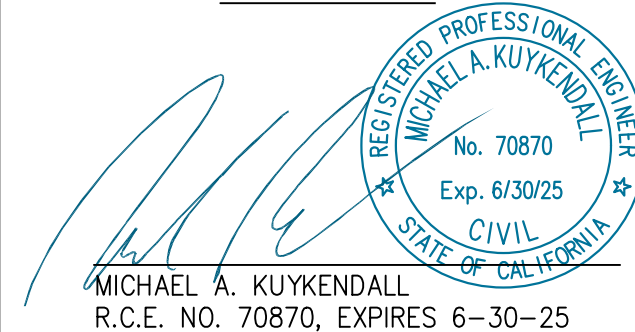
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Sheet Title
CONSTRUCTION DETAILS

Sheet No.

C3.1

COUNTY CENTER DRIVE

LEGEND

- FIBER ROLL 1 C5.0
- APPROXIMATE AREA OF CONSTRUCTION DISTURBANCE - AREA TO COMPLY WITH REQUIREMENTS IN PROJECT SWPPP

WATER POLLUTION CONTROL NOTES:

- A. THIS PLAN IS FOR STORMWATER POLLUTION CONTROL DURING CONSTRUCTION IF NO SWPPP IS REQUIRED. IF A SWPPP FOR THE PROJECT HAS BEEN ISSUED THE PROJECT SWPPP OVERRIDES ANYTHING SHOWN ON THIS PLAN.
- B. THIS PLAN REPRESENTS POSSIBLE WATER POLLUTION CONTROL MEASURES INCLUDING EROSION CONTROL AND SEDIMENT CONTROL.
- C. EXISTING SURFACES SHALL BE UNDISTURBED TO THE EXTENT PRACTICAL.
- D. GROUND WATER SHALL NOT BE DISCHARGED WITH STORM WATER. GROUND WATER DEWATERING OPERATIONS SHALL BE COORDINATED AS NEEDED WITH OWNER.
- E. CONTRACTOR SHALL PROVIDE EFFECTIVE SOIL COVER FOR AREAS OF CONSTRUCTION ACTIVITY THAT HAVE BEEN DISTURBED AND ARE NOT SCHEDULED TO BE ACTIVE FOR AT LEAST 14 DAYS.
- F. CONTRACTOR TO INSTALL RUN-ON AND RUN-OFF CONTROL MEASURES ACCORDING TO PLANS OR AS NECESSARY TO ENSURE SEDIMENT IS NOT TRANSPORTED FROM SITE.
- G. CONTRACTOR TO PROVIDE BACK-UP EROSION PREVENTION MEASURES (SOIL STABILIZATION) WITH SEDIMENT CONTROL MEASURES SUCH AS STRAW WATTLES, SILT FENCE, GRAVEL INLET FILTERS, AND/OR SEDIMENT TRAPS OR BASINS. ENSURE CONTROL MEASURES ARE ADEQUATE, IN PLACE, AND IN OPERABLE CONDITIONS. SEDIMENT CONTROLS, INCLUDING INLET PROTECTION, ARE NECESSARY BUT SHOULD BE A SECONDARY DEFENSE BEHIND GOOD EROSION CONTROL MEASURES.
- H. STOCKPILE LOCATION(S) TO BE DETERMINED BY THE CONTRACTOR. COORDINATE WITH SITE QSP.
- I. ALL CONCRETE TRUCKS TO USE CHUTE WASH BUCKETS FOR CONCRETE RINSE. ALL CONCRETE PUMPS TO CAPTURE CONCRETE RINSE IN SECONDARY CONTAINMENT AND PROPERLY DISPOSE.
- J. STREET SWEEPING SHALL BE CHECKED DAILY TO ENSURE DEPOSITED SEDIMENT AND DEBRIS DOES NOT ENTER THE STORM DRAIN SYSTEM. USE REGENERATIVE VACUUM STREET CLEANER TO MITIGATE AIR AND WATER POLLUTION.
- K. RUNOFF THAT HAS CONTACTED AMENDED SOIL AREAS SHALL NOT BE ALLOWED TO LEAVE THE SITE OR ENTER THE STORM DRAIN SYSTEM.
- L. CONTRACTOR TO PROTECT THE NEXT DOWNSTREAM INLET CLOSEST TO PROJECT SITE. SEE DETAIL 2 AND 3, SHEET C5.0.



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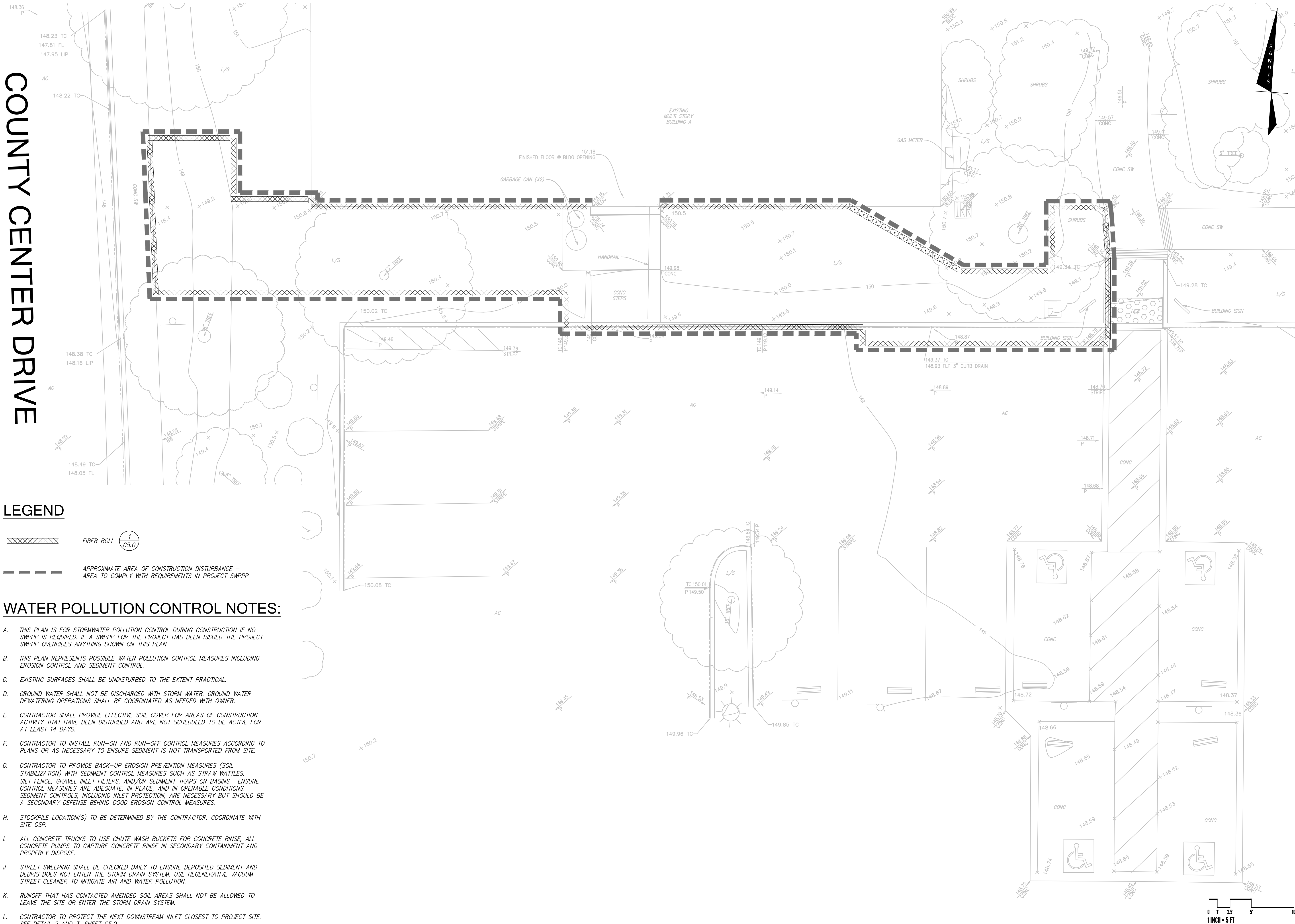
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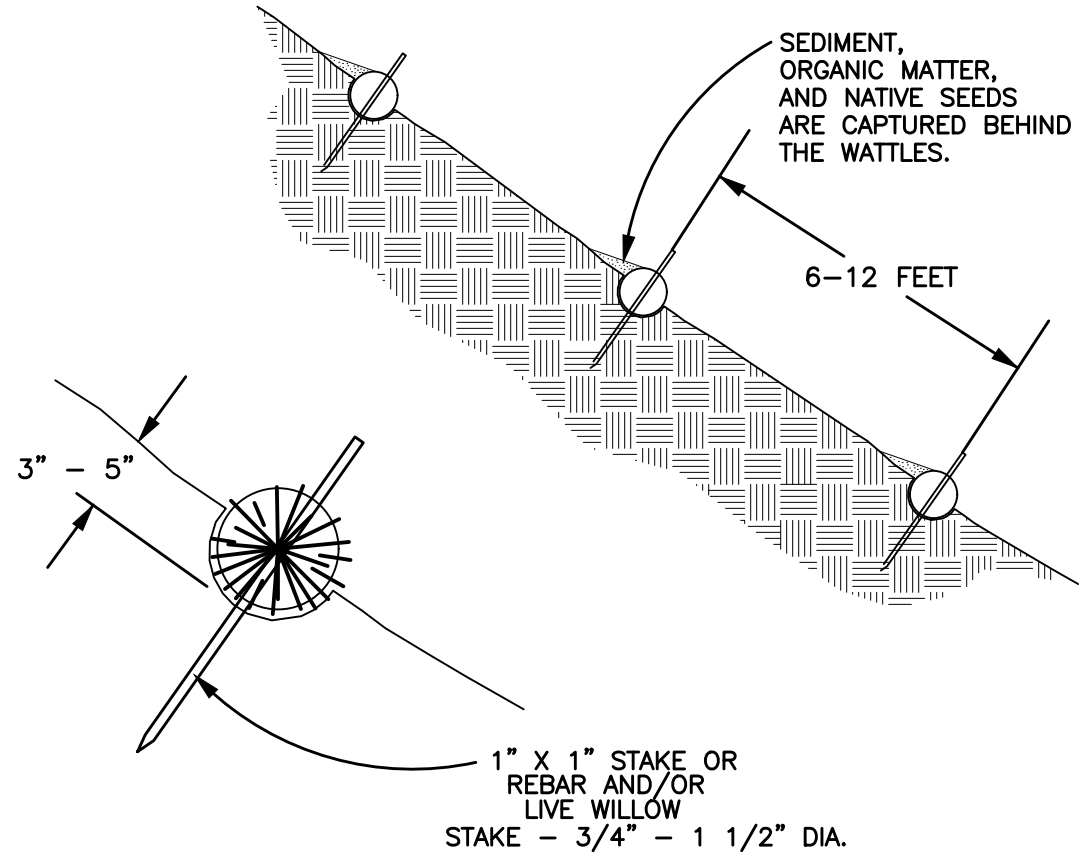
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EROSION CONTROL PLAN

Sheet No.

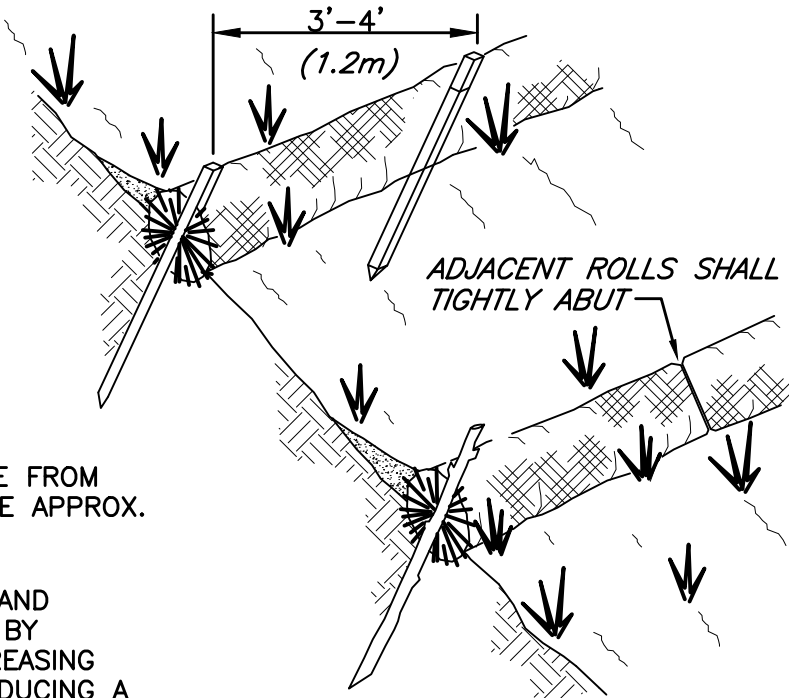
C4.0



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- NOTE:
1. STRAW WATTLES ARE TUBES MADE FROM STRAW BOUND NETTING. THEY ARE APPROX. 8" DIA. AND 20 - 30 FT. LONG.
 2. STRAW WATTLES TRAP SEDIMENT AND REDUCE SHEET & RILL EROSION BY REDUCING SLOPE GRADIENT, INCREASING INFILTRATION RATES AND BY PRODUCING A FAVORABLE ENVIRONMENT FOR PLANT ESTABLISHMENT.
 3. STRAW WATTLE INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE WATTLE IN A TRENCH, 3" - 5" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND WATTLE.



DETAIL 1

STRAW WATTLES

© DANDY CURB SACK

NOTES:

1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS. (LESS THAN 5%)
2. EXCAVATE A BASIN OF SUFFICIENT SIZE ADJACENT TO THE DROP INLET.
3. THE TOP OF THE STRUCTURE (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BY- PASSING THE INLET. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE.

DETAIL 2

DROP INLET SEDIMENT BARRIER

© DANDY CURB SACK

NOTES:

1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

DETAIL 3

CURB INLET SEDIMENT SACK



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Sheet Title
**WATER POLLUTION
CONTROL DETAILS**

Sheet No.

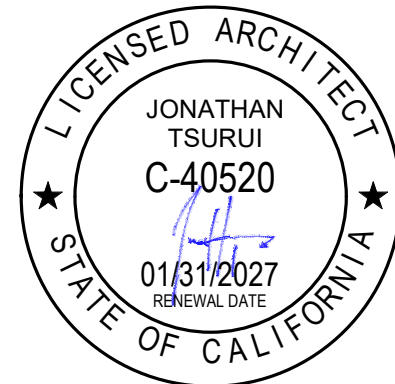
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Scale

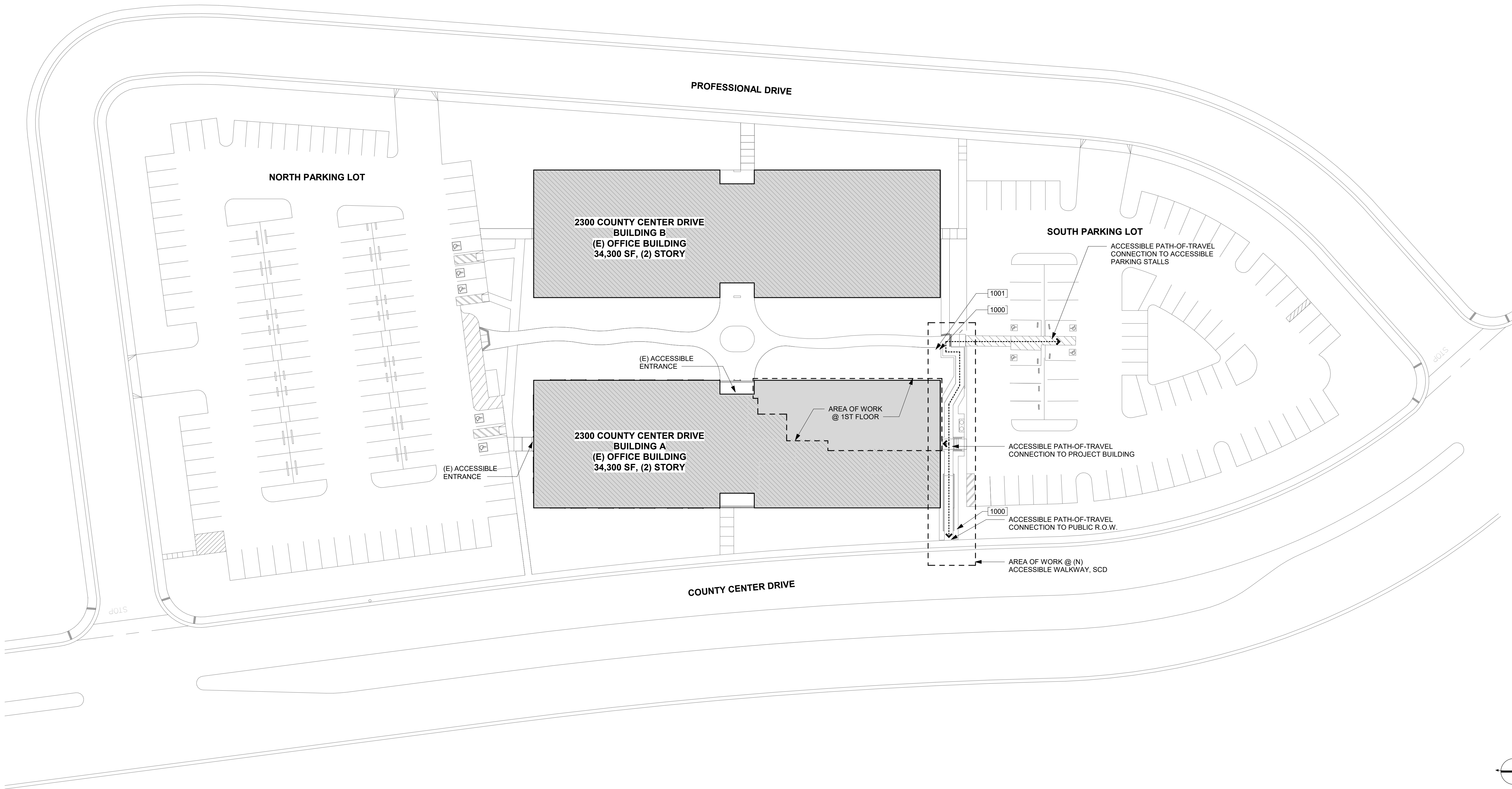
As indicated

0 2' 4' 8' 16'

Sheet Title
PROPOSED SITE PLAN

Sheet No.

A1.02



SITE PLAN
1" = 30'-0" 1

SITE PLAN GENERAL NOTES

- LOCATION OF (E) BUILDING OUTLINE, (E) LOCATIONS OF SIDEWALK, (E) PARKING, DRIVEWAY AND UTILITIES ARE PER TOPOGRAPHIC SURVEY, SEE CIVIL DRAWINGS
- PROTECT ALL (E) MATERIALS, SURFACES AND SYSTEMS TO REMAIN FROM DAMAGE DUE TO CONSTRUCTION ACTIVITIES.
- FOR ADDITIONAL REQUIREMENTS, SEE CIVIL DRAWINGS.
- THE PATH OF TRAVEL (POT) IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS MEETS THE REQUIREMENTS OF THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE (CBC) ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS.

AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NONCOMPLIANT WITH THE CBC HAVE BEEN IDENTIFIED AND THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS.

DURING CONSTRUCTION, IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CBC COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THE ITEMS SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

SITE PLAN GENERAL NOTES

- EXTERIOR LANDSCAPING: GENERAL CONTRACTOR TO TRIM AND HEDGE EXISTING LANDSCAPING, ANY OVERGROWN SHRUBS, TREES, OR HEDGES THAT BLOCK SIGHT LINES AROUND THE BUILDINGS AND NORTH/SOUTH PARKING LOTS, CUT BACK TO ENHANCE VISIBILITY AND MAINTAIN SAFETY, PREVENTING INDIVIDUALS OR A GROUP OF PEOPLE TO HIDE.
- EXTERIOR LIGHTING: GENERAL CONTRACTOR TO ENSURE OPERATIONAL SITE LIGHTING BY PROVIDING AN EVALUATION AND INVENTORY OF EXISTING CONDITIONS OF LIGHT FIXTURES
- PROVIDE EXTERIOR SITE SIGNAGE FOR WAYFINDING, INCLUDES SIGNAGE FOR VISITORS TO THE NEW SOUTH ENTRANCE, SCD.
- FOR ACCESSIBLE SIGNAGE AT THE (N) ACCESSIBLE WALKWAY, SCD.

PARKING SUMMARY

SOUTH PARKING LOT
TOTAL NUMBER OF PARKING SPACES PROVIDED IN PARKING FACILITY = 77
ACCESSIBLE STALLS: 4

PER TABLE 11B-208.2 PARKING SPACES
TOTAL NUMBER OF PARKING SPACES PROVIDED IN PARKING FACILITY = 76 to 100
MINIMUM NUMBER OF REQUIRED ACCESSIBLE PARKING SPACE = 4

KEYED NOTES

- 1000 (N) ACCESSIBLE WAYFINDING SIGN, SCD
1001 RELOCATE AND INSTALL EXISTING BUILDING SIGN, SCD

LEGEND - SITE PLAN

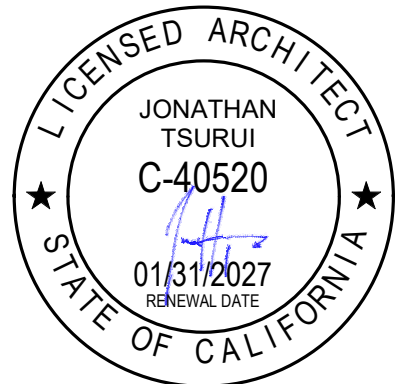
- [Hatched Box] [N.I.C.] NOT IN CONTRACT
- [Arrow with ###] KEYED NOTE
- [Solid Line] ACCESSIBLE ROUTE AS INDICATED ON PLAN IS A BARRIER FREE ACCESS ROUTE WITHOUT ANY ABRUPT CHANGES EXCEEDING 1/2" IF BEVELED AT 1:2 MAX SLOPE, OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAX, AND AT LEAST 48" IN WIDTH. SURFACE IS STABLE, FIRM, AND SLIP RESISTANT. GROSS SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5%, UNLESS OTHERWISE INDICATED. ACCESSIBLE PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM, AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTING FROM WALL AND ABOVE 27" AND LESS THAN 80".



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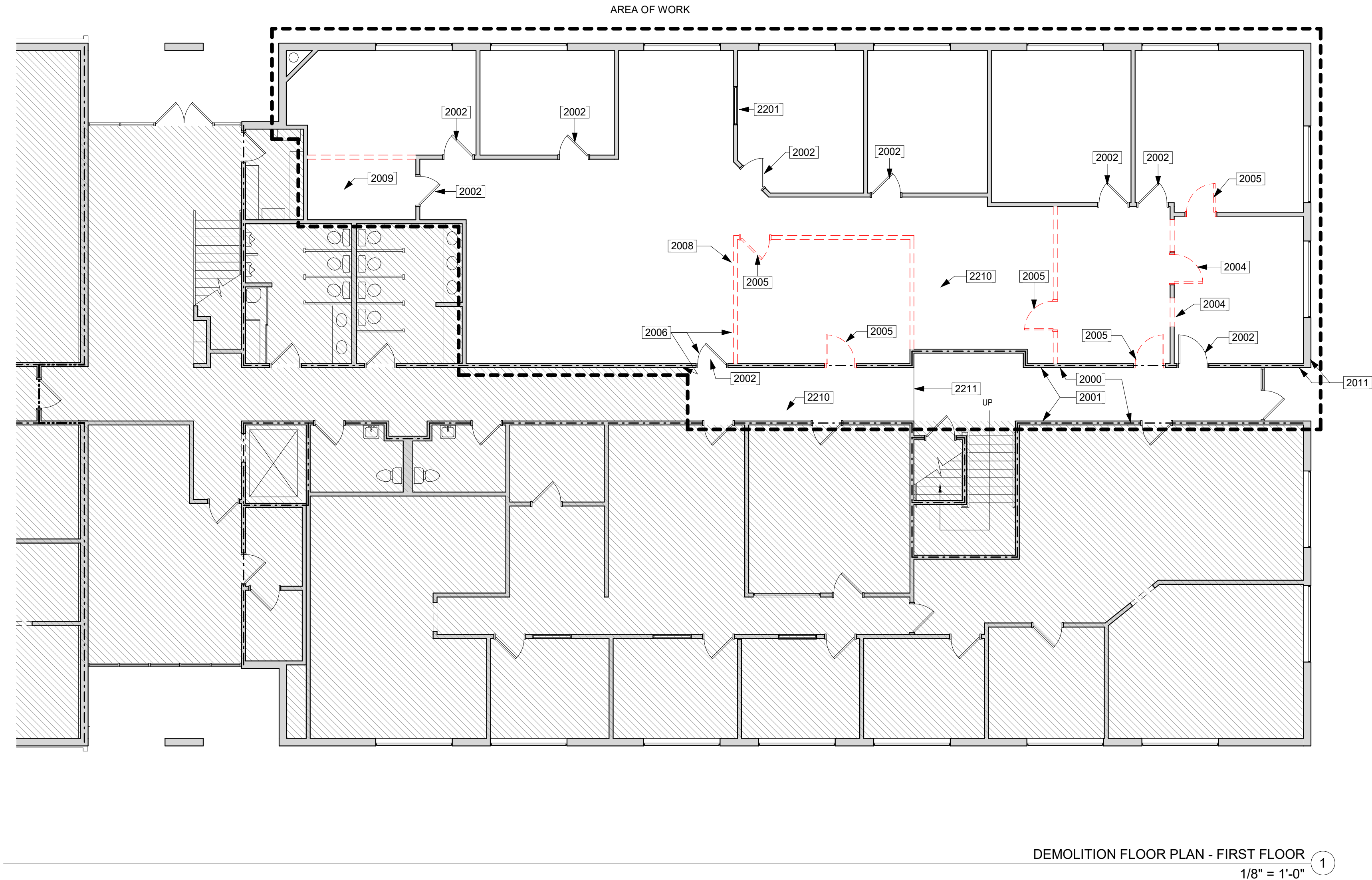
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Sheet Title
**DEMOLITION PLAN -
FIRST FLOOR**

Sheet No.

A2.01



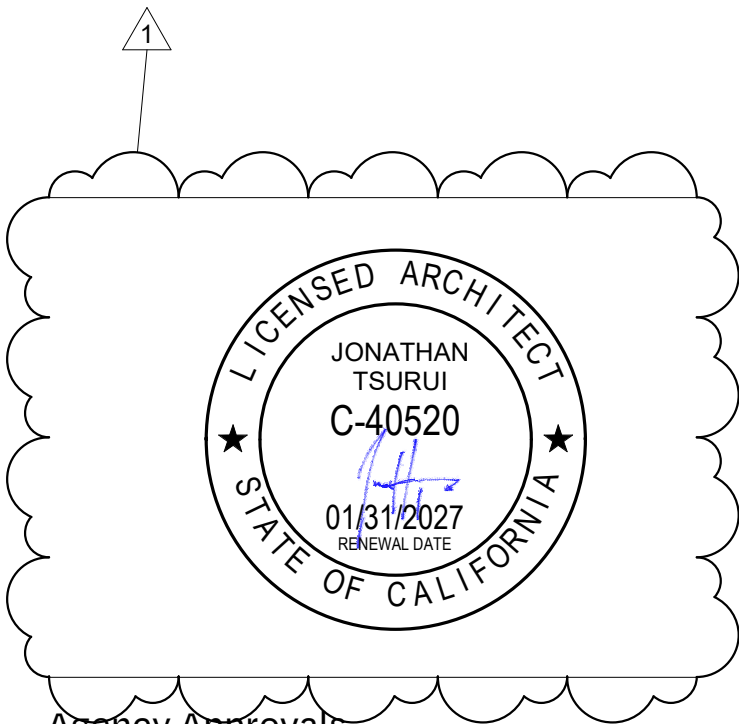
	KEYED NOTES	DEMOLITION NOTES	LEGEND - DEMOLITION
	2000 (E) 1-HR RATED WALL 2001 (E) BEARING WALL 2002 REMOVE (E) DOOR PANEL AND PREPARE DOOR FRAME TO RECEIVE REFURBISHED (E) DOOR PANEL, SEE DOOR SCHEDULE 2004 REMOVE (E) DOOR/WINDOW AND PREPARE TO RECEIVE (N) DOOR OR WINDOW, SEE A2.21 2005 REMOVE (E) DOOR PANEL, (E) DOOR FRAME AND (E) HARDWARE COMPLETELY. CONTRACTOR TO KEEP (E) DOOR PANEL AND INSTALL ELSEWHERE AS NEEDED, SEE DOOR SCHEDULE 2006 REMOVE (E) ADA DOOR ACTUATOR AND PUSH PLATE 2008 REMOVE AND RELOCATE (E) T-STAT ON DEMOLISHED WALL 2009 REMOVE (E) FLOORING AND WALL BASE. CLEAN AND PREPARE (E) CONCRETE SLAB TO RECEIVE (N) FINISH, SEE A2.21. 2011 REMOVE, REPLACE AND/OR RELOCATE (E) SIGNAGE 2201 (E) WINDOW TO REMAIN 2210 (E) CARPET TO REMAIN, TYP. CLEAN CARPETS AND PATCH AS NEEDED. 2211 (E) RESILIENT FLOORING AND TRANSITION TO REMAIN	1. GENERAL CONTRACTOR TO NOTIFY ARCHITECT OF ANY DISCOVERY OF UNFORSEEN CONDITIONS IN THE PROCESS OF DEMOLITION 2. (E) STRUCTURAL BEARING ELEMENTS TO REMAIN U.O.N. GENERAL CONTRACTOR TO NOTIFY ARCHITECT IF ANY BEARING COLUMNS ARE FOUND IN PARTITIONS TO BE REMOVED THAT DO NOT APPEAR IN PLANS. 3. DAMAGES WHICH OCCUR DURING DEMOLITION AND/OR CONSTRUCTION SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY AND EXPENSE TO RESTORE/REPAIR TO ORIGINAL CONDITION. 4. IF ANY MATERIALS SUSPECTED OF CONTAINING ASBESTOS OR ANY OTHER HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB THE MATERIALS. IMMEDIATELY NOTIFY THE OWNER, OWNER'S REP / TENANT / CLIENT AND ARCHITECT. 5. CONTRACTOR SHALL CAREFULLY REMOVE AND RETAIN EXISTING DOOR PANELS AS INDICATED ON THE DOCUMENTS. EXERCISE CARE TO AVOID DAMAGE DURING REMOVAL. PANELS TO BE REFURBISHED AND REINSTALLED AS NOTED. MAINTAIN INVENTORY OF ALL SALVAGED DOOR PANELS, INCLUDING THEIR ORIGINAL LOCATIONS AND CONDITION, FOR FURTHER COORDINATION PRIOR TO CONSTRUCTION.	1 HR FIRE RESISTANCE (E) AREA TO BE REMOVED (E) WALL TO BE REMOVED (E) WALL TO REMAIN (E) ITEM TO BE REMOVED (E) WINDOW TO BE REMOVED (E) WINDOW TO REMAIN (E) DOOR TO BE REMOVED (E) DOOR TO REMAIN



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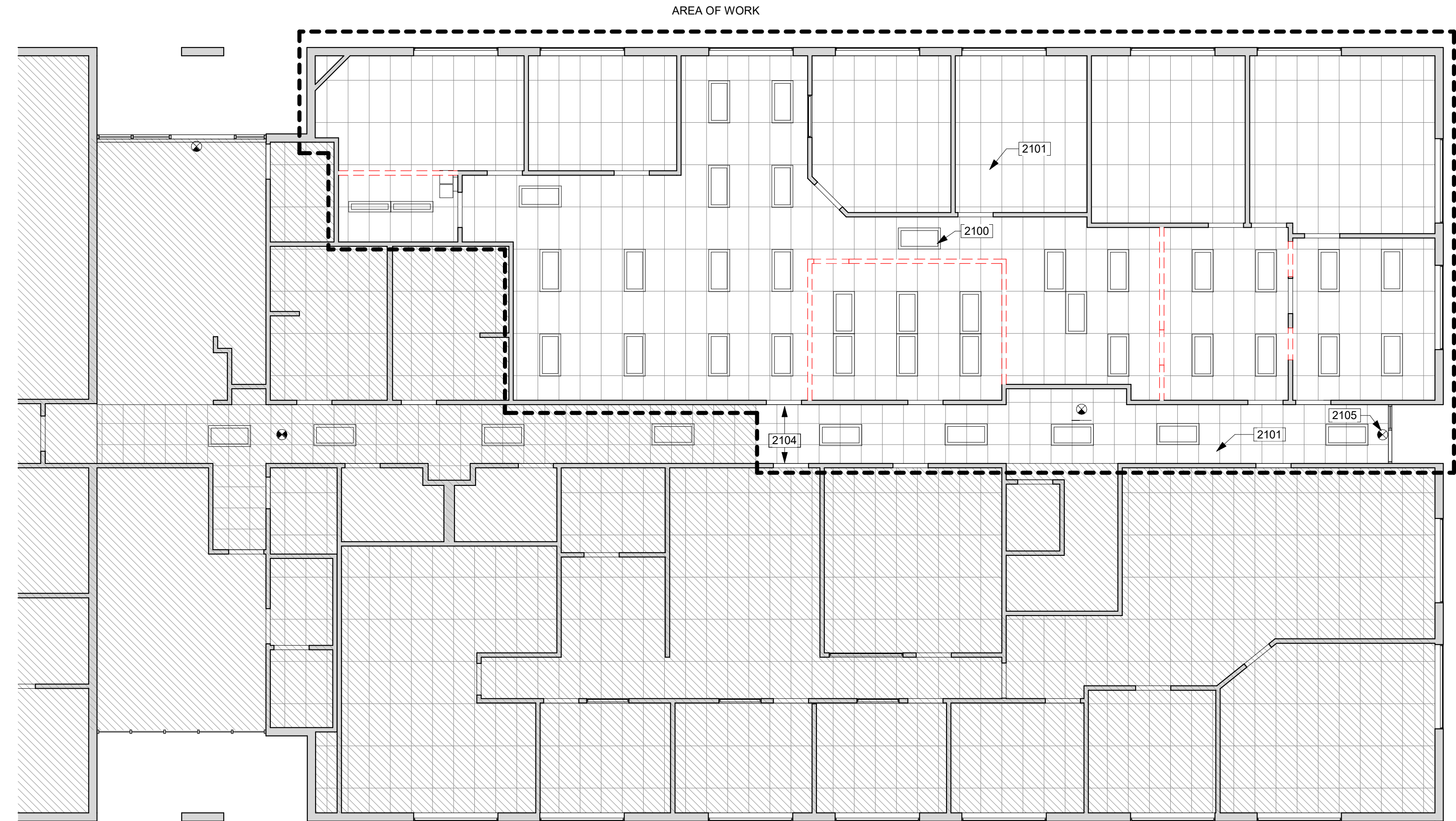
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Sheet Title
**DEMOLITION
REFLECTED CEILING
PLAN - FIRST FLOOR**

Sheet No.

A2.11

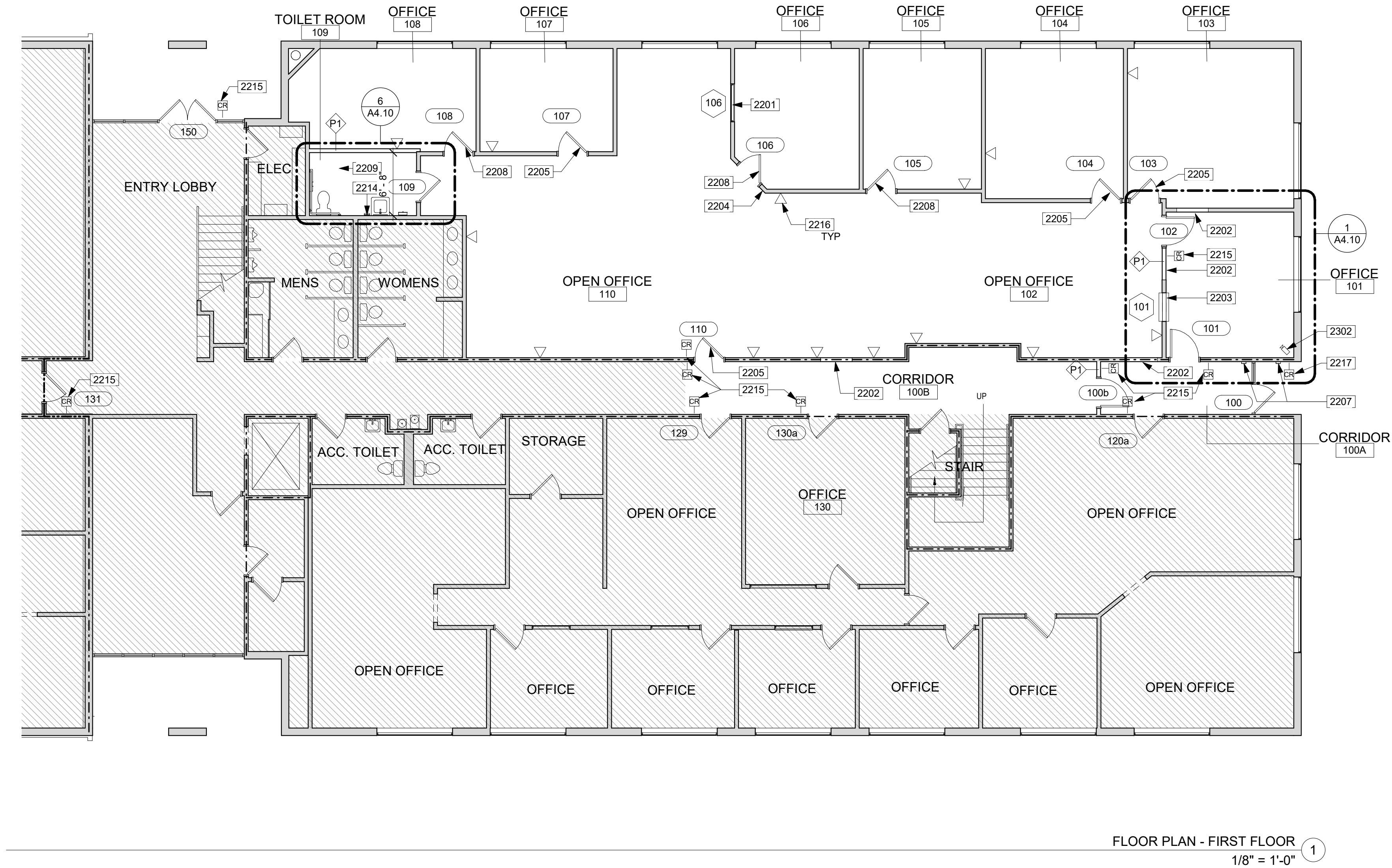


DEMOLITION REFLECTED CEILING PLAN - FIRST FLOOR 1
1/8" = 1'-0"

KEYED NOTES	DEMOLITION NOTES	LEGEND - DEMOLITION
2100 (E) LIGHTS TO BE RE-USED, TYP. SEE A2.31. 2101 (E) CEILING TILE AND GRID TO REMAIN, TYP 2104 (E) HALF-DOME SAFETY MIRROR TO REMAIN, TYP 2105 (E) CEILING DEVICES TO REMAIN	1. GENERAL CONTRACTOR TO NOTIFY ARCHITECT OF ANY DISCOVERY OF UNFORSEEN CONDITIONS IN THE PROCESS OF DEMOLITION 2. (E) STRUCTURAL BEARING ELEMENTS TO REMAIN U.O.N. GENERAL CONTRACTOR TO NOTIFY ARCHITECT IF ANY BEARING COLUMNS ARE FOUND IN PARTITIONS TO BE REMOVED THAT DO NOT APPEAR IN PLANS. 3. DAMAGES WHICH OCCUR DURING DEMOLITION AND/OR CONSTRUCTION SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY AND EXPENSE TO RESTORE/REPAIR TO ORIGINAL CONDITION. 4. IF ANY MATERIALS SUSPECTED OF CONTAINING ASBESTOS OR ANY OTHER HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB THE MATERIALS. IMMEDIATELY NOTIFY THE OWNER, OWNER'S REP / TENANT / CLIENT AND ARCHITECT. 5. CONTRACTOR SHALL CAREFULLY REMOVE AND RETAIN EXISTING DOOR PANELS AS INDICATED ON THE DOCUMENTS. EXERCISE CARE TO AVOID DAMAGE DURING REMOVAL. PANELS TO BE REFURBISHED AND REINSTALLED AS NOTED. MAINTAIN INVENTORY OF ALL SALVAGED DOOR PANELS, INCLUDING THEIR ORIGINAL LOCATIONS AND CONDITION, FOR FURTHER COORDINATION PRIOR TO CONSTRUCTION.	--- 1 HR FIRE RESISTANCE (E) WINDOW TO BE REMOVED (E) AREA TO BE REMOVED (E) WINDOW TO REMAIN - - - - - (E) WALL TO BE REMOVED (E) DOOR TO BE REMOVED ===== (E) WALL TO REMAIN (E) DOOR TO REMAIN - . - . - (E) ITEM TO BE REMOVED

FINISH SCHEDULE						
KEY	DESCRIPTION	MANUFACTURER	MODEL / STYLE / PATTERN	COLOR	LOCATION	COMMENTS
BASE						
B-1	RUBBER COVE BASE	(E)	(E)	(E)	OFFICE	PATCH AND REPAIR AS NEEDED
B-2	STAINLESS STEEL BASE	SCHULTER	DESIGNBASE-SL, 4"	BRUSHED STAINLESS STEEL	TOILET ROOM	SANITARY COVE BASE
CEILING						
ACT-1	2X2 CEILING TILE	(E)	(E)	(E)	CORRIDOR	PATCH AND REPAIR AS NEEDED
ACT-2	2X4 CEILING TILE	(E)	(E)	(E)	OFFICE	PATCH AND REPAIR AS NEEDED
CONCRETE						
CONC-1	SEAL (E) CONCRETE				TOILET ROOM	REMOVE ANY (E) SEALER, ETCH CONCRETE, APPLY THIN LAYER OF SEALER, AND THEN APPLY A SECOND COAT.
FLOORING						
CPT-1	CARPET TILE	(E)	(E)	(E)	CORRIDOR	PATCH AND REPAIR AS NEEDED. ALTERNATE CARPET TILE: INTERFACE OPEN AIR 423
CPT-2	CARPET TILE	(E)	(E)	(E)	OFFICE	PATCH AND REPAIR AS NEEDED. ALTERNATE CARPET TILE: INTERFACE OPEN AIR 423
PAINT						
PT-1	FIELD PAINT - WHITE	(E)	(E)	MATCH (E) COTTAGE WHITE	OFFICE AND TOILET ROOM	PATCH AND REPAIR AS NEEDED. PROVIDE PAINT BRUSHOUT
RESILIENT FLOORING						
RF-1	RESILIENT FLOOR TILE	(E)	(E)	(E)	CORRIDOR	PATCH AND REPAIR AS NEEDED
WALL PROTECTION						
FRP-1	FIBERGLASS REINFORCED PANEL	MARLITE	STANDARD FRP OR EQUAL. P470N WITH PVC TRIM	DARK GRAY, CLASS C	TOILET ROOM	SEE INTERIOR ELEVATIONS

ROOM FINISH SCHEDULE									
ROOM NUMBER	ROOM NAME	WALL FINISH				WALL BASE	FLOOR FINISH	CEILING FINISH	
		N	E	S	W				
100A	CORRIDOR	PT-1	PT-1	PT-1	PT-1	B-1	RF-1	ACT-1	
100B	CORRIDOR	PT-1	PT-1	PT-1	PT-1	B-1	RF-1	ACT-1	
101	OFFICE	PT-1	PT-1	PT-1	PT-1	B-1	CPT-2	ACT-2	
102	OPEN OFFICE	PT-1	PT-1	PT-1	PT-1	B-1	CPT-2	ACT-2	
103	OFFICE	PT-1	PT-1	PT-1	PT-1	B-1	CPT-2	ACT-2	
104	OFFICE	PT-1	PT-1	PT-1	PT-1	B-1	CPT-2	ACT-2	
105	OFFICE	PT-1	PT-1	PT-1	PT-1	B-1	CPT-2	ACT-2	
106	OFFICE	PT-1	PT-1	PT-1	PT-1	B-1	CPT-2	ACT-2	
107	OFFICE	PT-1	PT-1	PT-1	PT-1	B-1	CPT-2	ACT-2	
108	OFFICE	PT-1	PT-1	PT-1	PT-1	B-1	CPT-2	ACT-2	
109	TOILET ROOM	PT-1	PT-1	PT-1	FRP-1	B-2	CONC-1	ACT-2	
110	OPEN OFFICE	PT-1	PT-1	PT-1	PT-1	B-1	CPT-2	ACT-2	



FLOOR PLAN - FIRST FLOOR 1
1/8" = 1'-0"

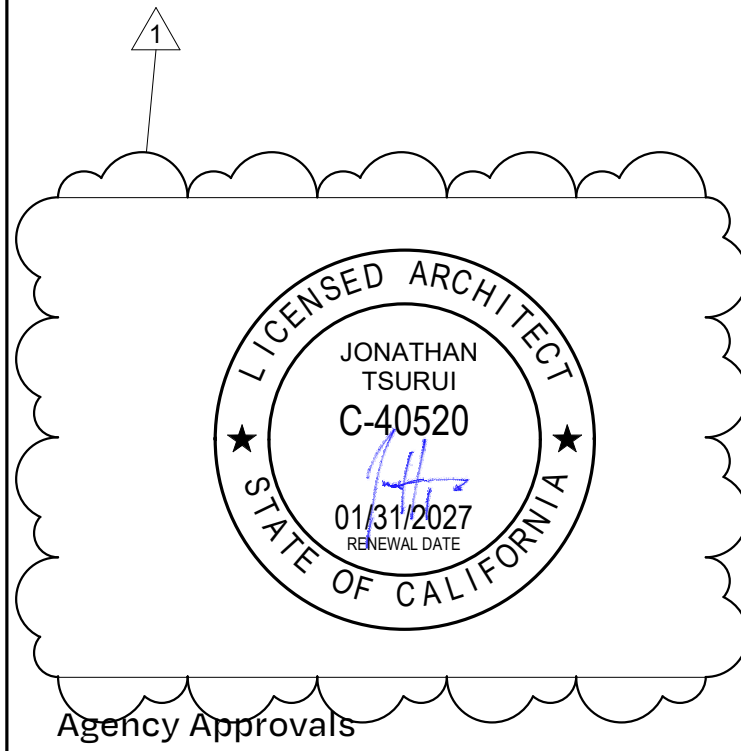
FINISH PLAN NOTES	DIMENSION NOTES	KEYED NOTES	LEGEND - NEW CONSTRUCTION
1. GENERAL CONTRACTOR SHALL PROTECT EXISTING FLOORING FROM DAMAGE DURING FIXTURE DELIVERY AND INSTALLATION. 2. EXAMINE ALL SURFACES TO BE PAINTED IN THE AREA OF WORK TO ENSURE THAT THE WORK OF OTHER TRADES HAS BEEN LEFT OR INSTALLED IN A SATISFACTORY CONDITION TO RECEIVE SPECIFIED FINISH. 3. UPON COMPLETION OF PAINTING, ALL PAINT MATERIALS AND EQUIPMENT SHALL BE REMOVED, ALL PAINT SPOTS REMOVED, AND ALL AREAS THOROUGHLY CLEANED. ANY DIRT OR DEBRIS CAUSED BY WORK SHALL BE CLEANED UP AS WORK PROGRESSES. 4. RETOUCH OR REFINISH SURFACES DAMAGES BY SUBSEQUENT WORK AS DIRECTED BY GENERAL CONTRACTOR. THE COST OF SUCH RESTORATION WORK SHALL BE BORNE BY THE CONTRACTOR. 5. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING PROPER PROTECTION AGAINST DAMAGE TO EXISTING FURNITURE, ADJACENT FINISHED WORK, FLOORING, ETC. IF APPLICABLE. 6. FLOOR SURFACES ALONG ACCESSIBLE ROUTES, IN ACCESSIBLE ROOMS AND SPACES SHALL BE FIRM, STABLE AND SLIP RESISTANT. 7. ALL FLOORING TRANSITION STRIPS MUST COMPLY WITH ALL CBC ACCESSIBILITY REQUIREMENTS. 8. PROVIDE INTERIOR SIGNAGE FOR ROOM NUMBER DESIGNATION AND WAYFINDING.	1. DIMENSIONS ARE AS FOLLOWS, UNLESS OTHERWISE NOTED : A) TO FACE OF FINISH B) TO CENTER OF DOORS AND OTHER OPENINGS C) TO TOP OF FINISHED FLOORS D) TO BOTTOM OF FINISH AT CEILINGS E) TO OUTSIDE FACE OF FINISHED MILLWORK F) TO FINISHED WINDOW FRAME. SEE WINDOW DETAILS FOR DIMENSION POINT, 9/A8.00. 2. DIMENSIONS SHOWN AS V.I.F. SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES IN DIMENSIONS PRIOR TO PROCEEDING WITH THE WORK IN THAT AREA. 3. DIMENSIONS MARKED "CLEAR" SHALL BE MAINTAINED AND SHALL ALLOW FOR THICKNESS OF FINISHES INCLUDING CERAMIC TILE, VCT, ETC. DIMENSIONS MARKED "CLEAR" ARE TO BE WITHIN 1/8" OF GIVEN DIMENSION ALONG FULL HEIGHT/WIDTH/LENGTH OF SURFACES. 4. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN PARTITION LOCATIONS, DIMENSIONS AND TYPES. DOOR AND WINDOW LOCATIONS SHALL BE AS SHOWN ON CONSTRUCTION PLAN. IN CASE OF CONFLICT, NOTIFY ARCHITECT FOR WRITTEN CLARIFICATION PRIOR TO PROCEEDING WITH CONSTRUCTION. CONSTRUCTION PLAN BY ARCHITECT SUPERSEDES OTHER PLANS.	2201 (E) WINDOW TO REMAIN 2202 INFILL WALL, PATCH/REPAIR (E) WALL AS REQUIRED, SSD. MAINTAIN EXISTING FIRE RATING AS REQUIRED. 2203 MODIFY EXISTING OPENING FOR (N) WINDOW, SEE ELEVATIONS AND SSD 2204 RELOCATED T-STAT 2205 EXISTING DOOR TO RECEIVE NEW KICKPLATE. SEE DOOR SCHEDULE. 2207 ADA AUTOMATIC DOOR ACTUATOR WITH VERTICAL PUSH PLATE. PLACE HORIZONTALLY ALIGNED AND BELOW (E) CARD READER, TOP EDGE MIN. 40" AFF [CBC 11B-404.2.9.6] 2208 NEW LITE IN EXISTING DOOR PANEL. SEE DOOR SCHEDULE. 2209 GRIND CONCRETE SMOOTH AND LEVEL, PATCH AND REPAIR HOLES OR DEPRESSIONS IN CONCRETE, APPLY SEALER 2214 NEW FRP ON WALL, SEE ENLARGED PLAN 2215 CARD READER, CONTRACTOR TO INSTALL ALL HARDWARE AND FIELD WIRING BACK TO DEMARK LOCATION GUTTERBOX LOCATED NEAR DOOR 131. COUNTY OF SONOMA FACILITY OPERATIONS WILL TERMINATE AT HEADEND AND PROGRAM. SPECIFIC HARDWARE TO MATCH EXISTING AND TEST. SEE DOOR SCHEDULE NOTES FOR FURTHER INSTRUCTIONS 2216 WALL DATA OUTLET, GC TO FIELD VERIFY EXISTING LOCATION FOR REUSE AND PROVIDE NEW AS REQUIRED. SEE ELECTRICAL DRAWINGS FOR POWER LOCATION. 2217 (E) CARD READER 2302 CONTRACTOR TO SPECIFY AND INSTALL SECURITY CAMERAS AND DVR'S AFTER SHOP DRAWING/ SUBMITTAL APPROVED BY COUNTY OF SONOMA PROJECT MANAGER	--- ABOVE OR BELOW ===== (E) WALL TO REMAIN ===== (E) 1 HR. FIRE RESISTANCE RATED WALL ===== (E) 2 HR. FIRE RESISTANCE RATED WALL ===== (N) WALL XXX (N) DOOR ===== (E) WINDOW TO REMAIN ### (N) WINDOW [N.I.C.] [N.I.C.] NOT IN CONTRACT #### KEYED NOTE #### SPECIALTY EQUIPMENT TAG XX-00 MATERIAL TAG XX## XX## TRANSITION TAG TL1 WALL FINISH TAG CR CARD READER ▽ DATA



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Revision No. 1 Date 2/2/2026
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Job Title
SONOMA DRC

Job Address
**2300 COUNTY CENTER DRIVE
SANTA ROSA, CA 95403**

Date: **18 APR 2025**

Issued For
100% CD

Job Number: **24015**

Drawn By: **JK** Checked By: **KE**

Scale
As indicated



Sheet Title
**PROPOSED PLAN -
FIRST FLOOR**

Sheet No.

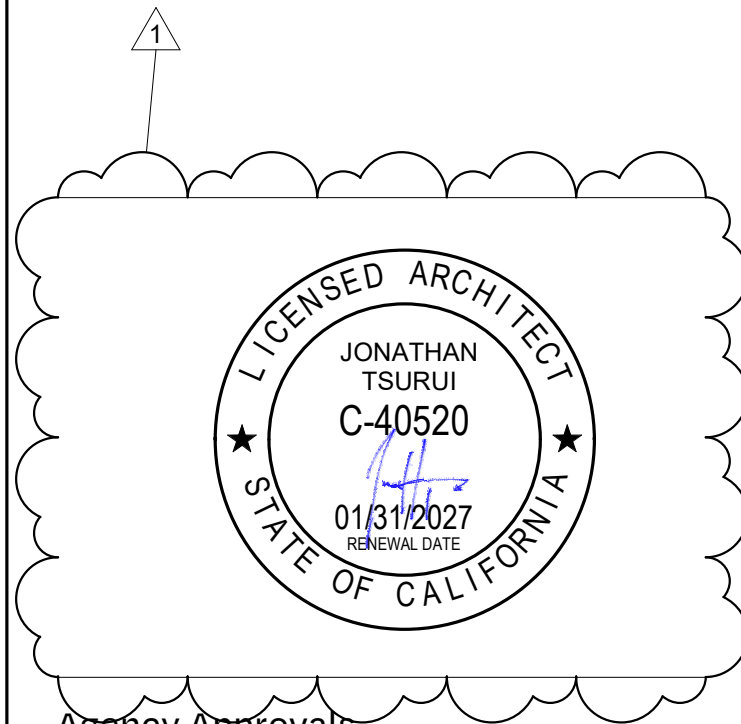
A2.21



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Scale

As indicated

0 2' 4' 8' 16'

Sheet Title
**REFLECTED CEILING
PLAN - FIRST FLOOR**

Sheet No.

A2.31



REFLECTED CEILING PLAN - FIRST FLOOR 1
1/8" = 1'-0"

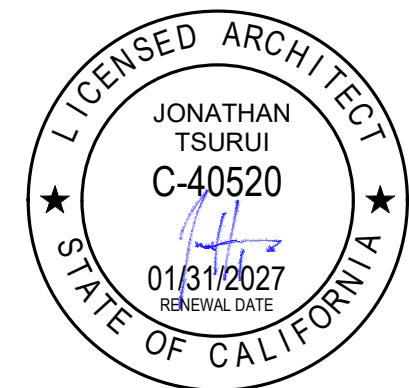
REFLECTED CEILING PLAN GENERAL NOTES	RCP LEGEND	KEYED NOTES
1. ALL CEILING HEIGHTS NOTED IN THE REFLECTED CEILING PLAN ARE MEASURED FROM TOP OF FINISH FLOOR. 2. FOR CEILING MATERIAL SPECIFICATIONS, SEE FINISH SCHEDULE. 3. CENTER EXIT LIGHTS ON THEIR CORRESPONDING DOORS WHERE APPLICABLE. 4. COORDINATE SPACING OF CEILING FRAMING TO ACCOMMODATE LIGHT FIXTURES, SPEAKERS, DIFFUSERS, ETC. AS LOCATED IN THE REFLECTED CEILING PLAN. 5. ALL PENETRATIONS OF FIRE RESISTIVE FLOOR OR SHAFT WALLS SHALL BE PROTECTED BY MATERIALS AND INSTALLATION DETAILS THAT CONFORM TO UL STANDARDS FOR THROUGH-PENETRATION FIRESTOP SYSTEMS. THE GENERAL CONTRACTOR SHALL SUBMIT SHOP DRAWING DETAILS WHICH SHOW COMPLETE CONFORMANCE TO THE UL LISTING TO THE ARCHITECT. SUCH DRAWINGS SHALL BE AVAILABLE TO ANY CITY INSPECTORS. THE DRAWINGS SHALL BE SPECIFIC FOR EACH PENETRATION WITH ALL VARIABLES DEFINED.	[N.I.C.] NOT IN CONTRACT 2X4 LIGHT, SED EXIT SIGN, SED EXHAUST FAN, SMD SECURITY CAMERA	2300 (E) ACT CEILING. REPLACE DAMAGED OR STAINED TILES, TYP. GC TO PROVIDE ATTIC STOCK 2301 RELAMP (E) LIGHT FIXTURES, TYP. SED* 2302 CONTRACTOR TO SPECIFY AND INSTALL SECURITY CAMERAS AND DVR'S AFTER SHOP DRAWING/ SUBMITTAL APPROVED BY COUNTY OF SONOMA PROJECT MANAGER



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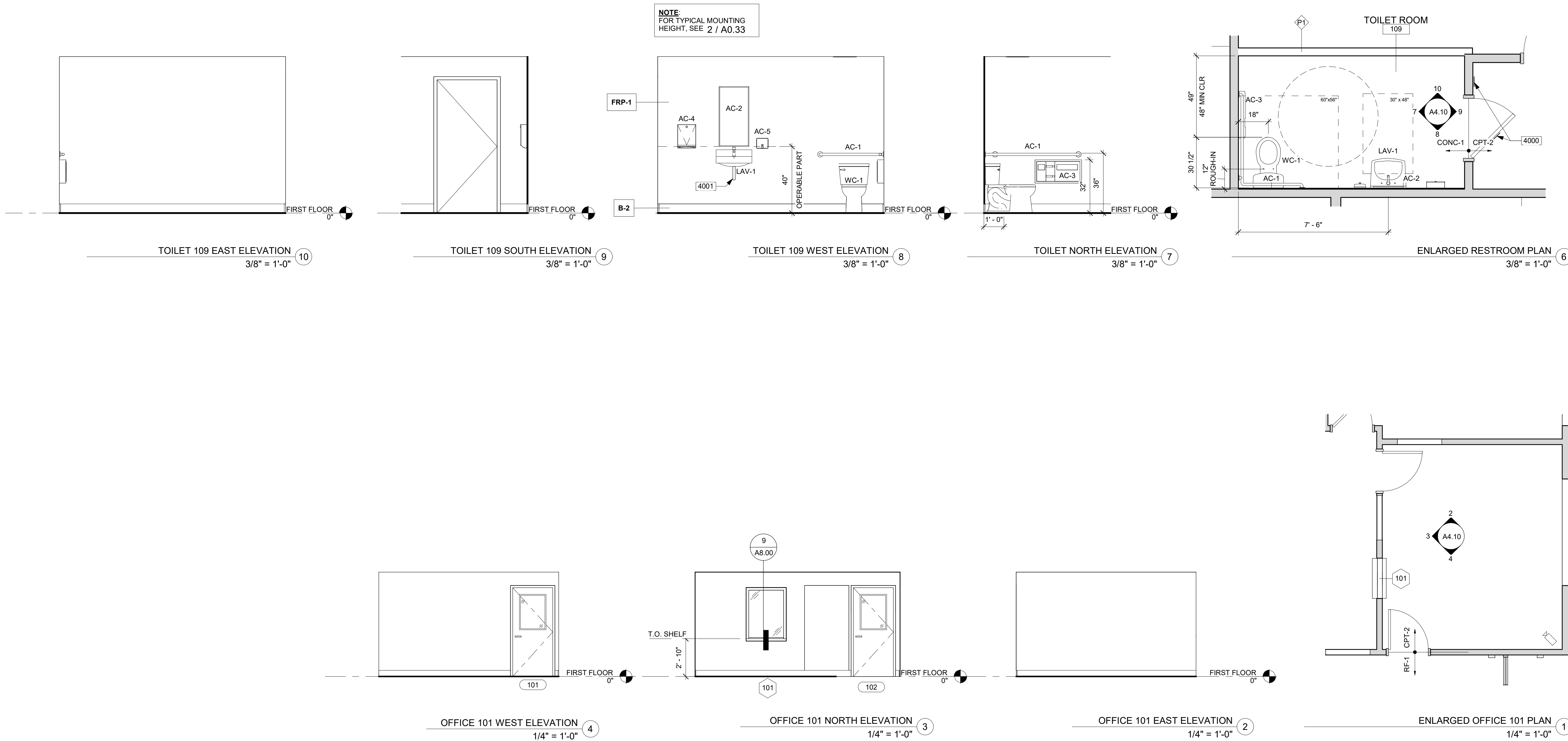
Drawn By: **JK** Checked By: **KE**

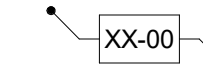
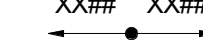
Scale
As indicated

Sheet Title
**ENLARGED PLANS &
INTERIOR ELEVATIONS**

Sheet No.

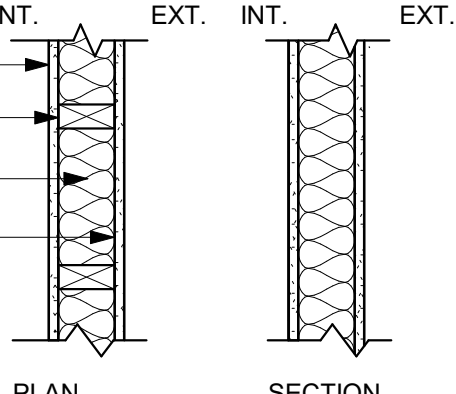
A4.10



DETAIL PLAN/ ELEVATION NOTES		PLUMBING FIXTURE SCHEDULE					FINISH PLAN LEGEND		KEYED NOTES	
1.	ALL INTERIOR WALL FINISHES SHALL COMPLY WITH [CBC SECTION 803] AND [TABLE 803.13] TYPICALLY: A. CLASS C FOR ROOMS AND ENCLOSED SPACES B. CLASS B FOR EXIT COORIDORS, EXIT STAIRS AND EXIT ACCESS STAIRS	TAG	DESCRIPTION	MANUFACTURER	MODEL	COMMENTS	 [N.I.C.] NOT IN CONTRACT	4000 ADA RESTROOM SIGNAGE, SEE 15/A0.34 4001 INSULATE EXPOSED WATER SUPPLY AND DRAIN PIPES		
		WC-1	WATER CLOSET - ADA			ADA. SEE PLUMBING DRAWINGS				
		LAV-1	LAVATORY			ADA. SEE PLUMBING DRAWINGS				
2.	FOR FINISH MATERIAL REFERENCES, SEE FINISH SCHEDULE ON A2.21.						 KEYED NOTE			
3.	REFER TO A0.31, A0.32, A0.33 FOR TYPICAL MOUNTING HEIGHTS OF ACCESSIBLE FIXTURES.						 SPECIALTY EQUIPMENT TAG			
							 MATERIAL TAG			
							 TRANSITION TAG			
					 WALL FINISH TAG					
		TOILET ACCESSORY SCHEDULE								
		TAG	DESCRIPTION	MANUFACTURER	MODEL	COMMENT				
		AC-1	GRAB BAR	BOBRICK	B-68137.99	OR EQUAL				
		AC-2	MIRROR	BOBRICK	B-165 1836	OR EQUAL				
		AC-3	COMBO TOILET SEAT-COVER DISPENSER, WASTE DISPOSAL AND TOILET TISSUE DISPENSER	BOBRICK	B-30919	SURFACE MOUNTED. OR EQUAL				
		AC-4	PAPER TOWEL DISPENSER	BOBRICK	B-262	SURFACE MOUNTED. OR EQUAL				
		AC-5	SOAP DISPENSER	BOBRICK	B-4112	SURFACE MOUNTED. OR EQUAL				

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PARTITION TYPES

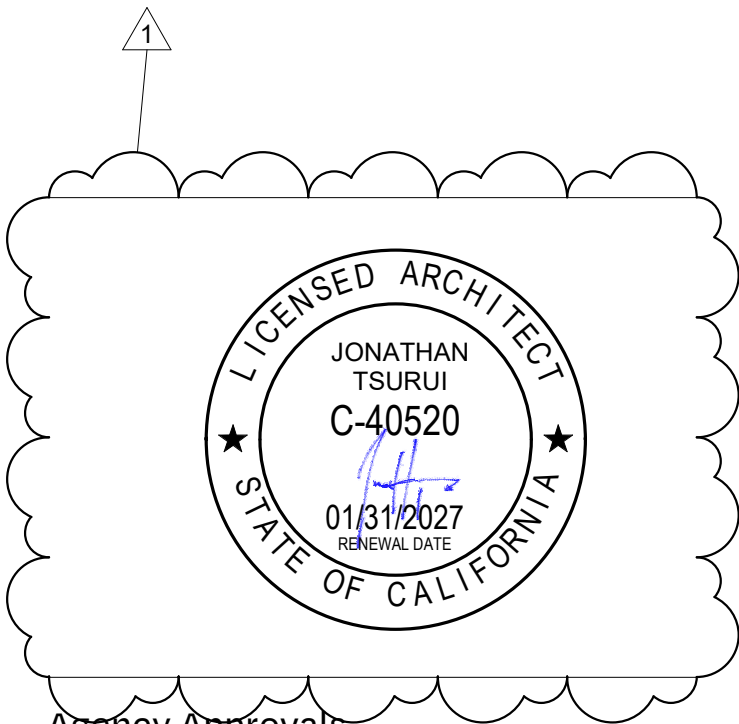
TYPE	DESCRIPTION	
P1	TYPICAL INTERIOR PARTITION - INFILL 5/8" G.W.B. _____ WOOD STUD FRAMING, WIDTH TO MATCH EXISTING FRAMING _____ ACOUSTIC BATT INSULATION, SEE ASSEMBLY NOTE 2 _____ 5/8" G.W.B. _____	INT.EXT. INT.EXT.  PLANSECTION



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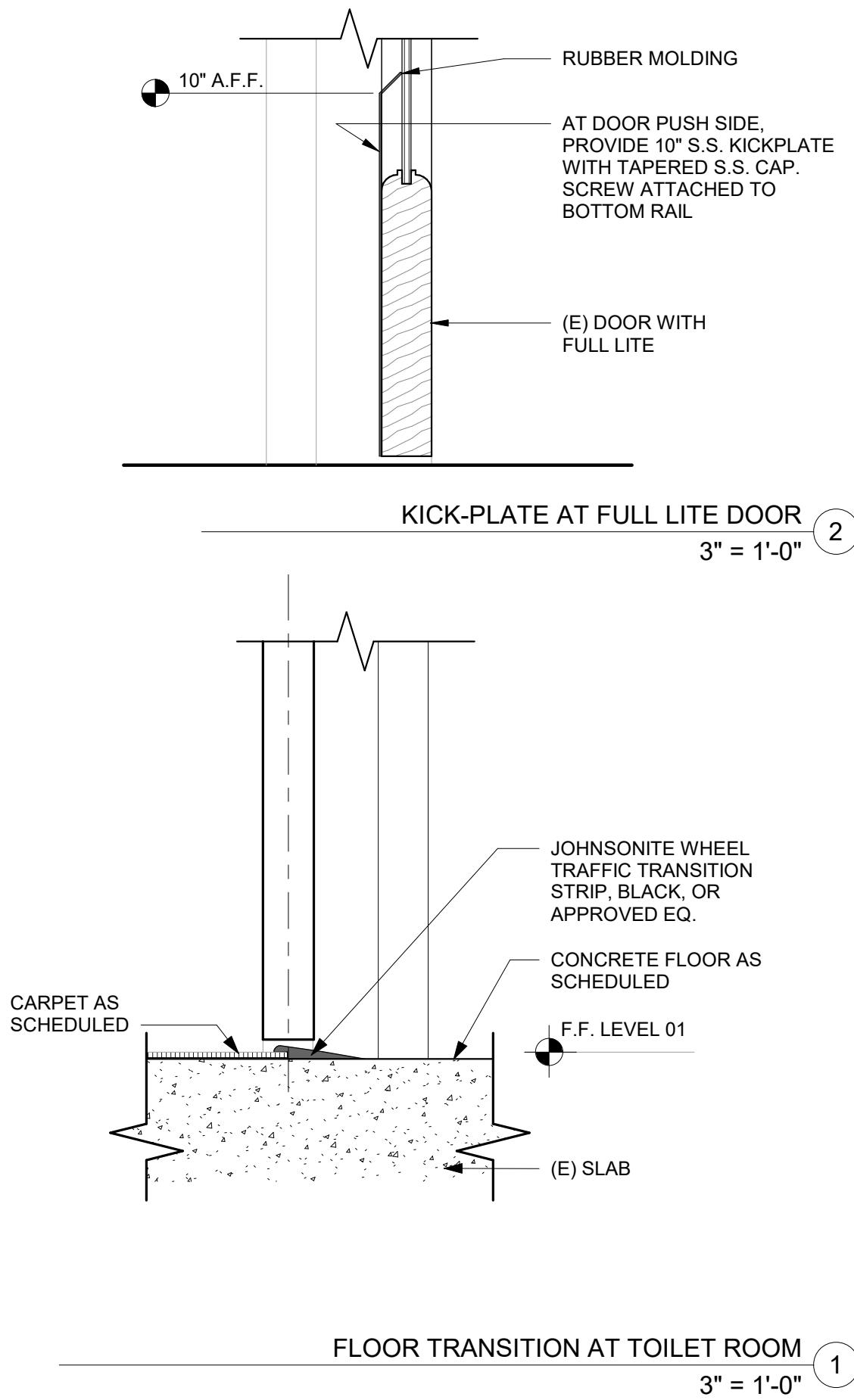
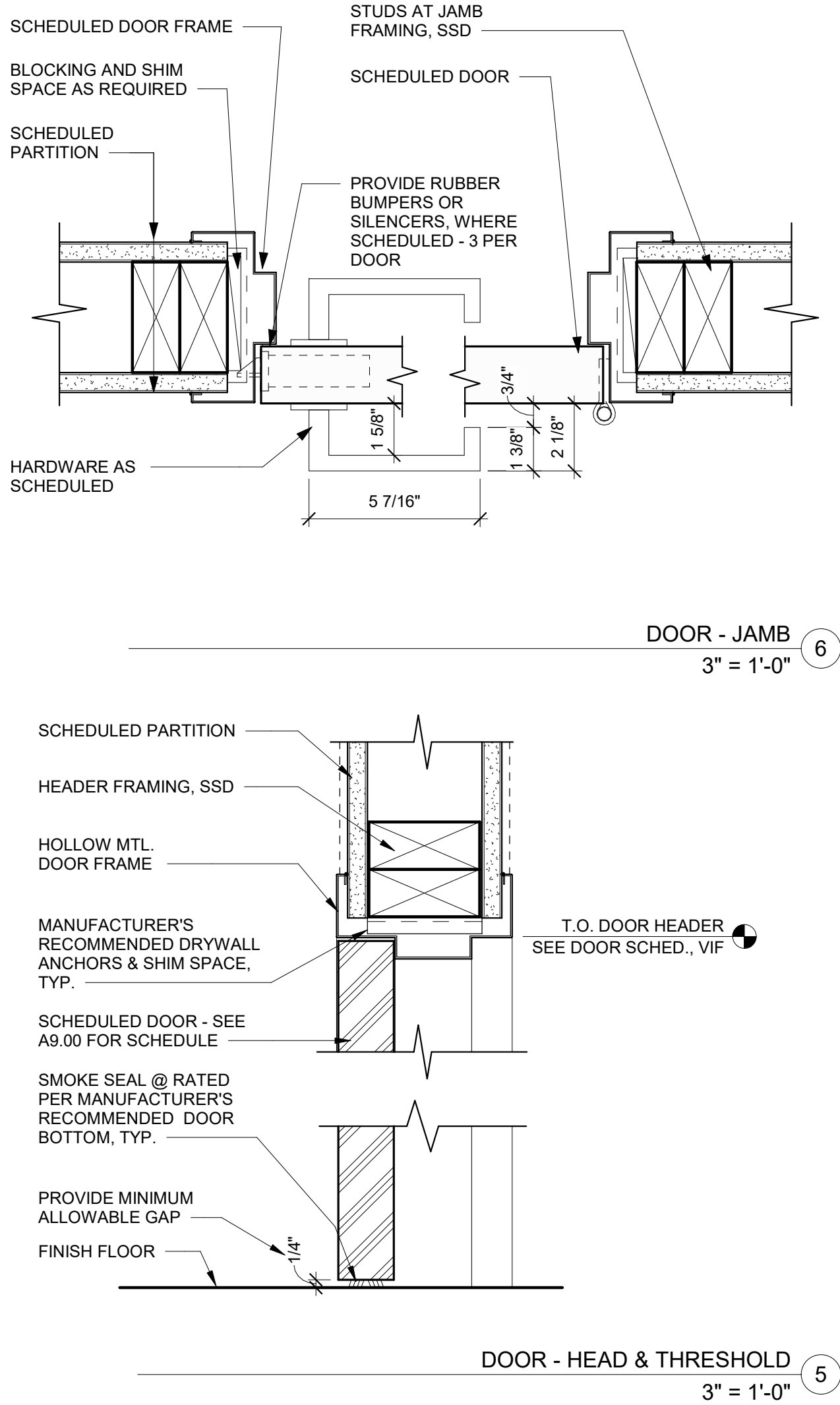
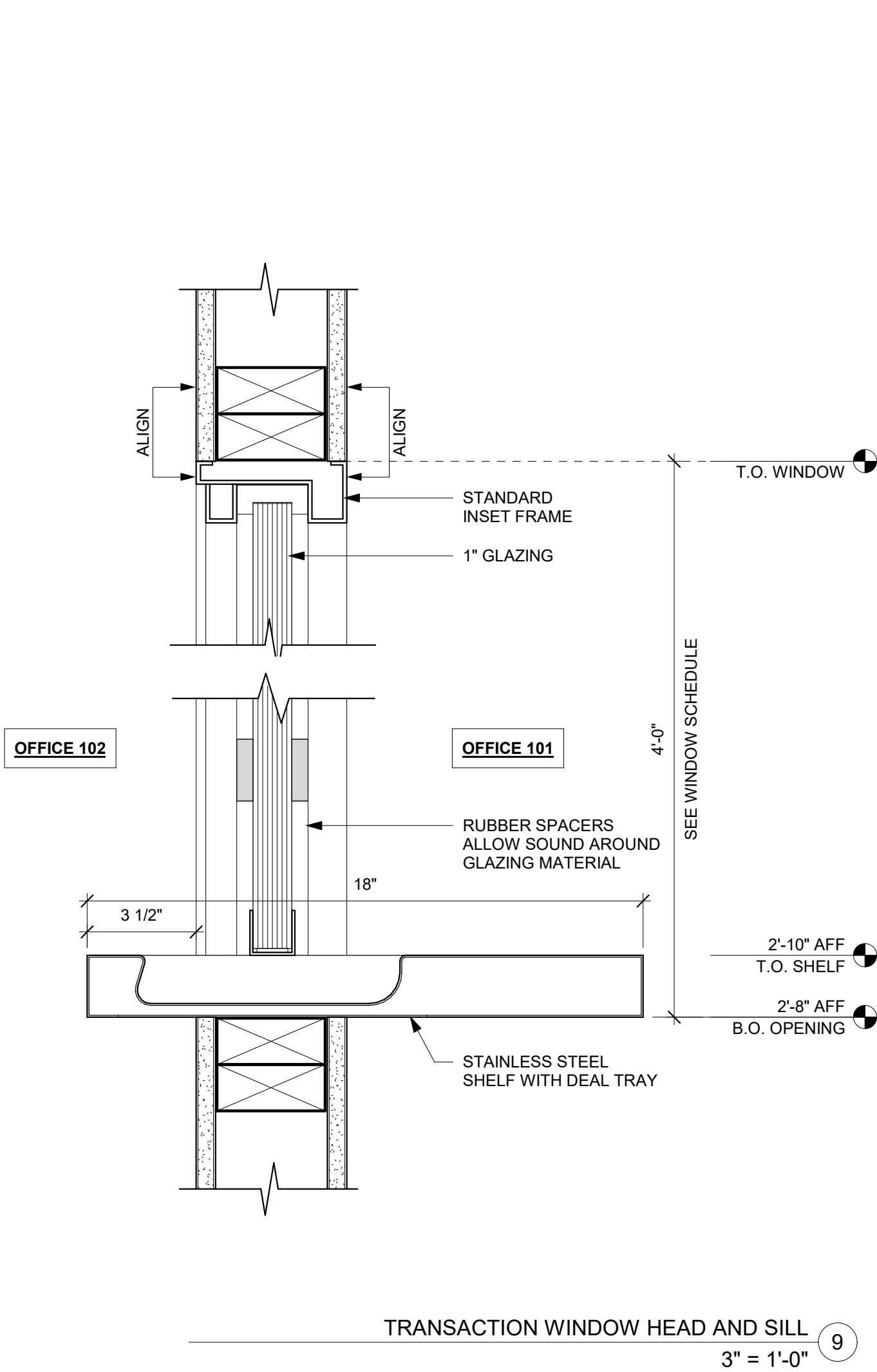
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Date: **18 APR 2025**

Issued For
100% CD

Job Number: **24015**

Drawn By: **JK** Checked By: **KE**

Scale
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Sheet Title
INTERIOR DETAILS

Sheet No.

A8.00

DOOR & WINDOW SCHEDULE KEY

ALUM.	ALUMINUM
ANOD.	ANODIZED FINISH, COLOR [BLACK]
BALL.	BALLISTIC
CLR.	CLEAR FINISH
C.T.	CLEAR TEMPERED
D.	DOUBLE
E.G.	EXTERIOR GRADE
F.C.	LIGHTWEIGHT FOAM CORE
H.M.	HOLLOW METAL
IGU.	INSULATING GLASS UNIT
LAM.	LAMINATED SAFETY GLAZING
MILL.	MILL FINISH
PATT.	PATTERNED / FROSTED FINISH
PTD.	PAINTED, REF. FINISH SHEDULE
S.	SINGLE
S.C.	SOLID CORE
S.G.	SINGLE-GLAZING
S.S.	STAINLESS STEEL
STAIN	STAIN GRADE, [FINISH & SPEC PER ARCH. SAMPLE]
STL.	STEEL
TEMP.	TEMPERED SAFETY GLAZING
T.D.	TRAFFIC DOOR (DOUBLE-ACTING DOOR)
WD.	WOOD

DOOR SCHEDULE NOTES

1. SEE FLOOR PLAN FOR DOOR SWING OR OPENING DIRECTION. GENERAL CONTRACTOR SHALL CONFIRM THAT THE HANDING OF DOORS & ASSOCIATED HARDWARE IS CONSISTENT WITH THE INDICATED DIRECTION OF SWINGS ON THE PLANS.
2. GENERAL CONTRACTOR SHALL FIELD-VERIFY ALL DIMENSIONS, LOCATIONS, AND CONFIGURATIONS OF ALL EXISTING, MODIFIED AND NEW ROUGH OPENINGS PRIOR TO THE ORDERING OF ANY DOOR UNITS. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
3. GENERAL CONTRACTOR SHALL CONFIRM ALL SECURITY REQUIREMENTS WITH OWNER/OWNER'S REP.
4. GENERAL CONTRACTOR SHALL ADJUST DOOR & TRIM INSTALLATION TO SPECIFIC FIELD CONDITIONS AS REQUIRED.
5. GENERAL CONTRACTOR SHALL PROVIDE ALL HARDWARE AND ACCESSORIES REQUIRED TO CREATE FULLY-OPERATIONAL DOOR ASSEMBLIES, TYP.
6. DIMENSIONS FOR UNDERCUT DOORS, IF ANY, SHALL BE MEASURED FROM TOP OF FINISH FLOORING MATERIAL, OR OF THRESHOLD, AS APPLICABLE.
7. DOORS WITH ACCESS CONTROL TO HAVE MANUAL KEY OVERRIDE. EXCLUDE ANY REKEYING OF LOCK CYLINDERS. COUNTY WILL COORDINATE WITH LOCKSMITH.
8. EXIT DOORS SHALL BE OPENABLE FROM THE INSIDE WITHOUT USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT.
9. EXIT DOORWAYS SHALL BE NO LESS THAN 32" IN CLEAR WIDTH MEASURED WITH THE DOOR OPENED AT 90 DEGREES AND 80" IN HEIGHT. PROJECTIONS INTO THE CLEAR OPENING WIDTH BETWEEN 34" AND 80" ABOVE THE FLOOR OR GROUND SHALL NOT EXCEED 4" PER CBC SECTION 1010.1.1.
10. PROVIDE FIRE DOOR AND FRAME ASSEMBLIES WITH APPROPRIATE LABELS AS NOTED ON SCHEDULE.
11. PROVIDE DOOR CLOSER AND ACTIVE LATCH/ LOCKSET AT ALL FIRE DOORS [PER CBC 7.16.2.6].
12. DOORS LEADING INTO ACCESSIBLE ROOMS AND SPACES TO BE 3'-0" WIDE MIN. 32" MIN CLEAR WIDTH IN OPEN POSITION. PROJECTIONS INTO THE CLEAR OPENING WIDTH BETWEEN 34" AND 80" ABOVE THE FLOOR OR GROUND SHALL NOT EXCEED 4"
13. ALL CONTROLS AND OPERATING MECHANISMS TO BE WITHIN SIDE REACH RANGE BETWEEN 15" TO 48" A.F.F.
14. ALL DOORS TO HAVE LEVER OPERATED HARDWARE MOUNTED AT [30"- 44"] A.F.F. TO CENTER OF LEVER, U.O.N.
15. LATCHING AND LOCKING DOORS THAT ARE HAND-ACTIVATED AND WHICH ARE IN A PATH OF TRAVEL ON AN ACCESSIBLE ROUTE SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE, PANIC BARS, PUSH-PULL ACTIVATING BARS OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPERATING HARDWARE.
16. ALL INTERIOR AND EXTERIOR DOORS LOCATED ON AN ACCESSIBLE ROUTE SHALL HAVE 5 LB. MAX. FORCE TO OPEN. ALL FIRE DOORS SHALL BE EQUIPPED WITH APPROVED HARDWARE WHICH RELEASES UNDER PRESSURE OF 15 LB MAX.
17. DOOR CLOSERS SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12 DEGREES FROM THE LATCH IS 5 SECONDS MINIMUM.
18. SAFETY GLAZING PROVIDED IN THE PROJECT SHALL COMPLY WITH ANSI-Z97.1.
19. ALL GLAZED DOORS, SIDELIGHTS, AND GLAZED PANELS IMMEDIATELY ADJACENT TO ANY DOOR AND LOCATED WITHIN 60" A.F.F. SHALL HAVE SAFETY GLAZING PER CBC SECTION 2406.4.
20. PROVIDE SOUND-RATED ACOUSTICAL DOORS AND/OR PERIMETER GASKETS WHERE REQUIRED TO ACHIEVE PROPOSED SOUND ISOLATION.
21. CONTRACTOR TO INSTALL CARD READERS, POWER SUPPLIES, ELECTRIFIED HARDWARE, INCLUDING PANIC HARDWARE, ELECTRICAL JUNCTION BOX, CONDUIT, CABLING AT DOORS AS NOTED ON PLANS. CONTRACTOR TO INSTALL ALL HARDWARE AND FIELD WIRING BACK TO DEMARK LOCATION GUTTERBOX LOCATED NEAR DOOR 131. COUNTY OF SONOMA FACILITY OPERATIONS WILL TERMINATE AT HEADEND AND PROGRAM. SPECIFIC HARDWARE TO MATCH EXISTING AND TEST. CONTRACTOR WILL ASSIST WITH ANY TROUBLESHOOTING. NO DOORS WILL HAVE DPS. (DOOR POSITIONING INDICATORS).
22. CONTRACTOR TO INSTALL DURESS/PANIC BUTTONS , SPECIFIC HARDWARE TO MATCH EXISTING.
23. CONTRACTOR TO INSTALL MOMENTARY OPEN PUSH BUTTON UNDER RECEPTION WORKSTATION DESKTOP THAT BRIEFLY DISABLES DOOR 102 DOOR LATCH GRANTING VISITOR ACCESS TO ENTER FROM ROOM 101 LOBBY SIDE.

WINDOW SCHEDULE NOTES

1. WINDOW TYPES ARE SHOWN AS VIEWED FROM THE EXTERIOR.
2. SEE EXTERIOR ELEVATIONS FOR WINDOW OPERATION.
3. ALL DIMENSIONS GIVEN ARE TO FINISHED OPENING, ROUGH OPENING REQUIREMENTS MAY VARY BY MANUFACTURERS.
4. ROUGH OPENINGS ARE TO BE AT LEAST 3/8" LARGER THAN WINDOW NET SIZE ON ALL SIDES U.O.N.; ALL SHIM SPACE TO BE INSULATED WITH EXPANDABLE FOAM.
5. GENERAL CONTRACTOR SHALL VERIFY HANDING OF WINDOWS AND ASSOCIATED HARDWARE WITH DIRECTION OF SWING INDICATED ON EXTERIOR ELEVATIONS AND WINDOW FRAME TYPES.
6. GENERAL CONTRACTOR TO FIELD VERIFY ALL WINDOW ROUGH OPENINGS & JAMB DEPTHS PRIOR TO ORDERING WINDOWS.
7. GENERAL CONTRACTOR TO PROVIDE HARDWARE & FINISH SAMPLES FOR APPROVAL PRIOR TO ORDERING.
8. GENERAL CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR ALL WINDOWS TO ARCHITECT FOR REVIEW & APPROVAL PRIOR TO ORDERING.
9. PROVIDE SAFETY GLAZING IN WINDOWS AS REQUIRED BY CBC SECTION [2406.4.3].
10. PROVIDE NFRC LABEL ON GLAZING FOR FIELD INSPECTION.
11. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL FRAMING DETAILS.
12. TRIM DETAILS ILLUSTRATE TYPICAL CONDITIONS FOR DESIGN INTENT. CONTRACTOR SHALL ADAPT INSTALLATION TO SPECIFIC FIELD CONDITIONS AS REQUIRED.
13. SEALANT TO MATCH WINDOW FRAME COLOR; TYP. U.O.N.

DOOR SCHEDULE																
NO.	DOOR TYPE	EXIST'G, NEW OR REFERB	DOOR		GLASS		FRAME		DETAILS			FIRE RATING	HARDWARE GROUP	PANIC HW		REMARKS
			W	H	MATERIAL	FINISH	TYPE	SAFETY	FIRE RATING	MATERIAL	FINISH	HEAD	JAMB	THRESH.		
100	S1	(E)	3'- 0"	6'- 8"	(E)	(E)	(E)	(E)	(E)	(E)	(E)	N/A	N/A	N/A	10	Yes 1, 2, 3, 4, 14, 22
100b	B	(N)	3'- 0"	6'- 8"	HM	STAIN	CLEAR	LAM. OR TEMP.	20 MIN	HM	PTD	5/AS.00	6/AS.00	5/AS.00	20 MIN	Yes 4, 5, 7, 9, 15
101	B	(R)	3'- 0"	6'- 8"	WD	STAIN	CLEAR	LAM. OR TEMP.	20 MIN	(E)	PTD	5/AS.00	6/AS.00	5/AS.00	09	No 1, 4, 5, 17, 20
102	B	(R)	3'- 0"	6'- 8"	WD	STAIN	CLEAR	LAM. OR TEMP.	NR	HM	PTD	5/AS.00	6/AS.00	5/AS.00	03	No 1, 4, 5, 16, 18, 21
103	D	(R)	3'- 0"	6'- 8"	(E)	(E)	CLEAR	LAM. OR TEMP.	NR	(E)	PTD	(E)	(E)	2/AS.00	NR	No 1, 6, 16
104	D	(R)	3'- 0"	6'- 8"	(E)	(E)	CLEAR	LAM. OR TEMP.	NR	(E)	PTD	(E)	(E)	2/AS.00	NR	No 1, 6, 16
105	B	(R)	3'- 0"	6'- 8"	(E)	(E)	CLEAR	LAM. OR TEMP.	NR	(E)	PTD	(E)	(E)	5/AS.00	NR	No 1, 6, 17
106	B	(R)	3'- 0"	6'- 8"	(E)	(E)	CLEAR	LAM. OR TEMP.	NR	(E)	PTD	(E)	(E)	5/AS.00	NR	No 1, 6, 17
107	D	(R)	3'- 0"	6'- 8"	(E)	(E)	CLEAR	LAM. OR TEMP.	NR	(E)	PTD	(E)	(E)	2/AS.00	NR	No 1, 6, 16
108	B	(R)	3'- 0"	6'- 8"	(E)	(E)	CLEAR	LAM. OR TEMP.	NR	(E)	PTD	(E)	(E)	5/AS.00	NR	No 1, 6, 17
109	A	(E)	3'- 0"	6'- 8"	(E)	(E)	-	-	-	(E)	PTD	(E)	(E)	1/AS.00	NR	No 1, 5, 13
110	B	(R)	3'- 0"	6'- 8"	WD	STAIN	CLEAR	LAM. OR TEMP.	20 MIN	(E)	PTD	(E)	(E)	5/AS.00	20 MIN	No 1, 4, 5, 9, 11
120a	A	(E)	3'- 0"	6'- 8"	(E)	(E)	-	-	-	(E)	PTD	N/A	N/A	N/A	05	No 1, 4, 5
129	B	(E)	3'- 0"	6'- 8"	(E)	(E)	(E)	(E)	-	(E)	PTD	N/A	N/A	N/A	05	No 1, 4, 5
130a	A	(E)	3'- 0"	6'- 8"	(E)	(E)	-	-	-	(E)	N/A	N/A	N/A	N/A	05	No 1, 4, 5
131	A	(E)	3'- 0"	6'- 8"	(E)	(E)	-	-	-	(E)	N/A	N/A	N/A	20 MIN	02	Yes 1, 4, 5
150	S2	(E)	6'- 0"	8'- 0"	(E)	(E)	(E)	(E)	(E)	(E)	N/A	N/A	N/A	NR	(E)	Yes 1, 4, 5, 8, 22

DOOR REMARKS:

1. (E) DOOR, VIF SIZE, CLEAN AND MAINTAIN
2. PROVIDE ACCESSIBLE AUTOMATIC DOOR OPENER. REUSE (E) OPENER ON (E) DOOR 110. IF EXISTING CANNOT BE REUSED, PROVIDE (N) OPERATOR, B.O.D.: AUTOMATIC DOOR AND HARDWARE COMMANDER 7000 E27000 AUTOMATIC DOOR OPENER (CGR-100205) FOR 36" WIDE DOORS, OR EQUAL
3. (E) DOOR WITH (N) HARDWARE
4. PROVIDE (N) ELECTROMECHANICAL DOOR HARDWARE TO WORK WITH CARD ACCESS READER
5. DOOR CLOSER
6. NO DOOR CLOSER
7. (N) RATED SINGLE HM DOOR WITH GLASS LITE , B.O.D.: ALLEGION STEELCRAFT L-SERIES DOORS, OR EQUAL
8. (N) SIGN, "EMPLOYEE ENTRANCE ONLY" SIGN
9. (N) SIGN, "EMERGENCY EXIT ONLY" SIGN
10. (N) NON-RATED SINGLE WOOD DOOR, B.O.D.: VT INDUSTRIES, HERITAGE COLLECTION: 3-PLY BONDED PARTICLE BOARD (PC-3), OR EQUAL
11. PROVIDE (N) EXIT ALARM, WITH CARD READY (PROXY) DEACTIVATION, B.O.D.: DETEX BATTERY POWERED EXIT ALARM, SURFACE MOUNTED, MODEL EAX-500, OR EQUAL
12. TO BE ABLE TO USE IN CONJUNCTION WITH ACCESS CONTROL:
13. a. USE THE EXTERNAL CONTACTS FEATURE TO MONITOR THE DOOR REMOTELY WITH A DPS. (IN-SWING DOOR CONTACT PROVIDED BY OTHERS.)
14. b. THE DPS SHALL PROVIDE A CLOSED CONTACT TO THE ALARM.
15. c. CONNECT A NO ACCESS CONTROL RELAY IN PARALLEL WITH THE DPS. WHEN THAT RELAY IS CLOSED, THE DOOR CAN BE OPENED WITHOUT TRIGGERING AN ALARM.
16. d. DOOR MUST BE CLOSED BEFORE THE RELAY RE-OPENS.
17. e. SOUNDING ALARM MUST ALWAYS BE RESET WITH THE KEY.
18. PROVIDE (N) HOLD OPEN HARDWARE
19. PROVIDE (N) MANUAL PRIVACY LEVER SET FOR TOILET ROOM DOOR
20. (N) VINYL SIGN ON GLASS DOOR, GRAPHIC TO BE PROVIDED BY OWNER.
21. PROVIDE (N) HM DOOR FRAME, K.D. DRYWALL FRAME, B.O.D.: ALLEGION STEELCRAFT DW SERIES DRYWALL FRAMES
22. REFURBISH (E) DOOR, PROVIDE (N) 10" S.S. KICK PLATE. B.O.D.: TRIMCO KH050 OR EQUAL
23. REFURBISH (E) DOOR, PROVIDE (N) GLASS LITE IN (E) SOLID CORE DOOR. CONTRACTOR TO INSTALL A STANDARD LITE KIT. B.O.D.: NATIONAL GUARD PRODUCT L-FRA100 OR EQUAL
24. DOOR RELEASE BY CONTRACTOR. (SEE DOOR SCHEDULE NOTE 23)
25. CARD READER AND POWER SUPPLY PROVIDED AND INSTALLED BY CONTRACTOR, FIELD WIRING BACK TO DEMARK LOCATION GUTTERBOX LOCATED NEAR DOOR 131
26. CONTRACTOR TO INSTALL A FIRE-RATED LITE KIT
27. CONTRACTOR TO INSTALL MIRRORING FILM TO THE INTERIOR SIDE OF LITE.
28. CONTRACTOR TO COORDINATE ACCESS CONTROL AND AUTO OPERATOR PROGRAMMING WITH OWNER.

DOOR HARDWARE GROUPS

ABBREVIATION NAME
IVE H.B. IVES
LCN LCN COMMERCIAL DIVISION
SCH SCHLAGE LOCK COMPANY
VON VON DUPRIN
ZER ZERO INTERNATIONAL INC

DOOR HARDWARE NOTE TO GC:
HARDWARE GROUP SHOWN AS BASIS OF DESIGN.
GC TO FIELD VERIFY EXISTING HARDWARE AND REUSE/
MINIMALLY REPLACE AS NEEDED TO BE COMPATIBLE
WITH OWNER ACCESS CONTROL REQUIREMENT.
SUBMIT DOOR HARDWARE PACKAGE FOR
OWNER/ARCHITECT APPROVAL.

GROUP NO. 01 - RATED SINGLE DOOR PANIC

2	EA	HINGE	5BB1 4.5 X 4.5	652	IVE			
1	EA	ELECTRIC HINGE	5BB1 4.5 X 4.5 TW8	652	IVE			
1	EA	ELEC FIRE EXIT HARDWARE	RX-PA-AX-98-L-F-M996-06-FSE	626	VON			
1	EA	RIM CYLINDER	20-057	626	SCH			
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN			
1	EA	FLOOR STOP	FS439 682	IVE				
1	EA	GASKETING	188SBK PSA	BK	ZER			

GROUP NO. 02 - RATED SINGLE DOOR PANIC

2	EA	HINGE	5BB1 (SIZE TO MATCH EXISTING)	652	IVE			
1	EA	ELECTRIC HINGE	5BB1 TW8 (SIZE TO MATCH EXISTING)	652	IVE			
1	EA	ELEC FIRE EXIT HARDWARE	RX-PA-AX-98-L-F-M996-06-FSE	626	VON			
1	EA	RIM CYLINDER	20-057	626	SCH			
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN			
1	EA	FLOOR STOP	FS439 682	IVE				
1	EA	GASKETING	188SBK PSA	BK	ZER			

GROUP NO. 03 - RECEPTION

2	EA	HINGE	5BB1 4.5 X 4.5	652	IVE			
1	EA	ELECTRIC HINGE	5BB1 4.5 X 4.5 TW8	652	IVE			
1	EA	EU STOREROOM LOCK	ND80P6DEU RHO RX 12V/24V DC	626	SCH			
1	EA	SURFACE CLOSER	4040XP SCUSH 689	LCN				
1	EA	GASKETING	188SBK PSA	BK	ZER			

GROUP NO. 04 - RATED SINGLE DOOR

2	EA	HINGE	5BB1 (SIZE TO MATCH EXISTING)	652	IVE			
1	EA	ELECTRIC HINGE	5BB1 TW8 (SIZE TO MATCH EXISTING)	652	IVE			
1	EA	EU STOREROOM LOCK	ND80P6DEU RHO RX 12V/24V DC	626	SCH			
1	EA	SURFACE CLOSER	4040XP 689	LCN				
1	EA	FLOOR STOP	FS439 682	IVE				
1	EA	GASKETING	188SBK PSA	BK	ZER			

GROUP NO. 05 - RATED SINGLE DOOR

2	EA	HINGE	5BB1 (SIZE TO MATCH EXISTING)	652	IVE			
1	EA	ELECTRIC HINGE	5BB1 TW8 (SIZE TO MATCH EXISTING)	652	IVE			
1	EA	EU STOREROOM LOCK	ND80P6DEU RHO RX 12V/24V DC	626	SCH			
1	EA	SURFACE CLOSER	1461 FC	689	LCN			
1	EA	FLOOR STOP	FS439 682	IVE				
1	EA	GASKETING	188SBK PSA	BK	ZER			

GROUP NO. 06 - OFFICE WITH CLOSER

3	EA	HINGE	5BB1 (SIZE TO MATCH EXISTING)	652	IVE			
1	EA	PASSAGE SET	ND10S RHO	626	SCH			
1	EA	SURFACE CLOSER	4040XP 689	LCN				
1	EA	FLOOR STOP	FS439 682	IVE				
1	EA	GASKETING	188SBK PSA	BK	ZER			

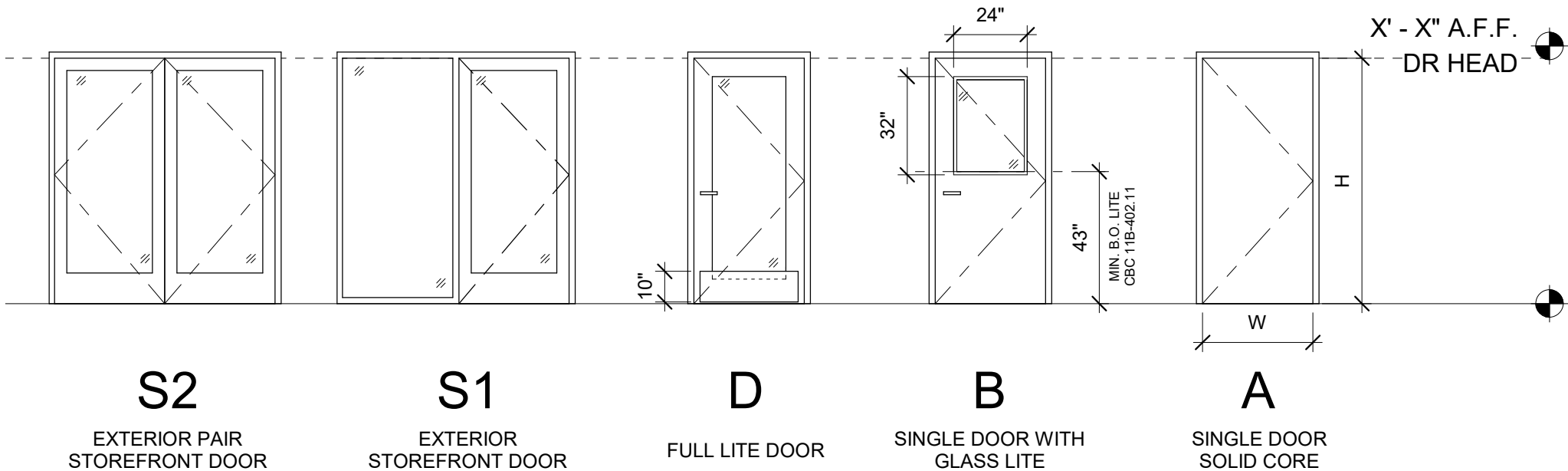
GROUP NO. 07 - OFFICE WITH NO CLOSER

3	EA	HINGE	5BB1 (SIZE TO MATCH EXISTING)	652	IVE			
1	EA	PASSAGE SET	ND10S RHO	626	SCH			
1	EA	FLOOR STOP	FS439 682	IVE				
1	EA	GASKETING	188SBK PSA	BK	ZER			

WINDOW SCHEDULE											
NO.	WINDOW TYPE	SIZE FINISH OPENING		DIM POINT A.F.F.	WINDOW MATERIAL	GLASS		DETAILS			REMARKS
		W	H			TYPE	SAFETY	HEAD	JAMB	SILL	
101	B	3'- 0"	4'- 0"	6'- 7 13/16"	ALUM	CLR	BALLISTIC	9/A8.00	9/A8.00 SIM	9/A8.00	2, 3
106	A	4'- 0"	3'- 0"	6'- 0"	(E)	(E)	(E)	(E)	(E)	(E)	1

WINDOW REMARKS:

1. (E) WINDOW, CLEAN AND MAINTAIN
2. TRANSACTION WINDOW; CLEAR BALLISTIC GLASS, PROTECTION LEVEL 1, NON-RATED, SURROUND SOUND BLOCKS, 18" DEAL TRAY, B.O.D.: CRL , PRODUCT #S11W18A, OR EQUAL
3. ALTERNATE NON-BALLISTIC TRANSACTION WINDOW: CLEAR 1/4" TEMPERED GLASS, NON-RATED, SPEAK AROUND, 18" DEAL TRAY, B.O.D.: COVENANT SECURITY 3 STYLE TICKET WINDOW WITH SPEAK AROUND, MODEL CSE-QS-TW3-2436-1/4-C, OR EQUAL



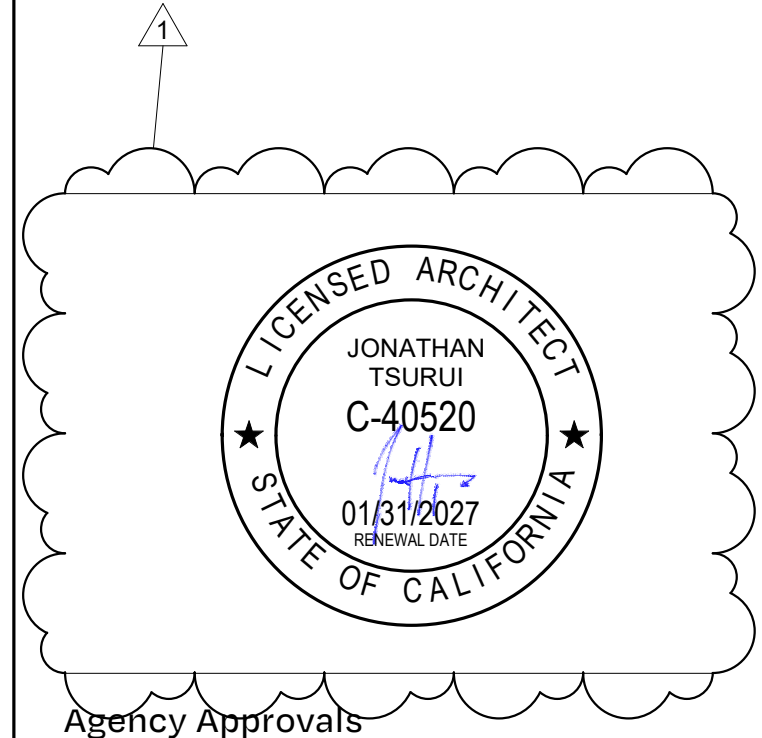
DOOR TYPES



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Agency Approvals

Revision No.	Date
1 Resubmittal 1	2/2/2026

Written dimensions on these drawings shall have precedence over scaled dimensions. Drawings shall not be scaled. Contractors shall verify, and be responsible for, all dimensions and conditions shown by these drawings. Shop details must be submitted to this office for approval before proceeding with fabrications. The drawings and their design content are the sole property of William Duff Architects, Inc. and may not be reused or reproduced in any manner without our express written consent.

Job Title
SONOMA DRC

Job Address
**2300 COUNTY CENTER DRIVE
SANTA ROSA, CA 95403**

Date: **18 APR 2025**

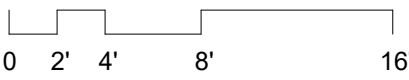
Issued For
100% CD

Job Number: **24015**

Drawn By: **JK** Checked By: **KE**

Scale

As indicated

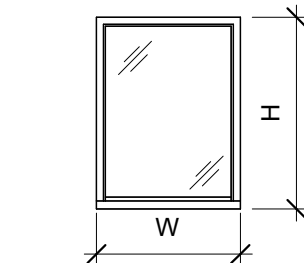


Sheet Title

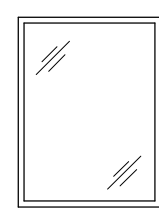
**SCHEDULES - DOORS,
WINDOWS AND DOOR
HARDWARE**

Sheet No.

A9.00



B
TRANSACTION WINDOW
WITH DEAL TRAY



A
FIXED WINDOW

WINDOW TYPES

GENERAL SPECIFICATIONS NOTES

APPLICABLE SECTIONS

DIVISION 08- OPENINGS
08 1416 - WOOD DOORS
08 7100 - DOOR HARDWARE

SECTION 08 1416 - FLUSH WOOD DOORS

PART 1 - GENERAL

- 1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- 1.2 SUMMARY
A. Section Includes:
1. Interior Flush Wood Veneer Doors: Three-ply flush bonded doors.
B. Related Requirements:
1. Section 08710 (08 71 00) – Door Hardware.
- 1.3 PREINSTALLATION MEETINGS
A. Preinstallation Conference: Conduct conference at the Project site.
- 1.4 ACTION SUBMITTALS
A. Comply with Section 01330 (01 33 00) – Submittal Procedures.
B. Product Data: Submit manufacturer's product data, including door construction description.
C. Schedules: Submit manufacturer's schedules, including door dimensions, cutouts, species, finish, and hardware. Reference individual door numbers as indicated on the Drawings.
D. Samples: Submit manufacturer's door finish samples, showing range of color variation.
E. Manufacturer's Certification: Submit manufacturer's certification that doors comply with specified requirements and are suitable for intended application.
F. Cleaning Instructions: Submit manufacturer's cleaning instructions for doors.
G. Warranty: Submit manufacturer's standard warranty.
- 1.5 QUALITY ASSURANCE
A. Tolerances for Warp, Telegraphing, Squareness, and Prefitting Dimensions: WDMA I.S.1-A.
B. Identifying Label: Each door shall bear identifying label indicating:
1. Door manufacturer.
2. Order number.
3. Door number.
C. Positive Pressure Opening Assemblies: UL 10C.
D. Environmental Responsibility: Provide doors manufactured with the following environmentally responsible components:
1. Core:
a. Particleboard Core:
1. Forest Stewardship Council (FSC) certified.
2. Pre-consumer recycled material.
3. No added urea formaldehyde.
b. CARB NAF / ULEF
3. Structural Composite Lumber (SCL) Core:
1. Forest Stewardship Council (FSC) certified.
2. No added formaldehyde.
c. Composite Crossband:
1. High-Density Fiberboard (HDF):
2. Forest Stewardship Council (FSC) certified.
3. Pre-consumer recycled material.
d. CARB NAF / ULEF
4. Slies and Rails:
1. Structural Composite Lumber (SCL):
2. Forest Stewardship Council (FSC) certified.
3. No added formaldehyde.
e. GREENGUARD Certification Program.
f. GREENGUARD Indoor Air Quality Certified.
g. GREENGUARD Children and Schools Certified.
2. DELIVERY, STORAGE, AND HANDLING
A. Comply with requirements of referenced standard and manufacturer's written instructions.
B. Package doors individually in [plastic bags or cardboard cartons] [cardboard cartons and wrap bundles of doors in plastic sheeting].
C. Mark each door on [top and bottom rail with opening number used on Shop Drawings.
FIELD CONDITIONS/ ENVIRONMENTAL REQUIREMENTS
1. Do not subject doors to extreme conditions or changes in temperature or relative humidity in accordance with WDMA I.S.1-A.
1.8 WARRANTY
A. Warrant solid core, interior doors for life of installation against warpage, delamination, and defects in materials and workmanship.
B. Defects noted during warranty period shall be corrected at no cost to Owner. Corrective work shall include labor and material for repair, replacement, refinishing, and rehanging as required.
- PART 2 - PRODUCTS
- 2.1 MANUFACTURERS
A. Basis of Design: VT INDUSTRIES, HERITAGE COLLECTION: 3-PLY BONDED PARTICLE BOARD (PC-3), OR EQUAL
- 2.2 FABRICATION
A. Prefit Doors:
1. Prefit and bevel doors at factory to fit openings.
2. Prefit Tolerances: WDMA I.S.1-A and AWS Section 9.
B. Factory-machine doors for mortised hardware, including pilot holes for hinge screws and lock fronts required.
- 2.3 FINISHES
A. Doors shall receive factory finishing.
B. Factory Finishing: WDMA System TR-8, UV cured urethane, premium grade.
1. Sealer: minimum 3 coats.
2. Sanding: Sand.
3. Topcoat: 2 coats.
C. Stain Color: Clear
D. Top and Bottom Rails: Factory sealed.
- PART 3 - EXECUTION
- 3.1 EXAMINATION
A. Examine locations to receive doors. Notify Architect of conditions that would adversely affect installation or subsequent use. Do not begin installation until unacceptable cond-tions are corrected.
B. Ensure frames are solidly anchored, allowing no deflection when doors are installed.
C. Ensure frames are plumb, level, square, and within tolerance.
- 3.2 PREPARATION
A. Allow doors to become acclimated to building temperature and relative humidity for a minimum of 24 hours before installation.
- 3.3 INSTALLATION
A. Install doors in accordance with manufacturer's instructions.
B. Install doors at locations indicated on the Door Schedule and Drawings.
C. Install doors plumb, level, and square.
D. Install door hardware as specified in Section 08710 (08 71 00)
- 3.4 ADJUSTING
A. Adjust doors to swing freely, without binding in frame.
B. Adjust hardware to operate properly.
C. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect.
D. Remove and replace damaged doors that cannot be successfully repaired, as deter-mined by Architect.
- 3.5 CLEANING
A. Clean doors promptly after installation in accordance with manufacturer's instructions.
B. Do not use harsh cleaning materials or methods that could damage finish.
- 3.6 PROTECTION
A. Protect installed doors from damage during construction.
- END OF SECTION 08 1416

SECTION 08 71 00 - DOOR HARDWARE

PART 1 - GENERAL

- 1.01 RELATED DOCUMENTS
A. Drawings and general provisions of Contract, including General and Supplementary Conditions of Division 1 Specification Sections, apply to this Section.
- 1.02 SUMMARY
A. This Section includes items known commercially as finish or door hardware that are required for swing, sliding, and folding doors, except special types of unique hardware specified in the same sections as the doors and door frames on which they are installed.
B. This Section includes the following, but is not necessarily limited to:
1. Door Hardware, including electric hardware.
2. Storefront and Entrance door hardware.
3. Gate Hardware.
4. Digital keypad access control devices.
5. Hold-open closers with smoke detectors.
6. Wall or floor-mounted electromagnetic hold-open devices.
7. Power supplies for electric hardware.
8. Low-energy door operators plus sensors and actuators.
9. Thresholds, gasketing and weather-stripping.
10. Door silencers or mutes.
C. Related Sections: The following sections are noted as containing requirements that relate to this Section, but may not be limited to this listing.
1. Division 8: Section - Steel Doors and Frames.
2. Division 6: Section - Wood Doors.
3. Division 8: Section - Aluminum Storefront
4. Division 28: Section - Fire/Life-Safety Systems & Security Access Systems.
5. Division 28: Section - Fire/Life-Safety Systems & Security Access Systems.
- 1.03 REFERENCES (USE DATE OF STANDARD IN EFFECT AS OF BID DATE.)
A. 2022 California Building Code, CCR, Title 24.
B. BHMA – Builders' Hardware Manufacturers Association
C. CCR – California Code of Regulations, Title 24, Part 2, California State Accessibility Standards.
D. DHI – Door and Hardware Institute
E. NFPA - National Fire Protection Association.
1. NFPA 80 - Fire Doors and Other Opening Protectives
2. NFPA 105 - Smoke and Draft Control Door Assemblies
F. UL - Underwriters Laboratories
1. UL 10C - Fire Tests of Door Assemblies
2. UL 305 - Panic Hardware
G. WHI - Warnock Hersey Incorporated
H. SDI - Steel Door Institute
- 1.04 SUBMITTALS & SUBSTITUTIONS
A. General: Submit in accordance with Conditions of the Contract and Division 1 Specification sections.
B. Submit product data (catalog cuts) including manufacturers' technical product information for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
C. Submit schedule organized vertically into "Hardware Sets" with index of doors and headings, indicating complete designations of every item required for each door or opening. Include following information:
1. Include a Cover Sheet with:
a. Job Name, location, telephone number.
b. Architects name, location and telephone number.
c. Contractors name, location, telephone number and job number.
d. Suppliers name, location, telephone number and job number.
e. Hardware consultant's name, location and telephone number.
2. Job Index information included:
a. Numerical door number index including: door number, hardware heading number and page number.
b. Complete keying information (referred to DHI hand-book "Keying Systems and Nomenclature"). Provision should be made in the schedule to provide keying information when available; if it is not available at the time the preliminary schedule is submitted.
c. Manufacturers' names and abbreviations for all materials.
d. Explanation of abbreviations, symbols, and codes used in the schedule.
e. Mounting locations for hardware.
f. Clarification statements or questions.
g. Catalog cuts and manufacturer's technical data and instructions.
3. Vertical schedule format sample:
(a) - Single or pair with opening number and location. (b) - Degree of opening (c) - Hand of door(s) (d) - Door and frame dimensions and door thickness. (e) - Label requirements if any. (f) - Door (or) Product material. (g) - (Optional) Hardware item line #. (h) - Keyset Symbol. (i) - Quantity. (j) - Product description. (k) - Product Number. (l) - Fasteners and other pertinent information. (m) - Hardware finish codes per ANSI A156.18. (n) - Manufacture abbreviation.
D. Make substitution requests in accordance with Division 1. Substitution requests must be made prior to bid date. Include product data and indicate benefit to the project. Furnish samples of any proposed substitution.
E. Wiring Diagrams: Provide product data and wiring and riser diagrams for all electrical products listed in the Hardware Schedule portion of this section.
F. Keying Schedule: Submit separate detailed schedule indicating clearly how the Owner's final instructions on keying of locks has been fulfilled.
G. Templates for doors, frames, and of other work specified to be factory prepared for the installation of door hardware. Check shop drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
H. Furnish as-built/as-installed schedule with close-out documents, including keying schedule and transcript, wiring/riser diagrams, manufacturers' installation and adjustment and maintenance information.
I. Fire Door Assembly Testing: Submit a written record of each fire door assembly to the Owner to be made available to the Authority Having Jurisdiction (AHJ) for future building inspections.
J. LEED Certification Points: Submit information and certifications necessary to achieve maximum points for LEED certification; coordinate and cooperate with Owner and Architect in providing information necessary for required LEED rating.
- 1.05 QUALITY ASSURANCE
A. Obtain each type of hardware (latch and lock sets, hinges, closers, exit devices, etc.) from a single manufacturer.
B. Supplier Qualifications: A recognized architectural door hardware supplier, with warehousing facilities in the project's vicinity, that has a record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this project and that employs an experienced architectural hardware consultant (AHC) for future building inspections.
1. Responsible for detailing, scheduling and ordering of finish hardware.
2. Meet with Owner to finalize keying requirements and to obtain final instructions in writing.
3. Stock parts for products supplied and are capable of repairing and replacing hardware items found defective during warranty periods.
C. Hardware Installer: Company specializing in the installation of commercial door hardware with five years documented experience.
D. Fire-Rated Openings: Provide door hardware for fire-rated openings that complies with NFPA Standard No. 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed and tested by UL or Warnock Hersey for the given type/size opening and degree of label. Provide proper latching hardware, door closers, approved-bearing hinges and seals whether listed in the Hardware Schedule or not.
1. Where emergency exit devices are required on fire-rated doors, (with supplementary marking on doors' UL labels indicating "Fire Door to be Equipped with Fire Exit Hardware") provide UL label on exit devices indicating "Fire Exit Hardware".
E. Exit Doors: Operable from inside with single motion without the use of a key or special knowledge or effort.
F. Product packaging to be labelled in compliance with CA Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986.
- 1.06 DELIVERY, STORAGE AND HANDLING
A. Coordinate delivery of packaged hardware items to the appropriate locations (shop or field) for installation.
B. Hardware items shall be individually packaged in manufacturers' original containers, complete with proper fasteners. Clearly mark packages on outside to indicate contents and locations in hardware schedule and in work.
C. Provide locked storage area for hardware, protect from moisture, sunlight, paint, chemicals, etc.
D. Contractor to inventory door hardware jointly with representatives of hardware supplier and hardware installer until each all are satisfied that count is correct.
- 1.07 WARRANTY
A. Provide warranties of respective manufacturers' regular terms of sale from day of final acceptance as follows:
1. Mechanical Locksets: Ten (10) years.
2. Electro-mechanical locksets: Three (3) years
3. Closers: Thirty (30) years.
4. Mechanical exit devices: Ten (10) years
5. Electro-mechanical exit devices: Five (5) years
6. All other hardware: Three (3) years.
- 1.08 MAINTENANCE
A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.
- 1.09 PRE-INSTALLATION CONFERENCE
A. Convene a pre-installation conference at least one week prior to beginning work of this section.
B. Attendance: Architect, Construction Manager, Contractor, Security Contractor, Hardware Supplier, Installer, Key Owner Personnel, and Project Inspector.
C. Agenda: Review hardware schedule, products, installation procedures and coordination required with related work. Review Owner's keying standards.

SECTION 08 71 00 - DOOR HARDWARE (CONT.)

PART 2 - PRODUCTS

- 2.01 MANUFACTURERS
Item Manufacturer Acceptable Substitutes
Hinges Ives Hager, Stanley, McKinney
Locks, Latches Von Duprin Or Approved Equal
Exit Devices LCN Or Approved Equal
Closers
Push, Pulls DCI
Flush Bolts Ives Trimco, BBW, DCI
Dust Proof Strikes Ives Trimco, BBW, DCI
Coordinators Ives Trimco, BBW, DCI
Stops Ives Trimco, BBW, DCI
Overhead Stops Glynn-Johnson Or Approved Equal
Thresholds Zero Pemko, National Guard
Seals & Bottoms Zero Pemko, National Guard
- 2.02 MATERIALS
A. Hinges: Exterior out-swinging door butts shall be non-ferrous material and shall have stainless steel hinge pins. All doors to have non-rising pins.
1. Hinges shall be sized in accordance with the following:
a. Height:
1) Doors up to 42" wide: 4-1/2" inches.
2) Doors 43" to 48" wide: 5 inches.
b. Width: Sufficient to clear frame and trim when door swings 180 degrees.
c. Number of Hinges: Furnish 3 hinges per leaf to 7'-5" in height. Add one for each additional 2 feet in height.
2. Furnish non-removable pins (NRP) at all exterior out-swing doors and interior key lock doors with reverse bevels.
B. Heavy Duty Cylindrical Locks and Latches: Schlage "ND" Series as scheduled with "Rhodes" design, fastened with through-bolts and threaded chassis hubs.
1. Provide cylindrical locksets exceeding the ANSI/BHMA A156.2 Grade 1 performance standards for strength, security, and durability in the categories below:
a. Abusive Locked Lever Torque Test – minimum 3,100 inch-pounds without gaining access
b. Offset lever pull – minimum 1,600 foot pounds without gaining access
c. Vertical lever impact – minimum 100 impacts without gaining access
2. Cycle life - tested to minimum 16 million cycles per ANSI/BHMA A156.2 Cycle Test with no visible lever sag or use of performance aids such as set screws or spacers
3. UL 10C for 4'-0" x 10'-0" 3-hour fire door.
4. Cylinders: Refer to "KEYING" article, herein.
5. Provide solid steel anti-rotation through bolts and posts to control excessive rotation of lever.
6. Provide lockset that allows lock function to be changed to over twenty other common functions by swapping easily accessible parts.
7. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2 inch latch throw capable of UL listing of 3 hours on a 4' x 10' opening. Provide operer latch throw for UL listing at pairs.
8. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
9. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
10. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
11. Provide wired electrified options as scheduled in the hardware sets.
a. 12 through 24 volt DC operating capability, auto-detecting
b. Selectable EL (fail safe) EU (fail secure) operating mode via switch on chassis
c. 0.230A (230ma) maximum current draw
d. 0.010A (10mA) holding current
e. Modular / "plug in" request to exit switch
12. Lever Trim: Solid cast levers without plastic inserts, and wrought roses on both sides.
- EXIT DEVICES: VON DUPRIN AS SCHEDULED.
13. Provide certificate by independent testing laboratory that device has completed over 1,000,000 cycles and can still meet ANSI/BHMA A156.3 - 2001 standards.
14. All internal parts shall be of cold-rolled steel with zinc dichromate coating.
15. Mechanism case shall have an average thickness of .140".
16. Compression spring engineering.
17. Non-handed basic device design with center case interchangeable with all functions.
18. All devices shall have quiet return fluid dampeners.
19. All latchbolts shall be deadlocking with 3/4" throw and have a self-lubricating coating to reduce friction and wear.
20. Device shall bear UL label for fire and or panic as may be required.
21. All surface strikes shall be roller type and utilize a plate underneath to prevent movement.
22. Lever Trim: "Breakaway" design, forged brass or bronze escutcheon with a minimum of .130" thickness, match lockset lever design.
23. Removable Mullions: Removable with single turn of building key. Securely reinstalled without need for key.
24. Furnish glass bead kits for vision sites where required.
25. All Exit Devices to be sex-bolled to the doors.
26. Panic Hardware shall comply with CBC Section 11B-404.2.7 and shall be mounted between 34" and 44" above the finished floor surface.
a. Provide exit devices UL certified to meet maximum 5 pound requirements according to the California Building Code section 11B-300.4, and UL listed for Panic Exterior Fire Exit Hardware.
C. Closers: LCN as scheduled. Place closers inside building, stairs, room, etc.
1. Door closer cylinders shall be of high strength cast iron construction with double heat treated pinion shaft to provide low wear operating capabilities of internal parts throughout the life of the installation. All door closers shall be tested to ANSI/BHMA A156.4 test requirements by a BHMA certified testing laboratory. A written certification showing successful completion of a minimum of 10,000,000 cycles must be provided.
2. All door closers shall be fully hydraulic and have full rack and pinion action with a shaft diameter of a minimum of 11/16 inch and piston diameter of 1 inch to ensure longevity and durability under all closer applications.
3. All parallel arm closers shall incorporate one piece solid forged steel arms with bronze bushings.
1.9/16" steel shafts be incorporated in regular arms, hold-open arms, arms with hold open and stop built in. All other closers to have forged steel main arms for strength, durability, and aesthetics for versatility of trim accommodation, high strength and long life.
4. All parallel arm closers so detailed shall provide advanced backcheck for doors subject to severe abuse or extreme wind conditions. This advanced backcheck shall be located to begin cushioning the opening swing of the door at approximately 45 degrees. The intensity of the backcheck shall be fully adjustable by tamper resistant non-critical screw valve.
5. Closers shall be installed to permit doors to swing 180 degrees.
6. All closers shall utilize a stable fluid withstanding temperature range of 120 degrees F. to -30 degrees F, without requiring seasonal adjustment of closer speed to properly close the door.
7. Provide the pinion gears, brackets and spacers as required at narrow head rails and special frame conditions. NO wood plates or spacers will be allowed.
8. Maximum effort to operate closers shall not exceed 5 lbs., such pull or push effort being applied at right angles to hinged doors. Compensating devices or automatic door operators may be utilized to meet the above standards. When fire doors are required, the maximum effort to operate the closer may be increased but shall not exceed 15 lbs. when specifically approved by fire marshal. All closers shall be adjusted to provide the minimum amount of opening force and still close and latch the door. These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door in a closed position. Per 11B-404.2.8.1, door shall take at least 5 seconds to move from an open position of 90 degrees to a position of 12 degrees from the latch jamb.
D. Flush Bolts & Dust Proof Strikes: Automatic Flush Bolts shall be of the low operating force design. Utilize the top bolt only model for interior doors where applicable and as permitted by testing procedures.
1. Manual flush bolts only permitted on storage or mechanical openings as scheduled.
2. Provide dust proof strikes at openings using bottom bolts.
E. Door Stops:
1. Unless otherwise noted in Hardware Sets, provide floor type with appropriate fasteners. Where wall type cannot be used, floor type may be used, provide overhead type.
2. Do not install floor stops more than four (4) inches from the face of the wall or partition (CBC Section 11B-307).
3. Overhead stops shall be made of stainless steel and non-plastic mechanisms and finished metal end caps. Field-changeable hold-open, friction and stop-only functions.
F. Protection Plates: Fabricate either kick, armor, or mop plates with four beveled edges. Provide kick plates 10" high and 2" LDW. Sizes of armor and mop plates shall be listed in the Hardware Schedule. Furnish with machine or wood screws of bronze or stainless to match other hardware.
G. Thresholds: As Scheduled and per details.
H. Seals: Provide silicone gasket at all rated and exterior doors.
1. Fire-rated Doors, Resistant Seals: UL10C Classified complies with NFPA 80 & NFPA 252.
2. Coordinate with selected door manufacturers' and selected frame manufacturers' requirements.
2. Fire-rated Doors, Intumescent Seals: Furnished by selected door manufacturer. Furnish fire-labeled opening assembly complete and in full compliance with UL10C Classified complies with NFPA 80 & NFPA 252. Where required, intumescent seals vary in requirement by door type and door manufacture – careful coordination required.
3. Smoke & Draft Control Doors, Provide UL10C Classified complies with NFPA 80 & NFPA 225 for use on "S" labeled Positive Pressure door assemblies.
I. Door Shoes & Door Top Caps: Provide door shoes at all exterior wood doors and top caps at all exterior out-swing doors.
J. Silencers: Furnish silencers for interior hollow metal frames, 3 for single doors, 2 for pairs of doors. Omit where sound or light seals occurs, or for fire-resistive-rated door assemblies.

SECTION 08 71 00 (CONT.)

DOOR HARDWARE

2.03 KEYING

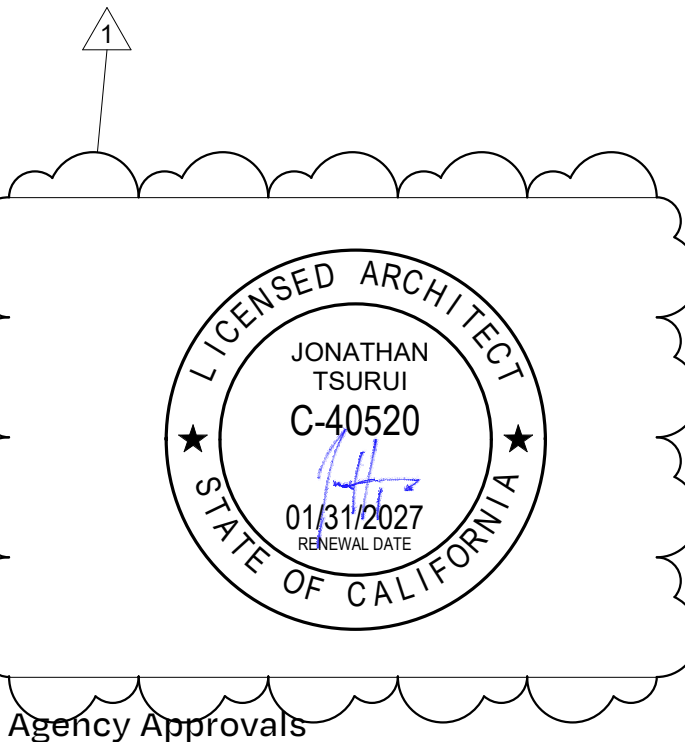
- A. Furnish a Proprietary Schlage masterkey system as directed by the owner or architect. Key system to be designated and combined by the Schlage Master Key Department even if pinned by the Authorized Key Center, Authorized Security Center or a local authorized commercial dealer.
B. A detailed keying schedule is to be prepared by the owner and/or architect in consultation with a representative of Allegion or an Authorized Key Center or Authorized Security Center. Each keyed cylinder on every keyed lock is to be listed separately showing the door #, key group (in BHMA terminology), cylinder type, finish and location on the door.
C. Extend the original Schlage masterkey system established for the project.
D. Furnish all cylinders in the Schlage conventional style except the exit device and removable mullion cylinders which will be supplied in Schlage Full Size Interchangeable Core (FSIC). Pack change keys independently (PK).
E. Furnish all keys with visual key control.
1. Stamp key "Do Not Duplicate".
2. Stamp (BHMA) key symbol on key.
F. Furnish all cylinders with visual key control.
1. Stamp (BHMA) key symbol on face of cylinder plug (VKC).
G. Furnish mechanical keys as follows:
1. Furnish 2 cut change keys for each different change key code.
2. Furnish 1 uncut key blank for each change key code.
3. Furnish 6 cut masterkeys for each different masterkey set.
4. Furnish 3 uncut key blanks for each masterkey set.
5. Furnish 2 cut control keys cut to the top masterkey for permanent I/C cylinders.
6. Furnish 1 cut control key cut to each SKD combination.
7. Furnish KS43D2200 padlock for use with non-I/C Schlage cylinders. Furnish 47-413 (conventional) or 47-743-XP (PrimusXP) with above.
8. Furnish KS43S3200 padlock for use with FSIC Schlage cylinders. Furnish 23-030 (Classic / Everest) or 20-740 (PrimusXP) with above.
9. Furnish KS41D1200 padlock for use with SFIC Schlage cylinders. Furnish 80-037 (Everest-B) with above.
H. Furnish Schlage Padlocks and the cylinders to tie them into the masterkey system for gates, storage boxes, utility valve security, roof hatches and roll-up doors keyed as directed in the keying schedule.
1. Furnish KS43D2200 padlock for use with non-I/C Schlage cylinders. Furnish 47-413 (conventional) or 47-743-XP (PrimusXP) with above.
2. Furnish KS43G3200 padlock for use with FSIC Schlage cylinders. Furnish 23-030 (Classic / Everest) or 20-740 (PrimusXP) with above.
3. Furnish KS41D1200 padlock for use with SFIC Schlage cylinders. Furnish 80-037 (Everest-B) with above.
I. Furnish one Schlage cabinet lock for each cabinet door or drawer so designated on the drawings or keying schedule to match the masterkey system.
1. Furnish CL100PB for use with non-I/C Schlage cylinders.
2. Furnish CL771R for use with FSIC Schlage cylinders.
3. Furnish CL721G for use with SFIC Schlage cylinders.
- 2.04 FINISHES
A. Generally to be satin chrome US26D (626 on bronze and 652 on steel) unless otherwise noted.
B. Furnish push plates, pull plates and kick or armor plates in satin stainless steel US32D (630) unless otherwise noted.
C. Door closers shall be powder-coated to match other hardware, unless otherwise noted.
D. Aluminum items to be finished anodized aluminum except thresholds which can be furnished as standard mill finish.
- 2.05 FASTENERS
A. Screws for strikes, face plates and similar items shall be flat head, countersunk type, provide machine screws for metal and standard wood screws for wood.
B. Screws for butt hinges shall be flathead, countersunk, full-thread type.
C. Fastening of closer bases or closer shoes to doors shall be by means of sex bolts and spray painted to match closer finish.
D. Provide expansion anchors for attaching hardware items to concrete or masonry.
E. All exposed fasteners shall have a Phillips head.
F. Finish of exposed screws to match surface finish of hardware or other adjacent work.
G. All Exit Devices and Lock Protectors shall be fastened to the door by the means of sex bolts or through bolts.
- PART 3 - EXECUTION
- 3.01 INSPECTION
A. Verify that doors and frames are square and plumb and ready to receive work and dimensions are as instructed by the manufacturer.
B. Beginning of installation means acceptance of existing conditions.
C. Fire-Rated Door Assembly Inspection: Upon completion of the installation, all fire door assemblies shall be inspected to confirm proper operation of the closing device and latching device and that only the manufacturer's furnished fasteners are used for installation and that it meets all criteria of a fire door assembly per NFPA 80 (Standard for Fire Doors and Other Opening Protectives) 2016 Edition. A written record shall be maintained and transmitted to the Owner to be made available to the Authority Having Jurisdiction (AHJ). The inspection of the swinging fire doors shall be performed by a certified FDI (Fire Door Assembly Inspector) with knowledge and understanding of the operation and function of the type of door being subjected to the inspection. The record shall list each fire door assembly throughout the project and include each door number, an itemized list of hardware set components at each door opening, and each door location in the facility.
3.02 INSTALLATION
A. Install hardware in accordance with manufacturer's instructions and requirements of DHI.
B. Use the templates provided by hardware item manufacturer.
C. Mounting heights for hardware shall be as recommended by the Door and Hardware Institute. Operating hardware will to be located between 34" and 44" AFF.
D. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
E. Drill and countersink units that are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.
F. Set thresholds for exterior doors in full bed of butyl-rubber sealant.
G. If hand of door is changed during construction, make necessary changes in hardware at no additional cost.
H. Hardware Installer shall coordinate with security contractor to route cable to connect electrified locks, panic hardware and fire exit hardware to power transfers or electric hinges at the time these items are installed so as to avoid disassembly and reinstallation of hardware.
I. Hardware Installer shall also be present with the security contractor when the power is turned on for the testing of the electronic devices and applications. Installer shall make adjustments to solenoids, latches, vertical rods and closers to insure proper and secure operation.
J. All wiring for electro-mechanical hardware mounted on the door shall be connected through the power transfer and terminated in the interface junction box specified for in the Electrical Section.
K. Conductors shall be minimum 18 gauge stranded, multicolored. A minimum 12 in. loop of conductors shall be coiled in the interface junction box. Each conductor shall be permanently marked with its function. If a power supply is specified in the hardware sets, all conductors shall be terminated in the power supply. Make all connections required for proper operation between the power supply and the electro-mechanical hardware. Provide the proper size conductors as specified in the manufacturer's technical documentation.
3.03 ADJUST AND CLEAN
A. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly as intended for the application made.
B. Clean adjacent surface soiled by hardware installation.
C. Final Adjustment: Wherever hardware installation is made more than one month prior to acceptance or occupancy, return to that work area and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.
D. Instruct Owner's Personnel in proper adjustment and maintenance of hardware finishes, during the final adjustment of hardware.
E. Continued Maintenance Service: Approximately six months after the completion of the project, the Contractor accompanied by the Architectural Hardware Consultant, shall return to the project and re-adjust every item of hardware to restore proper functions of doors and hardware. Consult with and instruct Owner's personnel in recommended additions to the maintenance procedures. Replace hardware items which have deteriorated or failed due to faulty design, materials or installation of hardware units. Prepare a written report of current and predictable problems (of substantial nature) in the performance of the hardware.
- HARDWARE LOCATIONS
A. Conform to CCR, Title 24, Part 2; and ADAAG; and the drawings for access-compliant positioning requirements for the disabled.
FIELD QUALITY CONTROL
1. Set thresholds in a full bed of butyl-rubber or polyisobutylene mastic sealant complying with requirements in Division 7 "Thermal and Moisture Protection".
2. Use 3/4" fasteners, red-head flat-head sleeve anchors (SS/FHSL).
3. Thresholds shall comply with CBC Section 11B-404.2.5.
H. Seals: Provide silicone gasket at all rated and exterior doors.
1. Fire-rated Doors, Resistant Seals: UL10C Classified complies with NFPA 80 & NFPA 252.
2. Coordinate with selected door manufacturers' and selected frame manufacturers' requirements.
2. Fire-rated Doors, Intumescent Seals: Furnished by selected door manufacturer. Furnish fire-labeled opening assembly complete and in full compliance with UL10C Classified complies with NFPA 80 & NFPA 252. Where required, intumescent seals vary in requirement by door type and door manufacture – careful coordination required.
3. Smoke & Draft Control Doors, Provide UL10C Classified complies with NFPA 80 & NFPA 225 for use on "S" labeled Positive Pressure door assemblies.
I. Door Shoes & Door Top Caps: Provide door shoes at all exterior wood doors and top caps at all exterior out-swing doors.
J. Silencers: Furnish silencers for interior hollow metal frames, 3 for single doors, 2 for pairs of doors. Omit where sound or light seals occurs, or for fire-resistive-rated door assemblies.
- END OF SECTION



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Agency Approvals

Revision No. Date
1 Resubmittal 1 2/2/2026

Written dimensions on these drawings shall have precedence over scaled dimensions. Drawings shall not be scaled. Contractors shall verify, and be responsible for, all dimensions and conditions shown by these drawings. Shop details must be submitted to this office for approval before proceeding with fabrications. The drawings and their design content are the sole property of William Duff Architects, Inc. and may not be reused or reproduced in any manner without our express written consent.

Job Title
SONOMA DRC

Job Address
**2300 COUNTY CENTER DRIVE
SANTA ROSA, CA 95403**

Date: **18 APR 2025**

Issued For
100% CD

Job Number: **24015**

Drawn By: **Author** Checked By: **Checker**

Scale

Sheet Title

**SHEET
SPECIFICATIONS**

Sheet No.

A10.00



FOUNDATION PLAN

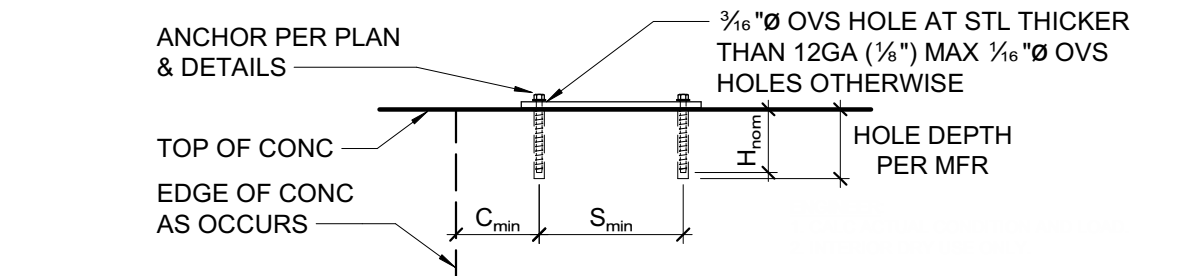
1/8" = 1'-0"

FOUNDATION PLAN NOTES:

- REFER TO SHEETS **S0.1** FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
- DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
- SEE DETAILS OR CURB PLAN FOR CURB LOCATIONS. COORDINATE WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES. PROVIDE LONGER ANCHOR BOLTS AT CURBS PER **D/S0.1**.

PLAN LEGEND		
SYMBOL	REFERENCE DETAIL	DESCRIPTION
	1/S1.0	INDICATES STRUCTURAL WALL.
	D/S0.1	INDICATES WOOD POST.
		INDICATES EXISTING FRAMING.

CARBON SCREW ANCHOR IN 2500 PSI MIN CONCRETE							
ANCHOR TYPE	ANCHOR AND PILOT HOLE DIA	MINIMUM EMBEDMENT H _{min}	MINIMUM EDGE DIST C _{min}	MINIMUM SPCG S _{min}	MINIMUM CONCRETE THICKNESS H _{min}	INSTALL & TEST TORQUE (FT-LB)	MAXIMUM INSTALL TORQUE (FT-LB)
SIMPSON TITEN HD (ICC-ESR 2713)	1/2"	1 1/4"	1 1/2"	1 1/2"	3 1/2"	10	24
	3/8"	2 1/2"	1 3/4"	3"	4"	10	50
	1/2"	3 1/4"	1 3/4"	3"	5"	10	65
	3/4"	4"	1 3/4"	3"	6"	10	100
HILTI KH-EZ (ICC-ESR 3027)	1/2"	5 1/2"	1 3/4"	3"	8 3/4"	20	150
	3/8"	1 1/4"	1 1/2"	3"	3 1/4"	10	18
	1/2"	2 1/2"	1 1/2"	3"	4"	10	40
	3/4"	3"	1 3/4"	3"	4 3/4"	10	45
SIMPSON TITEN HDSS (APMO UES ER-493)	1/2"	3 1/4"	1 3/4"	4"	5"	10	85
	3/4"	4"	1 3/4"	4"	6"	20	95
	1/2"	1 1/4"	1 1/2"	3"	3 1/4"	10	40
	3/8"	2 1/2"	1 3/4"	3"	4"	10	70
SIMPSON TITEN HDSS (APMO UES ER-493)	1/2"	3 1/4"	1 3/4"	3"	6"	10	85
	3/4"	4"	1 3/4"	3"	8 3/4"	20	150

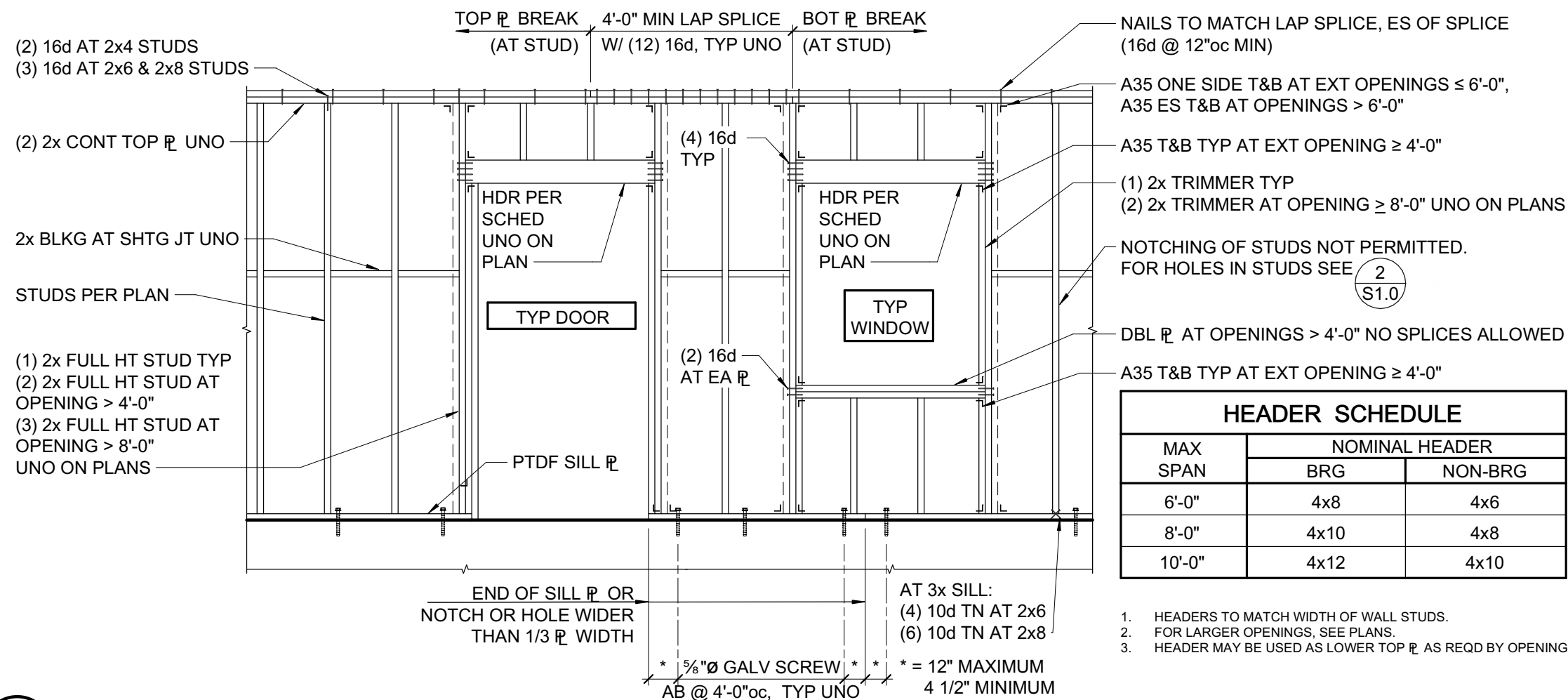


NOTES:

- EXCEPT AT EXTERIOR EXPOSURE CONDITIONS, PROVIDE CARBON STEEL ANCHORS UNO. INSTALL SCREW ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705 OF THE CBC AND THE REQUIREMENTS OF THE ICC REPORTS. INSTALLED ANCHORS SHALL BRING CONNECTED PLIES INTO FIRM CONTACT, MEETING THE INSTALL TORQUE BUT NOT EXCEEDING THE MAXIMUM INSTALL TORQUE.
- CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
- HOLES TO BE DRILLED W/ ROTARY DRILL ONLY. WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN 1" CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
- THE SPECIAL INSPECTOR SHALL PERFORM PERIODIC/CONTINUOUS INSPECTION IN ACCORDANCE WITH TABLE 1705.3. THE SPECIAL INSPECTOR SHALL INSPECT ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.

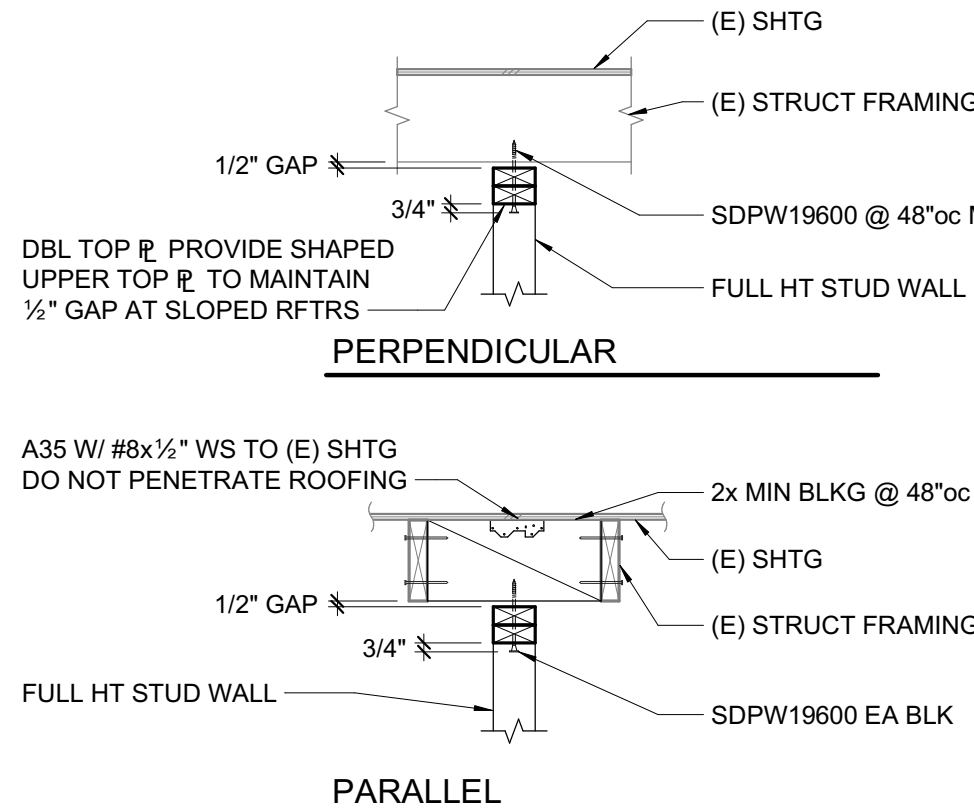
8 SCREW ANCHOR IN CONCRETE

3/4" = 1'-0"



1 TYPICAL STUDWALL AND OPENING FRAMING

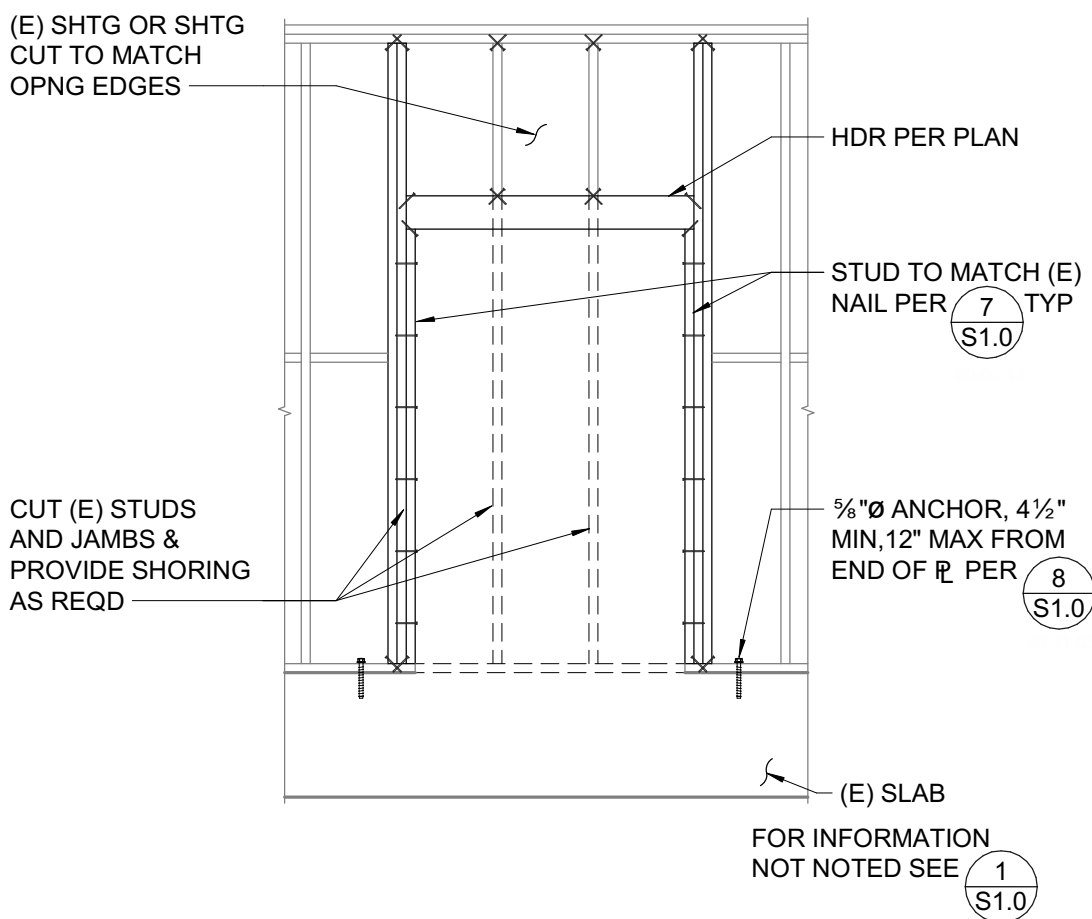
3/8" = 1'-0"



NOTE:
INSTALL SDPW AT C. OF BLOCKING OR STRUCTURAL FRAMING AND WITHIN MIDDLE HALF OF DOUBLE TOP PLATES.

5 TYPICAL NON-BEARING STUD WALL DETAILS

3/4" = 1'-0"



6 DOOR IN EXISTING WALL

3/8" = 1'-0"

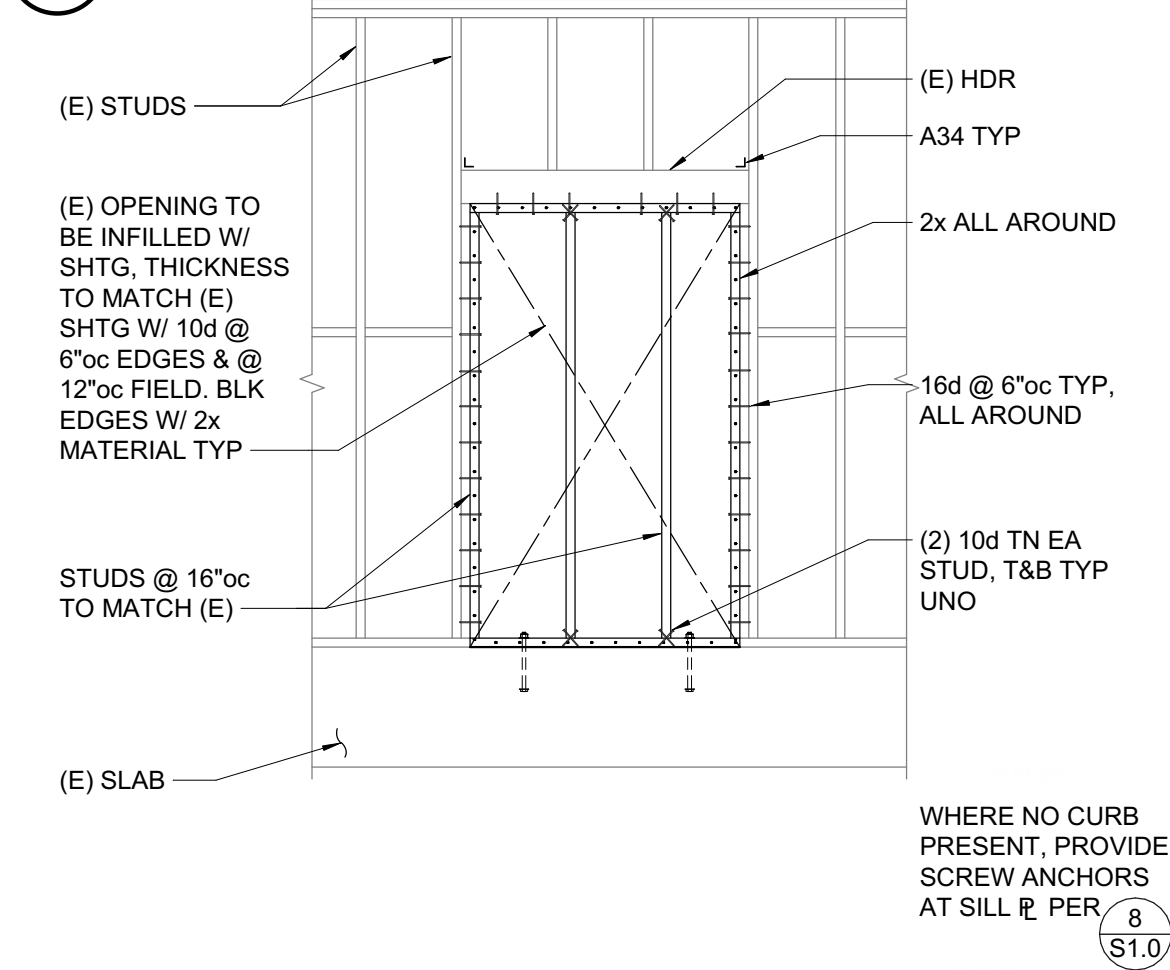
RIM JOIST/BLKG TO TOP R. TOE NAIL	10d @ 6"oc
TRUSSES, JOISTS OR RAFTERS AT ALL BEARING POINTS	(2) 10d
TOE NAILS EACH SIDE	(2) 10d
TRUSSES, JOISTS OR RAFTERS TO SIDE OF STUDS	(3) 16d
EIGHT (8) INCH JOISTS OR LESS	(3) 16d
FOR EACH ADDITIONAL 4 INCHES OF DEPTH OF JOIST	(1) 16d
BLOCKING BETWEEN JOISTS OR RAFTERS	(2) 10d
TO JOIST OR RAFTERS - TOE NAILS EA SIDE, EA END	(2) 10d
TO JOIST OR RAFTER BEARINGS - TOE NAILS EA SIDE	(2) 10d
BLOCKING BETWEEN STUDS, EACH END TOE NAILS	(2) 10d OR (2) 16d
BRIDGING TO JOIST, TOE NAIL EACH END	(2) 8d
2" SUBFLOOR TO JOIST OR GIRDER, BLIND & FACE NAIL	(2) 16d
SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	16d @ 16"oc
SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL PANELS	(3) 16d @ 16"oc
TOP PLATE TO STUD, END NAIL	(2) 16d
STUD TO SOLE PLATE, TOE NAIL	(4) 8d
DOUBLE STUDS AT EXTERIOR WALLS, FACE NAIL	16d @ 12"oc
DOUBLE STUDS, FACE NAIL	16d @ 24"oc
DOUBLE TOP PLATES, FACE NAIL	16d @ 12"oc
TOP PLATES, LAPS & INTERSECTIONS, FACE NAIL	(3) 16d
CONTINUOUS HEADER, TWO PIECES	16d @ 16"oc ALONG EACH EDGE
DOUBLE TOP PLATE LAP AT CORNER	(3) 16d
CONTINUOUS HEADER TO STUD, TOE NAIL	(4) 8d
CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL	(3) 16d
CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	(3) 16d
BUILT-UP CORNER STUDS	16d @ 12"oc
POST TO SILL/SOLE/TOE PLATE, EACH SIDE TOE NAIL	(4) 10d

7 NAILING SCHEDULE

3/4" = 1'-0"

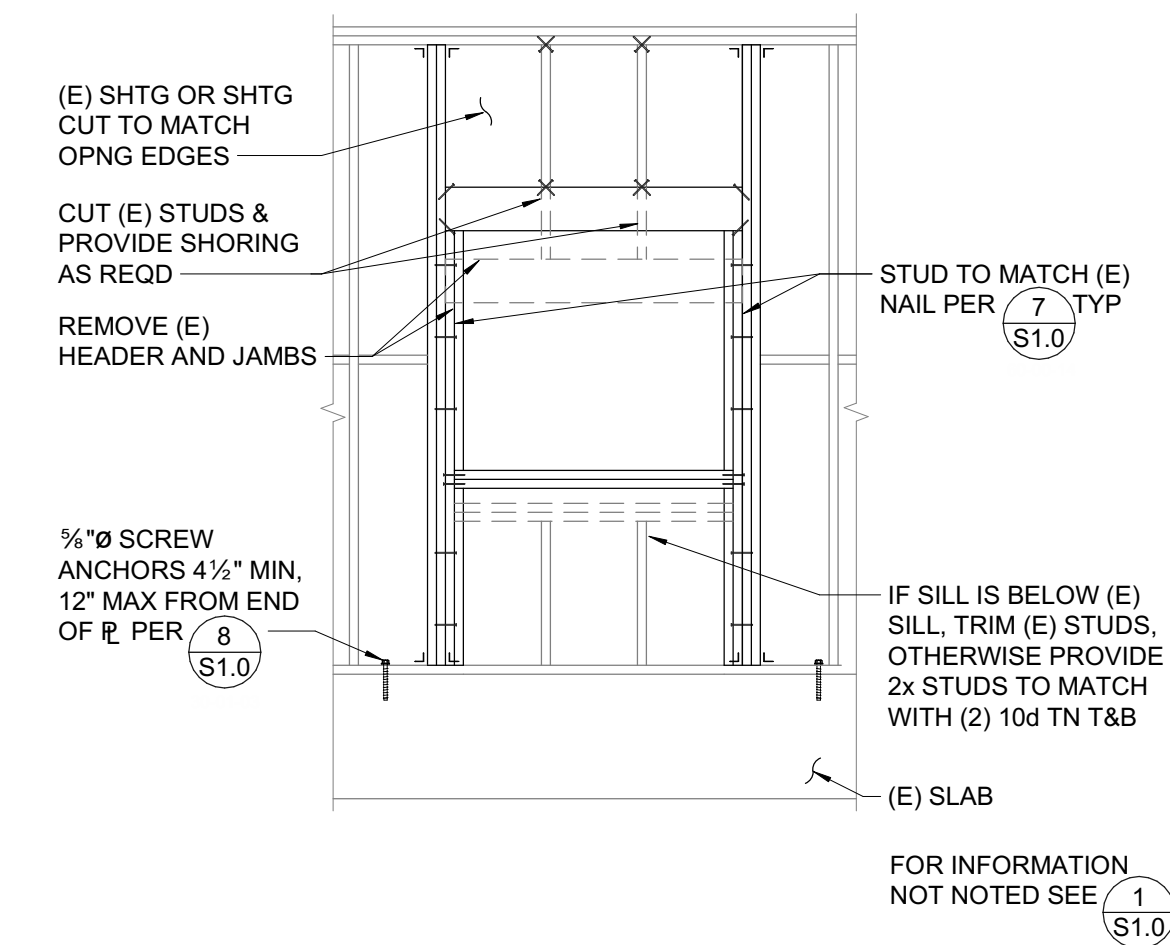
2 HOLES AND NOTCHES IN WOOD STUDS, JOISTS, AND PLATES

3/4" = 1'-0"



3 DOOR INFILL AT EXISTING WALL

3/8" = 1'-0"



4 NEW WINDOW AT EXISTING WINDOW

3/8" = 1'-0"



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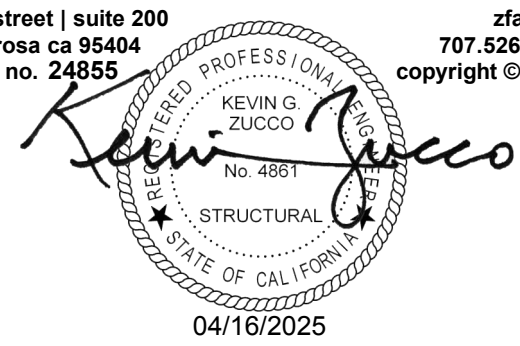
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ZFA STRUCTURAL ENGINEERS

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Agency Approvals

Revision Schedule		
#	Revision Description	Date

Job Title SONOMA DRC

Job Address
2300 COUNTY CENTER DRIVE
SANTA ROSA, CA 95403

Date: 18 APRIL 2025

Issued For
100% CD

Job Number: 24855

Drawn By: JS

Checked By: BMS

Scale

As indicated

0 2' 4' 8' 16'

Sheet Title FRAMING PLAN AND DETAILS

Sheet No.

S1.0

MECHANICAL SYMBOL LIST

NOTE: This is a standard symbol list and not all items listed may be used.

Abbreviations

A/C	AIR CONDITION(ED)
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
BDD	BACKDRAFT DAMPER
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
CD	CEILING DIFFUSER
CD	CONDENSATE DRAIN
CONT.	CONTINUATION
COP	COEFFICIENT OF PERFORMANCE
CU	CONDENSING UNIT
CV	CHECK VALVE
CW	COLD WATER
D	DROP
DB	DECIBEL
DB	DRY BULB
DIA	DIAMETER
DX	DIRECT EXPANSION
EAT	ENTERING AIR TEMPERATURE
EER	ENERGY EFFICIENCY RATING
EF	EXHAUST FAN
EFF	EFFICIENT
ELECT	ELECTRICAL
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
F	FAHRENHEIT
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
FT	FEET
GAL	GALLONS
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HD	HEAD
HP	HORSEPOWER
HTG	HEATING
HTR	HEATER
HWC	HOT WATER COIL
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCHES
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS.	POUNDS
LH	LATENT HEAT
MA	MIXED AIR
MAX	MAXIMUM
MBH	THOUSAND BTU'S PER HOUR
MD	MOTORIZED DAMPER
MIN	MINIMUM
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO.	NUMBER
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER

PD	PRESSURE DROP
PH	PHASE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
QTY	QUANTITY
R	RISE
RA	RETURN AIR
RET	RETURN
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SEER	SEASONAL ENERGY EFFICIENCY RATING
SF	SQUARE FEET
SH	SENSIBLE HEAT
SOV	SHUT OFF VALVE
SP	STATIC PRESSURE
T, TEMP	TEMPERATURE
TD	TEMPERATURE DIFFERENCE
TH	TOTAL HEAT
TP	TOTAL PRESSURE
V	VOLT
W/	WITH
W	WATT
WB	WET BULB
WC	WATER COLUMN

Dampers

		FIRE DAMPER
		FIRE/SMOKE DAMPER
		MOTORIZED DAMPER
		SMOKE DAMPER
		VOLUME DAMPER

Diffusers and Grilles

		EXHAUST AIR
		RETURN AIR
		SUPPLY AIR
	CD-1	DIFFUSER OR GRILLE IDENTIFICATION

Ductwork Fittings

		ACOUSTICALLY LINED DUCT (SIZES SHOWN ARE NET INSIDE)
		BELLMOUTH
		CONCENTRIC SQUARE TO ROUND
		CONCENTRIC TRANSITION, RECTANGULAR OR ROUND
		MITERED ELBOW WITH TURNING VANES
		RADIUSED ELBOW
		ECCENTRIC TRANSITION, RECTANGULAR OR ROUND
		FLEXIBLE CONNECTION
		NON-SYMMETRICAL WYE
		RECTANGULAR DUCT DROP
		RECTANGULAR DUCT RISER
		RECTANGULAR MAIN WITH RECTANGULAR BRANCH

		RECTANGULAR MAIN WITH ROUND BRANCH
		RECTANGULAR OFFSET LESS THAN 15°
		RECTANGULAR OFFSET MORE THAN 15°
		ROUND DUCT DROP
		ROUND DUCT RISER
		ROUND DUCT WITH ROUND BRANCH
		ROUND WYE
		SYMMETRICAL WYE

General

	30X16	RECTANGULAR DUCT SIZING
	30"Ø	ROUND DUCT SIZING

GENERAL MECHANICAL NOTES

- A. PROVIDE MISCELLANEOUS METALS AND MATERIALS FOR A COMPLETE INSTALLATION (IE. SUPPORT, BRACING, ETC.)
- B. PROVIDE EQUIPMENT SUBMITTAL, FOR REVIEW, IN ACCORDANCE WITH THE SPECIFICATIONS. DO NOT DELIVER TO THE JOB SITE ANY PRODUCTS WITHOUT PRIOR REVIEW BY THE ARCHITECT. SUBMIT ALL REQUIRED SUBMITTALS AT ONE TIME. AT CONTRACTOR'S OPTION, 2 SEPARATE SUBMITTALS MAY BE SUBMITTED, CONSISTING OF: BUILDING AUTOMATION SYSTEM – DEVIATIONS WILL BE RETURNED WITHOUT REVIEW. INCOMPLETE SUBMITTALS WILL BE RETURNED WITHOUT REVIEW. ENGINEER WILL PROVIDE MAXIMUM OF TWO REVIEWS OF SUBMITTAL PACKAGE. ARRANGE FOR ADDITIONAL REVIEWS AND/OR EARLY REVIEW OF LONG-LEAD ITEMS AND BEAR COSTS OF THESE ADDITIONAL REVIEWS AT ENGINEER'S STANDARD HOURLY RATES. SUBSTITUTION REQUESTS WILL NOT BE REVIEWED AFTER AWARD OF CONTRACT.
- C. PRIOR TO SUBMISSION OF BID, REVIEW A COMPLETE SET OF CONSTRUCTION DOCUMENTS (INCLUDING ALL OTHER TRADES). INCLUDE ADDITIONAL PIPE OR DUCT OFF-SETS THAT MAY BE REQUIRED TO CLEAR STRUCTURE, FINISHES OR WORK OF OTHER TRADES. FIELD VERIFY EXACT LOCATION AND SIZES OF EXISTING UTILITIES, THE PROPOSED POINT OF CONNECTIONS TO EXISTING SYSTEMS, AND NEW ROUTINGS. EXTRA PAYMENT WILL NOT BE ALLOWED FOR WORK RESULTING FROM LACK OF APPRAISAL OF ENTIRE SCOPE OF WORK PRIOR TO BID. SYSTEM LAYOUTS AS INDICATED ON DRAWINGS ARE GENERALLY DIAGRAMMATIC BUT SHALL BE FOLLOWED AS CLOSELY AS ACTUAL CONSTRUCTION WILL PERMIT.
- D. PROVIDE DUCT ACCESS DOORS FOR EQUIPMENT AND DEVICES REQUIRING ACCESS OR RESETTNG (IE. FIRE AND SMOKE DAMPERS, SMOKE DAMPERS, SENSORS, ETC.) INDICATE SIZE AND LOCATION ON COORDINATED SHOP DRAWINGS.
- E. FLASH AND COUNTER FLASH ALL ROOF PENETRATIONS TO SEAL WEATHER TIGHT (SEE ARCHITECTURAL ROOFING DETAILS AND SPECIFICATIONS).
- F. INSTALL EQUIPMENT AND CURBS LEVEL. PROVIDE DUNNAGE, MISCELLANEOUS METALS, AND/OR PRESSURE TREATED LUMBER, AS REQUIRED TO INSTALL EQUIPMENT AND CURBS LEVEL.
- G. PROVIDE DUCTWORK AND TRANSITIONS EQUAL TO DUCT FREE AREA SHOWN ON DRAWINGS, TO PREVENT A SPATIAL CONFLICT. AT CONTRACTOR'S OPTION AND IF SPATIAL CONSTRAINTS ALLOW IT, ROUND SPIRAL DUCTWORK, OF EQUAL CROSS-SECTIONAL AREA OR LARGER, MAY BE USED IN LIEU OF RECTANGULAR DUCTWORK WHERE SHOWN ON PLANS.
- H. EQUIPMENT, HVAC DUCTS, PIPING AND OTHER DEVICES AND MATERIALS INSTALLED OUTDOORS OR EXPOSED TO WEATHER SHALL BE WEATHER-PROOF.
- I. INSTALL EQUIPMENT WITH SUFFICIENT ACCESS TO PANELS, ELECTRICAL CONNECTIONS, CONTROLS, FILTERS, MOTORS, ETC. COORDINATE ACCESS TO ALL DAMPERS, VALVES, AND OTHER SERVICEABLE EQUIPMENT. REVIEW CEILING HEIGHTS AND COORDINATE ACCESS PANEL LOCATIONS.
- J. COORDINATE EQUIPMENT PLATFORMS, AND CUTTING AND PATCHING. OBTAIN WRITTEN PERMISSION FROM THE ARCHITECT PRIOR TO ANY STRUCTURAL MODIFICATIONS, CUTTING OR PATCHING WORK. KEEP SAW CUTTING TO A MINIMUM.

- K. PROTECT AND ISOLATE DUCTS AND MECHANICAL EQUIPMENT STORED ON CONSTRUCTION SITE FROM DUST CONTAMINATION IN COMPLIANCE WITH CALIFORNIA GREEN BUILDING CODE.
- L. THE PERMANENT HVAC SYSTEM SHALL ONLY BE USED DURING CONSTRUCTION IF NECESSARY TO CONDITION BUILDING OR AREAS OF ADDITION OR ALTERATION WITHIN THE TEMPERATURE RANGE FOR MATERIAL AND EQUIPMENT INSTALLATION. IF THE HVAC SYSTEM IS USED DURING CONSTRUCTION, USE RETURN AIR FILTERS WITH A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8. REPLACE ALL FITLERS IMMEDIATELY PRIOR TO OCCUPANCY, OR, IF THE BUILDING IS OCCUPIED DURING ALTERATION, AT THE CONCLUSION OF CONSTRUCTION.

SHEET INDEX

M0.01	SYMBOLS LIST AND GENERAL NOTES - MECHANICAL
M0.02	T24 - MECHANICAL
M2.01	PARTIAL FIRST FLOOR PLAN - MECHANICAL
M3.01	SPECIFICATIONS - MECHANICAL



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TEL: 415.489.7240
www.interfaceengineering.com



Signed: 1/23/26

Agency Approvals

Revision No.	Date
1	CAL GREEN UPDATES 01/23/2026

Written dimensions on these drawings shall have precedence over scaled dimensions. Drawings shall not be scaled. Contractors shall verify, and be responsible for, all dimensions and conditions shown by these drawings. Shop details must be submitted to this office for approval before proceeding with fabrications. The drawings and their design content are the sole property of William Duff Architects, Inc. and may not be reused or reproduced in any manner without our express written consent.

Job Title
SONOMA DRC

Job Address
**2300 COUNTY CENTER DRIVE
SANTA ROSA, CA 95403**

Date: 23 JANUARY 2026

Issued For
PERMIT SET

Job Number:

Drawn By: EW Checked By: DP

Scale

As indicated

0 2' 4' 8' 16'

Sheet Title

**SYMBOLS LIST AND
GENERAL NOTES -
MECHANICAL**

Sheet No.

M0.01

STATE OF CALIFORNIA

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A. GENERAL INFORMATION

01 Project Location (city)	Sonoma	04 Total Conditioned Floor Area	75
02 Climate Zone	2	05 Total Unconditioned Floor Area	0
03 Occupancy Types Within Project:		06 # of Stories (Habitable Above Grade)	1
• Office			

B. PROJECT SCOPE

This table includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, 170.2(b) or 141.0(b)(2) and 180.2(b)(2) for alterations.

01	02	03
Air System(s)	Wet System Components	Dry System Components
☐ Heating Air System	☐ Water Economizer	☐ Air Economizer
☐ Cooling Air System	☐ Pumps	☐ Electric Resistance Heat
Mechanical Controls	System Piping	☒ Fan Systems
☐ Mechanical Controls (existing to remain, altered or new)	☐ Cooling Towers	☒ Ductwork (existing to remain, altered or new)
	☐ Chillers	☒ Ventilation
	☐ Boilers	☐ Zonal Systems/ Terminal Boxes

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H. EXHAUST AIR HEAT RECOVERY 140.4(q), 170.2(c)(40)

01	02	03	04	05	06	07	08	09	10	11
Fan System Name	Qty	Hours of Operation per Year	Design Supply Airflow Rate	Outdoor Airflow	% Outdoor Air at Full Design Airflow	Exemptions to Exhaust Air Heat Recovery Requirement per 140.4(q) & 170.2(c)(40)	Exhaust Air Heat Recovery 140.4(q) & 170.2(c)(40)	Type Of Heat Recovery Rating	Required Recovery Ratio	Energy Recovery Bypass
Restroom Exhaust	1	< 8,000	100	0		No Exemptions Apply	Not Required			

Fan Energy Index (FEI)

01	02	03
Name or Item Tag	FEI Exception	FEI
EF-101	<1.00 HP or 0.89 KW	

I. SYSTEM CONTROLS

This section does not apply to this project.

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in 120.1.120.2(e)(3) 140.4(p) and 140.4(q) for all nonresidential and hotel/motel and d:24refnolink/160.2, 160.3(a)(30, 170.2(a)(4N, 170.2(a)(40 for high-rise residential occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and airflow may be shown on the plans or the calculations can be presented in a spreadsheet.

01	☐	Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.
02	☒	Check this box if the project included Nonresidential, Hotel/Motel Spaces or Multifamily Common Use Spaces
03	☐	Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per 120.1(c)(2).

Nonresidential and Hotel/ Motel Multifamily Common Use Ventilation Systems

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M. COOLING TOWERS

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-4

Form/Title

NRCC-MCH-01-E - Must be submitted for all buildings

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-4

Form/Title

Systems/Spaces To Be Field Verified

NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Restroom Exhaust Supply Fan VFD Acceptance (if applicable) since testing activities overlap.

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

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C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance.

01	02	03	04	05	06	07	08	09					
System Summary 110.1, 110.2, 140.4, 170.2(c)	AND	Pumps 140.4(k), 170.2(c)(4)	AND	Fans/Economizers 140.4(c), 140.4(e), 170.2(c)	AND	System Controls 110.2, 120.2, 140.4(f), 170.2(c)	AND	Terminal Box Controls 140.4(d), 170.2(c)(4)B	AND	Distribution 120.3, 140.4(i), 160.2, 160.3	AND	Cooling Towers 110.2(e)2	COMPLIANCE RESULTS
(See Table F)	(See Table G)	(See Table H)	(See Table I)	(See Table J)	(See Table K)	(See Table L)	(See Table M)						
	AND		AND	Yes	AND	Yes	AND		AND	Yes	AND		COMPLIES with Exceptional Conditions
Mandatory Measures Compliance (See Table Q for Details)													COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

Transfer air is being used in at least one zone to meet minimum ventilation requirements. See Table J for details. Transfer air must be designed per §120.1(a) for air classification and recirculation limitations and be documented within construction documents.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

This section does not apply to this project.

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J. VENTILATION AND INDOOR AIR QUALITY

04	05	06	07					
System Name	Restroom Exhaust	System Design OA CFM Airflow ¹	0	System Design Transfer Air CFM	100	Air Filtration per 120.1(c) 141.0(b)(2) and 160.2(c)(21) ²		
08	09	10	11	12	13	14	15	16
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)(3) ³ & 160.2(c)(3)	Exh. Vent per 120.1(c)(4) & 160.2(c)(4)	DCV or Sensor Controls per 120.1(d)(3), 120.1(d)(5), and 120.1(e)(3) ⁴ 160.2(c)(5D 160.2(c)(5E 160.2(c)(5D	DCV	NA: Not required per §120.1(d)(3)	NA: Not required space type		
Restroom	Toilet, public	75	1		11.25	70	100	
17	Total System Required Min OA CFM	11.25	18	Ventilation for this System Complies?	Yes			

¹ FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system

² Air filtration requirements apply to the following three system types per 120.1(c)(1A): space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.

³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

⁴ See Standards Tables 120.1-A and 120.1-B.

⁵ For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.

⁶ 120.2(e)(3) requires systems serving rooms that are required by 130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by 130.1(c).

K. TERMINAL BOX CONTROLS

This section does not apply to this project.

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Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

01	02
Compliance with Mandatory Measures documented through MCH	Plan sheet or construction document location
Mandatory Measures Note Block	No
03	04
Mandatory Measure	Plan sheet or construction document location
Duct Insulation per 120.4	N/A
The air duct and plenum system is designed per 120.4(a)-(f)	M3.01-M3.02
Kitchen range hoods shall be rated for sound in accordance with Section 7.2 of ASHRAE 62.2	N/A

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G. PUMPS

This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in 140.4(c), 140.4(e), 140.4(m), 170.2(c)(3), and 170.2(c)(4A for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name	Restroom Exhaust	Quantit y	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units (w/g)	Not Serving Dwelling Units	Fan System Airflow (cfm)	100	Site Elevation	500	Economizer	NA: <=33 kBTu/h cooling
01	02	03		04		05		06	07	08		09		10	11
Fan Name or Item Tag	Fan Type	Qty		Component		Airflow through Component (%)		Water Gauge (w/g)	Component Allowance (watt/cfm)	Fan Allowance (watt/cfm) ³	Design Electrical Input Power Method	Motor Nameplate Horsepower		Fan Electrical Input Power (kW)	
EF-101	Exhaust	1		None used						0	Manufacturer provided				0.02
Supply Fan Base Allowance (watt/cfm)				Exhaust/Return/Relief/Transfer Fan Base Allowance(watt/cfm)				Fan System Allowance (kW) ⁴			Fan System Electrical Input Power (kW)				0.02

¹ FOOTNOTES: Fans serving spaces with design background noise goals below NC35

² Low-turnaround single-zone VAV fan system must be capable of and configured to reduce airflow to 50 percent of design airflow and use no more than 30 percent of the design wattage at that airflow. No more than 10 percent of the design load served by the equipment shall have fixed loads.

³ Fan system allowance includes fan system base allowance.

⁴ Filter pressure loss can only be counted once per fan system.

⁵ Complex Fan System means a fan system that combines a single cabinet fan system with other supply fans, exhaust fans, or both.

⁶ Computer room economizers must meet requirements of 140.9(a) and will be documented on the NRCC-PRC-E document.

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L. DISTRIBUTION (DUCTWORK AND PIPING)

This table is used to show compliance with mandatory pipe insulation requirements found in 120.3 and mandatory requirements found in 120.4(g) for duct sealing.

01	☐	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service. Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarder. All penetrations and joints of which shall be sealed.
----	--------------------------	--

Duct Leakage Testing

		NR/ Common Use: Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No
		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	---
		Duct leakage testing per CMC Section 603.9.2 required for these systems?	No

The answers to the questions below apply to the following duct systems:

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	No	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft ² of conditioned floor area.
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system:
15	No	The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16	No	The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	All Ductwork and plenums with pressure class ratings shall be constructed to Seal Class A
18	No	All ductwork is an extension of an existing duct system
19	No	Ductwork serving individual dwelling unit
20		< 25 ft of new or replacement space conditioning ducts installed
21	R-0.0	Duct Insulation R-value
22	Yes	Ductwork Existing To Remain
23	No	Duct System Connected To Altered Space Conditioning System

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Brandon Tracy

Company: Interface Engineering

Address: 49 Stevenson St, Suite 660

City/State/Zip: San Francisco, CA, 94105

Documentation Author Signature: [Signature]

Signature Date: 01/23/2026

CEA/ HERS Certification Identification (if applicable):

Phone: 415.489.3244

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. The information provided on this Certificate of Compliance is true and correct.

2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)

3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.

4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other available compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the building provides to the building owner at occupancy.

Responsible Designer Name: Dominic Pedotto

Company: Interface Engineering

Address: 49 Stevenson St, Suite 660

City/State/Zip: San Francisco, CA, 94105

Responsible Designer Signature: [Signature]

Date Signed: 01/23/2026

License: M34857

Phone: 415.489.3215

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Agency Approvals

Revision No. Date
1 CAL GREEN UPDATES 01/23/2026

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Job Title
SONOMA DRC

Job Address
**2300 COUNTY CENTER DRIVE
SANTA ROSA, CA 95403**

Date: 23 JANUARY 2026

Issued For
PERMIT SET

Job Number:

Drawn By: EW Checked By: DP

Scale
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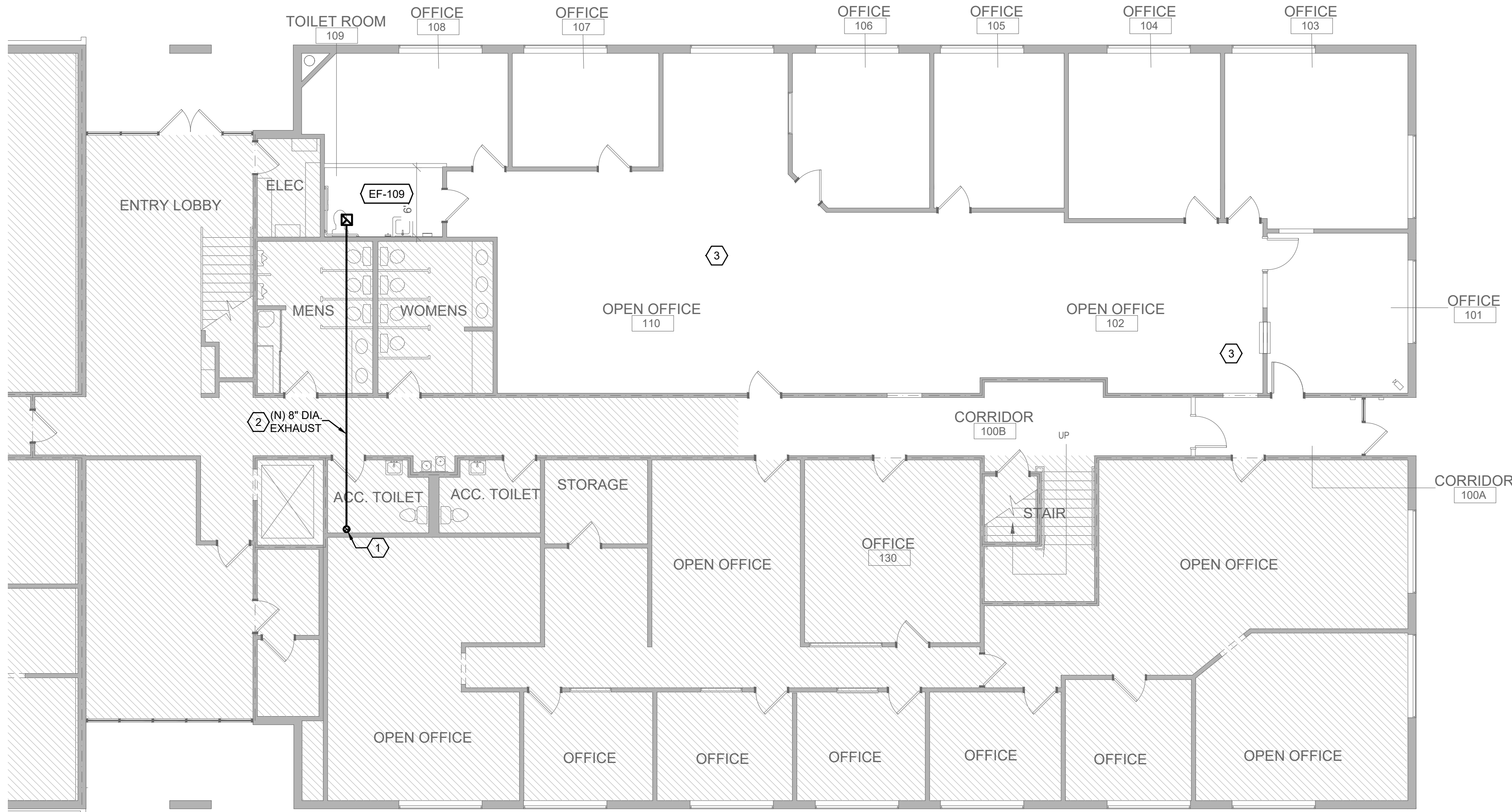
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Sheet Title
T24 - MECHANICAL

Sheet No.

M0.02

FILE: 1861 - M0.02.DWG - M0.01 | EDIT: 1/23/2026 5:13 PM BY BRANDONT | PLOT: 1/23/2026 5:14 PM BY BRANDON TRACY



ELECTRICAL SYMBOL LIST

NOTE: This is a standard symbol list and not all items listed may be used.

Abbreviations

(E)	EXISTING TO REMAIN
(N)	NEW
(R)	EXISTING DEVICE TO BE RELOCATED
(RL)	NEW LOCATION OF RELOCATED DEVICE/EQUIPMENT
(X)	DEMOLISH
A	AMPERES, AMBER
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AVAILABLE INTERRUPTING CAPACITY
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
C	CONDUIT, CLOSE, CONTROL
CU	COPPER
E	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FMC	FLEXIBLE METAL CONDUIT
FT	FOOT, FEET
G, GND	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
IG	ISOLATED GROUND

IMC	INTERMEDIATE METAL CONDUIT
KVA	KILOVOLT AMPERES
KW	KILOWATT
LED	LIGHT EMITTING DIODE
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
MCA	MINIMUM CIRCUIT AMPS
MOCP	MAXIMUM OVERCURRENT PROTECTION
N	NEUTRAL
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
PVC	POLY-VINYL-CHLORIDE
RFI	REQUEST FOR INFORMATION
RMC	RIGID METAL CONDUIT
TYP	TYPICAL
V	VOLTS, VOLTAGE
WP	WEATHERPROOF

General

	DEMOLISH
	EXISTING WORK
	NEW WORK
	DETAIL NUMBER AND SHEET LOCATION



XX-X	EQUIPMENT IDENTIFICATION
LOCATION 1	KEYED NOTE

Lighting

	EXIT SIGN CEILING MOUNTED, ARROW(S) INDICATES DIRECTION IF SHOWN
	RECESSED 1' X 4' LUMINAIRE
	RECESSED 2' X 4' LUMINAIRE
	RECESSED 2' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT.

Raceways

	CONDUIT CONCEALED IN WALL OR CEILING SPACE
	CONDUIT ROUTED BELOW FLOOR / GRADE
	CONDUIT/WIRING CONTINUATION
	FLEXIBLE CONDUIT

Switches and Receptacles

	DUPLEX RECEPTACLE (MULTIPLE LETTERS INDICATE MULTIPLE OPTIONS)
G	G = GROUND FAULT CIRCUIT INTERRUPTER

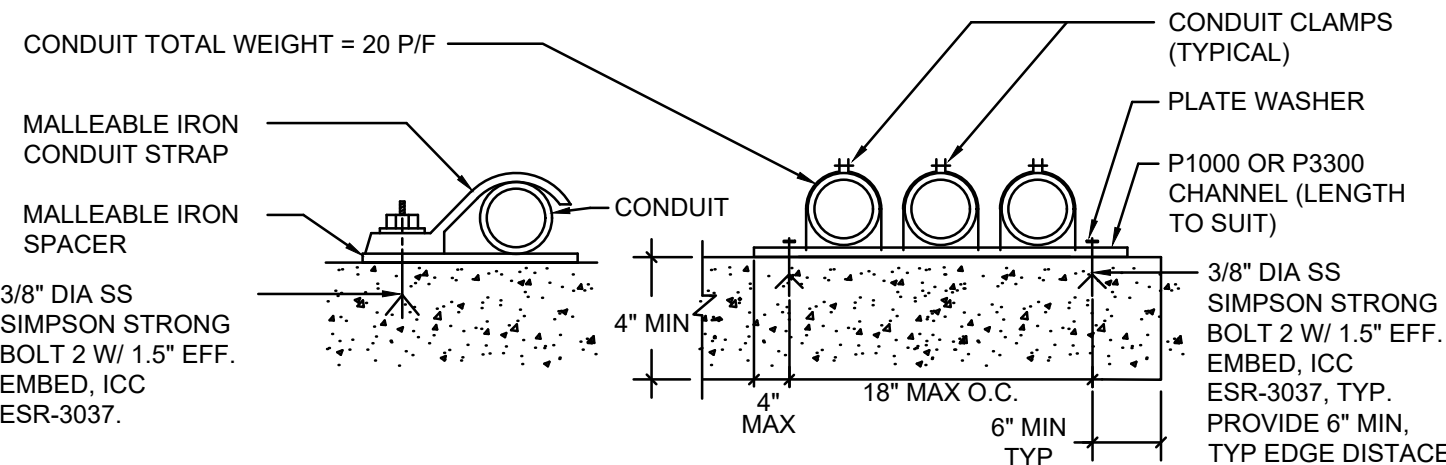
	CEILING MOUNTED OCCUPANCY SENSOR P = PASSIVE INFRARED D = DUAL TECHNOLOGY U = ULTRASONIC, 360 DEG RANGE H = ULTRASONIC, HALLWAY PATTERN v (LOWERCASE) = VACANCY CONTROL DESIGNATION
	WALL MOUNTED OCCUPANCY SENSOR/SWITCH S = PASSIVE INFRARED WITH INTEGRAL "OFF" SWITCH T = DUAL RELAY PASSIVE INFRARED WITH TWO INTEGRAL "OFF" SWITCHES D = PASSIVE INFRARED WITH INTEGRAL DIMMER TO OFF. v (LOWERCASE) = VACANCY CONTROL DESIGNATION
\$	SINGLE POLE SWITCH 2 = DOUBLE POLE SWITCH 3 = THREE-WAY SWITCH 4 = FOUR-WAY SWITCH a THRU z (LOWERCASE) = LUMINAIRE CONTROL DESIGNATION D = DIMMER M = MANUAL MOTOR STARTER WITH THERMAL OVERLOAD

GENERAL ELECTRICAL NOTES

- A. DO NOT COMMENCE INSTALLATION OF ELECTRICAL SYSTEMS AND EQUIPMENT WITHOUT RELATED SHOP DRAWING APPROVALS.
- B. SCHEDULE WORK IN EXISTING BUILDINGS WITH THE OWNER. MINIMIZE DISRUPTION OF NORMAL OPERATIONS.
- C. VISIT THE SITE BEFORE SUBMITTING A BID TO OBSERVE EXISTING CONDITIONS.
- D. ELECTRICAL CIRCUITS SHALL BE INTERRUPTED ONLY WITH PRIOR WRITTEN CONSENT. SUCH INTERRUPTIONS SHALL BE PRECEDED BY ALL POSSIBLE PREPARATIONS BY THE CONTRACTOR WHICH ARE NECESSARY TO KEEP THE ELECTRICAL CIRCUITS OFF FOR A MINIMUM PERIOD IN AN EXPEDITIOUS MANNER PURSUANT WITH GOOD WORKMANSHIP. THIS INCLUDES CIRCUIT TRACING TO IDENTIFY THE ELECTRICAL LOAD BEING SERVED AND THE ORIGIN OF THE CIRCUIT.
- E. PROVIDE SUITABLE ANCHORAGE AND SUPPORT FOR ELECTRICAL EQUIPMENT IN RATED WALLS, SLABS AND CEILINGS. MOUNT DEVICES AND RACEWAYS IN ACCORDANCE WITH ESTABLISHED CODES AND SPECIFICATIONS.
- F. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- G. DRAWINGS AND SPECIFICATIONS COMPLEMENT EACH OTHER. REQUIREMENT BY EITHER INFERS REQUIREMENT BY BOTH.
- H. CONNECT EQUIPMENT AND DEVICES FURNISHED UNDER OTHER DIVISIONS OF THIS CONTRACT, BY OWNER OR BY OTHER CONTRACTS.
- I. UNLESS OTHERWISE NOTED, PROVIDE CONCEALED AND FLUSH MOUNTED INSTALLATION OF DEVICES AND EQUIPMENT IN AREAS.
- J. RUN ELECTRICAL CONDUIT CONCEALED AND PARALLEL TO BUILDING LINES. VERIFY WITH ARCHITECT.
- K. RECEPTACLE OUTLETS SHALL BE INSTALLED IN COMPLIANCE WITH CEC SECTIONS 210.8, 210.50, AND 406.12.
- L. LIGHTS, SWITCHES AND CONTROL MECHANISMS SHALL COMPLY WITH CEC SECTION 404.
- M. BRACE ELECTRICAL EQUIPMENT TO RESIST A HORIZONTAL FORCE THAT ACT IN ANY DIRECTION. COMPLY WITH TITLE 24 REQUIREMENTS.
- N. INSTALL COMPLETE SYSTEM OF CONDUCTORS IN RACEWAY SYSTEM THROUGHOUT BUILDING FOR FEEDERS, BRANCH CIRCUITS, ETC.
- O. DESIGN OF TEMPORARY POWER FOR CONSTRUCTION SHALL BE THE CONTRACTOR'S RESPONSIBILITY. REMOVE TEMPORARY POWER PRIOR TO COMPLETION OF PROJECT.
- P. ALL WORK ON SERVICE CONDUCTORS, FEEDERS, AND OTHER SUCH EQUIPMENT SHALL BE DONE ONLY WHEN SUCH CONDUCTORS, FEEDERS, AND EQUIPMENT ARE DE-ENERGIZED. THE CONTRACTOR SHALL HAVE AN "ELECTRICAL SAFETY AND LOCK-OUT/TAG-OUT PROCEDURE" IN PLACE PRIOR TO COMMENCEMENT OF WORK.
- Q. PROVIDE DEFERRED APPROVAL AND DESIGN BUILD FOR ANY REQUIRED MODIFICATION TO THE EXISTING FIRE ALARM SYSTEM. SUBMIT COMPLETE DRAWINGS TO THE FIRE MARSHAL FOR APPROVAL AND ASSUME FULL RESPONSIBILITY OF THE SYSTEM, DEVICE QUANTITY AND LOCATION, WIRING, PROGRAMMING AND CONTROL PANELS. COORDINATE FINAL DEVICE LOCATIONS WITH THE ARCHITECT PRIOR TO ROUGH-IN.

SHEET INDEX

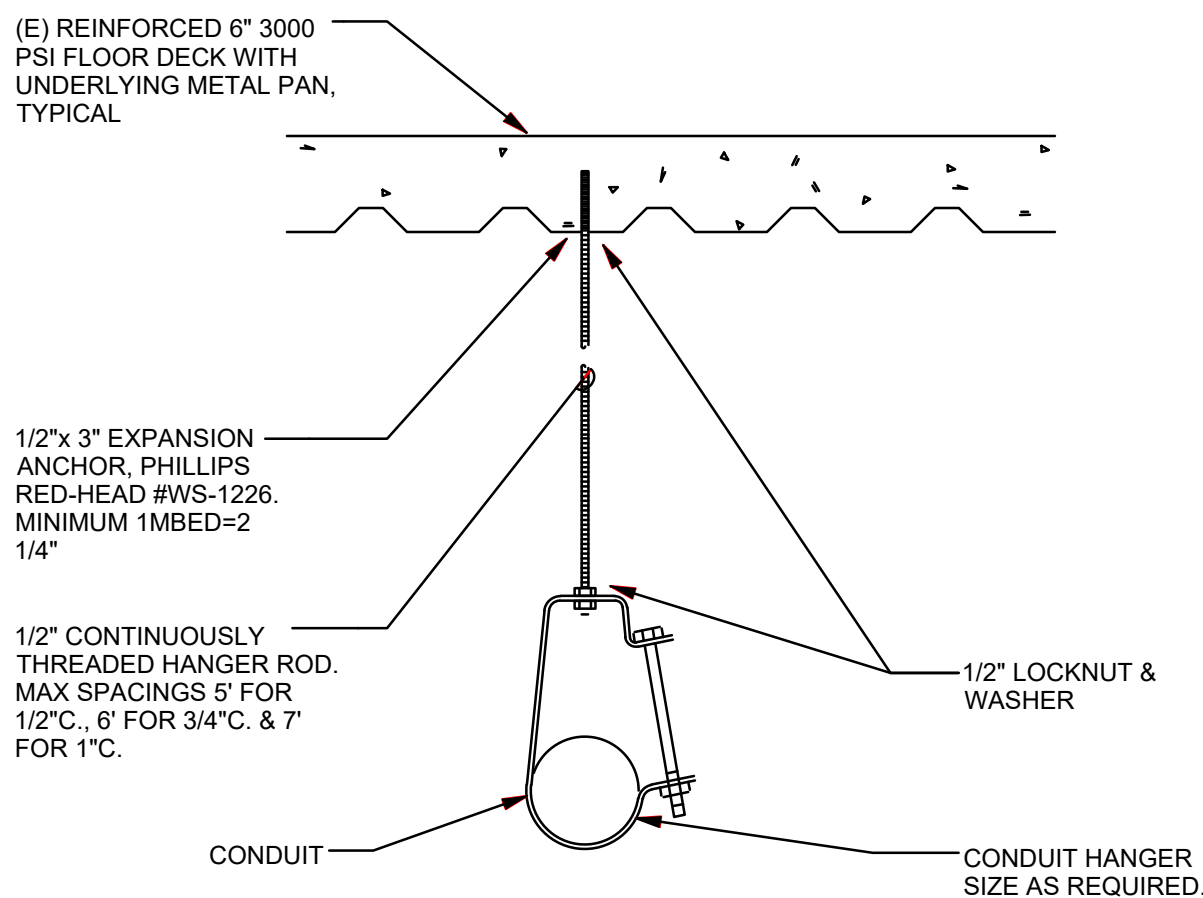
E0.01	SYMBOLS LIST, GENERAL NOTES AND LUMINAIRES SCHEDULE - ELECTRICAL
ED2.01	PARTIAL FIRST FLOOR DEMOLITION PLAN - ELECTRICAL
E2.01	PARTIAL FIRST FLOOR PLAN - ELECTRICAL
E3.01	SPECIFICATIONS - ELECTRICAL
E3.02	SPECIFICATIONS - ELECTRICAL
E3.03	SPECIFICATIONS - FIRE ALARM
E3.04	SPECIFICATIONS - FIRE ALARM



- NOTE
- SINGLE CONDUIT**
- MULTIPLE CONDUITS**
1. LOCATE 10" O.C. OC MAX AND 2' MAX FROM EACH BEND AND EACH END.

1 CONDUIT CONCRETE SUPPORT DETAIL

NO SCALE



2 CONDUIT HANGER FOR SINGLE CONDUIT

NO SCALE



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Agency Approvals

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Job Address
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SANTA ROSA, CA 95403**

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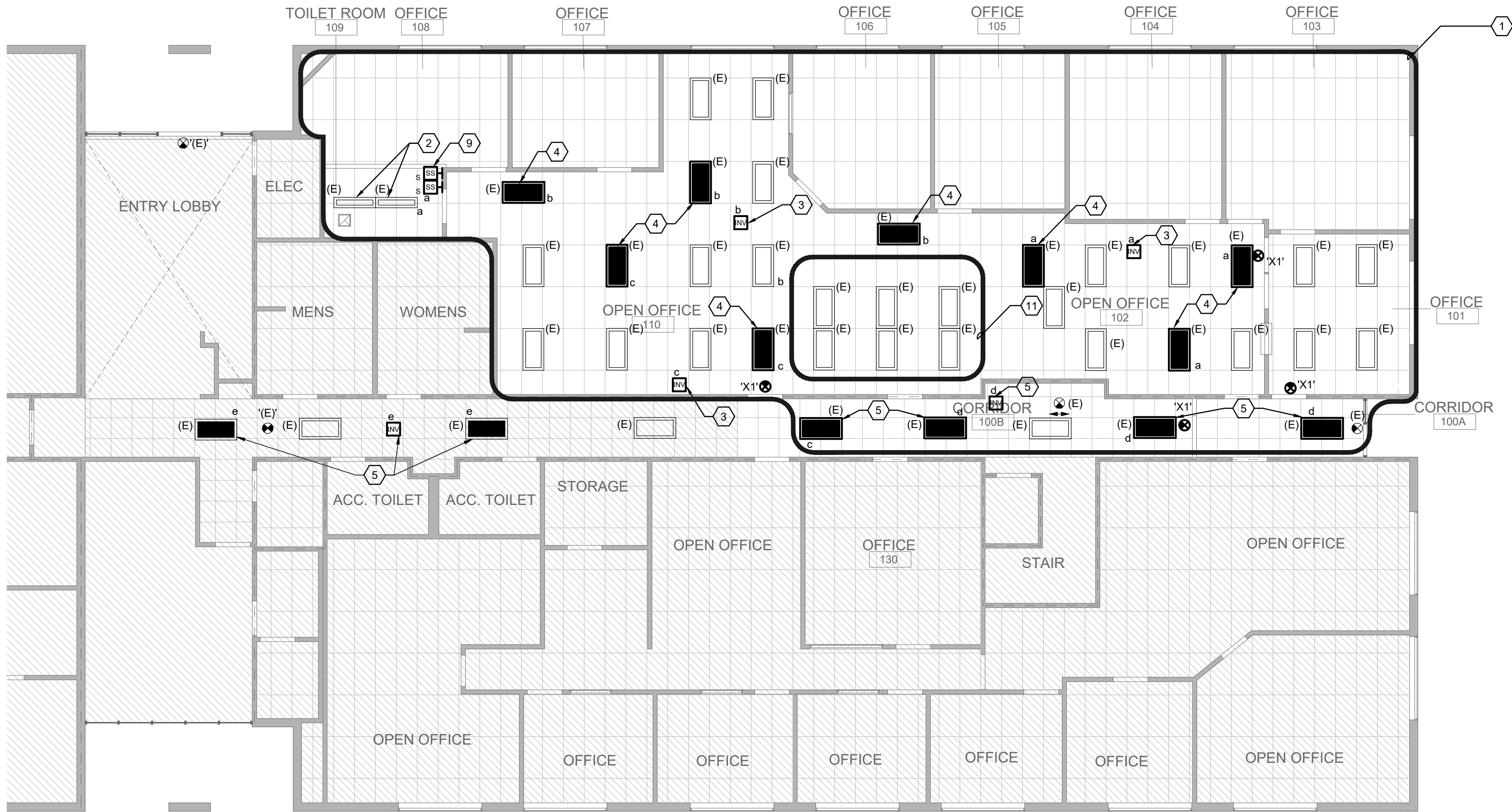
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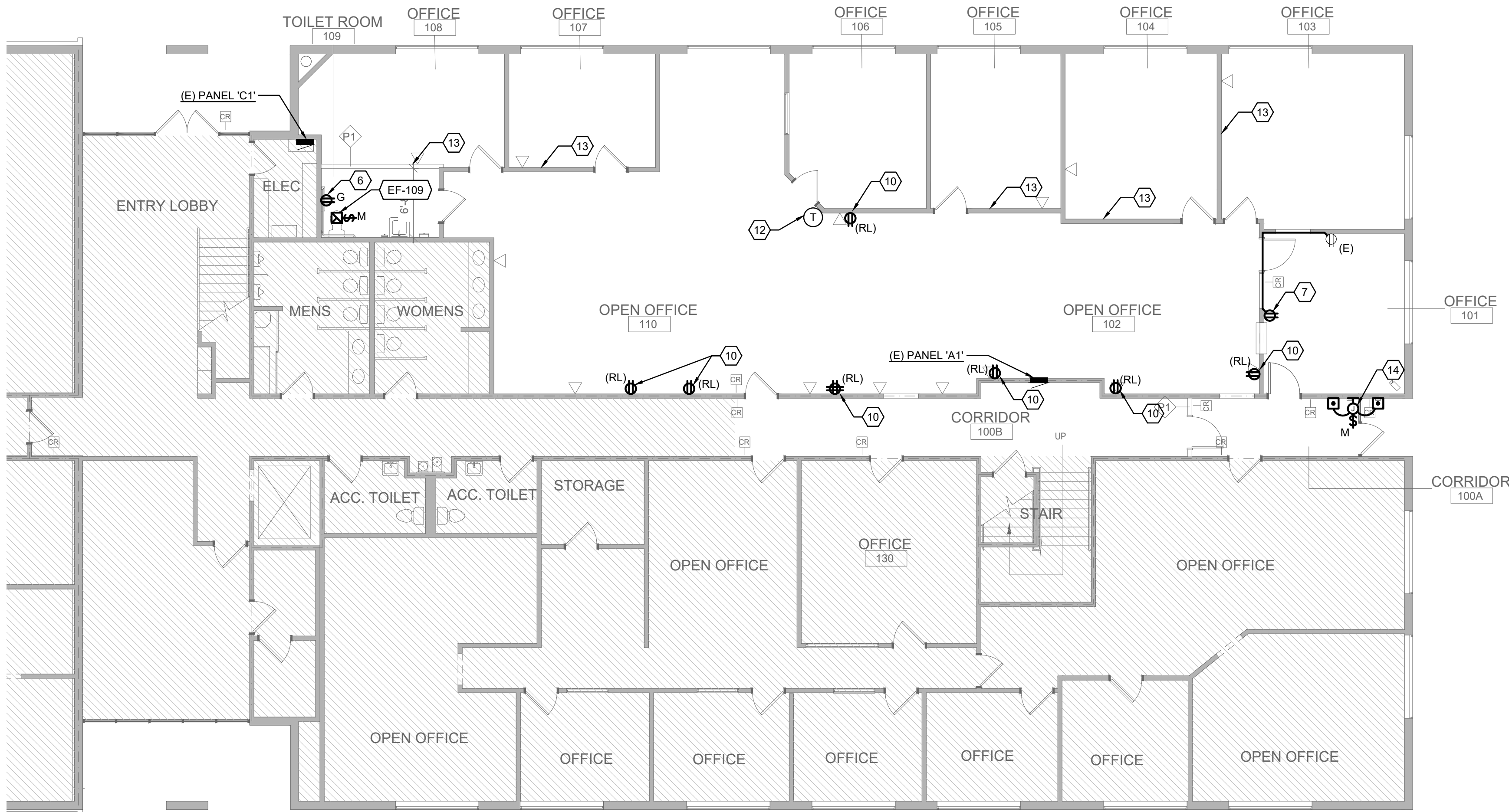
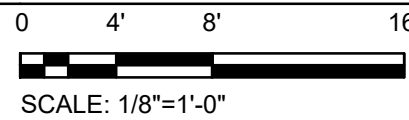
**SYMBOLS LIST, GENERAL
NOTES, DETAILS, AND
LUMINAIRE SCHEDULE -
ELECTRICAL**

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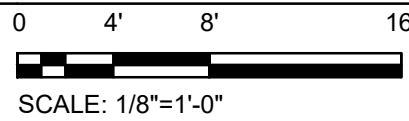
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1 PARTIAL FIRST FLOOR PLAN - LIGHTING



2 PARTIAL FIRST FLOOR PLAN - POWER



GENERAL SHEET NOTES

- EXISTING LUMINAIRES, LIGHTING CONTROLS, RECEPTACLES, AND ELECTRICAL DEVICES ARE TO REMAIN UNLESS OTHERWISE NOTED.
- COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF RECEPTACLES, LUMINAIRES, OUTLETS AND ELECTRICAL DEVICES WITH ARCHITECT PRIOR TO INSTALLATION.
- PROVIDE EMERGENCY LIGHTING ALONG EGRESS PATHS AS INDICATED ON ARCHITECTURAL LIFE SAFETY PLANS. PROVIDE EMERGENCY LIGHTING RELAY, ONE PER SWITCH LEG WITHIN ROOM SPACE AND/OR AREA WITH EMERGENCY LIGHTING.
- EMERGENCY LUMINAIRES SWITCHED/DIMMED WITH NORMAL LUMINAIRES IN SPACE AND SHALL OPERATE ON 100% FULL OUTPUT WHEN OPERATING ON EMERGENCY POWER. PROVIDE UL924 RELAY DEVICE FOR EMERGENCY CIRCUIT TO BYPASS CONTROLS DURING POWER OUTAGE

SHEET KEYNOTES

- EXISTING LUMINAIRE AND LIGHTING CONTROL TO REMAIN UNLESS OTHERWISE NOTED. CONTRACTOR TO FIELD VERIFY EXISTING LIGHT FIXTURE IS IN WORKING CONDITION.
- CONTRACTOR TO CLEAN AND RELAMP ALL EXISTING 2X4 FIXTURE WITH LED T-8 WITH 4200K. REWIRE CONTROL OF EXISTING LUMINAIRE TO NEW SENSOR SWITCH SHOWN ON PLAN.
- PROVIDE 200W BATTERY INVERTER ABOVE CEILING FOR EGRESS LIGHTING. MFR NANOWAVE #200REI OR APPROVED EQUIVALENT.
- EXISTING LUMINAIRES SHOWN WITH NEW BATTERY PACK FOR EGRESS PATH.
- CONTRACTOR TO FIELD VERIFY EXISTING LUMINAIRES ARE ON EMERGENCY BATTERY PACKS. OTHERWISE PROVIDE 200W BATTERY INVERTER PACK ABOVE CEILING FOR EXISTING LIGHT. MFR NANOWAVE #200REI OR APPROVED EQUIVALENT.
- PROVIDE NEW GFCI RECEPTACLE IN EXISTING BACKBOX.
- PROVIDE NEW RECEPTACLE AND EXTEND CIRCUIT FROM EXISTING RECEPTACLE WITHIN THE ROOM TO PROVIDE POWER FOR METAL DETECTOR.
- LOADS SHOWN ARE FOR NEW LOADS ONLY.
- PROVIDE MOTOR RATED SENSOR SWITCH FOR EF-109. LOCATE SWITCH WITHIN THE SAME BACKBOX AND COVER FACEPLATE AS THE LUMINAIRE SWITCH. COORDINATE EXACT LOCATION WITH ARCHITECT.
- LOCATE EXISTING RECEPTACLES TO NEW LOCATION FOR REUSE. EXTEND AND REUSE EXISTING CIRCUIT TO PLACE RECEPTACLES BACK INTO SERVICE. COORDINATE WITH OWNER FOR FINAL LOCATION OF RECEPTACLES FOR OWNER EQUIPMENT.
- EXISTING LUMINAIRES TO BE COMBINED AND TIED INTO EXISTING LUMINAIRE CONTROL WITHIN OPEN OFFICE 110.
- PROVIDE ALL THE NECESSARY FEEDER AND SUPPORT TO PLACE RELOCATED THERMOSTAT BACK INTO SERVICE.
- CONTRACTOR TO FIELD VERIFY EXISTING RECEPTACLE ALONG THE WALL. COORDINATE WITH OWNER FOR FINAL LOCATION OF SMARTBOARDS. RELOCATE EXISTING RECEPTACLE WITHIN THE SPACE OR PROVIDE NEW RECEPTACLE AND EXTEND FROM THE NEARBY RECEPTACLE CIRCUIT AS NECESSARY FOR SMARTBOARD POWER.
- PROVIDE 120V POWER FOR JUNCTION BOX FOR ADA AUTODOOR OPERATOR. EXTEND AVAILABLE CIRCUIT PREVIOUSLY USED FOR ADA OPERATOR ON SHEET ED2.01. REFER TO MANUFACTURER INSTALLATION MANUAL TO EXTEND CIRCUITING TO ADA PUSHBUTTON AND ELECTRIC STRIKE AS NECESSARY OR REQUIRED TO PLACE ADA DOOR INTO SERVICE. REFER TO ARCHITECTURAL DRAWING FOR FIRE ALARM/SECURITY SIGNAL INTERCONNECTION REQUIREMENTS.

MECHANICAL EQUIPMENT CONNECTION SCHEDULE

ITEM	DESCRIPTION	LOCATION	VOLTS / PHASE	LOAD	MCA	MOCP	WIRE / CONDUIT	CIRCUIT	NOTES
EF-109	EXHAUST FAN	TOILET RM 109	120/1	19.4 W		20	202	C-1-36	

GENERAL MECHANICAL EQUIPMENT CONNECTION SCHEDULE NOTES

- THE ABOVE INFORMATION IS FOR A SPECIFIC MANUFACTURER. ACTUAL MANUFACTURER FOR EQUIPMENT MAY BE DIFFERENT. COORDINATE WITH MECHANICAL EQUIPMENT SUBMITTALS FOR LOADS AND OVER CURRENT PROTECTION REQUIREMENTS PRIOR TO INSTALLATION OF WIRING.
- MOCP = MAXIMUM OVER CURRENT PROTECTION
MCA = MINIMUM CIRCUIT AMPACITY
- PROVIDE DISCONNECTING MEANS FOR EACH ITEM OF EQUIPMENT LISTED IN THE SCHEDULE ABOVE, EXCEPT AS SPECIFICALLY NOTED OTHERWISE IN SCHEDULE NOTES, BELOW.

WIRE / CONDUIT SCHEDULE

202 2 #12 CU, 1 #12 CU GND., IN 3/4" C.

(E) Panel 'C-1'

120/208V, 3 Ph., 4 W., 225A Bus with Main Lug Only Surface Mounted Panelboard

Ckt. No.	Description / Location	Load (VA)	Type	C.B. A/Pole	Note	Ph.	C.B. A/Pole	Note	Ph.	Load (VA)	Type	Description / Location	Ckt. No.
1	(E) LIGHTS RM 120			20/1		A	20/1					(E) LOAD	2
3	(E) RECPT RM 120			20/1		B	20/1					(E) ELEV CAB L TS	4
5	(E) RECPT RM 120			20/1		C	20/1					(E) LIGHTS HALL UPPER	6
7	(E) LOAD			30/3		A	20/1					(E) LIGHTS HALL LOWER	8
9	(E) LOAD			-		B						(E) SPACE	10
11	(E) LOAD			-		C						(E) SPACE	12
13	(E) FIRE ALARM			20/1		A						(E) SPACE	14
15	(E) LOAD			20/1		B						(E) SPACE	16
17	(E) FM BOOSTER			20/1		C						(E) SPACE	18
19	(E) FM BOOSTER			15/3		A	30/3					(E) WATER HEATER	20
21	(E) FM BOOSTER			-		B	-					(E) WATER HEATER	22
23	(E) FM BOOSTER			-		C	-					(E) WATER HEATER	24
25	(E) FM BOOSTER			-		A						(E) SPACE	26
27	(E) LOAD			20/1		B						(E) SPACE	28
29	(E) RECPT RM 120			20/1		C						(E) SPACE	30
31	(E) LIGHTS LOBBY			20/1		A						(E) SPACE	32
33	(E) LOAD			50/2		B	20/1					(E) LOBBY LIGHTS	34
35	(E) LOAD			-		C	20/1			20 M	BATHROOM EF-109	(E) LOAD	36
37	(E) LOAD			20/1		A	20/1					(E) LOAD	38
39	(E) LOAD			20/1		B	20/1					(E) LIGHTS RM 120	40
41	(E) LOAD			20/1		C	20/1					(E) REPT RM 120	42

Total Connected Load:	Ph. A	0 VA	0 Amps	Panel Connected Load:	0.0 KVA	0.1 Amps
Total Connected Load:	Ph. B	0 VA	0 Amps	Sub-Fed Connected Load:	0.0 KVA	0.0 Amps
Total Connected Load:	Ph. C	20 VA	0 Amps	Total Demand Load:	0.0 KVA	0.1 Amps

Notes:
1. Provide new breaker in existing space to match existing panelboard ratings.

Accessories:



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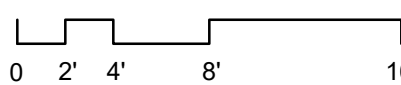
Job Number:

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Scale

As indicated



Sheet Title

**PARTIAL FIRST FLOOR PLAN
- ELECTRICAL**

Sheet No.

E2.01

SECTION 260000 - ELECTRICAL	
PART 1 - GENERAL	
1.1 SUMMARY	
A. ELECTRICAL SYSTEMS REQUIRED FOR THIS WORK INCLUDES LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY TO COMPLETE INSTALLATION OF ELECTRICAL WORK SHOWN ON DRAWINGS, SPECIFIED HEREIN OR REQUIRED FOR A COMPLETE OPERABLE FACILITY AND NOT SPECIFICALLY DESCRIBED IN OTHER SECTIONS OF THESE SPECIFICATIONS. AMONG THE ITEMS REQUIRED ARE:	
1. FEEDERS TO OWNER-PROVIDED EQUIPMENT, AND OTHER EQUIPMENT AS DETAILED.	
2. BRANCH CIRCUIT WIRING FROM THE DISTRIBUTION PANELS FOR LIGHTING, RECEPTACLES AND OTHER DETAILED CIRCUIT WIRING.	
3. CONTROL SWITCHES, RECEPTACLES, SUPPORTS AND OTHER ACCESSORY ITEMS.	
4. WIRING AND POWER CONNECTIONS FOR MOTORS INSTALLED FOR HEATING, COOLING AND VENTILATION.	
B. FEES:	
1. OBTAIN AND PAY FOR ELECTRICAL PERMITS, PLAN REVIEW, AND INSPECTIONS FROM LOCAL AUTHORITY HAVING JURISDICTION (AHJ).	
1.2 DEFINITIONS	
A. FOLLOWING IS A LIST OF ABBREVIATIONS GENERALLY USED IN THIS DIVISION:	
1. ADA AMERICANS WITH DISABILITIES ACT.	
2. AHJ AUTHORITY HAVING JURISDICTION.	
3. CBC CALIFORNIA BUILDING CODE.	
4. CEC CALIFORNIA ELECTRICAL CODE.	
5. CFC CALIFORNIA FIRE CODE.	
6. CEC T24 CALIFORNIA ENERGY CODE TITLE 24.	
7. HVAC HEATING, VENTILATING AND AIR CONDITIONING.	
8. IEEE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS.	
9. IES ILLUMINATING ENGINEERING SOCIETY	
10. NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION.	
11. NFPA NATIONAL FIRE PROTECTION ASSOCIATION.	
12. OSHA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION.	
13. UL UNDERWRITERS LABORATORIES INC.	
B. PROVIDE: TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE.	
C. FURNISH: SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNPACKING, ASSEMBLY AND INSTALLATION.	
D. INSTALL: INCLUDES UNLOADING, UNPACKING, ASSEMBLING, ERECTING, INSTALLATION, APPLYING, FINISHING, PROTECTING, CLEANING AND SIMILAR OPERATIONS AT THE PROJECT SITE AS REQUIRED TO COMPLETE ITEMS OF WORK FURNISHED BY OTHERS.	
1.3 SUBMITTALS	
A. OPERATION AND MAINTENANCE DOCUMENTATION: PROVIDE COPIES OF CERTIFICATES OF CODE AUTHORITY ACCEPTANCE, TEST DATA, PRODUCT DATA, GUARANTEES, WARRANTIES, AND THE LIKE.	
B. SUBMITTALS/SHOP DRAWINGS: PROVIDE PRODUCT SUBMITTALS AND SHOP DRAWINGS WHICH INCLUDE PHYSICAL CHARACTERISTICS, ELECTRICAL CHARACTERISTICS, DEVICE LAYOUT PLANS, WIRING DIAGRAMS, AND THE LIKE. PROVIDE PRODUCT SUBMITTALS AND SHOP DRAWINGS IN EITHER PAPER FORMAT OR ELECTRONIC FORMAT. ELECTRONIC FORMAT MUST BE SUBMITTED VIA EMAIL OR FTP SITE, FOR PAPER HARDCOPY, PROVIDE ONE COMPLETE BINDER WITH TABBED DIVIDERS CONTAINING A SEPARATE SUBMITTAL FOR EACH SPECIFICATIONS SECTION. FOR ELECTRONIC FORMAT, PROVIDE ONE ZIP FILE PER SPECIFICATION DIVISION CONTAINING A SEPARATE FILE FOR EACH SPECIFICATIONS SECTION. INDIVIDUAL SUBMITTALS SENT PIECEMEAL, IN A PER SPECIFICATION DIVISION SECTION METHOD WILL BE RETURNED WITHOUT REVIEW OR COMMENT. COPY ARCHITECT ON ALL SUBMISSIONS.	
1. IDENTIFY EACH SUBMITTAL AND SHOP DRAWING IN DETAIL. NOTE WHAT DIFFERENCES, IF ANY, EXIST BETWEEN THE SUBMITTED ITEM AND THE SPECIFIED ITEM. FAILURE TO IDENTIFY THE DIFFERENCES WILL BE CONSIDERED CAUSE FOR DISAPPROVAL. IF DIFFERENCES ARE NOT DISCOVERED DURING THE SUBMITTAL REVIEW PROCESS, CONTRACTOR REMAINS RESPONSIBLE FOR PROVIDING EQUIPMENT AND MATERIALS THAT MEET THE SPECIFICATIONS AND DRAWINGS.	
2. PROVIDE CABLE INSULATION TEST REPORTS IN PROJECT CLOSEOUT DOCUMENTATION.	
3. PROVIDE WIRING DIAGRAMS INDICATING LOW VOLTAGE AND LINE VOLTAGE WIRING REQUIREMENTS. PROVIDE, ON REPRODUCIBLE FLOOR PLAN, A LAYOUT OF SENSORS INDICATING THEIR SENSING DISTRIBUTION.	
4. PROVIDE THE FOLLOWING INFORMATION FOR LIGHTING SUBMITTALS: LUMINAIRES TO INCLUDE ELECTRICAL RATINGS, DIMENSIONS, MOUNTING, MATERIAL, CLEARANCES, TERMINATIONS, WIRING, CONNECTION DIAGRAM, LM-79 PHOTOMETRIC DATA, LM-80 LUMEN DEPRECIATION DATA, LED DRIVERS, PROVIDE SHOP DRAWINGS FOR LIGHTING CONTROL SYSTEM SHOWING BILL OF MATERIALS, LOCATIONS AND QUANTITY OF ALL DEVICES, PRODUCT DATA AND START UP FORMS. ENSURE THAT LIGHTING AND CONTROL SUBMITTALS ARE SUBMITTED TOGETHER WHERE POSSIBLE TO REVIEW FOR COMPATIBILITY.	
5. MAXIMUM OF TWO REVIEWS OF COMPLETE SUBMITTAL PACKAGE. ARRANGE FOR ADDITIONAL REVIEWS AND/OR EARLY REVIEW OF LONG-LEAD ITEMS BEAR COSTS OF THESE ADDITIONAL REVIEWS AT ENGINEER'S HOURLY RATES. INCOMPLETE SUBMITTAL PACKAGES/SUBMITTALS WILL BE RETURNED TO CONTRACTOR WITHOUT REVIEW.	
C. RECORD DRAWINGS: SHOW CHANGES AND DEVIATIONS FROM THE DRAWINGS. INCLUDE WRITTEN ADDENDUM AND CHANGE ORDER ITEMS. MAKE CHANGES TO DRAWINGS IN A NEAT, CLEAR, AND LEGIBLE MANNER.	
1.4 QUALITY ASSURANCE	
A. CONFORM TO THE LATEST ADOPTED VERSION OF THE CALIFORNIA ELECTRIC CODE (CEC), WITH LOCAL AMENDMENTS.	
B. FURNISH PRODUCTS LISTED BY UNDERWRITERS LABORATORIES INC. (UL) OR OTHER TESTING FIRM ACCEPTABLE TO AHJ.	
C. USE MANUFACTURER'S PUBLISHED TESTING AND ADJUSTING PROCEDURES TO ADJUST SENSORS' TIME DELAY, DAYLIGHT SENSITIVITY, AND PASSIVE INFRARED SENSITIVITY TO SATISFACTION OF THE OWNER. PREPARE AND COMPLETE REPORT OF TEST PROCEDURES AND RESULTS. SUBMIT THESE TEST PROCEDURES AND RESULTS TO OWNER AND ARCHITECT.	
D. ELECTRICAL SYSTEMS AND EQUIPMENT HANGER AND SUPPORT REQUIREMENTS:	
1. MANUFACTURERS REGULARLY ENGAGED IN THE MANUFACTURE OF BOLTED METAL FRAMING SUPPORT SYSTEMS, WHOSE PRODUCTS HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR NOT LESS THAN 10 YEARS.	
2. SUPPORT SYSTEMS TO BE SUPPLIED BY A SINGLE MANUFACTURER.	
3. ENGINEERING RESPONSIBILITY: DESIGN AND PREPARATION OF SHOP DRAWINGS AND CALCULATIONS FOR EACH MULTIPLE PIPE SUPPORT, TRAPPEZE, EQUIPMENT HANGERS/SUPPORTS, AND SEISMIC RESTRAINT BY A QUALIFIED STRUCTURAL PROFESSIONAL ENGINEER.	
a. PROFESSIONAL ENGINEER QUALIFICATIONS: A PROFESSIONAL ENGINEER WHO IS LEGALLY QUALIFIED TO PRACTICE IN JURISDICTION WHERE PROJECT IS LOCATED AND WHO IS EXPERIENCED IN PROVIDING ENGINEERING SERVICES OF THE KIND INDICATED. ENGINEERING SERVICES ARE DEFINED AS THOSE PERFORMED FOR INSTALLATIONS OF HANGERS AND SUPPORTS THAT ARE SIMILAR TO THOSE INDICATED FOR THIS PROJECT IN MATERIAL, DESIGN, AND EXTENT.	
1.5 SEQUENCING AND SCHEDULING	
A. FOR THE PROPER EXECUTION OF THE WORK, COOPERATE WITH OTHER CRAFTS AND CONTRACTS AS NEEDED.	
B. TO AVOID INSTALLATION CONFLICTS, THOROUGHLY EXAMINE THE COMPLETE SET OF CONTRACT DOCUMENTS. RESOLVE CONFLICTS PRIOR TO INSTALLATION.	
C. PRIOR TO INSTALLATION OF FEEDERS TO EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS, EXAMINE THE MANUFACTURERS SHOP DRAWINGS, WIRING DIAGRAMS, PRODUCT DATA, AND INSTALLATION INSTRUCTIONS. VERIFY THAT THE ELECTRICAL CHARACTERISTICS DETAILED IN THE CONTRACT DOCUMENTS ARE CONSISTENT WITH THE ELECTRICAL CHARACTERISTICS OF THE ACTUAL EQUIPMENT BEING INSTALLED.	
1.6 WARRANTY	
A. GUARANTEE ELECTRICAL WORK AGAINST FAULTY MATERIAL OR WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL COMPLETION BY THE OWNER.	
1.7 PERFORMANCE REQUIREMENTS	
A. ELECTRICAL SYSTEMS AND EQUIPMENT HANGER AND SUPPORT REQUIREMENTS:	
1. GENERAL: PROVIDE CONDUIT AND EQUIPMENT HANGERS AND SUPPORTS IN ACCORDANCE WITH THE FOLLOWING:	
a. WHEN SUPPORTS, ANCHORAGES, AND SEISMIC RESTRAINTS FOR EQUIPMENT AND SUPPORTS, ANCHORAGES AND SEISMIC RESTRAINTS FOR CONDUIT, CABLE TRAY AND EQUIPMENT ARE NOT SHOWN ON THE DRAWINGS, THE CONTRACTOR IS RESPONSIBLE FOR THEIR DESIGN.	
b. CONNECTIONS TO STRUCTURAL FRAMING SHALL NOT INTRODUCE TWISTING, TORSION, OR LATERAL BENDING IN THE FRAMING MEMBERS. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED.	
2. ENGINEERED SUPPORT SYSTEMS: THE FOLLOWING SUPPORT SYSTEMS TO BE DESIGNED, DETAILED, AND BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA.	
a. SUPPORT FRAMES SUCH AS CONDUIT RACKS OR STANCHIONS FOR CONDUIT AND EQUIPMENT WHICH PROVIDE SUPPORT FROM BELOW.	
b. EQUIPMENT AND PIPING SUPPORT FRAME ANCHORAGE TO SUPPORTING SLAB OR STRUCTURE.	
3. PROVIDE CHANNEL SUPPORT SYSTEMS, FOR CONDUITS TO SUPPORT MULTIPLE CONDUITS CAPABLE OF SUPPORTING COMBINED WEIGHT OF SUPPORT SYSTEMS AND SYSTEM CONTENTS.	
4. PROVIDE SEISMIC RESTRAINT HANGERS AND SUPPORTS FOR CONDUIT AND EQUIPMENT.	
5. OBTAIN APPROVAL FROM AHJ FOR SEISMIC RESTRAINT HANGER AND SUPPORT SYSTEM TO BE INSTALLED FOR PIPING AND EQUIPMENT.	
PART 2 - PRODUCTS	
2.1 MATERIALS	
A. BASE CONTRACT UPON FURNISHING MATERIALS AS SPECIFIED. MATERIALS, EQUIPMENT, AND FIXTURES USED FOR CONSTRUCTION ARE TO BE NEW, LATEST PRODUCTS AS LISTED IN MANUFACTURER'S PRINTED CATALOG DATA AND ARE TO BE UL APPROVED OR HAVE ADEQUATE APPROVAL OR BE ACCEPTABLE BY STATE, COUNTY, AND CITY AUTHORITIES. EQUIPMENT/FIXTURE SUPPLIER IS RESPONSIBLE FOR OBTAINING STATE, COUNTY, AND CITY ACCEPTANCE ON EQUIPMENT/FIXTURE NOT UL FINISHED OR NOT LISTED FOR INSTALLATION.	
B. INCLUDE SPECIAL FEATURES, FINISHES, ACCESSORIES, AND OTHER REQUIREMENTS AS DESCRIBED IN THE CONTRACT DOCUMENTS REGARDLESS OF THE ITEMS LISTED CATALOG NUMBER.	
C. PROVIDE INCIDENTALS NOT SPECIFICALLY MENTIONED HEREIN OR NOTED ON DRAWINGS, BUT NEEDED TO COMPLETE THE SYSTEM OR SYSTEMS, IN A SAFE AND SATISFACTORY WORKING CONDITION.	
D. FIRESTOPPING FOM SEALANT: FOAM SEALANT FOR USE AROUND CONDUIT PENETRATIONS TO PREVENT PASSAGE OF SMOKE, FIRE, TOXIC GAS OR WATER. MAINTAIN SEAL BEFORE, DURING AND AFTER FIRE. IN AND AROUND CONDUIT FOR THERMAL BREAK AT PENETRATION OF BARRIER BETWEEN HEATED AND UNHEATED SPACES. HLTI, 3M, CHASE TECHNOLOGY CORPORATION CTC PR-855, FIRE FOAM, THOMAS & BETTS, OR APPROVED EQUIVALENT.	
2.2 RACEWAYS	
A. ELECTRICAL METALLIC TUBING (EMT): STEEL GALVANIZED TUBING, IN CONFORMANCE WITH UL 797, ANSI C80.3. FITTINGS: NEMA FB1, STEEL, COMPRESSION TYPE; MANUFACTURERS: ALLIED TUBE & CONDUIT, BECK MANUFACTURING WL, PICOMA, WHEATLAND TUBE COMPANY, OR APPROVED EQUIVALENT.	
B. FLEXIBLE METAL CONDUIT (FMC): INTERLOCKED STEEL CONSTRUCTION, IN CONFORMANCE WITH UL 1. FITTINGS: NEMA FB 2.20. MANUFACTURERS: AFC CABLE SYSTEMS INC., ELECTRI-FLEX COMPANY, INTERNATIONAL METAL HOSE, OR APPROVED EQUIVALENT.	
C. CONDUIT FITTINGS:	
1. BUSHINGS:	
a. INSULATED TYPE FOR THREADED RACEWAY CONNECTORS WITHOUT FACTORY-INSTALLED PLASTIC THROAT CONDUCTOR PROTECTION. INSULATED GROUNDING TYPE FOR THREADED RACEWAY CONNECTORS. MANUFACTURERS: THOMAS & BETTS 1222 SERIES, O-Z GEDNEY B SERIES, OR APPROVED EQUIVALENT.	
2. RACEWAY CONNECTORS AND COUPLERS:	
a. STEEL CONNECTORS, COUPLINGS, AND CONDUIT BODIES.	
b. CONNECTOR LOCKNUTS TO BE STEEL, WITH THREADS MEETING ASTM TOLERANCES. LOCKNUTS TO BE HOT-DIP GALVANIZED.	
c. CONNECTOR THROATS (EMT, FLEXIBLE CONDUIT, METAL CLAD CABLE AND CORDSET CONNECTORS) TO HAVE FACTORY ACCEPTABLE RACEWAY TO FITTING ELECTRICAL CONDUCTANCE.	
d. SET SCREW CONNECTORS AND COUPLINGS, WITHOUT INTEGRAL COMPRESSION GLANDS, ARE RECOGNIZED FOR THIS CONTRACT AS NOT HAVING ACCEPTABLE RACEWAY TO FITTING ELECTRICAL CONDUCTANCE. A GROUND CONDUCTOR SIZED PER THIS SPECIFICATION MUST BE INCLUDED AND BONDED WITH RACEWAY ASSEMBLY UTILIZING THIS TYPE CONNECTORS AND COUPLING.	
3. PROVIDE EXPANSION/DEFLECTION FITTINGS FOR EMT. MANUFACTURERS: O-Z GEDNEY, CROUSE & HINDS, CARLON, KRALOY, OR APPROVED EQUIVALENT.	
2.3 ELECTRICAL POWER CONDUCTORS AND CABLES	
A. WIRES AND CABLES	
1. COPPER, SOFT DRAWN WITH CONDUCTIVITY OF NOT LESS THAN 98 PERCENT IACS AT 20 DEGREES C (68 DEGREES F). 600 VOLT RATED THROUGHOUT. CONDUCTORS 12 AWG AND 10 AWG, SOLID. CONDUCTORS 8 AWG AND LARGER, STRANDED. 12 AWG MINIMUM CONDUCTOR SIZE. MINIMUM INSULATION RATING OF 90 DEGREES C. INSULATION TYPE: THHN/THWN-2 ABOVE GRADE AND XHHW-2 BELOW GRADE. MANUFACTURERS: GENERAL CABLE, OKONITE, SOUTHWIRE, ENCORE WIRE OR APPROVED EQUIVALENT.	
2. PHASE COLOR TO BE CONSISTENT AT FEEDER TERMINATIONS: A-B-C, TOP TO BOTTOM, LEFT TO RIGHT, FRONT TO BACK.	
3. MC CABLE: HIGH STRENGTH GALVANIZED STEEL FLEXIBLE ARMOR. FULL LENGTH MINIMUM SIZE NO. 12 COPPER GROUND WIRE. COPPER DUTY RATED THHN/THWN-2, FULL LENGTH TAPE MARKER PHASE/CIRCUIT IDENTIFICATION ON CABLE ARMOR. SHORT CIRCUIT THROAT INSULATORS, MECHANICAL CONNECTION TERMINATION, MANUFACTURERS: ALFLEX, AFC, GENERAL CABLE, SOUTHWIRE, ENCORE WIRE, OR APPROVED EQUIVALENT.	
B. CONNECTORS	
1. SPLIT BOLT CONNECTORS NOT ALLOWED.	
2. CONDUCTOR BRANCH CIRCUITS: WIRE NUTS WITH INTEGRAL SPRING CONNECTORS FOR CONDUCTORS 12 THROUGH 8 AWG. PUSH-IN TYPE CONNECTORS WHERE CONDUCTORS ARE NOT REQUIRED TO BE TWISTED TOGETHER ARE NOT ACCEPTABLE. MANUFACTURERS: 3M, IDEAL, OR APPROVED EQUIVALENT.	
2.4 BOXES	
A. OUTLET BOXES	
1. LUMINAIRE OUTLET: 4-INCH OCTAGONAL BOX, 1-1/2 INCHES DEEP WITH 3/8-INCH LUMINAIRE STUD IF REQUIRED, PROVIDE RAISED COVERS ON BRACKET OUTLETS AND ON CEILING OUTLETS. MANUFACTURER: HUBBELL, THOMAS & BETTS, OR APPROVED EQUIVALENT.	
2. ACCESSORIES: PROVIDE OUTLET BOX ACCESSORIES FOR EACH INSTALLATION, INCLUDING MOUNTING BRACKETS, WALLBOARD HANGERS, EXTENSION RINGS, LUMINAIRE STUDS, CABLE CLAMPS AND METAL STRAPS FOR SUPPORTING OUTLET BOXES; COMPATIBLE WITH OUTLET BOXES BEING USED AND MEETING REQUIREMENTS OF INDIVIDUAL WIRING SITUATIONS.	
B. PULL AND JUNCTION BOXES	
1. CONSTRUCTION: ANSI 61 GRAY POLYESTER POWDER PAINTED SHEET STEEL JUNCTION AND PULL BOXES, WITH SCREW-ON COVERS, OF THE TYPE SHAPE AND SIZE, TO SUIT EACH RESPECTIVE LOCATION AND INSTALLATION; WITH WELDED SEAMS AND EQUIPPED WITH STAINLESS STEEL NUTS, BOLTS, SCREWS AND WASHERS.	
2. LOCATION: INSTALL JUNCTION BOXES AND PULL BOXES TO FACILITATE THE INSTALLATION OF CONDUCTORS AND LIMITING THE ACCUMULATED ANGULAR SUM OF BENDS BETWEEN BOXES, CABINETS AND APPLIANCES TO 270 DEGREES.	
3. MANUFACTURER: EATON, HOFFMAN, OR APPROVED EQUIVALENT.	
2.5 GROUNDING MATERIALS	
A. GROUNDING ELECTRODE CONDUCTOR: SOFT-DRAW BAR STRANDED CONDUCTOR FOR WIRE SIZES LARGER THAN #10 AWG BARE. SOLID COPPER FOR WIRE SIZES #10 AND SMALLER.	
B. EQUIPMENT GROUNDING CONDUCTOR: GREEN INSULATED, INSULATION TYPE TO MATCH THAT OF ASSOCIATED FEEDER OR BRANCH CIRCUIT WIRING, SIZE AS INDICATED ON DRAWINGS.	
2.6 HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS AND EQUIPMENT	
A. ANCHORS, THREADED ROD AND FASTENERS:	
1. ANCHORS, THREADED ROD AND FASTENERS - GENERAL: CORROSION-RESISTANT MATERIALS OF SIZE AND TYPE ADEQUATE TO CARRY THE LOADS OF EQUIPMENT AND CONDUIT, INCLUDING WEIGHT OF WIRE IN CONDUIT. MANUFACTURERS: ANCHOR IT, EPCON SYSTEM, HLTI-HIT SYSTEM, POWER FAST SYSTEM, OR APPROVED EQUIVALENT.	
2. CONCRETE INSERTS: CAST IN CONCRETE FOR SUPPORT FASTENERS FOR LOADS UP TO 800 LBS.	
3. ANCHORS AND FASTENERS:	
a. DO NOT USE POWER-ACTUATED ANCHORS.	
b. CONCRETE STRUCTURAL ELEMENTS: USE PRECAST INSERTS.	
c. STEEL STRUCTURAL ELEMENTS: USE BEAM CLAMPS.	
d. CONCRETE SURFACES: USE SELF-DRILLING ANCHORS.	
e. HOLLOW MASONRY, PLASTER, AND GYPSUM BOARD PARTITIONS: USE TOGGLE BOLTS.	
f. SOLID MASONRY WALLS: USE EXPANSION ANCHORS.	
g. SHEET METAL: USE SHEET METAL SCREWS.	
h. WOOD ELEMENTS: USE WOOD SCREWS.	
4. FASTENERS: PROVIDE FASTENERS OF TYPES AS REQUIRED FOR ASSEMBLY AND INSTALLATION OF FABRICATED ITEMS; SURFACE-APPLIED FASTENERS ARE SPECIFIED ELSEWHERE.	
5. BOLTS: LOW CARBON STEEL EXTERNALLY AND INTERNALLY T HREADED FASTENERS CONFORMING WITH REQUIREMENTS OF ASTM A307, INCLUDING NECESSARY NUTS AND PLAIN HARDENED WASHERS, FOR STRUCTURAL STEEL ELEMENTS SUPPORTING MECHANICAL MATERIAL, OR EQUIPMENT FROM BUILDING STRUCTURAL MEMBERS OR CONNECTION THERETO, USE FASTENERS CONFORMING TO ASTM A325.	
6. MISCELLANEOUS MATERIALS: PROVIDE INCIDENTAL ACCESSORY MATERIALS, TOOLS, METHODS, AND EQUIPMENT REQUIRED FOR FABRICATION.	
B. SUPPORT CHANNEL, HANGERS, AND SUPPORTS:	
1. HANGERS AND SUPPORTS - GENERAL: CORROSION-RESISTANT MATERIALS OF SIZE AND TYPE ADEQUATE TO CARRY THE LOADS OF EQUIPMENT AND CONDUIT, INCLUDING WEIGHT OF WIRE IN CONDUIT. MANUFACTURERS: B-Line, KINDORF, SUPERSTRUT, UNISTRUT, OR APPROVED EQUIVALENT.	
2. PIPE STRAPS: TWO-HOLE GALVANIZED OR MALLEABLE IRON.	
3. MISCELLANEOUS METAL: PROVIDE MISCELLANEOUS METAL ITEMS SPECIFIED HEREUNDER, INCLUDING MATERIALS, FABRICATION, FASTENINGS AND ACCESSORIES REQUIRED FOR FINISHED INSTALLATION, WHERE INDICATED ON DRAWINGS OR OTHERWISE NOT SHOWN ON DRAWINGS THAT ARE NECESSARY FOR COMPLETION OF THE PROJECT, THE CONTRACTOR IS RESPONSIBLE FOR THEIR DESIGN.	
a. FABRICATE MISCELLANEOUS UNITS TO SUIT SHAPES AND PROFILES INDICATED OR, IF NOT INDICATED, OF REQUIRED DIMENSIONS TO RECEIVE ADJACENT OTHER WORK TO BE RETAINED BY FRAMING, EXCEPT AS OTHERWISE SHOWN. FABRICATE STRUCTURAL STEEL SHAPES AND PLATES AND STEEL BARS, OF WELDED CONSTRUCTION USING MITERED JOINTS FOR FIELD CONNECTION. CUT, DRILL AND TAP UNITS TO RECEIVE HARDWARE AND SIMILAR ITEMS.	
4. STRUCTURAL SHAPES: WHERE MISCELLANEOUS METAL ITEMS ARE NEEDED TO BE FABRICATED FROM STRUCTURAL STEEL SHAPES AND PLATES, PROVIDE MEMBERS CONSTRUCTED OF STEEL CONFORMING WITH REQUIREMENTS OF ASTM A36 OR APPROVED EQUIVALENT.	
5. STEEL PIPE: PROVIDE SEAMLESS STEEL PIPE CONFORMING TO REQUIREMENTS OF ASTM A53, TYPE S, GRADE A, OR GRADE B. WEIGHT AND SIZE REQUIRED AS SPECIFIED.	
6. MISCELLANEOUS MATERIALS: PROVIDE INCIDENTAL ACCESSORY MATERIALS, TOOLS, METHODS, AND EQUIPMENT REQUIRED FOR FABRICATION.	
2.7 WIRING DEVICES	
A. RECEPTACLES: STRAIGHT PARALLEL BLADE, 125 VOLT, 2 POLE, 3 WIRE GROUNDING, FINISH: MATCH BUILDING STANDARD.	
1. COMMERCIAL GRADE: RIVETED. BACK AND SIDE WIRED. BRASS GROUND CONTACT ON STEEL MOUNTING STRAP. NYLON FACE AND NYLON BASE. 20-AMP: COOPER 5362, HUBBELL 5362, BRYANT 5362, LEVITON 5362S, PASS & SEYMOUR 5362.	
B. GROUND FAULT INTERRUPTER (GFI) RECEPTACLE: FEED THROUGH TYPE, BACK-AND-SIDE WIRED, TAMPER-RESISTANT, WEATHER RESISTANT SELF-TESTING, 20 AMP, 125VAC. HUBBELL GFR362SGW, COOPER TWRSGF20W, LEGRAND PAS 209STRWR, OR APPROVED EQUIVALENT.	
C. FINISH PLATES:	
1. MATCH BUILDING STANDARD.	
2.8 ELECTRICAL IDENTIFICATION	
A. DEVICE LABELS:	
1. EXTRA STRENGTH, LAMINATED ADHESIVE TAPE WITH 3/16-INCH BLACK LETTERS ON CLEAR BACKGROUND. EMBOSSED TAPE/PUNCH TAPE STYLE LABELS ARE NOT ACCEPTABLE.	
2. RECEPTACLES: INDICATE SOURCE PANEL AND SOURCE CIRCUITS (E.G. XXX-XX).	
3. WALL SWITCHES/CONTROL DEVICE STATIONS:	
a. WHERE CONTROLS ARE PROVIDED FOR REMOTE LIGHTING OR POWER OUTLETS, OR WHERE CONTROLS IN SAME LOCATION SERVE DIFFERENT PURPOSES OR AREAS, SUCH AS CORRIDOR AND OUTSIDE, PROVIDE DEVICE LABEL INDICATING FUNCTION OF EACH CONTROL DEVICE.	
b. LABEL THE FUNCTION OF CONTROL DEVICES WHERE TWO OR MORE ARE MOUNTED IN SAME LOCATION AND CONTROL FUNCTION MAY BE UNCLEAR.	
c. WALL SWITCHES WITH ENGRAVED BUTTONS DO NOT REQUIRE LABELING.	
d. JUNCTION BOXES: LABEL TO SHOW SYSTEM IDENTIFICATION, SOURCE CIRCUIT, OR RACEWAY ORIGIN. IN FINISHED AREAS, UTILIZE DEVICE LABEL. IN UNFINISHED AREAS OR ABOVE CEILINGS, USE OF PERMANENT INK MARKER IS ACCEPTABLE.	
e. FAIRING AND CIRCUIT DESIGNATION WRITTEN IN PERMANENT MARKER ON THE BACK OF THE PLATE AND INSIDE ALL BACK-BOXES AND JUNCTION BOXES.	
B. WIRE MARKERS: VINYL-CLOTH SELF-ADHESIVE TYPE WIRE MARKERS, EACH CONDUCTOR AT PULLBOXES, OUTLET BOXES, JUNCTION BOXES, AND EACH LOAD CONNECTION. BRANCH CIRCUIT OR FEEDER NUMBERS AS INDICATED ON DRAWINGS AND SOURCE PANEL. CONTROL WIRE NUMBER INDICATED ON SHOP DRAWINGS. MANUFACTURER: BRADY, PANDUIT, SUMITOMO, OR APPROVED EQUIVALENT.	
2.9 OVERCURRENT PROTECTIVE DEVICES	
A. MOLDED CASE CIRCUIT BREAKERS:	
1. ONE, TWO OR THREE-POLE BOLT ON, SINGLE HANDLE COMMON TRIP, 600VAC OR 250VAC AS INDICATED ON DRAWINGS.	
2. OVERCENTER TOGGLE-TYPE MECHANISM, QUICK-MAKE, QUICK-BREAK ACTION. TRIP INDICATION IS BY HANDLE POSITION. PROVIDE HANDLE MECHANISMS THAT ARE LOCKABLE IN THE OPEN (OFF) POSITION.	
3. CABINET AMBIENT TEMPERATURE.	
4. 15 TO 150 AMP BREAKERS: PERMANENT TRIP UNIT CONTAINING INDIVIDUAL THERMAL AND MAGNETIC TRIP ELEMENTS IN EACH POLE.	
5. MANUFACTURERS: EATON ELECTRICAL, GENERAL ELECTRIC/ABB, SIEMENS, SQUARE D, OR APPROVED EQUIVALENT.	
2.10 LIGHTING DEVICES	
A. WIRED DIGITAL WALL SWITCH OCCUPANCY SENSORS	
1. WIRED DIGITAL WALL SWITCH OCCUPANCY SENSORS WITH TWO WAY DIGITAL COMMUNICATIONS TO LIGHTING CONTROL SYSTEM. PROVIDE SENSORS OF QUANTITY AND TYPE TO MEET SPECIFIC ROOM APPLICATIONS. FEATURES INCLUDE THE FOLLOWING:	
a. DIGITAL OCCUPANCY SENSORS SHALL PROVIDE SCROLLING LCD DISPLAY FOR DIGITAL CALIBRATION AND VERIFICATION.	
b. DIGITAL CALIBRATION AND PUSHBUTTON CONFIGURATION FOR THE FOLLOWING VARIABLES:	
1) SENSITIVITY: 0-100 PERCENT IN 10 PERCENT INCREMENTS	
2) TIME DELAY: 1-30 MINUTES IN 1 MINUTE INCREMENTS	
3) TEST MODE: FIVE SECOND TIME DELAY	
4) DETECTION TECHNOLOGY: PIR ONLY OR DUAL TECHNOLOGY WITH PIR AND ULTRASONIC.	
5. WALK-THROUGH MODE	
6. LOAD PARAMETERS INCLUDING AUTOMANUAL-ON, BLINK WARNING, AND DAYLIGHT ENABLE/DISABLE WHEN PHOTOSENSORS ARE INCLUDED IN THE DLM LOCAL NETWORK.	
c. PROGRAMMABLE CONTROL FUNCTIONALITY INCLUDING:	
1) EACH SENSOR MAY BE PROGRAMMED TO CONTROL SPECIFIC LOADS WITHIN A LOCAL NETWORK.	
2. SENSOR SHALL BE CAPABLE OF ACTIVATING ONE OF 16 USER-DEFINABLE LIGHTING SCENES.	
3. ADJUSTABLE RETRIGGER TIME PERIOD FOR MANUAL-ON LOADS. LOAD WILL RETRIGGER (TURN ON) AUTOMATICALLY DURING THE CONFIGURABLE PERIOD (DEFAULT: 10 SECONDS) AFTER TURNING OFF.	
4) ON DUAL TECHNOLOGY SENSORS, INDEPENDENTLY CONFIGURABLE TRIGGER MODES ARE AVAILABLE FOR BOTH NORMAL AND AFTER HOURS TIME PERIODS. THE TRIGGER AND RETRIGGER MODES CAN BE PROGRAMMED TO USE THE FOLLOWING TECHNOLOGIES OPTIONS:	
a) ULTRASONIC AND PASSIVE INFRARED	
b) ULTRASONIC AND PASSIVE INFRARED	
c) ULTRASONIC ONLY	
d) PASSIVE INFRARED ONLY	
d. INDEPENDENTLY CONFIGURABLE SENSITIVITY SETTINGS FOR PASSIVE INFRARED AND ULTRASONIC TECHNOLOGIES (ON DUAL TECHNOLOGY SENSORS) FOR BOTH NORMAL AND AFTER HOUR TIME PERIODS.	
e. TWO RJ-45 PORTS FOR CONNECTION TO DLM LOCAL NETWORK.	
f. TWO-WAY INFRARED (IR) TRANSMITTER TO ALLOW REMOTE PROGRAMMING THROUGH HANDHELD CONFIGURATION TOOL AND CONTROL BY REMOTE PERSONAL CONTROLS.	
g. DEVICE STATUS LEADS INCLUDING:	
1) PIR DETECTION	
2) ULTRASONIC DETECTION	
3) CONFIGURATION MODE	
4) LOAD BINDING.	
h. ASSIGNMENT OF ANY OCCUPANCY SENSOR TO A SPECIFIC LOAD WITHIN THE ROOM WITHOUT WIRING OR SPECIAL TOOLS.	
i. ASSIGNMENT OF INTEGRAL BUTTONS ON THE DEVICE TO SPECIFIC LOADS OR SCENES WITHIN THE ROOM WITHOUT WIRING OR SPECIAL TOOLS	
j. MANUAL OVERRIDE OF CONTROLLED LOADS	
k. ALL DIGITAL PARAMETER DATA PROGRAMMED INTO AN INDIVIDUAL WALL SWITCH SENSOR SHALL BE RETAINED IN NON-VOLATILE FLASH MEMORY WITHIN THE WALL SWITCH SENSOR ITSELF. MEMORY SHALL HAVE AN EXPECTED LIFE OF NO LESS THAN 10 YEARS.	
2. BACNET OBJECT INFORMATION SHALL BE AVAILABLE FOR THE FOLLOWING OBJECTS:	
a. DETECTION STATE	
b. OCCUPANCY SENSOR TIME DELAY	
c. OCCUPANCY SENSOR SENSITIVITY, PIR AND ULTRASONIC	
d. BUTTON STATE	
e. SWITCH LOCK CONTROL	
f. SWITCH LOCK STATUS	
3. UNITS SHALL NOT HAVE ANY DIP SWITCHES OR POTENTIOMETERS FOR FIELD SETTINGS.	
4. MULTIPLE WALL SWITCH OCCUPANCY SENSORS MAY BE INSTALLED IN A ROOM BY SIMPLY CONNECTING THEM TO THE FREE TOPOLOGY DLM LOCAL NETWORK. NO ADDITIONAL CONFIGURATION WILL BE REQUIRED.	
5. TWO-BUTTON WALL SWITCH OCCUPANCY SENSORS, WHEN CONNECTED TO A SINGLE RELAY DIMMING ROOM OR FIXTURE CONTROLLER, SHALL OPERATE IN THE FOLLOWING SEQUENCE AS A FACTORY DEFAULT:	
a. LEFT BUTTON, TAP - TURN LOAD ON: PRESS AND HOLD - RAISE DIMMING LOAD.	
b. RIGHT BUTTON, TAP - TURN LOAD OFF: PRESS AND HOLD - LOWER DIMMING LOAD.	
6. LOW VOLTAGE MOMENTARY PUSHBUTTONS SHALL INCLUDE THE FOLLOWING FEATURES:	
a. LOAD/SCENE STATUS LED ON EACH SWITCH BUTTON WITH THE FOLLOWING CHARACTERISTICS:	
1) Bi-LEVEL LED	
2) DIM LOCATOR LEVEL INDICATES POWER TO SWITCH	
3) BRIGHT STATUS LEVEL INDICATES THAT LOAD OR SCENE IS ACTIVE	
b. THE FOLLOWING BUTTON ATTRIBUTES MAY BE CHANGED OR SELECTED USING A WIRELESS CONFIGURATION TOOL:	
1) LOAD AND SCENE BUTTON FUNCTION MAY BE RECONFIGURED FOR INDIVIDUAL BUTTONS (FROM LOAD TO SCENE, AND VICE VERSA).	
2) INDIVIDUAL BUTTON FUNCTION MAY BE CONFIGURED TO TOGGLE, ON ONLY, OFF ONLY, OR TOGGLE DIM (TOGGLES BETWEEN PRESS AND HOLD TO RAISE, RELEASE, THEN PRESS AND HOLD TO LOWER).	
3) INDIVIDUAL SCENE BUTTONS MAY BE LOCKED TO PREVENT UNAUTHORIZED CHANGE.	
4. FADE UP AND FADE DOWN TIMES FOR INDIVIDUAL SCENES MAY BE ADJUSTED FROM 0 SECONDS TO 18 HOURS IN PRESET INCREMENTS.	
5. RAMP RATE MAY BE ADJUSTED FOR EACH DIMMER SWITCH.	
6) SWITCH BUTTONS MAY BE BOUND TO ANY LOAD ON ANY LOAD CONTROLLER OR RELAY PANEL AND ARE NOT LOAD TYPE DEPENDENT. EACH BUTTON MAY BE BOUND TO MULTIPLE LOADS.	
7) FINISH PLATES: MATCH BUILDING STANDARD.	
B. DIGITAL WALL AND DIMMER SWITCHES:	
1. PROVIDE WIRED DIGITAL WALL DIMMER SWITCHES COMPATIBLE WITH TYPE OF LOAD CONTROLLED (I.E. LINE VOLTAGE, LOW VOLTAGE, 2-WIRE, 3-WIRE, 0-10V). DIMMER SWITCHES SHALL ALSO BE COMPATIBLE WITH OTHER CONTROL DEVICES AS NEEDED IF SYSTEM IS REQUIRED TO BE NETWORKED. SIZE DIMMERS TO ACCEPT CONNECTED LOAD. DO NOT CUT FINS. WHERE DIMMERS ARE GANGED TOGETHER, PROVIDE A SINGLE MULTIGANG COVERPLATE.	
2. LED INDICATOR DOTS SHOW WHAT PERCENTAGE CONTROLLED LIGHTING IS DIMMED. PROGRAMMABLE SETTINGS FOR MAXIMUM AND MINIMUM TRIM SETTINGS, AND RATE OF CHANGE IN LIGHTING LEVELS.	
3. MANUFACTURER: WATTS TOPPER DLM SERIES OR EQUIVALENT.	
4. FINISH PLATES: MATCH BUILDING STANDARD.	
C. DIGITAL ROOM CONTROLLERS: SELF-CONFIGURING, DIGITALLY ADDRESSABLE ONE, TWO OR THREE RELAY CONTROLLERS WITH 0-10V CONTROL, FOR LED DRIVERS AND SINGLE RELAY APPLICATION-SPECIFIC PLUG LOAD CONTROLLERS.	
2.11 EMERGENCY LED LAMP POWER SUPPLY	
A. EXTERNAL TYPE: SELF-CONTAINED, MODULAR, BATTERY UNIT, SUITABLE FOR POWERING ONE OR MORE LED MODULES, REMOTE MOUNTED FROM LUMINAIRE, COMPLY WITH UL 924.	
1. EMERGENCY CONNECTION: OPERATE ONE LED MODULE CONTINUOUSLY, CONNECT UNSWITCHED CIRCUIT TO BATTERY UNIT AND SWITCHED CIRCUIT TO LUMINAIRE DRIVER.	
2. TEST PUSH BUTTON AND INDICATOR LIGHT: VISIBLE AND ACCESSIBLE WITHOUT OPENING LUMINAIRE.	
a. PUSH BUTTON: PUSH-TO-TEST TYPE, IN UNIT HOUSING, SIMULATES LOSS OF NORMAL POWER AND DEMONSTRATES UNIT OPERABILITY.	
b. INDICATOR LIGHT: LED INDICATES NORMAL POWER ON. NORMAL GLOW INDICATES TRICKLE CHARGE. BRIGHT GLOW INDICATES CHARGING AT END OF DISCHARGE CYCLE.	
3. BATTERY: SEAL, MAINTENANCE-FREE, NICKEL-CADMIUM TYPE, SIZED FOR A MINIMUM OUTPUT OF 90 MINUTES.	
4. CHARGER: FULLY AUTOMATIC, SOLID STATE, CONSTANT-CURRENT TYPE.	
5. HOUSING: NEMA 250, TYPE 1 ENCLOSURE.	
B. PROVIDE ACCESS MATCHES FOR EMERGENCY BATTERY POWER SUPPLIES, ADJACENT TO RECESSED 6-INCH OR LESS DIAMETER DOWNLIGHTS INSTALLED IN INACCESSIBLE CEILINGS.	
C. MANUFACTURERS: ONLINE POWER, BODINE, IOTA, LITHONIA.	
PART 3 - EXECUTION	
3.1 EXAMINATION	
A. DRAWINGS ARE DIAGRAMMATIC WITH SYMBOLS REPRESENTING ELECTRICAL EQUIPMENT, OUTLETS, LUMINAIRES, AND WIRING. EXAMINE THE ENTIRE SET OF DRAWINGS TO AVOID CONFLICTS WITH OTHER SYSTEMS. DETERMINE EXACT ROUTE AND INSTALLATION OF ELECTRICAL WIRING AND EQUIPMENT WITH CONDITIONS OF CONSTRUCTION.	
B. CLARIFICATION:	
1. THE DRAWINGS GOVERN IN MATTERS OF QUANTITY, THE SPECIFICATION IN MATTERS OF QUALITY. IN EVENT OF CONFLICT ON DRAWINGS, THE GREATER QUANTITY AND THE HIGHER QUALITY SHALL PREVAIL.	
2. SHOULD THE ELECTRICAL DOCUMENTS INDICATE A CONDITION CONFLICTING WITH THE GOVERNING CODES AND REGULATIONS, REFRAIN FROM INSTALLING THAT PORTION OF THE WORK UNTIL CLARIFIED BY ARCHITECT.	
3.2 DEMOLITION	
A. COORDINATE WITH OWNER SO THAT WORK CAN BE SCHEDULED NOT TO INTERRUPT OPERATIONS, NORMAL ACTIVITIES, BUILDING ACCESS, ACCESS TO DIFFERENT AREAS. THE OWNER WILL COOPERATE TO THE BEST OF THEIR ABILITY TO ASSIST IN A COORDINATED SCHEDULE BUT WILL REMAIN THE FINAL AUTHORITY AS TO TIME OF WORK PERMITTED.	
B. COORDINATE THE EXACT LOCATION OF EXISTING UTILITIES AND EQUIPMENT PRIOR TO COMMENCEMENT OF WORK. COMPENSATE THE OWNER FOR DAMAGES CAUSED BY THE FAILURE TO LOCATE AND PRESERVE UTILITIES. REPLACE DAMAGED ITEMS WITH NEW MATERIAL TO MATCH EXISTING. VERIFY THAT ABANDONED WIRING AND EQUIPMENT SERVE ONLY ABANDONED FACILITIES.	
C. EXECUTION:	
1. REMOVE EXISTING LUMINAIRES, SWITCHES, RECEPTACLES, AND OTHER ELECTRICAL EQUIPMENT AND DEVICES AND ASSOCIATED WIRING FROM WALLS, CEILINGS, FLOORS, AND OTHER SURFACES SCHEDULED FOR REMODELING, RELOCATION, OR DEMOLITION UNLESS SHOWN AS RETAINED OR RELOCATED ON DRAWINGS.	
2. PROVIDE TEMPORARY WIRING AND CONNECTIONS TO MAINTAIN ELECTRICAL CONTINUITY OF EXISTING SYSTEMS DURING CONSTRUCTION. REMOVE ELECTRICAL BOXES, CONDUIT, WIRING, EQUIPMENT, LUMINAIRES, AS ENCOUNTERED IN REMOVED OR REMODELED AREAS IN THE EXISTING CONSTRUCTION AFFECTED BY THIS WORK.	
3. REMOVE AND RESTORE WIRING WHICH SERVES AVAILABLE EXISTING OUTLETS CLEAR OF THE CONSTRUCTION OR DEMOLITION.	
4. IF EXISTING JUNCTION BOXES WILL BE MADE INACCESSIBLE, OR IF ABANDONED OUTLETS SERVE AS FEED THROUGH BOXES FOR OTHER EXISTING ELECTRICAL EQUIPMENT WHICH IS BEING RETAINED, PROVIDE NEW CONDUIT AND WIRE TO BYPASS THE ABANDONED OUTLETS.	
5. IF EXISTING CONDUITS PASS THROUGH PARTITIONS OR CEILING WHICH ARE BEING REMOVED OR REMODELED, PROVIDE NEW CONDUIT AND WIRE TO REROUTE CLEAR OF THE CONSTRUCTION OR DEMOLITION AND MAINTAIN SERVICE TO THE EXISTING LOAD.	
6. CONCEALED CONDUIT LOCATED IN CONCRETE WALLS OR HARDBOARD CEILING SPACES MAY BE ABANDONED IN PLACE. REMOVE CONDUCTORS AND TAG ABANDONED CONDUITS WITH CORRESPONDING SYSTEM AND TERMINATION POINT. CUT AND CAP ABANDONED CONDUIT. DO NOT EXTEND STUBS ABOVE FINISHED FLOOR.	
7. EXTEND CIRCUITS AND DEVICES IN EXISTING WALLS TO BE FURRED OUT.	
8. PROVIDE TEMPORARY SUPPORT FOR ELECTRICAL SYSTEMS THAT REMAIN IN PLACE.	
3.3 VERIFICATION	
A. VERIFY EXACT LOCATION AND NUMBER OF EXISTING ELECTRICAL OUTLETS AND LUMINAIRES IN THE FIELD. LOCATIONS OF ITEMS SHOWN ON DRAWINGS AS EXISTING ARE PARTIALLY BASED ON RECORD AND OTHER DRAWINGS WHICH MAY CONTAIN ERRORS. VERIFY THE ACCURACY OF THE INFORMATION SHOWN PRIOR TO BIDDING AND PROVIDE SUCH LABOR AND MATERIAL AS IS NECESSARY TO ACCOMPLISH THE INTENT OF THE CONTRACT DOCUMENTS.	
10. REMOVE ABANDONED WIRING TO SOURCE OF SUPPLY TO LEAVE SITE CLEAN.	
11. PROVIDE BLANK COVER PLATE FOR ABANDONED FLUSH OUTLETS.	
12. EXISTING LIGHTING WHICH IS TO REMAIN OR BE RELOCATED IS TO BE REAMPED, REBALLASTED AND CLEANED. LEAVE ALL LUMINAIRES IN PROPER WORKING ORDER. REPLACE DAMAGED OR BROKEN LENS AND/OR COMPONENTS.	
13. MAINTAIN ACCESS TO EXISTING ELECTRICAL INSTALLATIONS WHICH REMAIN ACTIVE. MODIFY INSTALLATION OR PROVIDE ACCESS PANEL AS APPROPRIATE.	
14. WHERE DRAWINGS INDICATE EXISTING ELECTRICAL EQUIPMENT OR DEVICES TO BE RELOCATED AND/OR REUSED, REPAIR/REUSE THEM THOROUGHLY CLEAN SUCH ITEMS. NOTIFY ARCHITECT OF ANY DEFECTS IN SUCH INSTALLATIONS. REPAIR ANY DAMAGE CAUSED BY DEMOLITION OR RELOCATION UNDER THIS CONTRACT.	
15. RECONNECT EXISTING LUMINAIRES NOT SHOWN ON DRAWINGS AND AFFECTED DUE TO DEMOLITION TO NEAREST AVAILABLE EXISTING LIGHTING CIRCUIT ABLE TO TAKE THE ADDITIONAL LOAD.	
3.3.1 CONTINUITY OF SERVICE	
A. NO INTERRUPTION OF SERVICES TO ANY PART OF EXISTING FACILITIES WILL BE PERMITTED WITHOUT EXPRESS PERMISSION IN EACH INSTANCE FROM THE OWNER. REQUESTS FOR OUTAGES SHALL STATE THE SPECIFIC DATES AND HOURS AND THE MAXIMUM DURATIONS, WITH THE OUTAGES KEPT TO THESE SPECIFIC DATES AND HOURS AND THE MAXIMUM DURATIONS. OBTAIN WRITTEN PERMISSION FROM THE OWNER FOR ANY INTERRUPTION OF POWER, LIGHTING OR SIGNAL CIRCUITS AND SYSTEMS.	
3.4 INSTALLATION	
A. INSTALL ELECTRICAL EQUIPMENT COMPLETE AS DIRECTED BY MANUFACTURER'S INSTALLATION INSTRUCTIONS. OBTAIN INSTALLATION INSTRUCTIONS FROM MANUFACTURER PRIOR TO ROUGH-IN OF THE ELECTRICAL EQUIPMENT. EXAMINE THE INSTRUCTIONS THOROUGHLY. WHEN REQUIREMENTS OF INSTALLATION INSTRUCTIONS CONFLICT WITH CONTRACT DOCUMENTS, REQUEST CLARIFICATION FROM ARCHITECT PRIOR TO PROCEEDING WITH INSTALLATION. THIS INCLUDES PROPER INSTALLATION METHODS, SEQUENCING, AND COORDINATION WITH OTHER TRADES AND DISCIPLINES.	
B. DELIVERY, STORAGE AND HANDLING: INSPECT AND REPORT CONCEALED DAMAGE TO CARRIER WITHIN THEIR REQUIRED TIME PERIOD. STORE IN A CLEAN, DRY ENVIRONMENT. MAINTAIN FACTORY PACKAGING, AND IF REQUIRED, PROVIDE AN ADDITIONAL HEAVY CANVAS OR HEAVY PLASTIC COVER TO PROTECT ENCLOSURE(S) FROM DIRT, WATER, CONSTRUCTION DEBRIS, AND TRAFFIC.	
C. INSTALL EQUIPMENT REQUIRING ACCESS (I.E. JUNCTION BOXES, LUMINAIRES, POWER SUPPLIES, MOTORS, ETC.) SO THAT THEY MAY BE SERVICED, RESET, REPLACED OR RECALIBRATED BY SERVICE PEOPLE WITH NORMAL SERVICE TOOLS AND EQUIPMENT. DO NOT INSTALL ELECTRICAL EQUIPMENT IN OBVIOUS PASSAGES, DOORWAYS, SCUTTLES OR CRAWL SPACES WHICH WOULD IMPEDE OR BLOCK THE INTENDED USAGE.	
D. NOISE CONTROL:	
1. DO NOT INSTALL OUTLET BOXES BACK TO BACK. DO NOT USE STRAIGHT THROUGH BOXES.	
2. DO NOT PLACE CONTACTORS, TRANSFORMERS, STARTERS AND SIMILAR NOISE	

5. CONDULETS AND CONDUIT BODIES:
- a. DO NOT USE CONDULETS AND CONDUIT BODIES IN CONDUITS FOR SIGNAL WIRING; IN FEEDERS 100 AMP AND LARGER.
6. SLEEVES AND CHASES - FLOOR, CEILING AND WALL PENETRATIONS: PROVIDE NECESSARY RIGID CONDUIT SLEEVES, OPENINGS AND CHASES WHERE CONDUITS OR CABLES ARE REQUIRED TO PASS THROUGH FLOORS, CEILINGS OR WALLS.
- I. ELECTRICAL POWER CONDUCTORS AND CABLES
1. WIRES AND CABLES:
- a. DO NOT INSTALL OR HANDLE THERMOPLASTIC INSULATED WIRE AND CABLE IN TEMPERATURES BELOW -10 DEGREES C (14 DEGREES F). DO NOT HANDLE THERMOSET INSULATED WIRE AND CABLE IN TEMPERATURES BELOW -40 DEGREES C (-40 DEGREES F). ALL WIRE AND CABLE MUST BE ACCLIMATED TO TEMPERATURES ABOVE FREEZING FOR NO LESS THAN 24 HOURS PRIOR TO INSTALLATION.
- b. INSTALL CONDUCTORS IN RACEWAYS HAVING ADEQUATE, CODE SIZE CROSS-SECTIONAL AREA FOR WIRES INDICATED.
- c. INSTALL CONDUCTORS WITH CARE TO AVOID DAMAGE TO INSULATION.
- d. DO NOT APPLY GREATER TENSION ON CONDUCTORS THAN RECOMMENDED BY MANUFACTURER DURING INSTALLATION.
- e. USE OF PULLING COMPOUNDS IS PERMITTED. CLEAN RESIDUE FROM EXPOSED CONDUCTORS AND RACEWAY ENTRANCES AFTER CONDUCTOR INSTALLATION. DO NOT USE PULLING COMPOUNDS FOR INSTALLATION OF CONDUCTORS CONNECTED TO GFCI CIRCUIT BREAKERS OR GFCI RECEPTACLES.
- f. CONDUCTOR SIZE AND QUANTITY:
- 1) INSTALL NO CONDUCTORS SMALLER THAN 12 AWG UNLESS OTHERWISE SHOWN.
- 2) PROVIDE REQUIRED CONDUCTORS FOR A FULLY OPERABLE SYSTEM.
- 3) POWER CIRCUITS: NO. 12 AWG MINIMUM, EXCEPT AS FOLLOWS:
- a) NO. 10 AWG FOR 20A, 120V CIRCUITS LONGER THAN 60 FT.
- b) NO. 8 AWG FOR 20A, 120V CIRCUITS LONGER THAN 90 FT.
- c) NOTIFY ENGINEER FOR 20A, 120V CIRCUITS LONGER THAN 140 FT.
- 4) WHEN EXACT RUN LENGTHS ARE DETERMINED FOR ALL BRANCH CIRCUITS, AND PRIOR TO INSTALLATION OF THE CONDUCTORS, ENSURE THAT THE MAXIMUM VOLTAGE DROP, BASED ON 80 PERCENT OF THE CIRCUIT PROTECTIVE DEVICE, DOES NOT EXCEED 3 PERCENT. INCREASE WIRE SIZE FROM #12AWG, IF NECESSARY, TO ENSURE THAT THE 3 PERCENT VOLTAGE DROP IS NOT EXCEEDED.
- g. PROVIDE DEDICATED NEUTRALS (ONE NEUTRAL CONDUCTOR FOR EACH PHASE CONDUCTOR) IN ALL 120V CIRCUITS.
- h. EXPOSED CABLE IS NOT ALLOWED.
- i. ALL CABLE MUST BE RUN PARALLEL OR PERPENDICULAR TO BUILDING LINES AND HIDDEN FROM VIEW WHEN POSSIBLE. WHERE INSTALLED IN TRAY EACH POWER CABLE IS TO BE IDENTIFIED WITH LAMACOID NAMETAG ENGRAVED WITH IDENTIFICATION OF EQUIPMENT BEING FED. TAG TO BE FASTENED TO CABLE USING TIE-WRAPPS. PROVIDE NAMETAG AT EACH FLOOR LEVEL.
2. CONNECTORS:
- a. INSTALL TO ASSURE A SOLID AND SAFE CONNECTION.
- b. SELECT HAND TWIST CONNECTORS FOR WIRE SIZE AND INSTALL TIGHTLY ON CONDUCTORS.
- c. INSTALL COMPRESSION CONNECTORS USING METHODS AND TOOLS RECOMMENDED BY THE MANUFACTURER.
- d. DO NOT INSTALL STRANDED CONDUCTORS UNDER SCREW TERMINALS UNLESS COMPRESSION LUGS ARE INSTALLED.
- e. MAKE SPLICES COMPLETE AND PROMPTLY AFTER WIRE INSTALLATION. PROVIDE SINGLE WIRE PIGTAILS FOR LUMINAIRE AND DEVICE CONNECTIONS. WIRE NUTS MAY BE USED FOR LUMINAIRE WIRE CONNECTIONS TO SINGLE WIRE CIRCUIT CONDUCTOR PIGTAILS.
- f. MAKE SPLICES FOR NO. 8 AND LARGER WIRES WITH MECHANICALLY APPLIED PRESSURE TYPE CONNECTORS. MAKE ALL TAPED JOINTS WITH SCOTCH 33+ OR EQUAL, APPLIED IN HALF-LAP LAYERS WITHOUT STRETCHING TO DEFORM. URASEAL SPLICE KITS ARE ALSO ACCEPTABLE THROUGH 250 KCMIL.
- J. BOXES:
1. COORDINATE LOCATIONS OF FLOOR BOXES AND WALL MOUNTED WIRING DEVICE BOXES WITH ARCHITECTURAL AND STRUCTURAL FLOOR PLANS PRIOR TO ROUGH-IN.
2. SECURE BOXES RIGIDLY TO THE SUBSTRATE UPON WHICH THEY ARE BEING MOUNTED, OR SOLIDLY EMBED BOXES IN CONCRETE OR MASONRY.
3. INSTALL IN LOCATIONS AS SHOWN ON DRAWINGS, AND AS REQUIRED FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS, AND AS REQUIRED BY NEC. LOCATE BOXES AND CONDUIT BODIES SO AS TO ENSURE ACCESSIBILITY OF ELECTRICAL WIRING.
4. ELECTRICAL BOXES ARE SHOWN ON DRAWINGS IN APPROXIMATE LOCATIONS UNLESS DIMENSIONED. ADJUST BOX LOCATIONS UP TO 10-FEET IF REQUIRED TO ACCOMMODATE INTENDED PURPOSE.
5. INSTALL BOXES TO PRESERVE FIRE RESISTANCE RATING OF PARTITIONS AND OTHER ELEMENTS, USING MATERIALS AND METHODS SPECIFIED IN DIVISION 07, THERMAL AND MOISTURE PROTECTION.
6. LOCATE FLUSH MOUNTING BOX IN MASONRY WALL TO REQUIRE CUTTING OF MASONRY UNIT CORNER ONLY. COORDINATE MASONRY CUTTING TO ACHIEVE NEAT OPENING.
7. INSTALL FLUSH MOUNTING BOX WITHOUT DAMAGING WALL INSULATION OR REDUCING ITS EFFECTIVENESS.
8. SUPPORT BOXES INDEPENDENTLY OF CONDUIT, EXCEPT CAST BOX THAT IS CONNECTED TO TWO RIGID METAL CONDUITS BOTH SUPPORTED WITHIN 12-INCHES OF BOX.
9. ADJUST BOXES TO BE PARALLEL WITH BUILDING LINES. BOXES NOT PLUMB TO BUILDING LINES ARE NOT ACCEPTABLE.
10. INSTALL KNOCKOUT CLOSURES IN UNUSED BOX OPENINGS.
11. CLEAN INTERIOR OF BOXES TO REMOVE DUST, DEBRIS, AND OTHER MATERIAL.
12. CLEAN EXPOSED SURFACES AND RESTORE FINISH.
13. OUTLET BOXES INSTALLATION:
- a. MOUNT OUTLET BOXES, UNLESS OTHERWISE REQUIRED BY AMERICANS WITH DISABILITIES ACT (ADA), OR NOTED ON DRAWINGS, THE FOLLOWING DISTANCE ABOVE FINISHED FLOOR:
- 1) CONTROL SWITCHES:
- a) 48 INCHES TO THE TOP OF OUTLET BOX.
- b) 4-INCHES ABOVE TOP OF BACKSPLASH AT COUNTERTOPS/WORKSTATIONS, NOT TO EXCEED 44- INCHES ABOVE FINISHED FLOOR TO THE TOP OF OUTLET BOX, PER ADA REQUIREMENTS.
- 2) OTHER OUTLETS: AS INDICATED IN OTHER SECTIONS OF SPECIFICATIONS OR AS DETAILED ON DRAWINGS.
- b. INACCESSIBLE CEILING AREAS: INSTALL OUTLET AND JUNCTION BOXES NO MORE THAN 6-INCHES FROM CEILING ACCESS PANEL OR FROM REMOVABLE RECESSED LUMINAIRE.
- c. COORDINATE ELECTRICAL DEVICE LOCATIONS AND ELEVATIONS (SWITCHES AND RECEPTACLES) WITH ARCHITECTURAL DRAWINGS TO PREVENT MOUNTING DEVICES IN MIRRORS, BACK SPLASHES, AND BEHIND CABINETS.
- d. LOCATE OUTLET BOXES TO ALLOW LUMINAIRES POSITIONED AS SHOWN ON REFLECTED CEILING PLAN.
- e. ALIGN ADJACENT WALL MOUNTED OUTLET BOXES FOR SWITCHES, THERMOSTATS, AND SIMILAR DEVICES. ADJACENT BOXES NOT ALIGNED VERTICALLY TO BE ADJUSTED AT NO ADDITIONAL COST TO OWNER.
- f. USE FLUSH MOUNTING OUTLET BOX IN FINISHED AREAS.
- g. DO NOT INSTALL FLUSH MOUNTING BOX BACK-TO-BACK IN WALLS. PROVIDE MINIMUM 6-INCHES SEPARATION. PROVIDE MINIMUM 24-INCHES IN ACOUSTIC RATED WALLS. IN ACOUSTICAL WALLS, APPLY ACOUSTIC PUTTY PAD ON OUTLET BOX PRIOR TO INSTALLATION OF ACOUSTICAL BLANKET.
- h. SECURE FLUSH MOUNTING BOX TO INTERIOR WALL AND PARTITION STUDS. ACCURATELY POSITION TO ALLOW FOR SURFACE FINISH THICKNESS.
- i. USE STAMPED STEEL BRIDGES TO FASTEN FLUSH MOUNTING OUTLET BOX BETWEEN STUDS.
- j. USE ADJUSTABLE STEEL CHANNEL FASTENERS FOR HUNG CEILING OUTLET BOX.
- k. USE GANG BOX WHERE MORE THAN ONE DEVICE IS MOUNTED TOGETHER. DO NOT USE SECTIONAL BOX.
- l. USE GANG BOX WITH PLASTER RING FOR SINGLE DEVICE OUTLETS.
- m. ADJUST FLUSH-MOUNTING OUTLETS TO MAKE FRONT FLUSH WITH FINISHED WALL MATERIAL.
14. PULL AND JUNCTION BOXES INSTALLATION:
- a. INSTALL PULL BOXES AND JUNCTION BOXES ABOVE ACCESSIBLE CEILINGS AND IN UNFINISHED AREAS ONLY.
- b. INACCESSIBLE CEILING AREAS: INSTALL OUTLET AND JUNCTION BOXES NO MORE THAN 6-INCHES FROM CEILING ACCESS PANEL OR FROM REMOVABLE RECESSED LUMINAIRE.
- c. DO NOT FASTEN BOXES TO CEILING SUPPORT WIRES.
- K. SUPPORTING DEVICES:
1. FABRICATION - MISCELLANEOUS METALS:
- a. GENERAL: VERIFY DIMENSIONS PRIOR TO FABRICATION. FORM METAL ITEMS TO ACCURATE SIZES AND CONFIGURATIONS AS INDICATED ON DRAWINGS AND OTHERWISE REQUIRED FOR PROPER INSTALLATION. MAKE WITH LINES STRAIGHT AND ANGLES SHARP, CLEAN AND TRUE; DRILL, COUNTERSINK, TAP, AND OTHERWISE PREPARE ITEMS FOR CONNECTIONS WITH WORK OF OTHER TRADES, AS REQUIRED. FABRICATE TO DETAIL OF STRUCTURAL SHAPES, PLATES AND BARS; WELD JOINTS WHERE PRACTICABLE; PROVIDE BOLTS AND OTHER CONNECTION DEVICES REQUIRED. INCLUDE ANCHORAGES, CLIP ANGLES, SLEEVES, ANCHOR PLATES, AND SIMILAR DEVICES. HOT DIPPED GALVANIZE AFTER FABRICATION ITEMS INSTALLED IN EXTERIOR LOCATIONS. SET ACCURATELY IN POSITION AS REQUIRED AND ANCHOR SECURELY TO BUILDING CONSTRUCTION. CONSTRUCT ITEMS WITH JOINTS FORMED FOR STRENGTH AND RIGIDITY, ACCURATELY MACHINING FOR PROPER FIT; WHERE EXPOSED TO WEATHER, FORM TO EXCLUDE WATER.
- b. FERROUS METAL: AFTER FABRICATION, BUT BEFORE ERECTION, CLEAN SURFACES BY MECHANICAL OR CHEMICAL METHODS TO REMOVE RUST, SCALE, OIL, CORROSION, OR OTHER SUBSTANCES DETRIMENTAL TO BONDING OF SUBSEQUENTLY APPLIED PROTECTIVE COATINGS. FOR METAL ITEMS EXPOSED TO WEATHER OR MOISTURE, GALVANIZE IN MANNER TO OBTAIN 590 ZINC COATING IN ACCORDANCE WITH ASTM A123. PROVIDE OTHER NON-GALVANIZED FERROUS METAL WITH ONE COAT OF APPROVED RUST-RESISTING PAINT PRIMER, IN MANNER TO OBTAIN NOT LESS THAN 1.0 MIL DRY FILM THICKNESS. TOUCH-UP DAMAGED AREAS IN PRIMER WITH SAME MATERIAL, BEFORE INSTALLATION. APPLY ZINC COATINGS AND PAINT PRIMERS UNIFORMLY AND SMOOTHLY; LEAVE READY FOR FINISH PAINTING AS SPECIFIED ELSEWHERE.
- c. METAL IN CONTACT WITH CONCRETE, MASONRY AND OTHER DISSIMILAR MATERIALS: WHERE METAL ITEMS ARE TO BE ERECTED IN CONTACT WITH DISSIMILAR MATERIALS, PROVIDE CONTACT SURFACES WITH COATING OF AN APPROVED ZINC-CHROMATE PRIMER IN MANNER TO OBTAIN NOT LESS THAN 1.0 MIL DRY FILM THICKNESS, IN ADDITION TO OTHER COATINGS SPECIFIED IN THESE SPECIFICATIONS.
- d. FOR GALVANIZED SURFACES, CLEAN FIELD WELDS, BOLTED CONNECTIONS, AND ABRADED AREAS AND APPLY GALVANIZING REPAIR PAINT TO COMPLY WITH ASTM A780.
2. ANCHORS, THREADED ROD, AND FASTENERS INSTALLATION:
- a. SAFETY FACTOR OF 4 REQUIRED FOR EVERY FASTENING DEVICE OR SUPPORT FOR EQUIPMENT INSTALLED. SUPPORT TO WITHSTAND FOUR TIMES WEIGHT OF EQUIPMENT IT SUPPORTS.
- b. DO NOT USE OTHER TRADE'S FASTENING DEVICES AS SUPPORTING MEANS FOR LUMINAIRES, EQUIPMENT OR MATERIALS.
- c. DO NOT FASTEN SUPPORTS TO PIPES, DUCTS, MECHANICAL EQUIPMENT, OR CONDUIT.
- d. DO NOT USE SUPPORTS OR FASTENING DEVICES TO SUPPORT OTHER THAN ONE PARTICULAR ITEM.
- e. SECURELY SUSPEND JUNCTION BOXES, PULL BOXES OR OTHER CONDUIT TERMINATING HOUSINGS LOCATED ABOVE SUSPENDED CEILING FROM FLOOR ABOVE OR ROOF STRUCTURE TO PREVENT SAGGING AND SWAYING.
- f. PROVIDE SEISMIC BRACING PER CBC REQUIREMENTS.
- g. INSTALL SURFACE-MOUNTED CABINETS AND PANELBOARDS WITH MINIMUM OF FOUR ANCHORS.
- h. USE SPRING LOCK WASHERS UNDER FASTENER NUTS FOR STRUT.
- i. CUTTING AND DRILLING: DO NOT DRILL OR CUT STRUCTURAL MEMBERS WITHOUT PRIOR PERMISSION FROM ARCHITECT.
3. SUPPORT CHANNEL, HANGERS, AND SUPPORTS INSTALLATION:
- a. INSTALL HANGERS AND SUPPORTS AS REQUIRED TO ADEQUATELY AND SECURELY SUPPORT ELECTRICAL SYSTEM COMPONENTS, IN A NEAT AND WORKMANLIKE MANNER, AS SPECIFIED IN NECA 1.
- b. SAFETY FACTOR OF 4 REQUIRED FOR EVERY FASTENING DEVICE OR SUPPORT FOR EQUIPMENT INSTALLED. SUPPORTS TO WITHSTAND FOUR TIMES WEIGHT OF EQUIPMENT IT SUPPORTS.
- c. VERIFY MOUNTING HEIGHT OF LUMINAIRES PRIOR TO INSTALLATION WHEN HEIGHTS ARE NOT DETAILED.
- d. INSTALL VERTICAL SUPPORT MEMBERS FOR EQUIPMENT AND LUMINAIRES, STRAIGHT AND PARALLEL TO BUILDING WALLS.
- e. INSTALL HORIZONTAL SUPPORT MEMBERS STRAIGHT AND PARALLEL TO CEILINGS OR FINISHED FLOOR UNLESS OTHERWISE NOTED.
- f. PROVIDE INDEPENDENT SUPPORTS TO STRUCTURAL MEMBER FOR LUMINAIRES, MATERIALS, OR EQUIPMENT INSTALLED IN OR ON CEILING, WALLS OR IN VOID SPACES OR OVER SUSPENDED CEILINGS.
- g. DO NOT USE OTHER TRADE'S FASTENING DEVICES AS SUPPORTING MEANS FOR LUMINAIRES, EQUIPMENT OR MATERIALS.
- h. DO NOT FASTEN SUPPORTS TO PIPES, DUCTS, MECHANICAL EQUIPMENT, OR CONDUIT.
- i. DO NOT USE SUPPORTS OR FASTENING DEVICES TO SUPPORT OTHER THAN ONE PARTICULAR ITEM.
- j. SUPPORT CONDUITS WITHIN 18-INCHES OF OUTLETS, BOXES, PANELS, CABINETS AND DEFLECTIONS UNLESS MORE STRINGENTLY REQUIRED BY CEC.
- k. MAXIMUM DISTANCE BETWEEN SUPPORTS NOT TO EXCEED 8 FOOT SPACING UNLESS OTHERWISE REQUIRED BY CEC.
- l. SUPPORT FLEXIBLE CONDUITS AND METAL CLAD CABLE WITHIN 12-INCHES OF OUTLETS, BOXES, PANELS, CABINETS AND DEFLECTIONS UNLESS OTHERWISE REQUIRED BY CEC.
- m. MAXIMUM DISTANCE BETWEEN SUPPORTS FOR FLEXIBLE CONDUITS AND METAL CLAD CABLE NOT TO EXCEED 48-INCHES SPACING UNLESS OTHERWISE REQUIRED BY CEC.
- n. INSTALL STRUT HANGERS AS INSTRUCTED BY STRUT MANUFACTURER. SUSPEND STRUT HANGERS AS INSTRUCTED BY STRUT MANUFACTURER FOR THE LOAD, WITH A MAXIMUM SPACING OF 8-FEET ON CENTER AND WITHIN 2-FEET OF OUTLET BOX, CABINET, JUNCTION BOX OR OTHER CHANNEL. RACEWAY TERMINATION UNLESS OTHERWISE REQUIRED BY CEC.
- o. SECURELY SUSPEND JUNCTION BOXES, PULL BOXES OR OTHER CONDUIT TERMINATING HOUSINGS LOCATED ABOVE SUSPENDED CEILING FROM FLOOR ABOVE OR ROOF STRUCTURE TO PREVENT SAGGING AND SWAYING.
- p. PROVIDE SEISMIC BRACING PER CEC REQUIREMENTS.
- q. INSTALL SURFACE-MOUNTED CABINETS AND PANELBOARDS WITH MINIMUM OF FOUR ANCHORS.
- r. USE SHEET METAL CHANNEL TO BRIDGE STUDS ABOVE AND BELOW CABINETS AND PANELBOARDS RECESSED IN HOLLOW PARTITIONS.
- L. WIRING DEVICES:
1. SEE ARCHITECTURAL ELEVATIONS FOR LOCATION AND MOUNTING HEIGHT OF WIRING DEVICES. REVIEW ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN AND CONTACT ARCHITECT IMMEDIATELY IF CONFLICTS ARE FOUND BETWEEN ARCHITECTURAL AND ELECTRICAL DRAWINGS. DO NOT ROUGH-IN DEVICES UNTIL CONFLICTS ARE RESOLVED.
2. INSTALL WIRING DEVICES AND FINISH PLATES PLUMB WITH BUILDING LINES. EQUIPMENT CABINETS AND ADJACENT DEVICES. DEVICES NOT PLUMB WILL BE FIXED AT NO ADDITIONAL COST TO OWNER.
3. AT TIME OF SUBSTANTIAL COMPLETION, REPLACE THOSE ITEMS WHICH HAVE BEEN DAMAGED.
4. ORIENTATION:
- a. INSTALL WIRING DEVICES WITH LONG DIMENSION ORIENTED VERTICALLY AT CENTERLINE HEIGHT SHOWN ON DRAWINGS OR AS SPECIFIED.
- b. VERTICAL ALIGNMENT: WHEN MORE THAN ONE DEVICE IS SHOWN ON DRAWINGS IN CLOSE PROXIMITY TO EACH OTHER, BUT AT DIFFERENT ELEVATIONS, ALIGN DEVICES ON A COMMON VERTICAL CENTER LINE FOR BEST APPEARANCE. VERIFY WITH ARCHITECT.
- c. HORIZONTAL ALIGNMENT: WHEN MORE THAN ONE DEVICE IS SHOWN ON DRAWINGS IN CLOSE PROXIMITY TO EACH OTHER WITH SAME ELEVATION, ALIGN DEVICES ON A COMMON HORIZONTAL CENTER LINE FOR BEST APPEARANCE. VERIFY WITH ARCHITECT.
5. TEST WIRING DEVICES TO ENSURE ELECTRICAL CONTINUITY OF GROUNDING CONNECTIONS, AND AFTER ENERGIZING CIRCUITRY, TO DEMONSTRATE COMPLIANCE WITH REQUIREMENTS. TEST RECEPTACLES FOR LINE TO NEUTRAL, LINE TO GROUND AND NEUTRAL TO GROUND FAULTS. CORRECT ANY DEFECTIVE WIRING.
6. RECEPTACLE INSTALLATION:
- a. IN THE FOLLOWING OUTLET LOCATIONS, REGARDLESS OF WHETHER SHOWN AS GFCI ON DRAWINGS, EITHER PROVIDE A GFCI DUPLEX RECEPTACLE, OR USE A GFCI BREAKER WHERE CODE WOULD REQUIRE A GFCI OUTLET TO HAVE A REMOTE TEST SWITCH:
- 1) BATHROOMS.
- 2) WHERE RECEPTACLES ARE INSTALLED WITHIN 6-FEET, 0-INCHES FROM EDGE OF SINKS.
- b. GFCI RECEPTACLES: ONE GFCI RECEPTACLE MAY NOT BE USED TO PROVIDE GFCI PROTECTION TO DOWNSTREAM DUPLEX RECEPTACLES ON THE SAME BRANCH CIRCUIT.
7. DO NOT INSTALL FINISH PLATES AND SURFACE COVERS UNTIL FINISH PAINTING IS COMPLETE. REPLACE SCRATCHED AND PAINT SPLATTERED FINISH PLATES AND WIRING DEVICES.
- M. ELECTRICAL IDENTIFICATION:
1. COORDINATE DESIGNATIONS USED ON DRAWINGS WITH EQUIPMENT NAMEPLATES AND DEVICE LABELS. INSTALL NAMEPLATES AND LABELS PARALLEL TO EQUIPMENT LINES. IDENTIFY EMPTY CONDUIT AND BOXES WITH INTENDED USE.
2. WHERE CHANGES ARE MADE IN EXISTING PANELS, DISTRIBUTION BOARDS, ETC., PROVIDE NEW LABELING AND TYPEWRITTEN SCHEDULES TO ACCURATELY REFLECT THE CHANGES.
3. DEVICE LABELS:
- a. DEGREASE AND CLEAN SURFACES TO RECEIVE LABELS. FINGERS TO BE REGULARLY CLEANED OF GREASE AND DEBRIS TO PREVENT FINGERPRINTS ON LABELS. LABELS INSTALLED DIRTY OR WITH FINGERPRINTS TO BE REPLACED AT NO COST TO OWNER.
- b. ON THE BACK OF RECEPTACLE AND SWITCH FINISH PLATES LEGIBLY WRITE WITH INDELEIBLE INK PEN THE CIRCUIT THAT EACH DEVICE IS CONNECTED TO.
- c. ON THE FRONT OF RECEPTACLE AND SWITCH FINISH PLATES, PROVIDE LABEL WITH THE CIRCUIT THAT EACH DEVICE IS CONNECTED TO.
4. WIRE MARKERS: PROVIDE WIRE MARKERS ON EACH CONDUCTOR FOR POWER, CONTROL, SIGNALING AND COMMUNICATIONS CIRCUITS.
- N. GROUNDING:
1. VERIFY SITE CONDITIONS PRIOR TO BEGINNING WORK.
2. CORROSION INHIBITORS: APPLY A CORROSION INHIBITOR TO CONTACT SURFACES WHEN MAKING GROUNDING AND BONDING CONNECTIONS. USE CORROSION INHIBITOR APPROPRIATE FOR PROTECTING A CONNECTION BETWEEN METALS USED.
3. GROUNDING CONDUCTOR:
- a. RACEWAY GROUNDING:
- 1) GROUND METALLIC RACEWAY SYSTEMS. BOND TO GROUND TERMINAL WITH CODE SIZE JUMPER EXCEPT WHERE CODE SIZE OR LARGER EQUIPMENT GROUNDING CONDUCTOR IS INCLUDED WITH CIRCUIT, USE GROUNDING BUSHING WITH LAY-IN LUG.
- 2) CONNECT METAL RACEWAYS, WHICH TERMINATE WITHIN AN ENCLOSURE BUT WITHOUT MECHANICAL CONNECTION TO ENCLOSURE, BY GROUNDING BUSHINGS AND GROUND CONDUCTOR TO GROUNDING BUS.
- 3) WHERE EQUIPMENT SUPPLY CONDUCTORS ARE IN FLEXIBLE METALLIC CONDUIT, INSTALL STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR FROM OUTLET BOX TO EQUIPMENT FRAME.
- 4) INSTALL EQUIPMENT GROUNDING CONDUCTOR, CODE SIZE MINIMUM UNLESS NOTED ON DRAWINGS, IN METALLIC AND NONMETALLIC RACEWAY SYSTEMS.
- b. BRANCH CIRCUIT GROUNDING:
- 1) PROVIDE CONTINUOUS GREEN INSULATED COPPER EQUIPMENT GROUNDING CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS.
- 2) WHERE INSTALLED IN A CONTINUOUS SOLID METALLIC RACEWAY SYSTEM AND LARGER SIZES ARE NOT DETAILED, PROVIDE INSULATED EQUIPMENT GROUNDING CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS SIZED IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF CEC ARTICLE 250, TABLE 250-122.
- c. BOND BOXES, CABINETS, ENCLOSURES AND PANELBOARD EQUIPMENT GROUNDING CONDUCTORS TO ENCLOSURE WITH SPECIFIED CONDUCTORS AND LUGS. INSTALL LUGS ONLY ON THOROUGHLY CLEANED CONTACT SURFACES.
- d. RECEPTACLES: CONNECT GROUND TERMINAL OF RECEPTACLE AND ASSOCIATED OUTLET BOX TO EQUIPMENT GROUNDING CONDUCTOR. SELF GROUNDING NATURE OF RECEPTACLE DEVICES DOES NOT ELIMINATE EQUIPMENT GROUNDING CONDUCTOR BOLTED TO OUTLET BOX.
- O. OVERCURRENT PROTECTIVE DEVICES
1. CIRCUIT BREAKERS:
- a. PROVIDE GROUND FAULT INTERRUPTER CIRCUIT BREAKERS FOR EQUIPMENT IN DAMP OR WET LOCATIONS.
- b. PROVIDE DEVICE ON HANDLE TO LOCK BREAKER IN "ON" POSITION FOR BREAKERS FEEDING TIME SWITCHES, NIGHT LIGHTS AND SIMILAR CIRCUITS REQUIRED TO BE CONTINUOUSLY ENERGIZED.
- P. OCCUPANCY SENSORS:
1. INSTALL OCCUPANCY/VACANCY SENSORS AS DIRECTED BY MANUFACTURER'S INSTRUCTIONS. COMPLETE CONNECTIONS TO CONTROL CIRCUITS, OCCUPANCY SENSORS, POWER SUPPLY PACK AND LOW VOLTAGE WIRING.
2. DRAWINGS WERE LAID OUT USING WATT STOPPER SENSORS AS THE BASIS OF DESIGN. IF ANOTHER MANUFACTURER IS APPROVED FOR INSTALLATION UNDER THIS CONTRACT, VERIFY WITH MANUFACTURER REPRESENTATIVE THAT SENSORS ARE LAID OUT TO PROVIDE COVERAGE ACROSS ROOM SPACE, ADDING ADDITIONAL SENSORS AS NEEDED.
3. PROVIDE POWER PACKS FOR SENSOR TO CONTROL NUMBER OF CIRCUITS AND/OR SWITCH LEGS WITHIN ITS AREA OF COVERAGE.
4. FIELD ADJUST EACH SENSOR TO MAXIMIZE ITS COVERAGE OF ROOM SPACE.
5. RELOCATE SENSORS WITH ULTRASONIC TECHNOLOGY TO AVOID BEING CLOSER TO HVAC DIFFUSERS AND POWER PACKS THAN RECOMMENDED BY MANUFACTURER.
6. FIELD SET TIME DELAY FOR EACH DEVICE AS NOTED BELOW:
- a. RESTROOMS: 15 MINUTES
- b. OTHER SPACES: 15 MINUTES.
7. COORDINATE HVAC CONTROL REQUIREMENTS WITH CONTROLS CONTRACTOR PRIOR TO INSTALLATION.
- Q. LIGHTING CONTROL DEVICES:
1. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS APPROVED SYSTEM SHOP DRAWINGS AND CONTRACT DOCUMENTS.
2. PROVIDE EQUIPMENT AT LOCATIONS AND IN QUANTITIES INDICATED ON DRAWINGS. PROVIDE ANY ADDITIONAL EQUIPMENT REQUIRED TO PROVIDE CONTROL INTENT.
3. TEST ALL DEVICES TO ENSURE THEY ARE POWERED AND COMMUNICATE PROPERLY WITH EACH OTHER.
4. RUN SEPARATE NEUTRALS FOR ANY PHASE DIMMED BRANCH LOAD CIRCUIT. DIFFERENT TYPES OF DIMMING LOADS REQUIRE SEPARATE NEUTRALS AND SHOULD NOT BE MIXED WITH ANY INDIVIDUAL ROOM CONTROLLER.
5. FUNCTIONALLY TEST ALL CONTROL DEVICES TO ENSURE OPERATION IN ACCORDANCE WITH APPROVED DRAWINGS AND SPECIFICATIONS. PREPARE AND COMPLETE REPORT OF TEST PROCEDURES AND RESULTS AND FILE WITH THE OWNER.
6. INSTALL MAIN CONTROL PANEL IN ACCESSIBLE LOCATIONS NEAR THE SOURCE OF POWER OR GROUPED AT A COMMON LOCATION IN ELECTRICAL ROOMS OR SIMILAR SPACES.
7. FOLLOWING MANUFACTURER'S RECOMMENDATIONS, CALIBRATE ALL SENSOR SENSITIVITIES AND ADJUST MOUNTING LOCATIONS TO ENSURE PROPER DETECTION OF OCCUPANTS AND ENERGY SAVINGS. ADJUST TIME DELAY SO THAT CONTROLLED AREA REMAINS LIGHTED WHILE OCCUPIED.
8. USE MANUFACTURER'S PUBLISHED TESTING AND ADJUSTING PROCEDURES TO ADJUST SENSOR TIME DELAY, DAYLIGHT SENSITIVITY, AND PASSIVE INFRARED SENSITIVITY TO SATISFACTION OF OWNER.
9. EMERGENCY RELAY (UL924):
- a. PROVIDE UNSWITCHED EMERGENCY CIRCUIT, AND UNSWITCHED AND SWITCHED NORMAL CIRCUIT TO UL924 RELAY FOR CONTROL OF EMERGENCY LUMINAIRES WITH REMAINING ROOM LUMINAIRES ON NORMAL POWER.
- b. INSTALL EACH RELAY WITHIN DEDICATED 4-11/16-INCH JUNCTION BOX WITH DOUBLE-GANG GYPSUM PLASTER RING FOR WALL OR CEILING FLUSH-MOUNT AS INDICATED ON DRAWINGS. WHERE LOCATION IN CEILING WOULD INTERFERE WITH REMOVAL OF CEILING TILES, INSTALL RELAY FLUSH-MOUNTED IN NEAREST WALL AT CEILING LEVEL. DO NOT LOCATE BEHIND WALL SWITCH.
- c. WHERE 0-10 VOLT DIMMING CONTROL IS CONNECTED TO EMERGENCY LIGHTING, SUPPLY AND CONNECT AUXILIARY RELAY TO OPEN DIMMING 0-10 VOLT CONTROL CIRCUIT UPON LOSS OF NORMAL POWER.
- 3.5. FIELD QUALITY CONTROL
- A. TESTS: CONDUCT TESTS OF EQUIPMENT AND SYSTEMS TO DEMONSTRATE COMPLIANCE WITH REQUIREMENTS SPECIFIED IN THIS DIVISION. REFER TO INDIVIDUAL SPECIFICATION SECTIONS FOR REQUIRED TESTS. DOCUMENT TESTS AND INCLUDE IN CLOSEOUT DOCUMENTS. DURING SITE EVALUATIONS BY ARCHITECT, PROVIDE AN ELECTRICIAN WITH TOOLS TO REMOVE AND REPLACE TRIMS, COVERS, DEVICES, AND THE LIKE, SO THAT A PROPER EVALUATION OF THE INSTALLATION CAN BE PERFORMED.
- B. SYSTEMS STARTUP: PROVIDE FIELD REPRESENTATIVE TO PREPARE AND START EQUIPMENT. TEST AND CORRECT FOR PROPER ROTATION OF POLYPHASE MOTORS. ADJUST FOR PROPER OPERATION WITHIN MANUFACTURER'S PUBLISHED TOLERANCES. DEMONSTRATE PROPER OPERATION OF EQUIPMENT TO OWNER'S AUTHORIZED REPRESENTATIVE.
- C. WIRING DEVICE TESTS: TEST WIRING DEVICES TO ENSURE ELECTRICAL CONTINUITY OF GROUNDING CONNECTIONS, AND AFTER ENERGIZING CIRCUITRY, TO DEMONSTRATE COMPLIANCE WITH REQUIREMENTS. TEST RECEPTACLES FOR LINE TO NEUTRAL, LINE TO GROUND AND NEUTRAL TO GROUND FAULTS. CORRECT DEFECTIVE WIRING.
- D. VERIFICATION OF CONDITIONS: VERIFY CEILING CONSTRUCTION, RECESSING DEPTH AND OTHER CONSTRUCTION DETAILS PRIOR TO RELEASE OF LUMINAIRE FOR SHIPMENT.
- 3.6. CLEANING
- A. REMOVE DIRT AND DEBRIS CAUSED BY THE EXECUTION OF THE ELECTRICAL WORK. LEAVE THE ENTIRE ELECTRICAL SYSTEM INSTALLED IN CLEAN, DUST-FREE AND PROPER WORKING ORDER.
- B. THOROUGHLY CLEAN EXPOSED PORTIONS OF EQUIPMENT, REMOVING TEMPORARY LABELS AND TRACES OF FOREIGN SUBSTANCES. THROUGHOUT WORK, REMOVE CONSTRUCTION DEBRIS AND SURPLUS MATERIALS ACCUMULATED DURING WORK.
- C. WHERE FINISH OF LUMINAIRES OR ENCLOSURES IS DAMAGED, TOUCH UP FINISH WITH MATCHING PAINT IN ACCORDANCE TO MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.
- D. CLEAN PAINT SPLATTERS, DIRT, DUST, FINGERPRINTS, AND DEBRIS FROM LUMINAIRES. CLEAN PHOTOMETRIC CONTROL SURFACES AS RECOMMENDED BY MANUFACTURER. CLEAN FINISHES AND TOUCH UP DAMAGED FINISHES PER BY MANUFACTURER'S INSTRUCTIONS.
- END OF ELECTRICAL SPECIFICATIONS



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Signed: 4/16/25

Agency Approvals

Revision No. Date

Job Title
SONOMA DRC

Job Address
**2300 COUNTY CENTER DRIVE
SANTA ROSA, CA 95403**

Date: **18 APRIL 2025**

Issued For

100% CD

Job Number:

Drawn By: AC Checked By: WL

Scale

As indicated

0 2' 4' 8' 16'

Sheet Title

**SPECIFICATIONS -
ELECTRICAL**

Sheet No.

E3.02

- SECTION 28 00 01 - ELECTRONIC SAFETY BASIC REQUIREMENTS
- PART 1 - GENERAL
- 1.01 DESIGN-BUILD SUMMARY
- A. WORK INCLUDED IN 28 00 01 APPLIES TO DIVISION 28, ELECTRONIC SAFETY WORK TO PROVIDE MATERIALS, LABOR, TOOLS, PERMITS AND INCIDENTALS TO MAKE ELECTRONIC SAFETY SYSTEMS READY FOR OWNERS USE FOR PROPOSED PROJECT.
- 1.02 DESIGN-BUILD INSTRUCTIONS
- A. THIS DOCUMENT IS ISSUED TO GIVE BIDDERS A BASIS FOR PREPARING A PROPOSAL TO DESIGN AND INSTALL A COMPLETE ELECTRONIC SAFETY SYSTEM FOR THIS PROJECT.
- B. ALTERNATES TO THIS DOCUMENT MAY BE OFFERED AS A SEPARATE PROPOSAL.
- 1.03 DESIGN-BUILD APPROACH
- A. USE THIS SPECIFICATION FOR DESIGN/ENGINEERING REQUIREMENTS, WORKMANSHIP AND MATERIALS OR CONSTRUCTION, UTILIZE DESIGN-BUILD CONCEPT THROUGHOUT CONSTRUCTION PHASE OF PROJECT.
- B. INVESTIGATE AND BE APPRAISED OF APPLICABLE CODES, RULES, AND REGULATIONS AS ENFORCED BY AHA.
- C. VISIT THE SITE OF THE PROPOSED CONSTRUCTION, VERIFY AND INSPECT THE EXISTING SITE TO DETERMINE CONDITIONS THAT AFFECT THIS WORK.
- 1.04 DESIGN-BUILD CRITERIA
- A. RELATED WORK SPECIFIED ELSEWHERE: CONTENTS OF SECTION APPLY TO DIVISION 28, ELECTRONIC SAFETY SPECIFICATIONS. REQUIREMENTS OF SECTION ARE A MINIMUM FOR DIVISION 28, ELECTRONIC SAFETY SECTIONS, UNLESS OTHERWISE STATED IN EACH SECTION, IN WHICH CASE THAT SECTION'S REQUIREMENTS TAKE PRECEDENCE.
- B. FIRE ALARM DESIGN CRITERIA: REFER TO SECTION 28 31 00, FIRE DETECTION AND ALARM, FOR FIRE ALARM SYSTEM DESIGN CRITERIA.
- C. FIRE ALARM EQUIPMENT: REFER TO SECTION 28 31 00, FIRE DETECTION AND ALARM, FOR FIRE ALARM EQUIPMENT REQUIREMENTS.
- 1.05 SECTION INCLUDES
- A. WORK INCLUDED IN 28 00 01, ELECTRONIC SAFETY BASIC REQUIREMENTS APPLIES TO DIVISION 28, ELECTRONIC SAFETY WORK TO PROVIDE MATERIALS, LABOR, TOOLS, PERMITS, INCIDENTALS, AND OTHER SERVICES TO PROVIDE AND MAKE READY FOR OWNERS USE OF ELECTRONIC SAFETY SYSTEMS FOR PROPOSED PROJECT.
- B. CONTRACT DOCUMENTS INCLUDE, BUT ARE NOT LIMITED TO, SPECIFICATIONS INCLUDING DIVISION 00, PROCUREMENT AND CONTRACTING REQUIREMENTS AND DIVISION 01, GENERAL REQUIREMENTS, DRAWINGS, ADDENDA, OWNER/ARCHITECT AGREEMENT, AND OWNER/CONTRACTOR AGREEMENT. CONFIRM REQUIREMENTS BEFORE COMMENCEMENT OF WORK.
- C. DEFINITIONS:
1. PROVIDE: TO FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE.
 2. FURNISH: SUPPLY AND DELIVER TO PROJECT SITE, READY FOR UNPACKING, ASSEMBLY AND INSTALLATION.
 3. INSTALL: INCLUDES UNLOADING, UNPACKING, ASSEMBLING, ERECTING, INSTALLING, APPLYING, FINISHING, PROTECTING, CLEANING AND SIMILAR OPERATIONS AT PROJECT SITE AS REQUIRED TO COMPLETE ITEMS OF WORK FURNISHED.
 4. APPROVED OR APPROVED EQUIVALENT: TO POSSESS THE SAME PERFORMANCE QUALITIES AND CHARACTERISTICS AND FULFILL THE UTILITARIAN FUNCTION WITHOUT ANY DECREASE IN QUALITY, DURABILITY OR LONGEVITY, FOR EQUIPMENT/PRODUCTS DEFINED BY THE CONTRACTOR AS "EQUIVALENT." SUBSTITUTION REQUESTS MUST BE SUBMITTED TO ENGINEER FOR CONSIDERATION, IN ACCORDANCE WITH DIVISION 01, GENERAL REQUIREMENTS, AND APPROVED BY THE ENGINEER PRIOR TO SUBMITTING BIDS FOR SUBSTITUTED ITEMS.
 5. AUTHORITY HAVING JURISDICTION (AHA): INDICATES REVIEWING AUTHORITIES HAVING JURISDICTION, INCLUDING LOCAL FIRE MARSHAL, OWNERS INSURANCE UNDERWRITER, OWNERS AUTHORIZED REPRESENTATIVE, AND OTHER REVIEWING ENTITY WHOSE APPROVAL IS REQUIRED TO OBTAIN SYSTEMS ACCEPTANCE.
- 1.06 RELATED SECTIONS
- A. CONTENTS OF SECTION APPLY TO DIVISION 28, ELECTRONIC SAFETY CONTRACT DOCUMENTS.
- B. RELATED WORK:
1. ADDITIONAL CONDITIONS APPLY TO THIS SECTION INCLUDING, BUT NOT LIMITED TO:
- A. SPECIFICATIONS INCLUDING DIVISION 00, PROCUREMENT AND CONTRACTING REQUIREMENTS AND DIVISION 01, GENERAL REQUIREMENTS.
- B. DRAWINGS
- C. ADDENDA
- D. OWNER/ARCHITECT AGREEMENT
- E. OWNER/CONTRACTOR AGREEMENT
- F. CODES, STANDARDS, PUBLIC ORDINANCES AND PERMITS
- C. CONTENTS OF DIVISION 26, ELECTRICAL, APPLY TO THIS SECTION.
- 1.07 REFERENCES AND STANDARDS
- A. REFERENCES AND STANDARDS PER DIVISION 00, PROCUREMENT AND CONTRACTING REQUIREMENTS AND DIVISION 01, GENERAL REQUIREMENTS, INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS AND THOSE LISTED IN THIS SECTION.
- B. CODES TO INCLUDE LATEST ADOPTED EDITIONS, INCLUDING CURRENT AMENDMENTS, SUPPLEMENTS AND LOCAL JURISDICTION REQUIREMENTS IN EFFECT AS OF THE DATE OF THE CONTRACT DOCUMENTS, OF/FROM:
1. STATE OF CALIFORNIA:
- A. CBC - CALIFORNIA BUILDING CODE
- B. CEC - CALIFORNIA ELECTRICAL CODE
- C. CEC T24 - CALIFORNIA ENERGY CODE TITLE 24
- D. CPC - CALIFORNIA FIRE CODE
- E. CMC - CALIFORNIA MECHANICAL CODE
- F. CPC - CALIFORNIA PLUMBING CODE
- G. CSFM - CALIFORNIA STATE FIRE MARSHAL
- C. REFERENCE STANDARDS AND GUIDELINES INCLUDE BUT ARE NOT LIMITED TO THE LATEST ADOPTED EDITIONS FROM:
1. ABA - ARCHITECTURAL BARRIERS ACT
 2. ADA - AMERICANS WITH DISABILITIES ACT
 3. ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE
 4. ASCE - AMERICAN SOCIETY OF CIVIL ENGINEERS
 5. ASHRAE - AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS
 6. ASHRAE GUIDELINE 0, THE COMMISSIONING PROCESS
 7. ASME - AMERICAN SOCIETY OF MECHANICAL ENGINEERS
 8. ASTM - ASTM INTERNATIONAL
 9. CFR - CODE OF FEDERAL REGULATIONS
 10. EPA - ENVIRONMENTAL PROTECTION AGENCY
 11. ETL - ELECTRICAL TESTING LABORATORIES
 12. FM - FM GLOBAL
 13. ISO - INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
 14. NEC - NATIONAL ELECTRICAL CODE
 15. NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
 16. NFPA - NATIONAL FIRE PROTECTION ASSOCIATION
 17. OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
 18. SMACNA - SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION
 19. UL - UNDERWRITERS LABORATORIES INC.
- D. SEE DIVISION 28, ELECTRONIC SAFETY INDIVIDUAL SECTIONS FOR ADDITIONAL REFERENCES.

- 1.08 SUBMITTALS
- A. SEE DIVISION 01, GENERAL REQUIREMENTS FOR SUBMITTAL PROCEDURES.
- B. PROVIDE DRAWINGS IN FORMAT AND SOFTWARE RELEASE EQUAL TO THE DESIGN DOCUMENTS. DRAWINGS TO BE THE SAME SHEET SIZE AND SCALE AS THE CONTRACT DOCUMENTS.
- C. "NO EXCEPTION TAKEN" CONSTITUTES THAT REVIEW IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH INFORMATION GIVEN. ANY ACTION IS SUBJECT TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR THE DIMENSION, QUANTITY AND WILL CONFIRM AND CORRELATE AT THE JOB SITE, FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF THE WORK WITH THAT OF ALL OTHER TRADES, AND THE SATISFACTORY PERFORMANCE OF THE WORK.
- D. PROVIDE PRODUCT SUBMITTALS AND SHOP DRAWINGS IN ELECTRONIC FORMAT ONLY. ELECTRONIC FORMAT MUST BE SUBMITTED VIA ZIP FILE VIA E-MAIL. FOR ELECTRONIC FORMAT, PROVIDE ONE FILE PER DIVISION CONTAINING ONE BOOKMARKED PDF FILE WITH E1 BOOKMARK CORRESPONDING TO EACH SPECIFICATION SECTION. ARRANGE BOOKMARKS IN ASCENDING ORDER OF SPECIFICATION SECTION NUMBER. INDIVIDUAL SUBMITTALS SENT PIECEMEAL IN A PER SPECIFICATION SECTION METHOD WILL BE RETURNED WITHOUT REVIEW OR COMMENT. COPY ARCHITECT ON ALL TRANSMISSIONS/SUBMISSIONS.
- E. PRODUCT DATA: PROVIDE MANUFACTURERS DESCRIPTIVE LITERATURE FOR PRODUCTS SPECIFIED IN DIVISION 28, ELECTRONIC SAFETY SECTIONS.
- F. IDENTIFY/MARK EACH SUBMITTAL IN DETAIL. NOTE WHAT DIFFERENCE, IF ANY, EXIST BETWEEN THE SUBMITTED ITEM AND THE SPECIFIED ITEM. FAILURE TO IDENTIFY THE DIFFERENCES WILL BE CONSIDERED CAUSE FOR DISAPPROVAL. IF DIFFERENCES ARE NOT IDENTIFIED AND/OR NOT DISCOVERED DURING THE SUBMITTAL REVIEW PROCESS, CONTRACTOR REMAINS RESPONSIBLE FOR PROVIDING EQUIPMENT AND MATERIALS THAT MEET THE SPECIFICATIONS AND DRAWINGS.
- G. LABEL SUBMITTALS TO MATCH NUMBERING/REFERENCES AS SHOWN IN CONTRACT DOCUMENTS. HIGHLIGHT AND LABEL APPLICABLE INFORMATION TO INDIVIDUAL EQUIPMENT OR CROSS OUT/REMOVE EXTRANEOUS DATA NOT APPLICABLE TO SUBMITTED MODEL. CLEARLY NOTE OPTIONS AND ACCESSORIES TO BE PROVIDED, INCLUDING FIELD INSTALLED ITEMS. HIGHLIGHT CONNECTIONS BY/TO OTHER TRADES.
- H. INCLUDE TECHNICAL DATA, INSTALLATION INSTRUCTIONS AND DIMENSIONED DRAWINGS FOR PRODUCTS, EQUIPMENT AND DEVICES INSTALLED, FURNISHED OR PROVIDED. REFERENCE INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SPECIFICATION SECTIONS FOR SPECIFIC ITEMS REQUIRED IN PRODUCT DATA SUBMITTAL OUTSIDE OF THESE REQUIREMENTS.
- I. SEE DIVISION 28, ELECTRONIC SAFETY INDIVIDUAL SECTIONS FOR ADDITIONAL SUBMITTAL REQUIREMENTS OUTSIDE OF THESE REQUIREMENTS.
- J. MAXIMUM OF TWO REVIEWS OF COMPLETE SUBMITTAL PACKAGE. ARRANGE FOR ADDITIONAL REVIEWS AND/OR EARLY REVIEW OF LONG-LEAD ITEMS. BEAR COSTS OF ADDITIONAL REVIEWS AT ENGINEER'S HOURLY RATES. INCOMPLETE SUBMITTAL PACKAGES/SUBMITTALS WILL BE RETURNED TO CONTRACTOR WITHOUT REVIEW.
- K. RESUBMISSION REQUIREMENTS: MAKE CORRECTIONS OR CHANGES IN SUBMITTALS AS REQUIRED, AND IN CONSIDERATION OF ENGINEER'S COMMENTS, IDENTIFY ENGINEER'S COMMENTS AND PROVIDE AN INDIVIDUAL RESPONSE TO EACH OF THE ENGINEER'S COMMENTS. CLOUD CHANGES IN THE SUBMITTALS AND FURTHER IDENTIFY CHANGES WHICH ARE IN RESPONSE TO ENGINEER'S COMMENTS.
- L. STRUCTURAL/SEISMIC: PROVIDE WEIGHTS, DIMENSIONS, MOUNTING REQUIREMENTS AND LIKE INFORMATION REQUIRED FOR FOUNDATION DESIGN AND SUPPORT. INDICATE MANUFACTURER'S WEIGHTS AND DIMENSIONS. PROVIDE DIMENSIONS TO MEET ASCE 7-16 REQUIREMENTS FOR NON-STRUCTURAL COMPONENTS. PROVIDE ENGINEERED SEISMIC DRAWINGS AND EQUIPMENT SEISMIC CERTIFICATION. EQUIPMENT IMPORTANCE FACTOR AS SPECIFIED IN DIVISION 01 AND IN STRUCTURAL DOCUMENTS.
- M. TRADE COORDINATION: INCLUDE PHYSICAL CHARACTERISTICS, ELECTRICAL CHARACTERISTICS, DEVICE LAYOUT PLANS, WIRING DIAGRAMS, AND CONNECTIONS AS REQUIRED PER DIVISION 28, ELECTRONIC SAFETY CONTRACT DOCUMENTS, FOR EQUIPMENT WITH ELECTRICAL CONNECTIONS. FURNISH COPY OF APPROVED SUBMITTAL FOR INCLUSION IN DIVISION 26, ELECTRICAL, AND DIVISION 28, ELECTRONIC SAFETY SUBMITTALS.
- K. MAKE PROVISIONS FOR OPENINGS IN BUILDING FOR ADMITTANCE OF EQUIPMENT PRIOR TO START OF CONSTRUCTION OR ORDERING OF EQUIPMENT.
- L. SUBSTITUTIONS AND VARIATION FROM BASIS OF DESIGN:
1. THE BASIS OF DESIGN DESIGNATED PRODUCT ESTABLISHES THE QUALITIES AND CHARACTERISTICS FOR THE EVALUATION OF ANY COMPARABLE PRODUCTS BY OTHER LISTED ACCEPTABLE MANUFACTURERS IF INCLUDED IN THIS SPECIFICATION OR INCLUDED IN AN APPROVED SUBSTITUTION REQUEST AS JUDGED BY THE DESIGN PROFESSIONAL.
 2. IF SUBSTITUTIONS AND/OR EQUIPMENT/PRODUCTS ARE BEING PROPOSED, IT IS THE RESPONSIBILITY OF PARTIES CONCERNED, INVOLVED IN, AND FURNISHING THE SUBSTITUTE AND/OR EQUIPMENT TO VERIFY AND COMPARE THE CHARACTERISTICS AND REQUIREMENTS OF THAT FURNISHED TO THAT SPECIFIED AND/OR SHOWN. IF GREATER CAPACITY AND/OR GREATER MATERIALS AND/OR MORE LABOR ARE REQUIRED FOR THE SUBSTITUTION, CIRCUITRY OR CONNECTIONS THAN FOR THE ITEM SPECIFIED AND PROVIDED FOR, THEN PROVIDE COMPENSATION FOR ADDITIONAL CHARGES REQUIRED FOR THE PROPER ROUGH-IN, CIRCUITRY AND CONNECTIONS FOR THE EQUIPMENT BEING FURNISHED. NO ADDITIONAL CHARGES ABOVE THE BASE BID, INCLUDING RESULTING CHARGES FOR WORK PERFORMED UNDER OTHER DIVISIONS, WILL BE ALLOWED FOR SUCH REVISIONS. COORDINATE WITH THE REQUIREMENTS OF "SUBMITTALS" FOR ANY PRODUCT MARKED "OR APPROVED EQUIVALENT." A SUBSTITUTION REQUEST MUST BE SUBMITTED TO ENGINEER FOR APPROVAL, PRIOR TO PURCHASE, DELIVERY OR INSTALLATION.
 3. WHERE MANUFACTURER EQUIPMENT OR MODEL NUMBERS ARE INDICATED WITH NO EXCEPTIONS, SUBSTITUTIONS WILL BE REJECTED.

2. PROVIDE COORDINATED SHOP DRAWINGS WHICH INCLUDE PHYSICAL CHARACTERISTICS OF ALL SYSTEMS, DEVICE LAYOUT PLANS, AND CONTROL WIRING DIAGRAMS. REFERENCE INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SPECIFICATION SECTIONS FOR ADDITIONAL REQUIREMENTS FOR SHOP DRAWINGS OUTSIDE OF THESE REQUIREMENTS.
3. PROVIDE SHOP DRAWINGS INDICATING ACCESS PANEL LOCATIONS, SIZE AND ELEVATION FOR APPROVAL PRIOR TO INSTALLATION.
- N. SAMPLES: PROVIDE SAMPLES WHEN REQUESTED BY INDIVIDUAL SECTIONS.
- O. RESUBMISSION REQUIREMENTS:
1. MAKE ANY CORRECTIONS OR CHANGE IN SUBMITTALS WHEN REQUIRED BY ARCHITECT/ENGINEER REVIEW COMMENTS. PROVIDE SUBMITTALS AS SPECIFIED. THE ENGINEER WILL NOT BE REQUIRED TO EDIT AND/OR INTERPRET THE CONTRACTORS SUBMITTALS. INDICATE CHANGES FOR THE RESUBMITTAL IN A COVER LETTER WITH REFERENCE TO PAGE(S) CHANGED AND REFERENCE RESPONSE TO COMMENT. CLOUD CHANGES IN THE SUBMITTALS.
 2. RESUBMIT FOR REVIEW UNTIL REVIEW INDICATES NO EXCEPTION TAKEN OR "MAKE CORRECTIONS NOTED."
- P. WHEN SUBMITTING DRAWINGS FOR ENGINEER'S REVIEW, CLEARLY INDICATE CHANGES ON DRAWINGS AND "CLOUD" ANY REVISIONS. SUBMIT A LIST DESCRIBING CHANGES.
- P. OPERATION AND MAINTENANCE MANUALS, OWNER'S INSTRUCTIONS:
1. REFERENCE INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SPECIFICATION SECTIONS FOR ADDITIONAL REQUIREMENTS FOR OPERATIONS AND MAINTENANCE MANUALS.
 2. SUBMIT, AT ONE TIME, ELECTRONIC FILES (PDF FORMAT) OF MANUFACTURER'S OPERATION AND MAINTENANCE INSTRUCTION MANUALS AND PARTS LISTS FOR EQUIPMENT OR ITEMS REQUIRING SERVICE. SUBMIT DATA WHEN WORK IS SUBSTANTIALLY COMPLETE AND IN SAME SYSTEM FORMAT AS SUBMITTALS. INCLUDE NAME AND LOCATION OF SOURCE PARTS AND SERVICE FOR EACH PIECE OF EQUIPMENT.
- A. INCLUDE COPY OF APPROVED SUBMITTAL DATA ALONG WITH SUBMITTAL REVIEW LETTERS RECEIVED FROM ENGINEER. DATA TO CLEARLY INDICATE INSTALLED EQUIPMENT MODEL NUMBERS, DELETE OR CROSS OUT DATA PERTAINING TO OTHER EQUIPMENT NOT SPECIFIC TO THIS PROJECT.
- A. INCLUDE COPY OF MANUFACTURER'S STANDARD OPERATIONS AND MAINTENANCE FOR EQUIPMENT. AT FRONT OF EACH TAB, PROVIDE ROUTINE MAINTENANCE DOCUMENTATION FOR SCHEDULED EQUIPMENT. INCLUDE MANUFACTURER'S RECOMMENDED MAINTENANCE SCHEDULE AND HIGH-GRADE MAINTENANCE MANUALS. PROVIDE ROUTINE MAINTENANCE PARTS, INCLUDING PART NUMBERS, SIZES AND QUANTITIES RELEVANT TO EACH PIECE OF EQUIPMENT.
- C. INCLUDE COPY OF COMPLETE PARTS LIST FOR EQUIPMENT. INCLUDE AVAILABLE EXPLODED VIEWS OF ASSEMBLIES AND SUB-ASSEMBLIES.
- D. INCLUDE WARRANTY PER DIVISION 00, PROCUREMENT AND CONTRACTING REQUIREMENTS, DIVISION 01, GENERAL REQUIREMENTS, SECTION 28 00 01, ELECTRONIC SAFETY BASIC REQUIREMENTS AND INDIVIDUAL SECTIONS.
- E. INCLUDE PRODUCT CERTIFICATES OF WARRANTIES AND GUARANTEES.
- F. INCLUDE COPY OF START-UP AND TEST REPORTS SPECIFIC TO EACH PIECE OF EQUIPMENT.
- G. INCLUDE COMMISSIONING REPORTS.
- H. ENGINEER WILL RETURN INCOMPLETE DOCUMENTATION WITHOUT REVIEW.
- I. ENGINEER WILL PROVIDE ONE SET OF REVIEW COMMENTS IN SUBMITTAL REVIEW FORMAT. ARRANGE FOR ADDITIONAL REVIEWS, BEAR COSTS FOR ADDITIONAL REVIEWS AT ENGINEER'S HOURLY RATES.
3. THOROUGHLY INSTRUCT OWNER IN PROPER OPERATION OF EQUIPMENT AND SYSTEMS. WHERE NOTED IN INDIVIDUAL SECTIONS, TRAINING WILL INCLUDE CLASSROOM INSTRUCTION WITH APPLICABLE TRAINING AIDS AND SYSTEMS DEMONSTRATIONS. FIELD INSTRUCTION PER SECTION 28 00 01, ELECTRONIC SAFETY BASIC REQUIREMENTS ARTICLE TITLE "DEMONSTRATION."
4. COPIES OF CERTIFICATES OF CODE AUTHORITY INSPECTIONS, ACCEPTANCE, CODE REQUIRED ACCEPTANCE TESTS, LETTER OF CONFORMANCE AND OTHER SPECIAL GUARANTEES, CERTIFICATES OF WARRANTIES, SPECIFIED ELSEWHERE OR INDICATED ON DRAWINGS.
- Q. RECORD DRAWINGS:
1. MAINTAIN AT SITE AT LEAST ONE SET OF DRAWINGS FOR RECORDING "AS-CONSTRUCTED" CONDITIONS. INDICATE ON DRAWINGS CHANGES TO ORIGINAL DOCUMENTS BY REFERENCING REVISION DOCUMENT, AND INCLUDE BURIED ELEMENTS AND LOCATION OF CONCEALED ITEMS. INCLUDE ITEMS CHANGED BY ADDENDA, FIELD ORDERS, SUPPLEMENTAL INSTRUCTIONS, AND CONSTRUCTED CONDITIONS.
 2. RECORD DRAWINGS ARE TO INCLUDE EQUIPMENT LOCATIONS, CALCULATIONS, AND SCHEDULES THAT ACCURATELY REFLECT "AS CONSTRUCTED OR INSTALLED" FOR PROJECT.
 3. AT COMPLETION OF PROJECT, INPUT CHANGES TO ORIGINAL PROJECT CAD DRAWINGS AND MAKE ONE SET OF BLACK-LINE DRAWINGS CREATED FROM CAD FILES IN VERSION/RELEASE EQUAL TO CONTRACT DRAWINGS. SUBMIT CAD FILES AND DRAWINGS UPON SUBSTANTIAL COMPLETION.
 4. SEE DIVISION 28, ELECTRONIC SAFETY INDIVIDUAL SECTIONS FOR ADDITIONAL ITEMS TO INCLUDE IN RECORD DRAWINGS.

- 1.09 QUALITY ASSURANCE
- A. REGULATORY REQUIREMENTS: WORK AND MATERIALS INSTALLED TO CONFORM WITH ALL LOCAL, STATE AND FEDERAL CODES, AND OTHER APPLICABLE LAWS AND REGULATIONS. WHERE CODE REQUIREMENTS ARE AT VARIANCE WITH CONTRACT DOCUMENTS, MEET CODE REQUIREMENTS AS A MINIMUM REQUIREMENT AND INCLUDE COSTS NECESSARY TO MEET THESE IN CONTRACT. MACHINERY AND EQUIPMENT ARE TO COMPLY WITH OSHA REQUIREMENTS, AS CURRENTLY REVISED AND INTERPRETED FOR EQUIPMENT MANUFACTURER INFORMATION PROVIDED PER MANUFACTURER RECOMMENDATIONS.
- B. WHENEVER THIS SPECIFICATION CALLS FOR MATERIAL, WORKMANSHIP, ARRANGEMENT OR CONSTRUCTION OF HIGHER QUALITY AND/OR CAPACITY THAN THAT REQUIRED BY GOVERNING CODES, HIGHER QUALITY AND/OR CAPACITY TAKE PRECEDENCE.
- C. DRAWINGS ARE INTENDED TO BE DIAGRAMMATIC AND REFLECT THE BASIS OF DESIGN MANUFACTURER'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT DIMENSIONS, OR DETAILS OF EQUIPMENT OR PROPOSED SYSTEMS LAYOUT. VERIFY ACTUAL DIMENSIONS OF SYSTEMS (E.G. CABLE TRAY, PANELS, ETC.) AND EQUIPMENT PROPOSED TO ASSURE THAT SYSTEMS AND EQUIPMENT WILL FIT IN AVAILABLE SPACE. CONTRACTOR IS RESPONSIBLE FOR DESIGN AND CONSTRUCTION COSTS INCURRED FOR EQUIPMENT OTHER THAN BASIS OF DESIGN, INCLUDING, BUT NOT LIMITED TO, ARCHITECTURAL, STRUCTURAL, ELECTRICAL, HVAC, FIRE SPRINKLER, AND PLUMBING SYSTEMS.
- D. MANUFACTURER'S INSTRUCTIONS: FOLLOW MANUFACTURER'S WRITTEN INSTRUCTIONS. IF IN CONFLICT WITH CONTRACT DOCUMENTS, OBTAIN CLARIFICATION. NOTIFY ENGINEER/ARCHITECT, IN WRITING, BEFORE STARTING WORK.
- E. ITEMS SHOWN ON DRAWINGS ARE NOT NECESSARILY INCLUDED IN SPECIFICATIONS OR VICE VERSA. CONFIRM REQUIREMENTS IN ALL CONTRACT DOCUMENTS.
- F. PROVIDE PRODUCTS THAT ARE UL LISTED.

- 1.10 WARRANTY
- A. PROVIDE WRITTEN WARRANTY COVERING THE WORK FOR A PERIOD OF ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION IN ACCORDANCE WITH DIVISION 00, PROCUREMENT AND CONTRACTING REQUIREMENTS AND DIVISION 01, GENERAL REQUIREMENTS, SECTION 28 00 01, ELECTRONIC SAFETY BASIC REQUIREMENTS AND INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS.
- B. SECTIONS UNDER THIS DIVISION CAN REQUIRE ADDITIONAL AND/OR EXTENDED WARRANTIES THAT APPLY BEYOND BASIC WARRANTY UNDER DIVISION 01, GENERAL REQUIREMENTS AND THE GENERAL CONDITIONS. CONFIRM REQUIREMENTS IN ALL CONTRACT DOCUMENTS.
- 1.11 COORDINATION DOCUMENTS
- A. PRIOR TO CONSTRUCTION, PREPARE AND SUBMIT COORDINATED LAYOUT DRAWINGS (COMPOSITE DRAWINGS), TO COORDINATE INSTALLATION AND LOCATION OF DUCTWORK, PIPING, FIRE SPRINKLERS, PLUMBING, LIGHTS, AND ELECTRICAL SERVICES. COMPOSITE DRAWINGS SHOW SERVICES ON SINGLE SHEET. KEY DRAWINGS TO STRUCTURAL COLUMN IDENTIFICATION SYSTEM. PRIOR TO COMPLETION OF DRAWINGS, COORDINATE PROPOSED INSTALLATION WITH ARCHITECTURAL AND STRUCTURAL REQUIREMENTS, AND OTHER TRADES, INCLUDING PLUMBING, HVAC, FIRE PROTECTION, ELECTRICAL, CEILING SUSPENSION, AND CEILING TILE SYSTEMS, ETC.), AND PROVIDE MAINTENANCE ACCESS REQUIREMENTS. COORDINATE WITH SUBMITTED ARCHITECTURAL SYSTEMS (I.E. ROOFING, CEILING, FINISHES) AND STRUCTURAL SYSTEMS AS SUBMITTED, INCLUDING FOOTINGS AND FOUNDATION. IDENTIFY ZONE OF INFLUENCE FROM FOOTINGS AND ENSURE SYSTEMS ARE NOT ROUTED WITHIN THE ZONE OF INFLUENCE.
- B. PREPARE DRAWINGS AS FOLLOWS:
1. DRAWINGS IN CAD FORMAT. CAD FORMAT RELEASE EQUAL TO DESIGN DOCUMENTS. DRAWINGS TO BE SAME SHEET SIZE AND SCALE AS CONTRACT DRAWINGS AND INDICATE LOCATION, SIZE AND ELEVATION ABOVE FINISHED FLOOR OF EQUIPMENT AND DISTRIBUTION SYSTEMS.
 2. REVIEW AND REVISE, AS NECESSARY, SECTION CUTS IN CONTRACT DRAWINGS AFTER VERIFICATION OF FIELD CONDITIONS.
 3. INDICATE FITTINGS, HANGERS, ACCESS PANELS, AND ELEVATION OF BOTTOM OF CABLE TRAY ABOVE FINISHED FLOOR.
 4. DRAWINGS TO INDICATE PROPOSED CEILING GRID AND LIGHTING LAYOUT AS SHOWN ON ELECTRICAL DRAWINGS AND ARCHITECTURAL REFLECTED CEILING DRAWINGS AND HVAC EQUIPMENT, DUCTWORK.
 5. INCORPORATE ADDENDA ITEMS AND CHANGE ORDERS.
 6. PROVIDE ADDITIONAL COORDINATION AS REQUESTED BY OTHER TRADES.
- C. ADVISE ARCHITECT IN EVENT CONFLICT OCCURS IN LOCATION OR CONNECTION OF EQUIPMENT. BEAR COSTS RESULTING FROM FAILURE TO PROPERLY COORDINATE INSTALLATION OR FAILURE TO ADVISE ARCHITECT OF CONFLICT.
- D. SUBMIT FINAL COORDINATION DRAWINGS WITH CHANGES AS RECORD DRAWINGS AT COMPLETION OF PROJECT.

- PART 2 - PRODUCTS
- 2.01 MANUFACTURERS
- A. ARTICLES, FIXTURES, AND EQUIPMENT OF A KIND TO BE STANDARD PRODUCT OF ONE MANUFACTURER, INCLUDING BUT NOT LIMITED TO PANELS, DEVICES AND EQUIPMENT UNLESS OTHERWISE SPECIFIED IN INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS.
- 2.02 STANDARDS OF MATERIALS AND WORKMANSHIP
- A. BASE CONTRACT UPON FURNISHING MATERIALS AS SPECIFIED, MATERIALS, EQUIPMENT, AND FIXTURES USED FOR CONSTRUCTION ARE TO BE NEW, LATEST PRODUCTS AS LISTED IN MANUFACTURER'S PRINTED CATALOG DATA AND ARE TO BE UL, ETL, OR FM LISTED AND LABELED OR BE APPROVED BY STATE, COUNTY, AND CITY AUTHORITIES PRIOR TO PROCUREMENT AND INSTALLATION.
- B. NAMES AND MANUFACTURER'S NAMES DENOTE CHARACTER AND QUALITY OF EQUIPMENT DESIRED AND ARE NOT TO BE CONSTRUED AS LIMITING COMPETITION.
- C. HAZARDOUS MATERIALS:
1. COMPLY WITH LOCAL, STATE OF CALIFORNIA, AND FEDERAL REGULATIONS RELATING TO HAZARDOUS MATERIALS.
 2. COMPLY WITH DIVISION 00, PROCUREMENT AND CONTRACTING REQUIREMENTS AND DIVISION 01, GENERAL REQUIREMENTS FOR THIS PROJECT RELATING TO HAZARDOUS MATERIALS.
 3. DO NOT USE ANY MATERIALS CONTAINING A HAZARDOUS SUBSTANCE. IF HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB. IMMEDIATELY NOTIFY OWNER AND ARCHITECT. HAZARDOUS MATERIALS WILL BE REMOVED BY OWNER UNDER SEPARATE CONTRACT.

- PART 3 - EXECUTION
- 3.01 ACCESSIBILITY AND INSTALLATION
- A. CONFIRM ACCESSIBILITY AND INSTALLATION REQUIREMENTS IN DIVISION 00, PROCUREMENT AND CONTRACTING REQUIREMENTS, DIVISION 01, GENERAL REQUIREMENTS, SECTION 28 00 01, ELECTRONIC SAFETY BASIC REQUIREMENTS AND INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS.
- B. INSTALL EQUIPMENT HAVING COMPONENTS REQUIRING ACCESS (I.E. DEVICES, EQUIPMENT, ELECTRICAL BOXES, PANELS, ETC.) SO THAT THEY MAY BE SERVICED, RESET, REPLACED OR/RELOCATED BY SERVICE PERSONNEL WITH NORMAL SERVICE TOOLS AND EQUIPMENT. DO NOT INSTALL EQUIPMENT IN OBVIOUS PASSAGeways, DOORWAYS, SCUTTLERS OR CRAWLSPACES WHICH WOULD IMPEDE OR BLOCK INTENDED USAGE.
- C. INSTALL EQUIPMENT AND PRODUCTS COMPLETE AS DIRECTED BY MANUFACTURER'S INSTALLATION INSTRUCTIONS. OBTAIN INSTALLATION INSTRUCTIONS AND REPAIR/RELOCATE/REPLACE BY SERVICE PERSONNEL WITH NORMAL SERVICE TOOLS AND EQUIPMENT. WHEN REQUIREMENTS OF INSTALLATION INSTRUCTIONS CONFLICT WITH CONTRACT DOCUMENTS, REQUEST CLARIFICATION FROM ARCHITECT PRIOR TO PROCEEDING WITH INSTALLATION. THIS INCLUDES PROPER INSTALLATION METHODS, SEQUENCING AND COORDINATION WITH OTHER TRADES AND DISCIPLINES.
- D. EARTHWORK
1. CONFIRM EARTHWORK REQUIREMENTS IN CONTRACT DOCUMENTS.
 2. IN ABSENCE OF SPECIFIC REQUIREMENTS, COMPLY WITH INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS AND THE FOLLOWING:
- A. PERFORM EXCAVATION, Dewatering, SHORING, BEDDING, AND BACKFILL REQUIRED FOR INSTALLATION OF WORK IN THIS DIVISION IN ACCORDANCE WITH RELATED EARTHWORK CONTRACT DOCUMENTS. IDENTIFY UTILITIES AND LOCATE EXISTING UTILITIES PRIOR TO EXCAVATION. REPAIR ANY WORK DAMAGED DURING EXCAVATION OR BACKFILLING.
- B. EXCAVATION: DO NOT EXCAVATE UNDER FOOTINGS, FOUNDATION BASES, OR RETAINING WALLS.
- C. PROVIDE PROTECTION OF UNDERGROUND SYSTEMS. REVIEW THE PROJECT GEOTECHNICAL REPORT FOR REFERENCES TO CORROSIVE OR DELETERIOUS SOILS WHICH WILL REDUCE THE PERFORMANCE OR SERVICE LIFE OF UNDERGROUND SYSTEMS MATERIALS.
- D. FIRESTOPPING:
1. CONFIRM FIRESTOPPING REQUIREMENTS IN DIVISION 07, THERMAL AND MOISTURE PROTECTION.
 2. IN ABSENCE OF SPECIFIC REQUIREMENTS, COMPLY WITH INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS AND COORDINATE LOCATION AND PROTECTION LEVEL OF FIRE AND/OR SMOKE RATED WALLS, CEILING, AND FLOORS. WHEN THESE ASSEMBLIES ARE PENETRATED, SEAL AROUND PENETRATIONS. REPAIR AND/OR REPLACE PENETRATIONS WITH AN EQUAL OR BETTER MATERIAL. INSTALL FIRESTOPPING MATERIAL, COMPLETE AS DIRECTED BY MANUFACTURER'S INSTALLATION INSTRUCTIONS. MEET REQUIREMENTS OF ASTM E814, STANDARD TEST METHOD FOR FIRE TESTS OF THROUGH-PENETRATION FIRE STOPS.
- F. PLENUMS: IN PLENUMS, PROVIDE PLENUM RATED MATERIALS THAT MEET THE REQUIREMENTS TO BE INSTALLED IN PLENUMS.
- 3.02 SEISMIC CONTROL
- A. CONFIRM SEISMIC CONTROL REQUIREMENTS IN DIVISION 01, GENERAL REQUIREMENTS, STRUCTURAL DOCUMENTS, AND INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS.

- B. EARTHQUAKE RESISTANCE DESIGN FOR ELECTRONIC SAFETY (DIVISION 28) SYSTEMS AND EQUIPMENT TO CONFORM TO REGULATIONS OF JURISDICTION HAVING AUTHORITY.
- C. RESTRAINTS WHICH ARE USED TO PREVENT DISRUPTION OF FUNCTION OF PIECE OF EQUIPMENT BECAUSE OF APPLICATION OF HORIZONTAL FORCE TO BE SUCH THAT FORCES ARE CARRIED TO FRAME OF STRUCTURE IN SUCH A WAY THAT FRAME WILL NOT BE DEFLECTED WHEN APPARATUS IS ATTACHED TO A MOUNTING BASE AND EQUIPMENT PAD, OR TO STRUCTURE IN NORMAL WAY. UTILIZING ATTACHMENTS PROVIDED, SECURE EQUIPMENT AND DISTRIBUTION SYSTEMS TO WITHSTAND A FORCE IN DIRECTION EQUAL TO VALUE DERIVED BY JURISDICTION HAVING AUTHORITY.
- D. PROVIDE MEANS TO PROHIBIT EXCESSIVE MOTION OF SAFETY EQUIPMENT DURING EARTHQUAKE.
- 3.03 REVIEW AND OBSERVATION
- A. CONFIRM REVIEW AND OBSERVATION REQUIREMENTS IN DIVISION 00, PROCUREMENT AND CONTRACTING REQUIREMENTS, DIVISION 01, GENERAL REQUIREMENTS, SECTION 28 00 01, ELECTRONIC SAFETY BASIC REQUIREMENTS AND INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS.
- B. NOTIFY ARCHITECT, IN WRITING, AT FOLLOWING STAGES OF CONSTRUCTION SO THAT THEY MAY, AT THEIR OPTION, VISIT SITE FOR REVIEW AND CONSTRUCTION OBSERVATION:
1. UNDERGROUND CONDUIT AND WIRE INSTALLATION PRIOR TO BACKFILLING.
 2. PRIOR TO COVERING WALLS WHEN ELECTRONIC SAFETY SYSTEMS INSTALLATION IS STARTED.
 3. PRIOR TO CEILING COVER/INSTALLATION.
 4. WHEN MAIN SYSTEMS, OR PORTIONS OF, ARE BEING TESTED AND READY FOR INSPECTION BY AHA.
 5. FINAL PUNCH-COSTS INCURRED BY ADDITIONAL TRIPS REQUIRED DUE TO INCOMPLETE SYSTEMS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

- 3.04 CUTTING AND PATCHING
- A. CONFIRM CUTTING AND PATCHING REQUIREMENTS IN DIVISION 00, PROCUREMENT AND CONTRACTING REQUIREMENTS AND DIVISION 01, GENERAL REQUIREMENTS.
- B. IN ABSENCE OF SPECIFIC REQUIREMENTS, COMPLY WITH INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS AND THE FOLLOWING:
1. PROPOSED FLOOR CUTTING/CORNER DRILLING/SLEEVE LOCATIONS TO BE APPROVED BY PROJECT STRUCTURAL ENGINEER. SUBMIT PROPOSED LOCATIONS TO ARCHITECT/PROJECT STRUCTURAL ENGINEER. WHERE SLABS ARE OF POST TENSION CONSTRUCTION, PERFORM A X-RAY SCAN OF PROPOSED PENETRATION LOCATIONS AND SUBMIT SCAN RESULTS INCLUDING PROPOSED PENETRATION LOCATIONS TO PROJECT STRUCTURAL ENGINEER/ARCHITECT FOR APPROVAL. WHERE SLABS ARE OF WAFFLE TYPE CONSTRUCTION, SHOW COLUMN CAP EXTENT AND CELL LOCATIONS RELATIVE TO PROPOSED PENETRATIONS(S).
 2. CUTTING, PATCHING AND REPAIRING FOR WORK SPECIFIED IN THIS DIVISION INCLUDING PLASTERING, MASONRY WORK, CONCRETE WORK, CARPENTRY WORK, AND PAINTING INCLUDED UNDER THIS SECTION WILL BE PERFORMED BY SKILLED CRAFTSMEN OF EACH RESPECTIVE TRADE IN CONFORMANCE WITH APPROPRIATE DIVISION OF WORK.
 3. ADDITIONAL OPENINGS REQUIRED IN BUILDINGS CONSTRUCTION TO BE MADE BY DRILLING OR CUTTING. USE OF JACK HAMMER IS SPECIFICALLY PROHIBITED. PATCH OPENINGS IN AND THROUGH CONCRETE AND MASONRY WITH GROUT.
 4. RESTORE NEW OR EXISTING WORK THAT IS CUT AND/OR DAMAGED TO ORIGINAL CONDITION. PATCH AND REPAIR SPECIFICALLY WHERE EXISTING ITEMS HAVE BEEN REMOVED. THIS INCLUDES REPAIRING AND PAINTING WALLS, CEILING, ETC. WHERE EXISTING CONDUIT AND DEVICES ARE REMOVED AS PART OF THIS PROJECT. WHERE ALTERATIONS DISTURB LAWS, FAVES, AND WALLS, REPAIR, REFINISH AND LEAVE IN CONDITION MATCHING EXISTING PRIOR TO COMMENCEMENT OF WORK.
 5. ADDITIONAL WORK REQUIRED BY LACK OF PROPER COORDINATION WILL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- 3.05 EQUIPMENT SELECTION AND SERVICEABILITY
- A. REPLACE OR REPOSITION EQUIPMENT WHICH IS TOO LARGE OR LOCATED INCORRECTLY TO PERMIT SERVICING, AT NO ADDITIONAL COST TO OWNER.
- 3.06 DELIVERY, STORAGE AND HANDLING
- A. CONFIRM REQUIREMENTS IN DIVISION 00, PROCUREMENT AND CONTRACTING REQUIREMENTS AND DIVISION 01, GENERAL REQUIREMENTS.
- B. IN ABSENCE OF SPECIFIC REQUIREMENTS, COMPLY WITH THE INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS AND THE FOLLOWING:
1. HANDLE MATERIALS DELIVERED TO PROJECT SITE WITH CARE TO AVOID DAMAGE. STORE MATERIALS ON SITE INSIDE BUILDING OR PROTECTED FROM WEATHER, DIRT AND CONSTRUCTION DUST.
 2. PROTECT EQUIPMENT AND PIPE TO AVOID DAMAGE. CLOSE CONDUIT OPENINGS WITH CAPS OR PLUGS. KEEP MOTORS AND BEARINGS IN WATERTIGHT AND DUSTPROOF COVERS DURING ENTIRE COURSE OF INSTALLATION.
 3. PROTECT DEVICES, PANELS AND SIMILAR ITEMS UNTIL IN SERVICE.
 4. PRODUCTS AND/OR MATERIALS THAT BECOME DAMAGED DUE TO WATER, DIRT AND/OR DUST AS A RESULT OF IMPROPER STORAGE TO BE RE-REPAIRED BEFORE INSTALLATION.

- 3.07 DEMONSTRATION
- A. CONFIRM DEMONSTRATION REQUIREMENTS IN DIVISION 00, PROCUREMENT AND CONTRACTING REQUIREMENTS AND DIVISION 01, GENERAL REQUIREMENTS, SECTION 28 00 01, ELECTRONIC SAFETY BASIC REQUIREMENTS AND INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS.
- B. UPON COMPLETION OF WORK AND ADJUSTMENT OF EQUIPMENT, TEST SYSTEMS, DEMONSTRATE TO OWNERS AUTHORIZED REPRESENTATIVE, ARCHITECT AND ENGINEER THAT EQUIPMENT FURNISHED AND INSTALLED OR CONNECTED UNDER PROVISIONS OF THESE SPECIFICATIONS FUNCTIONS IN MANNER REQUIRED. PROVIDE FIELD INSTRUCTION TO OWNERS STAFF AS SPECIFIED IN DIVISION 01, GENERAL REQUIREMENTS, SECTION 28 00 01, ELECTRONIC SAFETY BASIC REQUIREMENTS AND INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS.
- C. MANUFACTURER'S FIELD SERVICES: FURNISH SERVICES OF A QUALIFIED FACTORY CERTIFIED TECHNICIAN AT TIME APPROVED BY OWNER, TO INSTRUCT MAINTENANCE PERSONNEL, CORRECT DEFECTS OR DEFICIENCIES, AND DEMONSTRATE TO SATISFACTION OF OWNER THAT ENTIRE SYSTEM IS OPERATING IN SATISFACTORY MANNER AND COMPLIES WITH REQUIREMENTS OF OTHER TRADES THAT MAY BE REQUIRED TO COMPLETE WORK. COMPLETE INSTRUCTION AND DEMONSTRATION PRIOR TO FINAL JOB SITE OBSERVATIONS.
- 3.08 CLEANING
- A. CONFIRM CLEANING REQUIREMENTS IN DIVISION 00, PROCUREMENT AND CONTRACTING REQUIREMENTS, DIVISION 01, GENERAL REQUIREMENTS, SECTION 28 00 01, ELECTRONIC SAFETY BASIC REQUIREMENTS AND INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS.
- B. UPON COMPLETION OF INSTALLATION, THOROUGHLY CLEAN EXPOSED PORTIONS OF EQUIPMENT, REMOVING TEMPORARY LABELS AND TRACES OF FOREIGN SUBSTANCES. THROUGHOUT WORK, REMOVE CONSTRUCTION DEBRIS AND SURPLUS MATERIALS ACCUMULATED DURING WORK.
- 3.09 INSTALLATION
- A. CONFIRM INSTALLATION REQUIREMENTS IN DIVISION 00, PROCUREMENT AND CONTRACTING REQUIREMENTS, DIVISION 01, GENERAL REQUIREMENTS, SECTION 28 00 01, ELECTRONIC SAFETY BASIC REQUIREMENTS AND INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS.
- B. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS, PLUMB AND LEVEL AND FIRMLY ANCHORED TO BUILDING STRUCTURE. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES.
- C. START UP EQUIPMENT, IN ACCORDANCE WITH MANUFACTURER'S START-UP INSTRUCTIONS, AND IN PRESENCE OF MANUFACTURER'S REPRESENTATIVE, TEST CONTROLS AND DEMONSTRATE COMPLIANCE WITH REQUIREMENTS. REPLACE DAMAGED OR MALFUNCTIONING CONTROLS AND EQUIPMENT.
- D. PROVIDE MISCELLANEOUS SUPPORTS REQUIRED FOR INSTALLATION OF EQUIPMENT, CONDUIT AND WIRING.
- 3.10 PAINTING
- A. CONFIRM PAINTING REQUIREMENTS IN DIVISION 01, GENERAL REQUIREMENTS AND DIVISION 09, FINISHES.
- 3.11 DEMOLITION
- A. CONFIRM REQUIREMENTS IN DIVISION 01, GENERAL REQUIREMENTS AND DIVISION 02, EXISTING CONDITIONS.
- B. IN THE ABSENCE OF SPECIFIC REQUIREMENTS, COMPLY WITH INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS AND THE FOLLOWING:
1. SCOPE:
- A. IT IS THE INTENT OF THESE DOCUMENTS TO PROVIDE NECESSARY INFORMATION AND ADJUSTMENTS TO ELECTRONIC SAFETY SYSTEM REQUIRED TO MEET CODE, AND ACCOMMODATE INSTALLATION OF NEW WORK.
- B. EXISTING CONDITIONS: DETERMINE EXACT LOCATION OF EXISTING UTILITIES AND EQUIPMENT BEFORE COMMENCING WORK. COMPENSATE OWNER FOR DAMAGES CAUSED BY FAILURE TO EXACTLY LOCATE AND PRESERVE UNDERGROUND UTILITIES. REPLACE DAMAGED ITEMS WITH NEW MATERIAL TO MATCH EXISTING. PROMPTLY NOTIFY OWNER IF UTILITIES ARE FOUND WHICH ARE NOT SHOWN ON DRAWINGS.
- C. COORDINATE WITH OWNER SO THAT WORK CAN BE SCHEDULED NOT TO INTERRUPT OPERATIONS, NORMAL ACTIVITIES, BUILDING ACCESS, ACCESS TO DIFFERENT AREAS. OWNER WILL COOPERATE TO BEST OF THEIR ABILITY TO ASSIST IN COORDINATED SCHEDULE, BUT WILL REMAIN FINAL AUTHORITY AS TO TIME OF WORK PERMITTED.
2. EXAMINATION:
- A. DETERMINE EXACT LOCATION OF EXISTING UTILITIES AND EQUIPMENT BEFORE COMMENCING WORK. COMPENSATE OWNER FOR DAMAGES CAUSED BY FAILURE TO LOCATE AND PRESERVE UTILITIES. REPLACE DAMAGED ITEMS WITH NEW MATERIAL TO MATCH EXISTING.
- B. VERIFY THAT ABANDONED WIRING AND EQUIPMENT SERVE ONLY ABANDONED FACILITIES.
- C. DEMOLITION DRAWINGS ARE BASED ON CASUAL FIELD OBSERVATION AND EXISTING RECORD DOCUMENTS.
1. VERIFY ACCURACY OF INFORMATION SHOWN PRIOR TO BIDDING AND PROVIDE SUCH LABOR AND MATERIAL AS IS NECESSARY TO ACCOMPLISH WORK.
 2. VERIFY LOCATION AND NUMBER OF ELECTRONIC SAFETY SYSTEM DEVICES, PANELS, ETC. IN FIELD.
- D. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING EXISTING INSTALLATION.
3. PROMPTLY NOTIFY OWNER IF SYSTEMS ARE FOUND WHICH ARE NOT SHOWN ON DRAWINGS.
 4. EXECUTION:
- A. REMOVE EXISTING ELECTRONIC SAFETY EQUIPMENT, DEVICES AND ASSOCIATED WIRING FROM WALLS, CEILING, FLOORS, AND OTHER SURFACES SCHEDULED FOR REMODELING, RELOCATION, OR DEMOLITION UNLESS SHOWN AS RETAINED OR RELOCATED ON DRAWINGS.
- B. PROVIDE TEMPORARY WIRING AND CONNECTIONS TO MAINTAIN ELECTRICAL CONTINUITY OF EXISTING SYSTEMS DURING CONSTRUCTION. REMOVE OR RELOCATE ELECTRICAL BOXES, CONDUIT, WIRING AND EQUIPMENT AS ENCOUNTERED IN REMOVED OR REMODELED AREAS IN EXISTING CONSTRUCTION AFFECTED BY THIS WORK.
- C. REMOVE AND RESTORE WIRING WHICH SERVES USABLE EXISTING OUTLETS CLEAR OF CONSTRUCTION OR DEMOLITION.
- D. IF EXISTING JUNCTION BOXES WILL BE MADE INACCESSIBLE, OR IF ABANDONED OUTLETS SERVE AS FEED THROUGH BOXES FOR OTHER EXISTING ELECTRICAL EQUIPMENT WHICH IS BEING RETAINED, PROVIDE NEW CONDUIT AND WIRE TO BYPASS ABANDONED OUTLETS.
- E. IF EXISTING CONDUITS PASS THROUGH PARTITIONS OR CEILING WHICH ARE BEING REMOVED OR REMODELED, PROVIDE NEW CONDUIT AND WIRE TO REROUTE CLEAR OF CONSTRUCTION OR DEMOLITION AND MAINTAIN SERVICE TO EXISTING LOAD.
- F. EXTEND CIRCUITING AND DEVICES IN EXISTING WALLS TO BE FURRED OUT.
- G. REMOVE ABANDONED WIRING TO SOURCE OF SUPPLY.
- H. REMOVE EXPOSED ABANDONED CONDUIT, INCLUDING ABANDONED CONDUIT ABOVE ACCESSIBLE CEILING FINISHES. CUT CONDUIT FLUSH WITH WALLS AND FLOORS, AND PATCH SURFACES.
- I. DISCONNECT AND REMOVE ELECTRICAL DEVICES AND EQUIPMENT SERVING UTILIZATION EQUIPMENT THAT HAS BEEN REMOVED.
- J. MAINTAIN ACCESS TO EXISTING ELECTRICAL INSTALLATIONS WHICH REMAIN ACTIVE. MODIFY INSTALLATION OR PROVIDE ACCESS PANEL AS APPROPRIATE.
- K. EXISTING ELECTRONIC SAFETY SYSTEM COMPONENTS ARE INDICATED ON DEMOLITION PLANS. VERIFY EXACT LOCATION AND NUMBER OF EXISTING DEVICES AND COMPONENTS IN FIELD. ONLY PARTIAL EXISTING SYSTEMS SHOWN. LOCATIONS OF ITEMS SHOWN ON DRAWINGS AS EXISTING ARE PARTIALLY BASED ON RECORD AND OTHER DRAWINGS WHICH MAY CONTAIN ERRORS. VERIFY ACCURACY OF INFORMATION SHOWN PRIOR TO BIDDING AND PROVIDE SUCH LABOR AND MATERIAL AS IS NECESSARY TO ACCOMPLISH INTENT OF CONTRACT DOCUMENTS.
- L. REMOVE ABANDONED WIRING TO LEAVE SITE CLEAN.
- M. IF EXISTING ELECTRICAL EQUIPMENT CONTAINS POLYCHLORINATED BIPHENYL, REPLACE WITH NEW NON-PCB EQUIPMENT. DISPOSE OF MATERIAL CONTAINING PCBs AS REQUIRED BY FEDERAL AND LOCAL REGULATIONS.
- N. REPAIR ADJACENT CONSTRUCTION AND FINISHES DAMAGED DURING DEMOLITION WORK.
- O. MAINTAIN ACCESS TO EXISTING ELECTRICAL INSTALLATIONS WHICH REMAIN ACTIVE. MODIFY INSTALLATION OR PROVIDE ACCESS PANEL AS APPROPRIATE.
5. EXISTING FIRE ALARM SYSTEM: MAINTAIN EXISTING SYSTEM IN SERVICE DURING CONSTRUCTION. DISABLE SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS.

- A. NOTIFY OWNER BEFORE PARTIALLY OR COMPLETELY DISABLING SYSTEM.
- B. NOTIFY LOCAL FIRE SERVICE.
- C. MAKE NOTIFICATIONS AT LEAST FIVE WORKING DAYS IN ADVANCE.
- D. MAKE TEMPORARY CONNECTIONS TO MAINTAIN SERVICE IN AREAS ADJACENT TO WORK AREA.
- 3.12 ACCEPTANCE
- A. CONFIRM REQUIREMENTS IN DIVISION 00, PROCUREMENT AND CONTRACTING REQUIREMENTS AND DIVISION 01, GENERAL REQUIREMENTS.

- B. IN ABSENCE OF SPECIFIC REQUIREMENTS, COMPLY WITH INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS. SYSTEM CANNOT BE CONSIDERED FOR ACCEPTANCE UNTIL WORK IS COMPLETED AND DEMONSTRATED TO ARCHITECT THAT INSTALLATION IS IN STRICT COMPLIANCE WITH SPECIFICATIONS, DRAWINGS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS, PARTICULARLY IN REFERENCE TO FOLLOWING:
1. CLEANING
 2. OPERATION AND MAINTENANCE MANUALS
 3. TRAINING OF OPERATING PERSONNEL
 4. RECORD DRAWINGS
 5. WARRANTY AND GUARANTY CERTIFICATES
 6. START-UP/TEST DOCUMENTS AND COMMISSIONING REPORTS
- 3.13 FIELD QUALITY CONTROL
- A. CONFIRM REQUIREMENTS IN DIVISION 00, PROCUREMENT AND CONTRACTING REQUIREMENTS AND DIVISION 01, GENERAL REQUIREMENTS.
- B. IN ABSENCE OF SPECIFIC REQUIREMENTS, COMPLY WITH INDIVIDUAL DIVISION 28, ELECTRONIC SAFETY SECTIONS AND CONDUCT THE FOLLOWING TESTS:
1. CONDUCT TESTS OF EQUIPMENT AND SYSTEMS TO DEMONSTRATE COMPLIANCE WITH REQUIREMENTS SPECIFIED, REFERENCE INDIVIDUAL SPECIFICATION SECTIONS FOR REQUIRED TESTS. DOCUMENT TESTS AND INCLUDE IN CLOSEOUT DOCUMENTS.
 2. DURING SITE EVALUATIONS BY ARCHITECT OR ENGINEER, PROVIDE APPROPRIATE PERSONNEL WITH TOOLS TO REMOVE AND REPLACE TRIMS, COVERS, AND DEVICES SO THAT PROPER EVALUATION OF INSTALLATION CAN BE PERFORMED.
- 3.14 LETTER OF CONFORMANCE
- A. PROVIDE LETTER OF CONFORMANCE, COPIES OF MANUFACTURER'S WARRANTIES AND EXTENDED WARRANTIES WITH A STATEMENT IN LETTER THAT ELECTRONIC SAFETY SYSTEMS WERE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, UL LISTINGS AND FM GLOBAL APPROVALS.
- B. INCLUDE LETTER OF CONFORMANCE, COPIES OF MANUFACTURER'S WARRANTIES AND EXTENDED WARRANTIES IN OPERATING AND MAINTENANCE MANUALS.
- C. END OF SECTION



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Signed: 4/16/25

Agency Approvals

Revision No. Date

Job Title

SONOMA DRC

Job Address

2300 COUNTY CENTER DRIVE
SANTA ROSA, CA 95403

Date: 18 APRIL 2025

Issued For

100% CD

Job Number:

SECTION 28 31 00 - FIRE DETECTION AND ALARM

1.01 SUMMARY

- A. WORK INCLUDED:
1. FIRE ALARM CONTROL PANEL
 2. NOTIFICATION APPLIANCE CIRCUIT PANELS
 3. FIRE ALARM TRANSMITTERS
 4. FIRE ALARM ANNUNCIATORS
 5. MANUAL PULL STATIONS
 6. FIXED TEMPERATURE HEAT DETECTORS
 7. RATE-OF-RISE AND FIXED TEMPERATURE HEAT DETECTORS
 8. PHOTOELECTRIC TYPE DETECTORS
 9. DUCT-MOUNTED SMOKE DETECTORS
 10. RELAY MODULES
 11. CONTROL MODULES
 12. INPUT MODULES
 13. FAULT ISOLATION MODULES
 14. COMBINATION HORN/STROBES
 15. STROBES
 16. HORNS
 17. WEATHERPROOF/SURFACE BACKBOXES
 18. PROTECTIVE GUARDS
 19. CIRCUIT CONDUCTORS
 20. SURGE PROTECTION
 21. BATTERIES
 22. LOCKS AND KEYS
 23. DOCUMENT STORAGE CABINET
 24. INSTRUCTION CHARTS
 25. FRAMED FLOOR MAP
- B. SCOPE: PROVIDE MODIFICATION AND EXTENSION OF THE EXISTING FIRE ALARM SYSTEM TO ACCOMMODATE REMODEL.
- C. IN ADDITION, PROVIDE DESIGN FOR THE FOLLOWING AS REQUIRED IN THESE CONTRACT DOCUMENTS:
1. FIRE ALARM TRANSMITTER
 2. FIRE ALARM SYSTEM COMMUNICATION SYSTEM
- D. SYSTEM DESIGN:
1. DESIGN CRITERIA:
 - A. THESE ARE CONTRACTOR DESIGNED SYSTEMS. CONTACT AHJ PRIOR TO BID TO VERIFY SYSTEMS' REQUIREMENTS. DESIGN SYSTEMS IN COMPLIANCE WITH CODE AS INTERPRETED BY THE AHJ.
 - B. FIRE ALARM SEQUENCE OF OPERATION: MATCH EXISTING.
 - C. SUPERVISORY SEQUENCE OF OPERATION: MATCH EXISTING.
 - D. TROUBLE SEQUENCE OF OPERATION: MATCH EXISTING.
 2. DESIGN OF FIRE ALARM TRANSMITTER COMMUNICATION SYSTEM: PROVIDE DESIGN OF THE FIRE ALARM TRANSMITTER COMMUNICATION SYSTEM AS REQUIRED BY CODE.

1.02 RELATED SECTIONS

- A. CONTENTS OF DIVISION 28, ELECTRONIC SECURITY AND DIVISION 01, GENERAL REQUIREMENTS APPLY TO THIS SECTION.
- B. DIVISION 26, ELECTRICAL REQUIREMENTS APPLY TO THIS SECTION.

1.03 REFERENCES AND STANDARDS

- A. REFERENCES AND STANDARDS AS REQUIRED BY DIVISION 28, ELECTRONIC SECURITY AND DIVISION 01, GENERAL REQUIREMENTS.
- B. IN ADDITION, MEET THE FOLLOWING:
1. NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE, ADOPTED EDITION.
 2. NFPA 70, NATIONAL ELECTRICAL CODE, ADOPTED EDITION.

1.04 SUBMITTALS

- A. SUBMITTALS AS REQUIRED BY DIVISION 28, ELECTRONIC SECURITY AND DIVISION 01, GENERAL REQUIREMENTS.
- B. SHOP DRAWINGS:
1. SUBMIT SHOP DRAWINGS WHICH INCLUDE DOCUMENTATION REQUIRED PER NFPA 72; SHOP DRAWINGS.
 2. IN ADDITION, PROVIDE THE FOLLOWING:
 - A. PROVIDE SYSTEM DESIGNER/NOT CERTIFICATION NUMBER OR ENGINEER'S SIGNATURE AND SEAL ON SHOP DRAWINGS.
 - B. IDENTIFICATION OF SYSTEM DESIGNER AND EVIDENCE OF QUALIFICATION OR CERTIFICATION OF DESIGNER AS REQUIRED BY AHJ.
 - C. OPERATION AND MAINTENANCE MANUALS:
 - 1. PROVIDE MANUALS CONTAINING THE DOCUMENTATION REQUIRED IN NFPA 72, COMPLETION DOCUMENTATION.
 - 2. IN ADDITION, PROVIDE THE FOLLOWING:
 - A. ONE YEAR WARRANTY AGREEMENT INCLUDING PARTS AND LABOR. WARRANTY PERIOD BEGINS UPON DATE OF SUBSTANTIAL COMPLETION.
 - B. INSTRUCTION CHART.

1.05 QUALITY ASSURANCE

- A. QUALITY ASSURANCE AS REQUIRED BY DIVISION 28, ELECTRONIC SECURITY AND DIVISION 01, GENERAL REQUIREMENTS.
- B. IN ADDITION, MEET CITY OF SANTA ROSA, CALIFORNIA REQUIREMENTS, ORDINANCES AND AMENDMENTS.

1.06 WARRANTY

- A. WARRANTY OF MATERIALS AND WORKMANSHIP AS REQUIRED BY DIVISION 28, ELECTRONIC SECURITY AND DIVISION 01, GENERAL REQUIREMENTS.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. FIRE ALARM CONTROL PANEL: EXISTING.
- B. NOTIFICATION APPLIANCE CIRCUIT PANELS: SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT, OR APPROVED EQUIVALENT.
- C. FIRE ALARM TRANSMITTERS:
1. SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT.
 2. AES CORPORATION, DSC, TELLGARD, OR APPROVED EQUIVALENT.
- D. FIRE ALARM ANNUNCIATORS: SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT, NO SUBSTITUTIONS PERMITTED.
- E. MANUAL PULL STATIONS: SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT, NO SUBSTITUTIONS PERMITTED.
- F. FIXED TEMPERATURE HEAT DETECTORS: SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT, NO SUBSTITUTIONS PERMITTED.
- G. RATE-OF-RISE AND FIXED TEMPERATURE HEAT DETECTORS: SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT, NO SUBSTITUTIONS PERMITTED.
- H. PHOTOELECTRIC TYPE DETECTORS: SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT, NO SUBSTITUTIONS PERMITTED.
- I. DUCT-MOUNTED SMOKE DETECTORS: SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT, NO SUBSTITUTIONS PERMITTED.
- J. RELAY MODULES: SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT, NO SUBSTITUTIONS PERMITTED.
- K. CONTROL MODULES: SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT, NO SUBSTITUTIONS PERMITTED.
- L. INPUT MODULES: SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT, NO SUBSTITUTIONS PERMITTED.
- M. FAULT ISOLATION MODULES: SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT, NO SUBSTITUTIONS PERMITTED.
- N. COMBINATION HORN/STROBES: SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT, OR APPROVED EQUIVALENT.
- O. STROBES: SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT, OR APPROVED EQUIVALENT.
- P. HORNS:
1. WEATHERPROOF/SURFACE BACKBOXES: SAME MANUFACTURER AS FIRE ALARM DETECTION DEVICES OR NOTIFICATION APPLIANCES, OR APPROVED EQUIVALENT.
- PROTECTIVE GUARDS:
1. WIRE GUARD:
- A. SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT.
- B. AMERICAN WIRE GUARDS, CHASE SECURITY SYSTEMS, SAFETY TECHNOLOGY INTERNATIONAL, SHAW-PERKINS, OR APPROVED EQUIVALENT.
2. PROTECTIVE COVER: SAFETY TECHNOLOGY INTERNATIONAL, SIGCOM, OR APPROVED EQUIVALENT.
- C. CIRCUIT CONDUCTORS: ALIED WIRE AND CABLE, BELDEN, CO., WEST PENN WIRE, R APPROVED EQUIVALENT.
- D. SURGE PROTECTION: DITEK, TRANSECTOR, OR APPROVED EQUIVALENT.
- U. BATTERIES:
1. SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT.
 2. POWER-SONIC, WERNER, OR APPROVED EQUIVALENT.
- V. LOCKS AND KEYS: DITEK, TRANSECTOR, OR APPROVED EQUIVALENT.
- W. DOCUMENT STORAGE CABINET:
1. SAME MANUFACTURER AS FIRE ALARM CONTROL EQUIPMENT.
 2. MEIR PRODUCTS, SPACE AGE, OR APPROVED EQUIVALENT.
- X. INSTRUCTION CHARTS: CONFIRM MAKE AND MODEL WITH ARCHITECT PRIOR TO ORDERING.
- Y. FRAMED FLOOR MAP: CONFIRM MAKE AND MODEL WITH ARCHITECT PRIOR TO ORDERING.
- Z. SUBSTITUTIONS:
1. FOR OTHER ACCEPTABLE MANUFACTURERS OF SPECIFIED CONTROL UNITS, SUBMIT PRODUCT DATA SHOWING EQUIVALENT FEATURES AND COMPLIANCE WITH CONTRACT DOCUMENTS.
 2. FOR SUBSTITUTION OF PRODUCTS BY MANUFACTURERS NOT LISTED, SUBMIT PRODUCT DATA SHOWING FEATURES AND CERTIFICATION BY CONTRACTOR THAT THE DESIGN WILL COMPLY WITH CONTRACT DOCUMENTS.

AA EQUIPMENT TO BE SUPPLIED BY A CERTIFIED MANUFACTURER REPRESENTATIVE.

2.02 FIRE ALARM CONTROL PANEL

- A. EXISTING NOTIFIER FIRE ALARM CONTROL PANEL.

2.03 NOTIFICATION APPLIANCE CIRCUIT PANELS

- A. PROVIDE POWER SUPPLY(S), ADEQUATE TO SERVE MODULES, REMOTE ANNUNCIATORS, INITIATING DEVICES, NOTIFICATION APPLIANCES AND OTHER CONNECTED DEVICES OR APPLIANCES.
- B. PROVIDE BATTERIES IN LOCKING CABINET MANUFACTURED FOR PURPOSE.
- 2.04 FIRE ALARM TRANSMITTERS
- A. PROVIDE FLUSH MOUNTED UNITS WHERE INSTALLED IN FINISHED AREAS; IN UNFINISHED AREAS, SURFACE MOUNTED UNITS ARE ACCEPTABLE, UNLESS OTHERWISE NOTED.
- B. ELECTRICALLY SUPERVISED, CAPABLE OF TRANSMITTING ALARM, SUPERVISORY AND TROUBLE SIGNALS OVER RADIO ALARM TRANSMITTER (RAT), CELLULAR, OR ETHERNET LINES TO OFF-PREMISES RECEIVER, SIGNAL TRANSMITTER INTERFACES FULLY WITH RECEIVER STATION OF LOCAL FIRE DEPARTMENT OR OWNER'S SELECTED VENDOR.
- C. FOR RADIO AND CELLULAR TRANSMITTERS, PROVIDE EXTERIOR ANTENNA WHERE REQUIRED TO FACILITATE COMMUNICATION WITH SUPERVISING STATION.
- 2.05 FIRE ALARM ANNUNCIATORS
- A. PROVIDE FLUSH MOUNTED UNITS WHERE INSTALLED IN FINISHED AREAS; IN UNFINISHED AREAS, SURFACE MOUNTED UNITS ARE ACCEPTABLE, UNLESS OTHERWISE NOTED.
- B. ALPHANUMERIC REMOTE ANNUNCIATOR WITH CONTROLS. BACK LIT LCD ALPHANUMERIC ANNUNCIATOR MINIMUM 80 CHARACTERS LONG. PROVIDE UNDER LOCKING COVER TEST SWITCH, ALARM AND TROUBLE BUZZER, BUZZER SILENCE SWITCH (ON OR BUZZER SILENCE MESSAGE AND RESET SWITCH, FLUSH MOUNT WITH FINISHED COVER, VANDAL-RESISTANT UV STABILIZED LEXAN (OR APPROVED EQUIVALENT) OVERLAY AND REQUIRED MODULES, CONTROL PANEL, ETC., TO DRIVE ANNUNCIATOR, SELF-CONTAINED, SUITABLE FOR WET LOCATION WHERE LOCATED EXTERIOR.

2.06 MANUAL PULL STATIONS

- A. PROVIDE FLUSH MOUNTED UNITS WHERE INSTALLED IN FINISHED AREAS; IN UNFINISHED AREAS, SURFACE MOUNTED UNITS ARE ACCEPTABLE, UNLESS OTHERWISE NOTED.
- B. SEMI-FLUSH, RED FINISH, NONGLASSING OPERATION, MAXIMUM PULL STRENGTH AS ALLOWED PER ADA CRITERIA.
- C. STATIONS DO NOT ALLOW CLOSURE WITHOUT KEYPED RESET.
- 2.07 FIXED TEMPERATURE HEAT DETECTORS
- A. PROVIDE FLUSH MOUNTED UNITS WHERE INSTALLED IN FINISHED AREAS; IN UNFINISHED AREAS, SURFACE MOUNTED UNITS ARE ACCEPTABLE, UNLESS OTHERWISE NOTED.
- B. RATED 135 DEGREES F OR 190 DEGREES F AS REQUIRED BY SPACE USE.
- C. PROVIDE OFF-WHITE, LOW-PROFILE DETECTORS.
- 2.08 RATE-OF-RISE AND FIXED TEMPERATURE HEAT DETECTORS
- A. PROVIDE FLUSH MOUNTED UNITS WHERE INSTALLED IN FINISHED AREAS; IN UNFINISHED AREAS, SURFACE MOUNTED UNITS ARE ACCEPTABLE, UNLESS OTHERWISE NOTED.
- B. RESPONDING TO 15 DEGREES F TEMPERATURE RISE PER MINUTE AND TO 135 DEGREES F FIXED TEMPERATURE AS REQUIRED BY SPACE USE.
- C. PROVIDE OFF-WHITE, LOW-PROFILE DETECTORS.
- 2.09 PHOTOELECTRIC TYPE DETECTORS
- A. PROVIDE FLUSH MOUNTED UNITS WHERE INSTALLED IN FINISHED AREAS; IN UNFINISHED AREAS, SURFACE MOUNTED UNITS ARE ACCEPTABLE, UNLESS OTHERWISE NOTED.
- B. PANEL ADJUSTABLE SENSITIVITY, LED SOURCE, MULTIPLE CELL, 360 DEGREE SMOKE ENTRY, VISUAL LATCHING OPERATION INDICATOR, INSECT SCREEN, FUNCTIONAL TEST SWITCH, TWO-WIRE OPERATION AND VANDAL-RESISTANT LOCKING FEATURE.
- 2.10 DUCT-MOUNTED SMOKE DETECTORS
- A. PHOTOELECTRIC TYPE, DUCT SAMPLING TUBES EXTENDING WIDTH OF DUCT, VISUAL, INDICATION OF DETECTOR ACTIVATION, DIRECT HOUSING MOUNT, DETECTOR POWERED FROM CONTROL PANEL, POWER ON INDICATOR LIGHT, DETECTOR RATED FOR AIR VELOCITY, HUMIDITY AND TEMPERATURE OF DUCT AND ENVIRONMENT WHERE INSTALLED.
- 2.11 RELAY MODULES
- A. SIGNALING LINE CIRCUIT INTERFACE MODULE THAT CONNECTS TO OTHER BUILDING SYSTEMS FOR CONTROL OF FIRE/LIFE SAFETY FUNCTIONS, E.G., AIR-HANDLER SHUTDOWN, FIRE/SMOKE DAMPER CLOSURE, ELEVATOR RECALL.
- B. MODULE POWERED FROM CONTROL PANEL.
- 2.12 CONTROL MODULES
- A. SIGNALING LINE CIRCUIT INTERFACE MODULE THAT PROVIDES NOTIFICATION APPLIANCE CIRCUITS OR SYSTEM CONTROL OUTPUTS. MODULE POWERED FROM CONTROL PANEL.
- 2.13 INPUT MODULES
- A. SIGNALING LINE CIRCUIT INTERFACE MODULE THAT PROVIDES INITIATING DEVICE CIRCUITS FOR CONNECTION TO CONTACT CLOSURE INITIATING DEVICES. MODULE POWERED FROM CONTROL PANEL.
- 2.14 FAULT ISOLATION MODULES
- A. SIGNALING LINE CIRCUIT INTERFACE MODULES THAT PROVIDE ISOLATION OF WIRE-TO-WIRE SHORTS ON A SIGNALING LINE CIRCUIT WITH AUTOMATIC RECONNECTION UPON CORRECTION OF SHORT CIRCUIT.
- 2.15 COMBINATION HORN/STROBES
- A. MULTI-CANDELA, FLUSH WALL AND CEILING MOUNT, WHITE FINISH, INSECT-PROOF.
- B. PROVIDE HORN/STROBES THAT MEET THE LATEST REQUIREMENTS OF NFPA 72, ANSI 117.1 AND UL 1971. CANDELA RATING AS REQUIRED BY NFPA 72.
- C. MUST BE COMPATIBLE WITH FIRE ALARM CONTROL EQUIPMENT AND NOTIFICATION APPLIANCE CIRCUIT PANELS.
- 2.16 STROBES
- A. MULTI-CANDELA, FLUSH WALL AND CEILING MOUNT, WHITE FINISH, INSECT-PROOF.
- B. PROVIDE STROBES THAT MEET THE LATEST REQUIREMENTS OF NFPA 72, ANSI 117.1 AND UL 1971. CANDELA RATING AS REQUIRED BY NFPA 72.
- C. MUST BE COMPATIBLE WITH FIRE ALARM CONTROL EQUIPMENT AND NOTIFICATION APPLIANCE CIRCUIT PANELS.
- 2.17 HORNS
- A. FLUSH WALL AND CEILING MOUNT, WHITE FINISH, INSECT-PROOF.
- B. PROVIDE HORNS THAT MEET THE LATEST REQUIREMENTS OF NFPA 72.
- C. MUST BE COMPATIBLE WITH FIRE ALARM CONTROL EQUIPMENT AND NOTIFICATION APPLIANCE CIRCUIT PANELS.
- 2.18 PROTECTIVE GUARDS
- A. WIRE GUARD: STEEL WIRE GUARD.
- B. PROTECTIVE COVER: POLYCARBONATE CONSTRUCTION.
- 2.19 CIRCUIT CONDUCTORS
- A. COPPER OR OPTICAL FIBER; COLOR CODE AND LABEL, TYPE FPL, FPLR AND FPLP. CABLE TYPE AS REQUIRED BY THE NEC AND THE MANUFACTURER.
- B. MINIMUM SIGNALING LINE CIRCUIT AND INITIATING DEVICE CIRCUIT WIRE SIZE: AWG18.
- C. MINIMUM NOTIFICATION APPLIANCE CIRCUIT WIRE SIZE: AWG14, OR AS APPROVED BY ENGINEER.
- D. FIBER OPTIC CABLE AS REQUIRED BY MANUFACTURER.
- 2.20 SURGE PROTECTION
- A. INSTALL IN ACCORDANCE WITH IEEE C62.41 B3 COMBINATION WAVEFORM AND NFPA 70, EXCEPT FOR OPTICAL FIBER CONDUCTORS.
- B. PROVIDE FOR ALTERNATING CURRENT CIRCUITS POWERING FIRE ALARM EQUIPMENT.
- C. INITIATING DEVICE CIRCUITS, NOTIFICATION APPLIANCE CIRCUITS AND COMMUNICATIONS CIRCUITS, RATED TO PROTECT APPLICABLE EQUIPMENT; FOR 24V(DC) MAXIMUM DC CLAMPING VOLTAGE OF 36V(DC), LINE-TO-GROUND AND 72V(DC), LINE-TO-LINE.
- 2.21 BATTERIES
- A. PROVIDE ADDITIONAL CABINET, IF REQUIRED DUE TO SPACE LIMITATIONS IN CONTROL PANELS.
- 2.22 LOCKS AND KEYS
- A. DELIVER KEYS TO OWNER, PROVIDE SAME STANDARD LOCK AND KEY FOR EACH KEY OPERATED SWITCH AND LOCKABLE PANEL AND CABINET; PROVIDE FIVE KEYS OF EACH TYPE.
- 2.23 DOCUMENT STORAGE CABINET
- A. SUITABLE FOR AS-BUILT DRAWINGS, OPERATION AND MAINTENANCE MANUAL, SYSTEM DATA FILE DISK AND TOOLS.
- B. CONSTRUCTED FROM STEEL WITH BAKED ENAMEL FINISH; SIZE ADEQUATE FOR FULL SIZE DRAWINGS, OPERATION AND MAINTENANCE MANUAL, SPARE PARTS AND TOOLS.
- 2.24 INSTRUCTION CHARTS
- A. PRINTED INSTRUCTION CHART FOR OPERATORS, SHOWING STEPS TO BE TAKEN WHEN SIGNAL IS RECEIVED (NORMAL, ALARM, SUPERVISORY AND TROUBLE); EASILY READABLE FROM NORMAL OPERATOR'S STATION.
- B. FRAME: STAINLESS STEEL OR ALUMINUM WITH POLYCARBONATE OR GLASS COVER.
- 2.25 FRAMED FLOOR MAP
- A. PROVIDE FRAMED FLOOR PLAN OF FACILITY.
- B. FRAME: STAINLESS STEEL OR ALUMINUM WITH POLYCARBONATE OR GLASS COVER.

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION REQUIREMENTS

- A. REFERENCE 3.01, GENERAL INSTALLATION REQUIREMENTS. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
- B. PROVIDE A COMPLETE AND OPERABLE SYSTEM COMPLIANT WITH ALL APPLICABLE CODES AND STANDARDS.
- C. OBTAIN ARCHITECT'S APPROVAL OF LOCATIONS OF DEVICES, APPLIANCES AND ANNUNCIATORS BEFORE INSTALLATION.
- D. CIRCUITS:
1. SIGNALING LINE CIRCUITS (SLC): CLASS B
 2. NOTIFICATION APPLIANCE CIRCUITS (NAC): CLASS B.
 - E. SPARE CAPACITY:
 - 1. NEW NOTIFICATION APPLIANCE CIRCUITS:
 - A. MINIMUM 25 PERCENT SPARE CURRENT CAPACITY.
 - B. MAXIMUM 10 PERCENT VOLTAGE DROP.
 - 2. UTILIZE UL MAXIMUM CURRENT DRAW VALUE FOR NOTIFICATION APPLIANCES IN CALCULATIONS.
 - 3. NEW SIGNALING LINE CIRCUIT: MINIMUM 25 PERCENT SPARE DEVICE CAPACITY.
 - F. POWER SOURCES:
 - 1. PRIMARY: DEDICATED BRANCH CIRCUITS OF FACILITY POWER DISTRIBUTION SYSTEM.
 - 2. SECONDARY: STORAGE BATTERIES.
 - 3. CAPACITY: SUFFICIENT TO OPERATE FIRE ALARM SYSTEM UNDER NORMAL SUPERVISORY CONDITION FOR 24 HOURS AND OPERATE ALARM SIGNALS FOR FIVE MINUTES AT END OF STANDBY PERIOD.
 - G. OBTAIN APPROVAL OF SYSTEM DESIGN FROM AHJ PRIOR TO INSTALLATION. DO NOT BEGIN INSTALLATION WITHOUT APPROVAL FROM AHJ AND SUBMITTAL REVIEW COMMENTS FROM ENGINEER.
 - H. INSTALL IN ACCORDANCE WITH APPLICABLE CODES, NFPA 72, NFPA 70 AND THE CONTRACT DOCUMENTS.
 - I. IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, PROVIDE WIRING, CONDUIT AND OUTLET BOXES REQUIRED FOR THE ERECTION OF A COMPLETE SYSTEM AS DESCRIBED IN THESE SPECIFICATIONS, AS SHOWN ON DRAWINGS AND AS REQUIRED BY AHJ.
 - J. CONCEAL WIRING, CONDUIT, BOXES AND SUPPORTS WHERE INSTALLED IN FINISHED AREAS.
 - K. PROVIDE RACEWAY SYSTEM FOR CABLING CONCEALED IN WALLS AND HARD CEILINGS AND IN LOCATIONS WHERE CABLING IS EXPOSED, WHERE EXPOSED, PROVIDE SURFACE RACEWAY IN FINISHED AREAS AND SURFACE MOUNTED EMT IN NON-FINISHED AREAS.
 - L. PROVIDE CABLING AND CONDUITS SYSTEM SUITABLE FOR WET LOCATIONS FOR BELOW GRADE SYSTEMS.
 - M. AT JUNCTION BOXES AND TERMINATION POINTS, PROVIDE IDENTIFICATION TAGS ON WIRES AND CABLES.
 - N. ROUTE WIRING TO AVOID BLOCKING ACCESS TO EQUIPMENT REQUIRING SERVICE, ACCESS, OR ADJUSTMENT.
 - O. FIRE SAFETY SYSTEMS INTERFACES:
 - 1. PROVIDE CONDUIT, WIRING, BOXES AND TERMINATIONS FROM FIRE ALARM SYSTEM TO MONITORED COMPONENTS. PROVIDE A SEPARATE INPUT MODULE FOR EACH SWITCH OR RELAY TO BE MONITORED.
 - A. ALARM INPUTS: PROVIDE CONNECTION IN ACCORDANCE WITH NFPA 72 FOR THE FOLLOWING SYSTEMS AND COMPONENTS:
 - 1) FIRE SPRINKLER WATER FLOW SWITCHES.
 - 2) FIRE SPRINKLER DRY-PIPE ALARM PRESSURE SWITCHES.
 - 3) KITCHEN HOOD FIRE SUPPRESSION ACTIVATION.
 - 4) OTHER ALARM INPUTS.
 - B. SUPERVISORY INPUTS: PROVIDE CONNECTION IN ACCORDANCE WITH NFPA 72 FOR THE FOLLOWING SYSTEMS AND COMPONENTS:
 - 1) FIRE SPRINKLER WATER CONTROL VALVE TAMPER SWITCHES.
 - 2) FIRE SPRINKLER DRY-PIPE SYSTEM LOW AIR PRESSURE SWITCHES.
 - 3) ELEVATOR SHUNT TRIP POWER MONITORING CIRCUIT.
 - C. TROUBLE INPUTS: PROVIDE CONNECTION IN ACCORDANCE WITH NFPA 72 FOR THE FOLLOWING SYSTEMS AND COMPONENTS:
 - 1) OTHER TROUBLE INPUTS.
 - 2. FIRE SAFETY FUNCTIONS: PROVIDE POWER AND CONTROL CONDUIT, WIRING, BOXES AND TERMINATIONS TO POWER DEVICES AND INTERFACE TO FIRE ALARM SYSTEM.
 - D. DOORS:
 - 1) PROVIDE SMOKE DETECTORS AND ADDRESSABLE CONTROL RELAYS TO RELEASE MAGNETIC HOLD OPEN DEVICES AND ROLL-DOWN FIRE DOORS AND DOOR LOCKS. VERIFY REQUIREMENTS AND QUANTITIES PRIOR TO BIDDING.
 - 2) SMOKE BARRIER DOOR MAGNETIC HOLDERS: RELEASE UPON ACTIVATION OF SMOKE DETECTORS IN SMOKE ZONE ON EITHER SIDE OF DOOR.
 - 3) ELECTRONIC LOCKS OR ELECTROMAGNETIC DOOR LOCKS ON EGRESS DOORS: UNLOCK SMOKE ZONE EGRESS DOORS UPON ACTIVATION OF ANY ALARM INITIATING DEVICE OR SUPPRESSION SYSTEM IN SMOKE ZONE.
 - 4) OVERHEAD COILING FIRE DOORS: RELEASE UPON ACTIVATION OF SMOKE DETECTORS ON EITHER SIDE OF DOOR.
 - E. ELEVATORS:
 - 1) PROVIDE ELEVATOR RECALL SMOKE DETECTORS, ADDRESSABLE CONTROL RELAYS AND CONNECTION TO ELEVATOR EQUIPMENT PER NFPA 72 AND AS REQUIRED BY THE AHJ.
 - 2) PROVIDE ELEVATOR SHUNT TRIP HEAT DETECTORS, ADDRESSABLE CONTROL RELAYS FOR SHUNT TRIP OPERATION, ADDRESSABLE INPUT MODULE FOR MONITORING SHUNT TRIP POWER AND CONNECTION TO ELEVATOR EQUIPMENT PER NFPA 72 AND AS REQUIRED BY THE AHJ.

- 3) ELEVATOR LOBBY AND MACHINE ROOM SMOKE DETECTORS: ELEVATOR RECALL FOR FIRE FIGHTERS' SERVICE.
- 4) ELEVATOR MACHINE ROOM HEAT DETECTOR: SHUT DOWN ELEVATOR POWER PRIOR TO ELEVATOR MACHINE ROOM SPRINKLER ACTIVATION.
- C. HVAC SYSTEMS:
 - 1) FIRE/SMOKE DAMPERS AND SMOKE DAMPERS:
 - (A) PROVIDE REQUIRED SMOKE DETECTORS, RELAYS, WIRING AND THE LINE.
 - (B) CONNECT CONTROL AND POWER WIRING TO DAMPERS PER MANUFACTURER'S INSTRUCTIONS.
 - (C) VERIFY QUANTITIES, LOCATION AND REQUIREMENTS OF DAMPERS WITH DIVISION 23, HVAC DRAWINGS AND SPECIFICATIONS AND MECHANICAL SYSTEM INSTALLER.
 - 2) AIR MOVING SYSTEMS:
 - (A) PROVIDE DUCT-MOUNTED SMOKE DETECTOR FOR AIR SYSTEMS WITH AIR FLOW RATES EXCEEDING 2000 CFM. COORDINATE WITH DIVISION 23, HVAC.
 - (B) INSTALL DUCT-MOUNTED SMOKE DETECTOR(S) ON RETURN SIDE OF AIR SYSTEM.
 - (C) PROVIDE CONTROL WIRING FROM ADDRESSABLE RELAY CONTACTS TO AIR HANDLING EQUIPMENT CONTROLLER.
 - (D) PROVIDE DUCT-MOUNTED SMOKE DETECTORS RATED FOR AIR VELOCITY, TEMPERATURE AND HUMIDITY OF DUCT. VERIFY QUANTITIES, LOCATIONS AND REQUIREMENTS WITH DIVISION 23, HVAC DRAWINGS AND MECHANICAL SYSTEM INSTALLER.
 - (E) WHERE DUCT-MOUNTED SMOKE DETECTORS ARE MOUNTED IN INACCESSIBLE BUILDING VOID SPACES PROVIDE ACCESS HATCH. PROVIDE ACCESS HATCH WITH FIRE RATING EQUIVALENT TO RATING OF WALL, CEILING, OR SHAFT BEING PENETRATED.
 - (F) PROVIDE CONTROL WIRING FROM ADDRESSABLE RELAY CONTACTS TO HVLS FAN EQUIPMENT CONTROLLER.

- P. INSPECTION AND TESTING FOR COMPLETION:
1. SYSTEM TESTING AND COMMISSIONING TO BE PERFORMED BY A CERTIFIED MANUFACTURER REPRESENTATIVE.
 2. PERFORM INSPECTION AND TESTING IN ACCORDANCE WITH NFPA 72 AND REQUIREMENTS OF LOCAL AUTHORITIES; DOCUMENT EACH INSPECTION AND TEST.
 3. DOCUMENT AUDIBILITY MEASUREMENTS AND VERIFY INTELLIGIBILITY FOR EACH SPACE ON RECORD DRAWINGS.
 4. PROVIDE THE SERVICES OF THE INSTALLER'S SUPERVISOR OR PERSON WITH EQUIVALENT QUALIFICATIONS TO SUPERVISE INSPECTION AND TESTING, CORRECTION AND ADJUSTMENTS.
 5. PROVIDE TOOLS, SOFTWARE AND SUPPLIES REQUIRED TO ACCOMPLISH INSPECTION AND TESTING.
 6. PREPARE FOR TESTING BY ENSURING THAT WORK IS COMPLETE AND CORRECT; PERFORM PRELIMINARY TESTS AS REQUIRED TO TEST SYSTEM.
 7. CORRECT DEFECTIVE WORK, ADJUST FOR PROPER OPERATION AND RETEST UNTIL ENTIRE SYSTEM COMPLIES WITH CONTRACT DOCUMENTS.
 8. NOTIFY OWNER SEVEN DAYS PRIOR TO BEGINNING COMPLETION INSPECTIONS AND TESTS.
 9. NOTIFY AUTHORITIES HAVING JURISDICTION AND COMPLY WITH THEIR REQUIREMENTS FOR SCHEDULING INSPECTIONS AND TESTS AND FOR OBSERVATION BY THEIR PERSONNEL.
 10. DIAGNOSTIC PERIOD: AFTER SUCCESSFUL COMPLETION OF INSPECTIONS AND TESTS, OPERATE SYSTEM IN NORMAL MODE FOR AT LEAST 14 DAYS WITHOUT ANY SYSTEM OR EQUIPMENT MALFUNCTIONS.
- A. RECORD ALL SYSTEM OPERATIONS AND MALFUNCTIONS.
- B. IF A MALFUNCTION OCCURS, START DIAGNOSTIC PERIOD OVER AFTER CORRECTION OF MALFUNCTION.
- C. REPLACE DEVICES WITH READINGS OUTSIDE OF ALLOWED VALUE AT TIME OF SYSTEM CHECK OUT.
- D. OWNER WILL PROVIDE ATTENDANT OPERATOR PERSONNEL DURING DIAGNOSTIC PERIOD; SCHEDULE TRAINING TO ALLOW OWNER PERSONNEL TO PERFORM NORMAL DUTIES.
- E. AT END OF SUCCESSFUL DIAGNOSTIC PERIOD, COMPLETE AND SUBMIT NFPA 72 "INSPECTION AND TESTING FORM."
- Q. OWNER PERSONNEL INSTRUCTION:
1. PROVIDE THE FOLLOWING INSTRUCTION TO DESIGNATED OWNER PERSONNEL:
 - A. HANDS-ON INSTRUCTION: ON-SITE, USING OPERATIONAL SYSTEM.
 - B. CLASSROOM INSTRUCTION: OWNER FURNISHED CLASSROOM, ON-SITE OR AT OTHER LOCAL FACILITY.
 - 2. BASIC OPERATION: ONE-HOUR SESSIONS FOR ATTENDANT PERSONNEL, SECURITY OFFICERS AND ENGINEERING STAFF; COMBINATION OF CLASSROOM AND HANDS-ON.
 - A. INITIAL TRAINING: ONE SESSION PRE-CLOSEOUT.
 - B. REFRESHER TRAINING: ONE SESSION POST-OCCUPANCY.
 - 3. DETAILED OPERATION: TWO-HOUR SESSIONS FOR ENGINEERING AND MAINTENANCE STAFF; COMBINATION OF CLASSROOM AND HANDS-ON.
 - A. INITIAL TRAINING: ONE SESSION PRE-CLOSEOUT.
 - B. REFRESHER TRAINING: ONE SESSION POST-OCCUPANCY.
 - 4. FURNISH THE SERVICES OF INSTRUCTORS AND TEACHING AIDS; HAVE COPIES OF OPERATION AND MAINTENANCE DATA AND RECORD DRAWINGS AVAILABLE DURING INSTRUCTION.
 - 5. PROVIDE MEANS OF EVALUATION OF TRAINEES SUITABLE TO TYPE OF TRAINING GIVEN; REPORT RESULTS TO OWNER.

- R. CLOSEOUT:
1. CLOSEOUT DEMONSTRATION:
 - A. DEMONSTRATE PROPER OPERATION OF FUNCTIONS TO OWNER.
 - B. BE PREPARED TO CONDUCT ANY OF THE REQUIRED TESTS.
 - C. HAVE AT LEAST ONE COPY OF OPERATION AND MAINTENANCE DATA, COPY OF PROJECT RECORD DRAWINGS, INPUT/OUTPUT MATRIX AND OPERATOR INSTRUCTION CHART(S) AVAILABLE DURING DEMONSTRATION.
 - D. HAVE AUTHORIZED TECHNICAL REPRESENTATIVE OF CONTROL UNIT MANUFACTURER PRESENT DURING DEMONSTRATION.
 - E. DEMONSTRATION MAY BE COMBINED WITH INSPECTION AND TESTING REQUIRED BY AHJ. NOTIFY AHJ IN TIME TO SCHEDULE DEMONSTRATION.
 - F. REPEAT DEMONSTRATION UNTIL SUCCESSFUL.
 2. SUBSTANTIAL COMPLETION OF THE PROJECT CANNOT BE ACHIEVED UNTIL INSPECTION AND TESTING IS SUCCESSFUL AND:
 - A. SPECIFIED DIAGNOSTIC PERIOD WITHOUT MALFUNCTION HAS BEEN COMPLETED.
 - B. APPROVED OPERATING AND MAINTENANCE DATA HAS BEEN DELIVERED.
 - C. SPARE PARTS, EXTRA MATERIALS AND TOOLS HAVE BEEN DELIVERED.
 - D. ALL ASPECTS OF OPERATION HAVE BEEN DEMONSTRATED TO ARCHITECT.
 - E. FINAL ACCEPTANCE OF THE FIRE ALARM SYSTEM HAS BEEN GIVEN BY AUTHORITIES HAVING JURISDICTION.
 - F. OCCUPANCY PERMIT HAS BEEN GRANTED.
 - G. SPECIFIED PRE-CLOSEOUT INSTRUCTION IS COMPLETE.
 - 3. PERFORM POST-OCCUPANCY INSTRUCTION WITHIN THREE MONTHS AFTER DATE OF OCCUPANCY.

3.02 FIRE ALARM CONTROL PANEL

- A. PROVIDE CONTROL PANELS WITH 120VAC DEDICATED CIRCUIT PER NFPA REQUIREMENTS.
- B. DO NOT INSTALL CABINETS OR EQUIPMENT BELOW THE BATTERY CABINET. DO NOT LOCATE BATTERY AND CHARGING SYSTEM CABINETS IN CEILING SPACE.
- C. PROVIDE INSTRUCTION CHARTS AT EACH CONTROL PANEL WHERE SYSTEM OPERATIONS ARE PERFORMED. OBTAIN APPROVAL FROM THE ARCHITECT PRIOR TO MOUNTING.
- D. PERFORM SYSTEM PROGRAMMING AT THE FIRE ALARM CONTROL PANEL. PROGRAM THE SYSTEM WITHOUT SHUTTING THE SYSTEM DOWN. PROGRAMMING IS DONE OFF LINE. PROVIDE COPY OF SITE-SPECIFIC PROGRAM ON ELECTRONIC STORAGE MEDIA. LOCATE IN DOCUMENT ENCLOSURE.
- E. ROOM NAME LABELING: CONTROL PANEL SCHEDULES, PROGRAMMING AND LABELING FOR ELECTRICAL EQUIPMENT, TO USE THE ROOM NAMES AND ROOM NUMBERS THAT THE ARCHITECT ADOPTS AT THE DATE OF SUBSTANTIAL COMPLETION OF CONSTRUCTION. THIS WORK IS TO BE DONE AT NO ADDED COST TO THE OWNER.
- F. PROGRAMMABLE FUNCTION KEYS: PROVIDE CONTROL PANEL ACCESSIBLE FUNCTION KEYS FOR THE NOTIFICATION BYPASS, FIRE DRILL, FIRE DOOR BYPASS, ELEVATOR CONTROL BYPASS, AND SUPERVISING STATION BYPASS.
- G. PROGRAMMED CONTROL POINT ACTIVATION INCLUDES SELECTIVE CONTROL OF HVAC, FIRE DOOR RELEASE, ELEVATOR RECALL, ELEVATOR SHUNT TRIP, AND OTHER FIRE SAFETY AND AUXILIARY FUNCTIONS.
- H. PROVIDE MACHINE PRINTED LABELS ON SWITCHES AND INDICATORS.

3.03 NOTIFICATION APPLIANCE CIRCUIT PANELS

- A. PROVIDE NOTIFICATION APPLIANCE CIRCUIT PANEL POWER SUPPLIES WITH 120VAC DEDICATED CIRCUIT PER NFPA REQUIREMENTS.
- B. DO NOT INSTALL CABINETS OR EQUIPMENT BELOW THE BATTERY CABINET. DO NOT LOCATE BATTERY AND CHARGING SYSTEM CABINETS IN CEILING SPACE.
- 3.04 FIRE ALARM TRANSMITTERS
- A. PROVIDE CONDUIT AND WIRING FOR CONNECTIONS TO THE TRANSMITTER AS REQUIRED FOR FIRE ALARM SYSTEM OFF SITE SUPERVISION.
- B. VERIFY AND PROVIDE CALL SEQUENCE AND MESSAGE AS DIRECTED BY OWNER AND THE AHJ.

3.05 FIRE ALARM ANNUNCIATORS

- A. WHEN REQUIRED BY THE MANUFACTURER, PROVIDE FIRE ALARM ANNUNCIATOR WITH 120VAC DEDICATED CIRCUIT PER NFPA REQUIREMENTS.
- B. PROVIDE MACHINE PRINTED LABELS ON SWITCHES AND INDICATORS.
- C. VERIFY LOCATION WITH AHJ BEFORE INSTALLATION.

3.06 MANUAL PULL STATIONS

- A. PROVIDE MACHINE PRINTED ADDRESS LABELS ON ADDRESSABLE DEVICES.
- B. PROVIDE PROTECTIVE GUARD WHERE DEVICE IS SUBJECT TO ABUSE AND WHERE REQUIRED BY AHJ.
- 3.07 FIXED TEMPERATURE HEAT DETECTORS
- A. PROVIDE MACHINE PRINTED ADDRESS LABELS ON ADDRESSABLE DEVICES. LABELS TO BE VISIBLE FROM THE FLOOR WITHOUT MAGNIFICATION.
- B. PROVIDE PROTECTIVE GUARD WHERE DEVICE IS SUBJECT TO ABUSE AND WHERE REQUIRED BY AHJ.

3.08 RATE-OF-RISE AND FIXED TEMPERATURE HEAT DETECTORS

- A. PROVIDE MACHINE PRINTED ADDRESS LABELS ON ADDRESSABLE DEVICES. LABELS TO BE VISIBLE FROM THE FLOOR WITHOUT MAGNIFICATION.
- B. PROVIDE PROTECTIVE GUARD WHERE DEVICE IS SUBJECT TO ABUSE AND WHERE REQUIRED BY AHJ.

3.09 PHOTOELECTRIC TYPE DETECTORS

- A. PROVIDE MACHINE PRINTED ADDRESS LABELS ON ADDRESSABLE DEVICES. LABELS TO BE VISIBLE FROM THE FLOOR WITHOUT MAGNIFICATION.
- B. PROVIDE PROTECTIVE GUARD WHERE DEVICE IS SUBJECT TO ABUSE AND WHERE REQUIRED BY AHJ.

3.10 DUCT-MOUNTED SMOKE DETECTORS

- A. REFERENCE 3.01, GENERAL INSTALLATION REQUIREMENTS. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
- B. PROVIDE MACHINE PRINTED ADDRESS LABELS ON ADDRESSABLE DEVICES. LABELS TO BE VISIBLE FROM THE FLOOR WITHOUT MAGNIFICATION.

3.11 RELAY MODULES

- A. PROVIDE MACHINE PRINTED ADDRESS LABELS ON ADDRESSABLE DEVICES. LABELS TO BE VISIBLE FROM THE FLOOR WITHOUT MAGNIFICATION. LABELS TO INCLUDE DESCRIPTION OF CONTROLLED FUNCTION.

3.12 CONTROL MODULES

- A. PROVIDE MACHINE PRINTED ADDRESS LABELS ON ADDRESSABLE DEVICES. LABELS TO BE VISIBLE FROM THE FLOOR WITHOUT MAGNIFICATION. LABELS TO INCLUDE DESCRIPTION OF CONTROLLED FUNCTION.

3.13 INPUT MODULES

- A. PROVIDE MACHINE PRINTED ADDRESS LABELS ON ADDRESSABLE DEVICES. LABELS TO BE VISIBLE FROM THE FLOOR WITHOUT MAGNIFICATION. LABELS TO INCLUDE DESCRIPTION OF MONITORED INPUT.

3.14 FAULT ISOLATION MODULES

- A. PROVIDE MACHINE PRINTED ADDRESS LABELS ON ADDRESSABLE DEVICES. LABELS TO BE VISIBLE FROM THE FLOOR WITHOUT MAGNIFICATION.
- B. PROVIDE FAULT ISOLATOR MODULES FOR SIGNALING LINE CIRCUIT PER CODE REQUIREMENTS AND MANUFACTURER INSTRUCTIONS.

3.15 COMBINATION HORN/STROBES

- A. PROVIDE MACHINE PRINTED LABELS ON NOTIFICATION APPLIANCES WITH APPLIANCE CIRCUIT NUMBER AND SEQUENCE. LABELS TO BE VISIBLE FROM THE FLOOR WITHOUT MAGNIFICATION.
- B. PROVIDE PROTECTIVE GUARD WHERE DEVICE IS SUBJECT TO ABUSE AND WHERE REQUIRED BY AHJ.

3.16 STROBES

- A. PROVIDE MACHINE PRINTED LABELS ON NOTIFICATION APPLIANCES WITH APPLIANCE CIRCUIT NUMBER AND SEQUENCE. LABELS TO BE VISIBLE FROM THE FLOOR WITHOUT MAGNIFICATION.
- B. PROVIDE PROTECTIVE GUARD WHERE DEVICE IS SUBJECT TO ABUSE AND WHERE REQUIRED BY AHJ.

3.17 HORNS

- A. PROVIDE MACHINE PRINTED LABELS ON NOTIFICATION APPLIANCES WITH APPLIANCE CIRCUIT NUMBER AND SEQUENCE. LABELS TO BE VISIBLE FROM THE FLOOR WITHOUT MAGNIFICATION.
- B. PROVIDE PROTECTIVE GUARD WHERE DEVICE IS SUBJECT TO ABUSE AND WHERE REQUIRED BY AHJ.

3.18 WEATHERPROOF/SURFACE BACKBOXES

- A. PROVIDE MANUFACTURERS WEATHERPROOF BACKBOX LISTED FOR USE IN AREAS WHERE THE DEVICE OR APPLIANCE IS SUBJECT TO HUMIDITY IN EXCESS OF LISTED RATING. PROVIDE MANUFACTURER SURFACE BACKBOXES WHERE DEVICES CANNOT BE INSTALLED RECESSED.

3.19 PROTECTIVE GUARDS

- A. WIRE GUARD.
- B. PROTECTIVE COVER.

3.20 CIRCUIT CONDUCTORS

- A. PROVIDE WIRING TO MEET THE REQUIREMENTS OF NATIONAL, STATE AND LOCAL ELECTRICAL CODES. PROVIDE COLOR CODED WIRING AS RECOMMENDED AND SPECIFIED BY THE FIRE ALARM AND DETECTION SYSTEM MANUFACTURER. PROVIDE TYPE FPLR CABLE WHEN IN A RISER APPLICATION OR FPLP CABLE WHEN INSTALLED IN PLENUMS.

3.21 SURGE PROTECTIONS

- A. REFERENCE 3.01, GENERAL INSTALLATION REQUIREMENTS. INSTALL PER MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

3.22 BATTERIES

- A. PROVIDE MACHINE PRINTED LABEL WITH INSTALLATION DATE, AND DATE OF MONTH AND YEAR OF BATTERY MANUFACTURE (MM/YYYY).
- 3.23 LOCKS AND KEYS
- A. DELIVER TO OWNER.

3.24 DOCUMENT STORAGE CABINET

- A. PROVIDE DOCUMENT STORAGE CABINET ADJACENT TO FIRE ALARM CONTROL PANEL.

3.25 INSTRUCTION CHARTS

- A. INSTALL CHART ADJACENT TO FIRE CONTROL PANEL.

3.26 FRAMED FLOOR MAP

- A. PROVIDE FRAMED FLOOR PLAN OF FACILITY ADJACENT TO THE ANNUNCIATOR PANEL IDENTIFYING ROOM NAMES/NUMBERS, DEVICE/ADDRESSES OR FIRE ZONE NUMBER AND DESCRIPTION AS UTILIZED ON THE ANNUNCIATOR PANEL, AS REQUIRED BY LOCAL AHJ. CHECK WITH THE LOCAL FIRE DEPARTMENT FOR SIZE AND APPROVED MOUNTING LOCATION.

END OF SECTION



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PLUMBING SYMBOL LIST

NOTE: This is a standard symbol list and not all items listed may be used.

Abbreviations

#	NUMBER
&	AND
(A)	ABANDON IN PLACE
(E)	EXISTING
(F)	FUTURE
(N)	NEW
(R)	RELOCATE / RELOCATED LOCATION
(X)	DEMOLISH
@	AT
'	FOOT, FEET
A	AQUASTAT, ARCHITECT, ANCHOR, AMPHERE
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BLDG	BUILDING
BTUH	BRITISH THERMAL UNITS PER HOUR
CD	CONDENSATE DRAIN
CFH	CUBIC FEET PER HOUR
CFS	CUBIC FEET PER SECOND
CO	CLEANOUT
CONT.	CONTINUATION
CV	CHECK VALVE
CW	COLD WATER
D	DRAIN
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DET	DOMESTIC EXPANSION TANK
DF	DRINKING FOUNTAIN
DFU	DRAINAGE FIXTURE UNIT
DN	DOWN
DS	DOWNSPOUT
DSN	DOWNSPOUT NOZZLE
DW	DISHWASHER, DOMESTIC WATER
DWV	DRAINAGE, WASTE AND VENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
F	FIRE, FAHRENHEIT
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FL	FLOOR
FT	FEET
FV	FLUSH VALVE
GPM	GALLONS PER MINUTE
GWH	GAS WATER HEATER
HB	HOSE BIBB
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HW	HOT WATER
HWFU	HOT WATER FIXTURE UNIT
HWR	HOT WATER RETURN
HZ	HERTZ
IN, "	INCHES
INV	INVERT ELEVATION
IW	INDIRECT WASTE
L	LAVATORY
MIN	MINIMUM
MS	MOP SINK
MX	MIXING VALVE
N	NORTH
NIC	NOT IN CONTRACT

NO.	NUMBER
NTS	NOT TO SCALE
OD	OVERFLOW DRAIN, OUTSIDE DIAMETER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
P	PLUMBING, PUMP
PD	PRESSURE DROP, PLUMBING DEMOLITION, PUMPED DISCHARGE
PLBG	PLUMBING
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
QTY	QUANTITY
RD	ROOF DRAIN
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RWL	RAINWATER LEADER
S, SK	SINK
SA	SHOCK ARRESTOR
SAN	SANITARY
SB	SERVICE BOX
SD	STORM DRAIN
SF	SQUARE FEET
SHT	SHEET
SOV	SHUT OFF VALVE
SP	SUMP PUMP, STATIC PRESSURE
TEMP	TEMPERATURE
TP	TRAP PRIMER, TOTAL PRESSURE
TYP	TYPICAL
U, UR	URINAL
V	VACUUM, VENT, VOLT
VTR	VENT THRU ROOF
W/	WITH
W	WASTE
WC	WATER COLUMN, WATER CLOSET
WCO	WALL CLEANOUT
WH	WATER HEATER, WALL HYDRANT
WHA	WATER HAMMER ARRESTOR
WSFU	WATER SUPPLY FIXTURE UNIT

General

	DEMOLISH
	EXISTING WORK
	NEW WORK
	PIPE OR CONDUIT BELOW GRADE
	CONTINUATION
	EXTENT OF DEMOLITION
	POINT OF CONNECTION
	FIXTURE TAG (LEVEL BELOW FIXTURE)
	HVAC EQUIPMENT IDENTIFICATION (REF. ONLY)
	PLUMBING EQUIPMENT IDENTIFICATION
	KEYED NOTE

Piping Fittings

	ACCESS PANEL
	AQUASTAT
	BLIND FLANGE
	CAP

	CLEANOUT TO GRADE
	CONCENTRIC REDUCER
	DOWNSPOUT NOZZLE
	ECCENTRIC REDUCER
	FLOOR CLEANOUT
	FLOOR DRAIN
	FLOOR SINK
	FLOW DIRECTION
	HOSE BIBB / WALL HYDRANT
	OVERFLOW ROOF DRAIN
	PIPE DROP
	PIPE RISE
	PUMP
	ROOF DRAIN
	SHOCK ABSORBER / WATER HAMMER ARRESTOR
	STRAINER
	T&P RELIEF VALVE WITH PIPE TO DRAIN
	TEE DOWN ON PIPE
	TEE UP ON PIPE
	VENT THROUGH ROOF
	WALL CLEANOUT

Piping Systems

	COLD WATER PIPING
	CONDENSATE / INDIRECT DRAIN PIPING
	HOT WATER PIPING
	HOT WATER RETURN PIPING
	NATURAL GAS PIPING, 2 LB
	NATURAL GAS PIPING, 7" WC PRESSURE
	OVERFLOW DRAIN PIPING ABOVE GRADE OR FINISHED FLOOR
	SANITARY VENT PIPING
	SANITARY WASTE OR SOIL PIPING ABOVE GRADE OR FINISHED FLOOR
	SANITARY WASTE OR SOIL PIPING BELOW GRADE OR FINISHED FLOOR
	STORM DRAIN PIPING ABOVE GRADE OR FINISHED FLOOR
	STORM DRAIN PIPING BELOW GRADE OR FINISHED FLOOR
	TRAP PRIMER PIPING

Valves

	BACKFLOW PREVENTER
	CHECK VALVE
	SHUTOFF VALVE, GENERAL

GENERAL PLUMBING NOTES

- A. CONDITIONS SHOW ON THE PLANS RELATIVE TO THE WORK TO BE PERFORMED ARE BASED ON THE BEST INFORMATION AVAILABLE BUT ARE SUBJECT TO VERIFICATION. VERIFY LOCATIONS AND ELEVATIONS OF UTILITIES TO BE CROSSED OR CONNECTED. CORRECT DEFICIENCIES CAUSED BY FAILURE TO PERFORM SUCH VERIFICATIONS AT NO EXPENSE TO OWNER. IMMEDIATELY NOTIFY ARCHITECT AND ENGINEER OF CONDITION IN CONFLICT WITH THE DETAILS/PLANS.
- B. COORDINATE INSTALLATION OF PIPING BELOW AND ABOVE GRADE WITH STRUCTURAL COMPONENTS AND OTHER SYSTEMS INSTALLATION.
- C. COORDINATE FIXTURES, EQUIPMENT, PIPE ROUGH-IN/CONNECTION LOCATIONS AND DRAIN LOCATIONS WITH ARCHITECTURAL DRAWINGS.
- D. ALL PIPING SYSTEMS CROSSING SEISMIC SEPARATIONS SHALL UTILIZE PRE-MANUFACTURED EXPANSION JOINT SYSTEM, SIZED FOR 4 INCH X, Y AND Z MOVEMENT. UNISOURCE 'V' TYPE, HYSPAN OR APPROVED.
- E. PIPING ROUTED THROUGH ROOF TO BE INSTALLED PER ARCHITECTURAL REQUIREMENTS (SEE ARHICTECTURAL DETAILS).
- F. LOCATE ALL VTR A MINIMUM OF 10'-0" FROM OUTSIDE AIR OPENINGS OF ROOFTOP HVAC EQUIPMENT.
- G. LOCATE VALVES FOR SERVICE ACCESSIBILITY. VALVES INSTALLED ABOVE CEILING SHALL BE WITHIN 18" OF CEILING.
- H. INSTALL OVERHEAD PIPING AS CLOSE TO STRUCTURE AS POSSIBLE IN AREAS WITH EXPOSED ROOF STRUCTURE.
- I. REFER TO SPECIFICATIONS FOR SEISMIC RESTRAINT REQUIREMENTS FOR PIPING AND EQUIPMENT.
- J. PROVIDE CLEANOUTS FOR SANITARY WASTE AND STORM DRAINAGE SYSTEMS WHERE SHOWN AND AS OTHERWISE REQUIRED BY CODE.
- K. VERIFY LOCATIONS OF CONNECTIONS TO PIPING INSTALLED BY SITE CONTRACTOR.
- L. FURNISH AND INSTALL VALVES, TRAPS, STRAINERS, BACK FLOW PREVENTERS, ETC. NOT FURNISHED BY EQUIPMENT SUPPLIER, BUT REQUIRED FOR PROPER EQUIPMENT OPERATION.
- M. SHUT-OFF VALVES TO BE INSTALLED IN ALL WATER AND GAS PIPING AT LOCATIONS SHOWN. PROVIDE ACCESS PANELS IF CEILING AND STRUCTURAL CONDITIONS DO NOT ALLOW NORMAL ACCESS. COORDINATE EXACT TYPE AND LOCATION WITH OWNER AND GENERAL CONTRACTOR PRIOR TO ROUGH-IN.
- N. CONTRACTOR TO PROVIDE LOCATE/SCOPING SERVICES FOR EXISTING PIPING BELOW GRADE AND DOCUMENT/RECORD. COORDINATE WITH NEW WORK PRIOR TO START OF CONSTRUCTION.
- O. ROOF PENETRATIONS TO BE MINIMUM 5'-0" CLEAR OF TWO HOUR WALL SEPARATIONS.
- P. SEE PLUMBING FIXTURE SCHEDULE FOR PIPE CONNECTION SIZES.
- Q. COORDINATE INSTALLATION OF DUCTWORK, PIPING, FIXTURES, EQUIPMENT, ETC. WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND FIRE PROTECTION SYSTEMS PRIOR TO INSTALLATION.
- R. REFER TO ARCHITECTURAL DRAWINGS FOR ADA ACCESSIBILITY REQUIREMENTS.
- S. PROVIDE CEILING ACCESS PANELS FOR VALVES LOCATED ABOVE INACCESSIBLE CEILING SYSTEMS. VALVES INSTALLED ABOVE CEILING SHALL BE WITHIN 18" OF CEILING. MAINTAIN FIRE RATINGS WHERE REQUIRED.
- T. SEE ARCHITECTURAL DRAWINGS FOR EXACT FIXTURE LOCATIONS.
- U. REFER TO SPECIFICATIONS FOR SEISMIC RESTRAINT REQUIREMENTS FOR PIPING/EQUIPMENT.

SHEET INDEX

P0.01	SYMBOLS LIST AND GENERAL NOTES - PLUMBING
P2.01	PARTIAL FIRST FLOOR PLAN - PLUMBING
P3.01	SPECIFICATIONS - PLUMBING
P3.02	SPECIFICATIONS - PLUMBING



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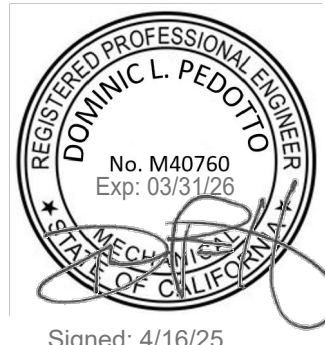
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Agency Approvals

Revision No. Date

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Job Address
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Date: 18 APRIL 2025

Issued For

100% CD

Job Number:

Drawn By: EW

Checked By: DP

Scale

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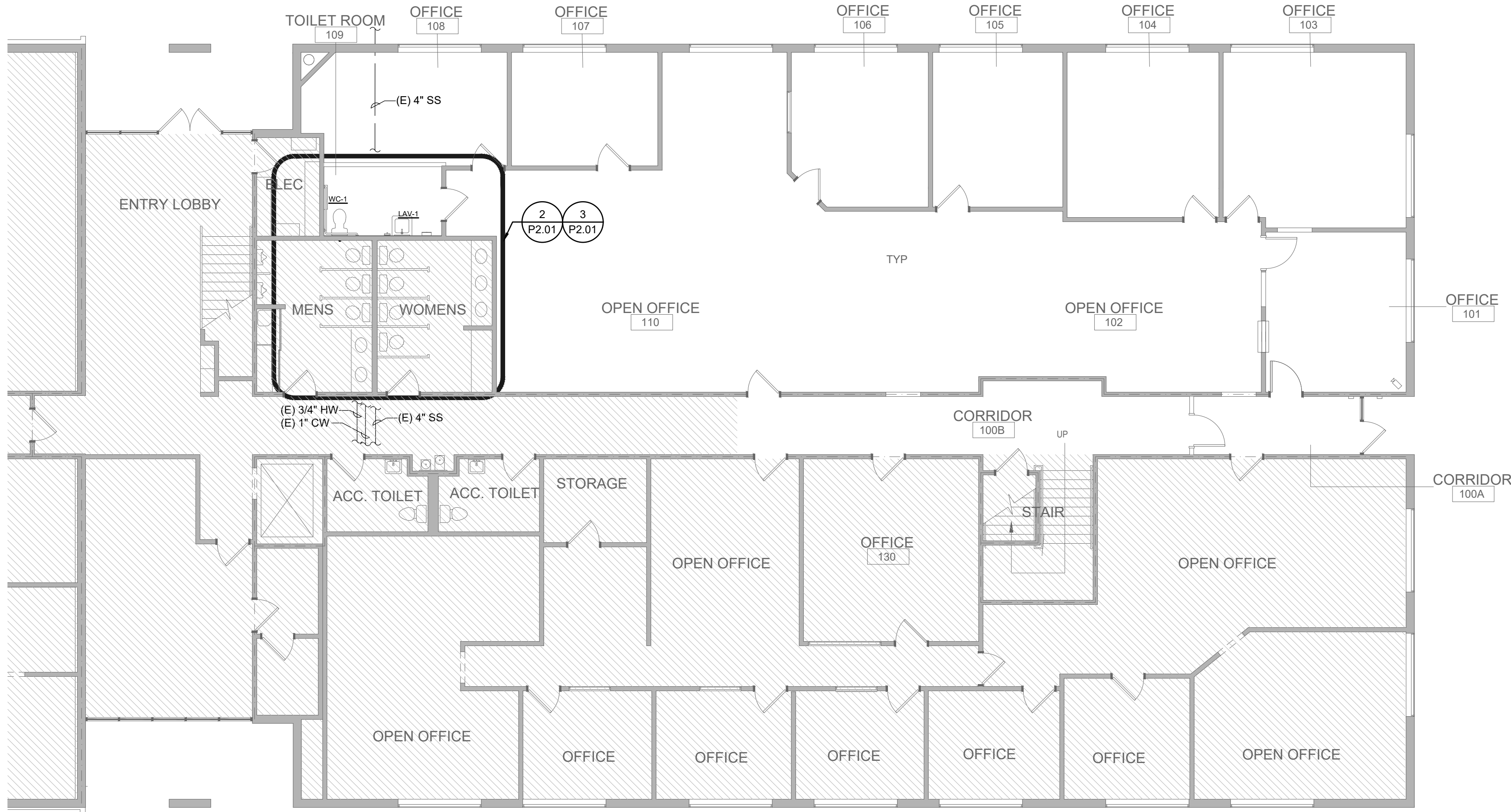
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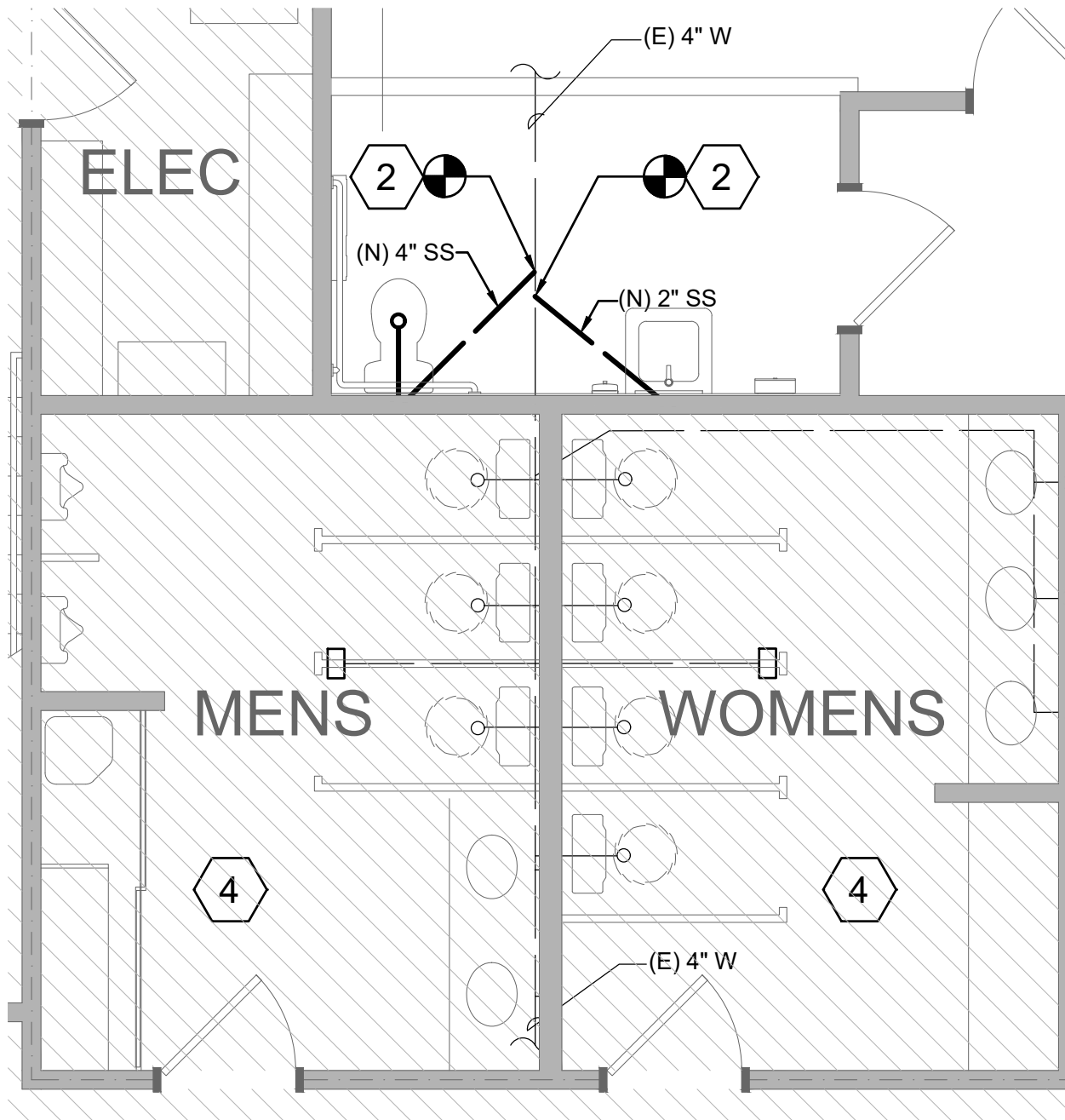
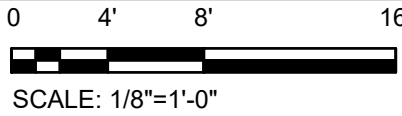
**SYMBOLS LIST AND
GENERAL NOTES -
PLUMBING**

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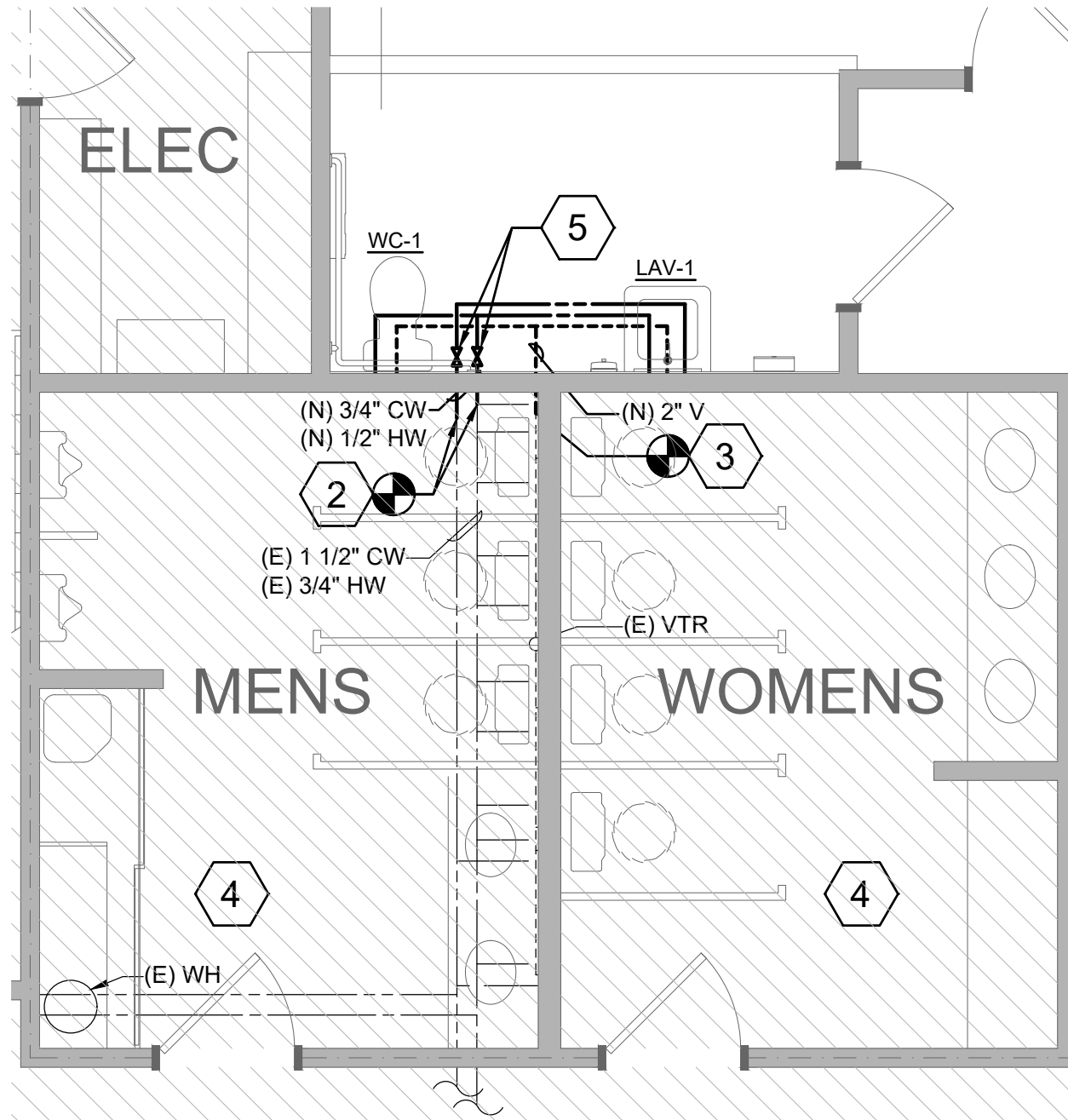
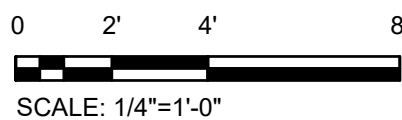
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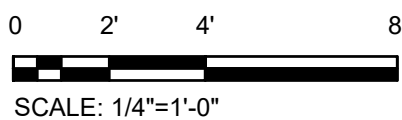
1 PARTIAL FIRST FLOOR PLAN - PLUMBING



2 ENLARGED BELOW GRADE PLAN



3 ENLARGED TOILET ROOM PLAN



SHEET KEY NOTES

- 1 CONNECTION POINT OF NEW DOMESTIC COLD AND HOT WATER PIPES TO EXISTING, ABOVE CEILING.
- 2 CONNECTION POINT OF NEW SANITARY SEWER VENT ABOVE CEILING.
- 3 CONNECTION POINT OF NEW SANITARY SEWER WASTE PIPE BELOW SLAB.
- 4 ALL EXISTING FIXTURES TO REMAIN UNCHANGED.
- 5 ISOLATION VALVES ON (N) 3/4" CW AND (N) 1/2" HW LINES ACCESSIBLE THROUGH CEILING TILE.

DEMOLITION NOTES

- A COORDINATE DEMOLITION, CUTTING, PATCHING, ETC. WITH GENERAL CONTRACTOR AND EXISTING FIELD CONDITIONS PRIOR TO SUBMITTING CONSTRUCTION CONTRACT BIDS. SEE SPECIFICATIONS GENERAL PROVISIONS. NOT ALL PIPING IS ILLUSTRATED.
- B SAW CUTTING OF ANY FLOOR, AND CORE DRILLING HOLES LARGER THAN EIGHT INCHES DIAMETER IN STRUCTURAL WALLS, FLOOR OR ROOF REQUIRES THE APPROVAL OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA. CONTRACTOR TO RETAIN THE SERVICES OF THE STRUCTURAL ENGINEER AND FORWARD WET STAMPED STRUCTURAL CALCULATIONS TO THE ARCHITECT PRIOR TO BEGINNING WORK. HOLES SMALLER THAN EIGHT INCHES DIAMETER IN STRUCTURAL WALLS, FLOOR OR ROOF SHALL BE REVIEWED BY THE ARCHITECT AND AUTHORIZED IN WRITING PRIOR TO BEGINNING OF WORK.
- C REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR SPACE ALLOTMENT, BEAM LOCATION AND COORDINATION PURPOSES. CONFLICTS REGARDING SPACE REQUIREMENTS, CLEARANCES, INTERFERENCE WITH STRUCTURE OR OTHER WORK, ETC., SHALL BE DIRECTED TO THE ARCHITECT FOR RESOLUTION PRIOR TO INSTALLATION OF WORK.
- D THE COST OF CUTTING, PATCHING AND PAINTING OF EXISTING WALLS, CEILINGS, AND FLOOR AS REQUIRED TO ACCOMMODATE WORK AS SHOWN OR SPECIFIED HEREIN, SHALL BE INCLUDED IN THE COST OF THE WORK FOR EACH TRADE. EMPLOY SKILLED WORKMEN TO PERFORM CUTTING AND PATCHING AND RESTORE DISTURBED SURFACES TO ORIGINAL CONDITION. THE MATERIALS AND WORKMANSHIP FOR ALL PATCHING SHALL BE AS SPECIFIED IN THE RESPECTIVE SECTIONS OF THE ARCHITECTURAL SPECIFICATIONS, OR AS DIRECTED BY THE ARCHITECT.
- E CONTRACTOR SHALL VERIFY AND COORDINATE ALL EXISTING WASTE, VENT AND WATER PIPING TO REMAIN IN SERVICE. EXISTING WASTE, VENT AND WATER PIPING SERVING EXISTING PLUMBING FIXTURES, FLOOR SINKS AND FLOOR DRAINS TO BE REMOVED ARE TO BE CAPPED BELOW FLOOR OR REMOVED BACK TO PLUMBING PIPING REMAINING IN SERVICE THEN CAPPED, EXCEPT AS NOTED. CONTRACTOR SHALL REROUTE/REPIPE EXISTING PIPING TO REMAIN AS REQUIRED TO MAINTAIN SERVICE. EXISTING PIPING SERVING OTHER TENANTS/BUILDING SPACES IS TO REMAIN.
- F REMOVE EXISTING FIXTURES, CLEAN AND RE-CONNECT TO EXISTING SERVICES AFTER NEW WALL AND/OR COUNTER FINISHES HAVE BEEN INSTALLED. COORDINATE LOCATION OF EACH FIXTURE WITH ARCHITECT.

PIPE MATERIAL SPECIFICATIONS

SANITARY: WASTE & VENT (ABOVE GRADE)	"NO-HUB" CAST IRON SOIL PIPE AND FITTINGS WITH HEAVY-DUTY COUPLINGS HUSKY SD4000 OR CLAMP. ALL HI-TORQ-125, FM 1680, CLASS 1.
WASTE & VENT (BELOW GRADE)	"NO-HUB" CAST IRON SOIL PIPE AND FITTINGS WITH HEAVY-DUTY COUPLINGS HUSKY SD4000 OR CLAMP. ALL HI-TORQ-125, FM 1680, CLASS 1.
DOMESTIC WATER (ABOVE GRADE)	TYPE "L" COPPER TUBING, WROGHT COPPER OR CAST BRONZE SWEAT FITTINGS PIPING 2-1/2 INCHES AND SMALLER. SOLDERED (95/5 SOLDER) JOINTS.
NOTES: 1. SEE SPECS FOR ADDITIONAL INFORMATION. 2. DIELECTRIC UNIONS SHALL BE USED AT ALL POINTS OF CONNECTIONS WHERE THERE IS DISSIMILARITY OF METALS.	

PLUMBING FIXTURE SCHEDULE

BASIS OF DESIGN					CONNECTION				NOTES
SYMBOL	FIXTURE TYPE	MFR	MODEL	ACCESSORIES	W	V	CW	HW	
WC-1	WATER CLOSET	SLOAN	WETS-8009.8010-1.28	BEMIS 1655SCT SEAT	4"	2"	1/2"	-	1, 2
LAV-1	LAVATORY	ZURN	Z5360		2"	1 1/2"	1/2"	1/2"	1, 2, 3
	FAUCET	SYMMONS	SLS-7000	MFR. THERMOSTATIC MIXING VALVE, 4" DECK PLATE, 0.35 GPM FLOW RESTRICTOR (0.175 GPM/CYCLE)					
	CARRIER	ZURN	1231EZ						

- NOTES:
- 1 SEE ARCHITECTURAL DRAWINGS FOR ALL FIXTURE MOUNTING HEIGHTS AND LOCATIONS.
 - 2 INCLUDE ANGLE STOP & SUPPLY, BRASSCRAFT, SCR1915A
 - 3 INSULATE WITH TRUBRO LAV-GUARD #101 E-Z, WHITE



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Signed: 1/23/26

Agency Approvals

Revision No.	Date
1	CAL GREEN UPDATES 01/23/2026

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SONOMA DRC

Job Address
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SANTA ROSA, CA 95403**

Date: **23 JANUARY 2026**

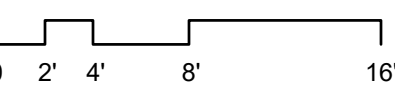
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Sheet Title

**FIRST FLOOR PLAN -
PLUMBING**

Sheet No.

P2.01



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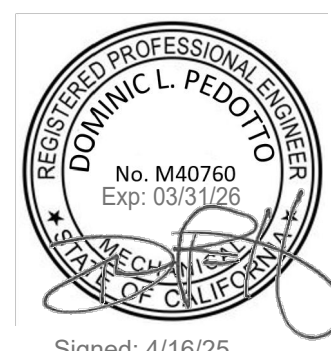
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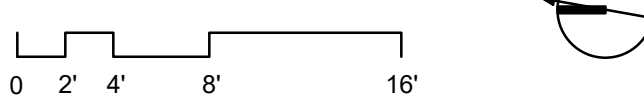
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Sheet Title

**SPECIFICATIONS -
PLUMBING**

Sheet No.

P3.01

SECTION 22 00 00 - BASIC PLUMBING REQUIREMENTS

PART 1 - GENERAL

1.01 DEFINITIONS

- PROVIDE: TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE.
- FURNISH: SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNPACKING, ASSEMBLY AND INSTALLATION.
- INSTALL: INCLUDES UNLOADING, UNPACKING, ASSEMBLING, ERECTING, INSTALLATION, APPLYING, FINISHING, PROTECTING, CLEANING AND SIMILAR OPERATIONS AT THE PROJECT SITE AS REQUIRED TO COMPLETE ITEMS OF WORK FURNISHED BY OTHERS.

1.02 SUMMARY

- WORK INCLUDED: PROVIDE COMPLETE PLUMBING SYSTEMS AS OUTLINED IN THIS SPECIFICATION.

1.03 QUALITY ASSURANCE

- WHERE DRAWINGS OR SPECIFICATIONS ARE AT VARIANCE WITH APPLICABLE CODES GOVERNING WORK, CODE REQUIREMENTS TAKE PRECEDENCE, AND INCLUDE COSTS NECESSARY TO MEET THESE IN BID PRICE.

B. DRAWINGS

- THE DRAWINGS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURER'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT DIMENSIONS, OR DETAILS OF EQUIPMENT OR PROPOSED SYSTEMS LAYOUT. VERIFY ACTUAL DIMENSIONS OF SYSTEMS (I.E. PIPING) AND EQUIPMENT PROPOSED TO ASSURE THAT SYSTEMS AND EQUIPMENT WILL FIT IN AVAILABLE SPACE.
- INSTALLATION OF ALL PLUMBING SYSTEMS WITHIN LIMITATIONS IMPOSED BY ARCHITECTURAL, STRUCTURAL, AND ELECTRICAL REQUIREMENTS. PROVIDE ADEQUATE SPACE FOR MANUFACTURER'S RECOMMENDED MAINTENANCE AND CODE-REQUIRED CLEARANCES.

C. SUBSTITUTIONS:

- WHERE MATERIALS OR EQUIPMENT ARE SPECIFIED BY NAME OF MANUFACTURER, SUCH SPECIFICATION TO BE DEEMED TO BE USED FOR PURPOSES OF ESTABLISHING A STANDARD OF QUALITY FOR THAT PARTICULAR ITEM. MATERIALS OR EQUIPMENT TO CONFORM TO SPECIFICATIONS AND DRAWINGS IN ALL RESPECTS. MODIFICATION TO EQUIPMENT TO CONFORM TO SPECIFICATIONS OR DRAWINGS IS REQUIRED IF LISTED MANUFACTURER CANNOT MEET REQUIREMENTS WITH A REGULARLY CATALOGED ITEM. INCLUSION OF A MANUFACTURER'S NAME AS ACCEPTABLE TO PROVIDE SPECIFIC EQUIPMENT DOES NOT INDICATE THAT MANUFACTURER'S STANDARD CATALOGUED COMPONENTS WILL PERFORM AS REQUIRED, OR THAT THEY WILL FIT IN ALLOCATED PHYSICAL SPACE FOR EQUIPMENT. VERIFY THAT EQUIPMENT WHICH IS PROPOSED TO BE PROVIDED WILL FIT IN ALLOCATED PHYSICAL SPACE, WITH ALL REQUIRED MANUFACTURERS AND CODE REQUIRED CLEARANCES.
- EQUIPMENT SUBMITTED FOR SUBSTITUTION TO MEET ALL CONTRACT DOCUMENT REQUIREMENTS INCLUDING QUALITY ESTABLISHED BY BRAND SPECIFIED. INDICATE ALL DEVIATIONS OR NONCOMPLIANCES BY AN ATTACHED LETTER EXPLAINING A PROPOSED CHANGE. ACCEPTANCE OF SUBMITTED MATERIAL DOES NOT GRANT DEVIATION FROM CONTRACT REQUIREMENTS. ADDITIONAL EXPENSE RESULTING BY DECISION TO USE SUBSTITUTE MATERIALS MUST BE INCLUDED IN BID SUM AND SHALL INCLUDE ALL COSTS BY OTHER AFFECTED CRAFTS.
- VARIATIONS IN EQUIPMENT: IF APPROVED PLUMBING EQUIPMENT OF OTHER MANUFACTURER REQUIRES MODIFICATION OR CONTRASTS TO OTHER WORK SHOWN ON DRAWINGS, ARRANGE FOR AND PAY ALL COSTS OF SUCH CHANGES AT NO ADDITIONAL COST TO OWNER.
- "OR APPROVED": WHERE EQUIPMENT MAKE IS LISTED, FOLLOWED BY PHRASE "OR APPROVED," THIS SHALL REQUIRE SUBMITTAL OF PROPOSED MAKE PRIOR TO BIDDING FOR REVIEW AND APPROVAL BY ARCHITECT.

- REGULATORY REQUIREMENTS - UL AND CSA COMPLIANCE: PROVIDE UNITS WHICH ARE UL AND CSA LISTED.

1.04 PERMITS, CODES AND LAWS

- AS A MINIMUM REQUIREMENT, UNLESS OTHERWISE SPECIFIED, ALL WORK SHALL BE IN ACCORDANCE WITH FOLLOWING RULES AND REGULATIONS AND ANY APPLICABLE LAWS:

- NFPA
 - OSHA
 - RELATED SUPPLEMENTS AND STANDARDS.
 - CALIFORNIA STATE ENERGY CODE.
 - CALIFORNIA BUILDING CODE.
 - CALIFORNIA MECHANICAL CODE.
 - CALIFORNIA PLUMBING CODE.
 - CALIFORNIA ELECTRICAL CODE.
 - CALIFORNIA FIRE PROTECTION ASSOCIATION.
 - CALIFORNIA STATE FIRE MARSHAL.
 - DIVISION OF THE STATE ARCHITECT.
 - CALIFORNIA OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT.
 - STATE OF CALIFORNIA AND LOCAL JURISDICTION AND CODE REQUIREMENTS.
- GENERAL: REFERENCE STANDARDS AND GUIDELINES INCLUDING, BUT NOT LIMITED TO, THE LATEST ADOPTED EDITIONS FROM:
 - ADA AMERICANS WITH DISABILITIES ACT.
 - AHJ AUTHORITY HAVING JURISDICTION.
 - ANSI AMERICAN NATIONAL STANDARDS INSTITUTE.
 - ARI AIR-CONDITIONING & REFRIGERATION INSTITUTE.
 - ASHRAE AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS.
 - ASME AMERICAN SOCIETY OF MECHANICAL ENGINEERS.
 - ASPE AMERICAN SOCIETY OF PLUMBING ENGINEERS.
 - ASTM AMERICAN SOCIETY FOR TESTING AND MATERIALS.
 - ASSE AMERICAN SOCIETY OF SANITARY ENGINEERING.
 - AWWA AMERICAN WATER WORKS ASSOCIATION.
 - CBC CALIFORNIA BUILDING CODE.
 - CEC CALIFORNIA ELECTRICAL CODE.
 - CMC CALIFORNIA MECHANICAL CODE.
 - CPC CALIFORNIA PLUMBING CODE.
 - CSA CANADIAN GAS ASSOCIATION.
 - CISPI CAST IRON SOIL PIPE INSTITUTE.
 - CSA CANADIAN STANDARDS ASSOCIATION.
 - ETL ELECTRIC TESTING LABORATORIES.
 - FM FM GLOBAL.
 - GAMA GAS APPLIANCE MANUFACTURERS ASSOCIATION.
 - HI HYDRAULIC INSTITUTE STANDARDS.
 - HVAC HEATING, VENTILATING AND AIR CONDITIONING.
 - IAPMO INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS.
 - ICC INTERNATIONAL CODE COUNCIL.
 - ISO INTERNATIONAL ORGANIZATION FOR STANDARDIZATION.
 - LEED LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN.
 - MSS MANUFACTURERS STANDARDS INSTITUTE SOCIETY.
 - NEC NATIONAL ELECTRIC CODE.
 - NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION.
 - NFPA NATIONAL FIRE PROTECTION ASSOCIATION.
 - NFPA NATIONAL FUEL GAS CODE.
 - NIRCA NATIONAL ROOFING CONTRACTORS ASSOCIATION.
 - NSF NATIONAL SANITATION FOUNDATION.
 - OSHA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION.
 - SMACNA SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION, INC.
 - TEMA TUBULAR EXCHANGER MANUFACTURERS ASSOCIATION.
 - TIMA THERMAL INSULATION MANUFACTURERS ASSOCIATION.
 - UL UNDERWRITERS LABORATORIES INC.
 - USDA UNITED STATES DEPARTMENT OF AGRICULTURE.
 - USGBC UNITED STATES GREEN BUILDING COUNCIL.
- ALL WORK AND MATERIALS SHALL CONFORM TO PUBLIC UTILITY, LOCAL AND STATE CODES, AND ALL STATE AND OTHER APPLICABLE LAWS AND REGULATIONS. UPON COMPLETION OF PLUMBING SYSTEMS INSTALLATION, SUBMIT CERTIFICATES OF INSPECTION BY ALL CODE AUTHORITIES HAVING JURISDICTION (AHJ'S).
 - MEET REQUIREMENTS AS A MINIMUM REQUIREMENT, AND INCLUDE ANY COST NECESSARY TO MEET THESE IN CONTRACT. ALL MACHINERY AND EQUIPMENT SHALL COMPLY WITH OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AS CURRENTLY REVISED, AS INTERPRETED FOR EQUIPMENT MANUFACTURER REQUIREMENTS. INSTALL ALL EQUIPMENT PROVIDED PER MANUFACTURER RECOMMENDATIONS. SEE "LETTER OF CONFORMANCE" IN THIS SECTION.
 - WHENEVER THIS SPECIFICATION CALLS FOR MATERIAL, WORKMANSHIP, ARRANGEMENT OR CONSTRUCTION OF HIGHER QUALITY OR CAPACITY THAN THAT REQUIRED BY GOVERNING CODES, HIGHER QUALITY SHALL TAKE PRECEDENCE.
- PERMITS AND INSPECTIONS
 - UNLESS OTHERWISE DISTINCTLY HEREINAFTER SPECIFIED, SUBMIT DRAWINGS AND DOCUMENTS FOR PERMIT REVIEW, APPLY AND PAY FOR ALL NECESSARY PERMITS AND INSPECTIONS REQUIRED BY ANY PUBLIC A.H.J.
 - REFER TO GENERAL AND SUPPLEMENTARY CONDITIONS FOR PAYMENT OF WATER AND SEWER SERVICE CONNECTION FEES.
 - OBTAIN CERTIFICATES OF INSPECTION FROM PUBLIC AHJ AND DELIVER TO OWNER BEFORE FINAL ACCEPTANCE.
 - EACH TRADE TO CONSULT LOCAL BUILDING DEPARTMENT, UTILITY COMPANIES AND OWNER PRIOR TO COMMENCEMENT OF WORK TO ASCERTAIN EXISTENCE AND LOCATION OF EXISTING UNDERGROUND UTILITIES. PROTECT EXISTING SERVICE AGAINST DAMAGE AND INTERRUPTION OF USE, AND REROUTE AS MAY BE NECESSARY TO ACCOMPLISH NEW WORK. INCLUDE COSTS FOR MATERIALS AND INSTALLATION FOR REROUTING AS SPECIFIED FOR NEW WORK IN BID PRICE.
- COMPATIBILITY AND COORDINATION
 - THE PLUMBING EQUIPMENT SHALL BE COMPATIBLE WITH, ACKNOWLEDGE AND ACCOMMODATE, REQUIREMENTS OF OTHER TRADES. RESOLVE WITHOUT ADDITIONAL COST TO OWNER THOSE DETAILS NECESSARY TO ASSURE THAT PLUMBING SYSTEMS PROPERLY AND COMPLETELY FUNCTION TOGETHER WHEN ASSEMBLED AND ACHIEVE ALL REQUIRED PERFORMANCE AND CONFORM TO ALL REQUIREMENTS OF ALL GOVERNING CODES AND REGULATORY AGENCIES.
 - COORDINATE VARIOUS PORTIONS OF WORK AS TO SCHEDULING, INSTALLATION PROCEDURES, SHOP DRAWINGS AND FINAL INSTALLATION OF ALL RELATED MATERIALS. PROMPTLY NOTIFY OWNER OF ANY DEFECTS OR IMPERFECTIONS WHICH WILL AFFECT SATISFACTORY COMPLETION OF

THIS WORK

1.07 SUBMITTALS

A. SHOP DRAWINGS:

- UNLESS OTHERWISE APPROVED, PROVIDE ALL SHOP DRAWINGS AT ONE TIME IN A VINYL COVERED THREE-RING LOOSE-LEAF BINDER.
 - CLEARLY REFERENCE EACH ITEM BY PAGE AND PARAGRAPH TO APPLICABLE PORTION OF SPECIFICATIONS. WHERE EQUIPMENT IS DESIGNATED BY NUMBER OR SYMBOL ON DRAWINGS SUBMITTAL SHALL ALSO SHOW THIS NUMBER OR SYMBOL.
 - SPECIFICALLY NOTE ALL SPECIFIED FEATURES AND PERFORMANCE DATA ON SUBMITTAL.
 - CHECK SHOP DRAWINGS FOR SPACE REQUIREMENTS AND CONFORMANCE WITH SPECIFICATIONS AND MARK CORRECTIONS AND APPROVAL ON ALL SHOP DRAWINGS PRIOR TO SUBMITTAL TO ARCHITECT.
 - THE ENGINEER WILL REVIEW THE ORIGINAL SUBMITTAL AND ONE RESUBMITTAL FOR THE SAME PRODUCT. ADDITIONAL RESUBMITTALS WILL BE REVIEWED ON AN HOURLY RATE, PAYABLE BY THE CONTRACTOR.
 - PARTIAL SUBMITTALS OR SUBMITTALS NOT PROPERLY FORMATTED AS INDICATED ABOVE, ARE SUBJECT TO RETURN WITHOUT REVIEW FOR THE CONTRACTOR TO CORRECT.
- VISITING PREMISES
 - BEFORE SUBMITTING BID ON WORK, VISIT SITE AND BECOME FAMILIAR WITH ALL VISIBLE EXISTING CONDITIONS. NO ADDITIONAL ALLOWANCE WILL BE GRANTED DUE TO LACK OF INFORMATION OF VISIBLE EXISTING CONDITIONS.
 - THE SUBMISSION OF A BID WILL BE CONSIDERED AN ACKNOWLEDGMENT ON PART OF BIDDER OF HIS VISITATION TO SITE.

1.09 RECORD DRAWINGS

- MAINTAIN A WEEKLY UPDATED SET OF AS-CONSTRUCTED DOCUMENTS. AT CONCLUSION OF BUILDING PROJECT, TRANSFER THESE WEEKLY UPDATED DOCUMENTS TO A SET OF REPRODUCIBLE SEPIAS OF ORIGINAL DESIGN.

1.10 WARRANTY

- GENERAL: PROVIDE WRITTEN WARRANTY ON PLUMBING WORK, AGREEING TO REPLACE/REPAIR INADEQUATE AND DEFECTIVE MATERIALS AND QUALITY OF WORK, INCLUDING LEAKAGE, BREAKAGE, IMPROPER ASSEMBLY AND FAILURE TO PERFORM AS REQUIRED FOR A PERIOD OF ONE YEAR FROM DATE OF OWNER'S ACCEPTANCE. INCLUDE SEPARATE PRODUCT WARRANTIES AS INDICATED (IF ANY) FORBIDDEN FOR COMPONENTS OR PRODUCTS IN WORK. PROVIDE WARRANTY SIGNED BY BOTH INSTALLER AND CONTRACTOR.
- INCLUDE MANUFACTURER'S STANDARD PRODUCT WARRANTY, COVERING PLUMBING EQUIPMENT OPERATION UNDER NORMAL CONDITIONS AND USE. WHERE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, PROVIDE PRODUCT WARRANTY PERIOD TERMINATING 12 MONTHS AFTER SUBSTANTIAL COMPLETION. PROVIDE ADDITIONAL MANUFACTURER'S 4-YEAR WARRANTY ON ALL REFRIGERANT COMPRESSORS.

PART 2 - PRODUCTS

2.01 MATERIAL

- ALL MATERIALS AND PRODUCTS USED FOR CONSTRUCTION SHALL BE NEW, OF BEST GRADE AND OF LATEST PRODUCTS AS LISTED IN PRINTED MANUFACTURER'S CATALOG DATA. ALL ARTICLES OF A KIND ARE STANDARD UNLESS INDICATED OTHERWISE. PROVIDE MANUFACTURER'S NAMES DENOTE CHARACTER AND QUALITY OF EQUIPMENT DESIRED AND SHALL NOT BE CONSTRUED AS LIMITING COMPETITION. REFERENCES TO PRODUCT SPECIFICATIONS FOR MATERIALS ARE LISTED ACCORDING TO ACCEPTED BASE STANDARDS. ALL MATERIALS SHALL MEET LATEST APPROVED VERSIONS OF THESE STANDARDS.

PART 3 - EXECUTION

3.01 INSTALLATION

- ALL WORK AND MATERIALS SUBJECT TO INSPECTION AT ANY AND ALL TIMES BY ARCHITECT AND/OR OWNER'S REPRESENTATIVE.
- SUPERVISION
 - CONSTANTLY SUPERVISE WORK COVERED BY THESE SPECIFICATIONS. VERIFY ALL CONDITIONS ON JOB SITE AND LAY OUT WORK ACCORDINGLY.
- EQUIPMENT IDENTIFICATION
 - EACH NEW PIECE OF EQUIPMENT SHALL BEAR A PERMANENTLY ATTACHED IDENTIFICATION PLATE, LISTING MANUFACTURER'S NAME, CAPACITIES, SIZES AND CHARACTERISTICS.

3.04 OPERATING AND MAINTENANCE INSTRUCTIONS

- PRIOR TO ACCEPTANCE OF WORK AND DURING TIME DESIGNATED BY ARCHITECT, PROVIDE NECESSARY QUALIFIED PERSONNEL, TO OPERATE SYSTEM FOR PERIOD OF 6 HOURS.
- DURING OPERATING PERIOD, FULLY INSTRUCT OWNER'S REPRESENTATIVE IN COMPLETE OPERATIONS, ADJUSTMENT AND MAINTENANCE OF EACH RESPECTIVE INSTALLATION.
- OPERATIONS AND MAINTENANCE DATA: AT TIME OF SYSTEM DEMONSTRATION, DELIVER TO OWNER TWO BOUND COPIES (3-RING BINDER TYPE) OF OPERATION AND MAINTENANCE MANUALS CONTAINING FOLLOWING MATERIALS:
 - CATALOG DESCRIPTION OF EACH ITEM OF EQUIPMENT ACTUALLY INSTALLED ON JOB.
 - INSTRUCTIONS FOR OPERATION AND MAINTENANCE OF PLUMBING SYSTEMS COMPOSED OF OPERATING INSTRUCTIONS, MAINTENANCE INSTRUCTIONS AND MANUFACTURER'S LITERATURE AS FOLLOWS:
 - MAINTENANCE SCHEDULE CHART: PROVIDE AN 8-1/2" BY 11-INCH TYPEWRITTEN LIST OF EACH ITEM OF INSTALLED EQUIPMENT REQUIRING INSPECTION, LUBRICATION OR SERVICE, DESCRIBING AND SCHEDULING PERFORMANCE OF SUCH MAINTENANCE.
 - MANUFACTURER'S LITERATURE: PROVIDE COPIES OF MANUFACTURER'S INSTRUCTIONS FOR OPERATION AND MAINTENANCE OF ALL PLUMBING EQUIPMENT, INCLUDING REPLACEMENT PARTS LIST WITH NAME AND ADDRESS OF NEAREST DISTRIBUTOR. MARK EACH COPY WITH EQUIPMENT IDENTIFICATION LABEL AS LISTED IN EQUIPMENT SCHEDULE, I.E. CCP-5, EWH-1, ETC.

3.05 REVIEW BY ENGINEER

- NOTIFY ARCHITECT AT FOLLOWING STAGES OF CONSTRUCTION SO THAT ARCHITECT MAY, AT HIS OPTION, VISIT SITE FOR REVIEW AND CONSTRUCTION OBSERVATION:
 - PLUMBING:
 - PRIOR TO COVERING WALLS
 - WHEN CEILING INSTALLATION IS STARTED.
 - SHOULD CONTRACTOR FAIL TO NOTIFY ARCHITECT AT TIMES PRESCRIBED ABOVE, IT SHALL BE CONTRACTOR'S RESPONSIBILITY AND COST TO MAKE DUCTWORK ACCESSIBLE, EXPOSE ANY CONCEALED LINES, OR DEMONSTRATE ACCEPTABILITY OF ANY PART OF SYSTEM. ANY EXTRA COST CAUSED BY REMOVAL OF SUCH WORK SHALL BE BORNE BY CONTRACTOR.

3.06 OPERATING DURING CHANGEOVER

- DURING REMODELING OF AN EXISTING STRUCTURE, OR ADDITION OF A STRUCTURE TO AN EXISTING STRUCTURE, WHILE AN EXISTING STRUCTURE IS OCCUPIED, PRESENT SERVICES SHALL REMAIN INTACT UNTIL NEW CONSTRUCTION, FACILITIES OR EQUIPMENT IS INSTALLED.
- PRIOR TO CHANGING OVER, NOTIFY ARCHITECT THAT EVERY ITEM IS THOROUGHLY PREPARED. INSTALL ALL NEW PIPING, WIRING, ETC. TO POINT OF CONNECTION.
- DO ACTUAL TRANSFER TO NEW SERVICE AT AN OFF-PEAK TIME, AS ARRANGED WITH OWNER. ONCE CHANGEOVER IS STARTED, VIGOROUSLY PURSUE IT TO ITS COMPLETION, TO KEEP INTERFERENCE TO A MINIMUM.

3.07 DEMOLITION

- COORDINATE DEMOLITION OF EXISTING PLUMBING SYSTEMS. COORDINATE EXTENT OF DEMOLITION OF PLUMBING WORK WITH OTHER TRADES. NO EXTRA COSTS WILL BE APPROVED BY REPLACEMENT OF SYSTEMS DUE TO IMPROPER OR EXCESSIVE DEMOLITION.
- ADJUSTING AND CLEANING
 - ADJUST CONTROLS FOR PROPER OPERATION. ADJUST REGULATORS, ETC. OPEN AND CLOSE SHUTOFF AND CONTROL VALVES SEVERAL TIMES TO ENSURE TIGHT GLANDS. FLUSH PIPING THOROUGHLY AFTER TESTING AND PRIOR TO CONNECTING EQUIPMENT OR FIXTURES. CLEAN FIXTURES AND ADJUST FAUCETS AND VALVES.

3.09 DEMONSTRATION

- UPON COMPLETION OF WORK AND ADJUSTMENT OF ALL EQUIPMENT, TEST SYSTEMS TO DEMONSTRATE TO OWNER'S REPRESENTATIVE AND ARCHITECT THAT ALL EQUIPMENT FURNISHED AND INSTALLED OR CONNECTED UNDER PROVISIONS OF THESE SPECIFICATIONS FUNCTIONS MECHANICALLY IN MANNER REQUIRED.

3.10 PIPING AND EQUIPMENT REMOVAL

- PIPING AND EQUIPMENT REMOVED AND IDENTIFIED AS SALVAGE BY OWNER TO REMAIN PROPERTY OF OWNER.

- COMPLY WITH SITE DEMOLITION PORTION OF SPECIFICATION.
- CONTRACTOR TO REMOVE AND DISPOSE OF EXCESS PIPING AND EQUIPMENT REMOVED (AND NOT IDENTIFIED BY OWNER AS SALVAGE).

3.11 CUTTING AND PATCHING

- CUTTING AND PATCHING PERFORMED UNDER PLUMBING WORK SHALL INCLUDE BUT NOT BE LIMITED TO:
 - SAW CUTTING AND TRENCHING NEW AND EXISTING CONCRETE FLOORS.
 - CUTTING AND PATCHING OF PLASTER OR PARTITIONS.
 - CUTTING AND TRIMMING OPENINGS IN CASEWORK FOR INSTALLATION OR CONNECTION OF PLUMBING FIXTURES. COUNTERTOP OPENINGS FOR SINKS CUT BY CASEWORK SUPPLIER.
 - CUTTING AND PATCHING OF FINISHED CEILINGS.

- PERFORM CUTTING AND PATCHING BY SKILLED CRAFTSMEN IN TRADE OF WORK TO BE PERFORMED. FILL HOLES WHICH ARE CUT OVERSIZED FOR COMPLETED WORK. REFINISHING SHALL MATCH EXISTING FINISH AND SHALL BE ACCEPTABLE TO ARCHITECT.
- VERIFY IF EXISTING ROOF IS UNDER WARRANTY, PERFORM ALL WORK TO MAINTAIN WARRANTY.
- WHEN MASONRY OR CONCRETE CONSTRUCTION MUST BE PENETRATED, FURNISH AND INSTALL A STEEL PIPE SLEEVE IN OPENING AND GROUT IN PLACE IN A NEAT MANNER. LEAVE GROUT SURFACE TO MATCH EXISTING FINISH. PROVIDE ESCUTCHEONS. IF SLEEVES ARE NOT PROVIDED, CORE DRILL ALL PENETRATIONS.
- LOCATE ALL CONCEALED UTILITIES TO ELIMINATE ANY POSSIBLE SERVICE INTERRUPTION OR DAMAGE.

- NO EXTRA WILL BE ALLOWED FOR LACK OF PROPER COORDINATION.

3.12 FIRESTOPPING PENETRATIONS IN FIRE-RATED WALL/FLOOR ASSEMBLIES

- PROVIDE PROPER SIZING WHEN PROVIDING SLEEVES OR CORE-DRILLED HOLES TO ACCOMMODATE PENETRATION. FIRESTOP ALL VOIDS BETWEEN SLEEVE OR CORE-DRILLED HOLE AND PIPE PASSING THROUGH TO MEET REQUIREMENTS OF ASTM E814.

3.13 LETTER OF CONFORMANCE

- PROVIDE LETTER AND COPIES OF EXTENDED WARRANTIES WITH A STATEMENT IN LETTER THAT ALL PLUMBING ITEMS WERE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION HAVE NOT BEEN FOLLOWED,

CONTRACTOR SHALL SO STATE, GIVE REASONS WHY AND HE SHALL WARN ARCHITECT OF ANY CONDITION WHICH MAY IMPAIR FUNCTIONING OF APPARATUS OR VOID MANUFACTURER'S WARRANTY. INCLUDE LETTER OF CONFORMANCE AND WARRANTIES IN OPERATING AND MAINTENANCE MANUALS.

SECTION 22 01 00 - BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.01 SUBMITTALS

- PROVIDE SHOP DRAWINGS FOR FOLLOWING EQUIPMENT:
 - PIPING MATERIALS.
 - VALVES.
 - UNIONS.

PART 2 - PRODUCTS

2.01 PRODUCT STANDARDS

- REFERENCES TO PRODUCT SPECIFICATIONS FOR MATERIALS ARE LISTED ACCORDING TO ACCEPTED BASE STANDARDS. ALL MATERIALS SHALL MEET LATEST APPROVED VERSIONS OF THESE STANDARDS. COMMERCIAL GRADE PIPING MATERIALS ARE INDICATED FOR REFERENCE.

2.02 PIPING MATERIALS

- CAST IRON SOIL PIPE: SERVICE WEIGHT HUBLESS CAST IRON PIPE AND FITTINGS CONFORMING TO ANSI A112.5.2 WITH CODE APPROVED COUPLINGS.
- STEEL PIPE: SCHEDULE 40 PIPE, BLACK OR GALVANIZED, ASTM A53. MALLEABLE OR CAST IRON THREADED FITTINGS TO MATCH PIPE.
- COPPER TUBE: HARD DRAWN COPPER, TYPES "K," AND "L," CONFORMING TO ASTM B88. FITTINGS SHALL BE WROUGHT COPPER OR CAST BRONZE SOLDER JOINT FITTINGS CONFORMING TO ANSI B16.22.
- CORRUGATED STAINLESS STEEL TUBING (CSST) WITH POLYETHYLENE JACKETING (3/8-INCH TO 1-INCH ID SIZES):
 - TUBING: CORRUGATED STAINLESS STEEL TUBING MANUFACTURED OF 304 STAINLESS STEEL WITH YELLOW POLYETHYLENE JACKETING AND COMPLYING WITH ANSICSA LC-1 STANDARDS.
 - FITTINGS: BRASS MECHANICAL TYPE FITTINGS UTILIZING A RETAINER RING, SLIDE RING, SILICONE O-RING AND HIGH TEMPERATURE SEALING GASKET.
- TERMINATION PLATES AND BRACKETS: PROVIDE PREMANUFACTURED TERMINATION PLATES AND BRACKETS OF SAME MANUFACTURER AS PIPE (CSST).
- VALVES: BALL VALVES, BRASS MECHANICAL TYPE UTILIZING RETAINER RINGS, SLIDE RINGS, SILICONE O-RINGS AND HIGH TEMPERATURE SEALING GASKET. COMPLY WITH ANSI/ASME B16.33.
- MANIFOLDS: PROVIDE FIELD FABRICATED STANDARD MALLEABLE IRON THREADED FITTINGS.
- MANUFACTURER: TRU-FLEX, PRO-FLEX, GASTITE OR APPROVED.

2.03 VALVES

- GENERAL: VALVES MANUFACTURED BY JENKINS, KENNEDY, WALWORTH, NIBCO, STOCKHAM, HAMMOND, MILWAUKEE, LUNKENHEIMER, OR APPROVED.
- GATE VALVES:
 - 2 INCHES AND SMALLER: BRONZE BODY, 125 PSI WORKING PRESSURE NON-RISING STEM. NIBCO MODEL 113.
 - 2-1/2 INCHES AND LARGER: IRON BODY, 125 PSI WORKING PRESSURE, NON-RISING STEM. NIBCO MODEL 619.
 - NATURAL GAS VALVES:
 - 2 INCHES AND SMALLER: BALL VALVES, UL LISTED, TWO-PIECE CONSTRUCTION, THREADED, BRONZE BODY, CONVENTIONAL PORT, 250 PSI WOG WORKING PRESSURE. WATTS B-6000UL.
 - 2-1/2 INCHES AND LARGER: 100 TO 125 PSI RATED ALL BRONZE OR IRON BODY/BRONZE TRIMMED PLUG COCK TYPE. SQUARE HEAD OR TEE/LEVER HANDLE OPERATION. CSA APPROVED.
 - BALL VALVES SIZE 2-1/2 INCHES AND SMALLER: BRONZE BODY, 200 PSI WORKING PRESSURE, LEVER HANDLE WITH STOPS, THREADED OR SOLDERED ENDS TO MATCH PIPE AND BRONZE STEM AND BALL SEATS AND SEAL SHALL BE BUNA-N FOR SERVICE OF MAXIMUM 150F. VALVE SEAT REPLACEABLE WITHOUT DISTURBING PIPING EITHER BY SWING AWAY OR TOP ENTRY METHOD. NIBCO MODEL 590W.

2.04 UNIONS

- STEEL PIPE UNION: 150 LB. MALLEABLE IRON, BRASS TO IRON SEAT, GROUND JOINT, BLACK OR GALVANIZED TO MATCH PIPE.
- COPPER PIPE UNION: 200 PSI WORKING PRESSURE. BRONZE BODY. SOLDER ENDS.
- INSULATING UNIONS: 250 PSI WORKING PRESSURE. PIPE ENDS AND MATERIAL TO MATCH PIPING. ELECTRIC CURRENT BELOW 1 PERCENT OF GALVANIC CURRENT. GASKET MATERIAL AS RECOMMENDED BY MANUFACTURER. EPCO OR APPROVED.

2.05 WALL AND FLOOR SLEEVES

- MINIMUM 20 GAUGE GALVANIZED STEEL IN CONCRETE, 18 GAUGE IN ALL OTHER CONSTRUCTION, 1/2-INCH CLEARANCE AROUND PIPE OR INSULATION. PROVIDE UL APPROVED FIRE-RATED ASSEMBLIES/CAULKING AS REQUIRED, 3M OR APPROVED.
 - ALUMINUM SILICATE INSULATION: NONCOMBUSTIBLE, COMPLYING WITH FS-HHJ-523, TYPE II, SUITABLE FOR 100F TO 1200F SERVICE WITH K VALUE OF 0.40 AT 150F.
- ESCUTCHEONS
 - BRASS MATERIAL. CHROME PLATED FINISH. SIZE SUFFICIENT TO COVER ALL PIPE OPENINGS THROUGH WALL, FLOOR OR CEILING. SET SCREW OR SPRING TO SECURE TO PIPE.

2.07 PIPE HANGERS AND SUPPORTS

- PIPE HANGER SIZE 3 INCHES AND SMALLER: ADJUSTABLE MALLEABLE IRON, SPLIT RING HANGER, BLACK, UL LISTED. MICHIGAN 111. FIGURE 100 OR 101 APPROVED.
 - PIPE HANGER LARGER THAN SIZE 3 INCHES: ADJUSTABLE STEEL CLEVIS TYPE HANGER, BLACK, UL LISTED. MICHIGAN 400 OR 415.
 - RISER CLAMPS: BLACK STEEL CLAMP. MICHIGAN 510. COPPER COATED: MICHIGAN 368.
- STEEL 24 BY 24 INCHES (OR REQUIRED AND APPROVED SIZE) COMPLETE WITH STEEL FRAME, HINGED LOCKING DOOR AND PRIME COAT FINISH. MLCOR, KARP, ELMODR, OR APPROVED. WHERE ACCESS PANELS ARE LOCATED IN FIRE RATED AREAS OF STRUCTURE, RATE ACCORDINGLY.

PART 3 - EXECUTION

3.01 PIPE AND PIPE FITTINGS

- INSTALL UNIONS IN NON-FLANGED PIPE CONNECTIONS TO APPARATUS AND ADJACENT TO ALL SCREWED CONTROL VALVES, TRAPS AND APPURTENANCES REQUIRING REMOVAL FOR SERVICING, SO LOCATED THAT PIPING MAY BE DISCONNECTED WITHOUT DISTURBING GENERAL SYSTEMS. PROVIDE DIELECTRIC COUPLINGS, UNIONS OR FLANGES BETWEEN GALVANIZED STEEL AND COPPER PIPE OR TUBING.

- RUN ALL PIPING PARALLEL TO BUILDING STRUCTURE AND SUPPORT IT SUFFICIENTLY TO PREVENT SAGGING.
- INSTALL ALL PIPING WHERE POSSIBLE SO AS TO VENT AND DRAIN.
- SUPPORT ALL PIPING INDEPENDENTLY SO THAT ITS WEIGHT IS NOT CARRIED BY EQUIPMENT.
- ALL WATER PIPING AND GAS PIPING TO BE INSTALLED IN CEILING SPACE.
- SCREWED JOINTS SHALL HAVE PIPE ENDS REAMED. DOPE OR TAPE APPLIED TO MALE THREADS ONLY, WITH EXCEPTION OF BRASS TO BRASS JOINTS WHICH SHALL BE MADE WITH TEFLON TAPE ONLY.
- FOR BRAZE TYPE JOINTS, USE FOS-COPPER ROD ON WROUGHT COPPER FITTINGS, OR SILVER BRAZING ALLOY WITH FLUX RESOLVENT FOR THE PARTICULAR JOINT.
- CLEAN COPPER TUBING AND FITTINGS THOROUGHLY BEFORE APPLYING FLUX. REMOVE ALL COPPER TUBING BURRS, REAM TO FULL BORE AND TRUE AND ROUND ALL JOINTS. APPLY HEATING UNIFORMLY TO SECURE PENETRATION OF ROD AND LEAVE A FULL BEAD AROUND ENTIRE CIRCUMFERENCE OF JOINT TO SHOW PROPER PENETRATION AND SEALING. UNDER NO CIRCUMSTANCES WILL FOS-COPPER BE USED ON CAST FITTINGS. USE SILVER BEARING SOLDER ON REFRIGERANT COPPER PIPING.
- NO-HUB CAST IRON PIPE: CONFORM WITH PLUMBING LAWS AND CAST IRON SOIL PIPE INSTITUTE RECOMMENDATIONS.

3.02 VALVES

- INSTALL VALVES ON EACH SIDE OF ALL EQUIPMENT. FULL SIZE OF PIPE.
- PROVIDE NEAT APPEARANCE AND EASY GROUPING WITH ALL PARTS EASILY ACCESSIBLE. INSTALL VALVE STEMS IN A HORIZONTAL OR UPRIGHT POSITION.

3.03 PIPE SLEEVES

- LAY OUT WORK IN ADVANCE OF POURING CONCRETE. FURNISH AND SET SLEEVES NECESSARY TO COMPLETE WORK.
- FLOOR SLEEVES: PROVIDE SLEEVE ON PIPES PASSING THROUGH CONCRETE FLOORS. EXTEND SLEEVE 1 INCH ABOVE FINISHED FLOOR. CAULK ALL PIPES PASSING THROUGH FLOOR WITH APPROVED FIRE RATED SEALANT.

3.04 UNIONS

- PIPE UNIONS: INSTALL WHERE INDICATED ON DRAWINGS AND ON EACH SIDE OF ALL PIECES OF EQUIPMENT TO PERMIT EASY REMOVAL OF EQUIPMENT.
- INSULATING UNION: PLACE IN LINE IN PIPING SYSTEMS WHERE TWO DISSIMILAR METALS COME IN CONTACT.

3.05 ESCUTCHEONS

- INSTALL AT ALL EXPOSED PIPES PASSING THROUGH FLOORS OR WALLS.

3.06 PIPE HANGERS AND SUPPORTS

- GENERAL: PROVIDE ADJUSTABLE HANGERS ON ALL PIPES, COMPLETE WITH ADJUSTERS, SWIVELS, RODS, ETC. SIZE HANGERS TO CLEAR INSULATION AND GUIDES.
- ON HOT PIPE LINES WHERE EXPANSION AND CONTRACTION OCCURS, PROVIDE SWIVEL JOINT AT TOP OR BOTTOM OF HANGER ROD.
- PROVIDE HANGER WITHIN 3 FEET OF ALL CHANGES IN DIRECTION.
- BRANCHES 5 FEET OR LONGER SHALL HAVE SEPARATE HANGER.
- PLUMBERS TAPE: NOT PERMITTED AS PIPE HANGERS.
- HANGER SPACING: PER LATEST ADOPTED EDITION OF THE CALIFORNIA PLUMBING CODE AND BELOW WHICHEVER IS MORE STRINGENT.
 - CAST IRON SOIL PIPE: AT EACH JOINT AND AT INTERVALS NOT TO EXCEED 8 FEET.
 - STEEL PIPE 1 INCH AND SMALLER: 7 FEET.
 - STEEL PIPE 1-1/4 INCHES AND LARGER: 10 FEET.
 - COPPER TUBING 1-1/4 INCHES AND SMALLER: 8 FEET.
 - COPPER TUBING 1-1/2 INCHES AND LARGER: 10 FEET.

3.07 PIPE AND EQUIPMENT IDENTIFICATION

A. PIPE MARKERS

- ADHESIVE PIPE MARKERS OF WIDTH, LETTER SIZE AND BACKGROUND COLOR CONFORMING TO ANSI A13.1.
 - BRADY B350, SETON, ZESTON, OR APPROVED.
 - COORDINATE COLORS WITH ARCHITECT.
- NAMEPLATES:
 - ENGRAVED NAMEPLATES, 1/16-INCH THICK, LAMINATED 3-PLY PLASTIC, CENTER PLY WHITE

- CONTRACTOR.
B. PROTECT ALL BRIGHT FINISHED SHAFTS, BEARING HOUSINGS AND SIMILAR ITEMS, UNTIL IN SERVICE. NO RUST WILL BE PERMITTED.
C. COVER OR PROTECT EQUIPMENT AND MATERIALS STORED ON JOBSITE AT DIRECTION OF AND TO SATISFACTION OF ARCHITECT. IF COVERINGS BECOME TORN, REPLACE THEM UNTIL EQUIPMENT IS CONNECTED AND OPERATING.

SECTION 22 07 00 - INSULATION

PART 1 - GENERAL

1.01 QUALITY ASSURANCE

- A. QUALIFICATION OF WORKMEN: USE PROFICIENT JOURNEYMAN INSULATORS AND SUPERVISORS IN EXECUTION OF THIS PORTION OF WORK TO ENSURE PROPER AND ADEQUATE INSTALLATION OF INSULATION THROUGHOUT.
B. COMPLIANCE WITH SPECIFICATIONS: AS A MINIMUM, COMPLY WITH APPROPRIATE STATE ENERGY CODE REGULATIONS OR OTHER APPLICABLE CODES.
1. WHENEVER REQUIRED DURING PROGRESS OF WORK, FURNISH PROOF ACCEPTABLE TO ARCHITECT THAT ITEMS INSTALLED ARE EQUAL TO OR EXCEED ALL REQUIREMENTS SPECIFIED FOR THIS WORK.
2. IN EVENT SUCH PROOF IS NOT AVAILABLE, OR IS NOT ACCEPTABLE TO ARCHITECT, ARCHITECT MAY REQUIRE CONTRACTOR TO REMOVE ITEM OR ITEMS AND REPLACE WITH MATERIAL MEETING SPECIFIED REQUIREMENTS AND TO REPAIR ALL DAMAGE CAUSED IN REMOVAL AND REPLACEMENT, ALL AT NO ADDITIONAL COST TO OWNER.

1.02 SUBMITTALS

- A. PRODUCT DATA: BEFORE INSULATING MATERIALS ARE DELIVERED TO JOB SITE, SUBMIT COMPLETE DATA SHOWING INSULATION MATERIALS PROPOSED TO BE FURNISHED AND INSTALLED.

1.03 PRODUCT HANDLING

- A. PROTECTION: USE ALL MEANS NECESSARY TO PROTECT INSULATION MATERIALS BEFORE, DURING AND AFTER INSTALLATION.
B. REPLACEMENTS: IN EVENT OF DAMAGE, IMMEDIATELY MAKE ALL REPAIRS AND REPLACEMENTS NECESSARY.

1.04 FIRE HAZARD CLASSIFICATION

- A. MAXIMUM FIRE HAZARD CLASSIFICATION OF COMPOSITE INSULATION CONSTRUCTION AS INSTALLED SHALL BE NOT MORE THAN A FLAME SPREAD OF 25, FUEL CONTRIBUTED OF 50 AND SMOKE DEVELOPED OF 50.
B. TEST PIPE INSULATION IN ACCORDANCE WITH REQUIREMENTS OF UL "PIPE AND EQUIPMENT COVERINGS R5583 400 8.15"
C. TEST DUCT INSULATION IN ACCORDANCE WITH ASTM E84 AND BEAR UL LABEL.

1.05 LINING MATERIALS

- A. MATERIALS TO BE MOLD-, HUMIDITY-, AND EROSION-RESISTANT SURFACE THAT MEETS THE REQUIREMENTS OF UL 181.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. ARMACELL, LLC ARMAFLEX, CERTANTEED, IMCOA, JOHNS MANVILLE, KNAUF, OWENS-CORNING, PPG, OR APPROVED.

2.02 MATERIAL

- A. FIBERGLASS SECTIONAL PIPE INSULATION: THERMAL CONDUCTIVITY OF 0.24 (BTU/IN)/HR/SQ.FT./DEG. F) AT 75F MEAN TEMPERATURE. MINIMUM DENSITY OF 1.5 LBS. PER CU.FT. JACKETED WITH WHITE VAPOR BARRIER LAMINATED OF ALUMINUM FOIL AND WHITE KRAFT PAPER REINFORCED WITH GLASS FIBER STRANDS. JACKET SHALL HAVE FACTORY APPLIED SELF-SEALING LAP.
B. ADA ACCESSIBLE LAVATORY/SINKS INSULATION KIT: P-TRAPS, HOT WATER AND COLD WATER INSULATING GUARDS, MOLDED CLOSED-CELL VINYL WITH NYLON FASTENERS, PAINTABLE. THERMAL CONDUCTIVITY: K = 1.17 (BTU/IN)/HR/SQ.FT./DEG. F) AT 75F MEAN TEMPERATURE. HAND-LAV-GUARD BY TRUEBRO INC., PRO WRAP BY MCGUIRE, TRAP WRAP BY BROCAR, INC. OR APPROVED, PROVIDE ACCESSORIES AS REQUIRED FOR COMPLETE INSTALLATION. WHITE.
C. ELASTOMERIC PIPE INSULATION: 1-INCH-THICK, FLEXIBLE ELASTOMERIC, CLOSED CELL PIPE INSULATION. THERMAL CONDUCTIVITY OF 0.27 BTU/IN)/(HR/SQ.FT./DEG. F) AT 75C; 2 INCHES THICK ON PIPE BELOW GRADE. ARMACELL, LLO ARMAFLEX "AP" OR APPROVED.
D. PIPE FITTING INSULATION COVERS: PVC PREFORMED MOLDED INSULATION COVERS. ZESTON OR APPROVED.
E. CALCIUM SILICATE: HYDROUS CALCIUM SILICATE TESTED IN ACCORDANCE WITH ASTM C533 TYPE I WITH A MINIMUM OF 200 PSI AT 5 PERCENT COMPRESSION.
F. FIBERGLASS BOARD: FIBERGLASS INSULATING BOARDS WITH THERMAL CONDUCTIVITY OF 0.23 (BTU/IN)/(HR/SQ.FT./DEG. F) AT 75F MEAN TEMPERATURE. MINIMUM DENSITY OF 3.0 LBS. PER SQ.FT.

PART 3 - EXECUTION

3.01 INSULATION THICKNESS

- A. GENERAL: INSULATION THICKNESS TO BE MINIMUM SPECIFIED OR AS REQUIRED TO MEET STATE ENERGY CODE. MOST STRINGENT SHALL GOVERN.
B. DOMESTIC COLD WATER PIPE: COVER WITH 1/2-INCH FIBERGLASS SECTIONAL PIPE COVERING.
C. DOMESTIC HOT WATER SUPPLY AND RETURN: COVER WITH 1-INCH FIBERGLASS SECTIONAL PIPE COVERING.

3.02 INSTALLATION

- A. INSTALLATION SHALL BE CONTINUOUS THROUGH WALLS, FLOORS, PARTITIONS EXCEPT WHERE NOTED OTHERWISE.
B. FIBERGLASS SECTIONAL PIPE INSULATION: APPLY INSULATION TO PIPE AND SEAL WITH SELF-SEALING LAP. USE SELF-SEALING BUTT STRIPS TO SEAL BUTT JOINTS. INSULATE ALL FITTINGS, VALVES AND UNIONS WITH SINGLE OR MULTIPLE LAYERS OF INSULATION AND COVER TO MATCH PIPE OR USE PREFORMED PVC MOLDED INSULATION COVERS.
C. ADA ACCESSIBLE LAVATORIES: INSTALL LAVATORY/SINK INSULATION KIT.
D. WHERE PIPING IS EXPOSED ON ROOF, COVER INSULATION WITH ALUMINUM JACKET. SEAL WATERTIGHT JACKET PER MANUFACTURER'S RECOMMENDATIONS.
E. FLEXIBLE ELASTOMERIC TUBING: SLIP INSULATION OVER PIPING OR IF PIPING IS ALREADY INSTALLED, IT SHOULD BE SLIT AND SNAPPED OVER PIPING. ALL JOINTS AND BUTT ENDS MUST BE ADHERED WITH 520 ADHESIVE.
F. CALCIUM SILICATE PIPE INSULATION: INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. SEAL CANVAS JACKET TIGHT TO INSULATION AT LAP JOINTS. INSULATION SHALL BE CONTINUOUS OVER PIPE, FITTINGS AND ALL SUPPORTS OR HANGERS. NO HOLIDAYS OR GAPS PERMITTED.
G. STORAGE TANKS: COVER WITH HYDROUS CALCIUM SILICATE, 2 INCHES THICK. FINISH WITH CANVAS JACKET AND ADHESIVE. OVERLAP JOINTS MINIMUM OF 4 INCHES. APPLY TWO COATS LATEX PAINT; COLOR SELECTED BY ARCHITECT.
H. FIBERGLASS FLEXIBLE BOARD: FIBERGLASS INSULATING FLEXIBLE BOARDS WITH THERMAL CONDUCTIVITY OF 0.230 BTU/IN)/(HR/SQ.FT./DEG. F) AT 75F MEAN TEMPERATURE. MINIMUM DENSITY OF 3.00 LBS. PER SQ.FT. FIELD APPLIED CANVAS JACKET.
I. ROOF DRAINS AND PIPING: INSULATION FOR PIPING TO BE INSTALLED SIMILAR TO FIBERGLASS SECTIONAL PIPE INSULATION. ROOF DRAINS TO BE COVERED WITH INSULATION, ATTACHED TO ADHESIVE AND SUPPORTED EXTERNALLY WITH 26 GAUGE STRAPPING OR WIRE ATTACHED TO STRUCTURE.
J. INSULATION SHIELDS: PROVIDE FULL SIZE DIAMETER HANGERS AND SHIELDS (18 GAUGE MINIMUM) FOR ALL COLD PIPING. HOT PIPING HANGERS MAY PENETRATE INSULATION TO CONTACT PIPE DIRECTLY. PROVIDE 18-INCH LONG, NON-COMPRESSIBLE INSULATION SECTION AT INSULATION SHIELDS FOR LINES 2 INCH AND LARGER (STEAM AND COLD PIPING).



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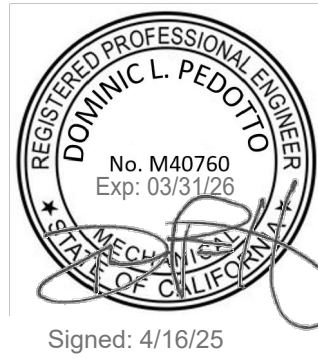
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Agency Approvals

Revision No.	Date
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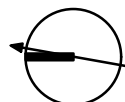
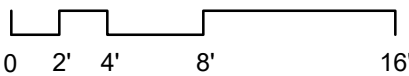
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Scale

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Sheet Title

**SPECIFICATIONS -
PLUMBING**

Sheet No.

P3.02