# GENERAL NOTES AND SPECIFICATIONS

SPECIAL NOTE:
IT WILL BE THE RESPONSIBILITY OF THE OWNER/OWNER'S AGENT/BUILDER/CONTRACTOR/ET. AL. TO VERIFY ALL CONDITIONS AND DIMENSIONS FOR THIS PROJECT PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES AND/OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/, FOR REVIEW AND CLARIFICATION, PRIOR TO DRAFTMAN COMMENCEMENT OF WORK. FAILURE OF NOTIFICATION WILL PLACE THE RESPONSIBILITY AND/OR LIABILITY UPON THE OWNER/OWNER'S AGENT/BUILDER/CONTRACTOR ET. AL.

GENERAL REQUIREMENTS:
1. THE WORK OF THIS CONTRACT SHALL CONSIST OF ALL LABOR, MATERIALS, EQUIPMENT AND RELATED ITEMS NECESSARY TO COMPLETE ALL WORK AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN, UNLESS IT IS SPECIFICALLY INDICATED (NC) NOT IN CONTRACT.
2. THE CONTRACTOR AND SUB-CONTRACTORS PARTICIPATING IN THE WORK SHALL GUARANTEE THAT ALL WORK FOR WHICH HE IS RESPONSIBLE SHALL BE FREE FROM ANY DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF NO LESS THAN ONE YEAR FROM THE DATE OF COMPLETION THEREOF, AND SHALL BE RESPONSIBLE FOR THE REPLACEMENT OR REPAIR WITH-OUT ANY ADDITIONAL CHARGE FOR ALL WORK DONE OR MATERIALS FURNISHED IN ACCORDANCE WITH THIS THAT BECOME DEFECTIVE WITHIN ONE YEAR AFTER SUBSTANTIAL COMPLETION OF WORK.
3. ALL WORK SHALL BE PERFORMED IN A THOROUGHLY FIRST CLASS AND WORKMANLIKE MANNER IN CONFORMITY WITH PLANS AND SPECIFICATIONS AND SHALL BE IN GOOD AND USABLE CONDITION AT DATE OF COMPLETION.
4. THE CONTRACTOR SHALL PAY FOR ALL NECESSARY PLAN CHECK, BUILDING PERMIT AND/OR FEES WITH RESPECT TO THE WORK.
5. THE CONTRACTOR SHALL KEEP THE PREMISES FREE FROM ANY ACCUMULATION OF WASTE MATERIAL AND RUBBISH AND SURPLUS MATERIAL AND LEAVE THE PREMISES BROOM CLEAN DAILY,UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL WASH ALL WINDOWS, SWEEP, MOPS AND/OR POLISH ALL FLOORS,AND VACUUM AND SHAMPOO ALL CARPETING;CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE PROJECT SITE AND DISPOSE OF ALL SUCH MATERIALS IN A LEGAL MANNER.
6. WORK OF THIS CONTRACT SHALL BE ACCOMPLISHED SO THAT IT WILL NOT INTERFERE WITH OR DELAY THE COMPLETION OF ANY OTHER CONSTRUCTION WORK IN THE BUILDING;WORK SHALL BE ACCOMPLISHED ON DAYS AND DURING HOURS ACCEPTABLE TO THE OWNER.
7. SHOP DRAWINGS AND MATERIAL SUBMITTALS REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR FOR REVIEW AND ACCEPTANCE PRIOR TO ORDER AND FABRICATION.
8. PROVIDE SANITARY TOILETS DURING CONSTRUCTION PER LOCAL BUILDING CODES.

GENERAL NOTES:
1. ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE 2016 EDITION OF THE CBC WITH CITY OF LANCASTER AMENDMENTS, LOCAL BUILDING CODES, ORDINANCES OF LOCAL GOVERNING AUTHORITIES AND ANY OTHER REGULATIONS OVER ANY PORTION OF WORK INCLUDING THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY AND THESE LISTED IN THESE SPECIFICATIONS.
2. THE DIMENSIONS IN THE DRAWINGS SHALL TAKE PRE-CEDENCE OVER THE SCALING OF THE DRAWINGS.
3. THE CONTRACTOR SHALL PROVIDE ALL MOUSHRES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTIONTHIS SHALL INCLUDE BUT NOT BE LIMITED TO BRACING AND STRUCTURAL SHORING.
4. LOADS DUE TO CONSTRUCTION MATERIALS AND EQUIP-MENT SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT;NECESSARY SHORING SHALL BE PROVIDED WHERE THE STRUCTURE HAS NOT ATTAINED TOTAL DESIGN STRENGTH.
5. ALL APPLIANCES AND ITEMS NOTED TO BE FURNISHED BY OWNER SHALL BE HOOKED UP, CONNECTED AND PROPERLY FITTED BY THE APPROPRIATE SUB-CONTRACTOR
6. FLOOR AND WALL OPENING SLEEVES, VARIATION IN THE STRUCTURAL SLAB ELEVATIONS, DEPRESSED AREAS, AND ALL OTHER ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND/OR CIVIL REQUIREMENTS MUST BE COORDINATED BEFORE THE CONTRACTOR PROCEEDS WITH CONSTRUCTION.
7. DETAILS MARKED "TYPICAL" SHALL APPLY IN ALL CASES UNLESS SPECIFICALLY INDICATED OTHERWISE.
8. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS. IF THE CONTRACTOR HAS QUESTIONS RE-GRADING SAME, OR THEIR EXACT MEANING, THE ARCHITECT/DRAFTSMAN SHALL BE NOTIFIED FOR CLARIFICATION.
9. ALL WALLS OVER 4' LONG SHALL HAVE DRYWALL NAILED WITH 64 COOLER NAILS AT 7" O.C. AT ALL BEARING WALLS, NOT REQUIRED WHERE PLYWOOD SHEATHING OCCURS UNLESS NOTED OTHERWISE.
10. ALL CEILING HEIGHTS AS SHOWN ON DETAILS, PLANS, OR NOTES ARE FROM CONCRETE SLAB FLOOR TO CEILING FRAMING.
11. PROVIDE GALVANIC SEPARATION BETWEEN ALL DISSIMILAR METALS.
12. PROVIDE DUST BARRIERS TO ARREST SPREAD OF DUST, DEBRIS AND NOISE FROM WORK AREAS TO OCCUPIED AREAS.
13. PROVIDE AND LOCATE ACCESS DOORS OR PANELS IN CEILINGS AND WALL CONSTRUCTION AS REQUIRED BY INSTALLATION OF MECHANICAL AND PLUMBING WORK.
14. GENERAL CONTRACTOR SHALL MAKE ALL REQUIRED UTILITY CONNECTIONS.
15. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE NOTED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND HE WILL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOBSITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
16. HANJNG OF GYPSUM BOARD SHALL BE WITH 64 NAILS AT 7" O.C. UNLESS NOTED OTHERWISE TO ALL STUDS, TOP AND BOTTOM PLATES, AND ALL BLOCKING.
17. ALL WORK SHOWN IS NEW UNLESS OTHERWISE NOTED.
18. PROVIDE MINIMUM 5 AIR CHANGE FANS SWITCHED TO LIGHTS IN ALL INTERIOR BATHROOMS AND SHOWN ELSE- WHERE. MINIMUM 55 C.F.M.
19. INSPECTION IS REQUIRED FOR ALL INTERIOR AND EXTERIOR IN-PLACE LATH AND WALLBOARD BEFORE ANY PLASTER IS APPLIED OR ANY JOINT OR FASTENERS HAVE BEEN TAPED AND FINISHED.
20. OPENINGS INTO ATTICS, UNDER FLOOR AREAS AND OTHER ENCLOSED AREAS SHALL BE COVERED WITH 1/4" G.I. CORROSIVE RESISTANT WIRE MESH, EXCEPT FOR OPENINGS WITH SASH OR DOORS.
21. ANY CUTOUTS OF EXISTING WALLS, CEILINGS, OR FLOORS TO ALLOW INSTALLATION OF NEW WORK SHALL BE MADE NEATLY AND BE OF THE MINIMUM DIMENSION POSSIBLE.
22. EXTERIOR STUCCO FINISH SHALL MATCH EXISTING, IF APPLICABLE, AND BE MINIMUM 7/8" THICK OVER METAL LATH AND 15# FELT TO UNDERSIDE OF ROOF SHEATHING WITH CONTINUOUS 26 GA. G.I. STUCCO WEEP SCREED AT SILL PLATE (SECTION 4706 CBC).
23. FIRE RESISTANCE OF EXTERIOR WALLS SHALL COMPLY WITH CBC TABLE 5-A.
24. ALL NEW WALL/ROOF AND ROOF VALLEY FLASHING SHALL BE 26 GA. G.I. MINIMUM AND 6"x6".
25. PROVIDE NON-ABSORBENT GYPSUM BOARD 6' HIGH ON 3 WALLS OF SHOWERS AND TUBS, OR INSTALL ONE- PIECE FIBERGLASS UNITS.
26. BATHROOM AND KITCHEN FLOOR/WALLS REQUIRE A NON-ABSORBENT COVERING SUCH AS CERAMIC TILE OR EQUAL. FLOOR COVERING SHALL BE SLIP-RESISTANT. EXTEND WALL COVERING UP 4' MIN. A.F.F. IN COMMERCIAL BLDGS.
27. PROVIDE SHATTER PROOF SHOWER ENCLOSURES AT ALL SHOWERS AND AT TUBS WHERE INDICATED.
28. NO BATH MEDICINE CABINETS, ELECTRICAL PANELS, OR WALL HEATERS SHALL PIERCE DIVISION OR SHAFT ENCLOSURE WALLS.
29. INSIDE FINISH DIMENSIONS OF SHOWER AND TOILET COMPARTMENTS MUST BE 30" MIN. CLEAR WIDTH AND 24" MIN. CLEAR SPACE IN FRONT OF TOILET.
30. GAS FIRED WATER HEATERS REQUIRE 100 S.I. COMBUSTION AIR VENTS EACH WITHIN 12" OF CEILING AND FLOOR AND A 24" MIN. WIDTH DOOR. WATER HEATERS ARE NOT PERMITTED IN ANY BEDROOM, BATHROOM, OR CLOTHES CLOSET.
31. WATER HEATERS WITH NON-RIGID WATER CONNECTIONS SHALL BE STRAPPED FOR LATERAL SUPPORT.
32. ALL CHIMNEYS SHALL HAVE AN APPROVED SPARK ARRESTOR OR A MIN. 1/4" G.I. SCREEN.
33. ROOFING:
   A. LOW SLOPE AREAS-TORCH DOWN MODIFIED BITUMEN AS MANUFACTURED BY DIBITEN (C930 4392) AND SHALL BE INSTALLED OVER 30# FELT AND PER MANUFACTURER'S SPECIFICATIONS. (SEE PLANS)
   B. ALL OTHER SLOPES-TYPE 'A' CONCRETE TILE OR ASPHALT SHINGLES INSTALLED OVER 30# FELT PER MANUFACTURER'S SPECIFICATIONS. (SEE PLAN)

CONCRETE:
1. CONCRETE STRENGTH SHALL BE MINIMUM 2500 PSI AFTER 28 DAYS UNLESS NOTED OTHERWISE.
2. NEW CONCRETE SLABS SHALL BUTT-JOINT EXISTING SLABS AND BE FLUSH WITH EXISTING SLABS UNLESS NOTED OTHERWISE.
3. CLEARANCES FOR CONCRETE SHALL BE 2" WHERE EXPOSED TO SOIL AND 1" WHERE EXPOSED TO WEATHER.
4. USE DOBY'S TO OBTAIN PROPER PLACEMENT OF ALL REINFORCEMENT, TYPICAL WHERE APPLICABLE.
5. REINFORCING STEEL SHALL BE INTERMEDIATE GRADE CONFORMING TO ASTM A 615-60. WELDED WIRE FABRIC SHALL BE 6"x6"/10g×10g MINIMUM AND CONFORM TO ASTM A 185.
6. FOOTING REINFORCEMENT BARS SHALL OVERLAP MINIMUM 40 DIAMETERS AT ALL CORNERS AND T-INTERSECTIONS.
7. DESIGN SOIL BEARING VALUE IS 1500 PSF WITHOUT SOILS REPORT. ALL FOOTINGS SHALL BE POURED ON UNDISTURBED SOIL.

STRUCTURAL STEEL:
1. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM B6.
2. ALL STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A-53, GRADE B.
3. GAUGE METAL SHALL CONFORM TO ASTM A-245.
4. ALL WELDING SHALL BE DONE BY WELDERS CERTIFIED BY THE LOCAL BUILDING DEPARTMENT WITHIN A LICENSED WELDING SHOP.
5. FIELD WELDING SHALL BE DONE AT HALF STRESS AND SHALL BE DONE BY CERTIFIED AND LICENSED WELDERS.
6. ALL SUBSTITUTIONS ARE SUBJECT TO BUILDING DEPARTMENT APPROVAL.
7. SPECIAL INSPECTIONS ARE REQUIRED FOR ALL FIELD WELDING PER CBC 1701

LUMBER:
1. ALL LUMBER USED SHALL BE DOUGLAS FIR LARCH AND SHALL HAVE THE FOLLOWING STRESSES (psi):

| | FLOOR MEMBERS | | ROOF MEMBERS | | |
|---|---|---|---|---|---|
| JOIST/RAFTERS | NO. 1 | Fb=1150 | Fv=95 | Fb=1438 | Fv=119 |
| 4x SAWN BEAMS | NO. 1 | Fb=1150 | Fv=95 | Fb=1438 | Fv=119 |
| 6x SAWN BEAMS | NO. 1 | Fb=1350 | Fv=85 | Fb=1688 | Fv=106 |
| POSTS & TIMBERS | NO. 1 | Fb=1200 | Fc=1000 | (E=1,600,000) | |

2. ALL LUMBER IN CONTACT WITH CONCRETE, AND WITHIN 8" FROM FINISH GRADE, SHALL BE PRESSURE TREATED DOUGLAS FIR OR "GRADE MARKED" FOUNDATION GRADE REDWOOD OR CEDAR.
3. WALLS SHALL BE BRACED AT EACH END AND 25' O.C. MAXIMUM WHERE WALL LENGTH EXCEEDS 25 FEET.
4. FLOOR JOIST HAVING DEPTH/THICKNESS RATIO OF 6 OR MORE SHALL BE SUPPORTED LATERALLY BY BRIDGING INSTALLED AT 8' O.C. BRIDGING MAY BE OMITTED AT ENDS OF JOISTS WHICH ARE NAILED OR FASTENED TO FRAMING MEMBERS. RAFTERS GREATER THAN 6" IN DEPTH SHALL BE SUPPORTED LATERALLY AT ENDS AND AT EACH SUPPORT BY 2" MIN. SOLID BLOCKING, FULL DEPTH, UNLESS NAILED TO HEADER, RIM JOIST, OR ADJOINING STUD.
5. FLOOR JOISTS SHALL BE DOUBLED UNDER ALL BEARING WALLS RUNNING PARALLEL TO RAFTERS. (SEE PLAN)
6. FIRE BLOCK, AT 8' O.C. MAX., STUD WALLS AND PARTITIONS (INCLUDING FURRED SPACES) AT FLOOR-CEILING, SOFFITS, AND MIDHEIGHT OF WALLS OVER 8'-0" IN HEIGHT.
7. NOTCHING OF EXTERIOR BEARING/NON-BEARING WALLS SHALL NOT EXCEED 25%/40% RESPECTIVELY. BORED HOLES SHALL NOT EXCEED 40%/60% RESPECTIVELY.
8. ALL FRAMING SHALL BE FIRST CLASS THROUGHOUT, PROPERLY NAILED, TRUE AND PLUMB.
9. BLOCK ALL EDGES OF PLYWOOD OR USE 3/4" MIN. T&G PLYWOOD. ROOF SHEATHING SHALL HAVE SURFACE GRAIN PERPENDICULAR TO SUPPORTS AND JOINTS SHALL BE STAGGERED. VERTICAL SHEATHING SHALL BE PARALLEL TO SUPPORTS SPACED NO MORE THAN 16" O.C. MAXIMUM.
10. PLYWOOD SHALL BE DOUGLAS FIR CONFORMING TO COMMERCIAL STANDARDS PS-1-74. PLYWOOD SHALL BE BONDED WITH EXTERIOR GLUE AND BE EXTERIOR TYPE WHERE EXPOSED TO WEATHER.
11. ALL SHEAR PANELS SHALL BE FULL HEIGHT FROM SILL PLATE TO UNDERSIDE OF ROOF DIAPHRAM.
12. ALL CONNECTORS CALLED OUT ARE AS MANUFACTURED BY SIMPSON "STRONG TIE" AND SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
13. PROVIDE DOUBLE TOP PLATE SPLICES WITH MINIMUM 48" OVERLAP AND 16d NAILS AT 6" O.C. U.N.O.

14. ALL NAILING SHALL CONFORM TO CBC TABLE 25-I-Q.
15. ALL SHEAR WALL AND ROOF SHEATHING SPECIAL NAILING SHALL BE INSPECTED AND APPROVED BY BUILDING INSPECTOR PRIOR TO BEING COVERED.
16. BOLT HOLES SHALL BE SAME DIAMETER AS BOLT PLUS 1/32". BOLTS AND LAG SCREWS BEARING ON WOOD SHALL HAVE STD. SIZE STEEL OR MALLEABLE IRON WASHER. LAG SCREW HOLES SHALL BE BORED SAME DIA. AND DEPTH AS SCREW SHANK AND THEN DRILLED THE REMAINING DEPTH. LAG SCREWS SHALL BE TURNED IN POSITION AND NOT DRIVEN.
17. ALL EXTERIOR OPENINGS SHALL BE FLASHED WITH AN APPROVED WATERPROOF PAPER.
18. NEW END STUDS ADJACENT TO EXISTING WALLS, POSTS SHALL BE BOLTED TO EXISTING SURFACES WITH 3/8"x 4" LONG MIN. LAG BOLTS AT 24" O.C. MAXIMUM U.N.O.
19. INTERIOR NON-BEARING WALLS MAY BE ANCHORED WITH POWER DRIVEN STEEL STUDS, IN LIEU OF ANCHOR BOLTS PROVIDING IT IS NOT A BRACED WALL, AS FOLLOWS:

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|---|---|
| MAX. SPACING | 24" |
| MAX. DISTANCE FROM END OF WALL | 12" |
| MIN. HEAD DIAMETER | 3/8" |
| MIN. SHANK DIAMETER | 7/32" |
| MIN. DISTANCE FROM EDGE OF CONCRETE | 12" |
| WASHER SIZE | 16 GA. x 12" |

GENERAL DOOR NOTES:
1. DOORS MUST OPEN OVER A LANDING NOT MORE THAN 1/2" BELOW THE THRESHOLD.
2. GLASS DOORS, ADJACENT PANELS, AND ALL GLAZED OPENINGS WITHIN 18" OF THE ADJACENT FLOOR OR OTHER HAZARDOUS LOCATION SHALL BE OF GLASS APPROVED FOR IMPACT HAZARD AND CONFORM TO ANSI Z87.1
3. INTERIOR AND EXTERIOR THRESHOLDS SHALL BE A MAXIMUM 1/2" ABOVE THE ADJACENT FLOOR.
4. THE BOTTOM 10" OF ALL DOORS EXCEPT AUTOMATIC AND SLIDING DOORS SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE. A NARROW FRAME WITH A BEVELED TOP EDGE (30' MAX. BEVEL TO VERTICAL PLANE) INSTALLED AT BOTTOM OF GLASS DOOR (WITH NO SIDE FRAMES) MAY BE USED IN LIEU OF PROVIDING THE REQUIRED 10" UNINTERRUPTED SURFACE AT BOTTOM OF DOOR.
5. ALL PRIMARY ENTRANCES TO BUILDINGS USED BY THE PUBLIC SHALL BE ACCESSIBLE TO HANDICAPPED. THE "PATH OF TRAVEL" ACCESS MUST BE PROVIDED FROM BOTH THE HANDICAP PARKING SPACES AND THE PUBLIC SIDEWALK ADJOINING THE PROPERTY.

ENERGY REQUIREMENTS:
1. ALL INSULATION MATERIALS SHALL CONFORM TO STATE OF CALIFORNIA ENERGY STANDARDS, TITLE 20, CHAPTER 2, SUB-CHAPTER 4, ARTICLE 3.
2. SWINGING DOORS OR WINDOWS TO THE EXTERIOR OR UNCONDITIONED SPACES SHALL BE FULLY WEATHERSTRIPPED, GASKETED, OR OTHERWISE TREATED TO LIMIT AIR INFILTRATION.
3. ALL DOMESTIC AND HEATING HOT WATER LINES SHALL BE INSULATED AS REQUIRED.
4. NEW FULL HEIGHT WALLS AND ALL UTILITY PENETRATIONS THROUGH NEW AND EXISTING WALLS, FLOORS AND CEILINGS SHALL BE SEALED, CAULKED, OR WEATHER- STRIPPED TO LIMIT AIR INFILTRATION.
5. A NIGHT SETBACK THERMOSTAT SHALL BE INSTALLED AT A HEIGHT NOT TO EXCEED 48" ABOVE FINISH FLOOR.
6. DUCTS SHALL BE CONSTRUCTED, INSULATED, AND INSTALLED PER CHAPTER 10, 1076 CMC, AND MECHANICAL SPECIFICATIONS.
7. BACKDRAFT DAMPERS FOR ALL EXHAUST AND FAN SYSTEMS SHALL BE INSTALLED AS REQUIRED.
8. ALL WATER HEATING AND SPACE CONDITIONING EQUIPMENT, TOILET FIXTURES AND FAUCETS SHALL BE C.E.S. CERTIFIED.
9. UPON COMPLETION OF THE INSULATION INSTALLATION, BOTH THE BUILDER AND INSULATION APPLICATOR SHALL EXECUTE A CARD CERTIFYING THAT THE INSULATION HAS BEEN INSTALLED IN CONFORMANCE WITH TITLE 24, PART 2, CHAPTER 2-53 OF THE C.A.C. THE CARD MUST BE LOCATED IN A CONSPICUOUS PLACE WITHIN BUILDING.
10. ALL EXTERIOR WALLS SHALL BE INSULATED WITH BLANKET TYPE MINERAL FIBER OR GLASS FIBER INSULATION CONFORMING WITH FEDERAL SPECIFICATION HH-521E, WITH THERMAL RESISTANCE VALUE OF NOT LESS THAN R-11 WITH VAPOR BARRIER AT CONDITIONED SIDE U.N.O.
11. ALL CEILINGS OF ROOF/CEILING ASSEMBLIES SHALL BE INSULATED WITH EITHER:
   A) BLANKET TYPE MINERAL FIBER CONFORMING TO FED. SPEC. HH-I-521E R-38 OR
   B) FIBERGLASS INSULATION CONFORMING TO FED. SPEC. HH-I-1030A, R-38 UNLESS OTHERWISE NOTED.
12. ALL SLIDING DOORS AND WINDOWS SHALL BE CERTIFIED AND LABELED TO SHOW CONFORMANCE WITH AIR INFILTRATION STANDARDS OF AMERICAN STANDARD INSTITUTE, A134-1 THRU A134-4; WHEN TESTED IN ACCORDANCE WITH ASTM, E 283073 WITH A PRESSURE DIFFERENTIAL OF 1.57 P.S.F.
13. REQUIRED TINTED GLAZING SHALL BE PERMANENTLY TINTED OR PERMANENTLY SURFACE COATED BY THE MANUFACTURER OF THE GLAZING MATERIAL, AND SHALL PROVIDE A MAXIMUM TINTING COEFFICIENT OF 0.55.
14. ALL OPENABLE SLIDING DOORS AND WINDOWS SHALL LIMIT AIR LEAKAGE AND BE CERTIFIED AND LABELED TO COMPLY WITH TABLE 2-53X OF STATE OF CALIFORNIA ENERGY CODE.
15. ALL FIXED WINDOWS SHALL BE SEALED TO LIMIT AIR INFILTRATION.
16. PROVIDE AND INSTALL THE FOLLOWING:
   A. SEAL OR ASTRAGAL AT SILL, HEAD, AND JAMBS
   B. 1" MINIMUM OVERLAP AT JAMBS FOR ALL DOORS MOUNTED ON EITHER SIDE OF EXTERIOR WALLS
   C. WEATHERTIGHT ASTRAGAL OR SEAL AT MEETING PART OF SECTIONAL, BI-PARTING, OR DOUBLE DOORS
   D. CONTINUOUS MOUNTING ANGLE FOR DOORS REQUIRING VERTICAL TRACKS OR GUIDES. SEAL TRACKS ALSO TO LIMIT AIR INFILTRATION
17. OPEN EXTERIOR JOINTS AROUND DOOR AND WINDOW FRAMES; BETWEEN WALLS AND FOUNDATIONS, WALLS AND ROOF, AND WALL PANELS; AND AT UTILITY ENVELOPE PENETRATIONS SHALL BE SEALED, CAULKED, OR WEATHER STRIPPED TO LIMIT AIR LEAKAGE.
18. 40 LUMENS/WATT EFFICIENCY SHALL BE PROVIDED FOR GENERAL LIGHTING IN KITCHENS AND BATHROOMS.
19. INSTALL AN R-12 EXTERIOR BLANKET ON ALL WATER HEATERS AND R-3 PIPE INSULATION ON THE FIRST FIVE FEET OF THE HOT WATER PIPE OUTLET.
20. MASONRY AND FACTORY-BUILT FIREPLACES SHALL BE INSTALLED WITH TIGHT-FITTING CLOSEABLE METAL OR GLASS DOORS, OUTSIDE AIR INTAKE WITH DAMPER AND FLUE DAMPER. CONTINUOUS BURNING GAS PILOTS ARE PROHIBITED.
21. ALL GLAZED OPENINGS SHALL BE DUAL-GLAZED.

SECURITY REQUIREMENTS:
ALL EXTERIOR OPENINGS ARE SECURITY OPENINGS AND SHALL COMPLY WITH THE FOLLOWING:
1. PROVIDE DOOR VIEWERS, VIEW PORTS, OR VIEWING WINDOWS AT ALL DWELLING OR GUEST ROOM ENTRANCE DOORS. SUCH WINDOWS OR VIEW PORTS SHALL BE CONSTRUCTED PER BUILDING CODE.
2. METAL OR DOOR OVERHEAD OR SLIDING DOORS SHALL BE SECURED PER 91.673.
3. SWINGING DOOR REQUIREMENTS:
   A. WOOD FLUSH-TYPE DOORS SHALL BE A MINIMUM 1-3/8" THICK WITH A SOLID CORE.
   B. HOLLOW CORE DOORS OR DOORS LESS THAN 1-3/8" THICK SHALL BE COVERED ON THE INSIDE FACE WITH 16 GA. MIN. SHEET METAL ATTACHED WITH SCREWS AT 6" O.C. AROUND PERIMETER OR EQUAL.
   C. WOOD PANEL TYPE DOORS SHALL BE FABRICATED OF LUMBER NOT LESS THAN 9/16" THICK WITH SHAPED PORTIONS NOT LESS THAN 1/4". STILES AND RAILS SHALL NOT BE LESS THAN 1-3/8x3" IN WIDTH.
   D. GLAZED OPENINGS WITHIN 40" OF DOOR WHEN DOOR IS CLOSED SHALL BE FULLY TEMPERED GLASS OR APPROVED BURGLARY RESISTANT MATERIAL OR SHALL BE PROTECTED BY METAL BARS, SCREENS OR GRILLES HAVING A MAXIMUM 2" OPENING.
   E. DOOR STOPS OF IN-SWINGING DOORS SHALL BE ONE PIECE CONSTRUCTION WITH THE JAMB, OR JOINED BY RABBET TO THE JAMB.
   F. ALL PIN-TYPE HINGES WHICH ARE ACCESSIBLE FROM OUTSIDE WHEN THE DOOR IS CLOSED SHALL HAVE NON-REMOVAL HINGE PINS, AND SHALL HAVE A MINIMUM 1/4" DIA. STEEL JAMB STUD WITH A MIN. 1" PROTECTION TO PREVENT REMOVAL OF THE DOOR IF THE HINGE PINS ARE REMOVED.
   G. STRIKE PLATE FOR LATCHES AND THE HOLDING DEVICE FOR PROJECTING DEADBOLTS IN WOOD CONSTRUCTION SHALL BE SECURED TO THE JAMB AND THE WALL FRAMING WITH SCREWS NOT LESS THAN 2-1/2" IN LENGTH.
   H. DOORS WILL HAVE BOTH DEADBOLTS AND DEAD LOCKING LATCHES, AND HAVE HARDENED INSERTS.
   I. STRAIGHT DEADBOLTS SHALL HAVE A MINIMUM THROW OF 1" AND AN EMBEDMENT OF 5/8" MINIMUM.
   J. HOOK-SHAPED OR EXPANDING-LUG DEADBOLTS SHALL HAVE A MINIMUM 3/4" THROW.
   K. CYLINDER GUARDS SHALL BE INSTALLED ON ALL CYLINDER LOCKS WHENEVER THE CYLINDER PROJECTS BEYOND THE FACE OF THE DOOR OR IS OTHERWISE ACCESSIBLE WITH GRIPPING TOOLS.
   L. INSTALL DEADBOLT TOP AND BOTTOM ON INACTIVE LEAF OF DOUBLE DOORS AND UPPER LEAF OF DUTCH TYPE DOORS WITH 1/2" MINIMUM EMBEDMENT.
   M. GLASS DOORS SHALL BE FULLY TEMPERED.
   N. UNFRAMED GLASS DOORS SHALL BE A MINIMUM 1/2" THICK AND FULLY TEMPERED.
   O. NARROW FRAMED GLASS DOORS SHALL HAVE A SINGLE PANE OF MINIMUM 1/4" FULLY TEMPERED GLASS.
4. ALL OPENABLE SLIDING DOORS AND WINDOWS SHALL LIKE SUBSTANTIAL LOCKING DEVICES, BEAR FORCED ENTRY DEVICES, AND WITHSTAND TEST AS SET FORTH IN SECTIONS 6706 AND 6707 OF THE CBC
5. SLIDING GLASS DOORS AND WINDOWS SHALL BE EQUIPPED WITH LOCKING DEVICES AND SHALL BE CONSTRUCTED AND INSTALLED SO THAT THEY REMAIN INTACT WHEN SUBJECTED TO TESTS AS SPECIFIED IN THE CBC
6. SLIDING DOORS AND WINDOWS SHALL BE PROVIDED WITH A DEVICE IN THE UPPER CHANNEL OF THE MOVING PANEL TO PROHIBIT PRYING AND REMOVING THE MOVING PANEL IN THE CLOSED OR PARTIALLY CLOSED POSITION.
7. ANY RELEASE OF METAL BARS, GRILLES, GRATES, OR SIMILAR DEVICES TO PRECLUDE HUMAN ENTRY SHALL BE LOCATED ON THE INSIDE OF THE ADJACENT ROOM AND AT LEAST 24" FROM THE CLOSEST OPENING THROUGH SUCH METAL BARS, GRILLES, GRATES, ETC. THAT EXCEEDS 2" IN ANY DIRECTION AND SHALL COMPLY WITH LOCAL FIRE DEPARTMENT REQUIREMENTS.
8. AT ALL EXTERIOR SWINGING DOORS OR ACTIVE LEAF OF DOUBLE DOORS, LOCKING HARDWARE SHALL BE KEY OPERATED FROM THE OUTSIDE AND OPERATED FROM THE INSIDE BY A DEVICE NOT PROHIBITED BY CHAPTER 33 OF THE CBC
9. OVERHEAD GARAGE DOORS SHALL BE SECURED WITH A CYLINDER LOCK, PADLOCK WITH A HARDENED STEEL SHACKLE, METAL SLIDE BAR BOLT OR EQUIVALENT WHEN NOT OTHERWISE LOCKED BY ELECTRIC OPERATION. PROVIDE JAMB LOCKS AT EACH SIDE OF DOOR.

FINISH NOTES:
1. VERIFY ALL FINISHES AND COLORS WITH OWNER.
2. SEE REFLECTED CEILING PLAN, IF ANY, FOR CEILING FINISHES.
3. ALL INTERIOR WALLS, DOORS, TRIM, ETC. TO RECEIVE ONE PRIMER COAT AND TWO FINISH COATS.
4. INTERIOR FINISHES TO HAVE FLAME SPREAD AND SMOKE DENSITY RATINGS AS FOLLOWS: (CBC TABLE 803.11)
   CORRIDORS, LOBBYS, FOYERS - SMOKE DENSITY 150, FLAME SPREAD II;
   OTHER ROOMS/AREAS - SMOKE DENSITY 450, FLAME SPREAD III
5. CONTRACTOR SHALL INSTALL ALL FINISH MATERIALS AND LIGHTING FIXTURES. COORDINATE WITH OWNER AS TO PROVIDING MATERIALS.

PAINTING:
1. ALL PAINT SHALL BE OF FIRST QUALITY DELIVERED TO THE JOB IN UNBROKEN CONTAINERS, AND SHALL BE MIXED IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS (DUNN EDWARDS, FRAZEE, DUTCHBOY, OR EQUAL).
2. ALL NAIL HOLES, CRACKS, AND JOINTS ARE TO BE PROPERLY PUTTIED AFTER PRIMING. EXISTING WALLS TO BE PAINTED WITH ONE COAT OF SEMI-GLOSS PAINT. NEW WALLS SHALL RECEIVE ONE PRIMER COAT AND TWO FINISH COATS OF SEMI-GLOSS PAINT.
3. PAINT TOP, BOTTOM, AND SIDES OF ALL DOORS ALSO.
4. CLEAN AND PAINT ALL EXISTING CEILINGS TO BE LEFT EXPOSED UNLESS NOTED OTHERWISE.

CERAMIC TILE:
1. PROVIDE CERAMIC AND QUARRY TILE AS SHOWN ON PLANS, AS SPECIFIED HEREIN. ALSO IN ADDITION TO COMPLYING WITH PERTINENT CODES AND REGULATIONS, COMPLY WITH THE RECOMMENDATIONS OF THE TILE TILE COUNCIL OF AMERICA, INC.
2. PORTLAND CEMENT SHALL COMPLY W/ASTM C150, TYPE I. 3. DRY-SET MORTAR SHALL BE STANDARD COMMERCIAL PRESANDED BRAND COMPLYING WITH ANSI A118.1.
4. GROUT SHALL BE "HYDROMENT" GROUT FROM STANDARD COLORS, OF THE MANUFACTURER FOR ALL TILE. OWNER SHALL SELECT COLORS.
5. ALL TILES SHALL MATCH EXISTING COLORS AND SIZE AS CLOSE AS POSSIBLE U.N.O.
6. PROVIDE COVE BASE, NOSINGS, AND OTHER ACCESSORY TILE AS REQUIRED FOR A COMPLETE AND PROPER INSTALLATION.
7. EXAMINE THE AREA AND CONDITIONS WHERE TILE IS TO BE INSTALLED AND VERIFY ALL AREAS TO RECEIVE TILE ARE IN SATISFACTORY CONDITION PRIOR TO TILE INSTALLATION. CORRECT AREAS AS REQUIRED .
8. COMPLY WITH ANSI A108.1 OR ANSI A108.5 AS APPROPRIATE FOR THE CONDITIONS OF INSTALLATION.
9. EXTEND TILE INTO RECESSES AND UNDER EQUIPMENT.
10. TERMINATE TILE NEATLY AT OBSTRUCTIONS, EDGES, AND CORNERS WITHOUT DISRUPTION OF PATTERN OR JOINT ALIGNMENT.
11. ALIGN JOINTS WHEN ADJOINING TILES.
12. PROVIDE UNIFORM JOINT WIDTHS.
13. UPON COMPLETION OF THE WORK OF THIS SECTION, CLEAN ALL SURFACES AS RECOMMENDED BY MFR.
14. ALL TILE INSTALLED AT FLOORS OR ANY FOOT TRAFFIC AREAS SHALL BE SLIP-RESISTANT.

CABINET WORK:
1. ALL CABINET WORK SHALL BE STANDARD GRADE U.N.O.
2. ALL CABINETS SHALL BE AS DETAILED ON PLANS, IF APPLICABLE, BE OF STAIN GRADE CLEAR PINE VENEER PLYWOOD, AND HAVE CAPPED EDGES WHERE EXPOSED.
3. CABINETRY TO HAVE TWO FINISH COATS OF SEMI-GLOSS ENAMEL.
4. SHOP ASSEMBLED UNITS SHALL RECEIVE FINISH IN SHOP.

ELECTRICAL/MECHAN

# NON-RESIDENTIAL MANDATORY GREEN CODE REQUIREMENTS

SITE DEVELOPMENT

5.106.1 Storm water pollution prevention plan. For newly constructed projects of less than one acre, develop a Storm Water Pollution Prevention Plan (SWPPP) that has been designed, specific to its site, conforming to the State Storm water NPDES Construction Permit or local ordinance, whichever is stricter, as is required for projects one acre or more. The plan should cover prevention of soil loss by stormwater run-off and/or wind erosion, of sedimentation, and/or of dust/particulate matter air pollution.

5.106.4 Bicycle parking and changing rooms. Comply with Sections 5.106.4.1 and 5.106.4.2; or meet local ordinance or the University of California Policy on Sustainable Practices, whichever is stricter.

5.106.4.1 Short-Term bicycle parking. If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 100 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack.

5.106.4.2 Long-Term bicycle parking. For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5 percent of motorized vehicle parking capacity, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and may include:
1. Covered, lockable enclosures with permanently anchored racks for bicycles;
2. Lockable bicycle rooms with permanently anchored racks; and
3. Lockable, permanently anchored bicycle lockers.

5.106.5.2 Designated parking. Provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as follows:

| TOTAL NUMBER OF PARKING SPACES | NUMBER OF REQUIRED SPACES |
|---|---|
| 0-9 | 0 |
| 10-25 | 1 |
| 26-50 | 3 |
| 51-75 | 6 |
| 76-100 | 8 |
| 101-150 | 11 |
| 151-200 | 16 |
| 201 AND OVER | AT LEAST 8% OF TOTAL |

5.106.5.2.1 Parking stall marking. Paint, in the paint used for stall striping, the following characters such that the lower edge of the last word aligns with the end of the stall striping and is visible beneath a parked vehicle:
CLEAN AIR
VEHICLE

5.106.8 Light pollution reduction. Comply with lighting power requirements in the California Energy Code and design interior and exterior lighting such that zero direct-beam illumination leaves the building site. Meet or exceed exterior light levels and uniformity ratios for lighting zones 1 - 4 as defined in Chapter 10 of the California Administrative Code, using the following strategies:
1. Shield all exterior luminaries or use cutoff luminaries.
2. Contain interior lighting within each source.
3. Allow no more than .01 horizontal foot candle 15 ft beyond the site.
4. Contain all exterior lighting within property boundaries.

WATER EFFICIENCY AND CONSERVATION - INDOOR WATER USE

5.303.2 20 percent savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 20 percent shall be provided. (to be done at time of tenant improvement)
5.303.4 Wastewater reduction. Each building shall reduce the generation of wastewater by one of the following methods:
1. The installation of water-conserving fixtures or
2. Utilizing nonpotable water systems.

5.303.6 Plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the requirements listed for each type in Items listed in Table 5.303.6.
1. Water closets (toilets) - flushometer type
2. Water closets (toilets) - tank type
3. Urinals
4. Public lavatory faucets
5. Public metering self-closing faucets

WATER EFFICIENCY AND CONSERVATION - OUTDOOR WATER USE

5.304.1 Water budget. A water budget shall be developed for landscape irrigation use.

5.304.2 Outdoor potable water use. For new water service, separate meters or submeters shall be installed for indoor and outdoor potable water use for landscaped areas between 1,000 square feet and 5,000 square feet.

5.304.3.1 Irrigation controllers. Automatic irrigation system controllers installed at the time of final inspection shall comply with the following:
1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.

2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.

WEATHER RESISTANCE AND MOISTURE MANAGEMENT

5.407.1 Weather protection. Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1403.2 and California Energy Code Section 150, manufacturer's installation instructions or local ordinance, whichever is more stringent.

5.407.2 Moisture control. Employ moisture control measures by the following methods;

5.407.2.1 Sprinklers. Prevent irrigation spray on structures.

CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

5.408.1 Construction waste diversion. Establish a construction waste management plan or meet local ordinance, whichever is more stringent.

5.408.2 Construction waste management plan. Submit plan per this section to enforcement authority.
5.408.2.1 Documentation. Provide documentation of the waste management plan that meets the requirements listed in Section 5.408.1.1 Items 1 thru 4 and the plan is accessible to the enforcement authority.
5.408.2.2 Isolated jobsites. The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.

5.408.3 Construction waste. Recycle and/or salvage for reuse a minimum of 50 percent of nonhazardous construction and demolition debris or meet local ordinance, whichever is more stringent.
Exceptions:
1. Excavated soil and land-clearing debris.
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.

A5.408.3.1.1 Verification of compliance. A copy of the completed waste management report shall be provided.
Exceptions:
1. Excavated soil and land-clearing debris
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist

5.408.4 Excavated soil and land clearing debris. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.

BUILDING MAINTENANCE AND OPERATION

5.410.1 Recycling by occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling.

5.410.2 Commissioning. For new buildings 7,200 square feet and over, building commissioning for all building systems covered by T24, Part 6, process systems and renewable energy systems shall be included in the design and construction processes of the building project. Commissioning requirements shall include items listed in Section 5.410.2.

5.410.2.1 Owner's Project Requirements (OPR). Documented before the design phase of the project begins the OPR shall include items listed in Section 5.410.4.

5.410.2.2 Basis of Design (BOD). A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project and updated periodically to cover the systems listed in Section 5.410.2.2.

5.410.2.3 Commissioning plan. A commissioning plan describing how the project will be commissioned shall be started during the design phase of the building project and shall include items listed in Section 5.410.2.3.

5.410.2.4 Functional performance testing shall demonstrate the correct installation and operation of each component, system and system-to-system interface in accordance with the approved plans and specifications.

5.410.2.5 Documentation and training. A Systems manual and systems operations training are required.

5.410.2.5.1 Systems manual. The systems manual shall be delivered to the building owner or representative and facilities operator and shall include the items listed in Section 5.410.2.5.1.

5.410.2.5.2 Systems operations training. The training of the appropriate maintenance staff for each equipment type and/or system shall include items listed in Section 5.410.2.5.2.

5.410.2.6 Commissioning report. A complete report of commissioning process activities undertaken through the design, construction and reporting recommendations for post construction phases of the building project shall be completed and provided to the owner or representative.

5.410.4 Testing and adjusting. Testing and adjusting of systems shall be required for buildings less than 7,200 square feet.

5.410.4.2 Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include, as applicable to the project, the systems listed in Section 5.410.3.2.

5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with industry best practices and applicable national standards on each system.

5.410.4.3.1 HVAC balancing. Before a new space-conditioning system serving a building or space is operated for normal use, the system should be balanced in accordance with the procedures defined by national standards listed in Section 5.410.3.3.1.

5.410.4.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.

5.410.4.5 Operation and maintenance manual. Provide the building owner with detailed operating and maintenance instructions and copies of guaranties/warranties for each system prior to final inspection.

5.410.4.5.1 Inspections and reports. Include a copy of all inspection verifications and reports required by the enforcing agency.

POLLUTANT CONTROL

5.504.1.3 If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30 percent based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy.

5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system.

5.504.4.1 Adhesives, sealants, caulks. Adhesives and sealants used on the project shall meet the requirements of the following standards.

1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2.

2. Aerosol adhesives and smaller unit sizes of adhesives and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 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 Table 5.504.4.3 unless more stringent local limits apply.

5.504.4.3.1 Aerosol paints and coatings. Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances (CCR, Title 17, Section 94520 et seq).

5.504.4.3.2 Verification. Verification of compliance with these sections shall be provided at the time of inspection.

5.504.4.4 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the standards listed in Section 5.504.4.4.

1. Carpet and Rug Institute's Green Label Plus Program

2. California Department of Public Health Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1, February 2010 (also known as Specification 01350)

3. NSF/ANSI 140 at the Gold level or higher

4. Scientific Certifications Systems Sustainable Choice

5.504.4.4.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program.

5.504.4.4.2 Carpet adhesives shall not exceed a VOC limit of 50g/L. All carpet adhesive shall meet the requirements of Table 804.4.1.

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 building shall meet the requirements for formaldehyde as specified in Table 5.504.4.5.

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

1. Product certifications and specifications

2. Chain of custody certifications

3. Other methods acceptable to the enforcing agency

POLLUTANT CONTROL (cont.)

5.504.4.6 Resilient flooring systems. Documentation shall be provided to the building inspector at the time of final inspection verifying that a minimum of 50% of floor area receiving resilient flooring comply with one of the following:

1. The VOC-emission limits defined in the 2009 CHPS criteria and listed on its Low-emitting Materials List (or Product Registry), OR

2. CHPS criteria certified under the Greenguard Children & Schools program, OR

3. Floor Score program of the Resilient Floor Covering Institute, OR

4. California Department of Public Health 2010 Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1, February 2010 (SPEC 01350)

5.504.5.3 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a MERV of 8.

INDOOR MOISTURE AND RADON CONTROL

5.505.1 Indoor moisture control. Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1203 and Chapter 14.1.1

AIR QUALITY AND EXHAUST

5.506.1 Outside air delivery. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 121 of the California Energy Code, CCR, Title 24, Part 6 and Chapter 4 of CCR, Title 8 or the applicable local code, whichever is more stringent.

5.506.2 Carbon dioxide (CO2) monitoring. For buildings equipped with demand control ventilation, CO2 sensors and ventilation controls shall be specified and installed in accordance with the requirements of the latest edition of the California Energy Code, CCR, Title 24, Part 6, Section 121(c).

OUTDOOR AIR QUALITY

5.508.1.1 CFCs. Install HVAC and refrigeration equipment that does not contain CFCs.
5.508.1.2 Halons. Install fire suppression equipment that does not contain Halons.

# GREEN CODE COMPLIANCE ANALYSIS

AREAS:

B 7,200 S.F.

TIER 1 & TIER 2 REQUIREMENTS

NOT REQUIRED IN CITY OF LANCASTER

COMMISSIONING REQUIREMENTS

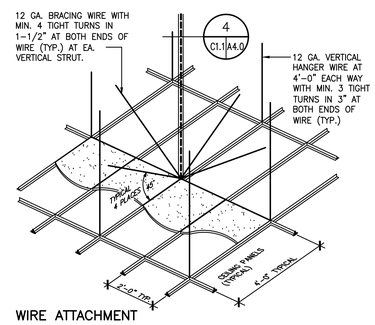
REQUIRED FOR NEW BUILDINGS OVER 7,200 S.F. (CAL GREEN 5.410.2)

CAL GREEN MANDATORY MEASURES

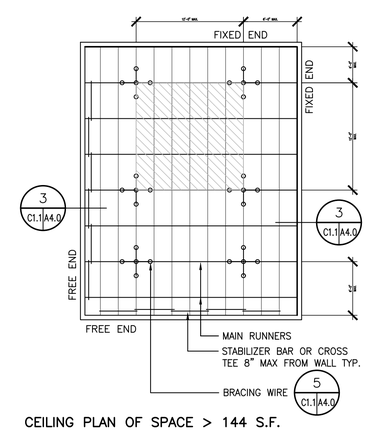
SHALL COMPLY WITH CAL GREEN CHAPTER 5.

# SUSPENDED CEILING NOTES:

1. MINIMUM DESIGN AND INSTALLATION STANDARDS FOR SUSPENDED CEILINGS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 25 OF THIS CODE AND THIS SUBSECTION.
2. THIS PART CONTAINS SPECIAL REQUIREMENTS FOR SUSPENDED CEILINGS AND LIGHTING SYSTEMS. PROVISIONS OF SECTION 13.5.6 OF ASCE 7 SHALL APPLY EXCEPT AS MODIFIED HEREIN.
3. THE SUSPENDED CEILINGS AND LIGHTING SYSTEMS SHALL BE LIMITED TO 6 FEET (1828 MM) BELOW THE STRUCTURAL DECK UNLESS THE LATERAL BRACING IS DESIGNED BY A LICENSED ENGINEER OR ARCHITECT.
4. POSITIVE BRACING TO THE STRUCTURE SHALL BE PROVIDED AT CHANGES IN THE CEILING PLANE ELEVATION OR AT DISCONTINUITIES IN THE CEILING GRID SYSTEM.
5. CABLE TRAYS, ELECTRICAL CONDUITS AND PIPING SHALL BE INDEPENDENTLY SUPPORTED AND INDEPENDENTLY BRACED FROM THE STRUCTURE.
6. ALL SPRINKLER HEADS (DROPS) EXCEPT FIRE-RESISTANCE RATED FLOOR/CEILING OR ROOF/CEILING ASSEMBLIES, SHALL BE DESIGNED TO ALLOW FOR FREE MOVEMENT OF THE SPRINKLER PIPES WITH OVERSIZE RINGS, SLEEVES OR ADAPTORS THROUGHOUT THE CEILING TILE, IN ACCORDANCE WITH SECTION 13.5.6.2.2 (e) OF ASCE 7.
7. A MINIMUM WALL ANGLE SIZE OF AT LEAST A TWO INCH (51 MM) HORIZONTAL LEG SHALL BE USED AT PERIMETER WALLS AND INTERIOR FULL HEIGHT PARTITIONS. THE FIRST CEILING TILE SHALL MAINTAIN 3/4 INCH (19 MM) CLEAR FROM THE FINISH WALL SURFACE. AN EQUIVALENT ALTERNATIVE DETAIL THAT WILL PROVIDE SUFFICIENT MOVEMENT DUE TO ANTICIPATED LATERAL BUILDING DISPLACEMENT MAY BE USED IN LIEU OF THE LONG LEG ANGLE SUBJECT TO THE APPROVAL OF THE SUPERINTENDENT OF BUILDING.
8. SUSPENDED CEILING ASSEMBLIES LOCATED ALONG MEANS OF EGRESS SERVING AN OCCUPANT LOAD OF 30 OR MORE SHALL COMPLY WITH THE FOLLOWING PROVISIONS:
9. CEILING SUSPENSION SYSTEMS SHALL BE CONNECTED AND BRACED WITH VERTICAL HANGERS ATTACHED DIRECTLY TO THE STRUCTURAL DECK ALONG THE MEANS OF EGRESS SERVING AN OCCUPANT LOAD OF 30 OR MORE AND AT LOBBIES ACCESSORY TO GROUP A OCCUPANCIES. SPACING OF VERTICAL HANGERS SHALL NOT EXCEED 2 FEET (610 MM) ON CENTER ALONG THE ENTIRE LENGTH OF THE SUSPENDED CEILING ASSEMBLY LOCATED ALONG THE MEANS OF EGRESS OR AT THE LOBBY.
10. ALL LAY-IN PANELS SHALL BE SECURED TO THE SUSPENSION CEILING ASSEMBLY WITH TWO HOLD-DOWN CLIPS MINIMUM FOR EACH TILE WITHIN A 4 FOOT (1219 MM) RADIUS OF THE EXIT LIGHTS AND EXIT SIGNS.
11. INDEPENDENT SUPPORTS AND BRACES SHALL BE PROVIDED FOR LIGHT FIXTURES REQUIRED FOR EXIT ILLUMINATION. POWER SUPPLY FOR EXIT ILLUMINATION SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 1006.3 OF THIS CODE.
12. SEPARATE SUPPORT FROM THE STRUCTURAL DECK SHALL BE PROVIDED FOR ALL APPENDAGES SUCH AS LIGHT FIXTURES, AIR DIFFUSERS, EXIT SIGNS, AND SIMILAR ELEMENTS.




WIRE ATTACHMENT




CEILING PLAN OF SPACE > 144 S.F.

SEISMIC DESIGN CATEGORIES D THROUGH F ACOUSTICAL TILE OR LAY-IN PANEL CEILINGS IN SEISMIC DESIGN CATEGORIES D, E, AND F SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH ASTM C635, ASTM C636, AND ASTM E580, SECTION 5 SEISMIC DESIGN CATEGORIES D, E, AND F. ASCE 7-10 SECTION 13.5.6.2.2

CEILING AREAS OF 144 SQUARE FEET OR LESS SURROUNDED BY WALLS WHICH CONNECT DIRECTLY TO THE STRUCTURE ABOVE SHALL BE EXEMPT FROM THE LATERAL LOAD STANDARDS OF THIS DETAIL.

THE SUSPENDED CEILINGS AND LIGHTING SYSTEMS SHALL BE LIMITED TO 14 FEET BELOW THE STRUCTURAL DECK UNLESS THE ENTIRE SYSTEM IS DESIGNED BY A LICENSED ENGINEER OR ARCHITECT.

VERTICAL SUPPORT:

1. HANGERS SHALL BE PLUMB AND SHALL NOT ATTACH TO OR BEND AROUND, INTERFERING DUCT PIPES OR SIMILAR OBSTRUCTIONS. IF HANGERS MUST BE SPLAYED MORE THAN ONE HORIZONTAL TO SIX VERTICAL THE RESULTING HORIZONTAL FORCE SHALL BE OFFSET BY BRACING, COUNTERSPLAYING OR OTHER ACCEPTABLE MEANS AND SUBSTANTIATED BY DESIGN CALCULATIONS.

2. PERIMETER HANGERS. THE TERMINAL END OF EACH CROSS RUNNER OR MAIN RUNNER SHALL BE SUPPORTED INDEPENDENT OF AND WITHIN 8 INCHES OF A WALL.

3. HANGER WIRES SUPPORTING A MAXIMUM TRIBUTARY CEILING AREA OF 16 SQUARE FEET SHALL BE A MINIMUM OF 12 GAUGE IN DIAMETER. THE SIZE OF WIRES SUPPORTING A TRIBUTARY CEILING AREA OF GREATER THAN 16 SQUARE FEET SHALL BE SUBSTANTIATED BY DESIGN CALCULATIONS.

4. THE MAIN RUNNERS AND CROSS RUNNERS AND THEIR SPLICES AND INTERSECTION CONNECTIONS SHALL BE CAPABLE OF TRANSMITTING IN TENSION OR COMPRESSION A FORCE OF NOT LESS THAN 60 POUNDS.

5. THE CONNECTIONS AT THE SPLICES AND INTERSECTIONS SHALL BE OF A MECHANICAL INTERLOCKING TYPE THAT CANNOT EASILY BE DISENGAGED

6. LIGHTING FIXTURE AND AIR DIFFUSER CONNECTIONS:

7. THE CONNECTIONS FOR LIGHT FIXTURES AND AIR DIFFUSERS SHALL BE DESIGNED TO SUPPORT A MINIMUM VERTICAL FORCE OF 300 PERCENT OF THE FIXTURE WEIGHT AND A MINIMUM LATERAL FORCE OF 100 PERCENT OF THE WEIGHT.

8. LIGHTING FIXTURE AND AIR DIFFUSER SUPPORTS: LIGHTING FIXTURES AND AIR DIFFUSERS SHALL BE SUPPORTED DIRECTLY BY WIRES TO THE STRUCTURE ABOVE.

EXCEPTIONS:

a. RECESSED LIGHTING FIXTURES LESS THAN 56 POUNDS IN WEIGHT AND SUSPENDED AND PENDENT HUNG FIXTURES LESS THAN 20 POUNDS IN WEIGHT MAY BE SUPPORTED AND ATTACHED DIRECTLY TO THE CEILING SYSTEM RUNNERS BY A POSITIVE ATTACHMENT SUCH AS SCREWS OR BOLTS.

b. AIR DIFFUSERS WHICH WEIGH LESS THAN 20 POUNDS AND WHICH RECEIVE NO TRIBUTARY LOADING FROM DUCT WORK MAY BE POSITIVELY ATTACHED TO AND SUPPORTED BY THE CEILING RUNNERS.

9. HANGER ATTACHMENT DEVICES USED IN CEILING SYSTEMS NOT EXCEEDING FOUR POUNDS PER SQUARE FOOT SHALL BE CAPABLE OF SUPPORTING A MINIMUM ALLOWABLE LOAD OF 100 POUNDS. HANGER ATTACHMENT DEVICES USED IN CEILING SYSTEMS EXCEEDING FOUR POUNDS PER SQUARE FOOT SHALL BE CAPABLE OF SUPPORTING THE DESIGN LOAD AND SHALL BE SUBSTANTIATED BY DESIGN CALCULATIONS.

LATERAL SUPPORT:

10. WHERE CEILING LOADS DO NOT EXCEED FOUR POUNDS PER SQUARE FOOT, LATERAL SUPPORT FOR THE CEILING SYSTEM MAY BE PROVIDED BY FOUR WIRES OF MINIMUM NO. 12 GAUGE SPLAYED IN FOUR DIRECTIONS 90 DEGREES APART AND CONNECTED TO THE MAIN RUNNER WITHIN TWO INCHES OF THE CROSS RUNNER AND TO THE STRUCTURE ABOVE AT AN ANGLE NOT EXCEEDING 45 DEGREES FROM THE CEILING PLANE. THESE LATERAL SUPPORT POINTS SHALL BE PLACED 12 FEET O.C. IN EACH DIRECTION WITH THE FIRST POINT WITHIN 6 FEET FROM EACH WALL.

11. ATTACHMENT OF MEMBERS TO THE PERIMETER: ALLOWANCE SHALL BE MADE FOR LATERAL MOVEMENT OF THE SYSTEM. MAIN RUNNERS AND CROSS RUNNERS MAY BE ATTACHED AT TWO ADJACENT WALLS WITH CLEARANCE BETWEEN THE WALL AND THE RUNNERS MAINTAINED AT THE OTHER TWO WALLS.

12. WHEN THE SPAN OF THE PROPOSED SUSPENDED CEILING SYSTEM BETWEEN PERIMETER WALLS EXCEEDS 25 FEET IN BOTH DIRECTIONS A MINIMUM WALL ANGLE SIZE OF AT LEAST A TWO INCH (51 MM) HORIZONTAL LEG SHALL BE USED AT PERIMETER WALLS AND INTERIOR FULL HEIGHT PARTITIONS. THE FIRST CEILING TILE SHALL MAINTAIN 3/4 INCH CLEAR FROM THE FINISH WALL SURFACE. AN EQUIVALENT ALTERNATIVE DETAIL THAT WILL PROVIDE SUFFICIENT MOVEMENT DUE TO ANTICIPATED LATERAL BUILDING DISPLACEMENT MAY BE USED IN LIEU OF THE LONG LEG ANGLE SUBJECT TO THE APPROVAL BY THE LOCAL JURISDICTION. PERIMETER WALLS SHALL BE CONSIDERED AS THOSE EXISTING/PROPOSED INTERIOR PARTITIONS THAT ARE LATERALLY BRACED.

13. FOR CEILING AREAS EXCEEDING 2,500 FT2 , A SEISMIC SEPARATION JOINT OR FULL HEIGHT PARTITION THAT BREAKS THE CEILING UP INTO AREAS NOT EXCEEDING 2,500 FT2 (232 M2), EACH WITH A RATIO OF THE LONG TO SHORT DIMENSION LESS THAN OR EQUAL TO 4, SHALL BE PROVIDED UNLESS STRUCTURAL ANALYSES ARE PERFORMED OF THE CEILING BRACING SYSTEM FOR THE PRESCRIBED SEISMIC FORCES THAT DEMONSTRATE CEILING PENETRATIONS AND CLOSURE ANGLES OR CHANNELS PROVIDE SUFFICIENT CLEARANCE TO ACCOMMODATE THE ANTICIPATED LATERAL DISPLACEMENT. EACH AREA SHALL BE PROVIDED WITH 2"CLOSURE ANGLES OR CHANNELS.

14. POSITIVE BRACING TO THE STRUCTURE SHALL BE PROVIDED AT THE CHANGES IN THE CEILING CEILING PLANE ELEVATION OR AT DISCONTINUITIES IN THE CEILING GRID SYSTEM.

15. SUPPORT FOR WIRING SYSTEMS: ELECTRICAL WIRING SYSTEMS, INCLUDING CABLE TRAYS, CONDUITS, JUNCTION BOXES, AND OTHER APPURTENANCES SHALL BE INDEPENDENTLY SUPPORTED AND INDEPENDENTLY BRACED FROM THE STRUCTURE.

16. SPRINKLER HEADS: ALL SPRINKLER HEADS (DROPS) EXCEPT FLOOR-CEILING OR ROOF-CEILING FIRE-RESISTIVE ASSEMBLIES, SHALL HAVE ½ INCH (12.7MM) OVERSIZE RING, SLEEVE OR ADAPTOR THROUGH THE CEILING TILE TO ALLOW FOR FREE MOVEMENT OF THE SPRINKLER PIPES.

SPECIAL REQUIREMENT FOR MEANS OF EGRESS:

17. WHEN THE DISTANCE BETWEEN THE STRUCTURAL DECK AND THE SUSPENDED CEILING EXCEEDS 4 FEET. CEILING SUSPENSION SYSTEMS SHALL BE CONNECTED AND BRACED DIRECTLY TO THE STRUCTURE AT THE MEANS OF EGRESS SERVING AN OCCUPANT LOAD OF 30 OR MORE AND AT LOBBIES ACCESSORY TO GROUP A OCCUPANCIES. SPACING OF VERTICAL HANGERS SHALL NOT EXCEED 2 FEET (610 MM) ON CENTER ALONG THE ENTIRE LENGTH OF THE MEANS OF EGRESS OR LOBBY.

18. AT FIRE-RATED EXIT CORRIDORS AND WITHIN A, E, AND M OCCUPANCIES. ALL LAY-IN PANELS SHALL BE SECURED TO THE SUSPENSION SYSTEM WITH TWO HOLD-DOWN CLIPS MINIMUM FOR EACH TILE WITHIN A 4-FOOT (1219 MM) RADIUS OF THE EXIT LIGHTS AND EXIT SIGNS.

19. INDEPENDENT SUPPORTS AND BRACES SHALL BE PROVIDED FOR LIGHT FIXTURES REQUIRED FOR EXIT ILLUMINATION.

20. SEPARATE SUPPORT FROM THE STRUCTURE SHALL BE PROVIDED FOR ALL APPENDAGES, SUCH AS LIGHT FIXTURES, AIR DIFFUSERS, EXIT SIGNS AND SIMILAR ELEMENTS.

SCALE: NOT TO SCALE

## SUSPENDED CEILING

1
A2.0|C1.1

| REV. | DESCRIPTION | DATE | APPR. |
|---|---|---|---|
| 1 | --- | -/-/- | |

OWNER

**EASTER SEALS SOUTHERN CALIFORNIA**
ATTN: KATHY CARNEY
223 E. THOUSAND OAKS BLVD., STE. 100
THOUSAND OAKS, CA 91360
PHONE: (714) 876-1558

PROJECT

**BUILDING B TENANT IMPROVEMENT**
APN: 3122-003-022
44460 20th STREET WEST
LANCASTER, CA 93534
PERMIT NO. PMT19-____

SHEET TITLE

**GREEN CODE REQUIREMENTS**

LICENSED ARCHITECT
JOHN W. SVALBE
No. C-33344
REN 12/31/2019
STATE OF CALIFORNIA


antelope valley engineering inc.
129 West Pondera St. Lancaster, Ca. 93534
Tel: (661) 948-0805 Fax: 661-945-8170
Email: info@antelopevalleyengineering.com


| | |
|---|---|
| DRAWN: | BSM / JWS |
| DATE: | 8-02-19 |
| JOB No.: | 18-068 |
| SHEET: | C-1.1 |
| OF | . SHEETS |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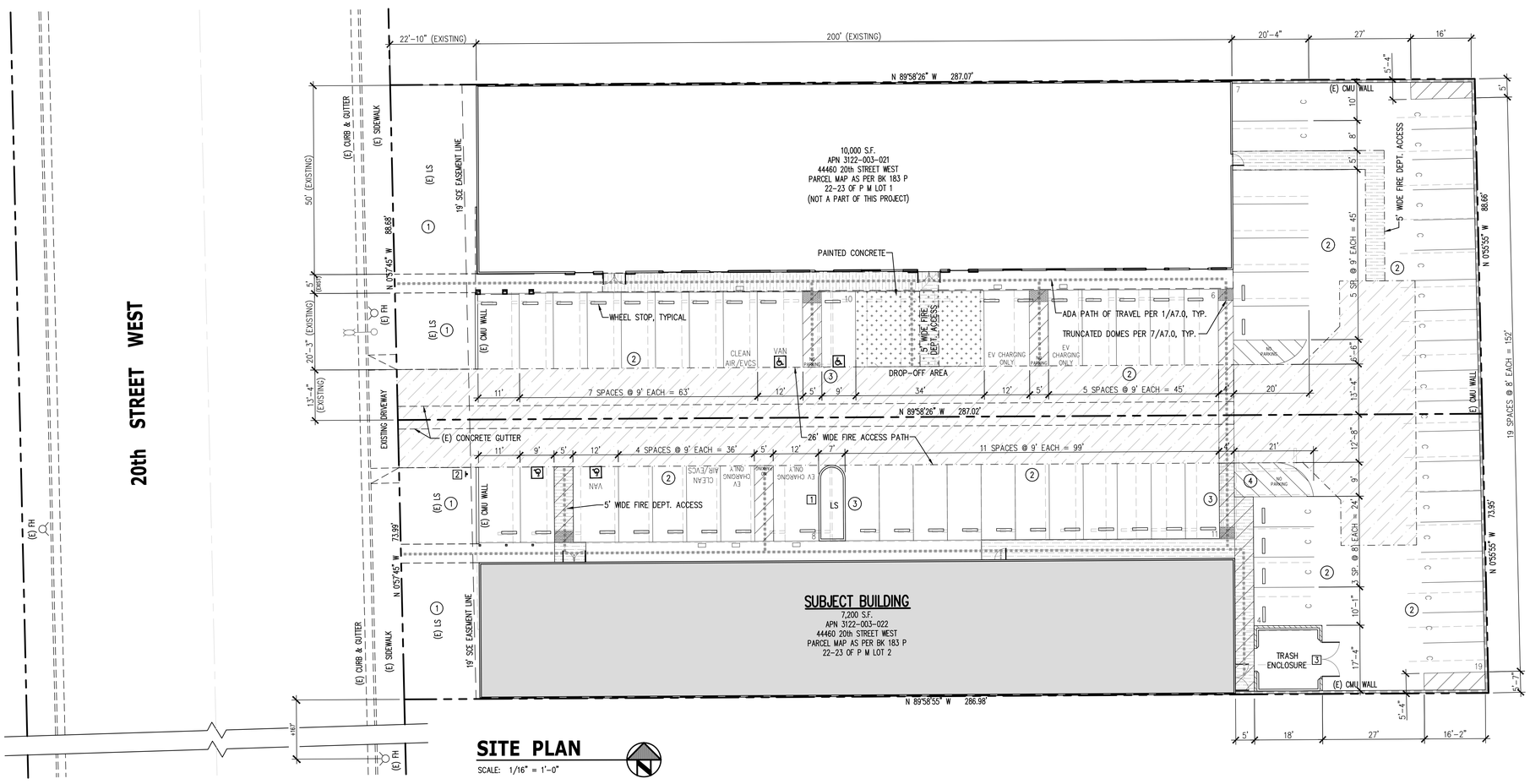
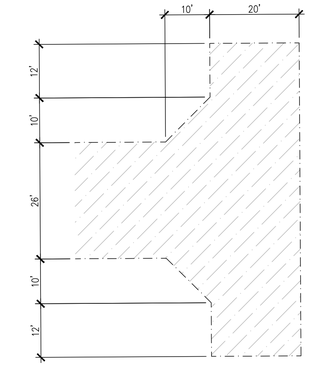



## SITE PLAN

SCALE: 1/16" = 1'-0"

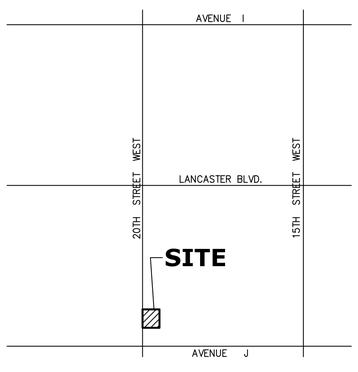



## FIRE DEPT. TURNAROUND

SCALE: 1/16" = 1'-0"

## VICINITY MAP

NO SCALE




## AREA ALLOWANCE

B OCCUPANCY, V-B CONSTRUCTION, NON-SPRINKLERED (NS), PERIMETER = 500 L.F., FRONTAGE = 300 L.F.

PER TABLE 504.3 – MAXIMUM HEIGHT IS 40' HEIGHT, ACTUAL HEIGHT IS 17'-10"

PER TABLE 504.4 – MAXIMUM STORIES IS ONE, ACTUAL IS ONE STORY

PER TABLE 506.2 – ALLOWABLE SQUARE FOOTAGE = 9,000 S.F., ACTUAL = 7,200 S.F.

| FRONTAGE INCREASE | AREA MODIFICATION |
|---|---|
| NOT REQUIRED | NOT REQUIRED |

OCCUPANCY ANALYSIS:

SEE TABLE HEREON

EXITING ANALYSIS:

TOTAL OCCUPANT LOAD = 345 OCCUPANTS x 0.15 = 51.75" REQUIRED, 216" PROVIDED

EXIT REQUIREMENTS: PER CBC TABLE 1006.2.1 AND 1006.3.2(2), MINIMUM OF TWO EXITS, FOUR EXITS PROVIDED

PER CBC 1007, EACH EXIT SHALL BE ACCESSIBLE

MAXIMUM TRAVEL DISTANCE = 80'

TRAVEL DISTANCE TO CLOSEST EXIT SHALL NOT EXCEED 200' PER TABLE 1017.2 AND SHALL BE MEASURED FROM THE MOST REMOTE POINT WITHIN A STORY ALONG THE NATURAL AND UNOBSTRUCTED PATH OF HORIZONTAL AND VERTICAL EGRESS TRAVEL TO THE ENTRANCE TO AN EXIT (CBC 1017.3)

## BUILDING DATA TABLE

| | |
|---|---|
| ASSESSOR'S PARCEL NO's | 3122-003-021 |
| LOT SIZE: | 25,451 S.F. (0.58 AC) |
| GENERAL LAND USE: | COMMERCIAL |
| ZONING: | COMMERCIAL |
| OCCUPANCY TYPE: | B |
| CONSTRUCTION TYPE: | VB |
| FIRE SPRINKLERS: | NONE |
| NO. OF STORIES: | ONE |
| BUILDING SQUARE FOOTAGE: | 10,000 S.F. |
| PROVIDED PARKING | |
| STANDARD (65% MIN.) | 16 SPACES |
| COMPACT (35% MAX.) | 12 SPACES |
| HANDICAP | 2 SPACES |
| FEV/LEV/EVCS | 3 SPACES |
| TOTAL | 33 SPACES |

FIRE FLOW
BASED ON 7,200 S.F. @ TYPE VB CONST. = 2,750 GPM/2 HRS BASE FLOW
LESS FIRE SPRINKLERS = 1,500 GPM/2 HRS.
PROPERTY DESCRIPTION:
PARCEL MAP AS PER BK 183 P 22-23 OF P M LOT 1

| | |
|---|---|
| ASSESSOR'S PARCEL NO's | 3122-003-022 |
| LOT SIZE: | 21,225 S.F. (0.49 AC) |
| GENERAL LAND USE: | COMMERCIAL |
| ZONING: | COMMERCIAL |
| OCCUPANCY TYPE: | B |
| CONSTRUCTION TYPE: | VB |
| FIRE SPRINKLERS: | NONE |
| NO. OF STORIES: | ONE |
| BUILDING SQUARE FOOTAGE: | 7,200 S.F. |
| PROVIDED PARKING | |
| STANDARD (65% MIN.) | 14 SPACES |
| COMPACT (35% MAX.) | 13 SPACES |
| HANDICAP | 2 SPACES |
| FEV/LEV/EVCS | 3 SPACES |
| TOTAL | 32 SPACES |

FIRE FLOW
BASED ON 7,200 S.F. @ TYPE VB CONST. = 2,250 GPM/2 HRS BASE FLOW
LESS FIRE SPRINKLERS = 1,750 GPM/2 HRS.
PROPERTY DESCRIPTION:
PARCEL MAP AS PER BK 183 P 22-23 OF P M LOT 2

## FIRE DEPARTMENT NOTES

1. THE MEANS OF EGRESS, AND EXIT DISCHARGE, SHALL BE ILLUMINATED AT ANY TIME THE BUILDING IS OCCUPIED WITH A LIGHT INTENSITY OF NOT LESS THAN 1 FOOT-CANDLE AT THE WALKING SURFACE LEVEL.
2. THE POWER SUPPLY FOR MEANS OF EGRESS ILLUMINATION SHALL NORMALLY BE PROVIDED BY THE PREMISES ELECTRICAL SUPPLY. IN THE EVENT OF POWER SUPPLY FAILURE, THE EMERGENCY POWER SYSTEM SHALL PROVIDE POWER FOR A DURATION OF NOT LESS THAN 90 MINUTES AND SHALL CONSIST OF STORAGE BATTERIES, UNIT EQUIPMENT OR AN ON-SITE GENERATOR.
3. EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT.
4. EXITS, EXIT ACCESS DOORS AND PATHS OF EGRESS TRAVEL THAT IS NOT IMMEDIATELY VISIBLE TO THE OCCUPANTS SHALL BE MARKED BY AN APPROVED EXIT SIGN THAT IS READILY VISIBLE FROM ANY DIRECTION OF EGRESS TRAVEL. EXIT SIGNS SHALL BE INTERNALLY OR EXTERNALLY ILLUMINATED.
5. PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED IN LOCATIONS AS REQUIRED BY FIRE CODE 906.
6. DUMPSTERS AND CONTAINERS WITH AN INDIVIDUAL CAPACITY OF 1.5 CUBIC YARDS OR MORE SHALL NOT BE STORED IN BUILDINGS OR PLACED WITHIN 5 FEET OF COMBUSTIBLE WALLS, OPENINGS OR COMBUSTIBLE ROOF EAVES, UNLESS AREAS CONTAINING DUMPSTERS OR CONTAINERS ARE PROTECTED BY AN APPROVED AUTOMATIC FIRE SPRINKLER SYSTEM.
7. CURTAINS, DRAPERIES, HANGINGS AND OTHER DECORATIVE MATERIALS SUSPENDED FROM WALLS OR CEILINGS SHALL MEET THE FLAME PROPAGATION PERFORMANCE CRITERIA OF NFPA 701.
8. INTERIOR FINISH SHALL BE PROVIDED IN ACCORDANCE WITH BUILDING CODE 801 AND TABLE 803.9.

### ○ DEMOLITION NOTES:

1. REMOVE EXISTING LANDSCAPING. NEW LANDSCAPING SHALL BE DESERT, DROUGHT TOLERANT THEME.
2. REMOVE EXISTING STRIPING AND WHEEL STOPS. RELOCATE WHEEL STOPS AS SHOWN. REPLACE ANY DAMAGED WHEEL STOPS.
3. REMOVE EXISTING LANDSCAPE PLANTERS AND CURBS.
4. REMOVE EXISTING TRASH ENCLOSURE.

### ☐ CONSTRUCTION NOTES:

1. NO ITEM
2. NEW UNAUTHORIZED VEHICLE PARKING SIGN PER DETAIL 4/A7.0.
3. NEW TRASH ENCLOSURE PER DETAILS 2, 7, 8 AND 9 ON A4.0.

## CALIFORNIA BUILDING CODE

| # | SPACE/AREA | CBC CLASSIFICATION | SQ. FT. | OCC. TYPE | FACTOR | OCC. LOAD |
|---|---|---|---|---|---|---|
| 101 | OPEN AREA | ASSEMBLY | 3,395 | B | 1/15 | 227 |
| 102 | WOMEN | BUSINESS | 58 | B | – | – |
| 103 | MEN | BUSINESS | 58 | B | – | – |
| 104 | WOMEN | BUSINESS | 203 | B | – | – |
| 105 | MEN | BUSINESS | 202 | B | – | – |
| 106 | RECEPTION AREA | ASSEMBLY | 456 | B | 1/15 | 31 |
| 107 | OPEN OFFICE AREA | BUSINESS | 254 | B | 1/100 | 3 |
| 108 | OFFICE #1 | BUSINESS | 100 | B | 1/100 | 1 |
| 109 | OFFICE #2 | BUSINESS | 100 | B | 1/100 | 1 |
| 110 | CONF. ROOM #1 | ASSEMBLY | 240 | B | 1/15 | 16 |
| 111 | CONF. ROOM #2 | ASSEMBLY | 180 | B | 1/15 | 12 |
| 112 | BREAK ROOM | ASSEMBLY | 281 | B | 1/15 | 19 |
| 113 | JANITOR | UTILITY | 22 | B | – | – |
| 114 | HUDDLE #1 | BUSINESS | 80 | B | 1/100 | 1 |
| 115 | HUDDLE #2 | BUSINESS | 80 | B | 1/100 | 1 |
| 116 | TRAINING ROOM | CLASSROOM | 651 | B | 1/20 | 33 |
| 117 | CIRCULATION | BUSINESS | 509 | B | – | – |
| TOTAL | | | | | | 345 |

| REV. | DESCRIPTION | DATE | APPR. |
|---|---|---|---|
| 1 | -- | -/-/- | |

OWNER

**EASTER SEALS SOUTHERN CALIFORNIA**
ATTN: KATHY CARNEY
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THOUSAND OAKS, CA 91360
PHONE: (714) 876-1558

PROJECT

**BUILDING B TENANT IMPROVEMENT**
APN: 3122-003-022
44460 20th STREET WEST
LANCASTER, CA 93534
PERMIT NO. PMT19-____

SHEET TITLE

**SITE PLAN**

LICENSED ARCHITECT
JOHN W. SVALBE
No. C-33344
REN 12/31/2019
STATE OF CALIFORNIA


antelope valley engineering inc.
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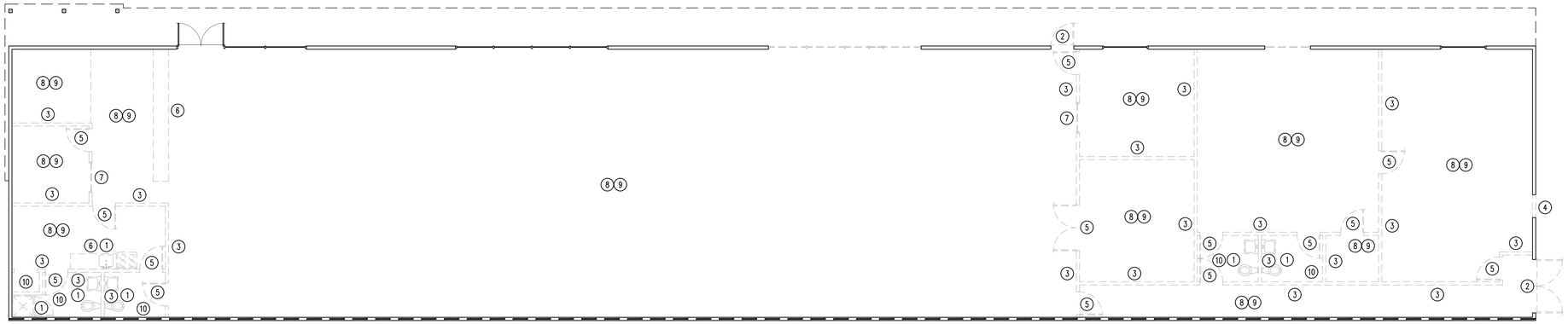
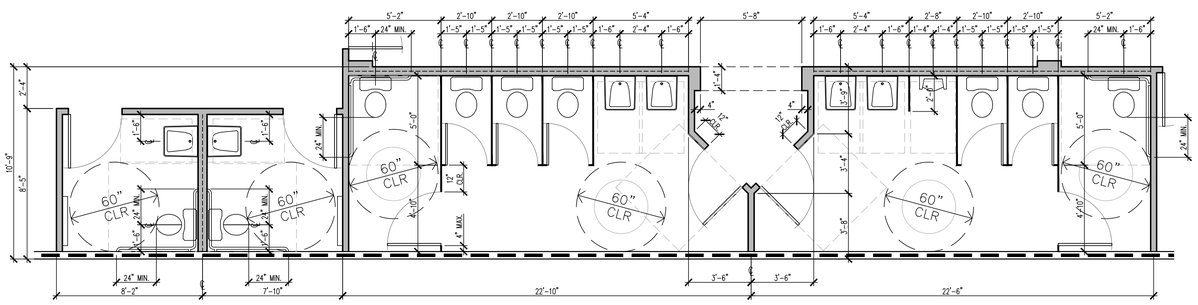


## DEMOLITION PLAN

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

### DEMOLITION NOTES:

1. REMOVE EXISTING PLUMBING FIXTURES. REROUTE EXISTING WATER AND SEWER LINES TO NEW LOCATIONS PER FLOOR PLAN OR CAP OFF UNUSED LINES.
2. REMOVE EXISTING DOOR AND FRAME. FRAME IN WALL VOID WITH METAL STUDS AND GYPSUM BOARD PER NOTES HEREON. FINISH TO MATCH EXISTING ADJACENT SURFACE.
3. REMOVE PORTION OF EXISTING NON-BEARING INTERIOR WALL AS SHOWN. COVER EXPOSED FRAMING WITH GYPSUM BOARD AND FINISH TO MATCH EXISTING ADJACENT SURFACE.
4. REMOVE PORTION OF EXISTING EXTERIOR WALL AS REQUIRED FOR NEW DOOR OR WINDOW OPENING. FRAME IN NEW HEADER PER STRUCTURAL DRAWINGS.
5. REMOVE EXISTING DOOR AND FRAME.
6. REMOVE EXISTING CABINETRY.
7. REMOVE EXISTING WINDOW ASSEMBLY.
8. REMOVE EXISTING FLOORING AND PREPARE EXPOSED SLAB PER NEW FLOORING MANUFACTURER'S SPECIFICATIONS.
9. REMOVE EXISTING SUSPENDED CEILING SYSTEM, LIGHTS AND HVAC REGISTERS.
10. REMOVE EXISTING GYPSUM BOARD CEILING, LIGHTS AND HVAC REGISTERS.



## ENLARGED TOILET PLAN

1 / A2.0A1.0

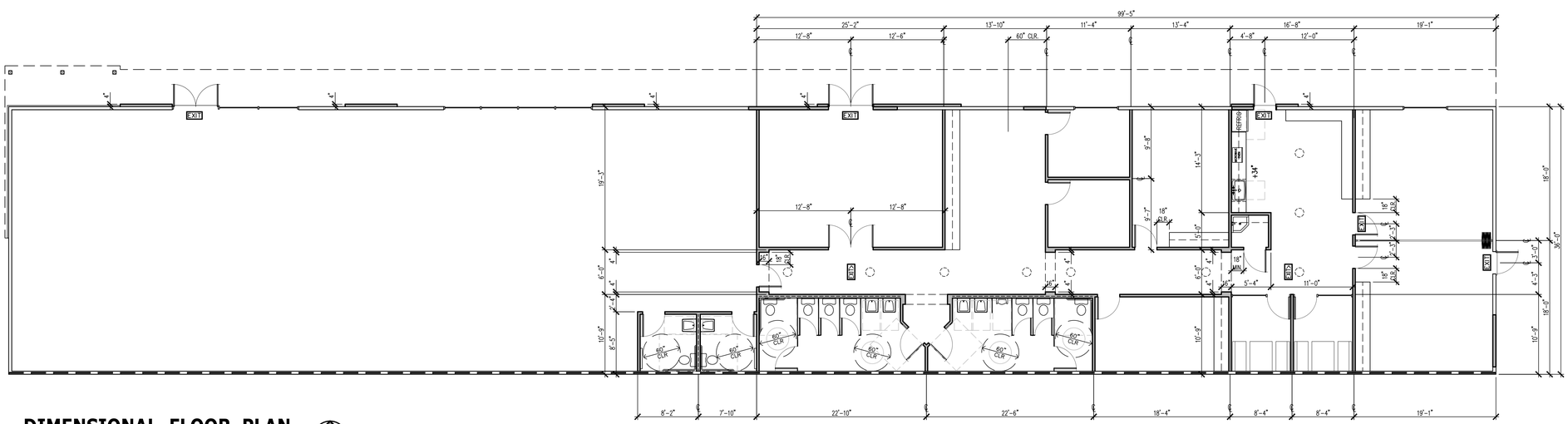
SCALE: 1/4" = 1'-0"

### WALL LEGEND:

- EXISTING ONE-HOUR FIRE RATED EXTERIOR WALL WITH STUCCO FINISH (EXTERIOR) AND 5/8" TYPE 'X' GYPSUM BOARD FINISH (INTERIOR) — 4 / A1.0A5.0
- EXISTING EXTERIOR WALL WITH STUCCO FINISH (EXTERIOR) AND 5/8" TYPE 'X' GYPSUM BOARD FINISH (INTERIOR) — 5 / A1.0A5.0; 6 / A1.0A5.0
- PROPOSED INTERIOR NON-BEARING WALL: 3-5/8", 20 GAUGE, METAL STUDS AT 16" O.C. WITH BRACING AS REQUIRED, 5/8" GYPSUM BOARD ATTACHED PARALLEL OR AT RIGHT ANGLES TO EACH SIDE OF STUDS WITH 1" TYPE S DRYWALL SCREWS AT 8" O.C. AT VERTICAL JOINTS AND 12" O.C. AT INTERMEDIATE STUDS (GA FILE NO. WP 1072) — 1 / A1.0A5.0; 2 / A1.0A5.0
- PROPOSED INTERIOR NON-BEARING PLUMBING WALL: 6", 20 GAUGE, METAL STUDS AT 16" O.C. WITH BRACING AS REQUIRED, 5/8" W/R GYPSUM BOARD ATTACHED PARALLEL OR AT RIGHT ANGLES TO EACH SIDE OF STUDS WITH 1" TYPE S DRYWALL SCREWS AT 8" O.C. AT VERTICAL JOINTS AND 12" O.C. AT INTERMEDIATE STUDS (GA FILE NO. WP 1072) — 3 / A1.0A5.0
- PROPOSED INTERIOR NON-BEARING DRAFTSTOP WALL: 3-5/8", 20 GAUGE, METAL STUDS AT 16" O.C. WITH BRACING AS REQUIRED, R-13 SOUND INSULATION (WHERE SHOWN), 5/8" GYPSUM BOARD ATTACHED PARALLEL OR AT RIGHT ANGLES TO EACH SIDE OF STUDS WITH 1" TYPE S DRYWALL SCREWS AT 8" O.C. AT VERTICAL JOINTS AND 12" O.C. AT INTERMEDIATE STUDS, EXTEND WALL FULL HEIGHT TO UNDERSIDE OF ROOF SHEATHING (GA FILE NO. WP 1072) — 1 / A1.0A6.0

NOTES:

1. SEE DETAILS 9, 10 AND 11 ON SHEET A6.0 FOR CLEARANCES AND REQUIREMENTS



## DIMENSIONAL FLOOR PLAN

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

| REV. | DESCRIPTION | DATE | APPR. |
|---|---|---|---|
| 1 | -- | -/-/- | |

OWNER

**EASTER SEALS SOUTHERN CALIFORNIA**
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PHONE: (714) 876-1558

PROJECT

**BUILDING B TENANT IMPROVEMENT**
APN: 3122-003-022
44460 20th STREET WEST
LANCASTER, CA 93534
PERMIT NO. PMT19-____

SHEET TITLE

**DEMOLITION AND DIMENSIONAL FLOOR PLANS**

LICENSED ARCHITECT
JOHN W. SVALBE
No. C-33344
REN 12/31/2019
STATE OF CALIFORNIA


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| OF . | SHEETS |


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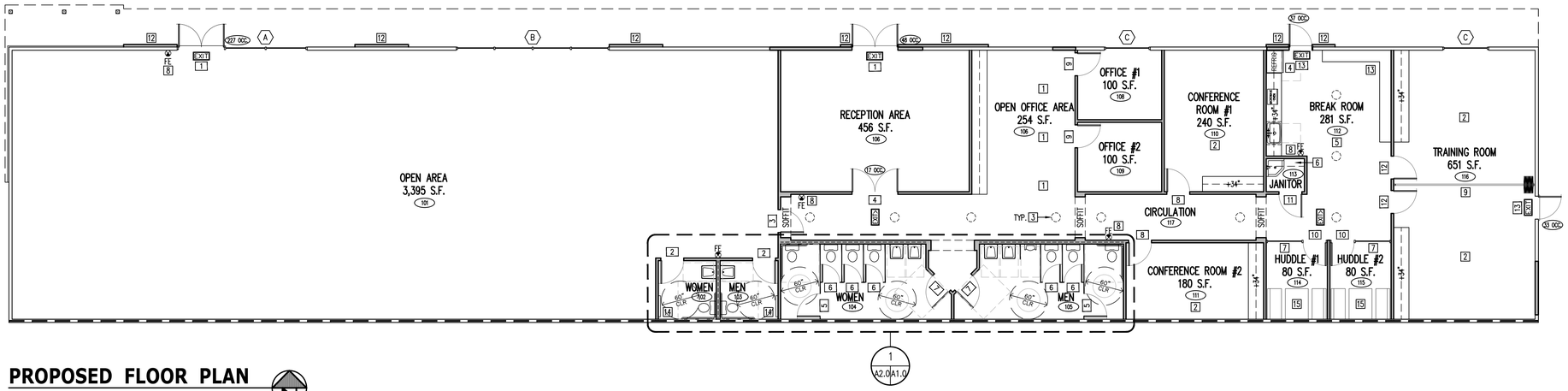
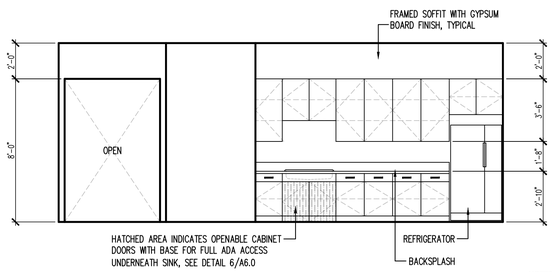



## PROPOSED FLOOR PLAN

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

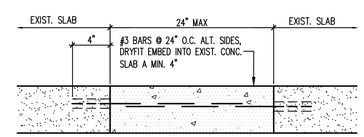



SCALE: 1/4" = 1'-0"

NOTES:

1. SEE DETAILS 7 AND 8 ON SHEET A6.0 FOR CLEARANCES AND REQUIREMENTS

## KITCHEN WEST ELEVATION




NOTES:

REPLACEMENT CONCRETE SHOULD BE A MIN. OF 2500 PSI MIX, MATCH DEPTH OF EXIST. SLAB

THIS DETAIL SHALL BE USED WHEREVER UTILITY TRENCHING OCCURS WITHIN THE EXISTING CONCRETE SLAB

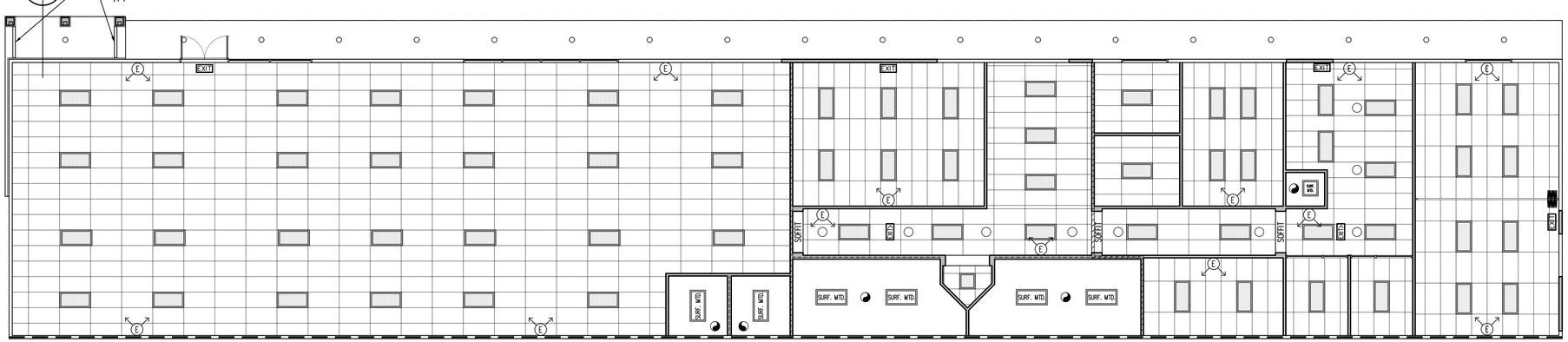
NOT TO SCALE

## CONCRETE TRENCH REPAIR

86 S.F. / 150 = 83 S.I. REQUIRED VENT AREA

INSTALL NEW 4"x48" SOFFIT VENT, PAINT TO MATCH STUCCO, TYPICAL OF 2

(2) x 4" x 48" x 30% EFF. = 115 S.I. FREE AREA




## PROPOSED CEILING PLAN

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

### CONSTRUCTION NOTES:

1. PORTABLE CUBICLE PARTITION SYSTEM PER TENANT.
2. INSTALL ASSISTIVE LISTENING DEVICES PER DETAIL 4 ON SHEET A6.0.
3. SOLATUBE BRIGHTEN UP SERIES 290 DS WITH OPTIVIEW DIFFUSER AND FLASHING. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
4. INSTALL WATER SUPPLY VALVE AT PROPOSED REFRIGERATOR LOCATION.
5. APPLIANCES AND CABINETRY SHALL BE INSTALLED FOR ADA ACCESSIBILITY PER DETAILS 7 AND 8 ON SHEET A6.0. COUNTERTOPS SHALL BE GRANITE.
6. FLOOR MOUNTED MOP SINK WITH ATMOSPHERIC VACUUM BREAKER, BUCKET HOOK AND BACKSPLASH. INSTALL MOP/BROOM RACK AND SHELVING AT BACK WALL.
7. 10' HIGH ALUMINUM FRAMED, TEMPERED GLAZED OFFICE PARTITION SYSTEM BY CRL OR EQUAL.
8. WALL MOUNTED FIRE EXTINGUISHER.
9. 10' HIGH MANUALLY OPERATED ACOUSTICAL TEXTURED VINYL PANELFOLD SONICWAL 1212 FOLDING PARTITION, COLOR PER CLIENT. SEE DETAILS ON SHEET A3.0.
10. PROTRUDING OBJECTS SHALL BE INSTALLED PER DETAIL 5/A6.0.
11. REPAIR CONCRETE SAWCUTS AND TRENCHES PER DETAIL 1/A2.0.
12. 4" POPOUT WITH STUCCO FINISH, SEE EXTERIOR ELEVATIONS.
13. 18" WIDE WORK COUNTER, +42" A.F.F.
14. ADA COMPATIBLE WALL MOUNTED BABY CHANGING STATION
15. TABLE WITH BENCHES AT EACH SIDE PER TENANT

### ADDITIONAL NOTES:

1. ALL FURNISHINGS SHALL BE SUPPLIED BY TENANT. CONTRACTOR AND TENANT TO COORDINATE INSTALLATION REQUIREMENTS.
2. CONTRACTOR TO COORDINATE WITH INTRUSION ALARM SUBCONTRACTOR FOR ELECTRICAL REQUIREMENTS, CLEARANCES, ETC.

(F) WALL MOUNTED FIRE EXTINGUISHER W/MIN. RATING OF RA10BC

### FLOOR PLAN NOTES:

1. DEFERRED SUBMITTALS SHALL BE LISTED ON THE FRONT OF THE DRAWINGS AND SHALL BE REVIEWED AND APPROVED BY THE ARCHITECT/ENGINEER PRIOR TO SUBMITTAL TO THE BUILDING DEPARTMENT INCLUDING FIRE SPRINKLERS AND TRUSSES. CBC 106.3.4.2
2. THRU PENETRATIONS OF FIRE RESISTIVE WALLS SHALL BE PROTECTED BY AN APPROVED PENETRATION FIRESTOP SYSTEM AND SHALL HAVE AN F RATING OF NOT LESS THAN THE RATING OF THE WALL. CBC 709.6.
3. FIRE RESISTIVE ASSEMBLIES FOR PROTECTION OF OPENINGS TO COMPLY WITH TITLE 24, 713.
4. MEMBRANE PENETRATION OF FIRE RESISTIVE WALL SHALL COMPLY WITH SECTION 709.6 CBC.
5. WALL AND CEILING MATERIALS SHALL NOT EXCEED THE FLAME SPREAD CLASSIFICATION IN CBC TABLE 8-B.
6. SMOKE/FIRE DAMPERS MUST BE INSTALLED IN THE FOLLOWING LOCATIONS: DUCT PENETRATIONS OF AREA OR OCCUPANCY SEPARATION WALLS, DUCTS PASSING THROUGH HORIZONTAL EXITS, DUCTS PENETRATING FIRE-RESISTIVE ELEMENTS OF FIRE RATED CORRIDORS.
7. FIRE-RESISITIVE COVERING ON COLUMNS THAT ARE EXPOSED TO INJURY FROM MOVING VEHICLES, HANDLING OF MERCHANDISE OR OTHER MEANS SHALL BE PROTECTED IN AN APPROVED MANNER.
8. THE WIDTH AND HEIGHT OF REQUIRED EXIT DOORWAYS SHALL BE NOT LESS THAN 3 FEET IN NOMINAL WIDTH BY 6 FEET 8 INCHES IN NOMINAL HEIGHT AND SHALL BE CAPABLE OF OPENING SUCH THAT THE CLEAR WIDTH IS NOT LESS THAN 32 INCHES.
10. COORDINATE ALL FINISHES, HARDWARE, AND FIXTURES WITH TENANT PRIOR TO ORDERING AND INSTALLING.
11. INTERIOR WALL AND CEILING FINISHES SHALL BE CLASSIFIED IN ACCORDANCE WITH CBC 803 AND TABLE 803.5.
12. CURTAINS, DRAPES AND OTHER DECORATIVE MATERIALS SUSPENDED FROM THE WALLS OR CEILINGS SHALL MEET THE FLAME SPREAD PROPAGATION PERFORMANCE CRITERIA OF NFPA 701 IN ACCORDANCE WITH SECTION 806.2 OR BE NONCOMBUSTIBLE. CBC 806.1.

### CEILING NOTES:

1. CEILING HEIGHTS SHALL BE 10'-0" ABOVE FINISH FLOOR.
2. SOFFIT HEIGHTS SHALL BE 8'-0" ABOVE FINISH FLOOR UNLESS NOTED OTHERWISE.
3. SEE ELECTRICAL DRAWINGS FOR LIGHT FIXTURE SPECIFICATIONS.
4. SEE MECHANICAL DRAWINGS FOR HVAC AIR REGISTER LOCATIONS AND SPECIFICATIONS.
5. SEE FIRE SPRINKLER DRAWINGS, NOT A PART OF THIS CONTRACT, FOR SPRINKLER LOCATIONS AND SPECIFICATIONS.
6. BUILDING WILL BE PRE-WIRED FOR SECURITY AND FIRE ALARM SYSTEMS. COORDINATE WITH OWNER AND OWNER'S SECURITY COMPANY.
7. SEE DETAIL 1/C1.1 FOR SUSPENDED ACOUSTICAL CEILING SPECIFICATIONS

### SYMBOLS LEGEND:

- 2'x4' ARCHITECTURAL RECESSED 2-BULB INDIRECT LED FIXTURE, PER DETAIL 6/A4.0 AND ELECTRICAL DRAWINGS
- 2'x2' ARCHITECTURAL RECESSED 2-BULB INDIRECT LED FIXTURE, PER DETAIL 6/A4.0 AND ELECTRICAL DRAWINGS
- SURF. MTD. — 2'x4' ARCHITECTURAL SURFACE MOUNTED 2-BULB INDIRECT LED FIXTURE, PER ELECTRICAL DRAWINGS
- EXHAUST FAN (5 AIR CHANGES MINIMUM), PER MECH. DRAWINGS
- SUSPENDED CEILING SYSTEM PER CEILING PLAN
- (E) — EMERGENCY LIGHT FIXTURE WITH EMERGENCY BACKUP PER ELECTRICAL DRAWINGS
- INTERIOR RECESSED LED FIXTURE, PER ELECTRICAL DRAWINGS
- EXTERIOR RATED RECESSED LED FIXTURE, PER ELECTRICAL DRAWINGS

**SUSPENDED CEILING SYSTEM SHALL BE INSTALLED PER ASTM C635 AND C636, CBC SECTIONS 803.9.1.1 AND 2506.2.1, AND SECTION 13.5.6 OF ASCE 7 WITH CBC SECTION 1614A MODIFICATIONS**

| REV. | DESCRIPTION | DATE | APPR. |
|---|---|---|---|
| 1 | -- | -/-/- | |

OWNER

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ATTN: KATHY CARNEY
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**BUILDING B TENANT IMPROVEMENT**
APN: 3122-003-022
44460 20th STREET WEST
LANCASTER, CA 93534
PERMIT NO. PMT19-____

SHEET TITLE

**PROPOSED FLOOR PLANS AND CEILING PLANS**

LICENSED ARCHITECT
JOHN W. SVALBE
No. C-33344
REN 12/31/2019
STATE OF CALIFORNIA

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| DRAWN: | BSM / JWS |
| DATE: | 8-02-19 |
| JOB No.: | 18-068 |
| SHEET: | A-2.0 |
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# SONICWAL/1212 ACOUSTICAL FOLDING PARTITIONS

## DOOR SCHEDULE

| NO | WT. | HT. | TH'K | LOC. | TYPE | MATERIALS | FINISH | FRAME | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 6'-0" | 6'-8" | 1-3/4" | EXTERIOR | SWINGING | ALUMINUM FRAMED TEMPERED STOREFRONT GLASS | FACTORY | ALUMINUM | LEVER HARDWARE, KEYED ENTRY (INGRESS SIDE), PANIC HARDWARE (EGRESS SIDE), SELF-CLOSING, 12" FIXED TRANSOM WINDOW ABOVE |
| 2 | 3'-0" | 6'-8" | 1-3/4" | INTERIOR | SWINGING | SOLID CORE WOOD FLUSH | PRESTAINED CHERRY FINISH | TIMELY HOLLOW METAL OR EQUAL | LEVER HARDWARE, KEYED ENTRY, LOCKING AT EGRESS SIDE, SELF-CLOSING, KICKPLATE AT INGRESS SIDE |
| 3 | 3'-0" | 6'-8" | 1-3/4" | INTERIOR | SWINGING | SOLID CORE WOOD FLUSH | PRESTAINED CHERRY FINISH | TIMELY HOLLOW METAL OR EQUAL | LEVER HARDWARE, KEYED ENTRY (EGRESS SIDE), LOCKING AT INGRESS SIDE, SELF-CLOSING |
| 4 | 6'-0" | 6'-8" | 1-3/4" | INTERIOR | SWINGING | SOLID CORE WOOD FLUSH | PRESTAINED CHERRY FINISH | TIMELY HOLLOW METAL OR EQUAL | LEVER HARDWARE, PANIC HARDWARE (INGRESS SIDE), SELF-CLOSING |
| 5 | 3'-0" | 5'-0" | FACTORY | INTERIOR | SWINGING | FACTORY | FACTORY | | PULL HANDLE AND LOCKING SLIDE LATCH (EGRESS SIDE) |
| 6 | 2'-2" | 5'-0" | FACTORY | INTERIOR | SWINGING | FACTORY | FACTORY | | PULL HANDLE AND LOCKING SLIDE LATCH (EGRESS SIDE) |
| 7 | 3'-0" | 6'-8" | 1-3/4" | INTERIOR | SWINGING | SOLID CORE WOOD FLUSH | PRESTAINED CHERRY FINISH | TIMELY HOLLOW METAL OR EQUAL | PUSH PLATES AND KICKPLATE (INGRESS SIDE), PULL HANDLE (EGRESS SIDE), SELF-CLOSING |
| 8 | 3'-0" | 6'-8" | 1-3/4" | INTERIOR | SWINGING | SOLID CORE WOOD FLUSH | PRESTAINED CHERRY FINISH | TIMELY HOLLOW METAL OR EQUAL | LEVER HARDWARE |
| 9 | 3'-0" | 6'-8" | 1-3/4" | INTERIOR | SWINGING | SOLID CORE WOOD FLUSH | PRESTAINED CHERRY FINISH | TIMELY HOLLOW METAL OR EQUAL | LEVER HARDWARE, KEYED ENTRY, LOCKING AT EGRESS SIDE, SELF-CLOSING |
| 10 | 3'-0" | 6'-8" | 1-3/4" | INTERIOR | SWINGING | ALUMINUM FRAMED TEMPERED STOREFRONT GLASS | FACTORY | ALUMINUM | LEVER HARDWARE, KEYED ENTRY, LOCKING AT EGRESS SIDE, SELF-CLOSING |
| 11 | 3'-0" | 6'-8" | 1-3/4" | INTERIOR | SWINGING | SOLID CORE WOOD FLUSH | PRESTAINED CHERRY FINISH | TIMELY HOLLOW METAL OR EQUAL | LEVER HARDWARE, KEYED ENTRY, SELF-CLOSING, KICKPLATE AT INGRESS SIDE, INSTALL 12"x12" VENT TOP AND BOTTOM OF DOOR |
| 12 | 3'-0" | 6'-8" | 1-3/4" | INTERIOR | SWINGING | SOLID CORE WOOD FLUSH | PRESTAINED CHERRY FINISH | TIMELY HOLLOW METAL OR EQUAL | LEVER HARDWARE |
| 13 | 3'-0" | 6'-8" | 1-3/4" | EXTERIOR | SWINGING | HOLLOW METAL | PAINTED | HOLLOW METAL | LEVER HARDWARE, KEYED ENTRY (INGRESS SIDE), PANIC HARDWARE (EGRESS SIDE), SELF-CLOSING, 12" FIXED TRANSOM WINDOW ABOVE |
| | | | | | | | | | |

DOOR NOTES:

1. EXIT DOORS WITH KEY-LOCKING HARDWARE SHALL HAVE A READILY, VISIBLE SIGN ON OR ADJACENT TO THE DOOR STATING, "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED" (CBC 1008.1.9.3).
2. EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. BUILDING CODE 1008.1.9
3. EGRESS DOORS SHALL SWING IN THE DIRECTION OF EGRESS TRAVEL WHERE SERVING AN OCCUPANT LOAD OF 50 OR MORE PERSONS OR A GROUP H OCCUPANCY REGARDLESS OF THE OCCUPANT LOAD. BUILDING CODE 1008.1.2.
4. THE MINIMUM WIDTH OF EACH DOOR OPENING SHALL BE SUFFICIENT FOR THE OCCUPANT LOAD THEREOF AND SHALL PROVIDE A CLEAR WIDTH OF NOT LESS THAN 32 INCHES. THE HEIGHT OF DOORS SHALL NOT BE LESS THAN 80 INCHES. BUILDING CODE 1008.1.1.
5. FIRE-RESISTIVE ASSEMBLIES FOR THE PROTECTION OF OPENINGS, WHEN REQUIRED BY THE BUILDING CODE, SHALL COMPLY WITH BUILDING CODE 713.
6. COMPLY WITH CBC LOCKS AND LATCHES. CBC 1008.1.9.3.
7. EXTERIOR DOORS SHALL BE INSTALLED WITH SECURITY HARDWARE. SEE SHEET C-1.0, GENERAL NOTES, "SECURITY REQUIREMENTS".
8. ALL DOOR HARDWARE SHALL BE SUPPLIED & INSTALLED BY CONTRACTOR.
9. SEE DETAIL 2/A6.0 FOR DOOR REQUIREMENTS.
10. SEE DETAIL 3/A6.0 FOR SIGNAGE REQUIREMENTS.

## FINISH SCHEDULE

| ROOM SPACE/AREA | FLOOR | BASE | WALLS NORTH | WALLS EAST | WALLS SOUTH | WALLS WEST | CEILING | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| OPEN AREA | CARPET | VINYL TOPSET | PAINT | PAINT | PAINT | PAINT | SUSP. VINYL ACOUST. TILES | |
| TOILETS | CERAMIC TILE | 6" CERAMIC COVED TILE | 48" CERAMIC TILE WAINSCOT | 48" CERAMIC TILE WAINSCOT | 48" CERAMIC TILE WAINSCOT | 48" CERAMIC TILE WAINSCOT | GYPSUM BOARD | 3/8" RADIUS COVED BASE |
| RECEPTION AREA | CERAMIC TILE | 6" CERAMIC COVED TILE | PAINT | PAINT | PAINT | PAINT | SUSP. VINYL ACOUST. TILES | 3/8" RADIUS COVED BASE |
| OPEN OFFICE AREA | CARPET | VINYL TOPSET | PAINT | PAINT | PAINT | PAINT | SUSP. VINYL ACOUST. TILES | |
| OFFICES | CARPET | VINYL TOPSET | PAINT | PAINT | PAINT | PAINT | SUSP. VINYL ACOUST. TILES | |
| CONFERENCE ROOMS | CARPET | VINYL TOPSET | PAINT | PAINT | PAINT | PAINT | SUSP. VINYL ACOUST. TILES | |
| BREAK ROOM | VINYL PLANK | 4" VINYL COVED | PAINT | PAINT | PAINT | PAINT | SUSP. VINYL ACOUST. TILES | 3/8" RADIUS COVED BASE |
| JANITOR | CERAMIC TILE | 6" CERAMIC COVED TILE | 48" CERAMIC TILE WAINSCOT | 48" CERAMIC TILE WAINSCOT | 48" CERAMIC TILE WAINSCOT | 48" CERAMIC TILE WAINSCOT | GYPSUM BOARD | 3/8" RADIUS COVED BASE |
| HUDDLE ROOMS | CARPET | VINYL TOPSET | PAINT | PAINT | PAINT | PAINT | SUSP. VINYL ACOUST. TILES | |
| TRAINING ROOM | CARPET | VINYL TOPSET | PAINT | PAINT | PAINT | PAINT | SUSP. ACOUST. TILES | |
| CIRCULATION | VINYL PLANK | 4" VINYL COVED | PAINT | PAINT | PAINT | PAINT | SUSP. VINYL ACOUST. TILES | 3/8" RADIUS COVED BASE |

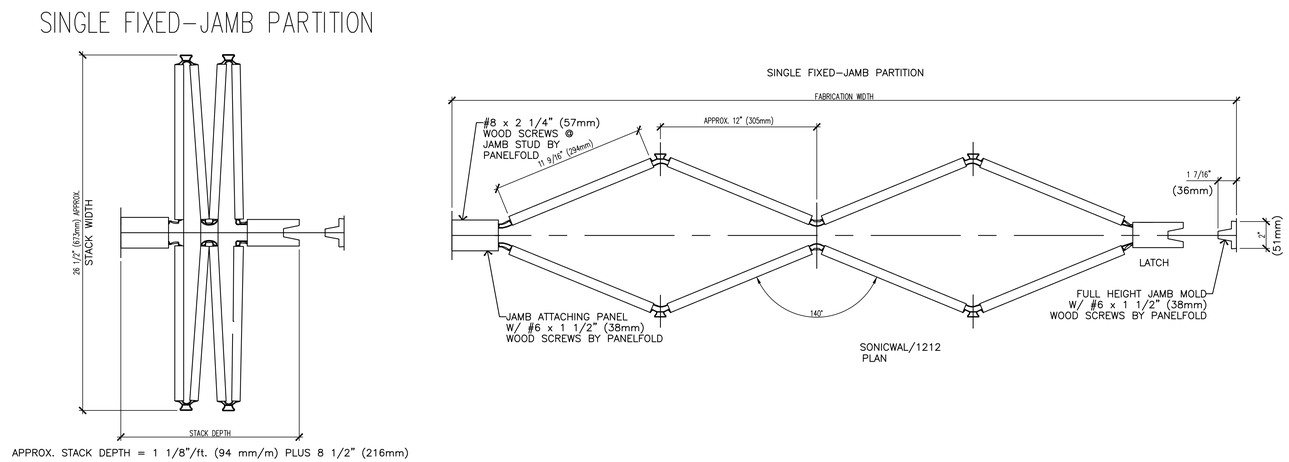
NOTE:

1. PAINT ALL INTERIOR SURFACES INCLUDING, BUT NOT LIMITED TO WALLS, HARD CEILINGS AND TRIM. PROVIDE ONE PRIMER COAT AND TWO FINISH COATS UNLESS OTHERWISE NOTED.
2. GYPSUM BOARD FINISH SHALL BE LEVEL 4 KNOCKDOWN TEXTURED PAINTED FINISH.
3. ADHESIVES, SEALANTS AND CAULKS, PAINTS AND COATINGS, AEROSOL PAINTS AND COATINGS SHALL MEET OR EXCEED THE STANDARDS OUTLINED IN SECTION 5.504.4.1, 5.504.4.3, 5.504.4.3.1 RESPECTIVELY. VERIFICATION OF COMPLIANCE MUST BE PROVIDED AT THE TIME OF INSPECTION.
4. ALL CARPET INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE TESTING AND PRODUCT REQUIREMENTS OF SECTION 5.504.4.4.
5. ALL CARPET CUSHION INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE REQUIREMENTS OF THE CARPET AND RUG INSTITUTE GREEN LABEL PROGRAM. CARPET ADHESIVES SHALL NOT EXCEED A VOC LIMIT OF 50g/L.
6. DOCUMENTATION SHALL BE PROVIDED TO THE BUILDING INSPECTOR AT THE TIME OF FINAL INSPECTION VERIFYING THAT A MINIMUM OF 50% OF FLOOR AREA RECEIVING RESILIENT FLOORING COMPLIES WITH THE REQUIREMENTS OF SECTION 5.504.4.6.
7. INTERIOR WALL AND CEILING FINISHES SHALL BE CLASSIFIED IN ACCORDANCE WITH CBC 801 AND TABLE 803.9.
8. CURTAINS, DRAPES AND OTHER DECORATIVE MATERIALS SUSPENDED FROM THE WALLS OR CEILINGS SHALL MEET THE FLAME SPREAD PROPAGATION PERFORMANCE CRITERIA OF NFPA 701 IN ACCORDANCE WITH SECTION 806.2 OR BE NONCOMBUSTIBLE. CBC 806.1.
9. ANY MATERIAL SUBSTITUTIONS SHALL BE EQUAL TO ORIGINAL MATERIAL SPECIFICATION AND SHALL BE SUBMITTED TO TENANT AND ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO ORDERING AND INSTALLATION.
10. WALL PAINT IN KITCHEN AND STORAGE ROOMS SHALL BE SEMI-GLOSS "NAVAJO WHITE".
11. "WET WALLS" SHALL HAVE 48" HIGH CERAMIC TILE WAINSCOT.
12. ACOUSTIC CEILING TILES AT KITCHEN AND PANTRY SHALL BE ARMSTRONG "KITCHEN ZONE" ACOUSTICAL TILES WITH A SMOOTH, WASHABLE VINYL COATED SURFACE.

## WINDOW SCHEDULE

| ⬡ | WT. | HT. | LOC. | MATERIALS | GLAZING | FRAME | REMARKS |
|---|---|---|---|---|---|---|---|
| A | 11'-0" | 4'-0" | EXTERIOR | 1/4" TEMPERED GLASS | TINTED | ALUMINUM STOREFRONT SYSTEM | EXISTING FIXED DUAL GLAZING |
| B | 20'-0" | 4'-0" | EXTERIOR | 1/4" TEMPERED GLASS | TINTED | ALUMINUM STOREFRONT SYSTEM | EXISTING FIXED DUAL GLAZING |
| C | 6'-0" | 3'-0" | EXTERIOR | 1/4" TEMPERED GLASS | TINTED | ALUMINUM STOREFRONT SYSTEM | EXISTING FIXED DUAL GLAZING |
| | | | | | | | |
| | | | | | | | |

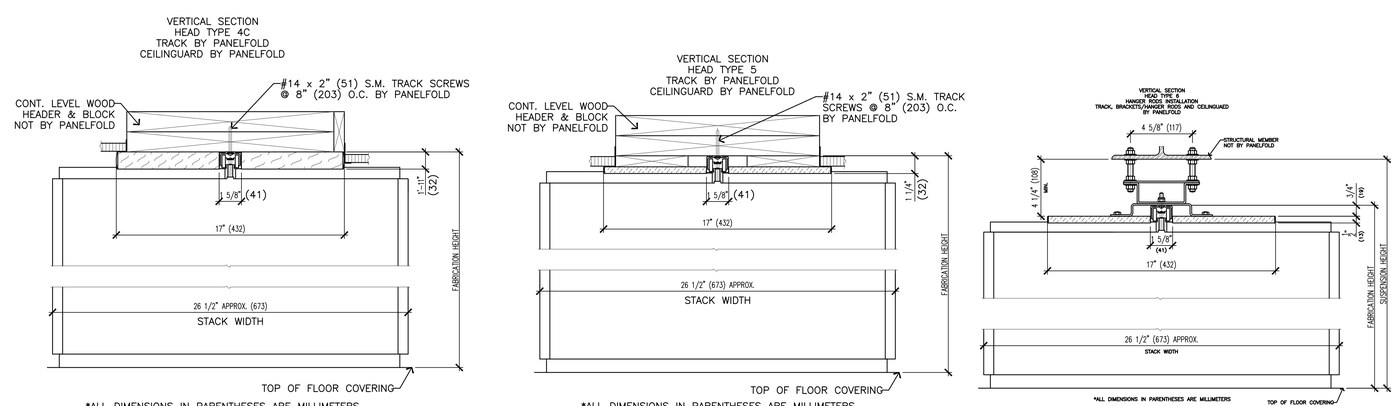
## SINGLE FIXED-JAMB PARTITION




APPROX. STACK DEPTH = 1 1/8"/ft. (94 mm/m) PLUS 8 1/2" (216mm)

SONICWAL/1212
STACK

## VERTICAL SECTION-HEAD DETAILS-MANUAL OPERATION




| REV. | DESCRIPTION | DATE | APPR. |
|---|---|---|---|
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OWNER

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PROJECT

**BUILDING B TENANT IMPROVEMENT**
APN: 3122-003-022
44460 20th STREET WEST
LANCASTER, CA 93534
PERMIT NO. PM119-____

SHEET TITLE

**DOOR, WINDOW AND FINISH SCHEDULES**

LICENSED ARCHITECT
JOHN W. SVALBE
No. C-33344
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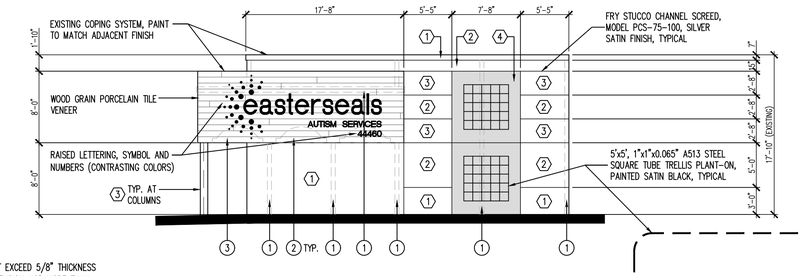
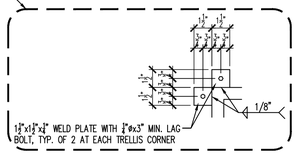


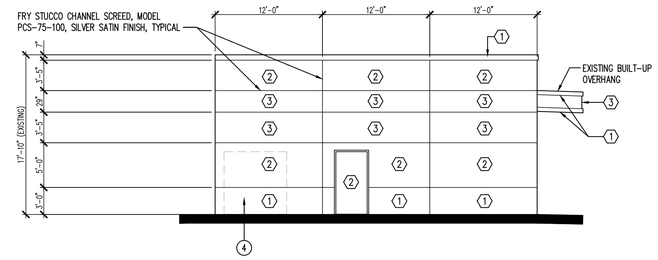

PORCELAIN TILE NOTE:

ADHERED UNITS SHALL NOT EXCEED 5/8" THICKNESS ADN 24" IN ANY FACE DIMENSION NOR MORE THAN 3 S.F. IN TOTAL FACE AREA ADN SHALL NOT WEIGH MORE THAN 9 POUNDS PSF. PORCELAIN TILE SHALL BE ADHERED TO AN APPROVED BACKING SYSTEM.

## PROPOSED WEST ELEVATION

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




## PROPOSED EAST ELEVATION

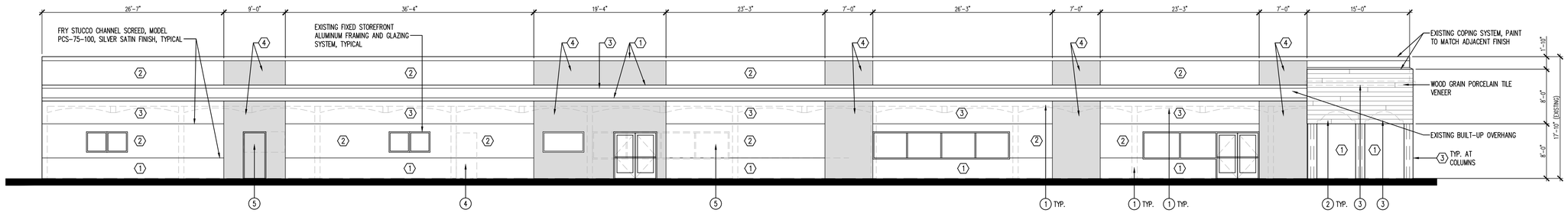
SCALE: 1/8" = 1'-0" BUILDING 'B'

### COLOR SCHEDULE:

1. SHERWIN WILLIAMS SW6277 "SPECIAL GRAY"
2. SHERWIN WILLIAMS SW6238 "ICICLE"
3. SHERWIN WILLIAMS SW6260 "UNIQUE GRAY"
4. SHERWIN WILLIAMS SW6892 "CARNIVAL"

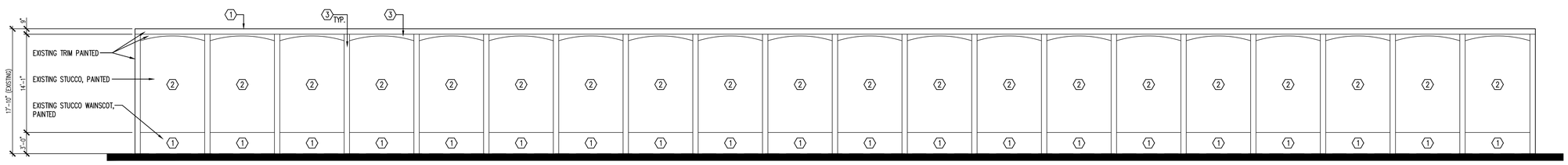
### DEMOLITION NOTES:

1. REMOVE EXISTING TRIM, PATCH OPENINGS WITH STUCCO TO MATCH EXISTING TEXTURE.
2. FILL IN VOIDS WITH FRAMING TO MATCH EXISTING.
3. REMOVE EXISTING STUCCO AT AREAS OF NEW VENEER AND PREPARE PER MANUFACTURER'S SPECIFICATIONS.
4. REMOVE EXISTING DOOR AND FRAME, FILL IN WALL VOID AND FINISH TO MATCH EXISTING
5. REMOVE EXISTING WINDOW SYSTEM, FILL IN WALL VOID AND FINISH TO MATCH EXISTING



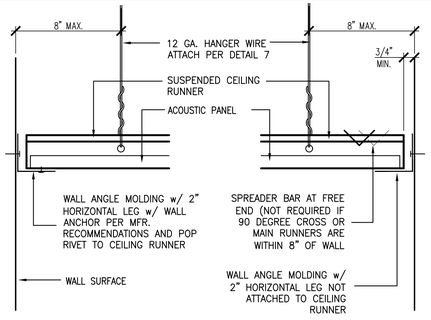

## PROPOSED SOUTH ELEVATION

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




## PROPOSED NORTH ELEVATION

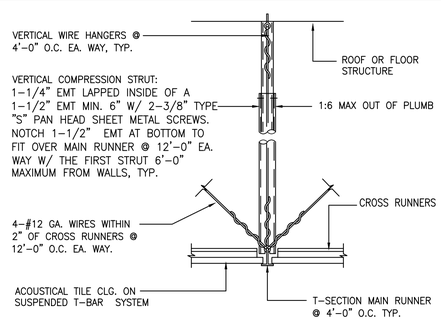
SCALE: 1/8" = 1'-0" BUILDING 'B'




SCALE: NOT TO SCALE

## MOLDING ATTACHMENT

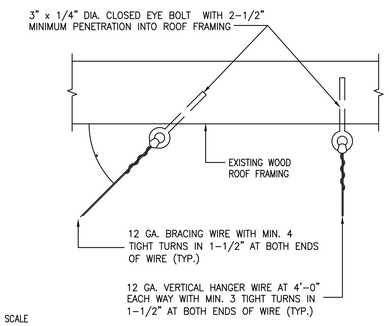
3 C1.1 A4.0




SCALE: NOT TO SCALE

## STRUT DETAIL

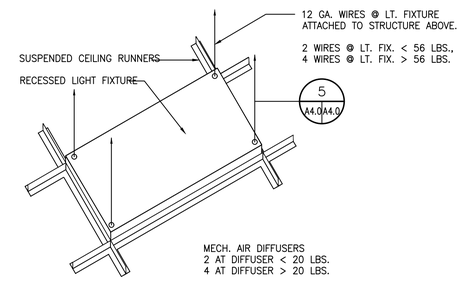
4 C1.1 A4.0




SCALE: NOT TO SCALE

## WIRE ATTACHMENT

5 C1.1 A4.0 5 A4.0 A4.0




SCALE: NOT TO SCALE

## LIGHT FIXTURE

6 A2.0 A4.0

| REV. | DESCRIPTION | DATE | APPR. |
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PHONE: (714) 876-1558

PROJECT

**BUILDING B TENANT IMPROVEMENT**
APN: 3122-003-022
44460 20th STREET WEST
LANCASTER, CA 93534
PERMIT NO. PMT19-____

SHEET TITLE

**EXTERIOR ELEVATIONS**

LICENSED ARCHITECT
JOHN W. SVALBE
No. C-33344
REN 12/31/2019
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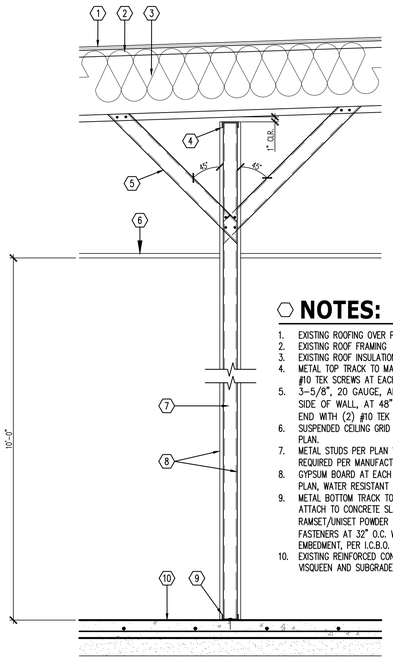
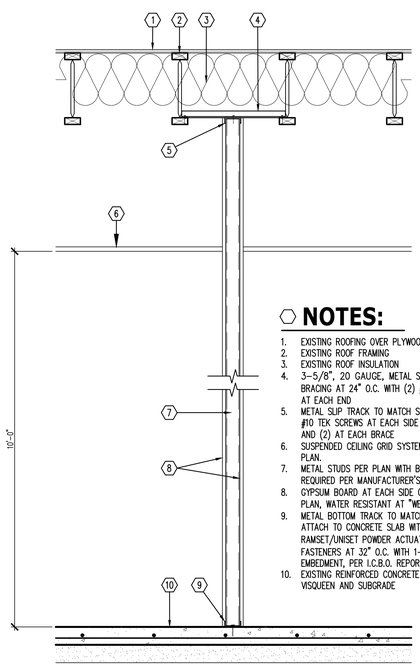



## NOTES:

1. EXISTING ROOFING OVER PLYWOOD SHEATHING
2. EXISTING ROOF FRAMING
3. EXISTING ROOF INSULATION
4. METAL TOP TRACK TO MATCH STUD GUAGE WITH #10 TEK SCREWS AT EACH SIDE OF EACH STUD
5. 3-5/8", 20 GAUGE, ANGLE BRACING, EACH SIDE OF WALL, AT 48" O.C., ATTACH EACH END WITH (2) #10 TEK SCREWS
6. SUSPENDED CEILING GRID SYSTEM PER CEILING PLAN.
7. METAL STUDS PER PLAN WITH BRACING AS REQUIRED PER MANUFACTURER'S SPECIFICATIONS
8. GYPSUM BOARD AT EACH SIDE OF WALL PER PLAN, WATER RESISTANT AT "WET" WALLS
9. METAL BOTTOM TRACK TO MATCH STUD GUAGE, ATTACH TO CONCRETE SLAB WITH 1524SDP RAMSET/UNISET POWDER ACTUATED WASHERED FASTENERS AT 32" O.C. WITH 1-1/2" MINIMUM EMBEDMENT, PER I.C.B.O. REPORT NO. ESR-1799
10. EXISTING REINFORCED CONCRETE SLAB OVER VISQUEEN AND SUBGRADE

SCALE: 3/4" = 1'-0"

**WALL DETAIL** 1 A1.0 A5.0

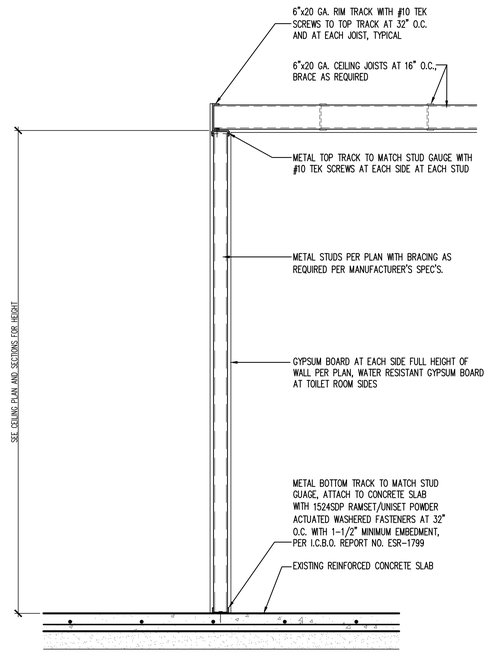



## NOTES:

1. EXISTING ROOFING OVER PLYWOOD SHEATHING
2. EXISTING ROOF FRAMING
3. EXISTING ROOF INSULATION
4. 3-5/8", 20 GAUGE, METAL STUD CROSS BRACING AT 24" O.C. WITH (2) #10 TEK SCREWS AT EACH END
5. METAL SLIP TRACK TO MATCH STUD GUAGE WITH #10 TEK SCREWS AT EACH SIDE OF EACH STUD AND (2) AT EACH BRACE
6. SUSPENDED CEILING GRID SYSTEM PER CEILING PLAN.
7. METAL STUDS PER PLAN WITH BRACING AS REQUIRED PER MANUFACTURER'S SPECIFICATIONS
8. GYPSUM BOARD AT EACH SIDE OF WALL PER PLAN, WATER RESISTANT AT "WET" WALLS
9. METAL BOTTOM TRACK TO MATCH STUD GUAGE, ATTACH TO CONCRETE SLAB WITH 1524SDP RAMSET/UNISET POWDER ACTUATED WASHERED FASTENERS AT 32" O.C. WITH 1-1/2" MINIMUM EMBEDMENT, PER I.C.B.O. REPORT NO. ESR-1799
10. EXISTING REINFORCED CONCRETE SLAB OVER VISQUEEN AND SUBGRADE

SCALE: 3/4" = 1'-0"

**WALL DETAIL** 2 A1.0 A5.0




SCALE: 3/4" = 1'-0"

**WALL DETAIL** 3 A1.0 A5.0

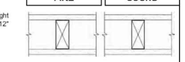
**WALLS AND INTERIOR PARTITIONS, WOOD FRAMED**

| GA FILE NO. WP 3614 | GENERIC | 1 HOUR FIRE | 30 to 34 STC SOUND |
|---|---|---|---|

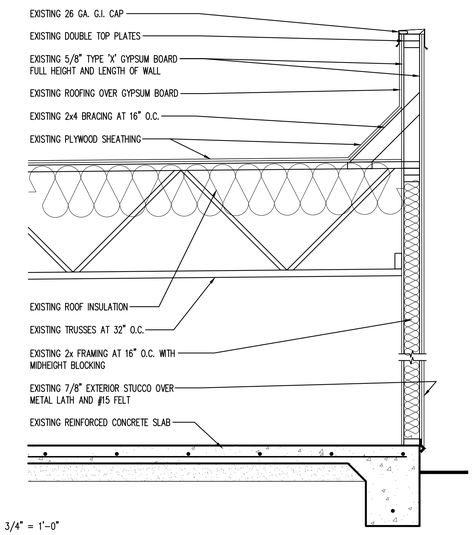
**GYPSUM WALLBOARD, WOOD STUDS**

One layer ⅝" type X gypsum wallboard or gypsum veneer base applied parallel or at right angles to each side of 2 x 4 wood studs 16" o.c. with 1¼" Type W drywall screws 12" o.c.

Joints staggered 16" on opposite sides. **(LOAD-BEARING)**

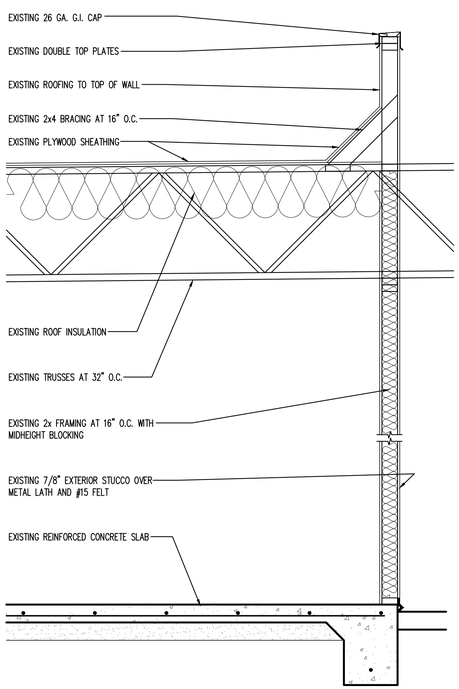


Thickness: 4¾"
Approx. Weight: 7 psf
Fire Test: SWRI 01-4511-615[1], 3-94
Sound Test: See WP 3520 (GA-H NG-246F7, 7-2 65)



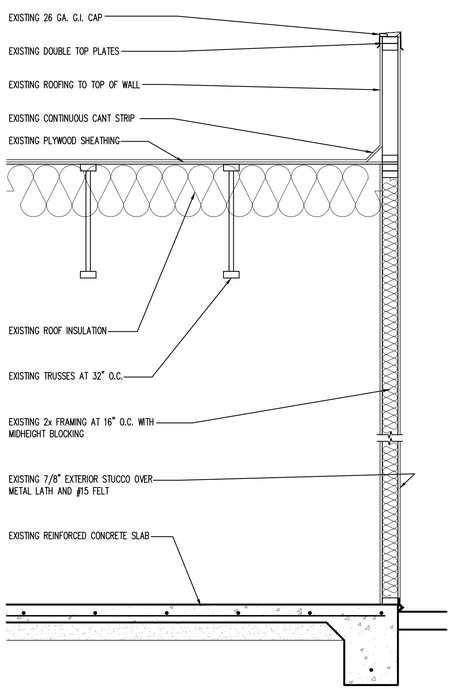

SCALE: 3/4" = 1'-0"

**EXISTING FIRE RATED WALL** 4 A1.0 A5.0



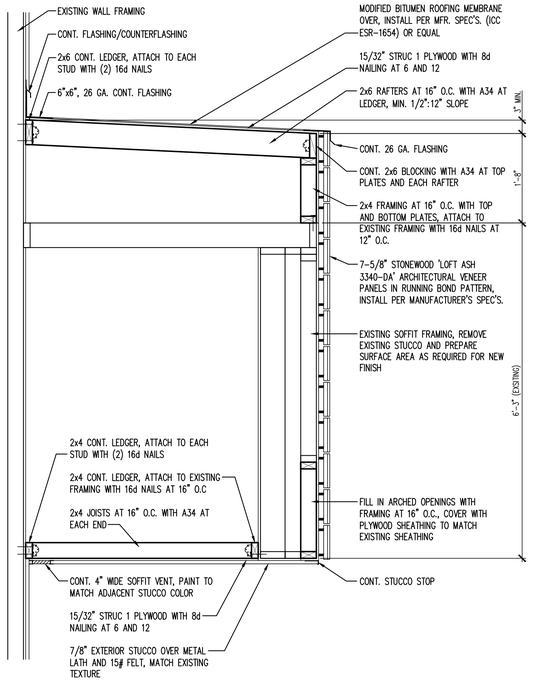

SCALE: 3/4" = 1'-0"

**EXISTING WALL** 5 A1.0 A5.0




SCALE: 3/4" = 1'-0"

**EXISTING WALL** 6 A1.0 A5.0




SCALE: 3/4" = 1'-0"

**EXTERIOR SOFFIT DETAIL** 7 A2.0 A5.0

| REV. | DESCRIPTION | DATE | APPR. |
|---|---|---|---|
| 1 | -- | -/-/- | |

OWNER

**EASTER SEALS SOUTHERN CALIFORNIA**
ATTN: KATHY CARNEY
223 E. THOUSAND OAKS BLVD., STE. 100
THOUSAND OAKS, CA 91360
PHONE: (714) 876-1558

PROJECT

**BUILDING B TENANT IMPROVEMENT**
APN: 3122-003-022
44460 20th STREET WEST
LANCASTER, CA 93534
PERMIT NO. PM119-____

SHEET TITLE

**CONSTRUCTION DETAILS**

LICENSED ARCHITECT
JOHN W. SVALBE
No. C-33344
REN 12/31/2019
STATE OF CALIFORNIA


antelope valley engineering inc.
129 West Ponders St. Lancaster, Ca 93534
Tel: (661) 948-0805 Fax: 661-945-8170
Email: info@antelopevalleyengineering.com


| | |
|---|---|
| DRAWN: | BSM / JWS |
| DATE: | 8-02-19 |
| JOB No.: | 18-068 |
| SHEET: | A-5.0 |
| OF | SHEETS |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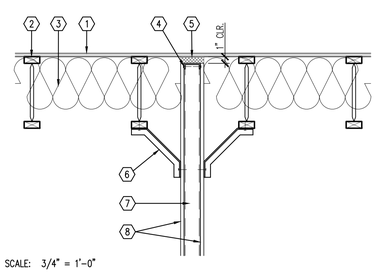
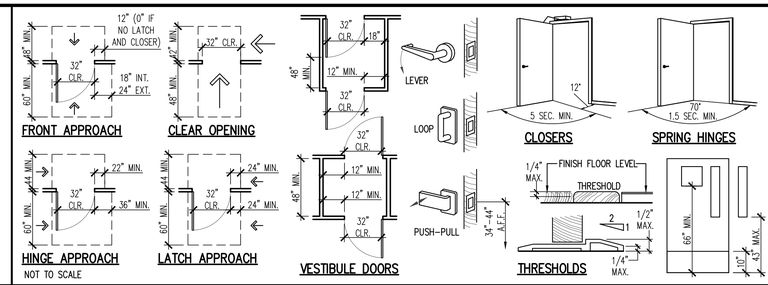



## NOTES:

1. EXISTING ROOFING OVER PLYWOOD SHEATHING
2. EXISTING ROOF FRAMING
3. EXISTING ROOF INSULATION
4. 3-5/8", 20 GA. TOP TRACK WITH (2) #10 TEK SCREWS AT EACH STUD
5. FIRE BARRIER CAULKING
6. 3-5/8", 20 GAUGE, METAL STUD CROSS BRACING AT 48" O.C. WITH #10 TEK SCREWS AT EACH END
7. METAL STUDS PER PLAN WITH BRACING AS REQUIRED PER MANUFACTURER'S SPECIFICATIONS
8. GYPSUM BOARD AT EACH SIDE OF WALL PER PLAN, WATER RESISTANT AT "WET" WALLS

## DRAFTSTOP DETAIL

1 A1.0 A6.0




DOOR NOTES:

1. NO REVOLVING DOOR, GATE OR TURNSTILE ALLOWED FOR ACCESSIBLE DOORS.
2. SMOOTH SURFACE ON PUSH SIDE EXTENDING FULL WIDTH OF DOOR WITHIN 10" OF FINISHED FLOOR/GROUND. CAVITIES CREATED BY KICK PLATES SHALL BE CAPPED.
3. SLIDING DOORS AND TEMPERED GLASS DOORS WITHOUT STILES AND HAVING BOTTOM RAIL OR SHOE WITH TOP LEADING EDGE TAPERED 60° MIN. FROM HORIZONTAL NOT REQUIRED TO MEET THE 10" BOTTOM SMOOTH SURFACE REQUIREMENT.
4. GLAZING PANELS PERMITTING VIEWING SHALL HAVE BOTTOM EDGE OF AT LEAST ONE PANEL LOCATED 43" MAXIMUM ABOVE FINISH FLOOR. PANELS WITH LOWEST PART MORE THAN 66" ABOVE FINISH FLOOR SHALL NOT BE REQUIRED TO COMPLY.
5. MINIMUM 36"x80" DOORS SIZE WITH 32" MIN. CLEAR, CAPABLE OF OPENING 90°. AT DOUBLE DOORS, ONE MUST COMPLY.

HARDWARE NOTES:

1. OPERABLE FROM A SINGLE EFFORT. NO TIGHT GRASPING, TIGHT PINCHING OR WRIST MOVEMENT.
2. CENTERED BETWEEN 34" AND 44" ABOVE FINISH FLOOR.
3. DOOR CLOSERS, IF PRESENT, MUST BE SET SO THAT IT TAKES DOOR AT LEAST 3 SECONDS TO CLOSE FROM AN OPEN POSITION OF 70 DEGREES TO WITHIN 3" OF LATCH.
4. OPERABLE FROM INSIDE WITHOUT USE OF KEY, SPECIAL KNOWLEDGE OR EFFORT. NO FLUSH OR SURFACE BOLTS ALLOWED.
5. THRESHOLD MAX. HT. = 1/2" W/MAX. VERT. CHANGE OF 1/4".
6. DOOR CLOSERS AND GATE CLOSERS SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90°, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12° FROM THE LATCH IS 5 SECONDS MINIMUM.
7. DOOR AND GATE SPRING HINGES SHALL BE ADJUSTED SO THAT FROM THE OPEN POSITION OF 70°, THE DOOR OR GATE SHALL MOVE TO A CLOSED POSITION IN 1.5 SECONDS.
8. ALLOWABLE PRESSURE TO PUSH OR PULL DOORS: INTERIOR AND EXTERIOR DOORS = 5 POUNDS MAXIMUM (15 POUNDS MAXIMUM FOR FIRE DOORS). THESE FORCES DON'T APPLY TO FORCE REQUIRED TO RETRACT LATCH BOLTS OR DISENGAGE OTHER DEVICES THAT HOLD THE DOOR/GATE IN CLOSED POSITION.

CLEAR SPACE AT DOORS:

1. DOORS MUST HAVE LEVEL AND CLEAR SPACE AT BOTH SIDES.
2. WHERE DOOR IS IN AN ALCOVE OR RECESS GREATER THAN 8", STRIKE SIDE CLEARANCES SHALL BE MET.
3. LANDINGS SHALL EXTEND 60" MIN. IN DIRECTION OF DOOR SWING AND BETWEEN 44"–48" IN DIRECTION OF DOOR APPROACH, DEPENDENT IN DIRECTION OF APPROACH AND EXISTENCE OF LATCH AND CLOSER.
4. EXTERIOR LANDINGS SHALL SLOPE 2% MAX. AWAY FROM BUILDING.
5. LANDINGS SHALL BE 1/2" MAX. BELOW TOP OF THRESHOLD.
6. FOR HINGE APPROACH, LEVEL LANDING AT DOOR SHALL EXTEND A MINIMUM OF 36" PAST THE DOOR STRIKE EDGE.
7. DOORS SHALL NOT SWING INTO CLEAR FLOOR SPACE OR CLEARANCES REQUIRED FOR ANY FIXTURE.

EXCEPTIONS:

1. DOORS, DOORWAYS AND GATES ARE DESIGNED TO BE ONLY OPERATED BY SECURITY PERSONNEL SHALL NOT BE REQUIRED TO COMPLY BUT MUST HAVE A SIGN VISIBLE FROM APPROACH SIDE STATING, "ENTRY RESTRICTED AND CONTROLLED BY SECURITY PERSONNEL".

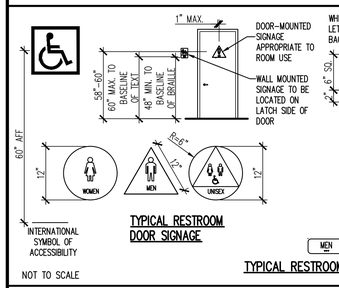
TABLE 11B-404.2.4.1
MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS AND GATES

| TYPE OF USE | | MINIMUM MANEUVERING CLEARANCE | |
|---|---|---|---|
| Approach direction | Door or gate side | Perpendicular to doorway | Parallel to doorway (beyond latch side unless noted) |
| From front | Pull | 60 inches (1524 mm) | 18 inches (457 mm)[3] |
| From front | Push | 48 inches (1219 mm) | 0 inches (0 mm)[2] |
| From hinge side | Pull | 60 inches (1524 mm) | 36 inches (914 mm) |
| From hinge side | Push | 44 inches (1118 mm)[5] | 22 inches (559 mm)[5] |
| From latch side | Pull | 60 inches (1524 mm) | 24 inches (610 mm) |
| From latch side | Push | 44 inches (1118 mm)[4] | 24 inches (610 mm) |

1. Add 12 inches (305 mm) if closer and latch are provided.
2. Add 4 inches (102 mm) if closer and latch are provided.
3. Beyond hinge side.
4. Add 4 inches (102 mm) if closer is provided.
5. Add 6 inches (152 mm) at exterior side of exterior doors.

## DOORS

2 A3.0 A6.0




ENTRY NOTES:

1. ALL ACCESSIBLE ENTRY'S SHALL HAVE A MINIMUM 5"x5" INTERNATIONAL SYMBOL OF ACCESSIBILITY DISPLAYED ON THE LATCH SIDE OF THE DOOR. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL CONSIST OF A WHITE FIGURE ON A BLUE BACKGROUND. THE BLUE SHALL BE EQUAL TO COLOR NO. 15090 IN FEDERAL STANDARD 595B.
2. INTERNATIONAL SYMBOL OF ACCESSIBILITY IS MOUNTED 60" IN HEIGHT ABOVE THE LANDING.
3. DIRECTIONAL SIGNS TO ACCESSIBLE BUILDING ENTRANCES AND FACILITIES, INCLUDING TOILET ROOMS, ARE POSTED AS NECESSARY.
4. WHEN A BUILDING CONTAINS AN ENTRANCE OTHER THAN THE MAIN ENTRANCE WHICH IS RAMPED OR LEVEL FOR USE BY HANDICAPPED PERSONS, A SIGN SHOWING ITS LOCATION IS TO BE POSTED AT OR NEAR MAIN ENTRANCE.
5. SIGN ON GLASS TO BE CLEAR BACKGROUND WITH WHITE ETCHED H/C SYMBOL.

TACTILE EXIT SIGNS:

1. WHERE SIGNS ARE PROVIDED AT DOORS, SIGN SHALL BE LOCATED ALONGSIDE THE DOOR AT THE LATCH SIDE. WHERE A SIGN IS PROVIDED AT DOUBLE DOORS WITH ONE ACTIVE LEAF, SIGN SHALL BE LOCATED ON INACTIVE LEAF. WHERE BOTH LEAF'S ARE ACTIVE, SIGN SHALL BE LOCATED TO THE RIGHT OF THE RIGHT HAND DOOR. WHERE THERE IS NO WALL SPACE AT THE LATCH SIDE OF SINGLE DOORS OR RIGHT SIDE OF DOUBLE DOORS, SIGN SHALL BE PLACED ON NEAREST ADJACENT WALL.
2. SIGNS SHALL BE LOCATED SO THAT AN 18"x18" MIN. CLEAR SPACE, CENTERED ON THE TACTILE CHARACTERS, IS PROVIDED BEYOND ARC OF DOOR SWING.
3. ROOM IDENTIFICATION SIGNS SHALL BE ON APPROACH SIDE LEADING TO THE ROOM OR SPACE. EXIT IDENTIFICATION SIGNS SHALL BE ON APPROACH SIDE OF DOOR LEAVING THE ROOM OR SPACE.
4. CHARACTER HEIGHT SHALL COMPLY WITH CBC TABLE 11B–703.5.5. VISUAL CHARACTERS SHALL BE 40" MIN. ABOVE FINISH FLOOR OR GROUND. FLOOR LEVEL SIGNS REQUIRED BY CHAPTER 10 NEED NOT COMPLY.
5. STROKE THICKNESS OF UPPERCASE LETTER 'I' SHALL BE 10%–20% OF HEIGHT.
6. CHARACTER SPACING SHALL BE MEASURED BETWEEN TWO CLOSEST POINTS OF ADJACENT CHARACTERS EXCLUDING WORD SPACES. SPACING BETWEEN CHARACTERS SHALL BE 10%–35% OF HEIGHT.
7. SPACING BETWEEN BASELINES OF SEPARATE CHARACTER LINES WITHIN A MESSAGE SHALL BE 135% MIN. AND 170% MAX. OF CHARACTER HEIGHT.
8. TEXT SHALL BE HORIZONTAL FORMAT.
9. EACH GRADE LEVEL EXTERIOR EXIT DOOR SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORD "EXIT".
10. EACH DOOR THAT LEADS DIRECTLY TO A GRADE LEVEL EXTERIOR EXIT BY MEANS OF A STAIRWAY OR RAMP SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE FOLLOWING APPROPRIATE WORDS: "EXIT STAIR DOWN","EXIT RAMP DOWN","EXIT STAIR UP","EXIT RAMP UP".
11. EACH EXIT DOOR THAT LEADS DIRECTLY TO A GRADE LEVEL EXTERIOR EXIT BY MEANS OF AN EXIT ENCLOSURE THAT DOES NOT UTILIZE A STAIR OR RAMP, OR BY MEANS OF AN EXIT PASSAGEWAY, SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORDS, "EXIT ROUTE".
12. EACH EXIT ACCESS DOOR FROM AN INTERIOR ROOM OR AREA THAT IS REQUIRED TO HAVE A VISUAL EXIT SIGN SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORDS, "EXIT ROUTE".

SANITARY FACILITY NOTES:

1. ON DOORWAYS LEADING TO SANITARY FACILITIES THE SYMBOLS TO BE PROVIDED ARE 12" EQUILATERAL TRIANGLE FOR MEN OR 12" DIAMETER CIRCLE FOR WOMEN, 1/4" THICK, 58"–60" AFF, CONTRASTING COLOR WITH DOOR. CENTER OF SYMBOL SHALL BE WITHIN 1" OF DOOR CENTER.
2. SIGN EDGES SHALL BE ROUNDED, CHAMFERED OR EASED. CORNERS OF SIGNS SHALL HAVE A MINIMUM 1/8" RADIUS.

RAISED CHARACTERS AND PICTOGRAMS:

1. RAISED CHARACTERS SHALL BE DUPLICATED IN BRAILLE.
2. LETTERS AND NUMBERS ON SIGNS SHALL BE 5/8"–2" TALL, UPPERCASE SANS SERIF, HORIZONTAL FORMAT AND RAISED 1/32" MIN.
3. CHARACTERS SHALL BE DERIVED FROM FONTS WHERE WIDTH OF THE UPPERCASE LETTER 'O' IS 60% MIN. AND 110% MAX. OF THE HEIGHT OF THE UPPERCASE LETTER 'I'. STROKE THICKNESS OF THE UPPERCASE LETTER 'I' SHALL BE 15% MAX. OF THE HEIGHT OF THE CHARACTER.
4. CHARACTER SPACING SHALL BE MEASURED BETWEEN THE TWO CLOSEST POINTS OF ADJACENT RAISED CHARACTERS WITHIN A MESSAGE, EXCLUDING WORD SPACES. WHEN CHARACTERS HAVE RECTANGULAR CROSS SECTIONS, SPACING BETWEEN CHARACTERS SHALL BE 1/8" MIN. AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAX. WHERE CHARACTERS HAVE OTHER CROSS SECTIONS, SPACING BETWEEN CHARACTERS SHALL BE 1/16" MIN. 4 TIMES THE CHARACTER STROKE WIDTH MAX. AT BASE OF CROSS SECTIONS, AND 1/4" MIN. AND 4 TIMES THE CHARACTER STROKE WIDTH MAX. AT TOP OF CROSS SECTIONS. CHARACTERS SHALL BE SEPARATED FROM RAISED BORDERS AND DECORATIVE ELEMENTS 3/4" MIN.
5. SPACING BETWEEN BASELINES OF SEPARATE CHARACTER LINES WITHIN A MESSAGE SHALL BE 135% MIN. AND 170% MAX. OF CHARACTER HEIGHT.
6. PICTORIAL SYMBOLS (PICTOGRAMS) ARE OPTIONAL AND SHALL BE ACCOMPANIED BY THE EQUIVALENT VERBAL DESCRIPTION PLACED DIRECTLY BELOW THE PICTOGRAM. THE BORDER DIMENSION OF THE PICTOGRAM SHALL BE A MINIMUM OF 6" IN HEIGHT.
7. CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND AND BE NON–GLARING. EITHER LIGHT CHARACTERS ON A DARK BACKGROUND OR DARK CHARACTERS ON A LIGHT BACKGROUND.
8. CONTRACTED GRADE 2 BRAILLE SHALL BE USED WHEREVER BRAILLE SYMBOLS ARE SPECIFICALLY REQUIRED IN OTHER PORTIONS OF THESE REGULATIONS AND SHALL BE UNDERNEATH TEXT, HORIZONTAL FORMAT, FLUSH LEFT OR RIGHT, 3/8"–1/2" FROM LETTERING, 3/8" MIN. FROM BORDERS AND DECORATIVE ELEMENTS. DOTS SHALL HAVE A DOMED OR ROUNDED SHAPE COMPLYING WITH CBC TABLE 11B–703.3.1.

## SIGNAGE

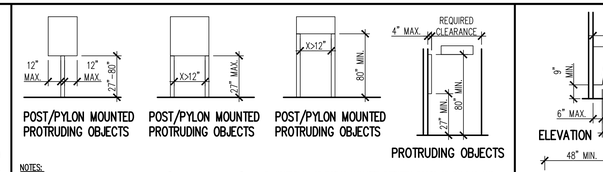
3 A3.0 A6.0

ASSISTIVE LISTENING DEVICES:

1. REQUIRED IN ASSEMBLY AREAS INCLUDING CONFERENCE ROOMS AND MEETING ROOMS
2. 4% OF TOTAL SEATS (2 MIN.). 25% OF RECEIVERS, (2 MIN.) SHALL BE HEARING–AID COMPATIBLE, LOCATED WITHIN 50' VIEWING DISTANCE OF STAGE OR PLAYING AREA AND SHALL HAVE COMPLETE VIEW OF STAGE OR PLAYING AREA.
3. DEVICES SHALL BE IDENTIFIED BY INTERNATIONAL SYMBOL OF ACCESS FOR HEARING LOSS AND INCLUDE THE WORDS, "ASSISTIVE–LISTENING SYSTEM AVAILABLE". POST IN PROMINENT PLACE AT OR NEAR ASSEMBLY ENTRANCES.
4. RECEIVERS SHALL INCLUDE A 1/8" STANDARD MONO JACK.
5. HEARING–AID COMPATIBLE RECEIVERS SHALL INTERFACE WITH TELECOILS IN HEARING AIDS THROUGH PROVISION OF NECKLOOPS.
6. CAPABLE OF PROVIDING SOUND PRESSURE LEVEL OF 110–118 dB WITH DYNAMIC RANGE ON VOLUME CONTROL OF 50 dB.
7. SIGNAL TO NOISE RATIO FOR INTERNALLY GENERATED NOISE SHALL BE 18 dB MIN.
8. PEAK CLICKING LEVEL SHALL NOT EXCEED 18 dB RELATIVE TO PEAKS OF SPEECH.
9. PERMANENTLY INSTALLED SYSTEMS ARE REQUIRED IN ASSEMBLY AREAS WHERE OCCUPANT LOAD IS AT LEAST 50 PERSONS OR IF AREAS HAVE AUDIO–AMPLIFICATION SYSTEMS AND THE AREAS HAVE FIXED SEATING.

## ASSISTIVE LISTENING DEVICES

4 A2.0 A6.0

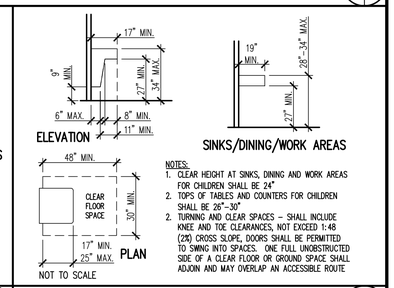



NOTES:

1. OBJECTS WITH LEADING EDGES ABOVE 27" AND LESS THAN 80" ABOVE FINISH FLOOR OR GROUND SHALL PROTRUDE 4" MAXIMUM HORIZONTALLY INTO CIRCULATION PATH.
2. HANDRAILS MAY PROTRUDE 4–1/2".
3. DOOR CLOSERS AND STOPS ARE PERMITTED TO BE 78" MINIMUM ABOVE FINISH FLOOR OR GROUND.
4. FREE–STANDING OBJECTS MOUNTED ON POSTS OR PYLONS SHALL OVERHANG CIRCULATION PATH 12" MAXIMUM WHEN LOCATED 27" MIN. AND 80" MAX. ABOVE FINISH FLOOR OR GROUND.
5. WHERE AN OBJECT IS MOUNTED BETWEEN POSTS OR PYLONS AND THE CLEAR DISTANCE BETWEEN POSTS OR PYLONS EXCEEDS 12", THE LOWEST EDGE OF THE OBJECT SHALL BE 27" MAXIMUM OR 80" MINIMUM ABOVE THE FINISH FLOOR OR GROUND.
6. WHERE OBJECTS ARE POST OR PYLON MOUNTED, AND THEIR BOTTOM EDGES ARE LESS THAN 80" ABOVE THE FINISH FLOOR OR GROUND SURFACE, THE EDGES OF SUCH OBJECTS SHALL BE ROUNDED OR EASED AND THE CORNERS SHALL HAVE A MIN. RADIUS OF 1/8".

## PROTRUDING OBJECTS

5 A2.0 A6.0




NOTES:

1. CLEAR HEIGHT AT SINKS, DINING AND WORK AREAS FOR CHILDREN SHALL BE 24"
2. TOPS OF TABLES AND COUNTERS FOR CHILDREN SHALL BE 26"–30"
3. TURNING AND CLEAR SPACES – SHALL INCLUDE KNEE AND TOE CLEARANCES, NOT EXCEED 1:48 (2%) CROSS SLOPE, DOORS SHALL BE PERMITTED TO SWING INTO SPACES. ONE FULL UNOBSTRUCTED SIDE OF A CLEAR FLOOR OR GROUND SPACE SHALL ADJOIN AND MAY OVERLAP AN ACCESSIBLE ROUTE

## KNEE/TOE CLEARANCES

6 A2.0 A6.0

FORWARD REACH AND SIDE REACH CLEAR SPACE REQUIREMENT:

1. A MINIMUM 30"x48" CLEAR SPACE MUST BE PROVIDED TO ALLOW FORWARD OR PARALLEL APPROACH TO OBJECTS.
2. ONE FULL UNOBSTRUCTED SIDE OF CLEAR SPACE ADJOINS OR OVERLAPS ACCESSIBLE ROUTE OR ADJOINS ANOTHER CLEAR SPACE.

UNOBSTRUCTED FORWARD REACH RANGES TO WALL MOUNTED OBJECTS:

1. MINIMUM 15" AND MAXIMUM 48" FORWARD REACH HEIGHTS FROM FINISH FLOOR.

FORWARD REACH RANGES OVER OBSTRUCTIONS:

1. CLEAR FLOOR SPACE SHALL EXTEND UNDERNEATH OBSTRUCTION FOR A DISTANCE NOT LESS THAN THE REQUIRED REACH DEPTH.
2. THE HIGH FORWARD REACH SHALL BE 48" MAXIMUM WHERE REACH DEPTH IS 20" MAXIMUM AND 44" MAXIMUM WHERE REACH DEPTH EXCEEDS 20" AND THE REACH DEPTH SHALL NOT EXCEED 25".

SIDE REACH RANGES TO WALL MOUNTED OBJECTS:

1. CLEAR FLOOR SPACE BEGINS 10" FROM WALL SURFACE.
2. HIGH SIDE REACH SHALL BE 48" MAXIMUM AND LOW SIDE REACH SHALL BE 15" MINIMUM ABOVE FINISH FLOOR OR GROUND.

SIDE REACH RANGES OVER OBSTRUCTIONS:

1. WHERE THE HIGH SIDE REACH IS OVER AN OBSTRUCTION, THE HEIGHT OF THE OBSTRUCTION SHALL BE 34" MAXIMUM AND THE DEPTH SHALL BE 24" MAXIMUM. THE HIGH SIDE REACH SHALL BE 48" MAXIMUM FOR A REACH DEPTH OF 10" AND 46" MAXIMUM FOR A REACH DEPTH EXCEEDING 10" AND 24" MAXIMUM.
2. TOP OF WASHING MACHINES AND CLOTHES DRYERS SHALL BE PERMITTED TO BE 36" MAXIMUM ABOVE THE FINISH FLOOR.

OPERABLE PARTS:

1. OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS MAXIMUM.
2. OPERABLE PARTS SHALL HAVE CLEAR FLOOR SPACE AND BE WITHIN ACCESSIBLE REACH RANGES.
3. MINIMUM 15", MEASURED FROM BOTTOM OF OUTLET BOX, AND MAXIMUM 48", MEASURED TO TOP OF OUTLET BOX, FROM FINISH FLOOR (THIS INCLUDES LIGHTING CONTROLS, RECEPTACLE OUTLETS, APPLIANCES, COOLING AND HEATING EQUIPMENT AND VENTILATING EQUIPMENT). EXCEPTIONS INCLUDE THOSE PARTS USED BY SERVICE AND MAINTENANCE PERSONNEL, DEDICATED RECEPTACLES, FLOOR RECEPTACLES, HVAC DIFFUSERS AND REDUNDANT CONTROLS (EXCEPT LIGHT FIXTURES)

FORWARD APPROACH TO OBJECTS WITHIN ALCOVES:

1. A MINIMUM 30"x48" CLEAR SPACE MUST BE PROVIDED FOR ALCOVES 24" IN DEPTH OR LESS.
2. A MINIMUM 36"x48" CLEAR SPACE MUST BE PROVIDED FOR ALCOVES GREATER THAN 24" IN DEPTH.

SIDE APPROACH TO OBJECTS WITHIN ALCOVES:

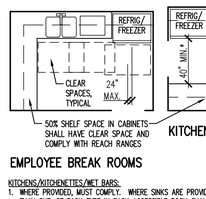
1. A MINIMUM 30"x48" CLEAR SPACE MUST BE PROVIDED FOR ALCOVES 15" IN DEPTH OR LESS.
2. A MINIMUM 30"x60" CLEAR SPACE MUST BE PROVIDED FOR ALCOVES GREATER THAN 15" IN DEPTH.

COUNTERS AND BUILT–IN SEATING:

1. ACCESSIBLE TABLE AND COUNTER HEIGHTS MUST BE BETWEEN 28"–34" IN HEIGHT AND 36" IN WIDTH.
2. WHERE SEATING IS PROVIDED, KNEE SPACE MUST BE MINIMUM 19" DEEP, MEASURED FROM FRONT, AND 27" HIGH.

## REACH RANGES

7 A2.0 A6.0




KITCHENS/KITCHENETTES/WET BARS:

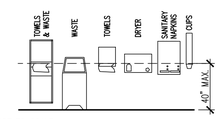
1. WHERE PROVIDED, MUST COMPLY. WHERE SINKS ARE PROVIDED, AT LEAST 5%, NO FEWER THAN ONE, OF EACH TYPE IN EACH ACCESSIBLE ROOM SHALL COMPLY.
2. MOP SINKS, SERVICE SINKS, SCULLERY SINKS AND SCRUB SINKS NEED NOT COMPLY.
3. CONTROLS FOR FAUCETS SHALL COMPLY WITH "OPERABLE PARTS" AND "REACH RANGES".
4. APPLIANCE CONTROLS SHALL COMPLY WITH "OPERABLE PARTS" EXCEPT APPLIANCE DOORS AND DOOR LATCHING DEVICES.
5. CLEAR FLOOR SPACE SHALL BE PROVIDED AT EACH APPLIANCE.
6. SINKS SHALL HAVE FRONT APPROACH WITH KNEE AND TOE CLEARANCES. WHERE NO COOK TOP OR CONVENTIONAL OVEN IS NOT PROVIDED, SINKS SHALL HAVE FRONT OR PARALLEL APPROACH WITHOUT KNEE AND TOE CLEARANCES.
7. COMBINATION REFRIGERATORS AND FREEZERS SHALL HAVE AT LEAST 50% OF FREEZER SPACE 54" MAX. ABOVE FINISH FLOOR OR GROUND.
8. CLEAR FLOOR SPACE SHALL BE POSITIONED FOR A PARALLEL APPROACH TO SPACE DEDICATED FOR REFRIGERATOR/FREEZER WITH CENTERLINE OF CLEAR SPACE OFFSET 24" MAX. FROM CENTERLINE OF THE DEDICATED SPACE.
9. OVENS SHALL HAVE CONTROLS ON FRONT PANEL.
10. AT LEAST 50% SHELF SPACE IN CABINETS SHALL HAVE A CLEAR FLOOR SPACE AND COMPLY WITH "REACH RANGES" AND "OPERABLE PARTS".
11. A MINIMUM 30"x48" CLEAR SPACE MUST BE PROVIDED TO ALLOW FORWARD OR PARALLEL APPROACH TO ALL ACCESSORIES.
12. ONE FULL UNOBSTRUCTED SIDE OF CLEAR SPACE ADJOINS OR OVERLAPS ACCESSIBLE ROUTE OR ADJOINS ANOTHER CLEAR SPACE.
13. WORK SURFACE AND SINK SHALL BE 34" MAXIMUM HEIGHT ABOVE FINISH FLOOR EXCEPT THAT A COUNTER OR SINK WHICH IS ADJUSTABLE BETWEEN 29" MIN. AND 36" MAX. IS ALLOWED
14. SINK IS MAXIMUM 6–1/2" DEEP (AT LEAST ONE BOWL) WITH 27" HIGH x 30" WIDE x 19" DEEP CLEAR KNEE SPACE UNDERNEATH.
15. INSULATE OR COVER HOT WATER AND DRAIN PIPES UNDER SINKS.
16. NO SHARP OR ABRASIVE SURFACES ARE ALLOWED UNDER SINKS.
17. FAUCET CONTROLS AND OPERATING MECHANISMS ARE REQUIRED TO BE LEVER TYPE, PUSH TYPE OR ELECTRONICALLY CONTROLLED, OPERABLE WITH ONE HAND AND CANNOT REQUIRE GRASPING, PINCHING, OR TWISTING OF WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS DOESN'T TO EXCEED 5 LBF.
18. SELF CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS.
19. CLEARANCES ARE MEASURED FROM FARTHEST PROJECTING FACE OF ALL OPPOSING BASE CABINETS, COUNTER TOPS, APPLIANCES OR WALLS EXCLUDING HARDWARE.
20. IN PASS–THRU KITCHEN WITH TWO ENTRIES, CLEARANCE SHALL BE 40" MIN. IN KITCHENS WITH THREE CONTIGUOUS SIDES AND ONE POINT OF ENTRY, CLEARANCE SHALL BE 60" MIN. NOTE: NOT REQUIRED WHERE COOKTOP OR CONVENTIONAL RANGE IS NOT PROVIDED
21. WORK SURFACE SHALL BE ADJACENT TO OVEN. WHEN OVEN HAS SIDE–OPENING DOOR, WORK SURFACE SHALL BE ADJACENT TO THE LATCH SIDE.
22. CABINETRY SHALL BE PERMITTED UNDER THE SINK AND OR WORK AREA PROVIDED ALL OF THE FOLLOWING ARE MET: CABINETRY CAN BE REMOVED WITHOUT REMOVAL OR REPLACEMENT OF SINK AND WORK AREA, FINISH FLOOR EXTENDS UNDERNEATH THE CABINETRY, AND WALLS BEHIND SURROUNDING THE CABINETRY ARE FINISHED.

## KITCHENS/BREAK ROOMS

8 A2.0 A6.0

INTERIOR SURFACES:

1. IN OTHER THAN DWELLING UNITS, TOILET ROOM FLOORS SHALL HAVE A SMOOTH, HARD, NON–ABSORBENT SURFACE WHICH EXTENDS UPWARD ONTO THE WALLS AT LEAST 5" (127 MM). WALLS WITHIN WATER CLOSET COMPARTMENTS AND WALLS WITHIN 24" (600.6 MM) OF THE FRONT AND SIDES OF URINALS SHALL BE SIMILARLY FINISHED TO A HEIGHT OF 48" (1219.2MM) AND, EXCEPT FOR STRUCTURAL ELEMENTS, THE MATERIALS USED IN SUCH WALLS SHALL BE OF A TYPE WHICH IS NOT ADVERSELY AFFECTED BY MOISTURE.

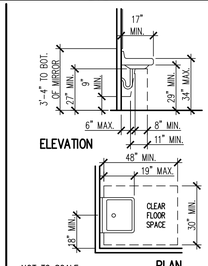



TOILET ACCESSORIES:

1. A MINIMUM 30"x48" CLEAR SPACE MUST BE PROVIDED TO ALLOW FORWARD OR PARALLEL APPROACH TO ALL ACCESSORIES.
2. ONE FULL UNOBSTRUCTED SIDE OF CLEAR SPACE ADJOINS OR OVERLAPS ACCESSIBLE ROUTE OR ADJOINS ANOTHER CLEAR SPACE.
3. MIRRORS LOCATED ABOVE ACCESSIBLE LAVATORIES OR COUNTERTOPS MUST HAVE BOTTOM EDGE OF REFLECTIVE SURFACE 40" MAXIMUM ABOVE FINISH FLOOR.
4. WHEN MIRRORS ARE PROVIDED AT LOCATIONS OTHER THAN ABOVE LAVATORIES OR COUNTERTOPS, AT LEAST ONE MUST HAVE BOTTOM EDGE OF REFLECTIVE SURFACE 35" MAXIMUM ABOVE FINISH FLOOR.
5. WHEN FIXTURES AND/OR ACCESSORIES ARE PROVIDED, AT LEAST ONE SHALL BE LOCATED ON AN ACCESSIBLE ROUTE. OPERABLE PARTS OF ALL FIXTURES OR ACCESSORIES SHALL BE LOCATED A MAXIMUM OF 40" ABOVE FINISH FLOOR.
6. CONTROLS AND OPERATING MECHANISMS ARE OPERABLE WITH ONE HAND AND CANNOT REQUIRE GRASPING, PINCHING, OR TWISTING OF WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS DOESN'T TO EXCEED 5 LBF.
7. COAT HOOKS AND SHELVING ARE LOCATED WITHIN REACH RANGES. SHELVES SHALL BE LOCATED BETWEEN 40"–48" ABOVE FINISH FLOOR.
8. IF MEDICINE CABINETS ARE PROVIDED, AT LEAST ONE HAS A USEABLE SHELF NO HIGHER THAN 44" ABOVE FINISH FLOOR.
9. WHERE LOCKERS ARE PROVIDED, AT LEAST ONE AND NOT LESS THAN 5% OF ALL LOCKERS SHALL BE ACCESSIBLE.

## TOILET ACCESSORIES

9 A1.0 A6.0

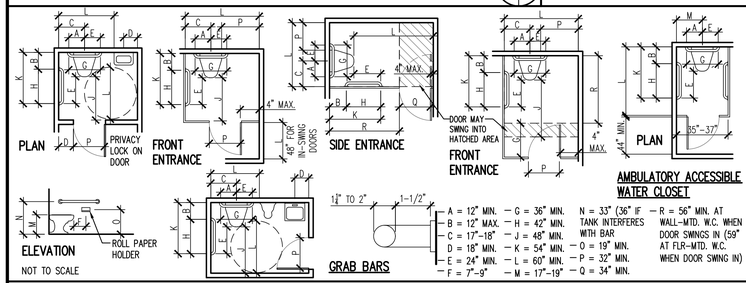



LAVATORY NOTES:

1. PROVIDE A CLEAR SPACE 30"x48" IN FRONT OF LAVATORY. THE CLEAR SPACE MAY EXTEND 19" MAXIMUM INTO KNEE AND TOE SPACE UNDER LAVATORY.
2. ONE FULL UNOBSTRUCTED SIDE OF CLEAR SPACE ADJOINS OR OVERLAPS ACCESSIBLE ROUTE OR ADJOINS ANOTHER CLEAR SPACE.
3. INSULATE OR COVER HOT WATER AND DRAIN PIPES UNDER LAVATORIES.
4. NO SHARP OR ABRASIVE SURFACES ARE ALLOWED UNDER LAVATORIES.
5. FAUCET CONTROLS AND OPERATING MECHANISMS ARE REQUIRED TO BE LEVER TYPE, PUSH TYPE OR ELECTRONICALLY CONTROLLED, OPERABLE WITH ONE HAND AND CANNOT REQUIRE GRASPING, PINCHING, OR TWISTING OF WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS DOESN'T EXCEED 5 LBF.
6. HAND OPERATED METERING FAUCETS SHALL REMAIN OPEN FOR AT LEAST 10 SECONDS.
7. LAVATORIES SHALL BE 6–1/2" DEEP MAXIMUM.

## LAVATORIES

10 A1.0 A6.0


PLAN
PRIVACY LOCK ON DOOR
FRONT ENTRANCE
4" MAX.
48" FOR IN–SWING DOORS
SIDE ENTRANCE
DOOR MAY SWING INTO HATCHED AREA
FRONT ENTRANCE
6" MAX.
PLAN
35"–37"
AMBULATORY ACCESSIBLE WATER CLOSET
ELEVATION
ROLL PAPER HOLDER
NOT TO SCALE
12" TO 2"
1–1/2"
GRA

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# ICC-ES Evaluation Report — ESR-1654

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Reissued 03/2018
This report is subject to renewal 03/2020.

**DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION**
**SECTION: 07 52 00—MODIFIED BITUMINOUS SHEET ROOFING**

**REPORT HOLDER:**

**MFM BUILDING PRODUCTS CORP.**

**POST OFFICE BOX 340**
**COSHOCTON, OHIO 43812**

**EVALUATION SUBJECT:**

**PEEL & SEAL REINFORCED MODIFIED BITUMEN MEMBRANE**

*"2014 Recipient of Prestigious Western States Seismic Policy Council (WSSPC) Award in Excellence"*

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ICC-ES Evaluation Report — ESR-1654
Reissued March 2018
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**DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION**
**Section: 07 52 00—Modified Bituminous Sheet Roofing**

**REPORT HOLDER:**

**MFM BUILDING PRODUCTS CORP.**
**POST OFFICE BOX 340**
**COSHOCTON, OHIO 43812**
**(740) 622-2646**
**www.mfmbp.com**

**EVALUATION SUBJECT:**

**PEEL & SEAL REINFORCED MODIFIED BITUMEN MEMBRANE**

**1.0 EVALUATION SCOPE**

**Compliance with the following codes:**

- 2006 *International Building Code®* (IBC)
- 2006 *International Residential Code®* (IRC)

**Properties evaluated:**

- Fire classification
- Wind resistance
- Physical properties
- Impact resistance

**2.0 USES**

Peel & Seal is a modified bitumen membrane reinforced with a proprietary polymer film laminate, and is used in classified or nonclassified roof covering systems.

**3.0 DESCRIPTION**

**3.1 General:**

Peel & Seal is a self-adhering, fiberglass, polymer film reinforced, modified bitumen membrane. The membrane is available in aluminum, almond, granite gray and white surface finishes. The Peel & Seal roofing membrane has a nominal thickness of 0.080 inch (50 mils) and is available in various widths and lengths. Nominal weight of the membrane is 28 pounds per 100 ft² (1.36 kg/m²).

**3.2 MFM Prime-A-Seal™:**

MFM Prime-A-Seal is a blend of asphalt and proprietary solvents. The primer is available in a 17.5-ounce (0.52 L) aerosol spray and in 1-gallon (3.785 L) cans and 5-gallon (19L) pails.





**3.3 Impact Resistance:**

The Peel & Seal roofing membrane meets requirements for impact resistance in accordance with ASTM D 3746.

**4.0 DESIGN AND INSTALLATION**

**4.1 General:**

The Peel & Seal roofing membrane must be installed in accordance with the MFM Building Products published installation instructions. Installation instructions as approved on each carton and can be obtained from the manufacturer's website at www.mfmbp.com. The manufacturer's published installation instructions and requirements of the applicable building code must be strictly adhered to, and a copy of the manufacturer's instructions must be available at all times on the jobsite during installation.

The roof deck must be plywood or OSB complying with the applicable code. MFM Prime-A-Seal is applied to the substrate at the manufacturer's recommended coverage rate and allowed to dry. All openings through the roof, valleys and parapets must be flashed in accordance with the manufacturer's instructions. The membrane is installed perpendicular to the slope of the roof on slopes between 1/12 and 3/12 (4 and 25% slope), and parallel for slopes exceeding 3/12 (25% slope.) Installation must begin at the low point of the roof and proceed up the slope. Adjoining sheets are placed with minimum 3-inch (76 mm) side laps and 6-inch (152 mm) end laps. The lapped edges must be rolled using a hand roller to obtain uninterrupted asphalt-to-foil contact.

At the intersection of the roof with a parapet wall, the membrane must extend up the vertical surface at least 4 inches (102 mm). Another strip of membrane material is installed as a counter flashing extending 4 inches (102 mm) out from parapet on to the roof and at least 4 inches (102 mm) up the parapet above the edge of the roof membrane. The counter flashing applied to the vertical surface must use a metal termination bar and be sealed in accordance with the manufacturer's published installation instructions.

**4.2 Fire Classification:**

The Peel & Seal roofing membrane has a Class A fire classification when installed over ½-inch-thick (12.7 mm) *GP Gypsum* DensDeck Roof Board mechanically fastened to ¾-inch (19 mm) plywood with 1⅞-inch-long (73 mm) galvanized roofing nails at a maximum slope of 3/12. The roof covering is considered nonclassified when applied directly over plywood or OSB substrates or at roof slopes exceeding 3/12.

**4.3 Wind Uplift Resistance:**

The membrane roof covering installed in accordance with Sections 4.1 and 4.2 has an allowable uplift resistance of 52 pounds per square foot (2.5 kPa). The roof deck construction over which the adhered membrane is installed must be designed to resist design wind pressures set forth in the applicable code. Metal edge securement must be designed in accordance with ANSI/SPRI ES-1, complying with IBC Section 1504.5.

**5.0 CONDITIONS OF USE**

The MFM Building Products Corp. Peel & Seal roofing membrane described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

**5.1** The Peel & Seal roofing membrane must be installed in accordance with the manufacturer's installation instructions on roof assemblies designed to resist wind loads in accordance with the applicable code. In the event of a conflict between this report and the manufacturer's published installation instructions, this report governs.

**5.2** The roof deck must be designed to resist design wind pressures set forth in the applicable code.

**5.3** Wind uplift pressure on any roof area, including edge and corner zones, must not exceed the allowable wind uplift pressure for the system installed in that particular area.

**5.4** The products are manufactured at Coshocton, Ohio, under a quality control program with inspections by ICC Evaluation Service, LLC.

**6.0 EVIDENCE SUBMITTED**

Data in accordance with the ICC-ES Acceptance Criteria for Membrane Roof Covering Systems (AC75), dated April 2007 (Corrected December 2008).

**7.0 IDENTIFICATION**

Each carton of Peel & Seal roofing membrane and each container of MFM Prime-A-Seal Primer is identified by a label bearing the manufacturer's name (MFM Building Products Corp.) and address, the product name, and the evaluation report number (ESR-1654).

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# ICC-ES Report — ESR-1799

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**DIVISION: 03 00 00—CONCRETE**
**SECTION: 03 16 00—CONCRETE ANCHORS**
**DIVISION: 04 00 00—MASONRY**
**SECTION: 04 05 19.16—MASONRY ANCHORS**
**DIVISION: 05 00 00—METALS**
**SECTION: 05 05 23—METAL FASTENINGS**
**DIVISION: 09 00 00—FINISHES**
**SECTION: 09 22 16.23—FASTENERS**

**REPORT HOLDER:**

**ITW RAMSET**

**700 HIGH GROVE BOULEVARD**
**GLENDALE HEIGHTS, ILLINOIS 60139**

**EVALUATION SUBJECT:**

**RAMSET AND DUO-FAST POWER-ACTUATED FASTENERS AND CEILING CLIP ASSEMBLIES**

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*"2014 Recipient of Prestigious Western States Seismic Policy Council (WSSPC) Award in Excellence"*

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Reissued June 2017
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**DIVISION: 03 00 00—CONCRETE**
**Section: 03 16 00—Concrete Anchors**

**DIVISION: 04 00 00—MASONRY**
**Section: 04 05 19.16—Masonry Anchors**

**DIVISION: 05 00 00—METALS**
**Section: 05 05 23—Metal Fastenings**

**DIVISION: 09 00 00—FINISHES**
**Section: 09 22 16.23—Fasteners**

**REPORT HOLDER:**

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**700 HIGH GROVE BOULEVARD**
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**(800) 726-7168**
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**techsupport@itwcona.com**

**ADDITIONAL LISTEE:**

**ITW BRANDS—DUO-FAST**
**955 NATIONAL PARKWAY, SUITE 95500**
**SCHAUMBURG, ILLINOIS 60173**
**(847) 944-7723**
**brandsales@itwbrands.com**

**EVALUATION SUBJECT:**

**RAMSET AND DUO-FAST POWER-ACTUATED FASTENERS AND CEILING CLIP ASSEMBLIES**

**1.0 EVALUATION SCOPE**

**Compliance with the following codes:**

- 2015, 2012, 2009 and 2006 *International Building Code®* (IBC)
- 2015, 2012, 2009 and 2006 *International Residential Code®* (IRC)

**Property evaluated:**

Seismal

**2.0 USES**

Ramset and Duo-Fast 1500, TE Series fasteners and SP Series Power Point fasteners are power-actuated fasteners (PAFs) used for fastening of building components to normalweight concrete, sand-lightweight concrete, sand-lightweight concrete filled steel deck panels, concrete masonry and structural steel substrates. The fasteners are used as alternatives for the cast-in-place concrete anchors described in 2015 IBC Section 1901.3 (2012 IBC Section 1908; 2009 and 2006 IBC Section 1911) for placement in concrete; the embedded anchors described in Section 8.1.3 of TMS 402-13 referenced in Section 2107 of the 2015 IBC (Section 2.1.4 of TMS 402-11, -08 and -05, referenced in Section 2107 of the 2012, 2009 and 2006 IBC, respectively); and to the welds and bolts used to attach to steel, described in IBC Sections 2204.1 and 2204.2. For structures regulated under the IRC, the fasteners may also be used where an engineered design is submitted in accordance with IRC Section R301.1.3.

Ramset SDC, SPC and TEC ceiling clip assemblies are used to attach wire for suspended ceilings to the supporting structure above. The ceiling clip assemblies are used as alternatives to cast-in-place concrete anchors described in 2015 IBC Section 1901.3 (2012 IBC Section 1908; 2009 and 2006 IBC Section 1911); and may also be used in structures regulated under the IRC where an engineered design is submitted in accordance with IRC Section R301.1.3.

**3.0 DESCRIPTION**

**3.1 General:**

See Table 1A in this report for shank descriptions fastener dimensions, coating information and applicable base materials. The fasteners are available in various lengths to achieve embedment depths as noted in Tables 2 through 9.

**3.2 Ramset and Duo-Fast 1500 Series Fasteners:**

The 1500 series fasteners are manufactured from steel complying with ASTM A510, Grade 1060 or 1062, and austempered to a Rockwell "C" core hardness of 52 to 58 for smooth-shank fasteners and 54 to 56 for knurled-shank fasteners.

The 1500 series fasteners have a nominal shank diameter of 0.145 inch (3.7 mm) and a nominal head diameter of 0.3 inch (7.6 mm). All of the 1500 series fasteners have a zinc-plated finish, except for the smooth-shank 1500S2 fasteners, which has a black oxide finish.

**3.3 Ramset and Duo-Fast SP Series Power Point Fasteners:**

The SP Series Power Point fasteners are straight or stepped shank series fasteners manufactured from steel wire complying with ASTM A510, Grade 1060 or 1062, and austempered to a Rockwell "C" hardness of 55 to 58.

The SP Series Power Point fasteners have a head diameter of 0.3 inch (7.62 mm). Fasteners having nominal





shank lengths of ⅞ inch and less have a smooth, straight, nominally 0.150-inch diameter shank. Fasteners having a nominal shank length of 1 inch or longer have a smooth, stepped shank with a nominally 0.150-inch-diameter shank at the tapered end and a nominally 0.180-inch diameter shank at the headed end. The SP Series Power Point fasteners have a zinc-plated finish.

**3.4 Ramset Tee Embedment (TE) Series Fasteners:**

The TE series fasteners are straight and tapered shank fasteners manufactured from steel wire complying with ASTM A510, Grade 1070, and austempered to a Rockwell "C" hardness of 55 to 58.

The TE series fasteners have a head diameter of 0.32 inch (8.1 mm). The smooth shank fasteners have a tapered point and a nominal straight shank diameter of 0.157 inch. The knurled fasteners have a straight shank with a nominal diameter of 0.157 inch. The TE series fasteners have a zinc-plated finish.

**3.5 Ramset Ceiling Clip Assemblies:**

Ramset ceiling clip assemblies are comprised of a power-actuated fastener with a premounted steel clip. See Figure 4. See Table 1B for descriptions and applicable allowable load tables.

**3.5.1 SDC100 and SDC125 Ceiling Clip Assemblies:** The fasteners used in the SDC 100 and SDC 125 ceiling clip assemblies are 1500 series, smooth, straight shank fasteners, described in Section 3.2, with shank diameters of 1 inch (25.4 and 31.7 mm), respectively. The clip angles have a 120-degree angle between the legs of the clip and are manufactured from ½-inch-wide (12.7 mm) hot-rolled steel strip conforming to ASTM A653 FS Type B and having a base-metal thickness of 0.074 inch (1.88 mm). One leg of the clip is ¾ inch long (19 mm) and the opposite leg is ⅞ inch long (19.1 mm). The fasteners are inserted through a dimple formed in the longer leg of the clip angle. The other leg has a hole with a nominal diameter of 0.335 inch (8.5 mm) through which the ceiling wire is attached.

**3.5.2 SPC78 and SPC114 Ceiling Clip Assemblies:** The fasteners used in the SPC 78 and SPC 114 ceiling clip assemblies are SP series Power Point smooth, straight shank fasteners, described in Section 3.3, with shank lengths of ⅞ inch and 1¼ inches (22 and 31.7 mm), respectively. The clip angles have a 90-degree angle between the legs of the clips and are manufactured from ½-inch-wide (19.1 mm), No. 14 gage (0.0747 inch (1.90 mm) base-metal thickness), steel strips conforming to ASTM A653 CS Type B. One leg of the clip is 1 inch (25.4 mm) long and the other leg is ⅞ inch long (19.1 mm). The fasteners are inserted through an eyelet which is inserted through the hole in the 1-inch-long (25.4 mm) leg of the clip. The eyelet is manufactured from 0.053-0 grade aluminum having a thickness of 0.032 inch (0.81 mm). The ½-inch-long (19.1 mm) leg has a hole with a nominal diameter of 0.313 inch (8.0 mm) through which the ceiling wire is attached.

**3.5.3 TEC100 Ceiling Clip Assemblies:** The fastener used in the TEC100 ceiling clip assemblies is the TE series smooth shank fastener, described in Section 3.4, with a shank length of 1 inch (25.4 mm). The clip angle and eyelet are the same as for the SPC 78 and SPC 114 ceiling clip assemblies described in Section 3.5.2.

**3.6 Substrate Materials:**

**3.6.1 Structural Steel:** Structural steel used in supports must comply with the minimum requirements of ASTM A36 (see Table 5), ASTM A572 Grade 50 or ASTM A992 (see Table 6), and must have thicknesses as noted in Table 8 or 9.

**3.6.2 Concrete:** Normalweight and sand-lightweight concrete must comply with IBC Chapter 19 or IRC Section R402.2, as applicable. The minimum concrete compressive strength at the time of fastener installation must be as noted in applicable allowable load table.

**3.6.3 Steel Deck Panels:** Steel deck panels must conform to a code-referenced material standard, with the minimum thickness and minimum yield strength and specified tensile strength noted in Tables 4 and 9. See Figure 1 for panel configuration requirements.

**3.6.4 Concrete Masonry:** Concrete Masonry Units (CMUs) must be minimum *A-hoch-Block*, normal weight blocks conforming to ASTM C90. Mortar must be Type S mortar complying with ASTM C270. Grout must be coarse grout complying with ASTM C476.

**4.0 DESIGN AND INSTALLATION**

**4.1 Design:**

**4.1.1 General:** Selection of fasteners must take into consideration the applicable base material and the length of the fastener. The minimum fastener length must be determined as follows:

- Unless otherwise noted, for installation into concrete, concrete-filled steel deck panels, concrete masonry and steel base materials, the minimum effective shank length shown in Table 1A must equal or exceed the sum of the thickness of the attached material and the minimum embedment depth (penetration) shown in the applicable tables in this report.
- For installation through steel base materials, the minimum effective shank length shown in Table 1A must equal or exceed the sum of the thickness of the attached material and the minimum embedment depth (penetration) shown in the applicable tables in this report.
- For installation through steel base materials, the minimum effective shank length shown in Table 1A must equal or exceed the sum of the following: the thickness of the attached material, the thickness of the base material and the required point penetration shown in the applicable tables in this report.

**4.1.2 Allowable Loads:** The applicable allowable shear and tension load tables for the Ramset and Duo-Fast fastener and ceiling clip assemblies driven into different base materials may be determined by referencing Tables 1A and 1B. The most critical applied loads, excluding seismic load effects, resulting from the load combinations in IBC Section 1605.3.1 or 1605.3.2 must not exceed the allowable loads described in this section. For fasteners which are subjected to seismic loads, see Section 4.1.5 for additional information.

The allowable shear and tension (pullout) values in the tables of this report are for use in allowable stress design (ASD). The allowable loads apply to the interaction between the fasteners and the specified base materials only, and limit states such as pull-over and lateral bearing, which are governed by the properties of attached materials, are outside the scope of this report. Design of the connection to the attached material must comply with the applicable requirements of the IBC. When designing the connection of wood members to the base material, the bending yield strength of the PAFs can be assumed to be the same as that of a nail with the same shank diameter. The stress increases and load reductions described in IBC Section 1605.3 are not allowed.

**4.1.3 Combined Loading:** For fasteners subjected to both shear and tension loads, compliance with the following interaction equations must be verified:

$$(p/P_a) + (v/V_a) \leq 1$$

Where:

$p$ = Actual applied tension load on fastener, lbf (N).



$P_a$ = Allowable tension load for the fastener, lbf (N).

$v$ = Actual applied shear load on fastener, lbf (N).

$V_a$ = Allowable shear load for the fastener, lbf (N).

**4.1.4 Steel-to-steel Connections:** When the Ramset and Duo-Fast fasteners listed in Tables 9 and 9 are used in connections of two steel elements in accordance with Section E3 of AISI S100-12, connection capacity must be determined in accordance with Sections 4.1.4.1 and 4.1.4.2, as applicable.

**4.1.4.1 Connection Strength - Tension:** To determine tensile connection strength in accordance with Section E3.2 of AISI S100-12, the fastener tension strength, pull-out strength and pull-over strength must be known. These characteristics must be determined as follows:

- **PAF Tensile Strength:** The allowable fastener tension strength must be calculated in accordance with Section E3.2.1 of AISI S100-12 using a value of 260,000 psi for $F_{un}$.
- **Pull-out Strength:** See Table 9 or 6, as applicable, for available pull-out strength.
- **Pull-over Strength:** The available pull-over strength must be calculated in accordance with Section E3.2.3 of AISI S100-12.

**4.1.4.2 Connection Strength - Shear:** To determine shear connection strength in accordance with Section E3.3 of AISI S100-12, the fastener shear strength, bearing and tilting strength, pull-out strength in shear, net section rupture strength and shear strength limited by edge distance must be known. These characteristics must be determined as follows:

- **PAF Shear Strength:** The allowable fastener shear strength must be calculated in accordance with Section E3.3.1 of AISI S100-12 using a value of 260,000 psi for $F_{un}$.
- **Bearing and Tilting Strength:** The available bearing and tilting strengths must be calculated in accordance with Section E3.3.2 of AISI S100-12.
- **Pull-out Strength in Shear:** The available pull-out strength in shear must be the applicable allowable shear strength from Table 9 or 6, as applicable, or must be calculated in accordance with Section E3.3.3 of AISI S100-12.
- **Net Section Rupture Strength and Shear Strength Limited by Edge Distance:** The net section rupture strength must be determined in accordance with Section E3.3.4 of AISI S100-12 and the shear strength limited by edge distance must be determined in accordance with Section E3.3.5 of AISI S100-12.

**4.1.5 Seismic Considerations:** The fasteners are recognized for use when subjected to seismic loads as follows:

1. The Ramset and Duo-Fast fasteners may be used for attachment of nonstructural components listed in Section 13.1.4 of ASCE 7, which are exempt from the requirements of ASCE 7.
2. Concrete Base Materials: The fasteners installed in concrete base materials may be used to support acoustical tile or lay-in panel suspended ceiling systems, distributed systems and distribution systems where the service load on any individual fastener does not exceed the lesser of 50 lbf (400 N) or the published allowable load in Tables 2, 3, 4,8, and 9, as applicable.
3. Steel Base Materials: The fasteners installed in steel may be used for attaching nonstructural components where the service load on any individual fastener does not exceed the lesser of 250 lbf (1112 N) or the published allowable load shown in Tables 9 and 6, as applicable.
4. Interior, Nonstructural Walls: For interior, nonstructural walls that are not subject to sustained tension loads and are not a bracing application, the power-actuated fasteners described in Section 3.0 may be used to attach steel track to concrete or steel in all Seismic Design Categories. In Seismic Design Categories D, E and F, the allowable shear load due to transverse pressure must be no more than 90 pounds (400 N) when attaching to concrete; or 250 pounds (1,112 N) when attaching to steel. Substantiating calculations must be submitted addressing the fastener-to-base-material capacity and the fastener-to-attached-material capacity. Interior nonstructural walls are limited to locations where bearing walls, shear walls or braced walls are not required by the approved plans. The design load on the fastener must not exceed the allowable load shown in Tables 2 through 8, as applicable.

**4.2 Installation:**

**4.2.1 General:** The fasteners must be installed in accordance with this report and the ITW Ramset installation instructions. A copy of these instructions must be available on the jobsite at all times during installation.

A low-velocity, powder-actuated fastening tool, recommended by ITW Ramset or ITW Brands – Duo-Fast, must be used to install the fasteners. The fastener penetration, spacing and edge distances must be as noted in the tables of this report. Fot fasteners installed into concrete, the fasteners must not be driven until the concrete has reached the designated compressive strength.

**4.2.2 Use with Treated Lumber:** The Ramset and Duo-Fast fasteners described in Table 1 may be used to attach with fire-retardant-treated wood in dry, interior locations *only*, in accordance with 2015 IBC Section 2304.10.5.4 (2012 and 2009 IBC Section 2304.9.5.4) and ITW Ramset's recommendations. Use of fasteners in contact with preservative-treated wood or fire-retardant-treated wood in exterior applications is outside the scope of this report.

**5.0 CONDITIONS OF USE**

The ITW Ramset and ITW Brands - Duo-Fast power-actuated fasteners and ceiling clip assemblies described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

**5.1** The fasteners must be manufactured and identified in accordance with this report.

**5.2** Fastener installation complies with this report and ITW Ramset or ITW Brands - Duo-Fast published installation instructions. In the event of a conflict between this report and the published installation instructions, the more restrictive requirements govern.

**5.3** Calculations demonstrating that the applied loads are less than the maximum allowable loads described in this report must be submitted to the code official. The calculations must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.



**5.4** For steel-to-steel connections that meet the applicability requirements of Section E3 of AISI S100-12, calculations demonstrating that the available connection strength has been determined in accordance with Section E3 of AISI S100-12 and Section 4.1.4 of this report, and equals to or exceeds the applied load, must be submitted to the code official. The calculations must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

**5.5** Refer to Section 4.1.5 for seismic considerations.

**5.6** The minimum concrete thickness must be three times the fastener embedment in concrete, except where noted otherwise in this report.

**5.7** The use of fasteners is limited to uncracked concrete or masonry. Cracking occurs when $f_t > f_r$ due to service loads or deformations.

**5.8** Installation must be limited to dry interior environments, which include exterior walls which are protected by an exterior wall envelope.

**5.9** Refer to Section 4.2.2 regarding the use of fasteners in contact with preservative-treated or fire-retardant-treated wood.

**5.10** The Ramset and Duo-Fast products addressed in this report are manufactured under a quality-control program with inspections by ICC-ES.

**6.0 EVIDENCE SUBMITTED**

Data in accordance with the ICC-ES Acceptance Criteria for Power-actuated Fasteners Driven into Concrete, Steel and Masonry Elements (AC70), dated February 2016.

**7.0 IDENTIFICATION**

The containers of the fasteners are labeled with the company name (ITW Ramset or ITW Brands – Duo-Fast), the fastener product name, length, catalog number, and quantity; the evaluation report number (ESR-1799); and the manufacturing date. In addition, the ITW Ramset 1500 series and SP series fasteners are identified by the letter "R" stamped into the fastener head. The ITW Brands – DUO-FAST 1500 series and SP series fasteners have a semi-circle stamped on the fastener head and the TE Series fasteners have the nominal length marked on the fastener head. See Figure 3.



**TABLE 1B—CEILING CLIP ASSEMBLY DESCRIPTIONS AND APPLICATIONS**

| ASSEMBLY | FASTENER | CLIP DESCRIPTION | CLIP MATERIAL & FINISH | APPLICABLE BASE MATERIAL | APPLICABLE LOAD TABLES |
|---|---|---|---|---|---|
| SDC100 | 1500 | 0.074 inch thick, 120° clip angle 0.335 inch diameter hole | Carbon steel, zinc coating | Concrete | 8 |
| SDC125 | 1500 | | | Conc.-filled deck | 9 |
| SPC78 | SP78 | 0.074 inch thick, 90° clip angle 0.313 inch diameter hole | Carbon steel, zinc coating | Concrete | 8 |
| SPC114 | SP114 | | | Conc.-filled deck | 9 |
| TEC100 | TE100 | 0.074 inch thick, 90° clip angle 0.313 inch diameter hole | Carbon steel, zinc coating | Concrete | 8 |
| | | | | Conc.-filled deck | 9 |

For SI: 1 inch = 25.4 mm.

**TABLE 1A—FASTENER DESCRIPTIONS AND APPLICATIONS**

| FASTENER[1] | | SHANK TYPE | SHANK DIAMETER (inch) | HEAD DIAMETER (inch) | MAXIMUM POINT LENGTH (inch) | MINIMUM EFFECTIVE SHANK LENGTH (inch) | FASTENER COATING | APPLICABLE BASE MATERIAL | APPLICABLE LOAD TABLES |
|---|---|---|---|---|---|---|---|---|---|
| 1500 Series | 1500S | Smooth, straight | 0.145 | 0.300 | 0.280 | Designated shank length – 0.33 inch (2.84 inch for 1524 fastener) | Black Oxide | Concrete | 2 |
| | 1S# | | | | | | Zinc | Concrete | 2, 3 |
| | | | | | | | | Conc.-filled deck | 4 |
| | 1503K | Knurled, straight | | 0.300 | | Designated shank length | Zinc | Steel | 5 |
| | | | | | | | | Steel | 5, 6 |
| SP Fastening Series | SP12 SP55 SP34 | Smooth, straight | 0.150 | 0.300 | 0.335 | Designated shank length | Zinc | Concrete | 2 |
| | | | | | | | | Steel | 5, 6 |
| | SP100 SP114 SP125 | Smooth, stepped | 0.150/0.180 | 0.300 | 0.335 | Designated shank length | Zinc | Concrete | 2, 3 |
| | | | | | | | | Conc.-filled deck | 4 |
| Tape Embedment Fastening Series | TE## | Smooth, straight | 0.157 | 0.320 | 0.40 | Shank length + 1/16 inch | Zinc | Concrete | 2, 3 |
| | | | | | | | | Conc.-filled deck | 4 |
| | | | | | | | | CMU | 7 |
| | TE## | Knurled, straight | 0.157 | 0.320 | 0.30 | Shank length | Zinc | Steel | 5, 6 |

For SI: 1 inch = 25.4 mm.
[1]# denotes numbers used in fastener designation.



**TABLE 2—ALLOWABLE TENSION AND SHEAR VALUES FOR FASTENERS INSTALLED IN NORMALWEIGHT CONCRETE[1]**

| PART NUMBER SERIES | NOMINAL SHANK DIAMETER (inch) | SHANK DESCRIPTION | MINIMUM EMBEDMENT DEPTH (inches) | MINIMUM SPACING (inches) | MINIMUM EDGE DISTANCE (inches) | ALLOWABLE LOADS (lbf) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 2000 psi | | 4000 psi | | 6000 psi | |
| | | Concrete Compressive Strength: | | | | Tension | Shear | Tension | Shear | Tension | Shear |
| | | Load Direction: | | | | | | | | | |
| 1500 | 0.145 | Smooth-straight | ⅞ | 4 | 3.2 | 90 | 66 | 150 | 104 | — | — |
| | | | 1 | | | 152 | 166 | 157 | 183 | — | — |
| | | | 1⅛ | | | 154 | 340 | 159 | 374 | — | — |
| | | | 1¼ | | | 164 | 340 | 205 | 342 | — | — |
| SP | 0.150 | Smooth-straight | ¾ | 6.1 | 3.2 | — | | 150 | 105 | 81 | 82 |
| SP | 0.150/0.180 | Smooth-stepped | 1 | 6.1 | 3.5 | 154 | 200 | 243 | 175 | 189 | 210 |
| | | | 1⅛ | | | 207 | 230 | 258 | 216 | 213 | 305 |
| | | | 1¼ | | | — | — | 304 | 350 | 239 | 394 |
| TE | 0.157 | Smooth-tapered | ⅞ | 5.1 | 2.75 | 71 | 176 | 71 | 176 | 100 | 187 |
| | | | 1 | | | 177 | 176 | 220 | 216 | 214 | 193 |
| | | | 1⅛ | | | 204 | 203 | 277 | 317 | 415 | 348 |

For SI: 1 inch = 25.4 mm. 1 lbf = 4.45N. 1 psi = 6.89 kPa.
[1]The fasteners must not be driven until the concrete has reached the designated minimum compressive strength. Minimum concrete thickness must be three times the fastener embedment into the concrete.

**TABLE 3—ALLOWABLE TENSION AND SHEAR VALUES FOR FASTENERS INSTALLED IN MINIMUM 3000 psi SAND-LIGHTWEIGHT CONCRETE[1]**

| PART NUMBER SERIES | NOMINAL SHANK DIAMETER (inch) | SHANK DESCRIPTION | MINIMUM EMBEDMENT DEPTH (inches) | MINIMUM SPACING (inches) | MINIMUM EDGE DISTANCE (inches) | ALLOWABLE LOADS (lbf) | |
|---|---|---|---|---|---|---|---|
| | | | | | | Tension | Shear |
| 1500 | 0.145 | Smooth-straight | ⅞ | 4 | 3.2 | 167 | 179 |
| | | | 1 | | | 330 | 229 |
| | | | 1⅛ | | | 331 | 460 |
| | | | 1¼ | | | 337 | 460 |
| SP | 0.150/0.180 | Smooth-stepped | 1 | 4 | 3.5 | 230 | 292 |
| | | | 1⅛ | | | 329 | 377 |
| | | | 1¼ | | | 406 | 350 |
| TE | 0.157 | Smooth-tapered | ⅞ | 5.1 | 3.8 | 152 | 169 |
| | | | 1 | | | 325 | 347 |
| | | | 1⅛ | | | 358 | 437 |
| | | | 1¼ | | | 400 | 439 |

For SI: 1 inch = 25.4 mm. 1 lbf = 4.45 N. 1 psi = 6.89 kPa.
[1]The fasteners must not be driven until the concrete has reached the designated minimum compressive strength. Minimum concrete thickness must be three times the fastener embedment into the concrete, unless noted otherwise.



**TABLE 6—ALLOWABLE LOADS FOR FASTENERS INSTALLED IN ASTM A572 GRADE 50 OR ASTM A992 STEEL[1] (lbf)**

| PART NUMBER SERIES | NOMINAL SHANK DIAMETER (inch) | TYPE OF SHANK | MINIMUM SPACING (inch) | MINIMUM EDGE DISTANCE (inch) | ALLOWABLE LOADS (lbf) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Steel Thickness (inch): | | | | 1/16 | | 1/8 | | 3/16 | | 1/4 | | | |
| | Load Direction: | | | | Tension[2] | Shear | Tension[2] | Shear | Tension[2] | Shear | Tension[2] | Shear | Tension | Shear |
| 1500K (excluding 1500S) | 0.145 | Knurled | 1 | ½ | 280 | 499 | 579 | 725 | 383[3] | 695[3] | — | — | — | — |
| SP | 0.150 | Smooth | 1 | ½ | 350 | 560 | 554 | 937 | 404[3] | 692 | 814[3] | 920[3] | 242[3] | 391[3] |
| TE | 0.157 | Knurled | 1 | ½ | 442 | 676 | 630 | 992 | 760[3] | 725 | 852[3] | 532 | 317[3] | 463[3] |

For SI: 1 inch = 25.4 mm. 1 lbf = 4.45 N.
[1]Except where noted otherwise in this table, the allowable load values shown are for fastenings that have the entire pointed end of the fasteners driven through the steel plate.
[2]Fastener penetration into the steel must be a minimum of ½ inch.
[3]Fastener penetration into the steel must be a minimum of ¾ inch.

**TABLE 7—ALLOWABLE LOADS FOR FASTENERS DRIVEN INTO CONCRETE MASONRY UNITS[1,2]**

| PART NUMBER SERIES | NOMINAL SHANK DIAMETER (inch) | MINIMUM EMBEDMENT (inch) | ALLOWABLE LOADS (lbf) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Masonry Type: | | | HOLLOW UNGROUTED CMU | | | | GROUT-FILLED CMU | | | |
| Fastener Location: | | | Face Shell[3] | | Mortar Joint[4] | | Face Shell[3] | | Mortar Joint[4] | Top of Grouted Cell[5] |
| Load Direction: | | | Tension | Shear | Tension | Shear[6] | Tension | Shear[6] | Tension | Shear[6] | Shear[6] |
| TE | 0.157 | 1 | 33 | 100 | 42 | 68 | 130 | 145 | 91 | 127 | 165 | 171 |

For SI: 1 inch = 25.4 mm. 1 lbf = 4.4 N.
[1]See Section 3.6.4 for CMU mortar and grout requirements.
[2]Fasteners must be installed a minimum of 3.1 inches from the end of the wall.
[3]Fasteners must be installed at the center of the CMU cell. No more than one fastener may be installed in an individual CMU cell.
[4]Applicable to fasteners installed in the horizontal mortar joint (bed joint). Minimum fastener spacing must be 8 inches.
[5]Allowable shear load value applies to load applied perpendicular to the mortar joint.
[6]Fastener must be installed vertically at the top, center of grouted cell.
[7]Shear load can be in any direction perpendicular to the axis of the fastener.

**TABLE 8—ALLOWABLE TENSION AND SHEAR VALUES FOR CEILING CLIP ASSEMBLIES INSTALLED IN NORMALWEIGHT CONCRETE[1]**

| PART NUMBER | NOMINAL SHANK DIAMETER (inch) | MINIMUM EMBEDMENT DEPTH (inches) | MINIMUM SPACING (inches) | MINIMUM EDGE DISTANCE (inches) | ALLOWABLE LOADS (lbf) | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | 4000 psi | | 6000 psi | |
| Concrete Compressive Strength: | | | | | Tension | Shear | Tension | Shear |
| Load Direction: | | | | | | | | |
| SDC100 | 0.145 | ⅞ | 4 | 3.2 | 115 | 120 | — | — |
| SDC125 | 0.145 | 1⅛ | 4 | 3.2 | 130 | 167 | — | — |
| SP