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VICINITY MAP

DEFERRED SUBMITTALS

DIFFERED SUBMITTAL: FIRE SPRINKLER 16

PROJECT SUMMARY

PROJECT DESCRIPTION: CONSTRUCT A 2352 S.F. MEDICAL MARIJUANA BUSINESS (MMB), WITH ASSOCIATED PARKING AND LIGHT POLES.

MEDICAL MARIJUANA BUSINESS (MMB) WILL CONSIST OF (6) 40' SHIPPING CONTAINER WITH A 18'X24' COVER SPACE AS A HALLWAY.

ASSESSOR'S PARCEL NUMBER 216-162-01
CURRENT ZONE: CR COMMERCIAL RETAIL
OCCUPANCY: B
TYPE OF CONSTRUCTION V-B SPRINKLER 16
TRACT NO. 2528 LOT: 490

CURRENT CODES:
THE 2019 EDITION OF THE CALIFORNIA BUILDING CODE (CBC)
THE 2019 EDITION OF THE CALIFORNIA ELECTRICAL CODE (CEC)
THE 2019 EDITION OF THE CALIFORNIA MECHANICAL CODE (CMC)
THE 2019 EDITION OF THE CALIFORNIA PLUMBING CODE (CPC)
THE 2019 EDITION OF THE CALIFORNIA FIRE CODE (CFC)
THE 2019 EDITION OF THE CALIFORNIA ENERGY EFFICIENCY STANDARDS.

REGISTERED PROFESSIONAL ENGINEER
GARRETT CROOK
C 057186
Exp. 12.31.2021
8-12-2020
CIVIL
STATE OF CALIFORNIA

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Project Name and Address:

AMERICAN GRO ECO, INC.
SHEPARD PLACE CALIFORNIA CITY, CA 93505

Date: AUGUST 06, 2020
Scale:

DRAWING TITLE: COVER SHEET

Sheet : 1/40

Page No. : A.000

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No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

GENERAL NOTES

THIS IS STANDARD LEGEND & NOTES COLUMN. SOME OF THE ITEMS AND/OR NOTES MAY NOT BE APPLICABLE TO THIS SPACE. COORDINATE WITH MECHANICAL, ELECTRICAL & HVAC DRAWINGS AND REQUIREMENTS WITH CONDITIONS SHOWN ON THE ARCHITECTURAL DRAWING.

A. GENERAL

1. THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, A.I.A. STANDARD FORM A201 - CURRENT EDITION, ARE HEREBY INCORPORATED INTO THIS DOCUMENT EXCEPT AS SPECIFICALLY MODIFIED BELOW.

2. THE CONTRACTOR SHALL SECURE AND PAY FOR THE BUILDING PERMIT AND OTHER PERMITS AND GOVERNMENTAL FEES, LICENSES AND INSPECTIONS NECESSARY FOR PROPER EXECUTION AND COMPLETION OF THE WORK. SCHEDULING OF APPROVALS AND INSPECTIONS BY AUTHORITIES HAVING JURISDICTION (A.H.J.) OVER THE WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.

3. THE CONTRACT DOCUMENTS CONVEY DESIGN INTENT AND THE GENERAL TYPE OF CONSTRUCTION DESIRED ARE INTENDED TO APPLY TO THE FINEST QUALITY OF CONSTRUCTION, MATERIAL AND WORKMANSHIP THROUGHOUT.

4. ANY ITEMS NOTED "BY OWNER" OR AS BEING PROVIDED BY OWNER IN THESE CONTRACT DOCUMENTS SHALL BE PROVIDED BY THE OWNER OR HIS VENDORS AND INSTALLED BY THE GENERAL CONTRACTOR OR HIS FORCES UNLESS EXPRESSLY NOTED AS BEING INSTALLED "BY OWNER" - REFER TO THE RESPONSIBILITY SCHEDULE FOR MORE INFORMATION. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL ACCESSORY MATERIALS REQUIRED TO INSTALL SUCH ITEMS AND MAKE FINAL CONNECTIONS.

5. PRIOR TO SUBMITTING A PROPOSAL OR COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VISIT THE PROJECT SITE TO COMPARE THE SCOPE OF WORK SHOWN ON THE DRAWINGS AND OTHER CONTRACT DOCUMENTS WITH EXISTING CONDITIONS. PROMPTLY REPORT ANY ERRORS, OMISSIONS, INCONSISTENCIES OR OTHER DETRIMENTAL CONDITIONS TO THE ARCHITECT. IF THE CONTRACTOR FAILS TO PERFORM THIS OBLIGATION, THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS AND DAMAGES ASSOCIATED WITH ACTIONS REQUIRED TO CORRECT UNREPORTED CONDITIONS THAT OTHERWISE COULD HAVE BEEN AVOIDED.

6. IN THE EVENT THAT DISCREPANCIES ARE FOUND BETWEEN DRAWINGS AND/OR SPECIFICATIONS, THE CONTRACTOR SHALL REQUEST A CLARIFICATION FROM THE ARCHITECT IN WRITING. THE ARCHITECT'S RESPONSE TO THE CONTRACTOR'S REQUEST FOR INFORMATION SHALL NOT BE CAUSE FOR A CHANGE IN THE CONTRACT AMOUNT UNLESS IT IS AGREED THAT THE ORIGINAL SCOPE OF WORK HAS BEEN ALTERED BY THE RESPONSE.

7. ALL CONSULTANT DRAWINGS ARE SUPPLEMENTAL TO THE ARCHITECTURAL DRAWINGS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE WITH THE ARCHITECTURAL DRAWINGS BEFORE THE INSTALLATION OF ANY OF THE CONSULTANTS WORK AND TO BRING ANY DISCREPANCIES OR CONFLICTS TO THE ARCHITECTS ATTENTION FOR CLARIFICATION. IMPROPERLY INSTALLED WORK SHALL BE CORRECTED BY THE GENERAL CONTRACTOR AT HIS EXPENSE AND AT NO EXPENSE TO THE ARCHITECT, HIS CONSULTANTS OR THE OWNER.

8. GENERAL CONTRACTOR WILL COORDINATE ALL WORK WITH THE LANDLORD AND PERFORM WORK TO MEET ALL REQUIREMENTS OF THE LEASE AGREEMENT. CONTRACTORS WORK IS SUBJECT TO INSPECTION BY THE LANDLORD FOR COMPLIANCE WITH THE TERMS OF THE LEASE AGREEMENT.

9. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL FURNISH A CONSTRUCTION SCHEDULE SHOWING THE CHRONOLOGICAL PHASES OF WORK, SCHEDULE OF VALUES, AND INSURANCE CERTIFICATE. THIS SCHEDULE SHALL INDICATE ORDERING LEAD TIMES, A BEGINNING AND END DATE FOR EACH PHASE AND A PROJECTED COMPLETION DATE FOR THE ENTIRE PROJECT.

10. THE CONTRACTOR IS WHOLLY RESPONSIBLE FOR THE COORDINATION AND SCHEDULING OF THE WORK EFFORTS FOR ALL ENGINEERS, SUBCONTRACTORS, CRAFTSMEN AND TRADESMEN REQUIRED TO COMPLETE THE JOB AND SHALL BE RESPONSIBLE FOR PROVIDING THEM WITH FULL SETS OF CURRENT DRAWINGS, ADDENDUM, AND OTHER SUPPLEMENTAL INFORMATION PERTINENT TO THE COMPLETION OF THE WORK.

11. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE VARIOUS TRADE ITEMS WITHIN THE SPACE AND ABOVE THE CEILINGS (INCLUDING BUT NOT LIMITED TO, STRUCTURAL MEMBERS, CONDUITS, RACEWAYS, LIGHT FIXTURES, CEILING SYSTEM AND ANY SPECIAL STRUCTURAL SUPPORTS REQUIRED) AND SHALL BE RESPONSIBLE FOR MAINTAINING THE FINISH CEILING HEIGHT ABOVE THE FINISH FLOOR INDICATED IN THE DRAWINGS AND THE FINISH SCHEDULE.

12. THE CONTRACTOR SHALL PROVIDE TEMPORARY LIGHTING AND ELECTRICAL SERVICE FOR TRADES.

13. UNLESS OTHERWISE STIPULATED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION, STORAGE AND PAYMENT OF ALL LABOR, MATERIALS, TAXES, EQUIPMENT, TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY, TRANSPORTATION AND OTHER FACILITIES NECESSARY FOR PROPER EXECUTION AND COMPLETION OF THE WORK WHETHER OR NOT IT IS SPECIFICALLY CALLED OUT OR DETAILED ON THE DRAWINGS.

14. THE CONTRACTOR WARRANTS TO THE OWNER THAT MATERIALS AND EQUIPMENT FURNISHED UNDER THE CONTRACT WILL MEET INDUSTRY STANDARDS AND BE NEW AND OF GOOD QUALITY UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS. THE WORK WILL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS, FREE FROM DEFECTS AND WILL BE COMPLETED IN A NEAT AND WORKMANLIKE MANNER ACCEPTABLE TO THE OWNER.

15. THE CONTRACTOR SHALL PROMPTLY CORRECT IN A PROFESSIONAL MANNER, AT NO COST TO THE OWNER AND WITHOUT CHANGE IN CONTRACT TIME, ALL NON-CONFORMING OR DEFECTIVE WORK AND DAMAGES CAUSED BY HIS WORK OR WORKMEN WHETHER DISCOVERED BEFORE OR AFTER SUBSTANTIAL COMPLETION.

16. THE CONTRACTOR SHALL INSPECT ALL EQUIPMENT AND SYSTEMS FOR PROPER OPERATIONS UPON SUBSTANTIAL COMPLETION OF PROJECT.

17. THE CONTRACTOR SHALL THOROUGHLY CLEAN THE ENTIRE PROJECT SITE AND ADJACENT AFFECTED SPACES TO THE SATISFACTION OF THE OWNER.

18. THE GENERAL CONTRACTOR SHALL PROVIDE THE FOLLOWING REPORTS AND GUARANTEES TO THE OWNER OR OWNER'S REPRESENTATIVE:

A. ELECTRICAL INSPECTOR'S CERTIFICATE OF COMPLIANCE WITH A.H.J. REQUIREMENTS.
B. PLUMBING INSPECTOR'S CERTIFICATE OF COMPLIANCE WITH A.H.J. REQUIREMENTS
C. FIRE MARSHALL'S CERTIFICATE OF COMPLIANCE WITH A.H.J. REQUIREMENTS.
D. BUILDING INSPECTOR'S CERTIFICATE OF COMPLIANCE WITH A.H.J. REQUIREMENTS.
E. HEALTH DEPARTMENT CERTIFICATE OF COMPLIANCE WITH A.H.J. REQUIREMENTS.
F. A.H.J. CERTIFICATE OF OCCUPANCY.

B. DRAWING CONVENTIONS

1. DIMENSIONS TAKE PRECEDENCE OVER SCALE ON THE CONSTRUCTION DRAWINGS. NOTIFY THE ARCHITECT OF DISCREPANCIES BETWEEN DRAWING DIMENSIONS AND FIELD CONDITIONS.

2. PLAN DIMENSIONS ARE GIVEN TO FACE OF STUDS OR FACE OF EXISTING WALL OR FACE OF NEW FIRE-RATED WALL UNLESS OTHERWISE NOTED.

3. PARTITION THICKNESS IS DERIVED FROM DESCRIPTION OF THE PARTITION CONSTRUCTION AND/OR DESIGNATED DETAIL

4. PARTITIONS THAT INTERSECT INTERIOR OR EXTERIOR GLAZED WALLS ARE TO CENTER ON MULLIONS AND PERPENDICULAR TO EXTERIOR WALL UNLESS DETAILED OTHERWISE.

5. UNLESS OTHERWISE NOTED, PARTITIONS AND OTHER ELEMENTS ON THE DRAWING THAT ARE DRAWN AT AN OBLIQUE ANGLE ARE TO BE CONSTRUCTED AT A 45-DEGREE ANGLE TO THE MAIN GRID.

6. WALLS SHOWN ALIGNED WITH BASE BUILDING STRUCTURE SHALL BE FLUSH AND SMOOTH WITH BASE BUILDING STRUCTURE UNLESS OTHERWISE NOTED.

7. UNLESS DIMENSIONED OTHERWISE, DEPTH OF FURRING ON COLUMNS AND OTHER ELEMENTS IS TO BE HELD TO THE MINIMUM THICKNESS REQUIRED TO CONCEAL MECHANICAL, PLUMBING OR ELECTRICAL COMPONENTS.

8. UNLESS OTHERWISE INDICATED, POSITION DOOR JAMBS 4" OFF THE FACE OF ADJACENT INTERSECTING PARTITIONS OR CENTER ON PARTITION.

9. OUTLETS THAT OCCUR ON OPPOSITE SIDES OF THE SAME PARTITION ARE TO BE STAGGERED HORIZONTALLY A MINIMUM OF 12" TO MINIMIZE SOUND TRANSMISSION.

C. DEMOLITION, CUTTING, AND PATCHING

1. THE CONTRACTOR SHALL INSPECT THE SITE AND CALL ATTENTION TO ENVIRONMENTAL HAZARDS WITH LANDLORD. SAID HAZARDS ARE TO BE REMOVED AT THE LANDLORD'S EXPENSE. REMOVAL SHALL ADHERE TO THE ENVIRONMENTAL PROTECTION AGENCY'S GUIDELINES.

2. THE CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION, CUTTING AND PATCHING REQUIRED TO FACILITATE COMPLETION OF THE WORK.

3. PRIOR TO STARTING WORK, ERECT TEMPORARY BARRIERS AROUND THE PERIMETER OF THE PROJECT AND BASE BUILDING TOILET FACILITIES TO PREVENT THE SPREAD OF DUST AND OTHER CONTAMINANTS TO ADJACENT AREAS OF THE BUILDING. MAINTAIN DUST PROOF AND SOUND BARRIERS THROUGHOUT THE COURSE OF CONSTRUCTION OR UNTIL NO LONGER REQUIRED. REMOVE BARRIERS AND REPAIR ANY DAMAGE CAUSED BY THEIR INSTALLATION TO MATCH ADJACENT SURFACES.

4. UNLESS NOTED OTHERWISE, ALL DEMOLISHED DEBRIS, MATERIAL, EQUIPMENT AND FIXTURES BECOME THE PROPERTY OF THE CONTRACTOR WHO IS RESPONSIBLE FOR ITS SAFE REMOVAL FROM THE SITE. DISPOSAL OF DEMOLISHED MATERIAL SHALL BE IN ACCORDANCE WITH APPLICABLE RULES, REGULATIONS AND ORDINANCES OF AUTHORITIES HAVING JURISDICTION. COORDINATE WITH LANDLORD.

5. PATCH ALL EXISTING OR NEWLY DAMAGED AREAS TO MATCH ADJACENT SURFACES IN QUALITY, TEXTURE AND COLOR.

6. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL TRENCHING AND UNDER GROUND WORK WITH SUBCONTRACTORS.

D. GENERAL CONSTRUCTION

1. CONTRACTOR SHALL VERIFY ALL GRID LINE COORDINATES AND CHECK THEM AGAINST DIMENSIONS SHOWN ON PLANS AND DETAILS. ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCY DURING STAKING.

2. ALL LANDSCAPE MATERIALS DISPLACED OR DISTURBED AS A RESULT OF CONSTRUCTION SHALL BE REPLACED OR REPAIRED TO ORIGINAL CONDITION.

3. THE CONTRACTOR SHALL FIRMLY ANCHOR PARTITIONS PER JURISDICTION AND INDUSTRY STANDARDS AND USE METAL TRIM ACCESSORIES AT EXPOSED CORNERS, EDGES AND ENDS IN PLASTER AND DRYWALL PARTITIONS.

4. PROVIDE FIRE RETARDANT TREATED WOOD BLOCKING FOR ALL WALL MOUNTED PLUMBING FIXTURES, TOILET ACCESSORIES, CABINETS, AND TABLES.

5. ALL CONCEALED PLYWOOD, WOOD BLOCKING, AND WOOD STUD/JOIST FRAMING SHALL MEET U.L. FIRE RETARDANT TREATED REQUIREMENTS.

6. ALL MATERIALS USED IN UNFINISHED ATTIC SPACE SHALL BE NON-COMBUSTIBLE. ANY WOOD SHALL BE FIRE RETARDANT TREATED.

7. DO NOT PUNCH OR USE METAL DECK TO SUPPORT SUSPENDED CEILING. SUSPENDED METAL FRAMING-CEILING AND METAL STUD PARTITION FRAMING SHALL BE SUPPORTED FROM STRUCTURAL STEEL ROOF FRAME.

8. ALL ROOF PENETRATIONS SHALL BE CUT, FLASHED AND SEALED BY THE LANDLORD'S ROOFING CONTRACTOR IN ORDER TO MAINTAIN THE ROOF SYSTEM INTEGRITY AND WARRANTY.

9. THE CONTRACTOR SHALL PROVIDE ACCESS PANELS REQUIRED FOR MECHANICAL, ELECTRICAL AND PLUMBING INSTALLATIONS PER LOCAL BUILDING CODES. LOCATIONS SHALL BE COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION.

10. CEILING FRAMING IN THE FIELD SHALL BE SQUARE, LEVEL AND PERFECTLY ALIGNED WITH EACH OTHER AND WITH THE RECESSED LIGHT FIXTURES. ALL RECESSED FIXTURES SHALL BE SET FLUSH INTO CEILING.

11. NEW PIPE, CONDUIT AND DUCT PENETRATIONS OF FIRE RATED ASSEMBLIES ARE TO BE CONSTRUCTED IN ACCORDANCE WITH AN UNDERWRITERS LABORATORY TESTED DESIGN.

12. WIRING AND CONDUIT IS TO BE CONCEALED IN BOTH NEW AND EXISTING PARTITIONS WITH ALL OUTLETS, SWITCHES AND SIMILAR DEVICES MOUNTED IN RECESSED JUNCTION BOXES WITH FLUSH COVER PLATES. SURFACE MOUNTED CONDUIT, WIREMOLD, OUTLETS, ETC. WILL NOT BE PERMITTED UNLESS OTHERWISE NOTED.

13. VERIFY EXACT DIMENSIONS OF ALL OWNER SUPPLIED EQUIPMENT, FEATURES AND FIXTURES TO ASSURE A PROPER FIT WHERE EQUIPMENT, FEATURES AND FIXTURES ARE SHOWN BUILT-IN TO NEW MILLWORK, UNDER COUNTER AND BETWEEN NEW AND EXISTING PARTITIONS.

14. COMMUNICATION, DATA, SECURITY AND SIMILAR SYSTEMS WILL BE PROVIDED AND INSTALLED BY THE OWNER UNLESS OTHERWISE NOTED IN THE CONTRACT DOCUMENTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE OWNER' AND PROVIDE CONDUIT, BOXES AND OTHER ROUGH-IN REQUIREMENTS TO FACILITATE FINAL WIRING INSTALLATION.

15. LOCKSETS SHALL BE "KEYED' IN ACCORDANCE WITH OWNER REQUIREMENTS. "KEYS" ARE TO BE DELIVERED TO OWNER PROPERLY TESTED. THE NUMBER OF MASTER AND PASS KEYS SHALL BE COORDINATED WITH LANDLORD.

16. PROVIDE STANDARD IDENTIFICATION PLATE WITH OWNER NAME AND SPACE DESIGNATION/ADDRESS AS SPECIFIED THROUGH A COMMON MANUFACTURER BY THE LANDLORD. IF NO LANDLORD STANDARD PROVIDED, PROVIDE A STANDARD 3" X 9" LAMINATED PLASTIC, DARK COOL GRAY COLORED FACE WITH WHITE LETTERING ROUTED INTO FACE. FASTENED TO OWNER REAR EXIT SERVICE DOOR ON THE ACCESS CORRIDOR FACE.

17. PROVIDE WATER RESISTANT GYPSUM BOARD AT ALL TILE LOCATIONS, PLASTIC PANEL LOCATIONS, MECHANICAL ROOM WALLS, AND AS NOTED ON DRAWINGS.

18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH LOCAL V.O.C. REGULATIONS FOR MATERIALS USED IN CONSTRUCTION.

19. SPACES BEING SURFACED SHALL BE CLOSED TO TRAFFIC AND OTHER WORK DURING THE LAYING OF FLOORING, STONE, WOOD, OR OTHER MATERIAL. FINISHED FLOORS SHALL BE COVERED AFTER INSTALLATION FOR PROTECTION.

E. FIRE / LIFE SAFETY

1. ALL REQUIRED PERMITS AND APPROVALS MUST BE OBTAINED FROM THE FIRE DEPARTMENT BEFORE BUILDINGS ARE OCCUPIED.

2. MAINTAIN THE FUNCTION AND INTEGRITY OF EXISTING FIRE, LIFE/SAFETY AND SECURITY SYSTEMS.

3. PROVIDE OCCUPANCY SIGNS CONFORMING TO APPLICABLE BUILDING CODE REQUIREMENTS

4. PROVIDE ADDITIONAL EXIT SIGNS AND FIRE EXTINGUISHERS IN TYPE, NUMBER AND LOCATION AS DIRECTED BY THE FIRE DEPARTMENT FIELD INSPECTOR.

5. DURING CONSTRUCTION THE GENERAL CONTRACTOR SHALL PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A WITHIN (75 FT.) FOOT TRAVEL DISTANCE TO ALL PORTIONS OF THE BUILDING ON EACH FLOOR

F. REQUIRED APPROVALS AND SUBMITTALS

1. WHERE THE TERMS "OR EQUAL", "SIMILAR", OR OTHER GENERAL QUALIFYING TERMS ARE USED, IT SHALL BE UNDERSTOOD THAT REFERENCE IS MADE TO THE RULING AND JUDGMENT OF THE ARCHITECT AND MUST BE SUBMITTED FOR APPROVAL PRIOR TO PURCHASE OR USE.

2. THE CONTRACTOR SHALL HAVE (10) WORKING DAYS FROM AWARD OF THE CONTRACT TO SUBMIT SUBSTITUTIONS OF SPECIFIED PRODUCTS OR WORK FOR REVIEW BY ARCHITECT AND SHALL INCLUDE CUT SHEETS WITH SPECIFICATIONS AND REASONS FOR SUBSTITUTION. THE ARCHITECT SHALL RESPOND IN (10) WORKING DAYS FROM RECEIPT OF SUBMITTAL. NO SUBSTITUTIONS SHALL BE ACCEPTED AFTER THE INITIAL TIME LIMIT HAS EXPIRED.

3. THE CONTRACTOR SHALL REVIEW, SIGN, DATE AND SUBMIT A MINIMUM OF (3) SETS OF COMPLETE AND DETAILED SHOP DRAWINGS, FINISHES, FIXTURE AND EQUIPMENT CUT SHEETS TO ARCHITECT FOR REVIEW. THE ARCHITECT SHALL HAVE (10) WORKING DAYS TURNAROUND TIME FROM RECEIPT OF SUBMITTAL. ALL SHOP DRAWINGS AND CUT SHEETS SIGNED "REVIEWED" SHALL SUPERSEDE ORIGINAL DRAWINGS IN DESIGN APPEARANCE ONLY. CONTRACTORS SHALL ASSUME RESPONSIBILITY FOR ERRORS IN THEIR DRAWINGS.

4. IN THE EVENT THAT THE AFOREMENTIONED DRAWINGS, SPECIFICATIONS, ETC. ARE NOT SUBMITTED FOR REVIEW AND APPROVAL, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR THE REPLACEMENT, CORRECTION OR ACQUISITION OF PRODUCTS TO COMPLY WITH OWNER'S SPECIFICATION AND APPROVAL.

5. THE CONTRACTOR SHALL PROVIDE CHALK LINES ON THE SLAB OF PARTITIONS FOR APPROVAL PRIOR TO FRAMING AND SHALL NOTIFY ARCHITECT OF ANY DEVIATION FROM CONSTRUCTION DIMENSIONS OR CLEARANCES AS DESIGNATED ON THE DRAWINGS OR OF APPARENT CONSTRUCTION CONFLICTS.

6. UPON SUBSTANTIAL COMPLETION OF WORK, THE HVAC SYSTEM SHALL BE BALANCED BY A QUALIFIED ENGINEER AND A WRITTEN REPORT SHALL BE SUBMITTED TO THE OWNER.

7. UPON SUBMISSION OF THE "FINAL APPLICATION FOR PAYMENT", THE CONTRACTOR SHALL PROVIDE THE OWNER WITH (1) SET OF AS-BUILT DOCUMENTATION INCLUDING DRAWINGS, SPECIFICATIONS, ADDENDA, CHANGE ORDERS, PRODUCT DATA, EQUIPMENT WARRANTIES AND MANUALS, FINISH SAMPLES AND OTHER REQUIRED SUBMITTALS. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A WRITTEN WARRANTY COVERING ALL WORK PERFORMED UNDER THE CONTRACT. WARRANTY SHALL BE FOR A PERIOD OF ONE YEAR COMMENCING ON THE DATE OF SUBSTANTIAL COMPLETION AND SHALL BE INCLUDED WITH THIS SUBMITTAL.

8. THE CONTRACTOR SHALL SUPPLY LIEN WAIVERS RELATING TO ALL WORK WITH THE "FINAL APPLICATION FOR PAYMENT" TO BE REVIEWED FOR "FINAL CERTIFICATE OF PAYMENT".

G. CHANGES IN WORK

1. THE OWNER WITHOUT INVALIDATING THE CONTRACT, MAY ORDER EXTRA WORK OR MAKE CHANGES BY ALTERING, ADDING TO OR DEDUCTING FROM THE WORK - THE CONTRACT SUM BEING ADJUSTED ACCORDINGLY. SUCH WORK SHALL BE EXECUTED UNDER THE CONDITIONS OF THE ORIGINAL CONTRACT EXCEPT THAT ANY CLAIM FOR EXTENSIONS OF TIME CAUSED THEREBY SHALL BE INDICATED ON THE CHANGE ORDER.

2. CLAIMS FOR ADDITIONAL WORK WILL BE SUBMITTED IN WRITING FOR REVIEW BY OWNER AND SHOULD INCLUDE A COMPLETE DESCRIPTION OF THE WORK, MATERIALS BEING USED, THE ROOM NUMBER OR AREA AFFECTED, AND THE AUTHORIZATION UNDER WHICH THE WORK IS BEING PERFORMED.

H. SITE CONSIDERATIONS

1. DEMOLITION WORK SHALL BE COORDINATED WITH THE LANDLORD TO MINIMIZE DISRUPTION AND INCONVENIENCE TO OTHER OWNERS IN OCCUPIED BUILDINGS. MAINTAIN SAFE MEANS OF ACCESS AND EGRESS TO OCCUPIED OWNER SPACES.

2. PROVIDE CONCRETE FLOOR SLAB THROUGHOUT "LEAVE-OUT" AREA IN BACK OF HOUSE - MATCH EXISTING FLOOR CONSTRUCTION; COORDINATE WITH LANDLORD.

3. MAINTAIN THE INTEGRITY OF RATED PARTITIONS AND OTHER FIRE RATED ASSEMBLIES. REPAIR OR REPLACE DAMAGED PORTIONS WITH NEW CONSTRUCTION TO MATCH EXISTING AND HAVE REPAIR WORK APPROVED BY THE BUILDING INSPECTOR.

4. THE GENERAL CONTRACTOR SHALL REVIEW THE OWNER'S SPACE WITH THE LANDLORD TO DETERMINE IF ANY ACCESS PANELS ARE LOCATED IN THE OWNER'S SPACE FOR THE LANDLORD'S AND/OR OTHER OWNER ELECTRICAL BOXES AND/OR VALVES. THE GENERAL CONTRACTOR SHALL PROMPTLY NOTIFY THE ARCHITECT AND THE OWNER OF ANY REQUIRED ACCESS PANEL LOCATIONS.

5. BUILDING MECHANICAL AND ELECTRICAL SERVICE SHUT DOWN REQUIRED FOR THIS WORK SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR A MINIMUM OF (72) HOURS IN ADVANCE OF THE SHUT DOWN. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM AUTHORITIES HAVING JURISDICTION PRIOR TO SHUT DOWN AND SHALL NOT OVERLY INCONVENIENCE BUILDING OCCUPANTS.

6. VERIFY EXISTING SPRINKLER DROP LOCATIONS (IF ANY). ADDITIONS, MODIFICATIONS OR RELOCATIONS OF THE EXISTING SPRINKLER SYSTEM ARE TO BE ALTERED IN TOTAL CONFORMANCE WITH LANDLORD'S CRITERIA AND SHALL BE SUBMITTED FOR PERMIT SEPARATELY. DRAWINGS SHALL BE SUBMITTED TO LANDLORD FOR REVIEW AND **SUBMITTED SEPARATELY TO THE FIRE MARSHAL FOR PERMIT.**

7. SPRINKLER HEADS AT STOREFRONT AND DISPLAY WINDOWS MUST BE FLUSH TYPE WITH COVER PLATES PAINTED TO MATCH THE ADJACENT CEILING COLOR. DINING AND KITCHEN MUST HAVE SEMI-RECESSED HEADS WITH ESCUTCHEON RINGS PAINTED TO MATCH THE ADJACENT CEILING COLOR.

8. WOOD CASEWORK SHALL CONFORM TO ARCHITECTURAL WOODWORK INSTITUTE (AWI) "PREMIUM GRADE" QUALITY STANDARDS AND SHALL BE "FLUSH OVERLAY" CONSTRUCTION UNLESS DETAILED OTHERWISE ON THE DRAWINGS.

9. PLASTIC LAMINATE CASEWORK SHALL CONFORM TO ARCHITECTURAL WOODWORK INSTITUTE (AWI) "CUSTOM GRADE" QUALITY STANDARDS AND SHALL BE "FLUSH OVERLAY" CONSTRUCTION UNLESS DETAILED OTHERWISE ON THE DRAWINGS.

10. CASEWORK SHALL BE SCRIBED TO WALL OR CEILING. CONTRACTOR SHALL COORDINATE WITH OTHER INVOLVED TRADES.

EGRESS NOTES

1. EXIT SIGNS SHALL BE INTERNALLY OR EXTERNALLY ILLUMINATED.

2. EXIT SIGNS ILLUMINATED BY AN EXTERNAL SOURCE SHALL HAVE AN INTENSITY OF NOT LESS THAN 5 FOOT CANDLES (54LUX).

3. INTERNALLY ILLUMINATED SIGNS SHALL BE LISTED AND LABELED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND SECTION 2702.

4. EXIT SIGNS SHALL BE ILLUMINATED AT ALL TIMES.

5. EXIT SIGNS SHALL BE CONNECTED TO AN EMERGENCY POWER SYSTEM THAT WILL PROVIDE AN ILLUMINATION OF NOT LESS THAN 90 MIN. IN CASE OF PRIMARY POWER LOSS (1011.2-1022.5.3)

6. EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT. SEE 1008.1.8.3 FOR EXCEPTIONS.

7. DOOR HANDLES, LOCK AND OTHER OPERATING DEVICES SHALL BE INSTALLED AT A MIN. 34" AND A MAX. 48" ABOVE THE FINISHED FLOOR.

8. "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED" SIGN REQUIRED.

9. ALL EGRESS DOOR OPERATION SHALL ALSO COMPLY WITH SECTION 1008.1.9 - 1008.1.9.7

10. THE MEANS OF EGRESS, INCLUDING THE EXIT DISCHARGE, SHALL BE ILLUMINATED AT ALL TIMES THE BUILDING SPACE SERVED BY THE MEANS OF EGRESS IS OCCUPIED.

11. THE MEANS OF EGRESS ILLUMINATION LEVEL SHALL NOT BE LESS THAN 1 FOOT-CANDLE AT THE WALKING SURFACE.

12. THE POWER SUPPLY FOR MEANS OF EGRESS ILLUMINATION SHALL NORMALLY BE PROVIDED BY THE PREMISES' ELECTRICAL SUPPLY. IN THE EVENT OF POWER SUPPLY FAILURE, AN EMERGENCY ELECTRICAL SYSTEM SHALL AUTOMATICALLY ILLUMINATE THE FOLLOWING AREAS:;

A. AISLES AND UNENCLOSED EGRESS STAIRWAYS IN ROOMS AND SPACES THAT REQUIRE TWO OR MORE MEANS OF EGRESS
B. CORRIDORS, EXIT ENCLOSURES AND EXIT PASSAGEWAYS IN BUILDING REQUIRED TO HAVE TOW OR MORE EXITS.;
C. EXTERIOR EGRESS COMPONENTS AT OTHER THAN THE LEVEL OF EXIT DISCHARGE UNTIL EXIT DISCHARGE IS ACCOMPLISHED FOR BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS.
D. INTERIOR EXIT DISCHARGE ELEMENTS, AS PERMITTED IN SECTION 1027.1, IN BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS.
E. EXTERIOR LANDINGS, AS REQUIRED BY SECTION 1008.1.5, FOR EXIT DISCHARGE DOORWAYS IN BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS.

13. 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. THE INSTALLATION OF THE EMERGENCY POWER SYSTEM SHALL BE IN ACCORDANCE WITH SECTION 2702.

14. EMERGENCY LIGHTING FACILITIES SHALL BE ARRANGED TO PROVIDE INITIAL ILLUMINATION THAT IS AT LEAST AN AVERAGE OF 1 FOOT-CANDLE (11 LUX) AND A MINIMUM AT ANY POINT OF 0.1 FOOT_CANDLE (1 LUX) MEASURE ALONG THE PATH OF EGRESS AT FLOOR LEVEL. ILLUMINATION LEVELS SHALL BE PERMITTED TO DECLINE TO 0.6 FOOT-CAN (6 LUX) AVERAGE AND A MINIMUM AT ANY POINT OF 0.06 FOOT-CANDLE (0.6 LUX) AT THE END OF THE EMERGENCY LIGHTING TIME DURATION. A MAXIMUM-TO-MINIMUM ILLUMINATION UNIFORMITY RATION OF 40 TO 1 SHALL NOT BE EXCEEDED.

FIRE DEPARTMENT NOTES

1. "K" RATED PORTABLE FIRE EXTINGUISHER(S) SHALL BE PROVIDED FOR THE KITCHEN AREA IF EQUIPPED WITH A COMMERCIAL HOOD SYSTEM.

2. MINIMUM 2A 10B:C FIRE EXTINGUISHERS SHALL BE PROVIDED. TRAVEL DISTANCE TO ANY EXTINGUISHER SHALL NOT EXCEED 75 FEET FROM ANY PORTION OF THE BUILDING. EXTINGUISHER(S) SHALL BE HUNG NO HIGHER THAN 44 INCHES MEASURED FROM THE FLOOR TO THE TOP OF THE EXTINGUISHER.

3. PLANS FOR ANY AUTOMATIC SPRINKLER SYSTEM (INCLUDING TENANT IMPROVEMENT WORK), HOOD SUPPRESSION SYSTEM AND/OR ALARM SYSTEM, SHALL BE SUBMITTED WITH FEES TO JURISDICTION FIRE DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.

4. PANIC HARDWARE: EACH DOOR IN A MEANS OF EGRESS FROM A GROUP A, OR *ASSEMBLY AREA NOT CLASSIFIED AS AN ASSEMBLY OCCUPANCY, E, I-2 OR I-2.1* OCCUPANCIES HAVING AN OCCUPANT LOAD OF 50 OR MORE AND ANY GROUP H OCCUPANCY SHALL NOT BE PROVIDED WITH A LATCH OR LOCK UNLESS IT IS PANIC HARDWARE.

5. LOCKS AND LATCHES, SECTION 1008.1.9.3 ITEM 2: IN BUILDINGS IN OCCUPANCY GROUP A HAVING AN OCCUPANT LOAD OF 300 OR LESS, GROUPS B, F, M AND S, AND IN PLACES OF RELIGIOUS WORSHIP, THE MAIN EXTERIOR DOOR OR DOORS ARE PERMITTED TO BE EQUIPPED WITH KEY-OPERATED LOCKING DEVICES FROM THE EGRESS SIDE PROVIDED: A READILY VISIBLE DURABLE SIGN IS POSTED ON THE EGRESS SIDE ON OR ADJACENT TO THE DOOR STATING: "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED". THE SIGN SHALL BE IN LETTERS 1 INCH HIGH ON A CONTRASTING BACKGROUND.

NOTE: THE USE OF THE KEY-OPERATED LOCKING DEVICE IS REVOCABLE BY THE BUILDING OFFICIAL FOR DUE CAUSE.

6. DECORATIVE MATERIALS: IN EVERY GROUP A, E, I, R-1 AND R-2 OCCUPANCIES ALL DRAPES, HANGINGS, CURTAINS, DROPS AND ALL OTHER DECORATIVE MATERIAL INCLUDING CHRISTMAS TREES, THAT WOULD TEND TO INCREASE THE FIRE AND PANIC HAZARD SHALL BE MADE FROM A NON FLAMMABLE MATERIAL, OR SHALL BE TREATED AND MAINTAINED IN A FLAME-RETARDANT CONDITION BY MEANS OF A FLAME-RETARDANT SOLUTION OR PROCESS APPROVED BY THE "STATE FIRE MARSHAL": PER CALIFORNIA CODE OF REGULATIONS TITLE 19, ARTICLE 3, SUBSECTION 3.08 - DECORATIVE MATERIALS. PROVIDE A CALIFORNIA STATE FIRE MARSHAL CERTIFICATE OF FLAME RETARDANT OR A CALIFORNIA STATE FIRE MARSHAL APPROVED TESTING LAB CERTIFICATION FOR ANY DECORATIVE MATERIALS PRIOR TO FINAL INSPECTIONS. SAMPLES (4" X 12") ARE REQUIRED TO BE SUBMITTED TO VCFD FOR TESTING AND APPROVAL.

7. ADDITIONAL EXIT SIGNS AND EMERGENCY LIGHTING M

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE
NONRESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2020, Includes August 2019 Supplement)

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

Y | N/A | RESPON. PARTY

CHAPTER 3
GREEN BUILDING
SECTION 301 GENERAL

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

301.3 NONRESIDENTIAL ADDITIONS AND ALTERATIONS. [BSC-CG] The provisions of individual sections of Chapter 5 apply to newly constructed buildings, building additions of 1,000 square feet or greater, and/or building alterations with a permit valuation of $200,000 or above (for occupancies within the authority of California Building Standards Commission). Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the permitted work.

A code section will be designated by a banner to indicate where the code section only applies to newly constructed buildings [N] or to additions and/or alterations [A]. When the code section applies to both, no banner will be used.

301.3.1 Nonresidential additions and alterations that cause updates to plumbing fixtures only:

Note: On and after January 1, 2014, certain commercial real property, as defined in Civil Code Section 1101.3, shall have its noncompliant plumbing fixtures replaced with appropriate water-conserving plumbing fixtures under specific circumstances. See Civil Code Section 1101.1 *et seq.* for definitions, types of commercial real property affected, effective dates, circumstances necessitating replacement of noncompliant plumbing fixtures, and duties and responsibilities for ensuring compliance.

301.3.2 Waste Diversion. The requirements of Section 5.408 shall be required for additions and alterations whenever a permit is required for work.

301.4 PUBLIC SCHOOLS AND COMMUNITY COLLEGES. (see GBSC)
301.5 HEALTH FACILITIES. (see GBSC)

SECTION 302 MIXED OCCUPANCY BUILDINGS

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

SECTION 303 PHASED PROJECTS

303.1 PHASED PROJECTS. For shell buildings and others constructed for future tenant improvements, only those code measures relevant to the building components and systems considered to be new construction (or newly constructed) shall apply.

303.1.1 Initial Tenant improvements. The provisions of this code shall apply only to the initial tenant improvements to a project. Subsequent tenant improvements shall comply with the scoping provisions in Section 301.3 non-residential additions and alterations.

ABBREVIATION DEFINITIONS:

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

CHAPTER 5
NONRESIDENTIAL MANDATORY MEASURES

DIVISION 5.1 PLANNING AND DESIGN

SECTION 5.101 GENERAL

5.101.1 SCOPE
The provisions of this chapter outline planning, design and development methods that include environmentally responsible site selection, building design, building siting and development to protect, restore and enhance the environmental quality of the site and respect the integrity of adjacent properties.

SECTION 5.102 DEFINITIONS

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

CUTOFF LUMINAIRES. Luminaires whose light distribution is such that the candela per 1000 lamp lumens does not numerically exceed 25 (2.5 percent) at an angle of 90 degrees above nadir, and 100 (10 percent) at a vertical angle of 80 degrees above nadir. This applies to all lateral angles around the luminaire.

LOW-EMITTING AND FUEL EFFICIENT VEHICLES.
Eligible vehicles are limited to the following:

1. Zero emission vehicle (ZEV), including neighborhood electric vehicles (NEV), partial zero emission vehicle (PZEV), advanced technology PZEV (AT ZEV) or CNG fueled (original equipment manufacturer only) regulated under Health and Safety Code section 43800 and CCR, Title 13, Sections 1961 and 1962.
2. High-efficiency vehicles, regulated by U.S. EPA, bearing High-Occupancy Vehicle (HOV) car pool lane stickers issued by the Department of Motor Vehicles.

NEIGHBORHOOD ELECTRIC VEHICLE (NEV). A motor vehicle that meets the definition of "low-speed vehicle" either in Section 385.5 of the Vehicle Code or in 49CFR571.500 (as it existed on July 1, 2000), and is certified to zero-emission vehicle standards.

TENANT-OCCUPANTS. Building occupants who inhabit a building during its normal hours of operation as permanent occupants, such as employees, as distinguished from customers and other transient visitors.

VANPOOL VEHICLE. Eligible vehicles are limited to any motor vehicle, other than a motortruck or truck tractor, designed for carrying more than 10 but not more than 15 persons including the driver, which is maintained and used primarily for the nonprofit work-related transportation of adults for the purpose of ridesharing.

Note: Source: Vehicle Code, Division 1, Section 668

ZEV. Any vehicle certified to zero-emission standards.

SECTION 5.106 SITE DEVELOPMENT

5.106.1 STORM WATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB LESS THAN ONE ACRE OF LAND. Newly constructed projects and additions which disturb less than one acre of land, and are not part of a larger common plan of development or sale, shall prevent the pollution of storm water runoff from the construction activities through one or more of the following measures:

5.106.1.1 Local ordinance. Comply with a lawfully enacted storm water management and/or erosion control ordinance.

5.106.1.2 Best Management Practices (BMPs). Prevent the loss of soil through wind or water erosion by implementing an effective combination of erosion and sediment control and good housekeeping BMPs.

1. Soil loss BMPs that should be considered for implementation as appropriate for each project include, but are not limited to, the following:
   a. Scheduling construction activity during dry weather, when possible.
   b. Preservation of natural features, vegetation, soil, and buffers around surface waters.
   c. Drainage swales or lined ditches to control stormwater flow.
   d. Mulching or hydroseeding to stabilize disturbed soils.
   e. Erosion control to protect slopes.
   f. Protection of storm drain inlets (gravel bags or catch basin inserts).
   g. Perimeter sediment control (perimeter silt fence, fiber rolls).
   h. Sediment trap or sediment basin to retain sediment on site.
   i. Stabilized construction exits.
   j. Wind erosion control.
   k. Other soil loss BMPs acceptable to the enforcing agency.
2. Good housekeeping BMPs to manage construction equipment, materials, non-stormwater discharges and wastes that should be considered for implementation as appropriate for each project include, but are not limited to, the following:
   a. Dewatering activities.
   b. Material handling and waste management.
   c. Building materials stockpile management.
   d. Management of washout areas (concrete, paints, stucco, etc.).
   e. Control of vehicle/equipment fueling to contractor's staging area.
   f. Vehicle and equipment cleaning performed off site.
   g Spill prevention and control.
   h. Other housekeeping BMPs acceptable to the enforcing agency.

Y | N/A | RESPON. PARTY

5.106.2 STORMWATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB ONE OR MORE ACRES OF LAND. Comply with all lawfully enacted stormwater discharge regulations for projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of a larger common plan of development sale.

Note: Projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of the larger common plan of development or sale must comply with the post-construction requirements detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board or the Lahontan Regional Water Quality Control Board (for projects in the Lake Tahoe Hydrologic Unit).

The NPDES permits require postconstruction runoff (post-project hydrology) to match the preconstruction runoff (pre-project hydrology) with the installation of postconstruction stormwater management measures. The NPDES permits emphasize runoff reduction through on-site stormwater use, interception, evapotranspiration, and infiltration through nonstructural controls, such as Low Impact Development (LID) practices, and conversation design measures. Stormwater volume that cannot be addressed using nonstructural practices is required to be captured in structural practices and be approved by the enforcing agency.

Refer to the current applicable permits on the State Water Resources Control Board website at: www.waterboards.ca.gov/constructionstormwater. Consideration to the stormwater runoff management measures should be given during the initial design process for appropriate integration into site development.

5.106.4 BICYCLE PARKING. For buildings within the authority of California Building Standards Commission as specified in Section 103, comply with Section 5.106.4.1. For buildings within the authority of the Division of the State Architect pursuant to Section 105, comply with Section 5.106.4.2

5.106.4.1 Bicycle parking. [BSC-CG] Comply with Sections 5.106.4.1.1 and 5.106.4.1.2; or meet the applicable local ordinance, whichever is stricter.

5.106.4.1.1 Short-term bicycle parking. If the new project or an addition or alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.
Exception: Additions or alterations which add nine or less visitor vehicular parking spaces.

5.106.4.1.2 Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.

5.106.4.1.3 For additions or alterations that add 10 or more tenant-occupant vehicular parking spaces, provide secure bicycle parking for 5 percent of the tenant vehicular parking spaces being added, with a minimum of one bicycle parking facility.

5.106.4.1.4 For new shell buildings in phased projects provide secure bicycle parking for 5 percent of the anticipated tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.

5.106.4.1.5 Acceptable bicycle parking facility for Sections 5.106.4.1.2, 5.106.4.1.3, and 5.106.4.1.4 shall be convenient from the street and shall meet one of the following:

1. Covered, lockable enclosures with permanently anchored racks for bicycles;
2. Lockable bicycle rooms with permanently anchored racks; or
3. Lockable, permanently anchored bicycle lockers.

Note: Additional information on recommended bicycle accommodations may be obtained from Sacramento Area Bicycle Advocates.

5.106.4.2 Bicycle parking. [DSA-SS] For public schools and community colleges, comply with Sections 5.106.4.2.1 and 5.106.4.2.2

5.106.4.2.1 Student bicycle parking. Provide permanently anchored bicycle racks conveniently accessed with a minimum of four two-bike capacity racks per new building.
5.106.4.2.2 Staff bicycle parking. Provide permanent, secure bicycle parking conveniently accessed with a minimum of two staff bicycle parking spaces per new building. Acceptable bicycle parking facilities shall be convenient from the street or staff parking area and shall meet one of the following:

1. Covered, lockable enclosures with permanently anchored racks for bicycles;
2. Lockable bicycle rooms with permanently anchored racks; or
3. Lockable, permanently anchored bicycle lockers.

5.106.5.2 DESIGNATED PARKING FOR CLEAN AIR VEHICLES. In new projects or additions or alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as follows:

TABLE 5.106.5.2 - PARKING

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0-9	0
10/25/2020	1
25-50	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 / VAN POOL / EV

Note: Vehicles bearing Clean Air Vehicle stickers from expired HOV lane programs may be considered eligible for designated parking spaces.

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5.106.5.3 Electric vehicle (EV) charging. [N] Construction shall comply with Section 5.106.5.3.1 or Section 5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE). When EVSE(s) is/are installed, it shall be in accordance with the *California Building Code*, the *California Electrical Code* and as follows:

5.106.5.3.1 Single charging space requirements. [N] When only a single charging space is required per Table 5.106.5.3.3, a raceway is required to be installed at the time of construction and shall be installed in accordance with the *California Electrical Code*. Construction plans and specifications shall include, but are not limited to, the following:

1. The type and location of the EVSE.
2. A listed raceway capable of accommodating a 208/240 -volt dedicated branch circuit.
3. The raceway shall not be less than trade size 1".
4. The raceway shall originate at a service panel or a subpanel serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and listed suitable cabinet, box, enclosure or equivalent.
5. The service panel or subpanel shall have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the future installation of the EVSE.

5.106.5.3.2 Multiple charging space requirements. [N] When multiple charging spaces are required per Table 5.106.5.3.3 raceway(s) is/are required to be installed at the time of construction and shall be installed in accordance with the *California Electrical Code*. Construction plans and specifications shall include, but are not limited to, the following:

1. The type and location of the EVSE.
2. The raceway(s) shall originate at a service panel or a subpanel(s) serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and into listed suitable cabinet(s), box(es), enclosure(s) or equivalent.
3. Plan design shall be based upon 40-ampere minimum branch circuits.
4. Electrical calculations shall substantiate the design of the electrical system, to include the rating of equipment and any on-site distribution transformers and have sufficient capacity to simultaneously charge all required EVs at its full rated amperage.
5. The service panel or subpanel(s) shall have sufficient capacity to accommodate the required number of dedicated branch circuit(s) for the future installation of the EVSE.

5.106.5.3.3 EV charging space calculations. [N] Table 5.106.5.3.3 shall be used to determine if single or multiple charging space requirements apply for the future installation of EVSE.

Exceptions: On a case-by-case basis where the local enforcing agency has determined EV charging and infrastructure is not feasible based upon one or more of the following conditions:

Y | N/A | RESPON. PARTY

1. Where there is insufficient electrical supply.
2. Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.

TABLE 5.106.5.3.3

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED SPACES
0-9	0
10-25	1
26-50	2
51-75	4
76-100	5
101-150	7
151-200	10
201 AND OVER	6% of total[1]

1. Calculation for spaces shall be rounded up to the nearest whole number.

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

5.106.5.3.5 [N] Future charging spaces qualify as designated parking as described in Section 5.106.5.2 Designated parking for clean air vehicles.

5.106.8 LIGHT POLLUTION REDUCTION. [N].I Outdoor lighting systems shall be designed and installed to comply with the following:

1. The minimum requirements in the California Energy Code for Lighting Zones 0-4 as defined in Chapter 10, Section 10-114 of the California Administrative Code; and
2. Backlight (B) ratings as defined in IES TM-15-11 (shown in Table A-1 in Chapter 8);
3. Uplight and Glare ratings as defined in California Energy Code (shown in Tables 130.2-A and 130.2-B in Chapter 8) and
4. Allowable BUG ratings not exceeding those shown in Table 5.106.8. [N] or Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.

Exceptions: [N]

1. Luminaires that qualify as exceptions in Section 140.7 of the California Energy Code.
2. Emergency lighting.
3. Building facade meeting the requirements in Table 140.7-B of the California Energy Code, Part 6.
4. Custom lighting features as allowed by the local enforcing agency, as permitted by Section 101.8 Alternate materials, designs and methods of construction.

Note: [N]
1. See also California Building Code, Chapter 12, Section 1205.6 for college campus lighting requirements for parking facilities and walkways.
2. Refer to Chapter 8 (Compliance Forms, Worksheets and Reference Material) for IES TM-15-11 Table A-1, California Energy Code Tables 130.2-A and 130.2-B.
3. Refer to the California Building Code for requirements for additions and alterations.

TABLE 5.106.8 [N] MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS [1,2]

ALLOWABLE RATING	LIGHTING ZONE LZ0	LIGHTING ZONE LZ1	LIGHTING ZONE LZ2	LIGHTING ZONE LZ3	LIGHTING ZONE LZ4
MAXIMUM ALLOWABLE BACKLIGHT RATING [3]					
Luminaire greater than 2 mounting heights (MH) from property line	N/A	No Limit	No Limit	No Limit	No Limit
Luminaire back hemisphere is 1-2 MH from property line	N/A	B2	B3	B4	B4
Luminaire back hemisphere is 0.5-1 MH from property line	N/A	B1	B2	B3	B3
Luminaire back hemisphere is less than 0.5 MH from property line	N/A	B0	B0	B1	B2
MAXIMUM ALLOWABLE UPLIGHT RATING (U)					
For area lighting [4]	N/A	U0	U0	U0	U0
For all other outdoor lighting,including decorative luminaires	N/A	U1	U2	U3	UR
MAXIMUM ALLOWABLE GLARE RATING [5] **(G)**					
Luminaire greater than 2 MH from property line	N/A	G1	G2	G3	G4
Luminaire front hemisphere is 1-2 MH from property line	N/A	G0	G1	G1	G2
Luminaire front hemisphere is 0.5-1 MH from property line	N/A	G0	G0	G1	G1
Luminaire back hemisphere is less than 0.5 MH from property line	N/A	G0	G0	G0	G1

1. IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in the *California Energy Code* and Chapter 10 of the *California Administrative Code*.
2. For property lines that abut public walkways, bikeways, plazas and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public transit corridor for the purpose of determining compliance with this section.
3. If the nearest property line is less than or equal to two mounting heights from the back hemisphere of the luminaire distribution, the applicable reduced Backlight rating shall be met.
4. General lighting luminaires in areas such as outdoor parking, sales or storage lots shall meet these reduced ratings. Decorative luminaires located in these areas shall meet *U*-value limits for "all other outdoor lighting".
5. If the nearest property line is less than or equal to two mounting heights from the front hemisphere of the luminaire distribution, the applicable reduced Glare rating shall be met.

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

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

Exception: Additions and alterations not altering the drainage path.

Y | N/A | RESPON. PARTY

5.106.12 SHADE TREES [DSA-SS]. Shade Trees shall be planted to comply with Sections 5.106.12.1, 5.106.12.2, and 5.106.12.3. Percentages shown shall be measured at noon on the summer solstice. Landscape irrigation necessary to establish and maintain tree health shall comply with Section 5.304.6.

5.106.12.1 Surface parking areas. Shade tree plantings, minimum #10 container size or equal, shall be installed to provide shade over 50 percent of the parking area within 15 years.

Exceptions: The surface parking area covered by solar photovoltaic shade structures, or shade structures, with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5, are not included in the total area calculations.

5.106.12.2 Landscape areas. Shade tress plantings, minimum #10 container size or equal shall be installed to provide shade of 20% of the landscape area within 15 years.

Exceptions: Playfields for organized sport activity are not included in the total area calculation.

5.106.12.3. Hardscape areas. Shade tree plantings, minimum #10 container size or equal shall be installed to provide shade over 20 percent of the hardscape area within 15 years.

Exceptions: Walks, hardscape areas covered by solar photovoltaic shade structures, and hardscape areas covered by shade structures with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5, are not included in the total area calculation.

DIVISION 5.2 ENERGY EFFICIENCY

SECTION 5.201 GENERAL

5.201.1 Scope [BSC-CG]. *California Energy Code [DSA-SS].* For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.

DIVISION 5.3 WATER EFFICIENCY AND CONSERVATION

SECTION 5.301 GENERAL

5.301.1 Scope. The provisions of this chapter shall establish the means of conserving water use indoors, outdoors and in wastewater conveyance.

SECTION 5.302 DEFINITIONS

5.302.1 Definitions. The following terms are defined in Chapter 2 *(and are included here for reference)*

EVAPOTRANSPIRATION ADJUSTMENT FACTOR (ETAF) [DSA-SS]. An adjustment factor when applied to reference evapotranspiration that adjusts for plant factors and irrigation efficiency, which ae two major influences on the amount of water that needs to be applied to the landscape.

FOOTPRINT AREA [DSA-SS]. The total area of the furthest exterior wall of the structure projected to natural grade, not including exterior areas such as stairs, covered walkways, patios and decks.

METERING FAUCET. A self-closing faucet that dispenses a specific volume of water for each actuation cycle. The volume or cycle duration can be fixed or adjustable.

GRAYWATER. Pursuant to Health and Safety Code Section 17922.12, "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Graywater" includes, but is not limited to wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines and laundry tubs, but does not include waste water from kitchen sinks or dishwashers.

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO). The California ordinance regulating landscape design, installation and maintenance practices that will ensure commercial, multifamily and other developer installed landscapes greater than 2500 square feet meet an irrigation water budget developed based on landscaped area and climatological parameters.

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO). [HCD] The California model ordinance (California Code of Regulations, Title 23, Division 2, Chapter 2.7), regulating landscape design, installation and maintenance practices. Local agencies are required to adopt the updated MWELO, or adopt a local ordinance at least as effective as the MWELO.

POTABLE WATER. Water that is drinkable and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards. See definition in the California Plumbing Code, Part 5.

POTABLE WATER. [HCD] Water that is satisfactory for drinking, culinary, and domestic purposes, and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards and the requirements of the Health Authority Having Jurisdiction.

RECYCLED WATER. Water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur [Water Code Section 13050 (n)]. Simply put, recycled water is water treated to remove waste matter attaining a quality that is suitable to use the water again.

SUBMETER. A meter installed subordinate to a site meter. Usually used to measure water intended for one purpose, such as landscape irrigation. For the purposes of CALGreen, a dedicated meter may be considered a submeter.

WATER BUDGET. Is the estimated total landscape irrigation water use which shall not exceed the maximum applied water allowance calculated in accordance with the Department of Water Resources Model Efficient Landscape Ordinance (MWELO).

SECTION 5.303 INDOOR WATER USE

5.303.1 METERS. Separate submeters or metering devices shall be installed for the uses described in Sections 503.1.1 and 503.1.2.

5.303.1.1 Buildings in excess of 50,000 square feet. Separate submeters shall be installed as follows:

1. For each individual leased, rented or other tenant space within the building projected to consume more than 100 gal/day (380 L/day), including, but not limited to, spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop.
2. Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems:
   a. Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s).
   b. Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s).
   c. Steam and hot water boilers with energy input more than 500,000 Btu/h (147 kW).

5.303.1.2 Excess consumption. A separate submeter or metering device shall be provided for any tenant within a new building or within an addition that is projected to consume more than 1,000 gal/day.

5.303.3 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:

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

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

5.303.3.2 Urinals.
5.303.3.2.1 Wall-mounted Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush.

5.303.3.2.2 Floor-mounted Urinals. The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush.

5.303.3.3 Showerheads. [BSC-CG]
5.303.3.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

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

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Date: AUGUST 06, 2020
Scale:

DRAWING TITLE: 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE1

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No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE
NONRESIDENTIAL MANDATORY MEASURES, SHEET 2 (January 2020, Includes August 2019 Supplement)

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

5.303.3.4 Faucets and fountains.

5.303.3.4.1 Nonresidential Lavatory faucets. Lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi.

5.303.3.4.2 Kitchen faucets. Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.

5.303.3.4.3 Wash fountains. Wash fountains shall have a maximum flow rate of not more than1.8 gallons per minute/20 [rim space (inches) at 60 psi].

5.303.3.4.4 Metering faucets. Metering faucets shall not deliver more than 0.20 gallons per cycle.

5.303.3.4.5 Metering faucets for wash fountains. Metering faucets for wash fountains shall have a maximum flow rate of not more than 0.20 gallons per minute/20 [rim space (inches) at 60 psi].

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

5.303.4 COMMERCIAL KITCHEN EQUIPMENT.

5.303.4.1 Food Waste Disposers. Disposers shall either modulate the use of water to no more than 1 gpm when the disposer is not in use (not actively grinding food waste/no-load) or shall automatically shut off after no more than 10 minutes of inactivity. Disposers shall use no more than 8 gpm of water.
Note: This code section does not affect local jurisdiction authority to prohibit or require disposer installation.

5.303.5 AREAS OF ADDITION OR ALTERATION. For those occupancies within the authority of the California Building Standards Commission as specified in Section 103, the provisions of Section 5.303.3 and 5.303.4 shall apply to new fixtures in additions or areas of alteration to the building.

5.303.6 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures and fittings shall be installed in accordance with the *California Plumbing Code*, and shall meet the applicable standards referenced in Table 1701.1 of the *California Plumbing Code* and in Chapter 6 of this code.

SECTION 5.304 OUTDOOR WATER USE

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

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

5.304.6 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. For public schools and community colleges, landscape projects as described in Sections 5.304.6.1 and 5.304.6.2 shall comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO) commencing with Section 490 of Chapter 2.7, Division 2, Title 23, California Code of Regulations, except that the evapotranspiration adjustment factor (ETAF) shall be 0.65 with an additional water allowance for special landscape areas (SLA) of 0.35.

Exception: Any project with an aggregate landscape area of 2,500 square feet or less may comply with the prescriptive measures contained in Appendix D of the MWELO.

5.304.6.1 Newly constructed landscapes. New construction projects with an aggregate landscape area equal to or greater than 500 square feet.

5.304.6.2 Rehabilitated landscapes. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 1,200 square feet.

DIVISION 5.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

SECTION 5.401 GENERAL

5.401.1 SCOPE. The provisions of this chapter shall outline means of achieving material conservation and resource efficiency through protection of buildings from exterior moisture, construction waste diversion, employment of techniques to reduce pollution through recycling of materials, and building commissioning or testing and adjusting.

SECTION 5.402 DEFINITIONS

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

ADJUST. To regulate fluid flow rate and air patterns at the terminal equipment, such as to reduce fan speed or adjust a damper.

BALANCE. To proportion flows within the distribution system, including sub-mains, branches and terminals, according to design quantities.

BUILDING COMMISSIONING. A systematic quality assurance process that spans the entire design and construction process, including verifying and documenting that building systems and components are planned, designed, installed, tested, operated and maintained to meet the owner's project requirements.

ORGANIC WASTE. Food waste, green waste, landscape and pruning wste, nonhazardous wood waste, and food soilled paper waste that is mixed in with food waste.

TEST. A procedure to determine quantitative performance of a system or equipment

SECTION 5.407 WATER 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 1402.2 (Weather Protection), 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. Design and maintain landscape irrigation systems to prevent spray on structures.

5.407.2.2 Entries and openings. Design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings as follows:

5.407.2.2.1 Exterior door protection. Primary exterior entries shall be covered to prevent water intrusion by using nonabsorbent floor and wall finishes within at least 2 feet around and perpendicular to such openings plus at least one of the following:

1. An installed awning at least 4 feet in depth.
2. The door is protected by a roof overhang at least 4 feet in depth.
3. The door is recessed at least 4 feet.
4. Other methods which provide equivalent protection.

5.407.2.2.2 Flashing. Install flashings integrated with a drainage plane.

SECTION 5.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

5.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65% of the non-hazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.

5.408.1.1 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan that:

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

5.408.1.2 Waste Management Company. Utilize a waste management company that can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with this section.

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

Exceptions to Sections 5.408.1.1 and 5.408.1.2:

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.
3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities and markets.

5.408.1.3 Waste stream reduction alternative. The combined weight of new construction disposal that does not exceed two pounds per square foot of building area may be deemed to meet the 65% minimum requirement as approved by the enforcing agency.

5.408.1.4 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Sections 5.408.1.1, through 5.408.1.3. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.

Notes:

1. Sample forms found in "A Guide to the California Green Building Standards Code (Nonresidential)" located at www.bsc.ca.gov/Home/CALGreen.aspx may be used to assist in documenting compliance with the waste management plan.
2. Mixed construction and demolition debris processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

5.408.2 UNIVERSAL WASTE. [A] Additions and alterations to a building or tenant space that meet the scoping provisions in Section 301.3 for nonresidential additions and alterations, shall require verification that Universal Waste items such as fluorescent lamps and ballast and mercury containing thermostats as well as other California prohibited Universal Waste materials are disposed of properly and are diverted from landfills. A list of prohibited Universal Waste materials shall be included in the construction documents.

Note: Refer to the Universal Waste Rule link at: http://www.dtsc.ca.gov/LawsRegsPolicies/Regs/upload/OEAR-A_REGS_UWR_FinalText.pdf

5.408.3 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. For a phased project, such material may be stockpiled on site until the storage site is developed.

Exception: Reuse, either on or off-site, of vegetation or soil contaminated by disease or pest infestation.

Notes:

1. If contamination by disease or pest infestation is suspected, contact the County Agricultural Commissioner and follow its direction for recycling or disposal of the material.
2. For a map of know pest and/or disease quarantine zones, consult with the California Department of Food and Agriculture. (www.cdfa.ca.gov)

SECTION 5.410 BUILDING MAINTENANCE AND OPERATIONS

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 non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive.

Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code 42649.82 (a)(2)(A) et seq. shall also be exempt from the organic waste portion of this section.

5.410.1.1 Additions. All additions conducted within a 12-month period under single or multiple permits, resulting in an increase of 30% or more in floor area, shall provide recycling areas on site.

Exception: Additions within a tenant space resulting in less than a 30% increase in the tenant space floor area.

5.410.1.2 Sample ordinance. Space allocation for recycling areas shall comply with Chapter 18, Part 3, Division 30 of the *Public Resources Code*. Chapter 18 is known as the California Solid Waste Reuse and Recycling Access Act of 1991 (Act).

Note: A sample ordinance for use by local agencies may be found in Appendix A of the document at the CalRecycle's web site.

5.410.2 COMMISSIONING. [N] New buildings 10,000 square feet and over. For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity. For I-occupancies that are not regulated by OSHPD or for I-occupancies and L-occupancies that are not regulated y the California Energy Code Section 100.0 Scope, all requirements in Sections 5.410.2 through 5.410.2.6 shall apply.

Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting systems and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements

Commissioning requirements shall include:

1. Owner's or Owner representative's project requirements.
2. Basis of design.
3. Commissioning measures shown in the construction documents.
4. Commissioning plan.
5. Functional performance testing.
6. Documentation and training.
7. Commissioning report.

Exceptions:

1. Unconditioned warehouses of any size.
2. Areas less than 10,000 square feet used for offices or other conditioned accessory spaces within unconditioned warehouses.
3. Tenant improvements less than 10,000 square feet as described in Section 303.1.1.
4. Open parking garages of any size, or open parking garage areas, of any size, within a structure.

Note: For the purposes of this section, unconditioned shall mean a building, area, or room which does not provide heating and or air conditioning.

Informational Notes:

1. IAS *AC 476* is an accreditation criteria for organizations providing training and/or certification of commissioning personnel. *AC 476* is available to the Authority Having Jurisdiction as a reference for qualifications of commissioning personnel. AC 476 des not certify individuals to conduct functional performance tests or to adjust and balance systems.

2. Functional performance testing for heating, ventilation, air conditioning systems and lighting controls must be performed in compliance with the *California Energy Code*.

5.410.2.1 Owner's or Owner Representative's Project Requirements (OPR). [N] The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins. This documentation shall include the following:
1. Environmental and sustainability goals.
2. Building sustainable goals.
3. Indoor environmental quality requirements.
4. Project program, including facility functions and hours of operation, and need for after hours operation.
5. Equipment and systems expectations.
6. Building occupant and operation and maintenance (O&M) personnel expectations.

5.410.2.2 Basis of Design (BOD). [N] 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. The Basis of Design document shall cover the following systems:

1. Renewable energy systems.
2. Landscape irrigation systems.
3. Water reuse system.

5.410.2.3 Commissioning plan. [N] Prior to permit issuance a commissioning plan shall be completed to document how the project will be commissioned. The commissioning plan shall include the following:
1. General project information.
2. Commissioning goals.
3. Systems to be commissioned. Plans to test systems and components shall include:
   a. An explanation of the original design intent.
   b. Equipment and systems to be tested, including the extent of tests.
   c. Functions to be tested.
   d. Conditions under which the test shall be performed.
   e. Measurable criteria for acceptable performance.
4. Commissioning team information.
5. Commissioning process activities, schedules and responsibilities. Plans for the completion of commissioning shall be included.

5.410.2.4 Functional performance testing. [N] Functional performance tests shall demonstrate the correct installation and operation of each component, system and system-to-system interface in accordance with the approved plans and specifications. Functional performance testing reports shall contain information addressing each of the building components tested, the testing methods utilized, and include any readings and adjustments made.

5.410.2.5 Documentation and training. [N] A Systems Manual and Systems Operations Training are required, including Occupational Safety and Health Act (OSHA) requirements in *California Code of Regulations* (CCR), Title 8, Section 5142, and other related regulations.

5.410.2.5.1 Systems manual. [N] Documentation of the operational aspects of the building shall be completed within the systems manual and delivered to the building owner or representative. The systems manual shall include the following:
1. Site information, including facility description, history and current requirements.
2. Site contact information.
3. Basic operations and maintenance, including general site operating procedures, basic troubleshooting, recommended maintenance requirements, site events log.
4. Major systems.
5. Site equipment inventory and maintenance notes.
6. A copy of verifications required by the enforcing agency or this code.
7. Other resources and documentation, if applicable.

5.410.2.5.2 Systems operations training. [N] A program for training of the appropriate maintenance staff for each equipment type and/or system shall be developed and documented in the commissioning report and shall include the following:
1. System/equipment overview (what it is, what it does and with what other systems and/or equipment it interfaces).
2. Review and demonstration of servicing/preventive maintenance.
3. Review of the information in the Systems Manual.
4. Review of the record drawings on the system/equipment.

5.410.2.6 Commissioning report. [N] A report of commissioning process activities undertaken through the design and construction phases of the building project shall be completed and provided to the owner or representative.

5.410.4 TESTING AND ADJUSTING. New buildings less than 10,000 square feet. Testing and adjusting of systems shall be required for new buildings less than 10,000 square feet or new systems to serve an addition or alteration subject to Section 303.1.

5.410.4.2 (Reserved)

Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting system and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements and Sections 120.5, 120.6, 130.4, and 140.9(b)3 for additional testing requirements of specific systems.

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 at a minimum, as applicable to the project:

1. Renewable energy systems.
2. Landscape irrigation systems.
3. Water reuse systems.

5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with manufacturer's specifications and applicable standards on each system.

5.410.4.3.1 HVAC balancing. In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, the system shall be balanced in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards; the National Environmental Balancing Bureau Procedural Standards; Associated Air Balance Council National Standards or as approved by the enforcing agency.

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 (O & M) manual. Provide the building owner or representative with detailed operating and maintenance instructions and copies of guaranties/warranties for each system. O & M instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142, and other related regulations.

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

DIVISION 5.5 ENVIRONMENTAL QUALITY

SECTION 5.501 GENERAL

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

SECTION 5.502 DEFINITIONS

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

ARTERIAL HIGHWAY. A general term denoting a highway primarily for through traffic usually on a continuous route.

A-WEIGHTED SOUND LEVEL (dBA). The sound pressure level in decibels as measured on a sound level meter using the internationally standardized A-weighting filter or as computed from sound spectral data to which A-weighting adjustments have been made.

1 BTU/HOUR. British thermal units per hour, also referred to as Btu. The amount of heat required to raise one pound of water one degree Fahrenheit per hour, a common measure of heat transfer rate. A ton of refrigeration is 12,000 Btu, the amount of heat required to melt a ton (2,000 pounds) of ice at 32^{0} Fahrenheit.

COMMUNITY NOISE EQUIVALENT LEVEL (CNEL). A metric similar to the day-night average sound level (Ldn), except that a 5 decibel adjustment is added to the equivalent continuous sound exposure level for evening hours (7pm to 10pm) in addition to the 10 dB nighttime adjustment used in the Ldn.

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

Note: See CCR, Title 17, Section 93120.1.

DAY-NIGHT AVERAGE SOUND LEVEL (Ldn). The A-weighted equivalent continuous sound exposure level for a 24-hour period with a 10 dB adjustment added to sound levels occurring during nighttime hours (10p.m. to 7 a.m.).

DECIBEL (db). A measure on a logarithmic scale of the magnitude of a particular quantity (such as sound pressure, sound power, sound intensity) with respect to a reference quantity.

ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are considered electric vehicles. For purposes of the *California Electrical Code*, off-road, self-propelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not included.

ELECTRIC VEHICLE CHARGING STATION(S) (EVCS)j. One or more spaces intended for charging electric vehicles.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). The conductors, including the ungrounded, grounded, and equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

ENERGY EQUIVALENT (NOISE) LEVEL (Leq). The level of a steady noise which would have the same energy as the fluctuating noise level integrated over the time of period of interest.

EXPRESSWAY. An arterial highway for through traffic which may have partial control of access, but which may or may not be divided or have grade separations at intersections.

FREEWAY. A divided arterial highway with full control of access and with grade separations at intersections.

GLOBAL WARMING POTENTIAL (GWP). The radiative forcing impact of one mass-based unit of a given greenhouse gas relative to an equivalent unit of carbon dioxide over a given period of time. Carbon dioxide is the reference compound with a GWP of one.

GLOBAL WARMING POTENTIAL VALUE (GWP VALUE). A 100-year GWP value published by the Intergovernmental Panel on Climate Change (IPCC) in either its Second Assessment Report (SAR) (IPCC, 1995); or its Fourth Assessment A-3 Report (AR4) (IPCC, 2007). The SAR GWP values are found in column "SAR (100-yr)" of Table 2.14.; the AR4 GWP values are found in column "100 yr" of Table 2.14.

HIGH-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that is: (a) a chlorofluorocarbon, a hdrochlorofluorocarbon, a hydrofluorocarbon, a perfluorocarbon, or any compound or blend of compounds, with a GWP value equal to or greater than 150, or (B) any ozone depleting substance as defined in Title 40 of the Code of Federal Regulations, Part 82, sec.82.3 (as amended March 10, 2009)**.**

LONG RADIUS ELBOW. Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.5 times the pipe diameter.

LOW-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that: (A) has a GWP value less than 150, and (B) is not an ozone depleting substance as defined in Title 40 of the Code of Federal Regulations, Part 82, sec.82.3 (as amended March 10, 2009).

MERV. Filter minimum efficiency reporting value, based on ASHRAE 52.2–1999.

MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base REactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundreths of a gram (g O^{3}g ROC).

PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).

PSIG. Pounds per square inch, guage.

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

SCHRADER ACCESS VALVES. Access fittings with a valve core installed.

SHORT RADIUS ELBOW. Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.0 times the pipe diameter.

SUPERMARKET. For the purposes of Section 5.508.2, a supermarket is any retail food facility with 8,000 square feet or more conditioned area, and that utilizes either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units.

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

Note: Where specific regulations are cited from different agencies such as SCAQMD, ARB, etc., the VOC definition included in that specific regulation is the one that prevails for the specific measure in question.

SECTION 5.503 FIREPLACES

5.503.1 FIREPLACES. Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove or pellet stove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. Woodstoves, pellet stoves and fireplaces shall comply with applicable local ordinances.

5.503.1.1 Woodstoves. Woodstoves and pellet stoves shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits.

SECTION 5.504 POLLUTANT CONTROL

5.504.1 TEMPORARY VENTILATION. The permanent HVAC system shall only be used during construction if necessary to condition the building or areas of addition or alteration within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.1-1992 Replace all filters immediately prior to occupancy, or, if the building is occupied during alteration, at the conclusion of construction.

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

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Date: AUGUST 06, 2020
Scale:

DRAWING TITLE: 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE 2

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No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE
NONRESIDENTIAL MANDATORY MEASURES, SHEET 3 (January 2020, Includes August 2019 Supplement)

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

5.504.4 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.6.

5.504.4.1 Adhesives, sealants and caulks. Adhesives, sealants, and caulks 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. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products as specified in subsection 2, below.

2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 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.

TABLE 5.504.4.1 - ADHESIVE VOC LIMIT[1,2]

Less Water and Less Exempt Compounds in Grams per Liter

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

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

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168, www.arb.ca.gov/DRDB/SC/CURHTML/R1168.PDF

TABLE 5.504.4.2 - SEALANT VOC LIMIT

Less Water and Less Exempt Compounds in Grams per Liter

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

NOTE: FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THESE TABLES, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in Subsections 4.21, 4.36 and 4.37 of the 2007 California Air Resources Board Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.

5.504.4.3.1 Aerosol Paints and coatings. Aerosol paints and coatings shall meet the PWMIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(c)(2) and (d)(2) of *California Code of Regulations*, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49.

TABLE 5.504.4.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2,3]

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

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

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

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

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

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

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

5.504.4.4 Carpet Systems. All carpet installed in the building interior shall meet at least one of the testing and product requirements:

1. Carpet and Rug Institute's Green Label Plus Program.
2. Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1, February 2010 (also known as CDPH Standard Method V1.1 or Specification 01350).
3. NSF/ANSI 140 at the Gold level or higher;
4. Scientific Certifications Systems Sustainable Choice; or
5. Compliant with the Collaborative for High Performance Schools California (2014 CA-CHPS) Criteria listed in the CHPS High Performance Product Database.

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 adhesive. All carpet adhesive shall meet the requirements of Table 5.504.4.1.

5.504.4.5 Composite wood products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure (ATCM) for Composite Wood (17 CCR 93120 et seq.). Those materials not exempted under the ATCM must meet the specified emission limits, as shown in Table 5.504.4.5.

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

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

TABLE 5.504.4.5 - FORMALDEHYDE LIMITS[1]

MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION

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

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

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

5.504.4.6 Resilient flooring systems. For 80 percent of floor area receiving resilient flooring, installed resilient flooring shall meet at least one of the following:

1. Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program;
2. Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health's 2010 Standard Method for the Testing and Evaluation Chambers, Version 1.1, February 2010;
3. Compliant with the Collaborative for High Performance Schools California (2014 CA-CHPS) Criteria and listed in the CHPS High Performance Product Database; or
4. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children's & Schools Program).

5.504.4.6.1 Verification of compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.

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 that provides at least a Minimum Efficiency Reporting Value (MERV) of 13. MERV 13 filters shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

Exceptions: Existing mechanical equipment.

5.504.5.3.1 Labeling. Installed filters shall be clearly labeled by the manufacturer indicating the MERV rating.

5.504.7 ENVIRONMENTAL TOBACCO SMOKE (ETS) CONTROL. Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and within the building as already prohibited by other laws or regulations; or as enforced by ordinances, regulations or policies of any city, county, city and county, California Community College, campus of the California State University, or campus of the University of California, whichever are more stringent. When ordinances, regulations or policies are not in place, post signage to inform building occupants of the prohibitions.

SECTION 5.505 INDOOR MOISTURE CONTROL

5.505.1 INDOOR MOISTURE CONTROL. Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1202 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures, see Section 5.407.2 of this code.

SECTION 5.506 INDOOR AIR QUALITY

5.506.1 OUTSIDE AIR DELIVERY. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 (Requirements For Ventilation) of the *California Energy Code*, or the applicable local code, whichever is more stringent, and Division 1, Chapter 4 of CCR, Title 8.

5.506.2 CARBON DIOXIDE (CO_2) MONITORING. For buildings or additions equipped with demand control ventilation, CO_2 sensors and ventilation controls shall be specified and installed in accordance with the requirements of the California Energy Code, Section 120(c)(4).

SECTION 5.507 ENVIRONMENTAL COMFORT

5.507.4 ACOUSTICAL CONTROL. Employ building assemblies and components with Sound Transmission Class (STC) values determined in accordance with ASTM E 90 and ASTM E 413, or Outdoor-Indoor Sound Transmission Class (OITC) determined in accordance with ASTM E 1332, using either the prescriptive or performance method in Section 5.507.4.1 or 5.507.4.2.

Exception: Buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings.

Exception: [DSA-SS] For public schools and community colleges, the requirements of this section and all subsections apply only to new construction.

5.507.4.1 Exterior noise transmission, prescriptive method. Wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:

1. Within the 65 CNEL noise contour of an airport.

   Exceptions:

   1. L_{dn} or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone (AICUZ) plan.
   2. L_{dn} or CNEL for other airports and heliports for which a land use plan has not been developed shall be determined by the local general plan noise element.

2. Within the 65 CNEL or L_{dn} noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway source as determined by the Noise Element of the General Plan.

5.507.4.1.1. Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB L_{eq} -1-hr during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30).

5.507.4.2 Performance Method. For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq-1Hr) of 50 dBA in occupied areas during any hour of operation.

5.507.4.2.1 Site Features. Exterior features such as sound walls or earth berms may be utilized as appropriate to the building, addition or alteration project to mitigate sound migration to the interior.

5.507.4.2.2 Documentation of Compliance. An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.

5.507.4.3 Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.

Note: Examples of assemblies and their various STC ratings may be found at the California Office of Noise Control: www.toolbase.org/PDF/CaseStudies/stc_icc_ratings.pdf.

SECTION 5.508 OUTDOOR AIR QUALITY

5.508.1 Ozone depletion and greenhouse gas reductions. Installations of HVAC, refrigeration and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.

5.508.1.1 Chlorofluorocarbons (CFCs). Install HVAC, refrigeration and fire suppression equipment that do not contain CFCs.

5.508.1.2 Halons. Install HVAC, refrigeration and fire suppression equipment that do not contain Halons.

5.508.2 Supermarket refrigerant leak reduction. New commercial refrigeration systems shall comply with the provisions of this section when installed in retail food stores 8,000 square feet or more conditioned area, and that utilize either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units. The leak reduction measures apply to refrigeration systems containing high-global-warming potential (high-GWP) refrigerants with a GWP of 150 or greater. New refrigeration systems include both new facilities and the replacement of existing refrigeration systems in existing facilities.

Exception: Refrigeration systems containing low-global warming potential (low-GWP) refrigerant with a GWP value less than 150 are not subject to this section. Low-GWP refrigerants are nonozone-depleting refrigerants that include ammonia, carbon dioxide (CO_2), and potentially other refrigerants.

5.508.2.1 Refrigerant piping. Piping compliant with the California Mechanical Code shall be installed to be accessible for leak protection and repairs. Piping runs using threaded pipe, copper tubing with an outside diameter (OD) less than 1/4 inch, flared tubing connections and short radius elbows shall not be used in refrigerant systems except as noted below.

5.508.2.1.1 Threaded pipe. Threaded connections are permitted at the compressor rack.

5.508.2.1.2 Copper pipe. Copper tubing with an OD less than 1/4 inch may be used in systems with a refrigerant charge of 5 pounds or less.

5.508.2.1.2.1 Anchorage. One-fouth-inch OD tubing shall be securely clamped to a rigid base to keep vibration levels below 8 mils.

5.508.2.1.3 Flared tubing connections. Double-flared tubing connections may be used for pressure controls, valve pilot lines and oil.

Exception: Single-flared tubing connections may be used with a multiring seal coated with industrial sealant suitable for use with refrigerants and tightened in accordance with manufacturer's recommendations.

5.508.2.1.4 Elbows. Short radius elbows are only permitted where space limitations prohibit use of long radius elbows.

5.508.2.2 Valves. Valves Valves and fittings shall comply with the *California Mechanical Code* and as follows.

5.508.2.2.1 Pressure relief valves. For vessels containing high-GWP refrigerant, a rupture disc shall be installed between the outlet of the vessel and the inlet of the pressure relief valve.

5.508.2.2.1.1 Pressure detection. A pressure gauge, pressure transducer or other device shall be installed in the space between the rupture disc and the relief valve inlet to indicate a disc rupture or discharge of the relief valve.

5.508.2.2.2 Access valves. Only Schrader access valves with a brass or steel body are permitted for use.

5.508.2.2.2.1 Valve caps. For systems with a refrigerant charge of 5 pounds or more, valve caps shall be brass or steel and not plastic.

5.508.2.2.2.2 Seal caps. If designed for it, the cap shall have a neoprene O-ring in place.

5.508.2.2.2.2.1 Chain tethers. Chain tethers to fit ovr the stem are required for valves designed to have seal caps.

Exception: Valves with seal caps that are not removed from the valve during stem operation.

5.508.2.3 Refrigerated service cases. Refrigerated service cases holding food products containing vinegar and salt shall have evaporator coils of corrosion-resistant material, such as stainless steel; or be coated to prevent corrosion from these substances.

5.508.2.3.1 Coil coating. Consideration shall be given to the heat transfer efficiency of coil coating to maximize energy efficiency.

5.508.2.4 Refrigerant receivers. Refrigerant receivers with capacities greater than 200 pounds shall be fitted with a device tha indicates the level of refrigerant in the receiver.

5.508.2.5 Pressure testing. The system shall be pressure tested during installation prior to evacuation and charging.

5.508.2.5.1 Minimum pressure. The system shall be charged with regulated dry nitrogen and appropriate tracer gas to bring system pressure up to 300 psig minimum.

5.508.2.5.2 Leaks. Check the system for leaks, repair any leaks, and retest for pressure using the same gauge.

5.508.2.5.3 Allowable pressure change. The system shall stand, unaltered, for 24 hours with no more than a +/- one pound pressure change from 300 psig, measured with the same gauge.

5.508.2.6 Evacuation. The system shall be evacuated after pressure testing and prior to charging.

5.508.2.6.1 First vacuum. Pull a system vacuum down to at least 1000 microns (+/- 50 microns), and hold for 30 minutes.

5.508.2.6.2 Second vacuum. Pull a second system vacuum to a minimum of 500 microns and hold for 30 minutes.

5.508.2.6.3 Third vacuum. Pull a third vacuum down to a minimum of 300 microns, and hold for 24 hours with a maximum drift of 100 microns over a 24-hour period.

CHAPTER 7
INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

702 QUALIFICATIONS

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

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

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

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

Notes:

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

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

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

703 VERIFICATIONS

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

REGISTERED PROFESSIONAL ENGINEER
BARRETT CROUCH
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Exp. 12-31-2021
8-12-2020
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1	ISSUED FOR PLANNING APPROVAL	

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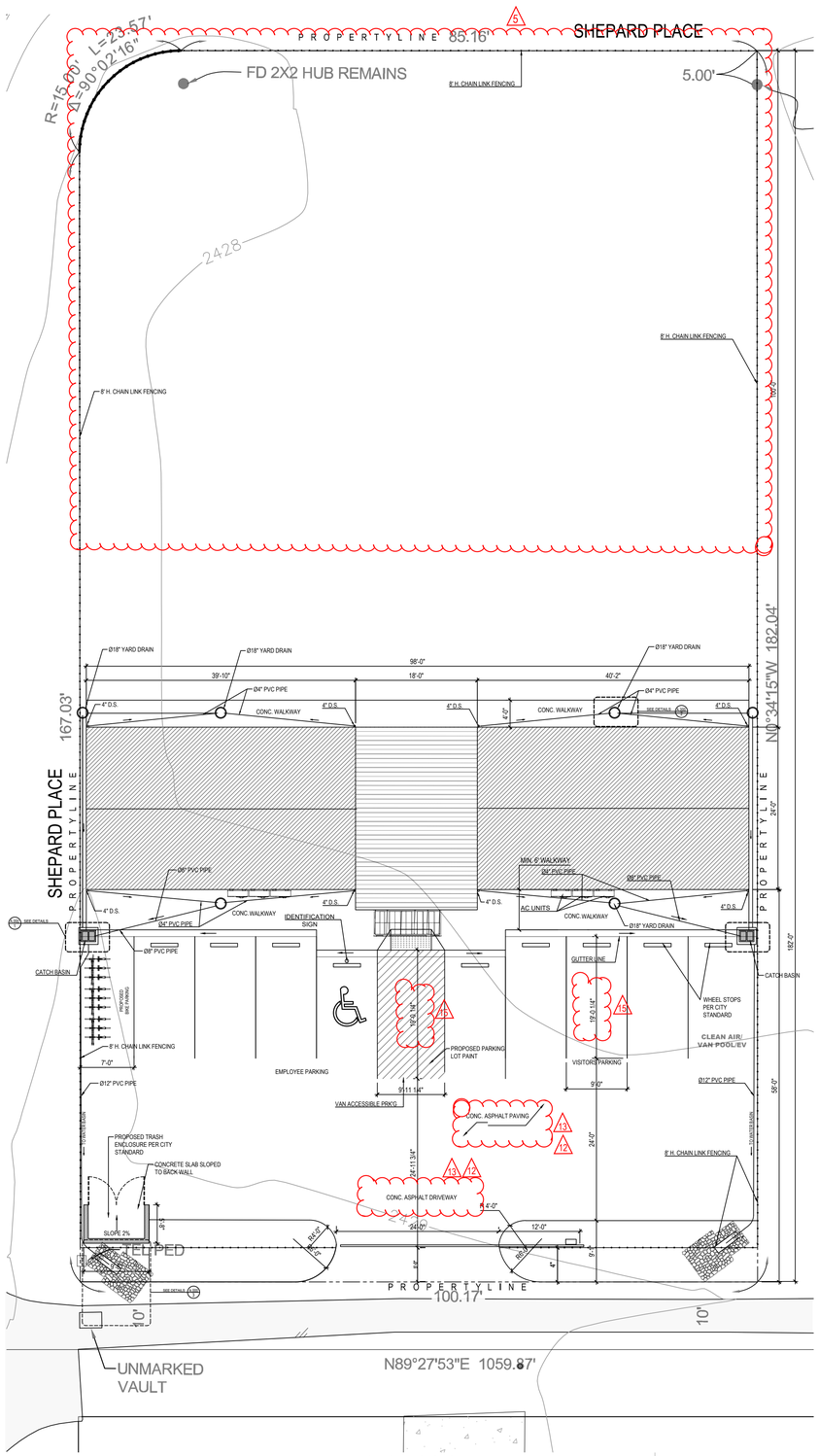


1 PROPOSED SITE PLAN

Scale: 1"= 10'-0"

CONSTRUCTION SAFEGUARDS

3302.1 Remodeling and additions.
Required exits, existing structural elements, fire protection devices and sanitary safeguards shall be maintained at all times during remodeling, alterations, repairs or additions to any building or structure.
Exceptions:
1. When such required elements or devices are being remodeled, altered or repaired, adequate substitute provisions shall be made.
2. When the existing building is not occupied.

3302.2 Manner of removal.
Waste materials shall be removed in a manner which prevents injury or damage to persons, adjoining properties and public rights-of-way.

SECTION 3303
DEMOLITION

3303.1 Construction documents.
Construction documents and a schedule for demolition must be submitted when required by the building official. Where such information is required, no work shall be done until such construction documents or schedule, or both, are approved.

3303.2 Pedestrian protection.
The work of demolishing any building shall not be commenced until pedestrian protection is in place as required by this chapter.

3303.3 Means of egress.
A party wall balcony or horizontal exit shall not be destroyed unless and until a substitute means of egress has been provided and approved.

3303.4 Vacant lot.
Where a structure has been demolished or removed, the vacant lot shall be filled and maintained to the existing grade or in accordance with the ordinances of the jurisdiction having authority.

3303.5 Water accumulation.
Provision shall be made to prevent the accumulation of water or damage to any foundations on the premises or the adjoining property.

3303.6 Utility connections.
Service utility connections shall be discontinued and capped in accordance with the approved rules and the requirements of the authority having jurisdiction.

SECTION 3304
SITE WORK

3304.1 Excavation and fill.
Excavation and fill for buildings and structures shall be constructed or protected so as not to endanger life or property. Stumps and roots shall be removed from the soil to a depth of at least 12 inches (305 mm) below the surface of the ground in the area to be occupied by the building. Wood forms which have been used in placing concrete, if within the ground or between foundation sills and the ground, shall be removed before a building is occupied or used for any purpose. Before completion, loose or casual wood shall be removed from direct contact with the ground under the building.

3304.1.1 Slope limits.
Slopes for permanent fill shall not be steeper than one unit vertical in two units horizontal (50-percent slope). Cut slopes for permanent excavations shall not be steeper than one unit vertical in two units horizontal (50-percent slope). Deviation from the foregoing limitations for cut slopes shall be permitted only upon the presentation of a soil investigation report acceptable to the building official.

3304.1.2 Surcharge.
No fill or other surcharge loads shall be placed adjacent to any building or structure unless such building or structure is capable of withstanding the additional loads caused by the fill or surcharge. Existing footings or foundations which can be affected by any excavation shall be underpinned adequately or otherwise protected against settlement and shall be protected against later movement.

3304.1.3 Footings on adjacent slopes.
For footings on adjacent slopes, see Chapter 18.

3304.1.4 Fill supporting foundations.
Fill to be used to support the foundations of any building or structure shall comply with Section 1803.5. Special inspections of compacted fill shall be in accordance with Section 1704.7.

SECTION 3305
SANITARY

3305.1 Facilities required.
Sanitary facilities shall be provided during construction, remodeling or demolition activities in accordance with the California Plumbing Code.

SECTION 3306
PROTECTION OF PEDESTRIANS

3306.1 Protection required.
Pedestrians shall be protected during construction, remodeling and demolition activities as required by this chapter and Table 3306.1. Signs shall be provided to direct pedestrian traffic.

3306.2 Walkways.
A walkway shall be provided for pedestrian travel in front of every construction and demolition site unless the authority having jurisdiction authorizes the sidewalk to be fenced or closed. Walkways shall be of sufficient width to accommodate the pedestrian traffic, but in no case shall they be less than 4 feet (1219 mm) in width. Walkways shall be provided with a durable walking surface. Walkways shall be accessible in accordance with Chapter 11A or 11B and shall be designed to support all imposed loads and in no case shall the design live load be less than 150 pounds per square foot (psf) (7.2 kN/m2).

3306.3 Directional barricades.
Pedestrian traffic shall be protected by a directional barricade where the walkway extends into the street. The directional barricade shall be of sufficient size and construction to direct vehicular traffic away from the pedestrian path.

3306.4 Construction railings.
Construction railings shall be at least 42 inches (1067 mm) in height and shall be sufficient to direct pedestrians around construction areas.

3306.5 Barriers.
Barriers shall be a minimum of 8 feet (2438 mm) in height and shall be placed on the side of the walkway nearest the construction. Barriers shall extend the entire length of the construction site. Openings in such barriers shall be protected by doors which are normally kept closed.

3306.6 Barrier design.
Barriers shall be designed to resist loads required in Chapter 16 unless constructed as follows:
Barriers shall be provided with 2-inch by 4-inch (51 mm by 102 mm) top and bottom plates.
2. The barrier material shall be a minimum of $\frac{3}{8}$ inch (19.1 mm) boards or $\frac{1}{4}$ inch (6.4 mm) wood structural use panels.
Wood structural use panels shall be bonded with an adhesive identical to that for exterior wood structural use panels.
4. Wood structure use panels $\frac{1}{4}$ inch (6.4 mm) or $\frac{15}{32}$ inch (23.7 mm) in thickness shall have studs spaced not more than 2 feet (610 mm) on center (o.c.).
5. Wood sructural use panels $\frac{3}{8}$ inch (9.5 mm) or $\frac{1}{2}$ inch (12.7 mm) in thickness shall have studs spaced not more than 4 feet (1219 mm) o.c., provided a 2-inch by 4-inch (51 mm by 102 mm) stiffener is placed horizontally at midheight where the stud spacing exceeds 2 feet (610 mm) o.c.
6. Wood structural use panels 5/8 inch (15.9 mm) or thicker shall not span over 8 feet (2438 mm).

TABLE 3306.1
PROTECTION OF PEDESTRIANS

HEIGHT OF CONSTRUCTION	DISTANCE FROM CONSTRUCTION TO LOT LINE	TYPE OF PROTECTION REQUIRED
8 feet or less	Less than 5 feet	Construction railings
5 feet or more	None	
More than 8 feet	Less than 5 feet	Barrier and covered walkway
5 feet or more, but not more than one-fourth the height of construction		Barrier and covered walkway
5 feet or more, but between one-fourth and one-half the height of construction		Barrier
5 feet or more, but exceeding one-half the height of construction		None

For SI: 1 foot = 304.8 mm.

3306.7 Covered walkways.
Covered walkways shall have a minimum clear height of 8 feet (2438 mm) as measured from the floor surface to the canopy overhead. Adequate lighting shall be provided at all times. Covered walkways shall be designed to support all imposed loads. In no case shall the design live load be less than 150 psf (7.2 kN/m2) for the entire structure.
Exception: Roofs and supporting structures of covered walkways for new, light-frame construction not exceeding two stories in height are permitted to be designed for a live load of 75 psf (3.6 kN/m2) or the loads imposed on them, whichever is greater. In lieu of such designs, the roof and supporting structure of a covered walkway are permitted to be constructed as follows:
1. Footings shall be continuous 2-inch by 6-inch (51 mm by 152 mm) members.
2. Posts not less than 4 inches by 6 inches (102 mm by 152 mm) shall be provided on both sides of the roof and spaced not more than 12 feet (3658 mm) o.c.
3. Stringers not less than 4 inches by 12 inches (102 mm by 305 mm) shall be placed on edge upon the posts.
4. Joists resting on the stringers shall be at least 2 inches by 8 inches (51 mm by 203 mm) and shall be spaced not more than 2 feet (610 mm) o.c.
5. The deck shall be planks at least 2 inches (51 mm) thick or wood structural panels with an exterior exposure durability classification at least 23/32 inch (18.3 mm) thick nailed to the joists.
6. Each post shall be knee braced to joists and stringers by 2-inch by 4-inch (51 mm by 102 mm) minimum members 4 feet (1219 mm) long.
7. A 2-inch by 4-inch (51 mm by 102 mm) minimum curb shall be set on edge along the outside edge of the deck.

3306.8 Repair, maintenance and removal.
Pedestrian protection required by this chapter shall be maintained in place and kept in good order for the entire length of time pedestrians may be endangered. The owner or the owner's agent, upon the completion of the construction activity, shall immediately remove walkways, debris and other obstructions and leave such public property in as good a condition as it was before such work was commenced.

3306.9 Adjacent to excavations.
Every excavation on a site located 5 feet (1524 mm) or less from the street lot line shall be enclosed with a barrier not less than 6 feet (1829 mm) high. Where located more than 5 feet (1524 mm) from the street lot line, a barrier shall be erected when required by the building official. Barriers shall be of adequate strength to resist wind pressure as specified in Chapter 16.

SECTION 3307
PROTECTION OF ADJOINING PROPERTY

3307.1 Protection required.
Adjoining public and private property shall be protected from damage during construction, remodeling and demolition work. Protection must be provided for footings, foundations, party walls, chimneys, skylights and roofs. Provisions shall be made to control water runoff and erosion during construction or demolition activities. The person making or causing an excavation to be made shall provide written notice to the owners of adjoining buildings advising them that the excavation is to be made and that the adjoining buildings should be protected. Said notification shall be delivered not less than 10 days prior to the scheduled starting date of the excavation.

3307.2 Protection of adjoining property. [DSA-SS & OSHPD 1 and 4]
The requirements for protection of adjacent property and depth to which protection is required shall be as defined in Section 832, Civil Code.
The owner or governing board shall be responsible to retain the services of a structural engineer and a geotechnical engineer to review the design of the support system for foundations of the existing buildings, or soil supporting any portion of the building. Where the underpinning or support system provides for the stability of the foundations of an existing hospital, essential services building or public school building, the system shall be designed and constructed to conform to all requirements of these regulations.

3307.3 Protection of existing buildings. [DSA-SS & OSHPD 1 and 4]
Where excavation for new construction affects the stability of the foundations or any portion of such existing building, a support system shall be provided. Such systems shall be considered a structural alteration to the existing building and shall be designed and constructed to conform to these regulations.

SECTION 3308
TEMPORARY USE OF STREETS, ALLEYS AND PUBLIC PROPERTY

3308.1 Storage and handling of materials.
The temporary use of streets or public property for the storage or handling of materials or of equipment required for construction or demolition, and the protection provided to the public shall comply with the provisions of the authority having jurisdiction and this chapter.

3308.1.1 Obstructions.
Construction materials and equipment shall not be placed or stored so as to obstruct access to fire hydrants, standpipes, fire or police alarm boxes, catch basins or manholes, nor shall such material or equipment be located within 20 feet (6096 mm) of a street intersection, or placed so as to obstruct normal observations of traffic signals or to hinder the use of public transit loading platforms.

3308.2 Utility fixtures.
Building materials, fences, sheds or any obstruction of any kind shall not be placed so as to obstruct free approach to any fire hydrant, fire department connection, utility pole, manhole, fire alarm box or catch basin, or so as to interfere with the passage of water in the gutter. Protection against damage shall be provided to such utility fixtures during the progress of the work, but sight of them shall not be obstructed.

SECTION 3309
FIRE EXTINGUISHERS

[F] 3309.1 Where required.
All structures under construction, alteration or demolition shall be provided with not less than one approved portable fire extinguisher in accordance with Section 906 and sized for not less than ordinary hazard as follows:
1. At each stairway on all floor levels where combustible materials have accumulated.
2. In every storage and construction shed.
3. Additional portable fire extinguishers shall be provided where special hazards exist, such as the storage and use of flammable and combustible liquids.

3309.2 Fire hazards.
The provisions of this code and the California Fire Code shall be strictly observed to safeguard against all fire hazards attendant upon construction operations.

SECTION 3310
EXITS

3310.1 Stairways required.
Where a building has been constructed to a height greater than 50 feet (15 240 mm) or four stories, or where an existing building exceeding 50 feet (15 240 mm) in height is altered, at least one temporary lighted stairway shall be provided unless one or more of the permanent stairways are erected as the construction progresses.

3310.2 Maintenance of exits.
Required means of egress shall be maintained at all times during construction, demolition, remodeling or alterations and additions to any building.
Exception: Approved temporary means of egress systems and facilities.

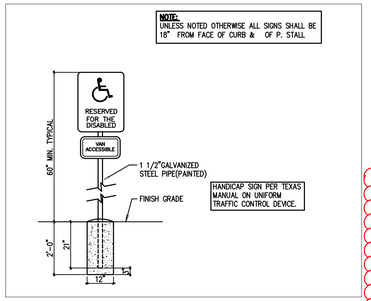
[F] SECTION 3311
STANDPIPES

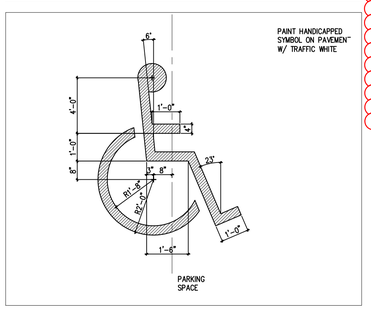
3311.1 Where required.
Buildings four stories or more in height shall be provided with not less than one standpipe for use during construction. Such standpipes shall be installed where the progress of construction is not more than 40 feet (12 192 mm) in height above the lowest level of fire department access. Such standpipe shall be provided with fire department hose connections at accessible locations adjacent to usable stairs. Such standpipes shall be extended as construction progresses to within one floor of the highest point of construction having secured decking or flooring.

3311.2 Buildings being demolished.
Where a building is being demolished and a standpipe exists within such a building, such standpipe shall be maintained in an operable condition so as to be available for use by the fire department. Such standpipe shall be demolished with the building but shall not be demolished more than one floor below the floor being demolished.

3311.3 Detailed requirements.
Standpipes shall be installed in accordance with the provisions of Chapter 9.
Exception: Standpipes shall be either temporary or permanent in nature, and with or without a water supply, provided that such standpipes conform to the requirements of Section 905 as to capacity, outlets and materials.

3311.4 Water supply.
Water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible material accumulates.





AERIAL PHOTO

APPLICANT INFORMATION

OWNER: CEO (SCOTT CHOU) AMERICAN GRO ECO INC.
APPLICANT AMERICAN GRO ECO INC.
CALIFORNIA CITY, CA 93505
(626) 226-9326
ARCHITECT: PIXELARCH, LTD.

SITE DATA

PROJECT DESCRIPTION: CONSTRUCT A 2352 S.F. MEDICAL MARIJUANA BUSINESS (MMB), WITH ASSOCIATED PARKING AND LIGHT POLES.

MEDICAL MARIJUANA BUSINESS (MMB) WILL CONSIST OF (6) 40' SHIPPING CONTAINER WITH A 18'X24' COVER SPACE AS A HALLWAY.

ASSESSOR'S PARCEL NUMBER 216-162-01
CURRENT ZONE: CR COMMERCIAL RETAIL
OCCUPANCY: B
TYPE OF CONSTRUCTION V-B SPRINKLER
TRACT NO. 2528 LOT: 490

DIFFERED SUBMITTAL: FIRE SPRINKLER

△6

CURRENT CODES:

a) THE 2019 EDITION OF THE CALIFORNIA BUILDING CODE (CBC)
b) THE 2019 EDITION OF THE CALIFORNIA ELECTRICAL CODE (CEC)
c) THE 2019 EDITION OF THE CALIFORNIA MECHANICAL CODE (CMC)
d) THE 2019 EDITION OF THE CALIFORNIA PLUMBING CODE (CPC)
e) THE 2019 EDITION OF THE CALIFORNIA FIRE CODE (CFC)
f) THE 2019 EDITION OF THE CALIFORNIA ENERGY EFFICIENCY STANDARDS.

9-2.208.
Schedule of Off-Street Parking Space Requirements

Manufacturing plants and other industrial uses: One (1) parking space for each employee during the shift of maximum employment, plus one (1) parking space for each vehicle used in conjunction with the use. C.C.M.C Sec. 9-2.208. - Schedule of Off-Street Parking Space Requirements.

BUILDING	USE	TOTAL AREA	PARKING RATIO	TOTAL REQUIRED
MEDICAL MARIJUANA BUSINESS (MMB)	B	2352 S.F.	*1:500	5
TOTAL PROVIDED PARKING SPACE				9
TOTAL STANDARD PARKING SPACE PROVIDED				8
TOTAL REQUIRED ACCESSIBLE PARKING SPACES (PER 2013 C.B.C. TABLE 11B-208.2)				1
TOTAL PROVIDED ACCESSIBLE PARKING SPACE				1

△5

ACCESSIBLE PATH OF TRAVEL
A. WITHOUT ANY ABRUPT LEVEL CHANGES EXCEEDING 1/2".
B. AT LEAST 48" IN WIDTH.
C. CROSS SLOPE DOES NOT EXCEED 2% AND THE SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5%.
D. SURFACE IS STABLE, FIRM, AND SLIP RESISTANT.
E. FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM, AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL
& ABOVE 27" & LESS THAN 80"
A-2 FRAMING PLAN
F. INSPECTOR TO VERIFY

REGISTERED PROFESSIONAL ENGINEER
GARRETT C CHOU
C 057186
Exp. 12-31-2021
8-12-2020
CIVIL
STATE OF CALIFORNIA

PROPOSED OCCUPANCIES LOAD: 6

* SEC. 9-2.209. - STANDARDS FOR OFF-STREET PARKING FACILITIES.

OTHER COMMERCIAL SERVICE ESTABLISHMENTS, REPAIR SHOPS, WHOLESALE ESTABLISHMENTS AND RETAIL STORES WHICH HANDLE ONLY BULKY MERCHANDISE SUCH AS FURNITURE, HOUSEHOLD APPLIANCES, MOTOR VEHICLES, FARM IMPLEMENTS AND MACHINERY: ONE (1) PARKING SPACE FOR EACH FIVE HUNDRED (500) SQ. FT. OF FLOOR AREA.

PixelArch ltd.
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Canada Office
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www.pixelarchltd.com

Project Name and Address:

AMERICAN GRO ECO, INC.
SHEPARD PLACE CALIFORNIA CITY, CA 93505

Date: AUGUST 06, 2020
Scale: 1" = 10'-0"

DRAWING TITLE: PROPOSED SITE PLAN

Sheet : 6/40
Page No. : A. 100

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No.	Revision/Issue	Date
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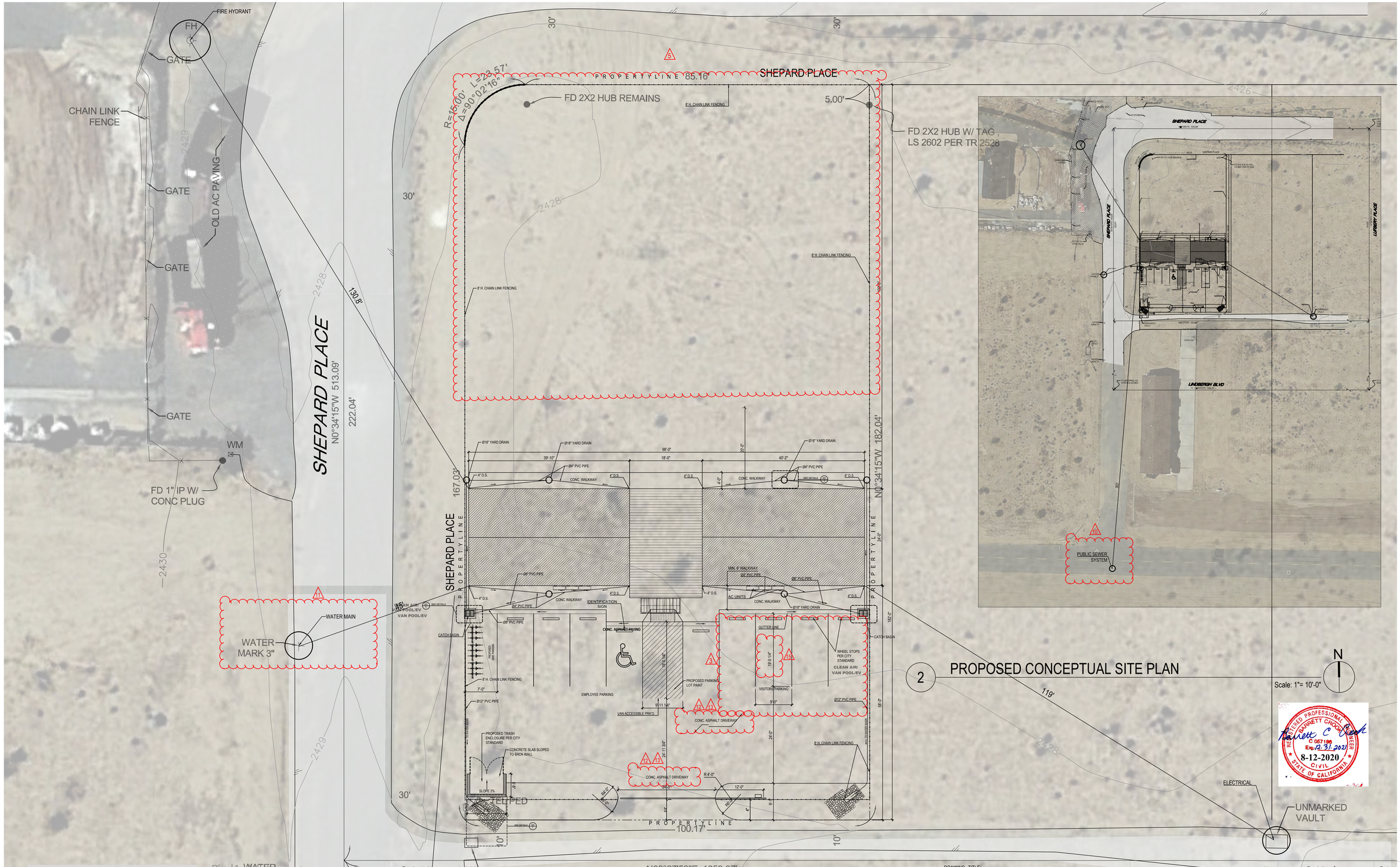

REGISTERED PROFESSIONAL ENGINEER
BARRETT CROOK
C 057196
Exp. 12.31.2021
8-12-2020
CIVIL
STATE OF CALIFORNIA

PA LTD

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SHEPARD PLACE CALIFORNIA CITY, CA 93505

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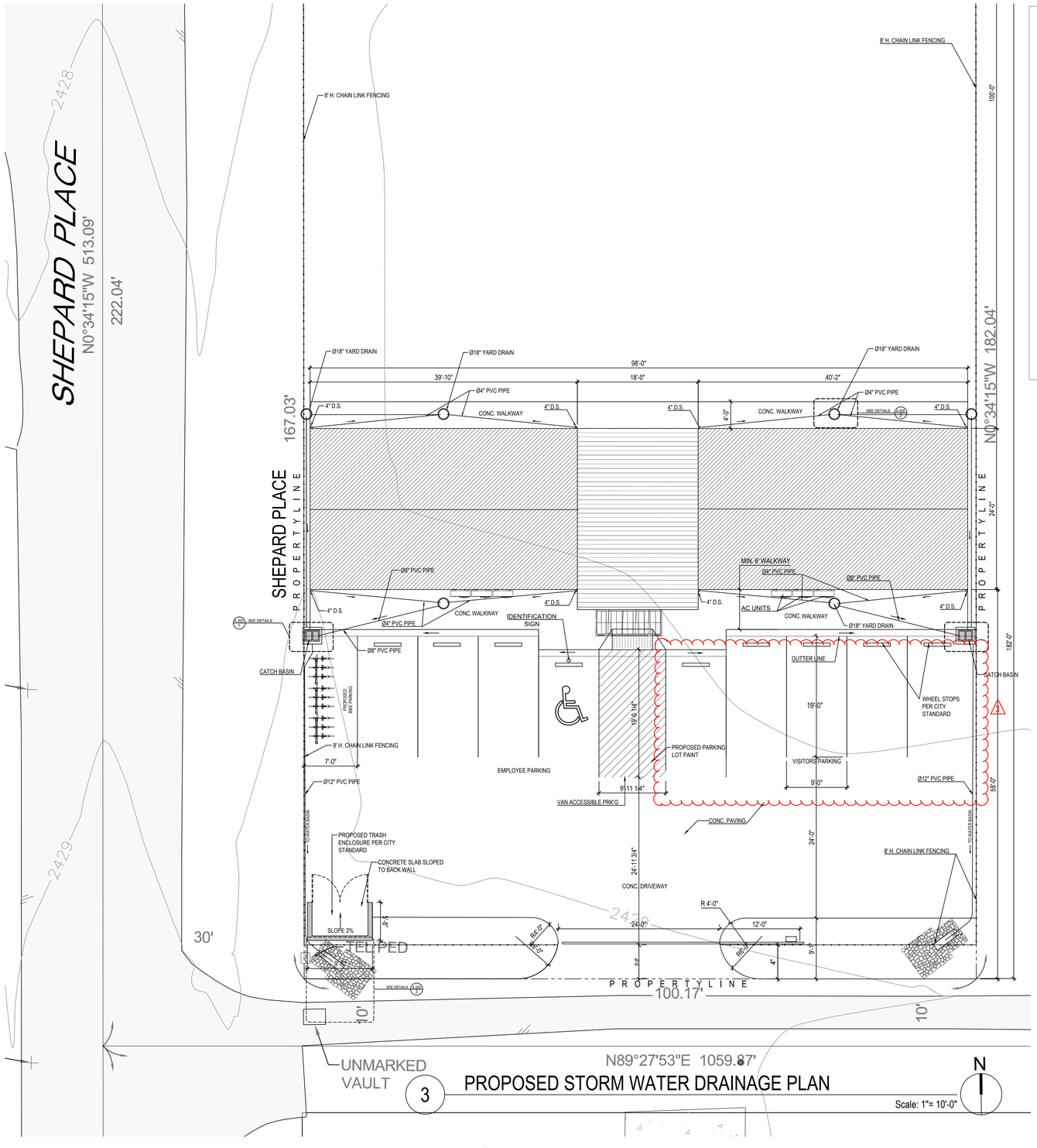
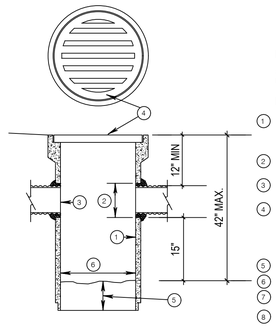


3 PROPOSED STORM WATER DRAINAGE PLAN



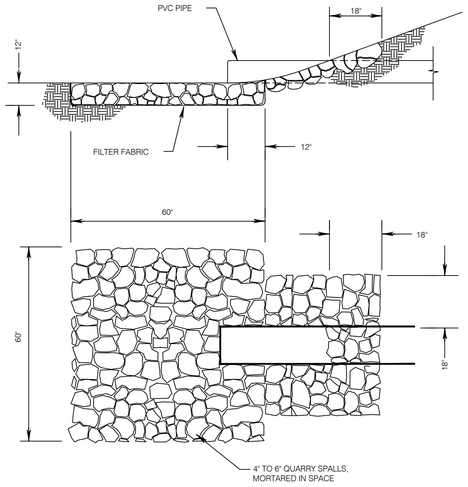
NOTE:

SPECIAL CAST YARD DRAIN MAY BE REQUIRED FOR MULTIPLE PIPE CONNECTIONS.

DETAIL NOTES:

1. YARD DRAINS TO BE CONSTRUCTED FROM CONCRETE PIPE, IN ACCORDANCE WITH ASTM C 14 UNLESS OTHERWISE SHOWN ON THE PLANS OR NOTED IN THE SPECIFICATIONS.
2. CUTOUT HOLE SIZE EQUAL TO OUTLET PIPE OUTSIDE DIAMETER PLUS YARD DRAIN WALL THICKNESS.
3. CONNECTION TO OUTLET PIPE TO BE MORTARED AND MADE FLUSH WITH INSIDE OF THE YARD DRAIN WALL.
4. CAST IRON BELL GRATE. FITS INTO BELL RECESS AND EXTENDS FLUSH WITH FACE OF BELL. THE GRATE SHALL HAVE SLOTS (HOLES) THAT CONSITUTE 50 PERCENT OPEN AREA FOR DRAINAGE. INLET BELL SURFACE SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER.
5. CONCRETE 4 IN. MIN.
6. 12" OR 18".
7. CONNECT TO CITY OWNED MAINTAINED SD SYSTEM IN THE STREET.
8. UP TO 5 CONNECTIONS PER SERVICE LINE.

2 YARD DRAIN

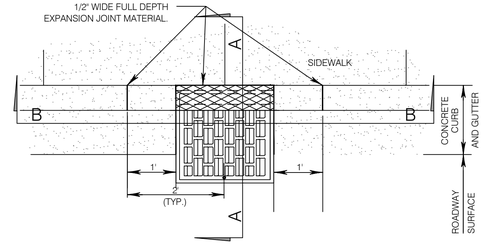


PLAN VIEW

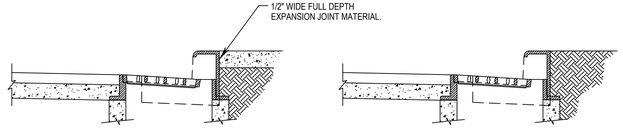
NOTE:

DO NOT MORTAR QUARRY SPALLS IF THE MAT FALLS WITHIN THE ANNUAL HIGH WATER MARK OF ANY STREAM.

3 PIPE OUTFALL MORTARED QUARRY SPALL MAT



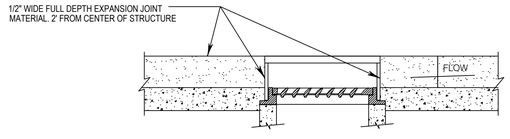
PARTIAL PLAN VIEW



INLET WITH SIDEWALK

INLET WITH PLANTER

SECTION A-A

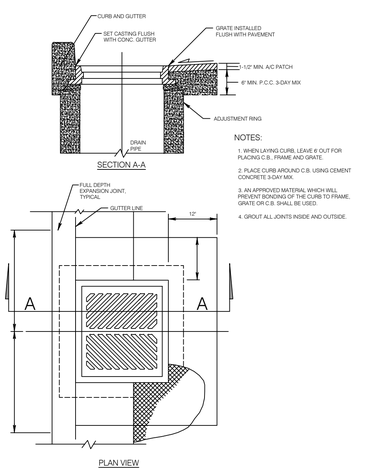


SECTION B-B

NOTE:

1. SET TO GRADE AND CONSTRUCT ROAD AND GUTTER TO BE FLUSH WITH FRAME.
2. SEE STD DRAWINGS 422, 423, AND 424 FOR TYPES OF GRATE USE.
3. SEE STD DWG 425 FOR FRAME DETAIL.
4. TYPE II STRUCTURE EXPANSION JOINT. THE WIDTH OF STRUCTURE PLUS 2' SQUARE IF IN SIDEWALK.

1 THRU-CURB INLET FRAME AND GRATE FRAME AND GRATE WITH VERTICAL CURB INSTALLATION



NOTES:

1. WHEN LAYING CURB, LEAVE 6' OUT FOR PLACING C.B., FRAME AND GRATE.
2. PLACE CURB AROUND C.B. USING CEMENT CONCRETE 3-DAY MIX.
3. AN APPROVED MATERIAL WHICH WILL PREVENT BONDING OF THE CURB TO FRAME, GRATE OR C.B. SHALL BE USED.
4. GROUT ALL JOINTS INSIDE AND OUTSIDE.

CATCH BASIN INSTALLATION

REGISTERED PROFESSIONAL ENGINEER
BARRETT CROOKSHEER
C 057186
Exp. 12-31-2021
8-12-2020
CIVIL
STATE OF CALIFORNIA

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Project Name and Address:

AMERICAN GRO ECO, INC.
SHEPARD PLACE CALIFORNIA CITY, CA 93505

Date: AUGUST 06, 2020
Scale: 1" = 10'-0"

DRAWING TITLE: PROPOSED STORM DRAINAGE PLAN

Sheet : 8/40

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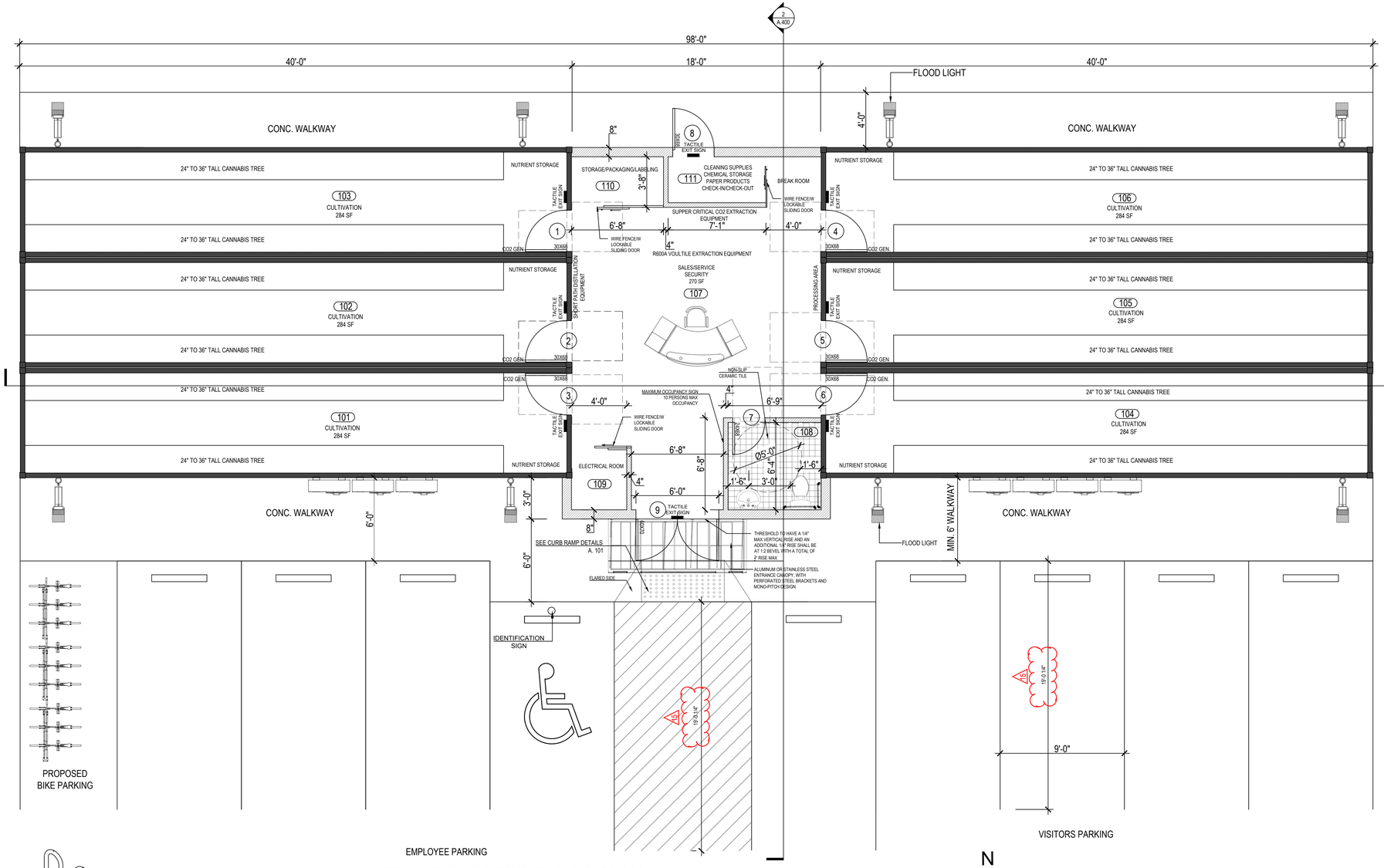
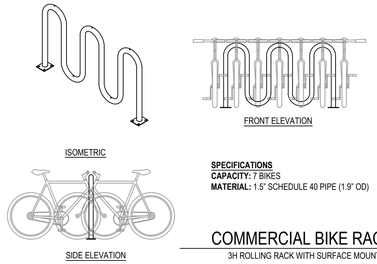


1 PROPOSED FLOOR PLAN

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

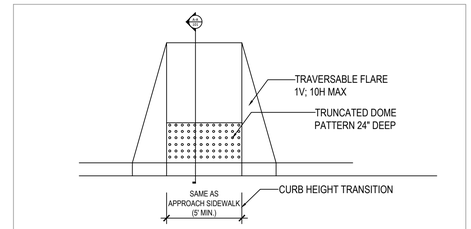
TOTAL CULTIVATION AREA: 1704 SF



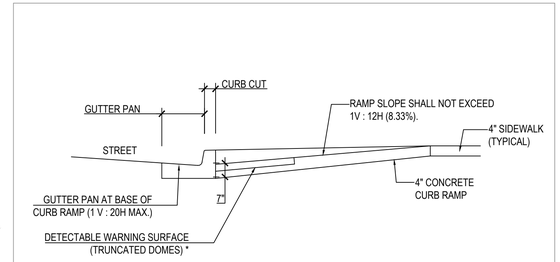
SPECIFICATIONS
CAPACITY: 7 BIKES
MATERIAL: 1.5" SCHEDULE 40 PIPE (1.9" OD)

COMMERCIAL BIKE RACKS

3H ROLLING RACK WITH SURFACE MOUNT



CURB RAMP DETAIL



SECTION A-A

GENERAL NOTES:
ALL AREAS OF THE PEDESTRIAN ACCESS ROUTE MUST BE COMPLIANT WITH THE AMERICANS WITH DISABILITIES ACT - GUIDELINES FOR ACCESSIBLE PUBLIC RIGHTS OF WAY. EXCEPTIONS MUST BE APPROVED BY THE ENGINEER. ALL OTHER AREAS OF NON-COMPLIANCE SHALL BE REMOVED AND CORRECTED AT THE CONTRACTOR'S EXPENSE.

THE SURFACES OF PEDESTRIAN ACCESS ROUTES AND ELEMENTS, AND SPACES REQUIRED TO CONNECT TO PEDESTRIAN ACCESS ROUTES. SHALL BE FIRM, STABLE, SLIP RESISTANT, AND SHALL NOT POND WATER.

SIDEWALK, RAMP AND LANDING CROSS SLOPES SHALL BE 1% TO FACILITATE DRAINAGE (2% MAX.).

THE CROSS SLOPE OF THE CONTINUOUS PEDESTRIAN ACCESS ROUTE THROUGH ENTRANCES. ALLEYS, AND SIDE ROAD CONNECTIONS WITH STOP OR YIELD CONTROL SHALL BE 1% TO FACILITATE DRAINAGE (2% MAX.).

* SOME DETECTABLE WARNING PRODUCTS REQUIRE A CONCRETE BORDER FOR PROPER INSTALLATION. THE CONCRETE BORDER SHALL NOT EXCEED 2 INCH PER SIDE.

40FT HIHH CUBE REEFER CONTAINER

REGISTERED PROFESSIONAL ENGINEER
GARRETT CROCKETT
C 057186
Exp. 12-31-2021
8-12-2020
CIVIL
STATE OF CALIFORNIA

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Project Name and Address:

AMERICAN GRO ECO, INC.
SHEPARD PLACE CALIFORNIA CITY, CA 93505

Date: AUGUST 06, 2020
Scale: 1/4" = 1'-0"

DRAWING TITLE: PROPOSED FLOOR PLAN

Sheet : 9/40

Page No. : A. 200

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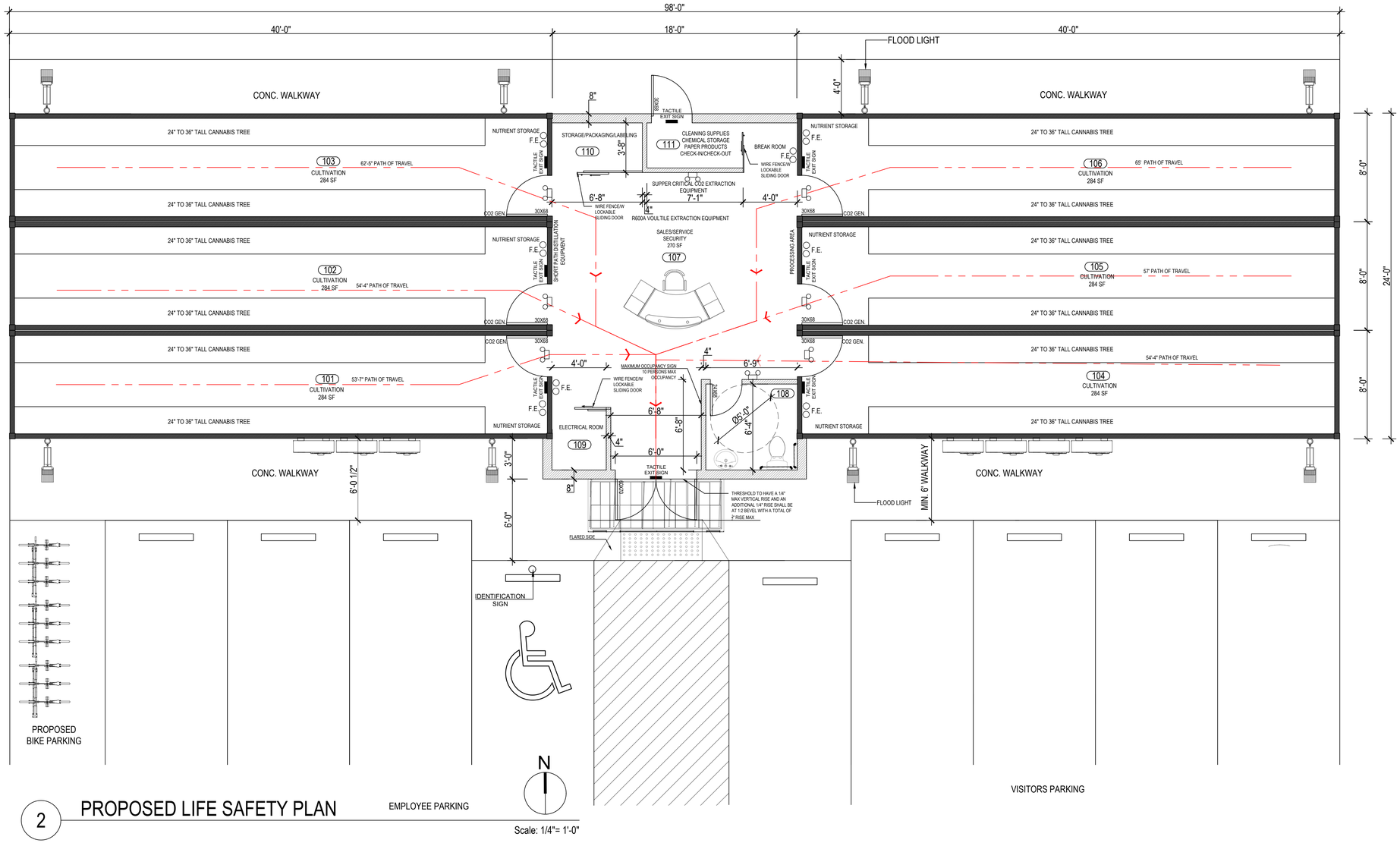

2 PROPOSED LIFE SAFETY PLAN

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

OCCUPANT LOAD CALCULATION PER TABLE 1004.1.2 2019 CBC		
AREA (SQ. FT.)	LOAD FACTOR	NO. OF OCCUPANTS
CULTIVATION 1704 SF	300	6
OFFICE 270 SF	100	3
RESTROOM	-	-
TOTAL OCCUPANT LOAD		9

1003.6 MEANS OF EGRESS CONTINUITY. THE PATH OF EGRESS TRAVEL ALONG A MEANS OF EGRESS SHALL NOT BE INTERRUPTED BY ANY BUILDING ELEMENT OTHER THAN A MEANS OF EGRESS COMPONENT. OBSTRUCTIONS SHALL NOT BE PLACED IN THE REQUIRED WIDTH OF A MEANS OF EGRESS EXCEPT PROJECTIONS PERMITTED. THE REQUIRED CAPACITY OF A MEANS OF EGRESS SYSTEM SHALL NOT BE DIMINISHED ALONG THE PATH OF EGRESS TRAVEL.

LEGEND:

- EXIT PATH OF TRAVEL
- COMMON PATH OF EGRESS
- EXIT — EXIT LIGHTING W/BATTERY BACK-UP PER SECTION 1011 OF 2019 CBC
- EXIT — EXIT LIGHTING - DIRECTIONAL W/ 90 MIN. BATTERY BACK-UP PER 1011 OF 2019 CBC
- EMERGENCY LIGHTING
- F.E. — PORTABLE FIRE EXTINGUISHER W/ MIN. RATING OF 2A-B:C

DISTANCE TO EXIT

(PATH OF TRAVEL)

MAXIMUM EGRESS TRAVEL DISTANCE: 75'

PROPOSED EGRESS TRAVEL DISTANCE: 65'

MAX OCCUPANCIES LOAD: 9

PROPOSED OCCUPANCIES LOAD: 6

NOTES:

1. ANY TIME A BUILDING OR PORTION OF A BUILDING IS OCCUPIED, THE MEANS OF EGRESS SERVING THE OCCUPIED PORTION SHALL BE ILLUMINATED AT AN INTENSITY OF NOT LESS THAN 1-FOOT CANDLE (11 LUX) AT THE WALKING SURFACE LEVEL.
2. THE POWER SUPPLY FOR MEANS OF EGRESS ILLUMINATION SHALL BE PROVIDED BY THE PREMISE'S ELECTRICAL SUPPLY. IN THE EVENT OF POWER SUPPLY FAILURE, ILLUMINATION SHALL BE AUTOMATICALLY PROVIDED FROM THE EMERGENCY SYSTEM FOR THE FOLLOWING AREAS:
   A. AISLES AND UNCLOSED EGRESS STAIRWAYS IN ROOMS AND SPACES THAT REQUIRE TWO OR MORE MEANS OF EGRESS.
   B. CORRIDORS, EXIT ENCLOSURES, AND EXIT PASSAGEWAYS IN BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS.
   C. EXTERIOR EGRESS COMPONENTS AT OTHER THAN THE LEVEL OF EXIT DISCHARGE UNTIL EXIT DISCHARGE IS ACCOMPLISHED FOR BUILDING REQUIRED TO HAVE TWO OR MORE EXITS.
   D. INTERIOR EXITS DISCHARGE ELEMENTS, AS PERMITTED IN SECTION 1027.1, IN BUILDING REQUIRED TO HAVE TWO OR MORE EXITS.
   E. EXTERIOR LANDINGS, AS REQUIRED BY SECTION 1008.1.6 FOR EXIT DISCHARGE DOORWAYS IN BUILDINGS REQUIRED TO HAVE TWO OR MORE EXITS.
3. THE EXIT SIGNS SHALL ALSO BE CONNECTED TO AN EMERGENCY ELECTRICAL SYSTEM WHICH IS TO PROVIDE CONTINUED ILLUMINATION FOR DURATION OF NOT LESS THAN 1-1/2 HOUR IN CASE OF PRIMARY POWER LOSS. CONTINUED ILLUMINATION IS TO BE PROVIDED FROM STORAGE BATTERIES, UNIT EQUIPMENT, OR AN ON-SITE GENERATOR AND THE INSTALLATION OF THE EMERGENCY POWER SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH CBC SECTION 1011.
4. EMERGENCY LIGHTING FACILITIES SHALL BE ARRANGED TO PROVIDE INITIAL ILLUMINATION THAT IS AT LEAST AN AVERAGE OF 1-FOOT-CANDLE (11 LUX) AND A MIN. AT ANY POINT OF 0.1-FOOT-CANDLE(1 LUX) MEASURED ALONG THE PATH OF EGRESS AT FLOOR LEVEL. A MAXIMUM ILLUMINATION UNIFORMITY RATIO OF 40 TO 1 SHALL NOT BE EXCEEDED.
5. WHEN KEY-OPERATED LOCKING DEVICES ARE USED, POST A SIGN ON OR ADJACENT TO THE REQUIRED MAIN EXIT DOOR WITH 1-IN. LETTERING STATING: "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED.
6. EGRESS DOORS OR GATES SHALL BE OPERABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY, SPECIAL KNOWLEDGE, OR EFFORT. DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES SHALL BE INSTALLED 34 TO 48 IN. ABOVE THE FINISH FLOOR. MANUALLY OPERATED FLUSH BOLTS OR SURFACE BOLTS ARE NOT PERMITTED. THE UNLATCHING OF ANY DOOR OR LEAF SHALL NOT REQUIRE MORE THAN ONE OPERATION.
7. PROVIDE TACTILE EXIT SIGNS THAT COMPLY WITH SECTION 11B-703. TACTILE SIGNS SHALL BE REQUIRED AT THE FOLLOWING LOCATIONS:
   A. EACH EXIT DOOR THAT LEADS DIRECTLY TO A GRADE-LEVEL EXTERIOR EXIT BY MEANS OF A STAIRWAY OR RAMP WITH THE FOLLOWING WORDS AS APPROPRIATE:
   I. "EXIT STAIR DOWN"
   II. "EXIT RAMP DOWN"
   III. "EXIT STAIR UP"
   IV. "EXIT RAMP UP"
   B. EACH EXIT DOOR THAT LEADS TO AN EXIT ENCLOSURE OR A EXIT PASSAGEWAY IDENTIFIED BY "EXIT ROUTE"
   C. EACH EXIT ACCESS DOOR FROM AN INTERIOR ROOM OR AREA THAT IS REQUIRED TO HAVE A VISUAL EXIT SIGN, SHALL BE IDENTIFIED BY "EXIT ROUT".
   D. EACH EXIT DOOR THROUGH A HORIZONTAL EXIT SHALL BE IDENTIFIED BY "TO EXIT".
8. ALL MEANS OF EGRESS DOORS SHALL COMPLY WITH THE REQUIREMENTS OF 1008.1
   A. MEANS OF EGRESS DOORS SHALL BE READILY DISTINGUISHABLE FROM THE ADJACENT CONSTRUCTION AND FINISHES WITH NO MIRRORS, CURTAINS, DRAPES, DECORATIONS, OR SIMILAR MATERIALS.
   B. REQUIRED EXIT DOOR SHALL HAVE NOT LESS THAN 32-IN. CLEAR WIDTH, 80-IN. CLEAR HEIGHT, AND SHALL BE CAPABLE OF OPENING 90 DEGREES. THE MAXIMUM SWINGING DOOR LEAF WIDTH IS 48-IN. NOMINAL.
   C. EGRESS DOORS SHALL BE OF THE PIVOTED OR SIDE-HINGED SWINGING TYPE.
   D. THE FORCE FOR PUSHING OR PULLING OPEN INTERIOR SWINGING EGRESS DOORS, OTHER THAN FIRE DOORS, SHALL NOT EXCEED 5 POUNDS. FOR OTHER SWINGING DOORS, AS WELL AS SLIDING AND FOLDING DOORS, THE DOOR LATCH SHALL RELEASE WHEN SUBJECTED TO A 15-POUND FORCE. THE DOOR SHALL SWING TO A FULL-OPEN POSITION WHEN SUBJECT TO A 15 POUND FORCE. REVOLVING AND SLIDING DOORS MAT BE USED IN OTHER THAN GROUP H OCCUPANCIES AS EGRESS DOORS ONLY IF ALL THE REQUIREMENTS OF SECTION 1008.1.4.1 AND SECTION 1008.1.4.3, RESPECTIVELY, ARE MET.
9. THE PATH OF EGRESS TRAVEL ALONG A MEANS OF EGRESS SHALL NOT BE INTERRUPTED BY ANY BUILDING ELEMENT OTHER THAN A MEANS OF EGRESS COMPONENT AS SPECIFIED IN CHAPTER 10. THE REQUIRED CAPACITY OF A MEANS OF EGRESS SYSTEM SHALL NOT BE DIMINISHED ALONG THE PATH OF EGRESS TRAVEL.
10. THE TOTAL WIDTH OF MEANS OF EGRESS IN INCHES SHALL NOT BE LESS THAN THE TOTAL OCCUPANT LOAD SERVED BY THE MEANS OF EGRESS MULTIPLIED BY 0.3 INCHES PER OCCUPANT FOR STAIRWAYS AND BY 0.2 INCHES PER OCCUPANT FOR OTHER EGRESS COMPONENTS. THE WIDTH SHALL NOT BE LESS THAN SPECIFIED ELSEWHERE IN THIS CODE. MULTIPLE MEANS OF EGRESS SHALL BE SIZED SUCH THAT THE LOSS OF ANY ONE MEANS OF EGRESS SHALL NOT REDUCE THE AVAILABLE CAPACITY TO LESS THAN 50 PERCENT OF THE REQUIRED CAPACITY.

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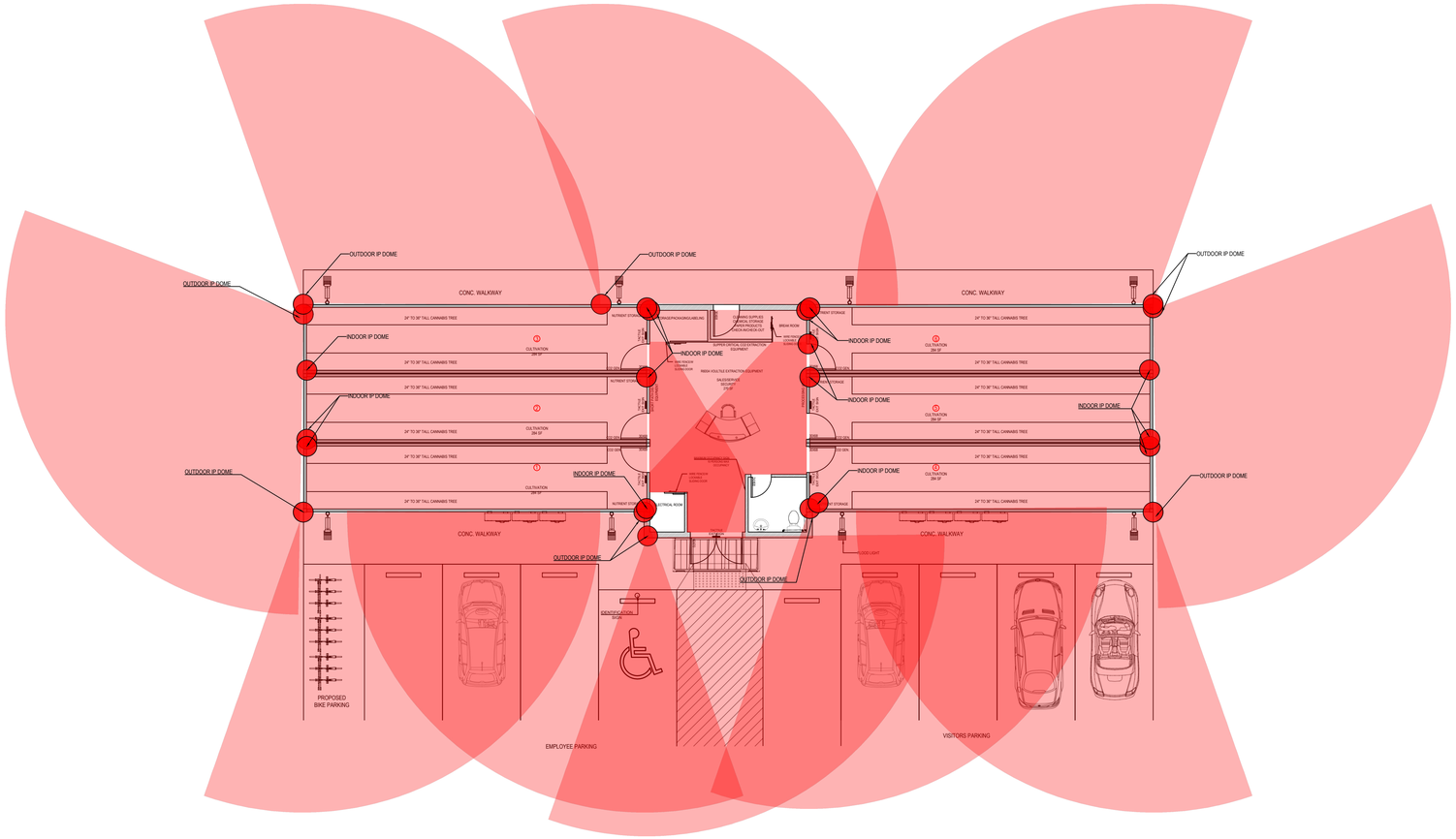

1 PROPOSED SECURITY PLAN

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

NOTE:

THE RED CONES REPRESENT THE DEPUTY 2.0 CAMERA. THE DEPUTY'S 1080P (2MP) RESOLUTION RECORDS AT 30 FRAMES PER SECOND. WITH ITS 110 DEGREES OF COVERAGE. IT COVERS WALL TO WALL IN MOST ROOMS.

BULLET

TURRET

DOME

Medical Marijuana Business (MMB) Requirements City of California City

(Issued October 2016)

(Updated September 2017)

Section One – Perimeter fence/access requirements:

The fence or wall will be eight foot tall from ground level and comply with all current commercial construction codes and security industry standards. Both walls and/or fences will have three strand barbed security wire encompassing the top of the entire fence or wall line. The chain link fence will be nine gauge fence and schedule 40 posts. If marijuana or other product items are visible, the fence will be equipped with privacy slats.

Sally port entrances for deliveries and shipping off site.

Knox Boxes for Fire and Police Emergency entrance.

Emergency vehicle accesses.

Key card and/or biometric access to enter sites, properties and buildings.

Employee and visitor parking must be separate and not adjacent to Building.

Employees must pass through a security officer manned Entry Control Point (ECP) to enter a main business and/or a site

Section Two- Security camera requirements:

Wired IP based cameras with minimum of 90 day recording storage at 60 fps or greater.

Battery Backup and generators to power camera systems and cameras during outages for a minimum of 12 hours of recording time.

All entry and exit doors and all areas where human traffic could occur (Excluding the enterer of restrooms and locker/changing rooms) shall be on video continuously.

Harvesting/Grow rooms will have a 360-degree field of view. Dry/Trim/Storage areas will also have a 360-degree field of view.

(See attached Security Operations Center (S.O.C.) compatibility requirements)

Section Three - Secured access areas:

Grow rooms/ warehouses must have biometric scanners for individual unmistakable identifying access.

Any fingerprint biometric scanners must have a duress feature.

System shall have a readily available recorded log showing all employees last whereabouts as to entry and exits not only from site, also from highest level secured rooms. System will have a recorded exit/entry time for site. Electronic logs must be retained for 90 days.

Section Four – Alarm Requirements

Alarm systems shall be registered with the California City Police Department and shall include all available responsible parties names, address, phone numbers, cell phone numbers, make, model and color of vehicles they will be driving when responding to alarm calls at the site. Systems shall automatically notify CCPD Dispatch and allow camera system access for Dispatch to relay vital information to responding officers on alarm activations. Systems shall also have a attery back-up and reserve power generator(s

Section Five - Employee backgrounds and eligibility

All employees are required to undergo a live-scan fingerprint analysis with the highest level allowed by Department of Justice standards. This is to include FBI and California Department of justice.

All employees are to undergo a CCPD background investigation. Disqualifying offenses are as follows:

- Any disqualifying convictions as outlined in California City Municipal Code Title 5, Chapter 6, Medical Marijuana Business and Activity.
- Any violent crime convictions to include robbery, arson, rape, assault with a deadly weapon, attempted murder, murder, manslaughter, assault with great bodily injury, sex offenses relating to minors, stalking, threats, elder abuse, domestic violence.
- Convictions for property crimes to include embezzlement, burglary, grand theft - if at the time of the conviction it was Considered grand More than one conviction of petty theft if at the time at the conviction the offense was considered petty theft.

Section Six – Interior Security

Facilities to have limited access to areas for grow room(s) and warehouse(s) with biometric scanners for access. All entry and exit doors must be video recorded. Electronic log shall also be maintained with all exit/entry biometric Security systems shall also have limited access to after hours entry in vital areas of facility. All areas where human traffic is expected shall be video recorded, with the exception of locker rooms (if applicable) and restrooms. All employees are to wear identification badges with a photo ID. All ID badges will be worn on breakaway style lanyards, at chest height. ID badges can be placed inside plastic transparent ID holders but shall not have any items on or in the holder to cover any part of the issued badge.

Section Seven - Inventory/record keeping

All grow room(s), and warehouse(s) shall maintain a record of:

- Number of actively growing plants with a Track & Trace system approved by the Chief of Police
- Number of deceased plants along with a disposition of how plant was disposed of
- Total weight of harvested products and accurate location of where product is stored.
- Shipping manifest containing specific itemized log to include:

(a) transporting company and personnel involved

(b) quantity of each strain in pound and ounces form

(c) signature of transportation personnel delivering product w/biometric verification

(d) signature of personnel accepting delivery from transporting personnel w/biometric verification

(e) time log for deliveries, GPS tracking on delivery vehicles accessible to CCPD.

(f) Company name, address, phone number and state license number of company receiving product must be on bill of lading.

Section Eight- Security Companies, Patrols and Entry Control Points (ECPs)

1) Site security must be a third party state (BSIS) licensed Security Company.

2) A site will be defined as a walled or security fenced containment area that encompasses one or more pods, green houses or any other associated building/structures. The fence or wall will be eight feet tall from ground level and comply with all current Commercial construction codes and security industry standards. Both walls and/or fences will have three strand barbed security wire encompassing the top of the entire fence or wall line. The chain link fence will be nine gauge fence and schedule 40 posts. If marijuana or other product items are visible, the fence will be equipped with privacy slats.

3) During occupied or operational hours there will be at least one security officer at every ECP and one patrol officer inside the perimeter of a site. There will also be an exterior perimeter patrol officer.

4) After hours when sites are not operational or occupied there will be a minimum of an ECP officer and a perimeter patrol officer.

5) Smaller sites consisting of one to two smaller buildings or pods may only require one ECP officer during non-operational hours, at the discretion of the Chief of Police or his/her designee.

6) All ECP officers will assign escort officers and visitor badges to every approved visitor to a site. An escort officer will escort no more than four visitors at one All visitors' badges will only be issued after visitors' surrenders a valid government identification card at the ECP. Every ECP will maintain a complete visitors log consisting of names, dates, and times, scanned copies of identification cards and numeric accountability of visitors' badges along with the location on site to be visited.

7) All personnel assigned to security detail at sites must be able to show proof of:

A. DOJ and FBI live scan clearance within the past 90 days

B. All training records

C. Any certificates related to firearms eligibility (armed security is permissible)

D. Current State (BSIS) guard cards (and/or PC 832 card if applicable)

E. Current First Aid/CPR certifications

8) Security companies shall provide 24 hour, 365 days a year security with security rosters to include, scheduling of personnel with dates and times All rosters shall be available for review at any time.

9) Security logs shall include employee names, ID numbers, dates and times and all areas patrolled/monitored on a daily basis.

All issues pertaining to the health and/or safety of the facility and/or the public or acts that are or may be considered criminal in nature, are mandatorily ordered to be reported to the site manager, The California City Police Department and or The California City Fire Department.

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DRAWING TITLE: PROPOSED SECURITY PLAN

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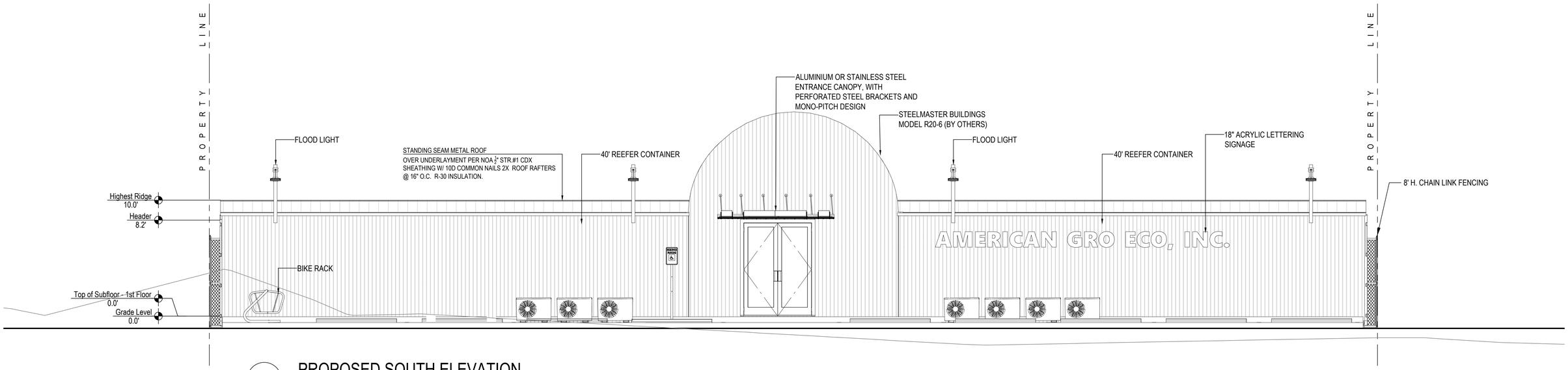
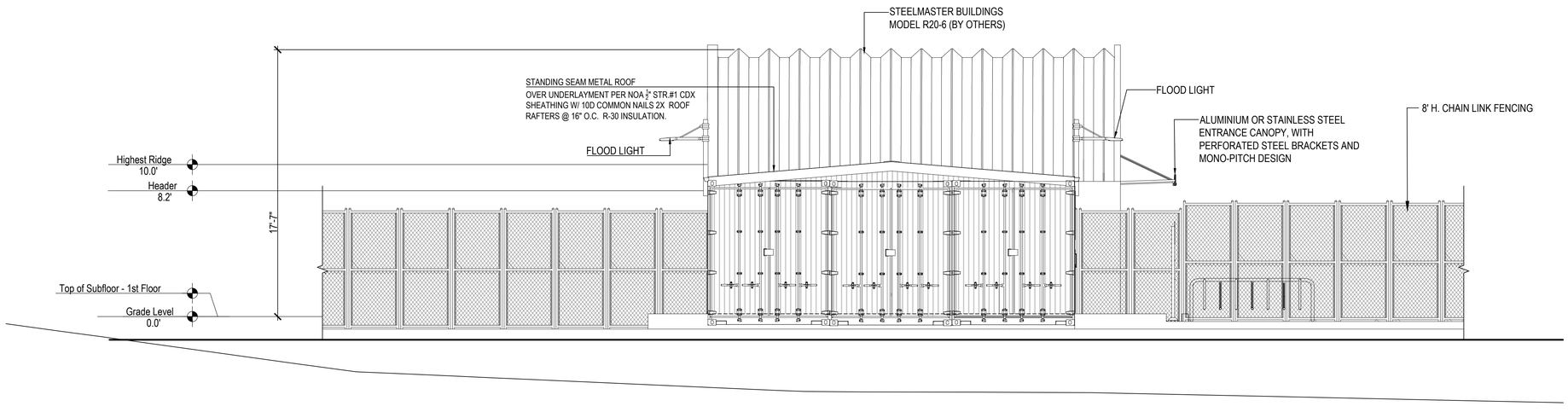


1 PROPOSED SOUTH ELEVATION

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



2 PROPOSED EAST ELEVATION

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

ALUMINIUM OR STAINLESS STEEL ENTRANCE CANOPY, WITH PERFORATED STEEL BRACKETS AND MONO-PITCH DESIGN

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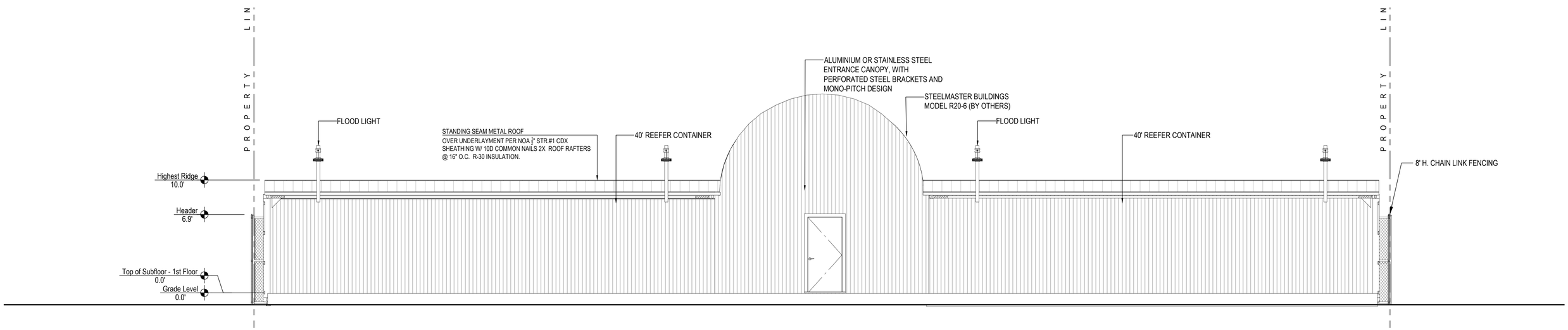

3 PROPOSED NORTH ELEVATION

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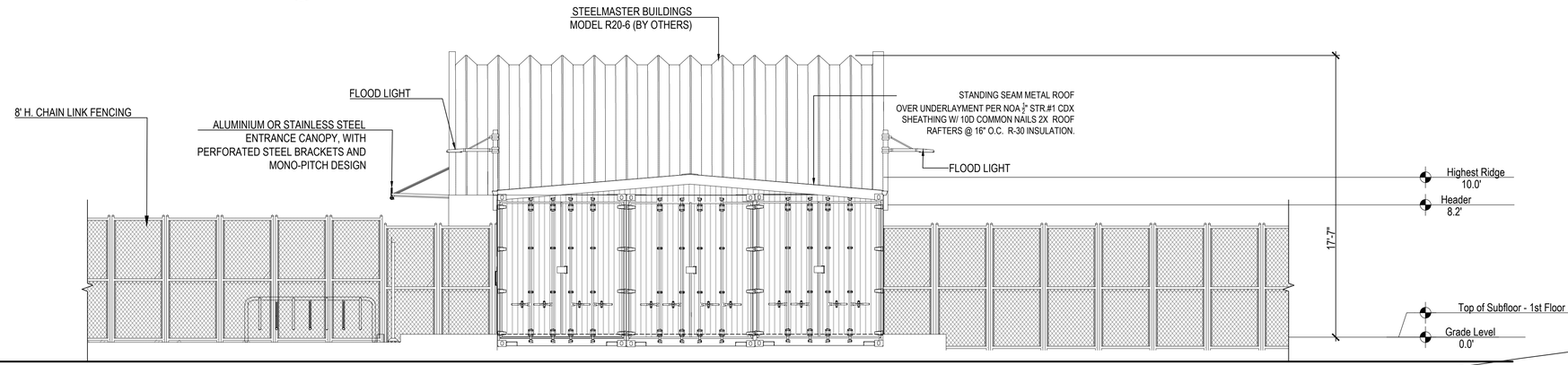

4 PROPOSED WEST ELEVATION

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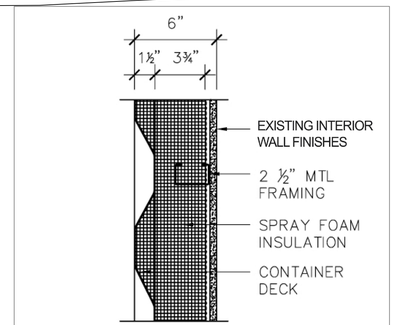
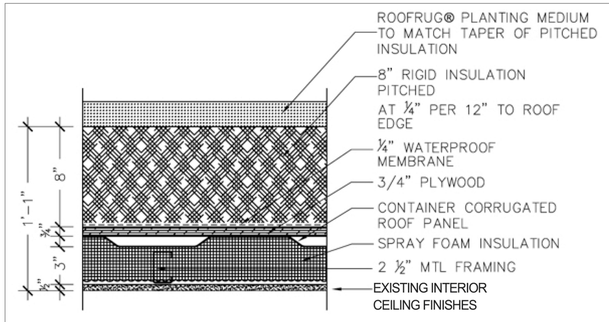


Typical Interior Container Wall



Typical Roof Section Detail

EXISTING FLOORING

EXISTING INTERIOR WALLS AND CEILING FINISHES

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DRAWING TITLE: PROPOSED NORTH & WEST ELEVATIONS

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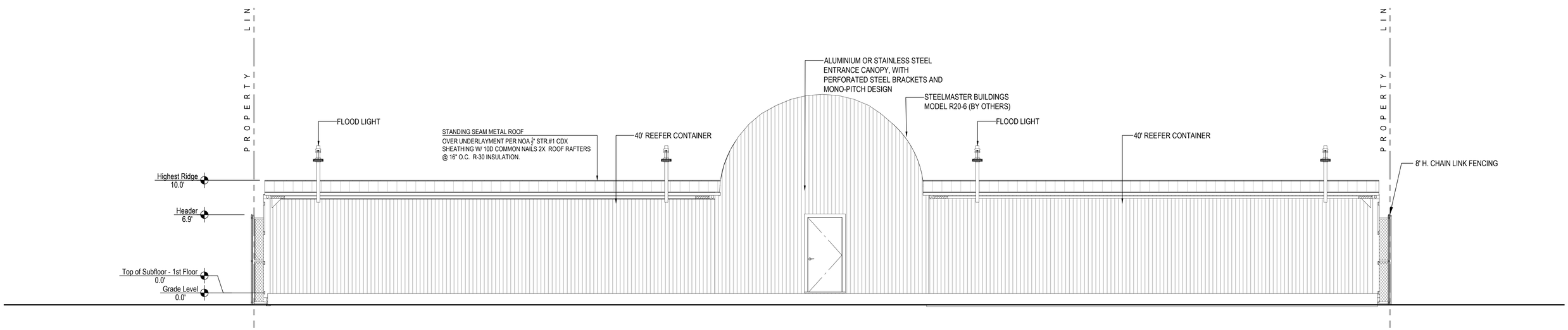

3 PROPOSED NORTH ELEVATION

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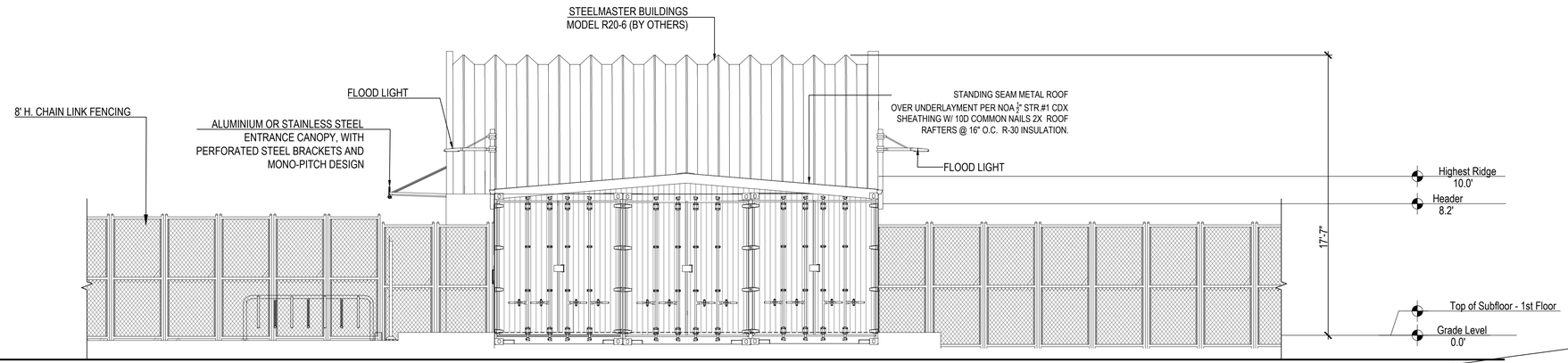

4 PROPOSED WEST ELEVATION

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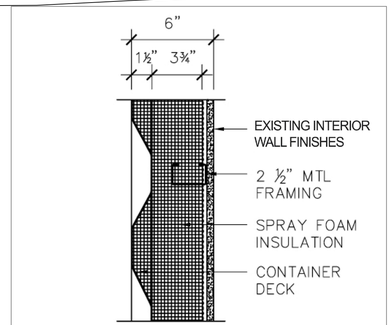
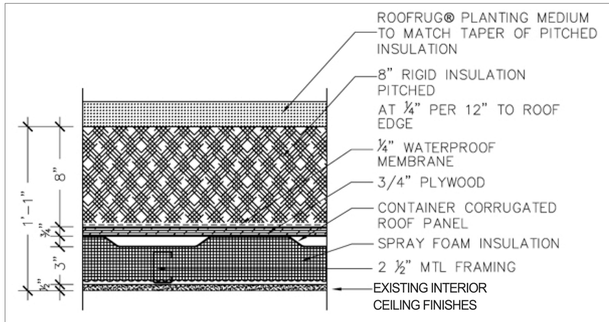


Typical Interior Container Wall



Typical Roof Section Detail

EXISTING FLOORING

EXISTING INTERIOR WALLS AND CEILING FINISHES

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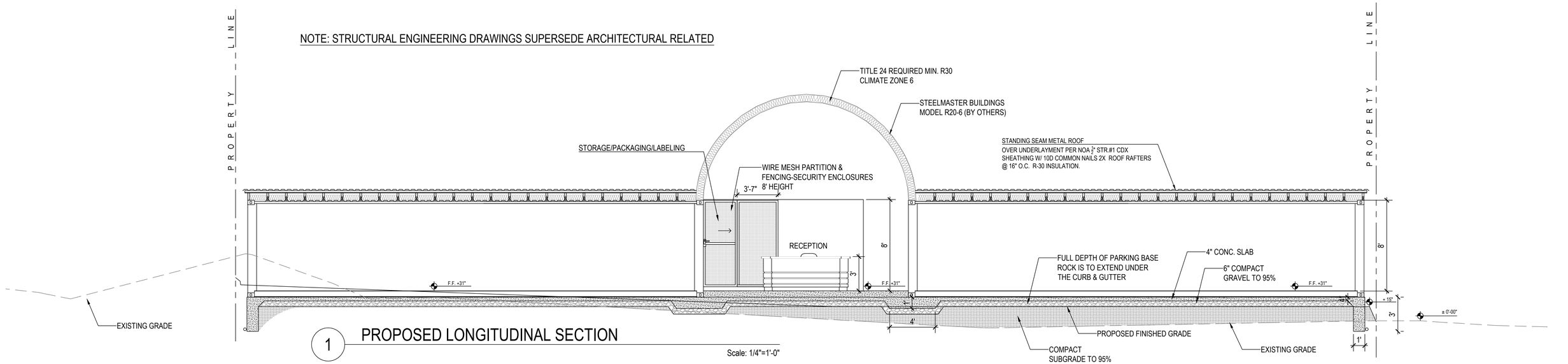
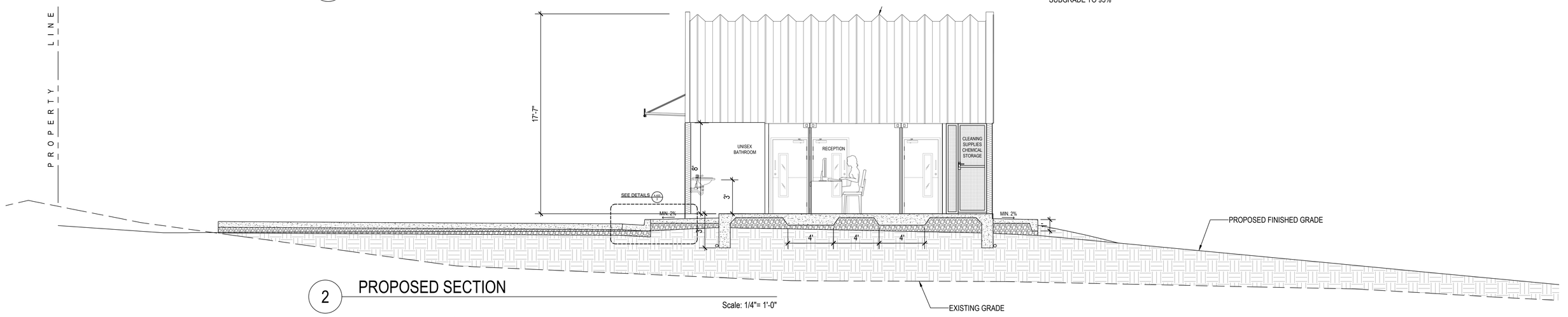


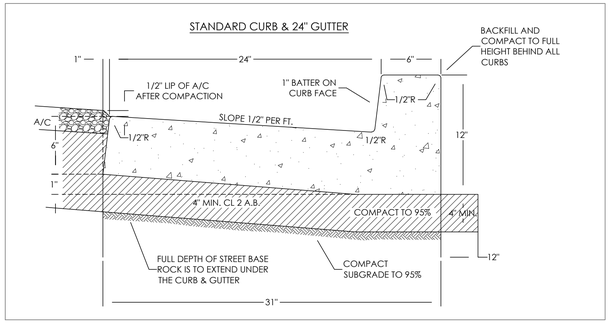
1 PROPOSED LONGITUDINAL SECTION

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



2 PROPOSED SECTION

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

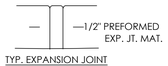


3 CURB AND GUTTER DETAILS

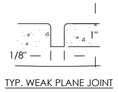
Scale: NTS

STANDARD CURB & GUTTER

NOTE:
EDGER FINISH ALL EXPANSION & WEAK PLANE JOINTS. SLIP DOWELS INSTALLED AT ALL EXPANSION JOINTS



TYP. EXPANSION JOINT



TYP. WEAK PLANE JOINT

NOTES

1. ALL CURBS ON PRIVATE STREETS AND PARKING LOTS SHALL BE TO CITY STANDARDS.
2. ALL CONCRETE SHALL BE 4000 PSI (6 SACKS PER CUBIC YARD), 3/4" AGGREGATE.
3. CONCRETE SHALL BE BRUSH FINISHED PARALLEL TO FACE OF CURB.
4. ALL CURBS SHALL BE BACKFILLED BEFORE STREET IS ROCKED & PAVED.
5. CLASS 2 AGGREGATE BASEROCK, SUBGRADE & FILL MATERIAL IF ANY SHALL HAVE A MINIMUM OF 95% RELATIVE COMPACTION UNDER CURB & GUTTER.
6. ON STRAIGHT RUN OF STD. CURB & GUTTER, 1/2" EXPANSION JOINTS, SHALL BE INSTALLED AT 40' OC, & WEAK PLANE JOINTS, INSTALLED MIDWAY BETWEEN EXPANSION JOINTS.
7. FOR EXPANSION JOINTS & WEAK PLANE JOINTS AT CURB RETURNS SEE CITY STD. S-8 & S-9, FOR EXPANSION JOINTS & WEAK PLANE JOINTS AT CATCH BASINS SEE CITY STD. D-2.
8. SUBGRADE AND CLASS 2 A.B. SHALL EXTEND TO ONE FOOT BEHIND CURB AND GUTTER.
9. EXTRUDED CURB AND GUTTER SHALL HAVE WEAK PLANE JOINTS AT 12' ON CENTER.
10. UTILITY IDENTIFICATION SYMBOLS ("S" FOR SANITARY SEWER AND "W" FOR WATER UTILITIES) SHALL BE STAMPED WHERE UNDERLYING UTILITIES ARE IDENTIFIED. SYMBOLS SHALL BE ⅛" DEEP, 3" HIGH PLACE ON TOP OF CURB AND FACE OF CURB.

REGISTERED PROFESSIONAL ENGINEER
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8-12-2020
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Project Name and Address:

AMERICAN GRO ECO, INC.
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Date: AUGUST 06, 2020
Scale: 1/4" = 1'-0"

DRAWING TITLE: PROPOSED SECTIONS

Sheet : 14/40
Page No. : A. 400

No.	Revision/Issue	Date
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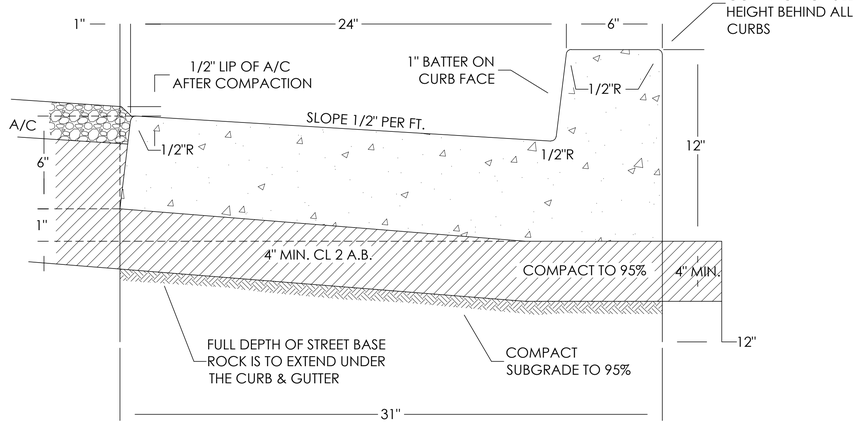
STANDARD CURB & 24" GUTTER

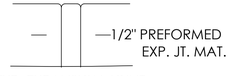


STANDARD CURB & GUTTER

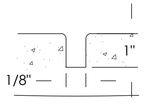
NOTES

1. ALL CURBS ON PRIVATE STREETS AND PARKING LOTS SHALL BE TO CITY STANDARDS.
2. ALL CONCRETE SHALL BE 4000 PSI (6 SACKS PER CUBIC YARD), 3/4" AGGREGATE.
3. CONCRETE SHALL BE BRUSH FINISHED PARALLEL TO FACE OF CURB.
4. ALL CURBS SHALL BE BACKFILLED BEFORE STREET IS ROCKED & PAVED.
5. CLASS 2 AGGREGATE BASEROCK, SUBGRADE & FILL MATERIAL IF ANY SHALL HAVE A MINIMUM OF 95% RELATIVE COMPACTION UNDER CURB & GUTTER.
6. ON STRAIGHT RUN OF STD. CURB & GUTTER, 1/2" EXPANSION JOINTS. SHALL BE INSTALLED AT 40' OC, & WEAK PLANE JOINTS. INSTALLED MIDWAY BETWEEN EXPANSION JOINTS.
7. FOR EXPANSION JOINTS & WEAK PLANE JOINTS AT CURB RETURNS SEE CITY STD. S-8 & S-9. FOR EXPANSION JOINTS & WEAK PLANE JOINTS AT CATCH BASINS SEE CITY STD. D-2.
8. SUBGRADE AND CLASS 2 A.B. SHALL EXTEND TO ONE FOOT BEHIND CURB AND GUTTER.
9. EXTRUDED CURB AND GUTTER SHALL HAVE WEAK PLANE JOINTS AT 12' ON CENTER.
10. UTILITY IDENTIFICATION SYMBOLS ("S" FOR SANITARY SEWER AND "W" FOR WATER UTILITIES) SHALL BE STAMPED WHERE UNDERLYING UTILITIES ARE IDENTIFIED. SYMBOLS SHALL BE ⅛" DEEP, 3" HIGH PLACE ON TOP OF CURB AND FACE OF CURB.

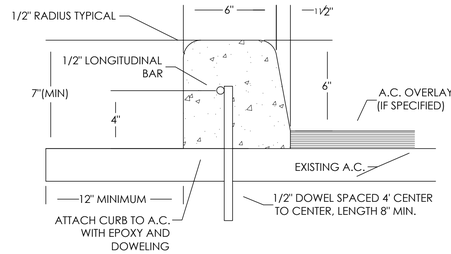
NOTE:
EDGER FINISH ALL EXPANSION & WEAK PLANE JOINTS. SLIP DOWELS INSTALLED AT ALL EXPANSION JOINTS



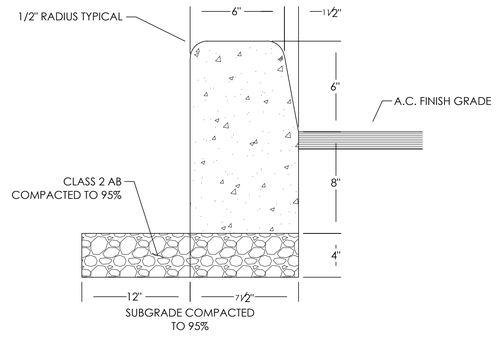
TYP. EXPANSION JOINT



TYP. WEAK PLANE JOINT



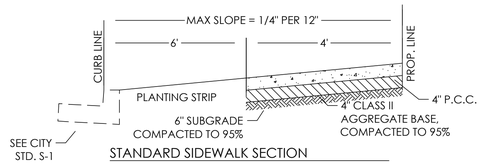
B-3 CURB



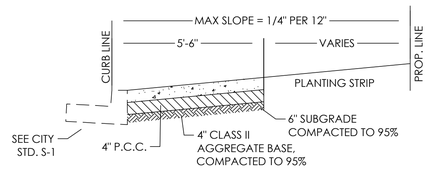
A1-6 CURB

NOTES

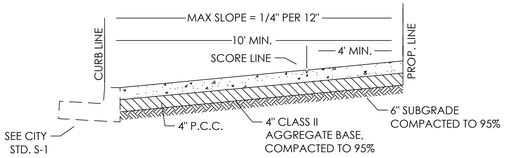
1. ALL CURBS INSTALLED ON PRIVATE PROPERTY SHALL BE TO CITY STDS.
2. ALL PORTLAND CEMENT CONCRETE (PCC) SHALL BE 4000 PSI (6 SACKS PER CUBIC YARD), 3/4" AGGREGATE.
3. PORTLAND CEMENT CONCRETE SHALL BE BRUSH FINISHED PARALLEL TO FACE OF CURB.
4. ALL CURBS SHALL BE BACKFILLED BEFORE STREET IS ROCKED AND PAVED.
5. CLASS 2 AB, SUBGRADE & FILL MATERIAL SHALL HAVE A MINIMUM OF 95% COMPACTION UNDER CURB.
6. ON STRAIGHT RUN OF CURB. 1/2" EXPANSION JOINTS SHALL BE INSTALLED ON 40' C.C. & WEAK PLANE JOINTS INSTALLED MIDWAY BETWEEN EXPANSION JOINTS.



STANDARD SIDEWALK SECTION



ALTERNATE SIDEWALK SECTION
PRIOR APPROVAL FROM PUBLIC WORKS DIRECTOR REQUIRED



BUSINESS COMMERCIAL TYPE SIDEWALK SECTION

NOTES

1. ALL CONCRETE TO BE 4000 PSI (6 SACKS PER CUBIC YARD), 3/4" AGGREGATE.
2. NEW CLASS II AGGREGATE BASE REQUIRED FOR ALL CONSTRUCTION.
3. ALL SIDEWALKS SHALL BE 4" THICK. SIDEWALKS SHALL BE 6" THICK AT DRIVEWAYS.
4. ON STANDARD SIDEWALKS, 1/2" EXPANSION JOINTS SHALL BE INSTALLED AT 40' ON CENTER AND WEAK PLANE JOINTS SHALL BE INSTALLED MIDWAY BETWEEN EXPANSION JOINTS. ON CURB ADJACENT SIDEWALKS, EXPANSION JOINTS AND WEAK PLANE JOINTS SHALL BE ALIGNED WITH THE EXPANSION JOINTS IN THE CURB AND GUTTER.
5. TRANSVERSE SCORE LINES SHALL BE INSTALLED AT 4' INTERVALS ON 4' RESIDENTIAL AND 5' COMMERCIAL SIDEWALKS. FOR 5.5' ADJACENT SIDEWALKS, SCORE LINES SHALL BE INSTALLED AT 5' INTERVALS.
6. EXPANSION JOINTS SHALL BE INSTALLED AT ALL UTILITY BOXES AS DIRECTED BY THE ENGINEER.
7. COMPACTION TESTS ARE REQUIRED ON NATIVE SUBGRADE AND CLASS II AB FOR ALL CONSTRUCTION.
8. FOR ADJACENT SIDEWALK AND BUSINESS OR COMMERCIAL SIDEWALKS, STREET TREE WELLS SHALL BE FIELD LOCATED BY THE ENGINEER PRIOR TO POURING SIDEWALK.
9. ALL SIDEWALKS SHALL MAINTAIN A 4' A.D.A. PATH OF TRAVEL WITHOUT OBSTRUCTIONS.

STANDARD DETAILS SIDEWALK SECTIONS

REGISTERED PROFESSIONAL ENGINEER
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Date: AUGUST 06, 2020
Scale:

DRAWING TITLE: PROPOSED SIDEWALK AND CURB DETAILS

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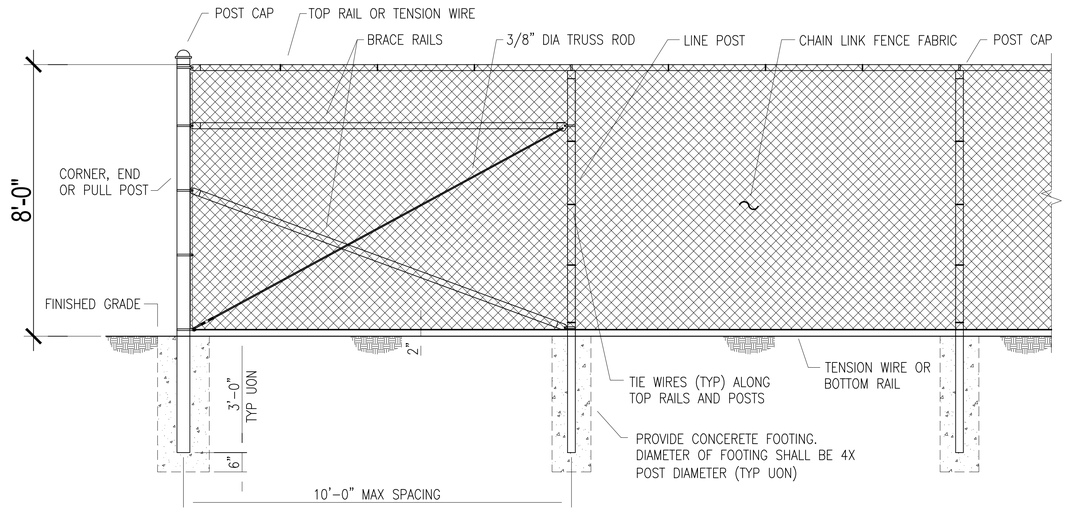
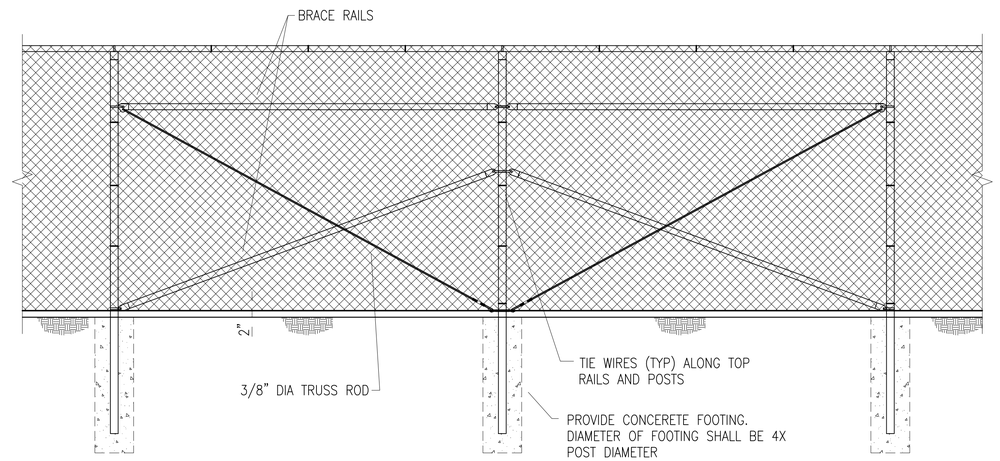


TYPICAL FENCE AND CORNER PANEL ELEVATION

SCALE: 1" = 1'-0"

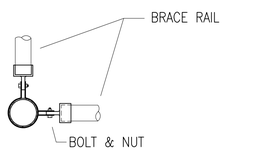


TYPICAL FENCE AND BRACED PANEL ELEVATION

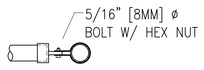
SCALE: 1" = 1'-0"

NOTE (1): A BOTTOM RAIL CAN BE ADDED FOR SECURITY, IT SHALL BE INSTALLED APPROX 3" ABOVE GRADE (A MINIMUM OF 2" AND A MAXIMUM OF 4"). HARDWARE SHALL BE WELDED OR SHOT NAILED TO POSTS AND RAILS IN ORDER TO SECURE IN PLACE. ATTACH FABRIC TO NEW BOTTOM RAIL TO ELIMINATE POSSIBILITY OF PEELING UP FABRIC.

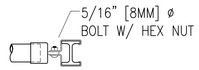
NOTE (2): SOME LOCATIONS MAY REQUIRE 8' OF FABRIC.



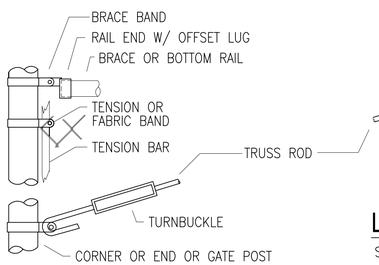
PLAN



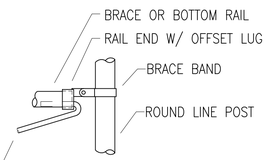
PLAN – ROUND POST



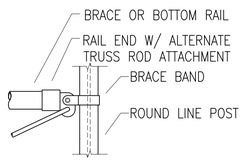
PLAN – "H" POST



ELEVATION



ELEVATION – ROUND POST



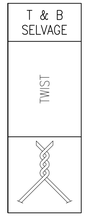
ELEVATION – "H" POST

LINE POST DETAILS

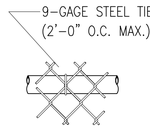
SCALE: 1 1/2" = 1'-0"

CORNER OR END POSTS

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

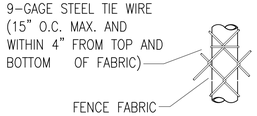


PLAN – ROUND POST



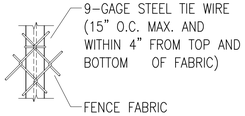
ELEVATION
TOP OR BRACE RAIL ATTACHMENT

PLAN – "H" POST

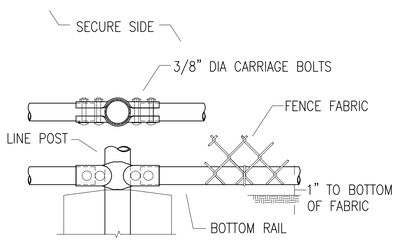


ELEVATION – ROUND POST

FITTINGS NOTES
1. METRIC DIMENSIONS ARE NOMINAL EQUIVALENTS TO U.S. DIMENSIONS. 2. ALL FITTINGS MATERIAL SHALL BE AS SPECIFIED.



ELEVATION – "H" POST



BOTTOM RAIL OPTION

1 PROPOSED CHAIN LINK FENCING DETAILS

Scale: AS NOTED

NOTE: STRUCTURAL ENGINEERING DRAWINGS SUPERSEDE ARCHITECTURAL RELATED

REGISTERED PROFESSIONAL ENGINEER – BARRETT CROCKETT – C 057196 Exp. 12.31.2021 – CIVIL – STATE OF CALIFORNIA – 8-12-2020

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Date: AUGUST 06, 2020
Scale: AS NOTED

DRAWING TITLE: PROPOSED CHAIN LINK FENCING DETAILS

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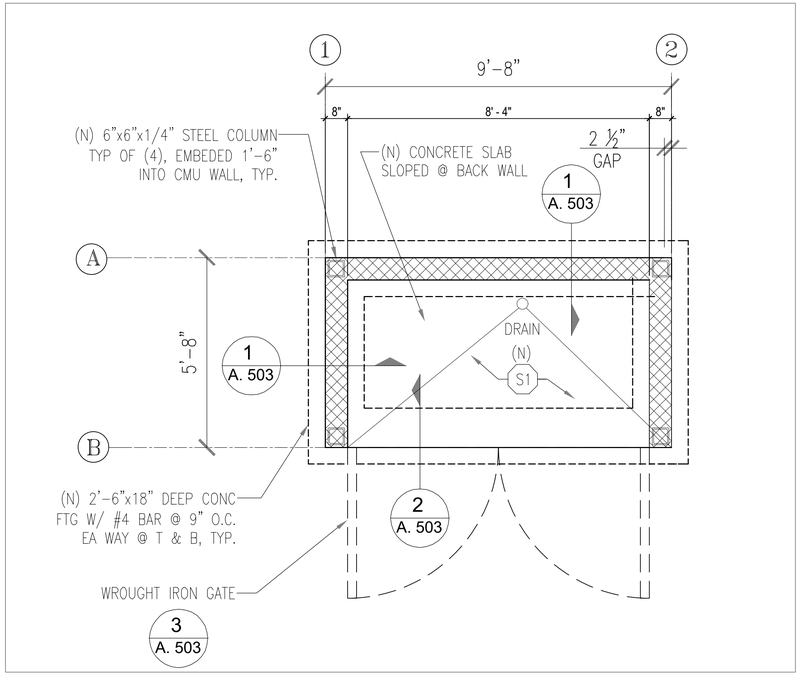
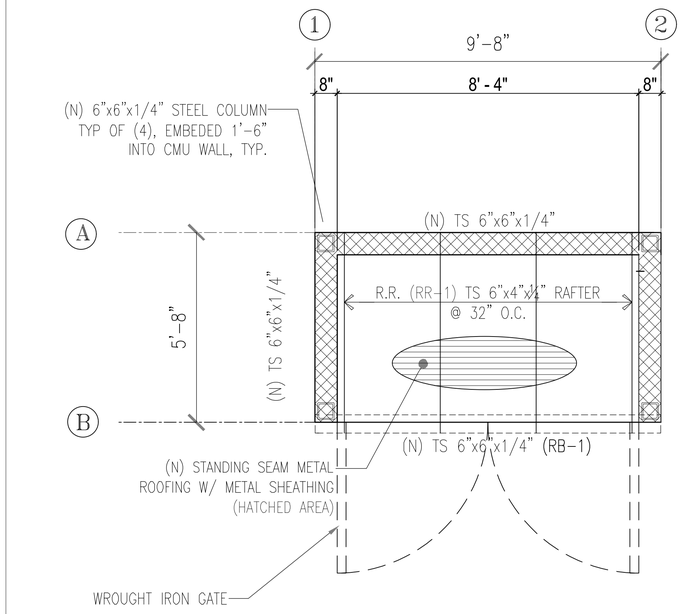
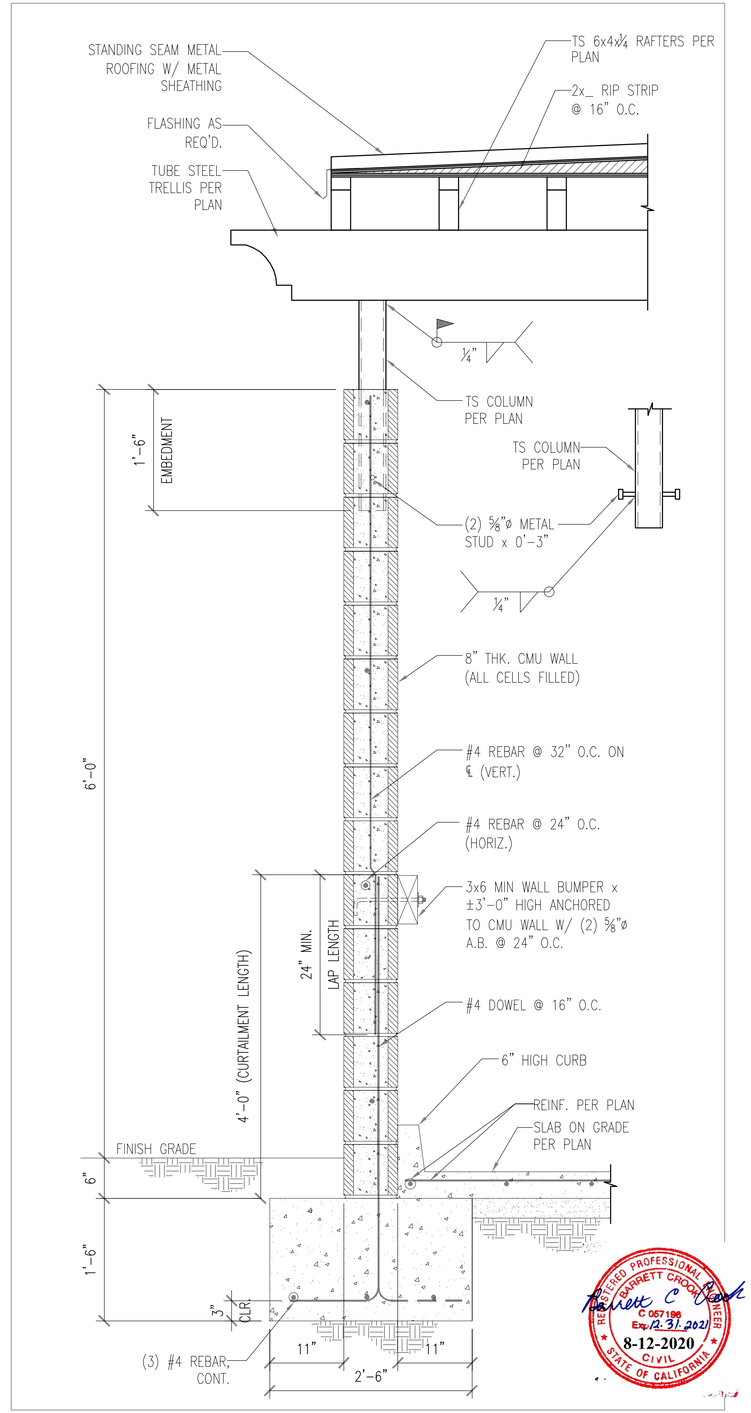


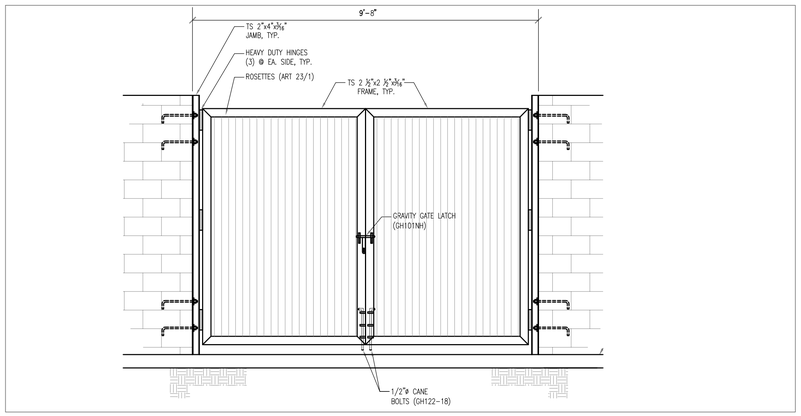
TRASH ENCLOSURE FDN PLAN SCALE : 1/2"=1'-0"



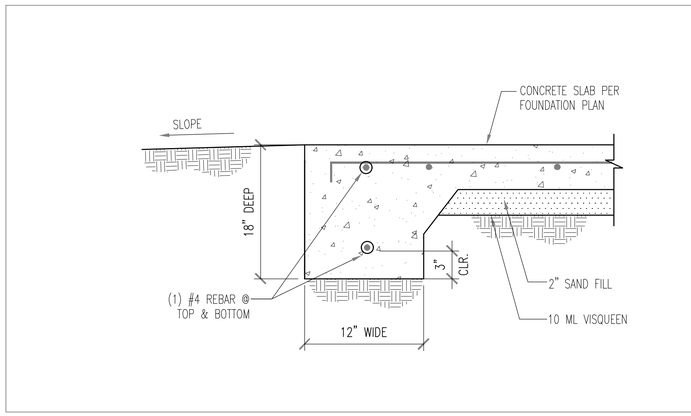
TRASH ENCLOSURE FRAMING PLAN SCALE : 1/2"=1'-0"



1 SECTION OF TRASH ENCL. SIDE WALLS NTS



3 HINGED GATE DETAILS 1/2"=1'-0"



2 SLAB EDGE @ ENTRY NTS

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SHEPARD PLACE CALIFORNIA CITY, CA 93505

Date: AUGUST 06, 2020
Scale: AS NOTED

DRAWING TITLE: TRASH ENCLOSURE PLAN, ELEVATION & DETAILS

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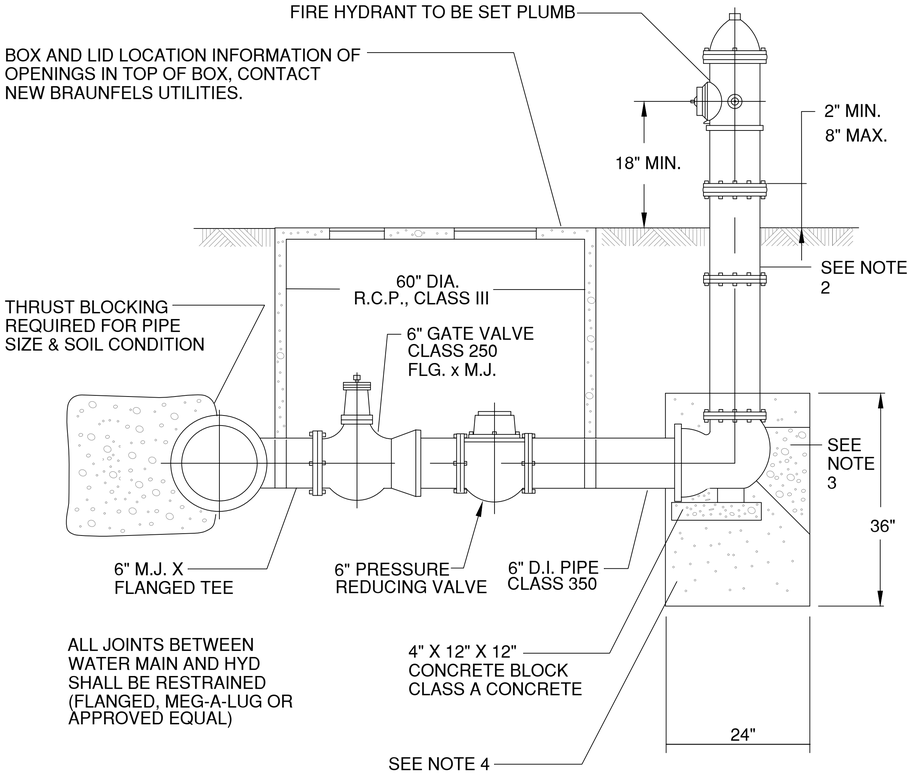


NOTES:

1. HYDRANTS ARE NOT TO BE PLACED IN SIDEWALK AREAS. SEE NEW BRAUNFELS UTILITIES STANDARD SPECIFICATIONS FOR LOCATION OF HYDRANT.
2. FOR BURY DEPTHS GREATER THAN 5', ONE BARREL EXTENSION NOT EXCEEDING 2' IN LENGTH SHALL BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT.
3. CONCRETE BLOCKING WITH A MIN. 1 1/2 FT^2 BEARING AREA , CLASS A CONCRETE. DO NOT BLOCK DRAIN HOLES.
4. CRUSHED STONE OR GRAVEL SHALL BE PLACED AROUND THE BOTTOM OF THE HYDRANT FOR A RADIUS OF AT LEAST 12" AND EXTEND AT LEAST 12" ABOVE THE OUTLET. DO NOT BLOCK DRAIN HOLES.

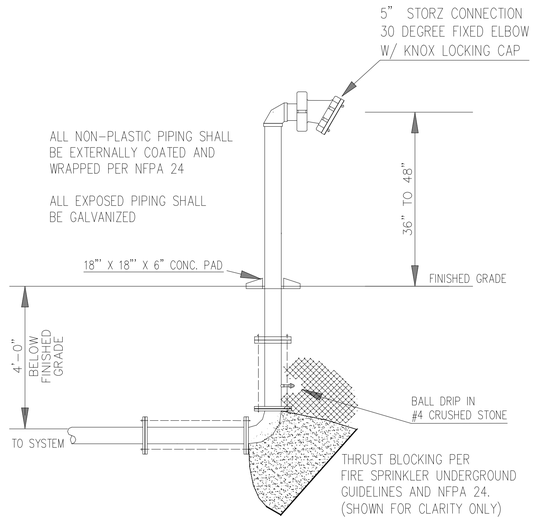
1 FIRE HYDRANT INSTALLATION WITH PRESSURE REDUCING VALVE

Scale: NTS

REMOTE FDC

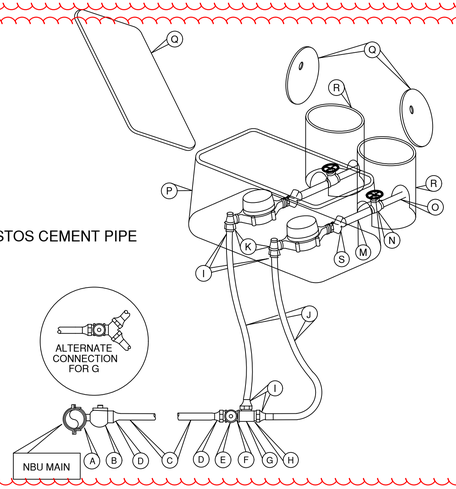
GENERAL NOTES

1. Minimum pipe size leading to the Storz FDC shall be a minimum of 4 in. A 6 in. minimum is required for all systems with a total demand exceeding 750 GPM.
2. Knox StorzGuard Locking Caps are required on all connections.
3. All exposed piping and fittings to be galvanized with the exceptions of the Storz connection.
4. Embedment and underground details below are shown for clarity only.
5. Concrete pad, if provided, shall provide a min. ¼ in. spacing between the pad and the pipe.
6. Reference FDC Bollard Detail for required protection.



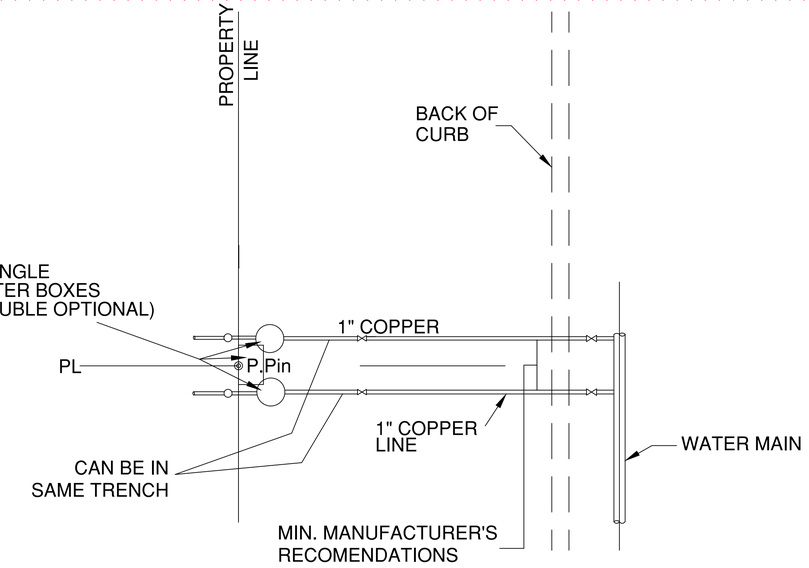
2 REMOTE FDC

Scale: NTS



MATERIAL LIST:

- (A) SERVICE CLAMP REQUIRED ON ALL PLASTIC & ASBESTOS CEMENT PIPE AND ON ALL IRON PIPE 12" AND SMALLER.
- (B) 1 1/2" CORPORATION STOP - SERVICE PIPE OUTLET.
- (C) 1 1/2" SERVICE PIPE.
- (D) 1 1/2" COUPLING: SERVICE PIPE TO MALE I.P.T. (COMPRESSION FITTINGS)
- (E) 1 1/2" BALL VALVE.
- (F) 1 1/2" CLOSE NIPPLE, BRONZE I.P. THREAD.
- (G) 1 1/2" BRONZE TEE.
- (H) BRONZE BUSHING, 1 1/2" X 1", I.P. THREADS



NOTES:

1. STANDARD LOCATIONS WITH NO SIDEWALK OR WHEN SIDEWALK IS NEXT TO CURB
2. END OF SERVICE PIPE TO BE 48" PAST PROPERTY LINE OR IF UNDERGROUND ELECTRIC IS PRESENT IN EASEMENT THEN SERVICE TO END 48" PAST ELECTRIC CONDUIT.

NOTES:

1. UTILITY CONTRACTOR INSTALLS WATER CONNECTION TO MAIN WATER PIPE, FITTINGS AND VALVES INCLUDING STOP VALVE, REFER TO INSTALLATION DETAILS FOR LOCATION OF STOP VALVES. ALL INSTALLATIONS SHALL BE MADE IN ACCORDANCE WITH INFORMATION SHOWN ON APPLICABLE STANDARD DRAWINGS AND WILL BE INSPECTED BY CITY OF CALIFORNIA CITY, CONSTRUCTION INSPECTION PERSONNEL.
2. DEVELOPER'S CONTRACTOR TO INSTALL WATER LINES INCLUDING FITTINGS AND VALVES UP TO METER, INSTALL METER BOXES AND COVERS, ALL IN ACCORDANCE WITH INFORMATION ON APPLICABLE STANDARD DRAWING. A VENTED SPACER MAY BE USED TO ASSURE PROPER SPACING AND ALIGNMENT OF METER FITTINGS.
3. DEVELOPER AND/OR CUSTOMER IS RESPONSIBLE FOR METER BOX UNTIL METER IS INSTALLED AND IS CONNECTED. ANY MISSING OR DAMAGED PARTS SHALL BE REINSTALLED BY DEVELOPER/CUSTOMER WHO SHALL GUARANTEE, FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE, THAT CONNECTIONS TO SYSTEMS ARE FREE FROM DEFECTS IN WORKMANSHIP OR MATERIALS. DEVELOPER/CUSTOMER ALSO HAS THE RESPONSIBILITY TO ASSURE THAT ALL VALVES AND STOPS, METER BOX AND REMAIN CLEAR OF SIDEWALKS AND OTHER OBSTRUCTIONS.
4. NO METER BOX SHALL BE SET IN SIDEWALK AREA WITHOUT WRITTEN APPROVAL FROM THE WATER SYSTEMS ENGINEERING DEPARTMENT.

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Project Name and Address:

AMERICAN GRO ECO, INC.
SHEPARD PLACE CALIFORNIA CITY, CA 93505

Date: AUGUST 06, 2020
Scale:

DRAWING TITLE: FIRE HYDRANT AND FDC INSTALLATION DETAILS

Sheet : 21/40
Page No. : A. 500.4

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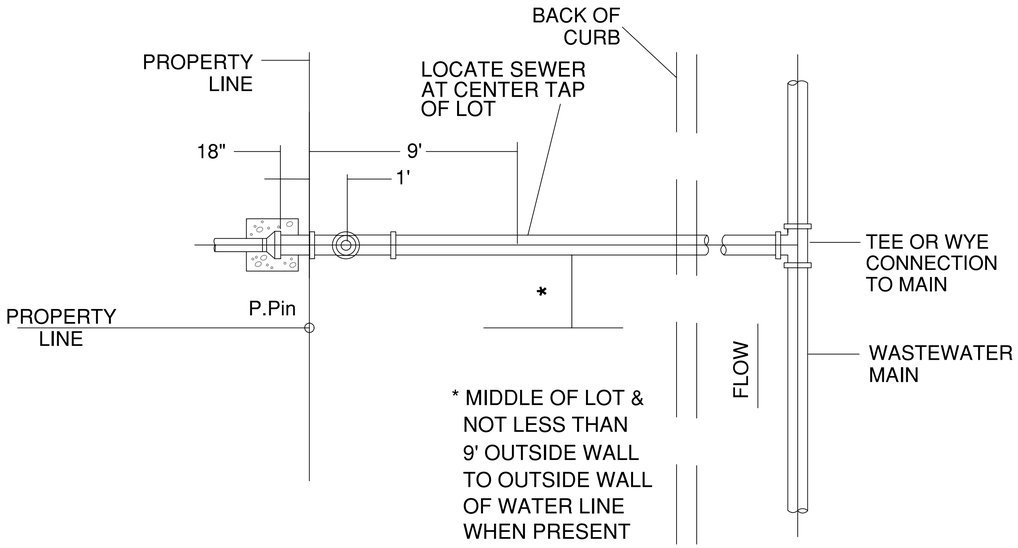

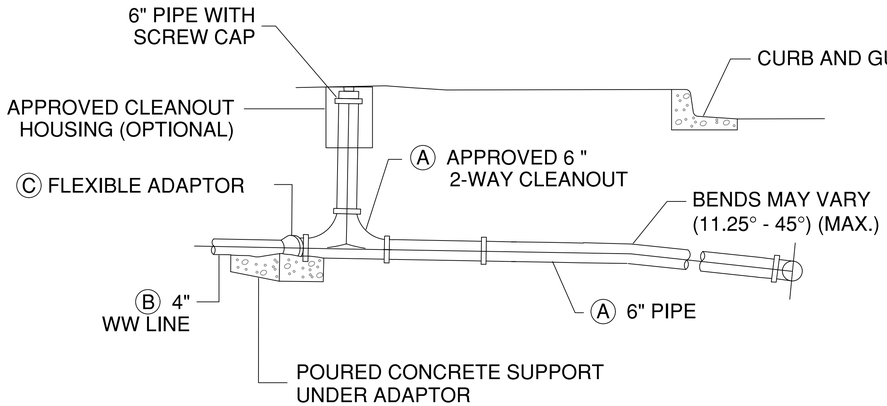

NOTES:

Ⓐ TO BE INSTALLED AND INSPECTED DURING SUBDIVISION CONSTRUCTION.

Ⓑ BUILDING INSPECTION DEPARTMENT SHALL INSPECT CUSTOMER'S WASTEWATER LINE, EXCEPT CONNECTION AT TAP.

Ⓒ OUTSIDE CITY, CITY OF CALIFORNIA CITY SEWER DEPARTMENT SHALL INSPECT CONNECTION AT TAP.

1 SINGLE WASTE WATER SERVICE CONNECTION DETAIL

Scale: NTS

NOTES:

1. UTILITY CONTRACTOR, DURING SUBDIVISION CONSTRUCTION, INSTALLS WASTEWATER CONNECTION TO MAIN, 6" STUB WITH 6" SERVICE BRANCH WITH 2-WAY CLEANOUT AND RISER FOR CLEANOUTS (CAPPED) AND PLUGS FOR 2-WAY CLEANOUTS AT PROPERTY LINE END. ALL WASTEWATER PIPING SHALL HAVE ELASTOMERIC GASKET TYPE JOINTS AND SHALL SLOPE DOWNWARD TO MAIN 2%, 1/4 " PER FOOT, MINIMUM TO 45° MAXIMUM. DEPTH OF SERVICE STUB AT PROPERTY LINE WILL BE SHOWN ON PLANS BY ENGINEER OR DESIGNATED REPRESENTATIVE IF GREATER THAN 4', OTHERWISE, THE INSTALLED DEPTH WILL TYPICALLY BE 4' TO 6'. IF WASTEWATER SERVICE LINE TO MAIN REQUIRES DEFLECTION EXCEEDING 45°, REFER TO DETAIL DRAWING 301. ALL INSTALLATIONS SHALL BE MADE IN ACCORDANCE WITH INFORMATION SHOWN ON APPLICABLE STANDARD DRAWINGS.
2. CUSTOMERS REMOVE PLUGS FROM 2-WAY CLEANOUT, AT PROPERTY LINE, INSTALL MINIMUM 18" LENGTH OF 6" PIPE, INSTALL 4" WASTEWATER LINES [EXTEND 4" PIPE 6" MINIMUM INTO 6" PIPE AND JOINT WITH FLEXIBLE ADAPTOR] AND CAST IN PLACE CONCRETE SUPPORT BLOCK UNDER THE FLEXIBLE ADAPTOR. BLOCK SHALL HAVE MINIMUM DIMENSIONS OF 6" THICK AND 18" WIDE AND EXTEND A MINIMUM OF 6" BEYOND EITHER END OF ADAPTOR. IF WASTEWATER WILL NOT SATISFACTORILY FLOW BY GRAVITY TO SEWER MAIN ADJACENT TO PROPERTY, PUMP EQUIPMENT MUST BE PROVIDED BY THE CUSTOMER AS PART OF CUSTOMER'S WASTEWATER SYSTEM.
3. CUSTOMER IS RESPONSIBLE FOR PIPING SYSTEM UNTIL WASTEWATER IS CONNECTED. ANY MISSING OR DAMAGED PARTS SHALL BE REINSTALLED BY CUSTOMER WHO SHALL GUARANTEE, FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE, THAT CONNECTIONS TO NBU SYSTEMS ARE FREE FROM DEFECTS IN WORKMANSHIP OR MATERIALS. CUSTOMER ALSO HAS THE RESPONSIBILITY TO ASSURE THAT 2-WAY CLEANOUTS REMAIN CLEAR OF SIDEWALKS AND OTHER OBSTRUCTIONS.
4. PIPING IN STREET RIGHT-OF-WAY AND IN EASEMENT AREA SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY NBU STANDARD SPECIFICATION; MATERIALS SHALL BE AS SPECIFIED; BACKFILL ABOVE THE GRANULAR BEDDING. SERVICE LINES IN THESE AREAS SHALL HAVE A MINIMUM COVER BELOW FINAL STREET GRADE OF 42"; ANY EXCEPTION MUST BE SPECIFICALLY APPROVED BY THE ENGINEER.

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Date: AUGUST 06, 2020
Scale:

DRAWING TITLE: SINGLE WASTE WATER SERVICE CONNECTION DETAILS

Sheet : A. 500.5

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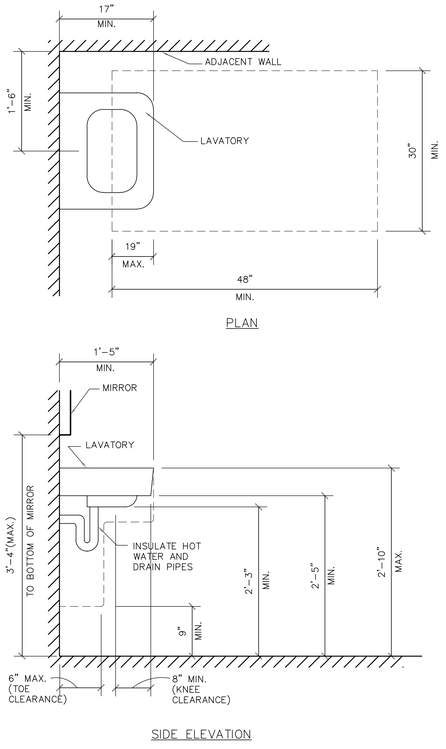
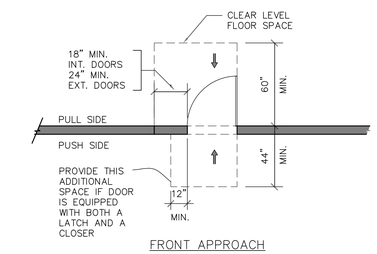


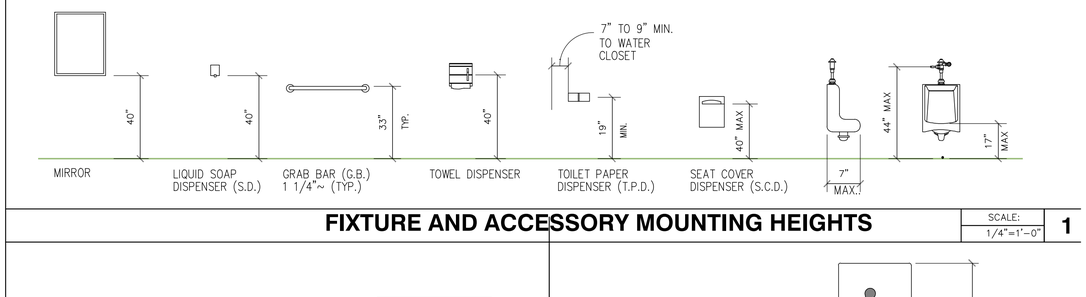
LAVATORY CLEARANCES

SCALE: 1"=1'-0" | 12



DOOR CLEARANCES

SCALE: 1/4"=1'-0" | 9



FIXTURE AND ACCESSORY MOUNTING HEIGHTS

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

DISPLAY CONDITIONS

INTERNATIONAL SYMBOL OF ACCESSIBILITY

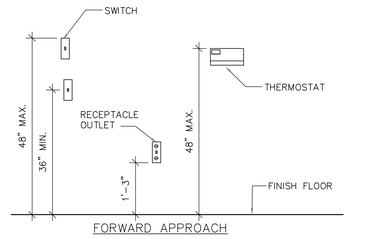
ACCESSIBILITY SYMBOL

SCALE: NONE | 5

NOTES:
AT EVERY PRIMARY PUBLIC ENTRANCE AND AT EVERY MAJOR JUNCTION ALONG, LEADING TO AN ACCESSIBLE PATH OF TRAVEL THERE SHALL BE A SIGN DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY

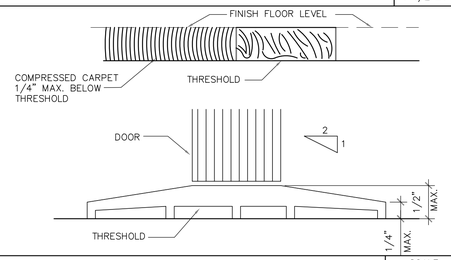
WALL - SIGNAGE

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



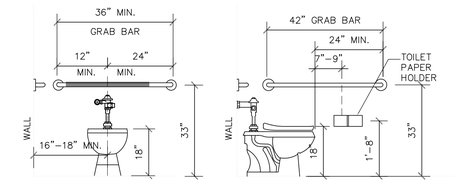
CONTROLS & OPERATING MECHANISMS

SCALE: 1/4"=1'-0" | 6



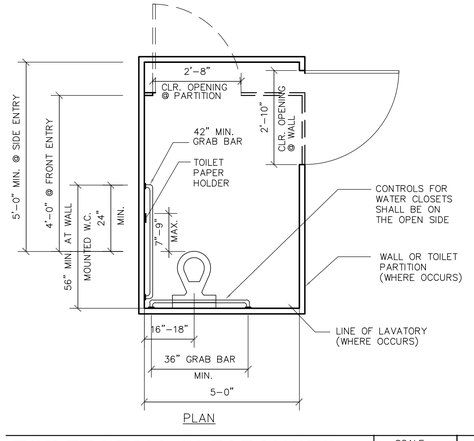
THRESHOLD / TRANSITIONS

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



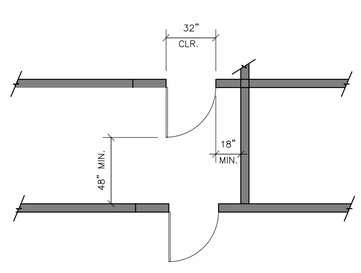
TOILET STALL CLEARANCES

SCALE: 1/2"=1'-0" | 13



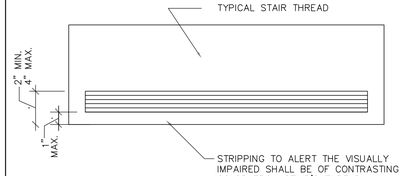
DOORS IN SERIES

SCALE: 1/4"=1'-0" | 10



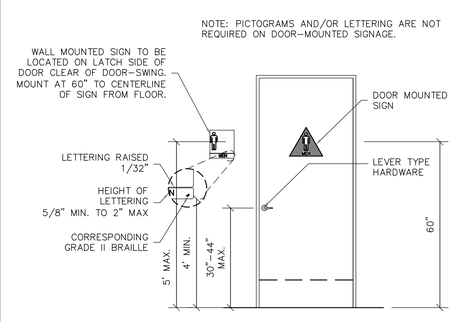
STRIPPING AT STEPS

SCALE: 1/4"=1'-0" | 11



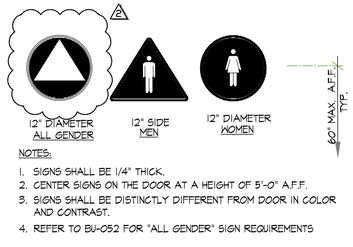
RESTROOM DOOR SIGN

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

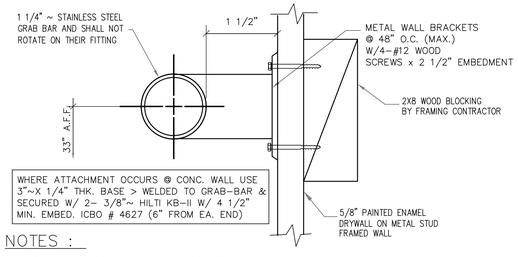


DOOR MOUNTED SIGNAGE

SCALE: 1/2"=1'-0" | 7



NOTES:
1. SIGNS SHALL BE 1/4" THICK.
2. CENTER SIGNS ON THE DOOR AT A HEIGHT OF 5'-0" A.F.F.
3. SIGNS SHALL BE DISTINCTLY DIFFERENT FROM DOOR IN COLOR AND CONTRAST.
4. REFER TO BU-052 FOR "ALL GENDER" SIGN REQUIREMENTS



NOTES :

1. GRAB BARS SHALL BE LOCATED ON EACH SIDE, OR ONE SIDE AND THE BACK OF THE PHYSICALLY DISABLED TOILET STALL OR COMPARTMENT AND SHALL BE SECURELY ATTACHED 33 INCHES ABOVE AND PARALLEL TO THE FLOOR.
2. GRAB BARS AT THE SIDE SHALL BE AT LEAST 42INCHES LONG WITH THE FRONT END POSITIONED 24 INCHES IN FRONT OF THE WATER CLOSET STOOL, AND GRAB BARS AT THE BACK SHALL BE NOT LESS THAN 36 INCHES.
3. THE DIAMETER OR WIDTH OF THE GRIPPING SURFACES OF THE GRAB BAR SHALL BE 1 1/4" TO 1 1/2" OR THESHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE.
4. GRAB BAR SHALL NOT ROTATE WITHIN THEIR FITTINGS.
5. EDGES SHALL HAVE A MINIMUM RADIUS OF 1/8"
6. GRAB BAR FASTENERS AND MOUNTING DEVICES SHALL BE DESIGNED FOR 250 POUNDS PER LINEAR FOOT LOAD.
7. IF THE GRAB BARS ARE MOUNTED ADJACENT TO A WALL, THE SPACE BETWEEN THE WALL AND THE GRAB BARS SHALL BE 1 1/2 ".

TYP. GRAB BAR DETAIL

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

REGISTERED PROFESSIONAL ENGINEER
BARRETT C. CROOK
C 057196
Exp. 12.31.2021
CIVIL
8-12-2020
STATE OF CALIFORNIA

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DRAWING TITLE: HANDICAP DETAILS

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INFORMATION BULLETIN / PUBLIC - BUILDING CODE
REFERENCE NO.: LABC Sec. 11B-226.4, 307,308, 309,704,902 Effective: 01/01/2020
DOCUMENT NO.: P/BC 2020-089 Revised:
Previously Issued As: P/BC 2017-089

ACCESSIBILITY DETAILS FOR OBSTRUCTIONS, REACH RANGES, TELEPHONES & BABY CHANGING STATIONS

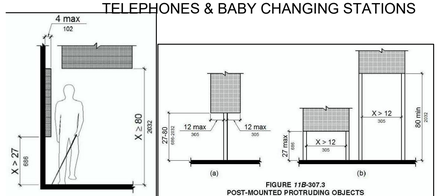


FIGURE *11B*-307.2
LIMITS OF PROTRUDING OBJECTS

FIGURE *11B*-307.3
POST-MOUNTED PROTRUDING OBJECTS

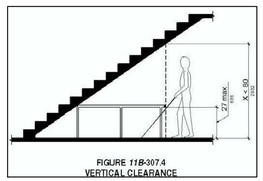
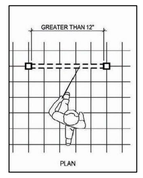


FIGURE *11B*-307.4
VERTICAL CLEARANCE



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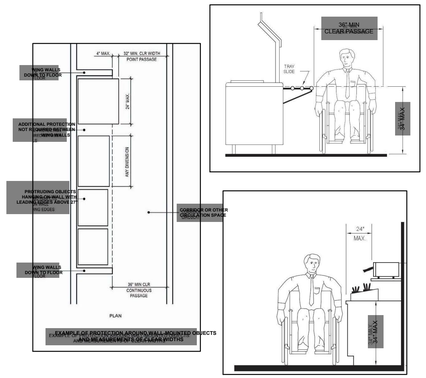

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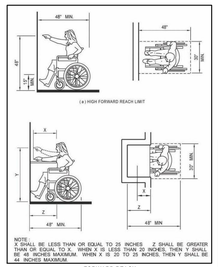
REACH RANGE



FORWARD REACH

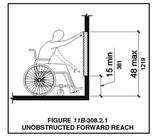


FIGURE *11B*-308.2.1
UNOBSTRUCTURED FORWARD REACH

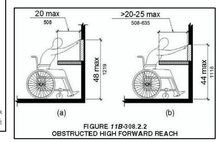


FIGURE *11B*-308.2.2
OBSTRUCTED HIGH FORWARD REACH

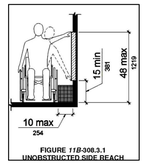


FIGURE *11B*-308.3.1
UNOBSTRUCTED SIDE REACH

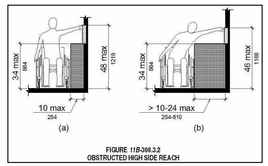


FIGURE *11B*-308.3.2
OBSTRUCTED HIGH SIDE REACH

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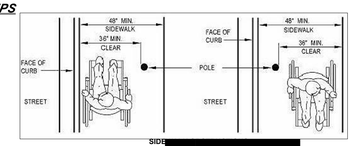
THESE DIAGRAMS ILLUSTRATE THE SPECIFIC REQUIREMENTS OF THESE REGULATIONS AND ARE INTENDED ONLY AS AN AID FOR BUILDING DESIGN AND CONSTRUCTION.

RAMPS



11B-505.10.1 TOP AND BOTTOM EXTENSION AT RAMPS. Ramp handrails shall extend horizontally above the landing for 12 inches beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or landing surface, or shall be continuous to the handrail of an adjacent ramp run.

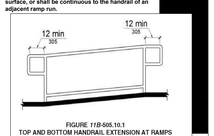


FIGURE *11B*-505.10.1
TOP AND BOTTOM HANDRAIL EXTENSION AT RAMPS

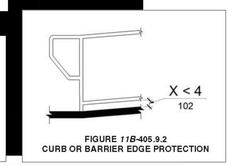
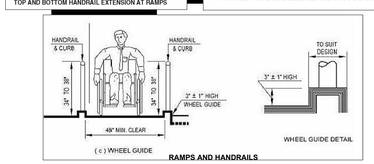


FIGURE *11B*-405.9.2
CURB OR BARRIER EDGE PROTECTION



RAMPS AND HANDRAILS

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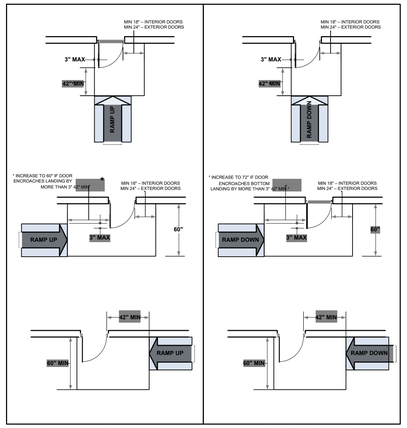
DOORWAYS AT RAMP LANDINGS



DOORWAYS AT TOP LANDING SPACE OF A RAMP

DOORWAYS AT BOTTOM LANDING SPACE OF A RAMP

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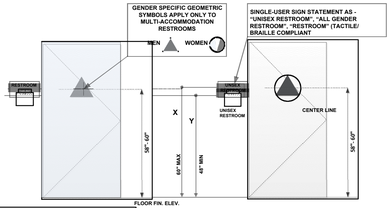
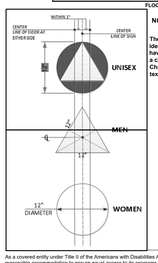
TOILETS AND BATHING FACILITIES GEOMETRIC SYMBOLS





NOTE: PICTOGRAMS NOT REQUIRED

The provisions of CBC Chapter 11B require that a sanitary facility that is not specifically identified as for "men" or "women" (referred to in Chapter 11B as a "unisex" facility) have a geometric symbol on the door that is an equilateral triangle superimposed onto a circle. The "unisex" symbol is the only specific indicator required to be provided by Chapter 11B for a toilet facility that is available for use by all individuals. No pictogram, text, or braille is required on the symbol. (See attachment, Exhibit A.)

TACTILE / RAISED CHARACTER & GO-II BRAILLE SIGN

11B-703.4.1 Height above finish floor or ground.

Tactile characters on signs shall be located 48 inches (1219 mm) minimum above the finish floor or ground surface, measured from the baseline of the lowest Braille cells and 60 inches (1524 mm) maximum above the finish floor or ground surface, measured from the baseline of the highest line of raised characters. Exception: Tactile characters for elevator car controls shall not be required to comply with Section 11B- 703.4.1. 1

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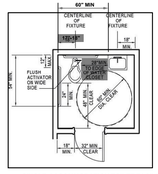
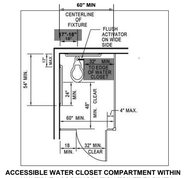
INFORMATION BULLETIN / PUBLIC - BUILDING CODE
REFERENCE NO.: LABC Sec.11B-305.604,605 Effective: 01/01/2020
DOCUMENT NO.: P/BC 2020-087 Revised:
Previously Issued As: P/BC 2017-087

ACCESSIBILITY DETAILS FOR RESTROOMS AND DRINKING FOUNTAINS



SINGLE-ACCOMMODATION TOILET FACILITY



ACCESSIBLE WATER CLOSET COMPARTMENT WITHIN A MULTIPLE-ACCOMMODATION TOILET FACILITY

Doors shall not swing into the clear floor space or clearance required for any fixture. Other than the door to the accessible water closet compartment, a door in any position, may encroach into the turning space by 12 inches maximum. (11B-603.2.3)
Exceptions: (2) Where the toilet room or bathing room is for individual use and a clear floor space complying with Section 11B-305.3 is provided within the room beyond the arc of the door swing, doors shall be permitted to swing into the clear floor space or clearance required for any fixture.

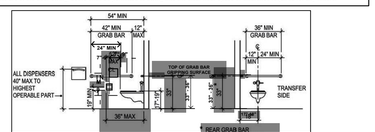


FIGURE 11B-604.7
DISPENSER OUTLET LOCATION

FIGURE 11B-604.5.1
SIDE WALL GRAB BAR AT WATER CLOSETS

FIGURE 11B-604.5.2
REAR WALL GRAB BAR AT WATER CLOSETS

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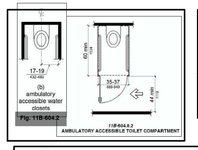

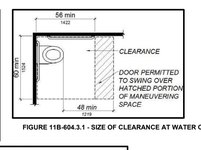

FIGURE 11B-604.3.1 - SIZE OF CLEARANCE AT WATER CLOSETS

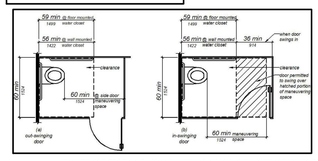

FIGURE 11B-604.8.1.1.2 - MANEUVERING SPACE WITH SIDE-OPENING DOOR

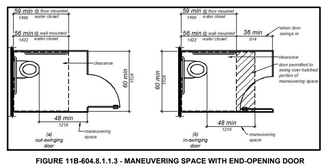

FIGURE 11B-604.8.1.1.3 - MANEUVERING SPACE WITH END-OPENING DOOR

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SINK / URINAL

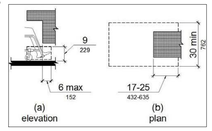


FIGURE 11B-306.2 - TOE CLEARANCE

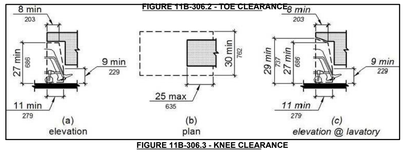
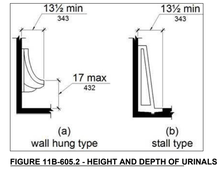


FIGURE 11B-306.3 - KNEE CLEARANCE



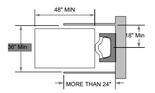


FIGURE 11B-605.2 - HEIGHT AND DEPTH OF URINALS

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REGISTERED PROFESSIONAL ENGINEER
BARRETT CROOK
C 057196
Exp. 12-31-2021
8-12-2020
CIVIL
STATE OF CALIFORNIA

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Project Name and Address:

AMERICAN GRO ECO, INC.
SHEPARD PLACE CALIFORNIA CITY, CA 93505

Date: AUGUST 06, 2020
Scale:

DRAWING TITLE: HANDICAP DETAILS

Sheet : 19/40

Page No. : A. 600.2

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No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

GENERAL NOTES FOR COMMERCIAL ACCESSIBILITY

NOTE: Code references are to the 2020 edition of the Los Angeles Building Code

The State of California delegates authority to the local jurisdiction to ensure compliance with Title 24, Part 2 of the California Code of Regulations. The following general notes indicate specific areas of Title 24, Part 2 which are applicable to your project. Please be aware that the owner(s) of the building and his/her consultants are responsible for compliance with the most current Federal Regulations contained in the Americans with Disabilities Act (ADA) and Fair Housing Act (FHA). Where the ADA & FHA requirements exceed those contained in Title 24, Part 2, it is the responsibility of the owners and their consultants to ensure compliance with the most current ADA & FHA regulations, as the City is not authorized to review plans or inspect projects for ADA & FHA compliance.

The following, applicable, general notes shall be provided on the plans.

A. APPLICATION AND ADMINISTRATION

1. Public accommodations shall maintain in operable working condition those features of facilities and equipment that are required to be accessible to and useable by persons with disabilities. Isolated or temporary interruptions in service or accessibility due to maintenance or repairs shall be permitted. §11B-**108**

B. BUILDING BLOCKS

FLOOR OR GROUND SURFACES

1. Floor and ground surfaces shall be stable, firm, and slip resistant. §11B-302.1
2. Carpet or carpet tile shall be securely attached and shall have a firm cushion, pad, or backing or no cushion or pad. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. Pile height shall be ½ inch maximum. §11B-302.2, Figure 11B-302.2

CHANGES IN LEVEL

3. Vertical changes in level for floor or ground surfaces may be ¼ inch high maximum and without edge treatment. Changes in level greater than ¼ inch and not exceeding ½ inch in height shall be beveled with a **slope not steeper than 1:2. §11B-303, Figures 11B-303.2 & 11B-303.3**
4. Changes in level greater than ½ inch in height shall be ramped and shall comply with the requirements of 11B-405 Ramps or 11B-406 Curb Ramps as applicable. §11B-303
5. Abrupt changes in level exceeding 4 inches in a vertical dimension between walks, sidewalks or other pedestrian ways and adjacent surfaces or features shall be identified by warning curbs at least 6 inches in height above the walk or sidewalk surface or by guards or handrails with a guide rail centered 2 inches minimum and 4 inches maximum above the surface of the walk or sidewalk. These requirements do not apply between a walk or sidewalk and an adjacent street or driveway. §11B-303.5

TURNING SPACE

6. Circular turning spaces shall be a space of 60 inches diameter minimum and may include knee and toe clearance complying with 11B-306 Knee and Toe Clearance. §11B-304.3.1
7. T-Shaped turning spaces shall be a T-shaped space within a 60 inch square minimum with arms and base 36 inches wide minimum. Each arm of the T shall be clear of obstructions 12 inches minimum in each direction and the base shall be clear of obstructions 24 inches minimum. §11B-304.3.2, Figure 11B-304.3.2

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KNEE AND TOE CLEARANCE

8. For lavatories and built-in dining and work surfaces required to be accessible, toe clearance shall be provided that is 30 inches in width and 9 inches in height above the finish floor or ground for a depth of 19 inches minimum. §11B-306.2.1
9. Toe clearance shall extend 19 inches maximum under lavatories for toilet and bathing facilities and 25 inches maximum under other elements. §11B-306.2.2
10. At lavatories in toilet and bathing facilities, knee clearance shall be provided that is 30 inches in width for a depth of 11 inches at 9 inches above the finish floor or ground and for a depth of 8 inches at 27 inches above the finish floor or ground increasing to 29 inches high minimum above the finish floor or ground at the front edge of a counter with a built-in lavatory or at the front edge of a wall-mounted lavatory fixture. §11B-**306.3.3, Figure 11B-306.3(c)**
11. At dining and work surfaces required to be accessible, knee clearance shall be provided that is 30 inches in width at 27 inches above the finish floor or ground for a depth of at least 19 inches. §11B-306.3

PROTRUDING OBJECTS

12. Except for handrails, objects with leading edges more than 27 inches and less than 80 inches above the finish floor or ground shall protrude no more than 4 inches horizontally into the circulation path. Handrails may protrude 4½ inches maximum. §11B-307.2, Figure 11B-307.2
13. Freestanding objects mounted on posts or pylons shall overhang circulation paths no more than 12 inches when located from 27 to 80 inches above the finish floor or ground. §11B-307.3, Figure 11B-307.3(a)
14. Protruding objects shall not reduce the clear width required for accessible routes. §11B-307.5
15. Lowest edge of a sign or other obstruction, when mounted between posts or pylons separated with a clear distance greater than 12 inches, shall be less than 27 inches or more than 80 inches above the finish floor **or ground. §11B-307.3, Figure 11B-307.3(b)**
16. Vertical clearance shall be at least 80 inches high on circulation paths except at door closers and door stops, which may be 78 inches minimum above the finish floor or ground. §11B-307.4
17. Guardrails or other barriers with a leading edge located 27 inches maximum above the finish floor or ground shall be provided where the vertical clearance on circulation paths is less than 80 inches high. §11B-307.4, **Figure 11B-307.4**
18. Where a guy support is used within either the width of a circulation path or 24 inches maximum outside of a circulation path, a vertical guy brace, sidewalk guy or similar device shall be used to prevent a hazard or an **overhead obstruction. §11B-307.4.1, Figure 11B-307.4.1**

REACH RANGES

19. Electrical controls and switches intended to be used by the occupant of a room or area to control lighting and receptacle outlets, appliances or cooling, heating and ventilating equipment shall be located within allowable reach ranges. Low reach shall be measured to the bottom of the outlet box and high reach shall be measured to the top of the outlet box. §11B-308.1.1
20. Electrical receptacle outlets on branch circuits of 30 amperes or less and communication system receptacles shall be located within allowable reach ranges. Low reach shall be measured to the bottom of the outlet box and high reach shall be measured to the top of the outlet box. §11B-308.1.2.
21. High forward reach that is unobstructed shall be 48 inches maximum and the low forward reach shall be 15 inches minimum above the finish floor or ground. §11B-308.2.1, Figure 11B-308.2.1
22. High forward reach shall be 48 inches maximum where the reach depth is 20 inches or less and 44 inches maximum where the reach depth exceeds 20 inches. High forward reach shall not exceed 25 inches in **depth. §11B-308.2.2, Figure 11B-308.2.2**
23. High side reach shall be 48 inches maximum and the low side reach shall be 15 inches minimum above the finish floor where the side reach is unobstructed or the depth of any obstruction does not exceed 10 inches. **§11B-308.3.1, Figure 11B-308.3.1**

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24. High side reach shall be 46 inches maximum above the finish floor or ground where the high side reach is over an obstruction more than 10 inches but not more than 24 inches in depth. §11B-308.3.2, Figure 11B-**308.3.2**
25. Obstructions for high side reach shall not exceed 34 inches in height and 24 inches in depth. §11B-308.3.2, **Figure 11B-308.3.2**
26. Obstructed high side reach for the top of washing machines and clothes dryers shall be permitted to be 36 inches maximum above the finish floor. §11B-308.3.2
27. Obstructed high side reach for the operable parts of fuel dispensers shall be permitted to be 54 inches maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing **curbs. §11B-308.3.2**

OPERABLE PARTS

28. Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. Force required to activate operable parts shall be 5 pounds maximum. §11B-309.4

C. ACCESSIBLE ROUTES

DETECTABLE WARNINGS AND DETECTABLE DIRECTIONAL TEXTURE

1. Detectable warning surfaces shall be yellow and approximate FS 33538 of Federal Standard 595C. §11B-**705.1.1.3.1**
2. Detectable warning surfaces shall provide a 70 percent minimum visual contrast with adjacent walking surfaces. Contrast in percent shall be determined by:

   Contrast percent = [(B1-B2)/B1] x 100 where

   B1 = light reflectance value (LRV) of the lighter area and

   B2 = light reflectance value (LRV) of the darker area

   §11B-705.1.1.3.2 (See exception)

DOORS, DOORWAYS, AND GATES

3. Doors, doorways, and gates providing user passage shall be provided in accordance with 11B-206.5 Doors, Doorways, and Gates. §11B-206.5
4. Doors, doorways and gates that are part of an accessible route shall comply with 11B-404 Doors, Doorways, and Gates. §11B-404.1
5. Door openings shall provide a clear width of 32 inches minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches deep shall provide a clear opening of 36 inches minimum. There shall be no projections into the required clear opening width lower than 34 inches above the finish floor or ground. Projections into the clear opening width between 34 inches and 80 inches above the finish floor or ground shall not exceed 4 inches. §11B-404.2.3
6. Swinging doors and gates shall have maneuvering clearances complying with Table 11B-404.2.4.1. §11B-**404.2.4.1**
7. Doorways less than 36 inches wide without doors or gates, sliding doors, or folding doors shall have maneuvering clearances complying with Table 11B-404.2.4.2. §11B-404.2.4.2
8. Maneuvering clearances for forward approach shall be provided when any obstruction within 18 inches of the latch side an interior doorway, or within 24 inches of the latch side of an exterior doorway, projects more than 8 inches beyond the face of the door, measured perpendicular to the face of the door or gate. §11B-**404.2.4.3**
9. Thresholds, if provided at doorways, shall be ½ inch high maximum. Raised thresholds and changes in level at doorways shall comply with 11B-302 Floor or Ground Surfaces and 11B-303 Changes in Level. §11B-**404.2.5**
10. Handles, pulls, latches, locks, and other operable parts on doors and gates shall comply with 11B-309.4 Operation. Operable parts of such hardware shall be 34 inches minimum and 44 inches maximum above

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the finish floor or ground. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides. §11B-404.2.7

11. The force for pushing or pulling open a door or gate other than fire doors shall be as follows: §11B-404.2.9
    a. Interior hinged doors and gates: 5 pounds maximum.
    b. Sliding or folding doors: 5 pounds maximum.
    c. Required fire doors: the minimum opening force allowable by the appropriate administrative authority, not to exceed 15 pounds.
    d. Exterior hinged doors: 5 pounds maximum.
12. Swinging door and gate surfaces within 10 inches of the finish floor or ground measured vertically shall have a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in these surfaces shall be within 1/16 inch of the same plane as the other and be free of sharp or abrasive edges. Cavities created by added kick plates shall be capped. §11B-404.2.10

RAMPS

13. Ramp runs shall have a running slope not steeper than 1:12 (8.33%). §11B-405.2
14. Cross slope of ramp runs shall not be steeper than 1:48 (2.083%). §11B-405.3
15. Floor or ground surfaces of ramp runs shall comply with 11B-302 Floor or Ground Surfaces. Changes in level other than the running slope and cross slope are not permitted on ramp runs. §11B-405.4
16. The clear width of a ramp run shall be 48 inches minimum. §11B-405.5
17. The rise for any ramp run shall be 30 inches maximum. §11B-405.6
18. Ramps shall have landings at the top and the bottom of each ramp run. §11B-405.7
19. Landings shall comply with 11B-302 Floor or Ground Surfaces. Changes in level are not permitted. §11B-**405.7.1**
20. The landing clear width shall be at least as wide as the widest ramp run leading to the landing. §11B-**405.7.2**
21. Top landings shall be 60 inches wide minimum. §11B-405.7.2.1
22. The landing clear length shall be 60 inches long minimum. §11B-405.7.3
23. Bottom landings shall extend 72 inches minimum in the direction of ramp run. §11B-405.7.3.1
24. Ramps that change direction between runs at landings shall have a clear landing 60 inches minimum by 72 inches minimum in the direction of downward travel from the upper ramp run. §11B-405.7.4
25. Where doorways are located adjacent to a ramp landing, maneuvering clearances required by 11B-404.2.4 and 11B-404.3.2 shall be permitted to overlap the required landing area. Doors, when fully open, shall not reduce the required ramp landing width by more than 3 inches. Doors, in any position, shall not reduce the minimum dimension of the ramp landing to less than 42 inches. §11B-405.7.5
26. Ramp runs shall have compliant handrails per 11B-505 Handrails. §11B-405.8
27. Edge protection complying with 11B-405.9.2 Curb or Barrier shall be provided on each side of ramp runs and at each side of ramp landings. §11B-405.9 (See exceptions)
28. A curb or barrier shall be provided that prevents the passage of a 4 inch diameter sphere, where any portion of the sphere is within 4 inches of the finish floor or ground surface. To prevent wheel entrapment, the curb or barrier shall provide a continuous and uninterrupted barrier along the length of the ramp. §11B-405.9.2
29. Landings subject to wet conditions shall be designed to prevent the accumulation of water. §11B-405.10

HANDRAILS

30. Handrails shall be provided on both sides of stairs and ramps. §11B-505.2
31. Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs and ramps shall be continuous between flights or runs. §11B-505.3
32. Top of gripping surfaces of handrails shall be 34 inches minimum and 38 inches maximum vertically above walking surfaces, stair nosings, and ramp surfaces. Handrails shall be at a consistent height above walking surfaces, stair nosings, and ramp surfaces. §11B-505.4

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33. Clearance between handrail gripping surfaces and adjacent surfaces shall be 1½ inches minimum. Handrails may be located in a recess if the recess is 3 inches maximum deep and 18 inches minimum clear above the top of the handrail. §11B-505.5
34. Handrail gripping surfaces shall be continuous along their length and shall not be obstructed along their tops or sides. The bottoms of handrail gripping surfaces shall not be obstructed for more than 20 percent of their length. Where provided, horizontal projections shall occur 1½ inches minimum below the bottom of the handrail-gripping surface. **§11B-505.6**
35. Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1¼ inches minimum and 2 inches maximum. §11B-505.7.1
36. Handrail gripping surfaces with a non-circular cross section shall have a perimeter dimension of 4 inches minimum and 6¼ inches maximum, and a cross-section dimension of 2¼ inches maximum. §11B-505.7.2
37. Handrail gripping surfaces shall extend beyond and in the same direction of stair flights and ramp runs in accordance with Section 11B-505.10 Handrail Extensions. §11B-505.10
38. Ramp handrails shall extend horizontally above the landing for 12 inches minimum beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent ramp run. §11B-505.10.1
39. At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches minimum beginning directly above the first riser nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight. §11B-505.10.2
40. At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance equal to one tread depth beyond the last riser nosing. The horizontal extension of a handrail shall be 12 inches long minimum and a height equal to that of the sloping portion of the handrail as measured above the stair nosings. Extension shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight. §11B-505.10.3

STAIRWAYS

41. A stair is defined as a change in elevation, consisting of one or more risers. §11B-202
42. All steps on a flight of stairs shall have uniform riser heights and uniform tread depths. Risers shall be 4 inches high minimum and 7 inches high maximum. Treads shall be 11 inches deep minimum. Curved stairways with winder treads are permitted at stairs which are not part of a required means of egress. (See **exception) §11B-504.2**
43. Open risers are not permitted. §11B-504.3 (See exceptions)
44. Interior stairs shall have the upper approach and lower tread marked by a stripe providing clear visual contrast. Exterior stairs shall have the upper approach and all treads marked by a stripe providing clear visual contrast. The stripe shall be a minimum of 2 inches wide to a maximum of 4 inches wide placed parallel to, and not more than 1 inch from, the nose of the step or upper approach. The stripe shall extend the full width of the step or upper approach and shall be of material that is at least as slip resistant as the other treads of the stair. A painted stripe shall be acceptable. Grooves shall not be used to satisfy this **requirement. §11B-504.4.1**
45. The radius of curvature at the leading edge of the tread shall be ½ inch maximum. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall extend 1¼ inches maximum over the tread below. §11B-504.5 (See exception for existing **buildings)**
46. Stairs shall have handrails complying with Section 11B-505 Handrails. §11B-504.6
47. Stair treads and landings subject to wet conditions shall be designed to prevent the accumulation of water. **§11B-504.7**
48. Floor identification signs required by Chapter 10, Section 1022.9 complying with Sections 11B-703.1 Signs General, 11B-703.2 Raised Characters, 11B-703.3 Braille and 11B-703.5 Visual Characters shall be located at the landing of each floor level, placed adjacent to the door on the latch side, in all enclosed stairways in buildings two or more stories in height to identify the floor level. At the exit discharge level, the sign shall

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include a raised five pointed star located to the left of the identifying floor level. The outside diameter of the star shall be the same as the height of the raised characters. §11B-504.8

CURB RAMPS, BLENDED TRANSITIONS AND ISLANDS

49. Perpendicular ramp runs shall have a running slope not steeper than 1:12 (8.33%). §11B-406.2.1
50. For perpendicular ramps, where provided, curb ramp flares shall not be steeper than 1:10. §11B-406.2, **Figure 11B-406.2.2**
51. The running slope of the curb ramp segments shall be in-line with the direction of sidewalk travel. Ramp runs shall have a running slope not steeper than 1:12 (8.33%). §11B-406.3.1, Figure 11B-406.3.2
52. A turning space 48 inches minimum by 48 inches minimum shall be provided at the bottom of the curb ramp. The slope of the turning space in all directions shall be 1:48 maximum (2.083%). §11B-406.3.2
53. Blended transition ramps hall have a running slope not steeper than 1:20 (5%). §11B-406.4.1
54. Curb ramps and the flared sides of curb ramps shall be located so that they do not project into vehicular traffic lanes, parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides. §11B-406.5.1
55. The clear width of curb ramp runs (excluding any flared sides), blended transitions, and turning spaces shall be 48 inches minimum. §11B-406.5.2
56. Landings shall be provided at the tops of curb ramps and blended transitions (parallel curb ramps shall not be required to comply). The landing clear length shall be 48 inches minimum. The landing clear width shall be at least as wide as the curb ramp, excluding any flared sides, or the blended transition leading to the landing. The slope of the landing in all directions shall be 1:48 (2.083%) maximum. §11B-406.5.3
57. Grade breaks at the top and bottom of curb ramp runs shall be perpendicular to the direction of the ramp run. Grade breaks shall not be permitted on the surface of ramp runs and turning spaces. Surface slopes that meet at grade breaks shall be flush. §11B-406.5.6
58. The cross slope of curb ramps and blended transitions shall be 1:48 (2.083%) maximum. §11B-406.5.7
59. Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches of the curb ramp shall not be steeper than 1:20 (5%). The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level. §11B-406.5.8
60. The bottom of diagonal curb ramps shall have a clear space 48 inches minimum outside active traffic lanes of the roadway. Diagonal curb ramps provided at marked crossings shall provide the 48 inches minimum clear space within the markings. §11B-406.5.9
61. Curb ramps and blended transitions shall have detectable warnings complying with 11B-705 Detectable **Warnings. §11B-406.5.12**
62. Raised islands in crossings shall be cut through level with the street or have curb ramps at both sides. The clear width of the accessible route at islands shall be 60 inches wide minimum. Where curb ramps are provided, they shall comply with 11B-406 Curb Ramps, Blended Transitions and Islands. Landings complying with 11B-406.5.3 Landings and the accessible route shall be permitted to overlap. Islands shall have detectable warnings complying with 11B-705 Detectable Warnings and Detectable Directional Texture. **§11B-406.6, Figure 11B-406.6**

D. GENERAL SITE AND BUILDING ELEMENTS

1. Where parking spaces are provided, accessible parking spaces shall be provided in number and kind required per Section 11B-208 Parking Spaces. §11B-208.1
2. Where passenger loading zones, drop-off zones, and/or bus stops are provided, accessible passenger loading zones, drop-off zones, and/or bus stops are required.
3. Where Electric vehicle charging stations (EVCS) are provided, they shall comply with Section 11B-812 as required by Section 11B-228.3.
4. EVCS complying with Section 11B-812 that serve a particular building or facility shall be located on an accessible route to an entrance complying with Section 11B-206.4. Where EVCS do not serve a particular building or facility, EVCS complying with Section 11B-812 shall be located on an accessible route to an accessible pedestrian entrance of the EV charging facility.

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E. PLUMBING FIXTURES AND FACILITIES

DRINKING FOUNTAINS

1. Drinking fountains shall comply with Sections 11B-307 Protruding Objects and 11B-602 General **Requirements. §11B-602.1**
2. Units shall have a clear floor or ground space complying with Section 11B-305 Clear Floor or Ground Space positioned for a forward approach and centered on the unit. Knee and toe clearance complying with Section 11B-306 Knee and Toe Clearance shall be provided. §11B-602.2
3. Spout outlets shall be 36 inches maximum above the finish floor or ground. §11B-602.4
4. The spout shall be located 15 inches minimum from the vertical support and 5 inches maximum from the front edge of the unit, including bumpers. §11B-602.5
5. The spout shall provide a flow of water 4 inches high minimum and shall be located 5 inches maximum from the front of the unit. The angle of the water stream shall be measured horizontally relative to the front face of the unit. Where spouts are located less than 3 inches from the front of the unit, the angle of the water stream shall be 30 degrees maximum. Where spouts are located between 3 inches and 5 inches maximum from the front of the unit, the angle of the water stream shall be 15 degrees maximum. §11B-602.6
6. Spout outlets of drinking fountains for standing persons shall be 38 inches minimum and 43 inches maximum above the finish floor or ground. §11B-602.7
7. Wall and post-mounted cantilevered drinking fountains shall be 18 inches minimum and 19 inches maximum in depth. §11B-602.8
8. All drinking fountains shall either be located completely within alcoves, positioned completely between wing walls, or otherwise positioned so as not to encroach into pedestrian ways. The protected area within such a drinking fountain is located shall be 32 inches wide minimum and 18 inches deep minimum, and shall comply with Section 11B-305.7 Maneuvering Clearance. When used, wing walls or barriers shall protect horizontally at least as far as the drinking fountain and to within 6 inches vertically from the floor or ground **surface. §11B-602.9**

TOILET AND BATHING ROOM CLEARANCES

9. Doors to unisex toilet rooms and unisex bathing rooms shall have privacy latches. §11B-213.2.1
10. Mirrors located above the lavatories or countertops shall be installed within the bottom edge of the reflecting surface 40 inches maximum above the finish floor or ground. Mirrors not located above the lavatories or countertops shall be installed with the bottom edge of the reflecting surface 35 inches maximum above the finish floor or ground. §11B-603.3
11. Coat hooks shall be located within one of the reach ranges specified in Section 11B-308. Shelves shall be located 40 inches minimum and 48 inches maximum above the finish floor. Medicine cabinets shall be located with a usable shelf no higher than 44 inches maximum above the finish floor. §11B-603.4
12. Where towel or sanitary napkin dispensers, waste receptacles, or other accessories are provided in toilet facilities, at least one of each type shall be located on an accessible route. All operable parts, including coin slots, shall be 40 inches maximum above the finish floor. Baby changing stations are not required to comply with Section 11B-603.5 (See exception) §11B-603.5

WATER CLOSETS AND TOILET COMPARTMENTS

13. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with Section 11B-309.4 Operation except they shall be located 44 inches maximum above the floor. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with Section 11B-604.8.2 Ambulatory Accessible Compartments. §11B-604.6
14. Toilet paper dispensers shall comply with Section 11B-309.4 Operation and shall be 7 inches minimum and 9 inches maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be below the grab bar, 19 inches minimum above the finish floor and shall not be located behind the grab bars. Dispensers shall not be of a type that control delivery or that does not allow continuous paper flow. §11B-604.7

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15. Sanitary napkin disposal units, if provided, shall comply with Section 11B-309.4 and shall be wall mounted and located in a stall sidewall between the rear wall of the toilet and the toilet paper dispenser, adjacent to the toilet paper dispenser. The disposal unit shall be located below the grab bar with the opening of the disposal unit 19 inches minimum (483 mm) above the finish floor. §11B-604.7.2
16. Urinals shall be the stall-type or the wall-hung type with the rim 17 inches maximum above the finish floor or ground. Urinals shall be 13½ inches deep minimum measured from the outer face of the urinal rim to the back of the fixture. §11B-605.2
17. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with Section 11B-309 Operable Parts except that the flush control shall be mounted at a maximum height of 44 inches above the finish floor. §11B-605.4
18. For lavatories and sinks, a clear floor space complying with Section 11B-305 Clear Floor or Ground Surfaces, positioned for a forward approach, and knee and toe clearance complying with Section 11B-306 Knee and Toe Clearance shall be provided. §11B-606.2
19. Lavatories and sinks shall be installed with the front of the higher of the rim or counter surface 34 inches maximum above the finish floor or ground. §11B-606.3

SIGNS RELATED TO TOILETS AND BATHING FACILITIES

20. Entrances leading to toilet rooms and bathing rooms complying with 11B-603 Toilet and Bathing Rooms shall be identified by a geometric symbol complying with 11B-703.7.2.6 Toilet and Bathing Room Geometric Symbols. Where existing toilet rooms or bathing rooms do not comply with 11B-603 Toilet and Bathing Rooms, directional signs indicating the location of the nearest compliant toilet room or bathing room within the facility shall be provided. Signs shall comply with 11B-703.5 Visual Characters and shall include the International Symbol of Accessibility complying with 11B-703.7.2.1 ISA. Where existing toilet rooms or bathing rooms do not comply with 11B-603 Toilet and Bathing Rooms, the toilet rooms or bathing rooms complying with 11B-603 Toilet and Bathing Rooms shall be identified by the International Symbol of Accessibility complying with 11B-703.7.2.1 ISA. Where clustered single user toilet rooms or bathing facilities are permitted to use exceptions to 11B-213.2 Toilet and Bathing Rooms, toilet rooms or bathing facilities complying with 11B-603 Toilet and Bathing Rooms shall be identified by the International Symbol of Accessibility complying with 11B-703.7.2.1 ISA unless all toilet rooms and bathing facilities comply with 11B-603 Toilet and Bathing Rooms. Existing buildings that have been remodeled to provide specific toilet rooms or bathing rooms for public use that comply with these building standards shall have the location of and the directions to these rooms posted in or near the building lobby or entrance on a sign complying with 11B-703.5 Visual Characters, including the International Symbol of Accessibility complying with 11B-703.7.2.1 **ISA. §11B-216.8**
21. Pictograms shall comply with the following:
    a. Pictograms shall have a field height of 6 inches minimum. Characters and Braille shall not be located in the pictogram field. §11B-703.6.1
    b. Pictograms and their field shall have a non-glare finish. Pictograms shall contrast with their field with either a light pictogram on a dark field or a dark pictogram on a light field. §11B-703.6.2
    c. Pictograms shall have text descriptors located directly below the pictogram field. Text descriptors shall comply with 11B-703.2 Raised Characters, 11B-703.3 Braille and 11B-703.4 Installation Height and **Location. §11B-703.6.3**
    d. The installation height and location of Pictogram signs shall be per §11B-703.4.1.
22. Symbols shall comply with the following:
    a. Doorways leading to toilet rooms and bathing rooms shall be identified by a geometric symbol complying with 11B-703.7.2.6 Toilet and Bathing Facilities Geometric Symbols. The symbol shall be mounted at 58 inches minimum and 60 inches maximum above the finish floor or ground surface measured from the centerline of the symbol. Where a door is provided, the symbol shall be mounted within 1 inch of the vertical centerline of the door. §11B-703.7.2.6 (See exception)
    b. A triangle symbol shall be located at entrances to men's toilet and bathing facilities and it shall be identified by an equilateral triangle, ¼ inch thick with edges 12 inches long and a vertex pointing upward. The triangle symbol shall contrast with the door, either light on a dark background or dark on a light **background. §11B-703.7.2.6.1**

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    c. A circle symbol shall be located at entrances to women's toilet and bathing facilities and it shall be identified by a circle, ¼ inch thick and 12 inches in diameter. The circle symbol shall contrast with the door, either light on a dark background or dark on a light background. §11B-703.7.2.6.2
    d. A combined circle and triangle symbol shall be located at entrances to unisex toilet and bathing facilities and it shall be shall be identified by a circle, ¼ inch thick and 12 inches in diameter with a ¼ inch thick triangle with a vertex pointing upward superimposed on the circle and within the 12-inch diameter. The triangle symbol shall contrast with the circle symbol, either light on a dark background or dark on a light background. The circle symbol shall contrast with the door, either light on a dark background or dark on a light background. §11B-703.7.2.6.3

WASHING MACHINE AND CLOTHES DRYERS

23. Washing machines and clothes dryer's operable parts must comply with Section 11B-309 Operable Parts. **§11B-611.3**
24. Top loading machines shall have the door to the laundry compartment located 36 inches maximum above the finish floor. Front loading machines shall have the bottom of the opening to the laundry compartment located 15 inches minim and 36 inches maximum above the finish floor. §11B-611.4

F. COMMUNICATION ELEMENTS AND FEATURES

FIRE ALARM SYSTEMS

1. Where fire alarm systems and carbon monoxide alarm systems provide audible alarm coverage, alarms shall comply with 11B-215 Fire Alarm Systems. §11B-215.1 (See exception)
2. Alarms in public use areas and common use areas shall comply with 702 Chapter 9, Section 907.5.2.3.1. **§11B-215.2**
3. Where employee work areas have audible alarm coverage, the wiring system shall be designed so that visible alarms complying with 702 Chapter 9, Section 907.5.2.3.2 can be integrated into the alarm system. **§11B-215.3**
4. Fire alarm systems shall have permanently installed audible and visible alarms complying with NFPA 72 (1999 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1), except that the maximum allowable sound level of audible notification appliances complying with section 4-3.2.1 of NFPA 72 (1999 edition) shall have a sound level no more than 110 dB at the minimum hearing distance from the audible appliance. In addition, alarms in guest rooms required to provide communication features shall comply with sections 4-3 and 4-4 of NFPA 72 (1999 edition) or sections 7.4 and 7.5 of NFPA 72 (2002 edition), and Chapter 9, Sections 907.5.2.1 and 907.5.2.3. §11B-702.1

ASSISTIVE LISTENING SYSTEMS

5. Assistive listening systems shall be provided in assembly areas, including conference and meeting rooms, used for the purpose of entertainment, educational or civic gatherings, or similar purposes. §202, §11B-**219.2**

   Note: Assembly areas include, but are not limited to, classrooms, lecture halls, courtrooms, public meeting rooms, public hearing rooms, legislative chambers, motion picture houses, auditoria, theaters, playhouses, dinner theaters, concert halls, centers for the performing arts, amphitheaters, arenas, stadiums, grandstands, or convention centers. §202, §11B-219.2
6. Assistive listening system shall provide an amplification system utilizing transmitters, receivers, and coupling devices to bypass the acoustical space between a sound source and a listener by means of induction loop, radio frequency, infrared, or direct-wired equipment. §202
7. Where a building contains more than one assembly area under one management, the total number of required receivers may be calculated using the total number of seats in the assembly areas provided that all receivers are usable with all systems. §11B-219.3 (See exception)
8. Twenty-five percent minimum of receivers provided for assistive listening systems, but no fewer than two, shall be hearing-aid compatible except when all seats in an assembly area are served by means of an induction loop. §11B-219.3

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9. When assistive-listening systems are limited to specific areas or seats, such areas or seats shall be within a 50-foot viewing distance of the stage or playing area and shall have a complete view of the stage or playing **area. §11B-219.4**
10. Permanently installed assistive-listening systems are required in areas if (1) they have fixed seating and (2a) they accommodate at least 50 persons or (2b) they have audio-amplification systems, except those used exclusively for paging and/or background music. §11B-219.2, §11B-219.5
11. Portable assistive-listening systems may serve more than one conference or meeting rooms if an adequate number of electrical outlets or other supplementary wiring is provided and permanently installed systems are not required. §11B-219.5
12. Receivers required for use with an assistive listening system shall include a 1/8 inch standard mono jack. **§11B-706.2**
13. Receivers required to be hearing aid compatible shall interface with telecoils in hearing aids through the provision of neck loops. §11B-706.3
14. Assistive listening systems shall be capable of providing a sound pressure level from 110 – 118 dB with a dynamic range on the volume control of 50 dB. §11B-706.4
15. Signal-to-noise ratio for internally generated noise in assistive listening systems shall be 18 dB minimum. **§11B-706.5**
16. Peak clipping shall not exceed 18 dB of clipping relative to the peaks of speech. §11B-706.6

TWO-WAY COMMUNICATION SYSTEMS

17. Two-way communication systems that are provided to gain admittance to a building or facility or to restricted areas within a building or facility shall provide both audible and visual signals. Handset cords, if provided, shall be 29 inches long minimum. §11B-230.1, §11B-708
18. Common use or public use system interface of communications systems between a residential dwelling unit and a site, building, or floor entrance shall include the capability of supporting voice and TTY communication with the residential dwelling unit interface. §11B-708.4.1
19. Residential dwelling unit system interface of communications systems between a residential dwelling unit and a site, building, or floor entrance shall include a telephone jack capable of supporting voice and TTY communication with the common use or public use system interface. §11B-708.4.2

TELEPHONES

20

DOOR & HARDWARE NOTES:

1. LATCHING AND LOCKING DOORS THAT ARE HAND ACTIVATED AND WHICH ARE IN A PATH OF TRAVEL SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER-TYPE HARDWARE, PANIC BAR, PUSH-PULL ACTIVATING BAR OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE.

2. HAND ACTIVATED DOOR OPENING HARDWARE SHALL BE CENTERED BETWEEN 34 INCHES MIN. AND 44 INCHES MAX. ABOVE THE FLOOR. THE FLOOR OR LANDING SHALL BE NOT MORE THAN 1/2 INCH

3. LOWER THAN THE THRESHOLD OF THE DOORWAY. CHANGE IN LEVEL BETWEEN 1/4 AND 1/2 INCH SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2.

4. THE BOTTOM 10 INCHES OF ALL DOORS EXCEPT AUTOMATIC AND SLIDING SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION. WHERE NARROW FRAME DOORS ARE USED, A 10 INCH HIGH SMOOTH PANEL SHALL BE INSTALLED ON THE PUSH SIDE OF THE DOOR, WHICH WILL ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.

5. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 LBS. FOR EXTERIOR DOORS AND 5 LBS. FOR INTERIOR DOORS, SUCH PULL OR PUSH EFFORT BEING APPLIED AT RIGHT ANGLES TO HINGED DOORS AND AT THE CENTER PLANE OF SLIDING OR FOLDING DOORS. COMPENSATING DEVICES OR AUTOMATIC DOOR OPERATORS MAY BE UTILIZED TO MEET THE ABOVE STANDARDS. WHEN FIRE DOORS ARE REQUIRED, THE MAXIMUM EFFORT TO OPERATE THE DOOR MAY BE INCREASED NOT TO EXCEED 15 LBS.

GENERAL REMARKS:

1. CLOSER
2. LOCK
3. H.C ACCESS SIGN
4. ENTRANCE LOCK
5. TEMPERED GLASS
6. MEN HANDICAP SIGN
7. WOMEN HANDICAP SIGN
8. PASSAGE LATCH
9. ROLL UP DOOR
   PROVENE # 424, 24GA. OR EQUAL.
   MANUAL PUSH UP
10. FLOOR MOUNTED DOOR STOP
11. WALL MOUNTED DOOR STOP
12. RESTROOM PRIVACY LOCK
13. PANIC HARDWARE
14. UNISEX TOILET SIGN

FINISHES:

1. P. P. = PAINT ON PRIMER / MTACH BLDG. COLOR
2. P. S. = PRE-STAINED
3. F. F. = FACTORY FINISH

MATERIALS

ALUM.	ALUMINUM
HM.	HOLLOW METAL
SGW.	SOLID CORE WOOD
T	TEMPERED GLASS
W.I.	WESTERN INTEGRATED

CONDITIONS FOR SENSOR RELEASE OF ELECTRICALLY LOCKED EGRESS DOORS: (1, 2, 6, 10, 15)

. THE SENSOR SHALL BE INSTALLED ON THE EGRESS SIDE, ARRANGED TO DETECT AN OCCUPANT APPROACHING THE DOORS. THE DOORS SHALL BE ARRANGED TO UNLOCK BY A SIGNAL FROM OR LOSS OF POWER TO THE SENSOR.

2. LOSS OF POWER TO THE LOCK OR LOCKING SYSTEM SHALL AUTOMATICALLY UNLOCK THE DOORS.

3. THE DOORS SHALL BE ARRANGED TO UNLOCK FROM A MANUAL UNLOCKING DEVICE LOCATED 40 INCHES TO 48 INCHES (1016 MM TO 1219 MM) VERTICALLY ABOVE THE FLOOR AND WITHIN 5 FEET (1524 MM) OF THE SECURED DOORS. READY ACCESS SHALL BE PROVIDED TO THE MANUAL UNLOCKING DEVICE AND THE DEVICE SHALL BE CLEARLY IDENTIFIED BY A SIGN THAT READS 'PUSH TO EXIT.' WHEN OPERATED, THE MANUAL UNLOCKING DEVICE SHALL RESULT IN DIRECT INTERRUPTION OF POWER TO THE LOCK-INDEPENDENT OF OTHER ELECTRONICS- AND THE DOORS SHALL REMAIN UNLOCKED FOR NOT LESS THAN 30 SECONDS.

4. ACTIVATION OF THE BUILDING FIRE ALARM SYSTEM, WHERE PROVIDED, SHALL AUTOMATICALLY UNLOCK THE DOORS, AND THE DOORS SHALL REMAIN UNLOCKED UNTIL THE FIRE ALARM SYSTEM HAS BEEN RESET.

5. ACTIVATION OF THE BUILDING AUTOMATIC SPRINKLER SYSTEM OR TIRE DETECTION SYSTEM, WHERE PROVIDED, SHALL AUTOMATICALLY UNLOCK THE DOORS. THE DOORS SHALL REMAIN UNLOCKED UNTIL THE FIRE ALARM SYSTEM HAS BEEN RESET.

6. THE DOOR LOCKING SYSTEM UNITS SHALL BE LISTED IN ACCORDANCE WITH UL 294.

CONDITIONS FOR ELECTRO MAGNETICALLY LOCKED EGRESS DOORS.

1. THE HARDWARE THAT IS AFFIXED TO THE DOOR LEAF HAS AN OBVIOUS METHOD OF OPERATION THAT IS READILY OPERATED UNDER ALL LIGHTING CONDITIONS

2. THE HARDWARE IS CAPABLE OF BEING OPERATED WITH ONE HAND.

3. OPERATION OF THE HARDWARE DIRECTLY INTERRUPTS THE POWER TO THE ELECTROMAGNETIC LOCK AND UNLOCKS THE DOOR IMMEDIATELY.

4. LOSS OF POWER TO THE LOCKING SYSTEM AUTOMATICALLY UNLOCKS THE DOOR.

5. WHERE PANIC OR FIRE EXIT HARDWARE IS REQUIRED BY SECTION 1 0 1 0.1.1 0, OPERATION OF THE PANIC OR TIRE EXIT HARDWARE ALSO RELEASES THE ELECTROMAGNETIC LOCK.

6. THE LOCKING SYSTEM UNITS SHALL BE LISTED IN ACCORDANCE WITH UL 244.

6. OPERABLE WITH ONE HAND AND WITHOUT TIGHT GRASPING, TIGHT PINCHING, OR TWISTING OF THE WRIST.

7. WHERE SLIDING DOORS IN FULLY OPEN POSITION, OPERATING HARDWARE EXPOSED AND USABLE FROM BOTH SIDES.

8. PROVIDE NON-REMOVABLE PINS ON ALL HINGES WHICH ARE ACCESSIBLE FROM THE EXTERIOR WHEN THE DOOR IS CLOSED. PROVIDE WALL-MOUNTED OR FLOOR-MOUNTED DOOR STOPS AT ALL DOORS AS REQUIRED.

9. FOR ANY DOORS, GATES, OR ADJACENT SIDELIGHTS WITH GLAZING PANELS ALLOWING VIEWING THROUGH THE PANELS, DIMENSIONS AT LEAST ONE GLAZED PANEL AT MAXIMUM 43 INCHES ABOVE FINISHED FLOOR OR GROUND.

10. DOORS AND GATES WITH CLOSERS OR SPRING HINGES SHALL COMPLY WITH THE FOLLOWING CLOSING SPEED PERIODS:

   A. CLOSERS WITH MINIMUM 5 SECONDS FROM 90-DEGREE OPEN POSITION TO 12-DGREE OPEN POSITION.

   B. SPRING HINGES WITH MINIMUM 1.5 SECONDS FROM 70-DEGREE OPEN POSITION TO CLOSED POSITION.

11. ALL DOOR FRAMES SHALL BE 3'-0" x 7'-0" TIMELY'.

12. ALL OFFICE DOORS SHALL BE PAINTED SOLID CORE DOORS.

13. SCHLAGE D-SERIES RHODES. # 626. SATIN CHROME PLATED. LEVER TYPE.

NOTES:

1. ALL DOORS SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. VISION PANELS @ DOORS.

2. DEADBOLTS ARE NOT PERMITTED ON EXIT DOORS.

3. PROTECT ALL INTERIOR OPENINGS IN CORRIDOR WALLS AND CEILINGS. DOOR AND FRAME MUST BE LABELED. 20 MINUTE FIRE ASSEMBLY WITH SELF-CLOSURES OR AUTOMATIC CLOSURES WITH SMOKE DETECTORS.

NOTE A:
PLACE SIGN THAT READS "THIS DOOR TO REMAIN OPEN DURING NORMAL BUSINESS HOURS."

NOTE B:
POWER OPERATED DOORS SHALL BE CAPABLE OF BEING MANUALLY OPERATED TO PERMIT EXIT TRAVEL IN THE EVENT OF A POWER FAILURE.
A READILY VISIBLE SHALL BE POSTED ON THE EGRESS SIDE OR ADJACENT TO THE DOOR STATING: "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED".

NOTE C:
NO SENSOR RELEASED ELECTRICALLY LOCKED EGRESS DOORS (1010.1.9.8) OR ELECTROMAGNETICALLY LOCKED EGRESS DOORS ON THIS FACILITY (1010.1.9.8)

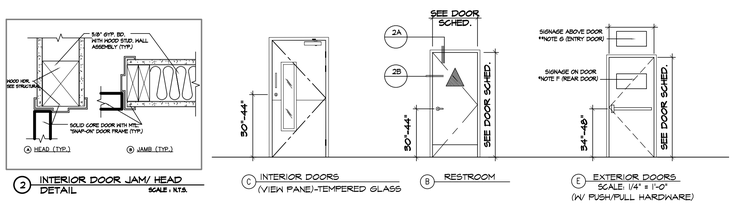
NOTE D:
THE SECURITY GATE IS "OPEN DURING BUSINESS, BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT DURING PERIODS THAT THE SPACE IS OCCUPIED, AND SHALL REMAIN SECURED IN THE FULL-OPEN POSITION DURING THE PERIOD OF OCCUPANCY AS PER SECTION 101 0.1.4.4."

NOTE E:
DOOR INTO ELECTRICAL CONTROL PANEL ROOMS SHALL BE MARKED WITH A PLAINLY VISIBLE AND LEGIBLE SIGN STATING: "ELECTRICAL ROOM" OR SIMILAR APPROVED WORDING

*NOTE F:
REAR EXIT DOORS SHALL BE PROVIDED WITH SIGNAGE STATING: "EXIT DOOR DO NOT BLOCK"

**NOTE G:
MAIN ENTRY DOORS SHALL HAVE READILY VISIBLE SIGN ABOVE STATING: "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED." SIGN SHALL BE IN LETTERS 1 INCH HIGH ON A CONTRASTING BACKGROUND.

NOTE H:
PROVIDE A KNOX BOX OR UPDATE KEYS



2 INTERIOR DOOR JAM/ HEAD DETAIL SCALE : N.T.S.

C INTERIOR DOORS (VIEW PANE)-TEMPERED GLASS

B RESTROOM

E EXTERIOR DOORS SCALE: 1/4" = 1'-0" (W/ PUSH/PULL HARDWARE)

FINISH SCHEDULE

RM. NO.	ROOM NAME	CEILING HEIGHT	FLOOR					BASE						WALLS						CEILING							REMAKS
			V.C.T.	EPOXY SEALED (LIQUID TIGHT)	CERAMIC TILE	POLISH CONCRETE	ALUMINUM T-BAR FLOORS	TERRAZZO	4" VINYL	6" VINYL	6" CERAMIC TILE (COVED)	6" COVE UP EPOXY FLOOR	MARBLE	TERRAZZO 6"	GYPSUM BOARD PAINTED	W.P. GYP. BOARD	MARLITE WAINSCOT	48" CERAMIC TILE	TYPE-X GYP. BOARD	FRP WALL (FIBERGLASS REINFORCED PANELS)	EXPOSED FRAMING	5/8" GYP. BOARD	ACOUSTICAL T-BAR	TYPE - X GYP. BOARD	W.P. GYP. BOARD	1X6 T&G PLANKS	PAINTED	FRP (FIBERGLASS REINFORCED PANELS)	
101	CULTIVATION 1	7'-4" A.F.F.					●													●								●	1. ALL WALLS AND CEILINGS TO BE SMOOTH, NON-ABSORBENT, WASHABLE AND LIGHT COLOR IN CULTIVATION ROOMS.
102	CULTIVATION 2	7'-4" A.F.F.					●													●								●	2. MINIMUM 6" COVED BASE WITH MINIMUM 3/8" RADIUS SHALL BE PROVIDED AT THE JUNCTURE OF THE WALL AND FLOOR.
103	CULTIVATION 3	7'-4" A.F.F.					●													●								●	3. IF ABRASIVE/ANTI-SLIPPERY FLOORING IS USED, IT IS TO BE LIMITED TO TRAFFIC AREAS ONLY.
104	CULTIVATION 4	7'-4" A.F.F.					●													●								●	4. FLOORING UNDER EQUIPMENTS ARE TO BE SMOOTH.
105	CULTIVATION 5	7'-4" A.F.F.					●													●								●	5. ALL PAINT TO BE SEMI-GLOSS, WASHABLE AND OF THE LIGHT COLOR. (SELECTED BY OWNER)
106	CULTIVATION 6	7'-4" A.F.F.					●													●								●	
107	SECURITY/OFFICE AREA	16'-8" A.F.F.				●									●						●								
108	UNISEX RESTROOM	8'-0" A.F.F.			●						●					●				●				●					
109	ELECTRICAL ROOM	16'-8" A.F.F.				●									●						●								
110	PACKAGING/LABELING	16'-8" A.F.F.				●									●						●								
111	CHECK-IN CHECK-OUT	16'-8" A.F.F.				●									●						●								

DOOR SCHEDULE

MARK	SIZE	THICK	TYPE	DOOR MATERIAL	DOOR FINISH	FRAME MATERIAL	FRAME FINISH	SPECIFICATIONS	KEY CARD/ELECTRICTRIFIED	LEVER TYPE HARDWARE	VISION PANEL/PORT	¾ HR FIRE RATED	SELF CLOSING DEVICE	ILLUMINATED EXIT SIGN	KEY LOCK	PANIC HARDWARE	PUSH/PULL HARDWARE	LATCHING DEVICE	GENERAL REMARKS
1	3'-0"X6'-8"	1 3/4"	C	Polystyrene	Prime painted	METAL	F.F.	18 Gauge A40 Galvaneal Door		●	●	●	●	●	●			●	UP TO 3 HOUR LABEL (ITS/WHI)
2	3'-0"X6'-8"	1 3/4"	C	Polystyrene	Prime painted	METAL	F.F.	Interlocking Edge Seam with square hinge and beveled lock edge		●	●	●	●	●	●			●	UP TO 3 HOUR LABEL (ITS/WHI)
3	3'-0"X6'-8"	1 3/4"	C	Polystyrene	Prime painted	METAL	F.F.	Heavy gauge closer reinforement		●	●	●	●	●	●			●	UP TO 3 HOUR LABEL (ITS/WHI)
4	3'-0"X6'-8"	1 3/4"	C	Polystyrene	Prime painted	METAL	F.F.	16 gauge inverted top and bottom caps		●	●	●	●	●	●			●	UP TO 3 HOUR LABEL (ITS/WHI)
5	3'-0"X6'-8"	1 3/4"	C	Polystyrene	Prime painted	METAL	F.F.	10 gauge min. hinge reinforcements		●	●	●	●	●	●			●	UP TO 3 HOUR LABEL (ITS/WHI)
6	3'-0"X6'-8"	1 3/4"	C	Polystyrene	Prime painted	METAL	F.F.	tempered glass		●	●	●	●	●	●			●	UP TO 3 HOUR LABEL (ITS/WHI)
7	3'-0"X6'-8"	1 3/4"	B	Polystyrene	Prime painted	METAL	F.F.			●		●	●					●	45 MINUTE RATED
8	3'-0"X6'-8"	1 3/4"	E	METAL	PAINTED	METAL	F.F.		●	●	●				●	●	●	●	90 MINUTE RATED
9	6'-0"X8'-0"	1 3/4"		ALUMINUM	CLEAR ANODIZED	4 1/2" FLUSH MOUNT	F.F.	10" Bottom Rail Standard (Meets National Codes) 4 1/2" Flush Mount Frame - Standard 1/8" Extruded Aluminum. 1" Insulated Glass ASTM Approved Medium and Wide Stile	●	●			●	●	●	●	●	●	Front door, knox box for emergency access. (knox 3200 series)

NOTE: FIRE DOOR ASSEMBLIES SHALL MEET THE REQUIREMENTS FOR SMOKE AND DRAFT CONTROL ASSEMBLY (CBC 716.5.3.1)

REGISTERED PROFESSIONAL ENGINEER
Barrett C Frank
C 057186
Exp. 12. 31. 2021
8-12-2020
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Date: AUGUST 06, 2020
Scale:

DRAWING TITLE: PROPOSED DOOR AND FINISH SCHEDULE

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No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

GENERAL NOTES

DESIGN DATA:
APPLICABLE DESIGN LOADS: PER ASCI/SEI 7-16

FLOOR LIVE LOAD: 40 PSF
ROOF LIVE LOAD: 20 PSF
BASIC WIND SPEED: 95 MPH
GROUND SNOW LOAD: 5 PSF
STRUCTURAL CATEGORY: II
FLOOR DEAD LOAD: 15PSF
ROOF DEAD LOAD: 21.2PSF
EXPOSURE: D
SEISMIC DESIGN CATEGORY = D
Ss=1.23.1, S1=0.498, Sms=1.969, Sds=0.827

ALL PRESSURES SHOWN ARE BASED ON ASD DESIGN.

GENERAL NOTES:

1. CONTRACTOR TO ASSUME FULL RESPONSIBILITY FOR ABIDING TO ALL APPLICABLE CALIFORNIA BUILDING CODES, LOCAL CITY ORDINANCES, ZONING REQUIREMENTS, AND LICENSING/PERMIT REQUIREMENTS. CONTRACTOR IS FULLY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES INCLUDING WITHOUT LIMITATION TO DEMOLITION, EXCAVATION AND ERECTION PROCEDURES.
2. THE CONTRACTOR SHALL EXAMINE THE CONSTRUCTION DOCUMENTS AND NOTIFY THE PROJECT ENGINEER & ARCHITECT OF ANY DISCREPANCIES, ERRORS, OR OMISSIONS SHEHE MAY FIND BEFORE PROCEEDING WITH THE WORK.
3. NOTIFY THE PROJECT ENGINEER OF ANY DESIGN CHANGES PROPOSED BY OWNER OR THE CONTRACTOR DURING THE COURSE OF CONSTRUCTION. SUCH CHANGES AFFECTING ROOM ADDITION DESIGN MAY ALSO AFFECT STRUCTURAL DESIGN.
4. ANY SUBCONTRACTOR WHICH AGREES TO CONSTRUCT THE PROJECT PURSUANT TO THESE PLANS FULLY ASSUMES THE RISK OF ALL ERRORS AND OMISSIONS WHICH SHOULD HAVE BEEN DETECTED BY A CAREFUL REVIEW BY A KNOWLEDGEABLE LICENSED CONTRACTOR, THAT WHICH FOR ANY REASON WERE NOT RESOLVED DURING THE BIDDING OR NEGOTIATION PROCESS. FURTHER, THE CONTRACTOR SHALL CAREFULLY REVIEW THESE PLANS AS THE WORK PROGRESSES IN ORDER TO IDENTIFY ANY SIGNIFICANT ERRORS AND OMISSIONS AND TO ASCERTAIN ALL NECESSARY INFORMATION BEFORE PROCEEDING WITH THE AFFECTED WORK, AND ASSUMES THE RISK OF ANY AND ALL LOSS, INCLUDING DELAY, WHICH MAY BE CAUSED OR CONTRIBUTED TO BY THE FAILURE TO ASCERTAIN CORRECT OR NECESSARY INFORMATION IN A TIMELY MANNER.
5. ALL TRADES SHALL, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY THEIR WORK, AND AT THE COMPLETION OF THE WORK SHALL REMOVE ALL RUBBISH FROM AND ABOUT THE JOBSITE AND ALL THEIR TOOLS, SCAFFOLDING AND SURPLUS MATERIALS, AND SHALL LEAVE THE JOB BROOM CLEAN, INCLUDING REMOVING ALL LABELS, STICKERS, PAINT SMEARS, ETC., FROM LIGHTING FIXTURES, PLUMBING FIXTURES, GLASS SURFACES, FINISH HARDWARE, CABINETS, COUNTER TOPS, ETC.
6. EXCEPT WHERE MORE STRINGENT REQUIREMENTS ARE NOTED OR SHOWN ON THE PLANS, WORKMANSHIP & MATERIALS SHALL CONFORM, TO THE LATEST EDITION OF THE C.B.C. OR LOCAL CODE.
7. THE PLANS SHALL BE REVIEWED FOR DIMENSIONAL & EXISTING SITE CONFORMANCE WITH THE PLANS BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE ARCHITECT & ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES.
8. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD; AND ALL QUESTIONS AS TO DIMENSIONS AND FIELD CONDITIONS SHALL BE RESOLVED BEFORE THE AFFECTED WORK PROCEEDS. NO DIMENSIONS SHALL BE OBTAINED BY SCALING THESE PLANS.
9. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR DIMENSIONS AND CONDITIONS OF THE JOB.
10. THE PRECISE DIMENSIONS AND LOCATIONS OF ALL DOOR, WINDOW AND ROOF OPENINGS SHALL BE DETERMINED FROM DRAWINGS AND OTHER FLOOR, WALL OPENING REQUIRED BY MECHANICAL OR ELECTRICAL SHALL BE VERIFIED FROM SHOP DRAWINGS, EQUIPMENT DATA SHEETS, ETC. AS REQUIRED.
11. ITEMS IDENTIFIED BY TRADE NAMES MAY BE SUBSTITUTED BY APPROVED EQUALS.
12. NOTES & DETAILS ON DRAWINGS SHALL PRECEDE THESE GENERAL NOTES.
13. PROVIDE ANY SHORING & OR BRACING PRIOR TO REMOVING EXISTING WALLS, BEAMS, OR SUPPORTS FOR CONSTRUCTION. REMOVE SHORING ONLY WHEN NEW SUPPORTS ARE IN PLACE AND SECURED.
14. PROVIDE RED HEADS INTO EXISTING CONCRETE AT ALL SHEAR WALLS PER MFG. SPECIFICATIONS. SEE SHEAR WALL SCHEDULE FOR SIZE AND SPACING.
15. PROVIDE SIMPSON ST-6224 BETWEEN NEW WALLS AND EXISTING WALLS AT THE DOUBLE TOP PLATE.
16. THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON DRAWINGS AND PROTECT THEM FROM DAMAGE
17. DO NOT CUT POST TENSION SLABS. CONTRACTOR TO DETERMINE EXISTING CONDITIONS PRIOR TO START OF CONSTRUCTION.
18. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS FOR FOOTING, BEAMS AND JOISTS, SIZES, LOCATIONS, ETC., AND SHALL NOTIFY THE ARCHITECT & ENGINEER OF ANY DISCREPANCIES.
19. DOWEL NEW INTO EXISTING SLABS W/ #4 REBAR @ 24" O.C. AND FOOTINGS W/ DOWELS TO MATCH NEW REINF. SIZE/ LOCATION.

ENGINEERING NOTES

1. CONCRETE SLABS ON GRADE HAVE NOT BEEN DESIGNED BY THE STRUCTURAL ENGINEER.
2. THE VIBRATIONAL EFFECTS OF MECHANICAL EQUIPMENT HAVE NOT BEEN CONSIDERED BY THE STRUCTURAL ENGINEER.
3. THE DESIGN, ADEQUACY AND SAFETY OF ERECTION, BRACING SHORING, TEMPORARY SUPPORTS ETC., IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, AND HAS NOT BEEN CONSIDERED BY THE STRUCTURAL ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING THE ENTIRE COURSE OF CONSTRUCTION. THE ENGINEER SHALL NOT BE HELD RESPONSIBLE FOR FIELD INSPECTION/OBSERVATION OF THE ABOVE ITEMS.
4. ALLOWABLE SOILS PRESSURE TO BE A MINIMUM OF 1500 PSF UNLESS A SOILS REPORT IS PROVIDED. SOILS IN THE BUILDING AREA & 5 FEET BEYOND SHALL BE COMPACTED TO A MINIMUM OF 90% RELATIVE COMPACTION PER 2019-C.B.C.

REFER TO SOIL REPORT BY: _____

JOB NUMBER: _____ DATED: _____

STRUCTURAL SYMBOLS

△ INDICATES SHEAR WALL. SEE FOUNDATION, FRAMING PLAN AND SHEAR WALL SCHEDULE FOR TYPE, SILL BOLTING, SHTG., ETC. NOTE: FOR SILL BOLTING AT EXISTING FOOTINGS, USE 5/8" Ø THREADED RODS W/ SIMPSON "SET-XP" EPOXY 7" MIN. EMB. PER ICC ESR-2508 THE SAME SIZE & SPACING AS CALLED FOR ON PLANS

☒ INDICATES POST (BELOW BEAM)
MIN. POST SIZE/TYPE AS FOLLOWS U.N.O.:

BEAM SIZE	POST SIZE
4 X 12 & SMALLER	2-2X4 W/16d NAILS @ 12" O.C.
4 X 14 & LARGER	4X4
6 X 10 & SMALLER	4X6
6 X 12 & LARGER	6X6 SEE HOLDDOWN DETAILS AND TYPICAL WALL

FRAMING FOR FURTHER POST SIZE REQUIREMENTS. POSTS ARE TO CONTINUE DOWN TO FOUNDATION.

FOUNDATION NOTES

GENERAL

1. SOIL BENEATH FOOTINGS AND SLABS SHALL BE COMPACTED PER 2019 C.B.C. (90%) RELATIVE COMPACTION MINIMUM.
2. CONTINUOUS FOOTINGS AND GRADE BEAMS SHALL BE EXCAVATED TO THE DEPTH SHOWN ON THE DRAWINGS BELOW UNDISTURBED SOIL OR COMPACTED EARTH. PROVIDE 1-#4 HORIZONTAL BARS ON TOP AND BOTTOM U.N.O. ON FOUND. PLAN.
3. ALLOWABLE SOIL BEARING PRESSURE IS ASSUMED TO BE 1500. PSF IF NO SOILS REPORT IS PROVIDED.
4. SLAB ON GRADE: 4 INCH. NET CONCRETE SLAB WITH #3 BARS @ 18" O.C. EACH @ CENTER OF SLAB OVER 2 INCH. OF SAND OVER 6 MIL. VISQUEEN OVER 2" SAND BED OVER COMPACTED SOIL. U.N.O.
5. NO TRENCHES OR EXCAVATIONS FIVE FEET IN DEPTH OR GREATER INTO WHICH A PERSON SHALL BE REQUIRED TO DESCEND SHALL BE MADE WITHOUT PROPER PERMIT.
6. THE MINIMUM BOLTING FOR SILL PLATES TO FOUNDATION SHALL BE AS FOLLOWS: 5/8" DIAMETER ANCHOR BOLTS WITH 7" MIN EMBEDMENT IN CONCRETE WITH SPACING NO GREATER THAN 4 FEET O.C. NOR FURTHER THAN 12" FROM CORNERS (MIN 2 BOLTS PER PIECE). SEE THE FOUNDATION PLAN & SHEAR WALL SCHEDULE FOR FURTHER BOLTING REQUIREMENTS.(FOR TWO POUR SYSTEMS,BOLTS SHALL BE EMBEDDED 4 INCH MIN. INTO FIRST POUR.)
7. PIPES OR DUCTS THAT EXCEED ONE THIRD THE SLAB OR CONC. WALL THICKNESS SHALL NOT BE PLACED IN STRUCTURAL CONC; UNLESS SPECIFICALLY DETAILED. SEE MECHANICAL AND/OR ELECTRICAL DRAWINGS FOR LOCATION OF SLEEVES, ACCESSORIES, ETC.
8. PIPES MAY PASS THRU STRUCTURAL CONC. IN SLEEVES, BUT SHALL NOT BE EMBEDDED THEREIN.
9. PROVIDE 3/4" CAMBERS AT ALL EXPOSED CORNERS.
10. SEE ARCHITECTURAL PLANS FOR MOLDS, GROOVES, ORNAMENTS, CLIPS OR GROUNDS REQUIRED TO BE CAST IN CONCRETE, AND FOR LOCATION OF FLOOR FINISHES AND SLAB DEPRESSIONS.
11. LOCATION OF POUR JOINTS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.

CONCRETE

1. UNLESS OTHERWISE NOTED ON PLANS, CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI IN 28 DAYS.
2. FINE & COURSE AGGREGATE SHALL CONFORM TO A.S.T.M. C-33, USE 3000 P.S.I CONC. @ GRADE BEAMS. CEMENT SHALL CONFORM TO A.S.T.M. C-150 (STANDARD BRAND PORTLAND CEMENT) TYPE II (USE TYPE V CEMENT IF NOTED IN SOILS REPORT)
3. CONCRETE SHALL BE MACHINE-MIXED USING A MAXIMUM OF 7" GALLONS OF WATER PER SACK OF CEMENT. READY MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C-94 MIXED AT A RATE OF 5 SACKS OF CEMENT PER CUBIC YARD. MAXIMUM SLUMP SHALL BE 4 INCH AS MEASURED BY THE ASTM "STANDARD METHOD OF TESTING FOR SLUMP OF PORTLAND CEMENT CONCRETE.
4. DRY PACK SHALL CONSIST OF 1 PART CEMENT, 4 PARTS SAND, BASED ON DRY LOOSE VOLUMES AND NOT LESS THAN 1/4 PART, NOR MORE THAN 1/2 PART, LINE PUTTY OR DRY HYDRATED LIME. DRY PACK SHALL OBTAIN A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS.
5. ADDING CALCIUM CHLORIDE TO CONCRETE OR GROUT IS NOT PERMITTED.
6. CONC. SHALL BE KEPT MOIST FOR 10 DAYS FOR PROPER CURING.

REQUIREMENTS FOR CONCRETE EXPOSED TO SULFATE-CONTAINING SOLUTIONS (ACI 4.3)

SULFATE EXPOSURE	CEMENT TYPE	WATER-CEMENT RATIO	COMPRESSIVE STRENGTH
NEGLIGIBLE	NOT REGULATED	-	2500 psi
MODERATE	I, II	0.50	4000 psi
SEVERE	V	0.45	4500 psi
VERY SEVERE	V	0.45	4500 psi

CONCRETE BLOCK MASONRY

1. CONCRETE BLOCK SHALL CONFORM TO A.S.T.M. C-90 MED. WT. GRADE N UNITS, WITH MIN. COMP. STRENGTH OF 1500 PSI. ALL CMU BLOCKS SHALL BE LAID UP IN RUNNING OR COMMON BOND CONFIGURATION.
2. MORTAR SHALL CONFORM TO ASTM C-270, TYPE S, WITH MINIMUM COMPRESSIVE STRENGTH OF 2000. PSI AT 28 DAYS.
   MIX: 1 PART PORTLAND CEMENT. 1/2 PART LIME PUTTY. 4 PARTS SAND. } BY VOLUME
3. GROUT SHALL CONFORM TO ASTM C-476, WITH MINIMUM COMPRESIVE STRENGTH OF 2000. PSI AT 28 DAYS.
   MIX: 1 PART PORTLAND CEMENT. 3 PARTS SAND 2 PARTS PEA GRAVEL } BY VOLUME
   WATER SUFFICIENT TO ALLOW GROUT TO FLOW INTO ALL JOINTS.
4. CELLS SHALL BE IN VERTICAL ALIGNMENT TO PROVIDE A MIN. UNOBSTRUCTED CORE OF 3" X 3". DOWELS FROM FOOTINGS SHALL BE SET TO ALIGN WITH CORE REINFORCING.
5. ALL CELLS BELOW FINISHED GRADE AND ALL CELLS WITH REINFORCING, ANCHORS OR INSERTS SHALL BE FILLED SOLID WITH GROUT.
6. CONCRETE SURFACES SHALL BE CLEANED OF ALL LAITANCE PRIOR TO SETTING OF BLOCKS.
7. PROVIDE VERTICAL CONSTRUCTION JOINTS AT 40 FT. O.C.
8. MINIMUM LAP FOR ALL STEEL IS 40 BAR DIAMETER, OR 24 INCHES, WHICHEVER IS GREATER.
9. IF WORK IS STOPPED FOR ONE HOUR OR LONGER, PROVIDE HORIZONTAL CONSTRUCTION JOINTS BY STOPPING GROUT 1-1/2 INCH BELOW THE TOP OF THE BLOCK.

REINFORCED MASONRY (CMU)

1. ALL MASONRY SHALL BE REINFORCED CONCRETE MASONRY UNIT IN ACCORDANCE WITH THE LATEST EDDITION OF ACI 530/ASCE 5/TMS 402.
2. INSTALL ALL BLOCKS IN RUNNING BOND.
3. MINIMUM MASONRY BLOCK (ASTM C90) STRENGTH SHALL (FM) BE 2000 PSI.
4. TYPE "S" MORTAR (ASTM C270) SHALL BE USED USING 3/8" FULL BEDDING REINFORCED W/ 9 GAGE GALVANIZED LADDER WIRE EVERY 2ND ROW.
5. FILLED CELLS SHALL BE REINFORCED WITH #5 REBAR @ 24" O.C. (UNLESS OTHERWISE IS SPECIFIED ON THE PLANS).
6. GROUT SHALL BE PEA ROCK PUMP MIX (ASTM C476) WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI (28 DAY) (ASTM C1019). TARGETED SLUMP SHALL BE 8"-11".
7. EACH GROUTED CELL SHALL HAVE CLEANOUT OPENINGS AT THE BOTTOM. THERE SHALL BE NO LOOSE MORTAR OR OTHER DEBRIS IN THE BOTTOM OF THE CELL. USE BLAST PRESSURE WASHING FOR SURFACE PREPARATION.

REINFORCING STEEL

1. REINFORCING STEEL, #3 AND #4 GRADE 40, #5 AND LARGER GRADE 60 PER A.S.T.M. A615.
2. LOW HYDROGEN WELDING RODS SHALL BE USED FOR ALL WELDING OF REINFORCING BARS.
3. BARS NOTED AS "CONT" TYPICAL WALL REINFORCING AND VERTICAL COLUMN REINFORCING SHALL HAVE A MINIMUM SPLICE OF 50 BAR DIAMETERS LAP IN MASONRY OR 40 BAR DIAMETERS MINIMUM IN CONCRETE.
4. REINFORCING SHALL BE SPLICED ONLY AS SHOWN OR NOTED. OTHER SPLICES SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.
5. SPLICES IN ADJACENT HORIZONTAL WALL REINFORCING BARS SHALL BE STAGGERED 4 FEET UNLESS OTHERWISE NOTED.
6. PROVIDE DOWELS IN FOOTINGS AND/OR GRADE BEAMS THE SAME SIZE AND NUMBER AS VERTICAL WALL OR COLUMN REINFORCING. DOWELS SHALL HAVE A MINIMUM PROJECTION EQUAL TO STANDARD LAP SPLICE UNLESS OTHERWISE NOTED.
7. ALL REINFORCING, ANCHOR BOLTS, AND OTHER INSERTS SHALL BE SECURED IN PLACE PRIOR TO PLACEMENT OF CONCRETE OR GROUTING OF MASONRY.
8. PROVIDE THE FOLLOWING MINIMUM PROTECTIVE COVERING OF CONCRETE:

BELOW GRADE (UNFORMED)	3" CLEAR
BELOW GRADE (FORMED)	2" CLEAR
WALLS	1" CLEAR
COLUMNS	1.5" CLEAR
BEAMS AND GIRDERS	1.5" CLEAR
STRUCTURAL SLAB (ABOVE GRADE)	3/4" CLEAR

9. #5 OR LARGER REINFORCING BARS SHALL NOT BE RE-BENT WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER.

GRADING NOTES

1. A GRADING PERMIT SHALL BE OBTAINED PRIOR TO ANY GRADING.
2. ALL FILL ONE FOOT & GREATER SHALL BE CERTIFIED AND TESTED AS TO RELATIVE COMPACTION PER U.B.C.
3. ALL FILL SHALL BE COMPACTED IN ACCORDANCE WITH ASTM D-1557, TO MAXIMUM OF 90% DENSITY.
4. ALL UTILITY TRENCH BACKFILLS SHALL BE IN ACCORDANCE WITH THE SOILS ENGINEER'S RECOMMENDATIONS.

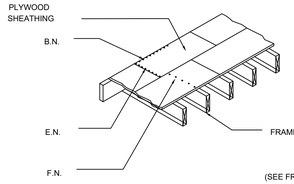
STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO ASTM A36,(Fy=36.KSI) FOR PLATES AND TO ASTM A992,(Fy=50.KSI) FOR W-SHAPE STEEL SECTIONS.
2. CORTEN STEEL SHALL CONFORM TO ASTM A588, Fy=50. KSI.
3. STAINLESS STEEL SHALL CONFORM TO ASTM A276 TYPE 304-HOT ROLLED, Fy=18. KSI.
4. FABRICATION, ERECTION & PAINTING SHALL COMPLY WITH THE AISC SPECS. CHAPTER M. (THIRTEENTH EDITION).
5. ALL BOLTS FOR STEEL MEMBERS SHALL CONFORM TO ASTM A325 OR A490, UNLESS OTHERWISE NOTED.
6. HIGH TENSILE BOLTS WHERE INDICATED ON THE PLANS OR DETAILS SHALL BE THE FRICTION TYPE AND THERE SHALL BE NO PAINT, OIL, LAQUER, OR GALVANIZING BETWEEN THE CONTACT SURFACES. HIGH TENSILE BOLTS SHALL CONFORM TO ASTM A325 OR A490.
7. HIGH STRENGTH BOLTS SHALL HAVE LOAD INDICATOR WASHERS TO SERVE AS A DIRECT TENSION INDICATOR.INSTALLATION FOR HIGH STRENGTH BOLTS SHALL REQUIRE INSPECTION BY A DEPUTY INSPECTOR.
8. ANCHOR RODS SHALL BE ASTM F-1554 GRD. 55 KSI U.N.O. ALL ANCHOR RODS SHALL BE, HEADED RODS.ANCHOR ROD WASHER SHALL BE ASTM A436. NUTS SHALL BE ASTM A563.
9. PIPE COLUMNS SHALL CONFORM TO ASTM A-53 GRADE B.
10. STEEL TUBE SHAPED MEMBERS SHALL CONFORM TO ASTM A-501 OR OR A-500 GRADE B.
11. WHERE FINISH IS ATTACHED TO STRUCTURAL STEEL, PROVIDE HOLES FOR 1/2". WELDED STUDS AT 4 FEET O.C. FOR THE ATTACHMENT OF NAILERS. SEE ARCHITECTURAL DRAWINGS FOR FINISHES.
12. OPEN WEB JOISTS SHALL COMPLY WITH THE STANDARDS OR "THE STEEL JOIST INSTITUTE".
13. STEEL STUDS, JOIST, TRACKS & BRIDGING:
    ASTM A-570 GRADE "E" Fy = 50 KSI 12, 14 & 16 GA.
    ASTM A-570 GRADE "C" Fy = 33 KSI 18 & 20 GA.
14. SPECIAL INSPECTION OF HIGH-STRENGTH A325 AND A490 BOLTS SHALL BE IN ACCORDANCE WITH APPROVED NATIONALLY RECOGNIZED STANDARDS AND REQUIREMENT OF SECTION 1701.
15. SHOP DRAWINGS SHALL BE PROVIDED TO ENGINEER OR ARCHITECT OF RECORD FOR REVIEW PRIOR TO FABRICATION.

STRUCT. STEEL WELDING

1. WELDING SHALL BE DONE BY THE ELECTRIC SHIELDED ARC PROCESS W/E70-XX ELECTRODES AND SHALL COMPLY WITH A.W.S. SPECIFICATIONS FOR WELDING AND FABRICATION.
2. WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS WHO ARE APPROVED BY THE LOCAL AUTHORITY USING ARC PROCESS WITH E70XX ELECTRODES.
3. ALL FIELD WELDS SHALL HAVE CONTINUOUS INSPECTION PER CBC (1701) UNLESS OTHERWISE NOTED.
4. ALL BUTT WELDS SHALL BE FULL PENETRATION U.N.O.
5. A CERTIFICATE OF FABRICATION FROM THE SHOP PERFORMING WELDING OR A REPORT FROM THE SPECIAL INSPECTOR MUST BE FURNISHED TO THE JOB INSPECTOR PRIOR TO FRAMING APPROVAL.
6. WELDED, FULLY RESTRAINED CONNECTION BETWEEN MEMBERS OF ORDINARY MOMENT FRAMES OR SPECIAL MOMENT-RESISTING FRAMES SHALL HAVE SPECIAL CONTINUOUS INSPECTION AND CONNECTION TESTED BY NONDESTRUCTIVE METHODS PER SECTION 1703.
7. FIELD WELDING OF REINFOCING STEEL SHALL BE DONE BY WELDERS SPECIFICALLY CERTIFIED FOR REINFORCING STEEL WELDING .BEFORE WELDING,THE "CARBON EQUIVALENT" (CE) OF STEEL SHALL BE DETERMINED. IF THE (CE) OF STEEL IS MORE THAN 0.75% , THEY SHALL NOT BE WELDED.

PLYWOOD DIAPHRAGM



NAILING: (EXCEPT WHERE NOTED OTHERWISE)

	ROOF NAIL'G	FLOOR NAIL'G
B.N. = BOUNDARY NAILING	8d @ 6" O.C.	10d @ 6" O.C.
E.N. = EDGE NAILING	8d @ 6" O.C.	10d @ 6" O.C.
F.N. = FIELD NAILING	8d @ 12" O.C.	10d @ 10" O.C.

NOTES:

1. NAILS SHALL BE GALV. COMMON(HOT-DIPPED OR TUMBLED), PLACED NOT LESS THAN 3/8" FROM PANEL EDGES AND SHALL BE FIRMLY DRIVEN.
2. NO UNBLOCKED PIECE LESS THAN 12" SHALL BE USED.
3. WOOD STRUCTURAL PANELS SHALL COMPLY WITH 2019 CBC STANDARD AND SHALL BE APA RATED EXPOSURE I.
4. WOOD STRUCTURAL PANELS, WHEN USED, SHALL COMPLY WITH THE REQUIREMENTS FOR THEIR TYPE IN DOC PS1-95 OR PS2-92.
5. ALL PANELS SHALL BE IDENTIFIED BY TRADE MARK OF AN APPROVED TESTING & GRADING AGENCIES, APA, TECO OR PITTSBURG.

FRAMING NOTES

1. FRAMING SHALL COMPLY WITH CHAPTER 23 OF THE 2019 CBC

FRAMING-GENERAL

1. USE SIMPSON U-HANGERS ON ALL JOIST/BEAM/BEAM CONNECTIONS UNLESS NOTED ON PLANS.
2. ALL POSTS SHALL HAVE SIMPSON "PC" CONNECTORS AT TOP AND SIMPSON "BC" OR "BCO" CONNECTORS AT BASES UNLESS OTHERWISE NOTED ON PLANS.
3. ALL CONNECTING HARDWARE, JOIST HANGERS, TIE STRAPS, ETC., SHALL BE SIMPSON "STRONG TIE" UNLESS OTHERWISE NOTED OR SHOWN ON PLANS.
4. FRAMING @ CHIMNEY ENCLOSURE SHALL BE 2x6 STUDS BALLOON FRAMED W/APPROVED STRAPS TO ROOF AND FLOOR DIAPHRAGMS.

FRAMING - WALL

1. SIZE, SPACING & HEIGHT LIMITS FOR WOOD STUDS ARE AS FOLLOWS (UNLESS OTHERWISE NOTED ON PLANS):
   2X4 @ 16" OC (BEARING WALL) SUPPORTING A MAXIMUM OF ONE FLOOR AND ONE ROOF SHALL HAVE A MAXIMUM HEIGHT OF 10 FEET
   2X4 @ 16" OC (NON-BEARING WALL) SHALL HAVE A MAXIMUM HEIGHT OF 14 FEET
   2X6 @ 16" OC (BEARING WALL) SUPPORTING A MAXIMUM OF TWO FLOORS AND A ROOF SHALL HAVE A MAXIMUM HEIGHT OF 10 FEET
   2X6 @ 16" OC (NON-BEARING WALL) MAXIMUM HEIGHT IS 20 FEET
2. RAKE WALLS ADJACENT TO SLOPED CEILINGS SHALL BE BALLOON FRAMED. DOUBLE TOP PLATES SHALL ALWAYS BE SUPPORTED BY A ROOF OR CEILING DIAPHRAGM.
3. SHEAR WALL PANELS MUST BE CONTINUOUS TO THE TOP PLATE AT ROOF FRAMING. SHEATHING SHALL HAVE ALL EDGES BLOCKED & THE APPROPRIATE SHEAR TRANSFER THRU CEILING OR SOFFIT FRAMING.
4. BORING AND NOTCHING OF WALL STUDS SHALL BE PER CBC (2308.9)

NOTCHING MAXIMUM:	25% OF WIDTH OF STUDS ON BEARING WALLS 40% OF WIDTH OF STUDS ON NON-BEARING WALLS BORING
MAXIMUM:	40% OF WIDTH OF STUDS ON BEARING WALLS 60% OF WIDTH OF STUDS ON NON-BEARING WALLS

NOTE: A MIN. 5/8" CLEARANCE FROM EDGE OF STUD TO HOLE SHALL BE PROVIDED.

5. DOUBLE 2X TOP PLATE SHALL BE LAPPED 48" AT ALL SPLICES AND SHALL OVERLAP AT CORNERS.
6. WALL BRACING SHALL BE PROVIDED PER CBC (2308.9.3)
7. HARDY FRAMES INSTALLATION PER MFR. SPECIFICATION (ICC ESR-2089)
8. STRONG WALL INSTALLATION PER MFR. SPECIFICATION (ICC-ESR-1267)

FRAMING - FLOOR

1. FLOOR SHEATHING (MIN) 5/8" STRUCTURAL I T & G PLYWOOD PANEL INDEX NO. 32/16 WITH EXTERIOR GLUE. USE 10d COMMON NAILS AT 6" OC AT ALL EDGES, BOUNDARIES, AND 10" O.C. FIELD. NO BLOCKING IS REQUIRED UNLESS NOTED ON PLAN. ALL EDGES BLOCKED AT DECKS.
2. PROVIDE DOUBLE FLOOR JOISTS UNDER ALL PARALLEL NON- BEARING PARTITIONS.
3. PROVIDE CONTINUOUS BLOCKING BETWEEN FLOOR JOISTS UNDER BEARING WALLS WHICH ARE PERPENDICULAR TO JOISTS.
4. FRAMING AROUND OPENINGS: TPT RIMMER AND HEADER JOISTS SHALL BE DOUBLED AND SUPPORTED BY HANGERS PER (CBC 2320.12.5).

FRAMING - ROOF

1. ROOF SHEATHING (MIN) 15/32" STRUC. I PLYWOOD SHEATHING PANEL INDEX NO. 32/16 WITH EXTERIOR GLUE. USE 8d COMMON NAILS AT 6" OC AT ALL EDGES, BOUNDARIES, AND 12" OC FIELD. NO BLOCKING IS REQUIRED UNLESS NOTED ON PLAN.
2. FRAMING AROUND OPENINGS: TPT RIMMER AND HEADER JOISTS SHALL BE DOUBLED AND SUPPORTED BY HANGERS PER CODE

FRAMING - CEILING (PER TABLE 2308.10.2)

1. CEILING JOISTS SHALL BE 2X6 @ 16" O.C. (MAX SPAN= 17'-8")
2. CEILING JOISTS SHALL BE 2X8 @ 16" O.C. (MAX SPAN= 23'-0")

FRAMING - JOISTS/RAFTERS

1. BORING AND NOTCHING OF JOISTS SHALL BE AS FOLLOWS: (CBC 2308.10) 2019 EDITION
   BORING- MAX DIA OF HOLE SHALL NOT EXCEED 1/3 OF DRESSED DEPTH OF JOIST WITH A MINIMUM EDGE CLEARANCE OF TWO INCHES.
   NOTCHING- MAX NOTCH AT ENDS SHALL NOT EXCEED 1/4 OF DEPTH. NO NOTCHING IS ALLOWED IN THE CENTER THIRD OF THE JOIST SPAN. MAX NOTCH IN TOP OR BOTTTOM OF THE JOIST SHALL NOT EXCEED 1/6 OF THE JOIST DEPTH.
2. WHERE THREE OR MORE (MULTI JOISTS) ARE USED, THE JOISTS SHALL BE BOLTED TOGETHER WITH 1/2" DIA. MACHINE BOLTS W/ WASHERS AT 24" OC STAGGERED. BOLTS SHALL BE RETIGHTENED PRIOR TO APPLYING FINISH MATERIALS.
3. JOISTS/RAFTERS SHALL LAP AT SPLICES A MIN. OF 4 INCHES WITH 3-16d NAILS OR USE SIMPSON ST 2115 @ 48 INCHES O.C.
4. CROSS BRIDGING OR 2X BLDG. SHALL BE PROVIDED @ 8'-0" O.C. MAX. FOR ALL JOISTS AND RAFTERS MORE THAN 8" IN DEPTH.
5. 2X SOLID BLOCKING SHALL BE PLACED BETWEEN JOISTS OR RAFTERS AT ALL SUPPORTS.

DRAINAGE NOTES

1. MINIMUM GRADIENTS ARE AS FOLLOWS: EARTH= 2%, PAVING= .5%
2. POSITIVE DRAINAGE AWAY FROM STRUCTURES SHALL BE AS FOLLOWS:
   2% MIN. TO 21% MAX
   SWALES TO BE 3 FEET MIN. AWAY FROM STRUCTURES.

FRAMING-BOLTING

1. ALL BOLTS BEARING ON WOOD SHALL HAVE WASHERS UNDER HEAD OR NUT, SEE S.W. SCHEDULE.
2. ALL BOLTS SHALL BE RETIGHTENED, PRIOR TO APPLICATION OF PLYWOOD, PLASTER, ETC.
3. HOLES FOR BOLTS SHALL BE BORED 1/32" TO 1/16" LARGER THAN NOMINAL BOLT DIAMETER.
4. FASTENERS IN PRESSURE-TREATED AND FIRE-RETARDANT,TREATED WOOD SHALL BE OF HOT-DIPPED,ZINC-COATED GALVANIZED STEEL,STAINLESS STEEL,SILICON BRONZE OR COPPER.

LUMBER

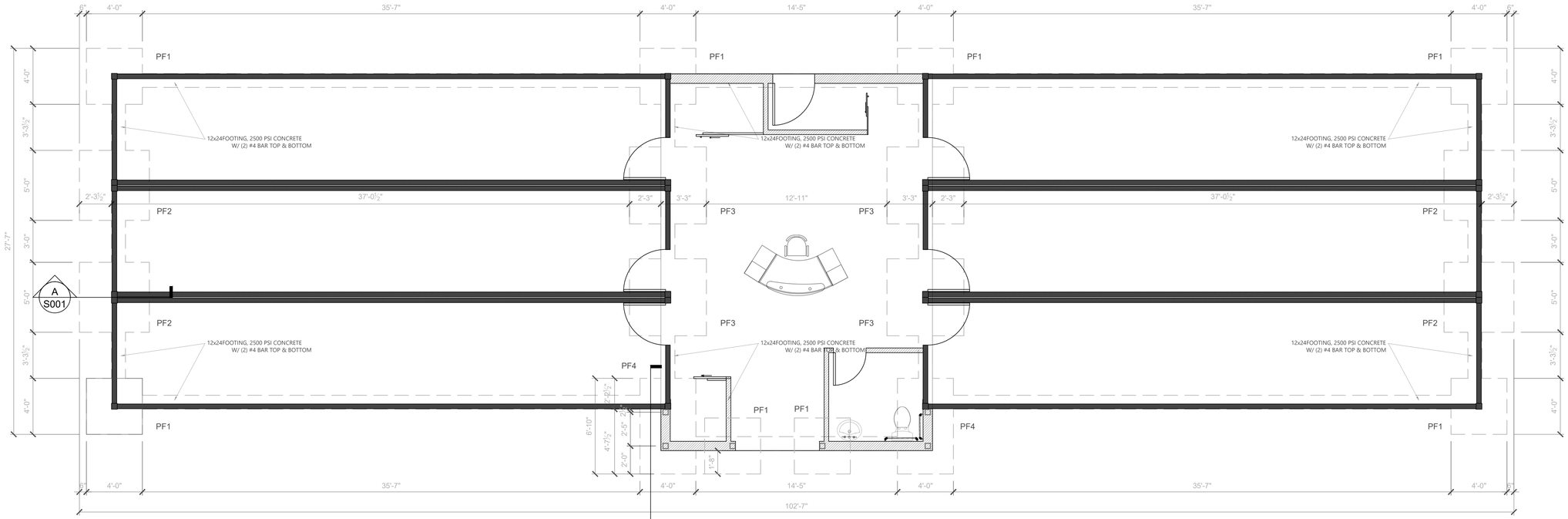
1. ALL LUMBER SHALL BE DOUGLAS FIR-LARCH OR THE FOLLOWING GRADES UNLESS OTHERWISE NOTED (MAX MOISTURE CONTENT SHALL NOT EXCEED 19% & GRADED IN ACCORDANCE WITH THE (WEST COAST LUMBERMAN'S ASSOCIATION.)

   REPETITIVE USE MEMBERS
   STUDS & PLATES NO. 2
   JOISTS & RAFTERS:
   2X4 TO 4X4 INCLUSIVE NO. 2
   2X6 TO 3X16 INCLUSIVE NO. 2

   SINGLE USE MEMBERS
   BEAMS:
   4X NO. 2
   6X OR LARGER NO. 1
   POSTS & MULLION:
   4X4 & SMALLER NO. 2
   4X6 & LARGER NO. 2
   6X6 & LARGER NO. 1
   BLOCKING, FURRING, ETC. NO. 3
   DECKING & SHEATHING
   2X, 3X, 4X CONST. GRADE
2. ALL WOOD BEARING ON CONCRETE OR MASONRY IF LESS THAN 4 FEET FROM GRADE SHALL BE PRESSURE TREATED DOUG. FIR.
3. GLUED-LAMINATED WOOD BEAMS SHALL BE DOUGLAS FIR COMB. 24F-V4 (*) DF/DF (Fb=2400 PSI, Fv=165 PSI, E=1,80,000 PSI) INDUSTRIAL APPEARANCE WITH EXTERIOR GLUE UNLESS OTHERWISE NOTED ON PLANS. A CERTIFICATE OF INSPECTION FOR EACH GLU-LAM BEAM FROM AN APPROVED TESTING AGENCY TO BE SUBMITTED AND APPROVED BY THE BUILDING DEPT. PRIOR TO ERECTION. (*) USE V8 FOR CANT. BEAMS AND V4 FOR SIMPLE SPANS BEAMS]
4. SHOP DRAWING SHALL BE PROVIDED TO ENGINEER OR ARCHITECT OF RECORD FOR REVIEW PRIOR TO FABRICATION.
5. ALL STRUCTURAL PLYWOOD SHALL BE IN ACCORDANCE WITH (PS 1-95)
6. PARALLAM PSL PER TRUS JOIST MACMILLAN (ICC ESR-1387) (Fb= 2900 PSI, Fv=290 PSI, E= 2,000,000 PSI)
7. TJI JOISTS INSTALLATION PER MANUFACTURE SPECIFICATION (ICC ES ESR-1153 AND ICC ES ESR-1387)

SPECIAL INSPECTION (PER CBC SECTION 1704.1706 & 1707)

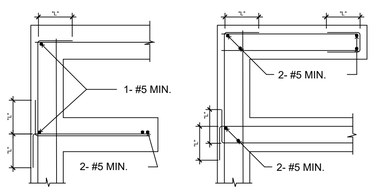
1. SPECIAL INSPECTION BY A REGISTERED DEPUTY BUILDING INSPECTOR, APPROVED BY THE ARCHITECT AND THE CHECKING AGENCY, SHALL BE REQUIRED FOR THE FOLLOWING TYPES OF WORK. SEE PROJECT SPECIFIC



FOUNDATION PLAN

SCALE 1/4"=1'-0"

PAD FOOTING SCHEDULE			
TYPE	WIDTH	DEPTH	REBAR
PF-1	48"	24"	4 #5 EACH WAY
PF-2	60"	24"	6 #5 EACH WAY
PF-3	66"	24"	6 #5 EACH WAY
PF-4	82"x48"	24"	#5 @ 12" O.C. MAX EACH WAY



NOTE: "L" = 40 X BAR DIAMETER IN CONC, U.N.O.RETE
"L" = 50 X BAR DIAMETER IN MASONRY, U.N.O.

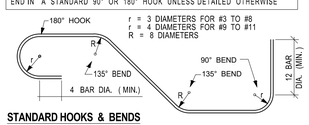
TYPICAL WALL + FTG. REINFORCEMENT

MINIMUM BAR LAPS FOR REINFORCING STEEL CONCRETE STRENGTH = 2500 PSI (STAGGER SPLICES)		
SIZE	LAP LENGTH (U.O.N. ON PLAN)	
	GRADE 40 BARS	GRADE 60 BARS
#3	12"	18"
#4	16"	24"
#5	20"	30"

MINIMUM BAR SPACING (INCLUDING LAPS): 1 1/2" CLR. OR 1 1/2 DIA.

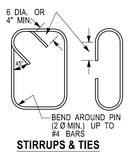
CONCRETE COVER FOR REINFORCING STEEL "CLR."	
CAST AGAINST EARTH OR GRADE	3"
EXPOSED TO EARTH (FORMED) OR WEATHER	
#5 & SMALLER	1 1/ 2"
#6 & LARGER	2 "
NOT EXPOSED TO EARTH OP WEATHER	3 / 4"
SLABS - FROM TOP OF CONCRETE	2 "

ALL REINFORCING BARS SHALL EXTEND AS FAR AS POSSIBLE ANS END IN A STANDARD 90° OR 180° HOOK UNLESS DETAILED OTHERWISE

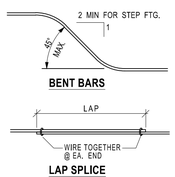


STANDARD HOOKS & BENDS

COLUMN BAR OFFSET



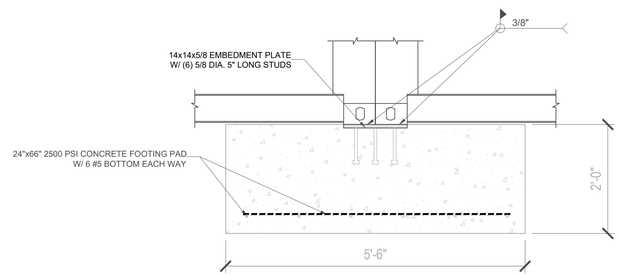
STIRRUPS & TIES



BENT BARS

LAP SPLICE

TYPICAL REINFORCING DETAILS



A FOOTING SECTION A

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

REGISTERED PROFESSIONAL ENGINEER
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Date: AUGUST 02, 2020
Scale: 1/4" = 1' - 0"

DRAWING TITLE: FOUNDATION PLAN

Sheet : 23/40
Page No. : S.001

No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

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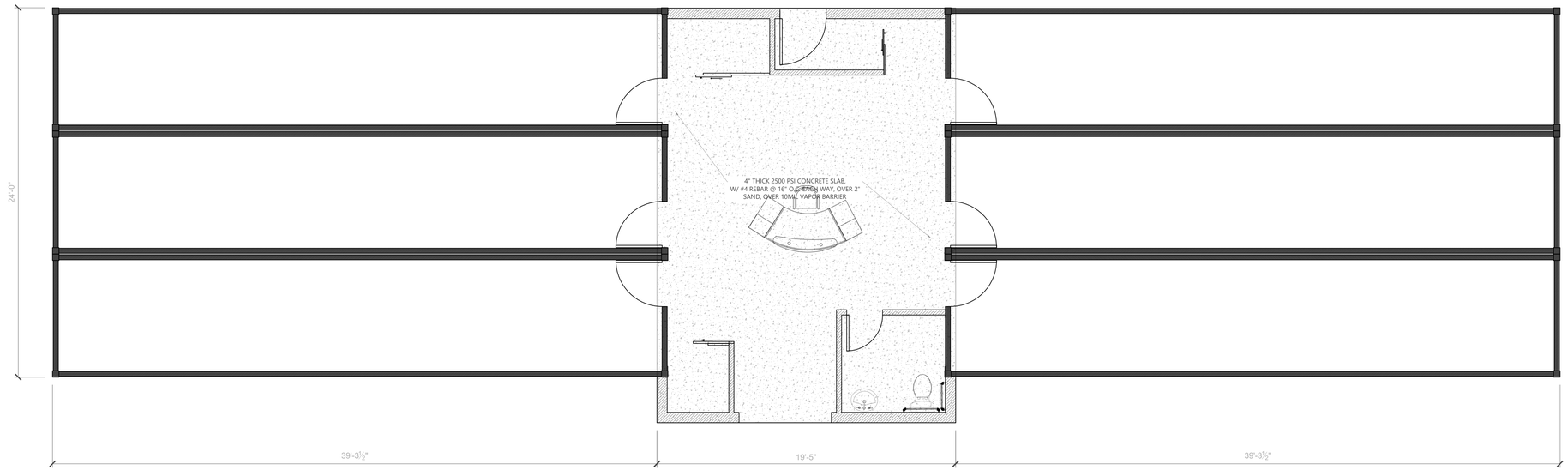
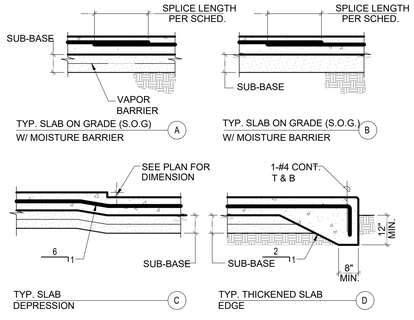


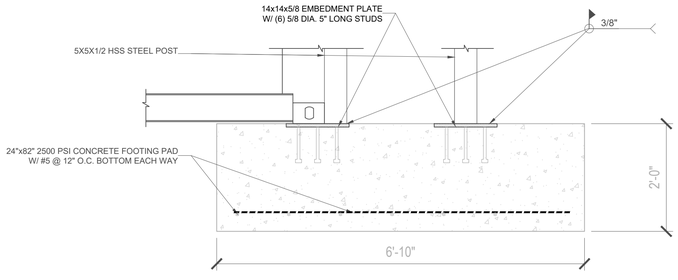
C.I.P. SLAB PLAN

SCALE 1/4"=1'-0"



TYP. SLAB ON GRADE (S.O.G.)

NOT TO SCALE



C FOOTING SECTION C

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

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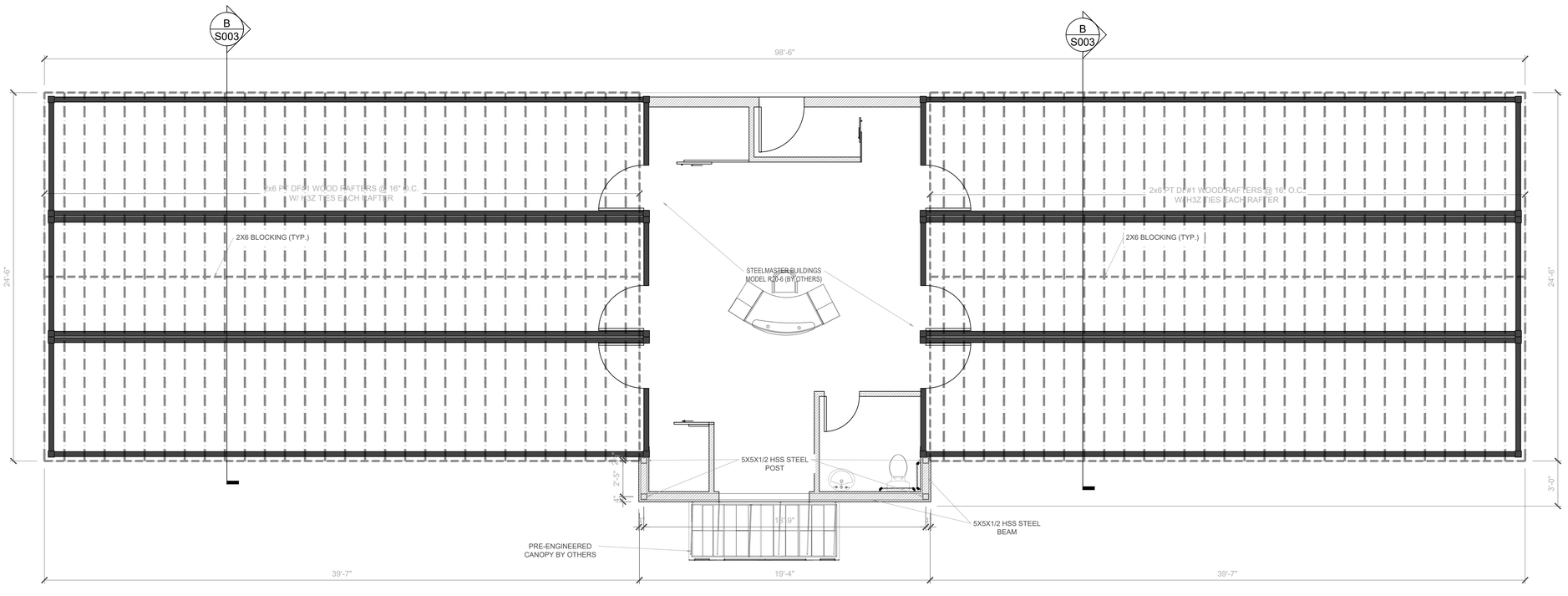
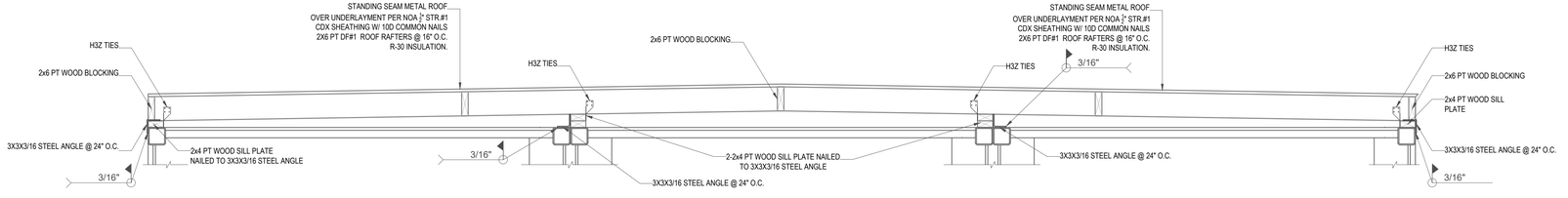


ROOF FRAMING PLAN

SCALE 1/4"=1'-0"



B ROOF SECTION

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

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No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

SECTION 260500 - GENERAL PROVISIONS - ELECTRICAL GENERAL

A. MAKE THE INSTALLATION IN ACCORDANCE WITH RECOGNIZED GOOD PRACTICES FOR THIS TYPE OF WORK. USE THE PROPER MATERIALS AND THE PROPER METHODS, WHETHER OR NOT THESE ARE DESCRIBED IN DETAIL HEREIN. PROVIDE ALL LABOR AND MATERIALS NECESSARY FOR A COMPLETE, OPERABLE INSTALLATION. CODES, PERMITS AND DRAWINGS

B. CONFORM TO APPLICABLE CALIFORNIA ELECTRICAL CODE, APPLICABLE NATIONAL ELECTRIC SAFETY CODE, AND TO APPLICABLE LOCAL CODES. WHERE THE DRAWINGS AND SPECIFICATIONS EXCEED THE REQUIREMENT OF THE CODE, COMPLY WITH THE DRAWINGS AND SPECIFICATIONS.

C. OBTAIN AND PAY ALL COSTS FOR REQUIRED PERMITS AND INSPECTIONS FOR ALL WORK INCLUDED HEREIN.

D. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO COMPLY WITH LISTED CODES, ORDINANCES, REGULATIONS AND STANDARDS. WHERE DISCREPANCIES OCCUR BETWEEN DRAWINGS, SPECIFICATIONS, CODE REQUIREMENTS AND ACTUAL FIELD CONDITIONS, NOTIFY THE ARCHITECT IMMEDIATELY AND ASK FOR AN INTERPRETATION. SHOULD INSTALLED MATERIALS OR WORKMANSHIP FAIL TO COMPLY, THE CONTRACTOR IS RESPONSIBLE FOR CORRECTING THE IMPROPER INSTALLATION AT NO ADDITIONAL COST TO THE OWNER. MATERIALS

E. WHERE THE UNDERWRITERS' LABORATORIES (UL) HAVE ESTABLISHED STANDARDS AND HAVE ISSUED LABELS FOR A PARTICULAR GROUP, CLASS OR TYPE OF MATERIAL, APPARATUS, APPLIANCE OR DEVICE, THE UL LABEL SHALL BE REQUIRED ON ALL SUCH ITEMS IN THAT CATEGORY INCORPORATED INTO THE WORK. SUBMITTALS

F. SUBMIT FOR APPROVAL SHOP DRAWINGS ON THE FOLLOWING:

F.1. WIRES AND CABLES

F.2. RACEWAYS & BOXES

F.3. WIRING DEVICES

F.4. PANELBOARDS

F.5. LIGHT FIXTURES TESTS

G. ALL DEFECTIVE MATERIAL AND WORKMANSHIP DISCLOSED AS THE RESULT OF TESTS REQUIRED IN OTHER PORTIONS OF THESE SPECIFICATIONS SHALL BE CORRECTED AT CONTRACTOR'S EXPENSE. IT SHALL BE SHOWN, BY DEMONSTRATION IN SERVICE, THAT ALL CIRCUITS AND DEVICES ARE IN GOOD OPERATING CONDITION. EQUIPMENT CONNECTIONS

H. POWER WIRING: MAKE WIRING CONNECTIONS TO ALL DEVICES AND EQUIPMENT BEING INSTALLED AS PART OF THE CONTRACT. RECORD DRAWINGS A. ON ONE (1) SET OF CONTRACT DRAWINGS, KEPT AT THE SITE DURING CONSTRUCTION, MARK ALL WORK THAT IS INSTALLED DIFFERENTLY FROM THAT SHOWN ON PLANS, INCLUDING REVISED CIRCUITRY, MATERIAL OR EQUIPMENT. SUFFICIENT DIMENSIONS SHALL BE PROVIDED TO LOCATE ALL MATERIALS INSTALLED BENEATH AND OUTSIDE THE BUILDING INCLUDING, BUT NOT LIMITED TO, UNDERGROUND CONDUITS, CABLING, GROUND RODS AND STUBOUTS.

I. ALL CHANGES OR REVISIONS TO THE CONTRACT DRAWINGS INCLUDING, BUT NOT LIMITED TO, THOSE INDICATED BY AMENDMENT, CHANGE ORDER, FIELD ORDER, WRITTEN RESPONSE TO RFI OR OTHER CONTRACTUAL MEANS SHALL BE KEPT CURRENT AS THE WORK PROGRESSES AND SHALL BE INCORPORATED ONTO THE FINAL RECORD DRAWINGS.

J. ACCURATELY LOCATE AND DIMENSION ALL UNDERGROUND AND EMBEDDED CONDUIT RUNS ON THE RECORD DRAWINGS.

K. THE MARKED DRAWINGS SHALL BE KEPT CURRENT AS THE WORK PROGRESSES AND SHALL BE AVAILABLE FOR INSPECTION UPON REQUEST. AT THE CLOSE OF CONSTRUCTION, PREPARE A SET OF ACCURATE REPRODUCIBLE RECORD DRAWINGS AND TURN THEM OVER TO THE ARCHITECT. THE CORRECT AND COMPLETED RECORD DRAWINGS ARE A PREREQUISITE TO FINAL CONSTRUCTION PAYMENT.

K.1. AS PART OF THE REPRODUCIBLE RECORD DRAWINGS, THE CONTRACTOR SHALL PRODUCE FULL SIZE REPRODUCIBLE DRAWINGS WITH THE FINAL PANELBOARD SCHEDULES AS MODIFIED DURING CONSTRUCTION AND FINAL LIGHT FIXTURE SCHEDULE AS MODIFIED DURING CONSTRUCTION.

K.2. THESE DRAWINGS SHALL BE ON ARCHITECTURAL BASE SHEETS AND NUMERICALLY SEQUENCED FOLLOW THE LAST "E" SHEET. SECTION 260533 - RACEWAYS GENERAL

L MINIMUM SIZES: MINIMUM SIZE FOR ABOVE GROUND RACEWAYS SHALL BE 3/4" USE 1" CONDUIT FOR BELOW GRADE INSTALLATIONS. PRODUCTS

M. RACEWAYS.

M.1. ELECTRIC METALLIC TUBING (EMT) SHALL BE ZINC-COATED STEEL AS MANUFACTURED BY TRIANGLE OR AN APPROVED EQUAL.

N. FITTINGS.

N.1. INDOORS ON EMT: COMPRESSION TYPE

O. PROVIDE ALL CONNECTORS, TEES, ELBOWS, ETC. REQUIRED TO ENSURE A RIGID COMPLETE INSTALLATION. INSTALLATION

O.1. INSIDE BUILDING UNDER CANOPY.

P. RGC RIGID CONDUIT WITH COMPRESSION FITTINGS.

Q. EXPOSED CONDUIT SHALL BE RUN STRAIGHT LINES PARALLEL TO BUILDING CONSTRUCTION.

Q.1. EXTERIOR LOCATIONS BELOW CHEETAH BUILDING CANOPY UP TO 8 FT ABOVE FINISHED FLOOR

R. INSTALL RGC RIGID CONDUIT WITH COMPRESSION FITTINGS.

S. UNDERGROUND LOCATIONS.
INSTALL PVC SCHEDULE 40 CONDUIT WITH SCHEDULE 80 ELBOWS.

1. G. SUPPORT:

1.1. FURNISH AND INSTALL COMPLETE, ADEQUATE AND STURDY SUPPORTS FOR ALL PARTS OF THE RACEWAY SYSTEM.

1.2. ALL CONDUITS MUST BE SUPPORTED WITH MATERIALS SPECIFICALLY MADE FOR THIS PURPOSE. DO NOT USE WIRE HANGERS. USE MALLEABLE IRON CONDUIT CLAMPS, TRAPEZE SUPPORTS OR CADDY FASTENERS. MULTIPLE RUNS SHALL BE SUPPORTED BY "UNISTRUT" OR EQUIVALENT MULTIPLE HANGERS. EACH CONDUIT SHALL BE CLAMPED AT EACH "UNISTRUT" SUPPORT.

2. CONTINUITY: MAKE ALL JOINTS AND CONNECTIONS IN A MANNER, WHICH WILL ENSURE MECHANICAL STRENGTH AND ELECTRICAL CONTINUITY.

3. OPENINGS: KEEP ALL RACEWAY OPENINGS CLOSED IN A MANNER TO PREVENT ENTRY OF MOISTURE AND FOREIGN MATERIALS UNTIL CONDUCTORS ARE INSTALLED. BLOW AND SWAB OUT ALL RACEWAYS BEFORE PULLING IN CONDUCTORS. IN EACH RACEWAY PULL ALL CONDUCTORS SIMULTANEOUSLY. SECTION 260519 - WIRES AND CABLES GENERAL

4. PROVIDE A COMPLETE SYSTEM OF INSULATED CONDUCTORS FOR ALL POWER REQUIREMENTS AND FOR ALL OTHER SYSTEMS WHERE THE CONDUCTORS ARE NOT INCLUDED UNDER THAT SYSTEM'S SECTION, TESTED AND CONNECTED AT BOTH ENDS. MATERIALS

5. CONDUCTOR MATERIALS - 600 VOLT:

6. SOFT DRAWN ANNEALED COPPER, NINETY-EIGHT (98%) PERCENT CONDUCTIVITY, CONTINUOUS FROM DEVICE TO DEVICE, WITHOUT WELDS, SPLICES OR JOINTS. MINIMUM WIRE SIZE NO. 12. CONDUCTOR SIZES SHOWN ON THE DRAWINGS ARE THE MINIMUM COPPER AWG CONDUCTOR SIZES REQUIRED.

7. CONDUCTOR INSULATION - 600 VOLT:

7.1. ALL WIRE SHALL BE INSULATED FOR 600 VOLTS.

7.2. CONTROL WIRING: THW, THWN OR THHN, STRANDED.

7.3. POWER WIRING: THHN/THWN STRANDED.

7.4. ALL INSULATION IN AWG SIZES TEN (10) AND BELOW SHALL BE IMPREGNATED WITH COLOR ACCORDING TO THE FOLLOWING: 120/208 VOLTS PHASE "A" BLACK PHASE "B" RED PHASE "C" BLUE NEUTRAL WHITE (STRIPED TO INDICATE PHASE) GROUND GREEN COLOR (OTHER THAN BLACK) IS NOT AN INTEGRAL PART OF INSULATION, USE 3M NO. 35 TAPES IN THE SAME COLOR CODE TO IDENTIFY BOTH ENDS OF CONDUCTORS. GROUND CONDUCTOR MUST HAVE GREEN INSULATION; GREEN TAPES ON OTHER COLORS OF INSULATION ARE NOT ACCEPTABLE.

7.5. MANUFACTURERS: ANACONDA, COLLYER, GENERAL ELECTRIC OKONITE, PHELPS DODGE, ROME, TRIANGLE, OR APPROVED EQUAL. INSTALLATION

8. WIRE - 600 VOLT:

8.1. DO NOT PULL ANY CONDUCTORS INTO CONDUITS UNTIL ALL WORK OF A NATURE WHICH MAY CAUSE INJURY TO CONDUCTORS IS COMPLETED. NO WIRE OR CABLE SHALL BE PULLED INTO CONDUIT THAT TERMINATES IN MAJOR EQUIPMENT, UNTIL SUCH EQUIPMENT HAS BEEN INSTALLED AND PERMANENTLY ANCHORED IN PLACE.

8.2. BLOW OUT AND SWAB CONDUITS BEFORE INSTALLING CONDUCTORS.

8.3. FEEDERS SHALL BE RUN THEIR ENTIRE LENGTH AS CONTINUOUS CONDUCTORS WITHOUT JOINTS OR SPLICES; HOWEVER, JOINTS AND SPLICES IN BRANCH CIRCUITS SHALL BE PERMITTED WHERE CIRCUITS DIVIDE (IN JUNCTION BOXES ONLY).

8.4. CARE SHALL BE EXERCISED WHEN INSTALLING WIRE IN CONDUIT SO AS NOT TO DAMAGE THE CONDUCTOR INSTALLATION. MECHANICAL MEANS OF PULLING SHALL NOT BE USED UNLESS APPROVED. OILS, GREASE OR ANY OTHER INJURIOUS TYPE OF PULLING COMPOUND SHALL NOT BE USED WHEN PULLING IN CONDUCTORS. "Y-ER-EASE" COMPOUND OR APPROVED EQUAL WILL BE ACCEPTABLE.IN EQUIPMENT AND PANELS, BUNCH, FORM AND SECURE WIRE WITH BURNDY TYRAP'S OR APPROVED EQUAL, AT INTERVALS APPROPRIATE TO THE BUNDLE SIZE.

8.5. THE USE OF JUNCTION BOXES TO GATHER SEVERAL HOMERUNS INTO A LARGER CONDUIT TO A PANELBOARD WILL NOT BE PERMITTED.

8.6. LEAVE ADEQUATE SPACE IN PANELBOARDS AND CABINETS FOR FUTURE CIRCUITS AND FOR WIRING INSTALLED BY OTHERS.

8.7. ALL RACEWAYS SHALL INCLUDE A CODE SIZED INSULATED GROUNDING CONDUCTOR.

8.8. ALL BRANCH CIRCUITS SHALL BE PROVIDED WITH SEPARATE INDIVIDUAL NEUTRAL CONDUCTORS.

9. SPLICES:

9.1. SPLICES IN 600 VOLT-FEEDER WIRES WILL NOT BE PERMITTED.

10. TESTS:

10.1. WIRING SYSTEMS SHALL BE TESTED FOR INSULATION RESISTANCE AFTER AL WIRING IS COMPLETED AND CONNECTED READY FOR THE ATTACHMENT OF EQUIPMENT AND AGAIN WHEN EQUIPMENT IS CONNECTED READY FOR USE.

10.2. TESTS SHALL BE MADE WITH AN INSTRUMENT (MEGGER) CAPABLE OF MEASURING THE CORRECT INSULATION RESISTANCE AND HAVING A MINIMUM VOLTAGE RATING OF 500 VOLTS. READINGS TAKEN AFTER THE VOLTAGE HAS BEEN APPLIED SHALL VERIFY THAT THE INSULATION RESISTANCE BETWEEN CONDUCTORS AND ALSO BETWEEN EACH CONDUCTOR AND GROUND IS IN EXCESS OF 10M-OHMS.

10.3. IN CASE OF FAILURE DURING THE MEGGER TEST, LOCATE AND REPLACE THE FAULTY TERMINATION OR CABLE SECTION AS NECESSARY, AND REPEAT THE INSULATION TEST AT NO ADDITIONAL COSTS TO THE OWNER.

10.4. ADEQUATE MEANS SHALL BE TAKEN TO ENSURE SAFETY DURING THE TESTS AND ALL SAFETY INSTRUCTIONS OF THE TEST OPERATOR SHALL BE OBSERVED.

CITY OF MAMMOTH BUILDING CODE

This project shall comply with the:

2019 California Building Code
2019 California Residential Code
2019 California Fire Code
2019 California Electrical Code
2019 California Mechanical Code
2019 California Plumbing Code
2019 California Green Building Standards Code
2019 California Historical Building Code
2019 California Referenced Standards Code
2019 California Administrative Code
2019 California Energy Code
ACI 318-14 (Structural Concrete)
TMS 402/602-16 (Structural Masonry)
ASCE 7-16 (Design Loads for Structures)

REGISTERED PROFESSIONAL ENGINEER
GARRETT C. GROOM
C 057196
Exp. 12.31.2021
8-12-2020
CIVIL
STATE OF CALIFORNIA

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Project Name and Address:

AMERICAN GRO ECO, INC.
SHEPARD PLACE CALIFORNIA CITY, CA 95125

Date: AUGUST 02, 2020
Scale: NTS
DRAWING TITLE: ELECTRICAL SPECS
Sheet : 26/40
Page No. : E1.0

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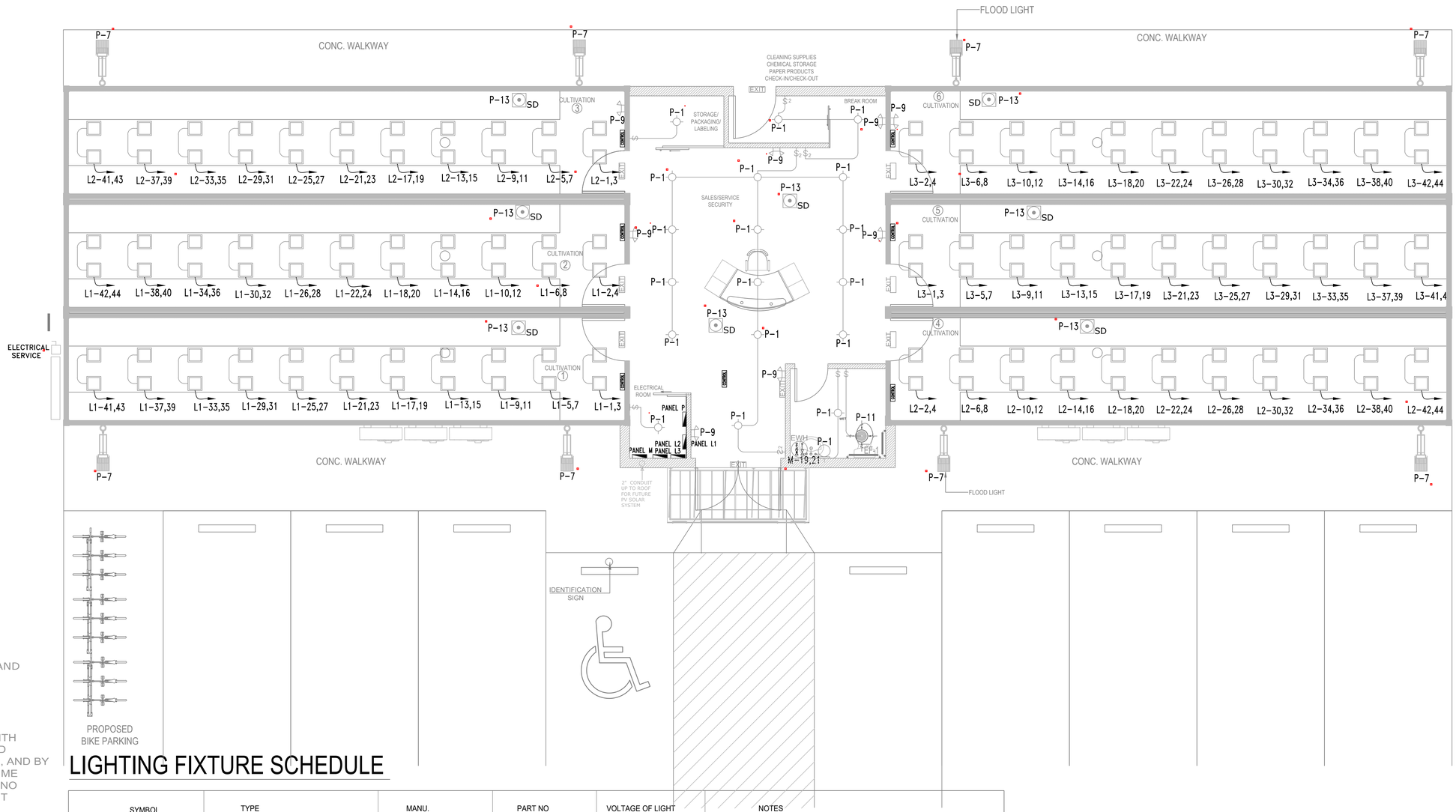
No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

ELECTRICAL LEGEND

- LIGHT WITH HID ELECTRIC BALLAST 1000 WATT WITH 2X4 JOIST HANGERS
- LIGHT, CEILING MTD.
- LED ABOVE MIRROR
- EMERGENCY LED LIGHT, 5.4 WATT
- OUTDOOR WALL MOUNTED LIGHT
- SWITCH, SINGLE POLE @ 48" UNLESS NOTED
- SWITCH, THREE-WAY
- SWITCH, FOUR-WAY
- DIMMER SWITCH
- RECEP. @ 12" UNLESS NOTED
- RECEP. ONE SIDE SWITCHED
- 220 RECEP. 220V.
- GFCI RECEP., GRD. FAULT CRT. INTERCEPTOR @ +44"
- WP RECEP. WATER PROOF
- RECEP., RECESSED IN FLOOR
- RECEP., FOURPLEX
- DISCONNECT
- 220 RECEPTACLE BOX ON FLOOR
- ELECTRICAL PANEL BOARD
- CONTROL LIGHTING CONTROL WITH TIME CLOCK AND OVERRIDE SWITCH

NOTE:
OUTDOOR LIGHTING SHALL BE EQUIPPED WITH MANUAL CONTROL SWITCH, PHOTOCELL AND MOTION SENSOR WITH NO OVERRIDE TO ON, AND BY EITHER PHOTOCONTROL AND AUTOMATIC TIME SWITCH, ASTRONOMICAL TIME CLOCK WITH NO OVERRIDE TO ON, OR ENERGY MANAGEMENT CONTROL SYSTEM PER CENC 150.0(K)3.



LIGHTING FIXTURE SCHEDULE

SYMBOL	TYPE	MANU.	PART NO	VOLTAGE OF LIGHT	NOTES
	LIGHT WITH HID ELECTRIC BALLAST	BY OWNER	BY OWNER	240V/1PHASE, 1000W	FIXTURE WITH BUILT IN PHOTOCELL,DIMMING, AND OCCUPANCY SENSOR
	WALL MOUNTED LED ABOVE MIRROR	LITHONIA	DTCL 1005	120V/1PHASE,9.5W	FIXTURE WITH BUILT IN PHOTOCELL,DIMMING, AND OCCUPANCY SENSOR
WET	RECESSED L.E.D. CAN FIXTURE (W.P. AT EXTERIOR LOCATIONS)	COOPER LIGHTINING	65BEMW	120V/1PHASE, 13W	FIXTURE WITH BUILT IN PHOTOCELL,DIMMING, AND OCCUPANCY SENSOR
	RECESSED DOWN CAN L.E.D.	LITHONIA	6JBK ADJ 6JBK ADJ 30K 90CRI MW	120V/1PHASE, 13.5W	FIXTURE WITH BUILT IN PHOTOCELL,DIMMING, AND OCCUPANCY SENSOR
EXIT	LED EXIT SIGN CEILING/WALL MOUNTED SINGLE FACE,DIRECTION ARROW AS SHOWN W/ BACKUP BATTERY (90 MINUTES MIN.)	EXITRONIX	VEX-U-BA-WB-WH	120V/1PHASE, 13.5W	FIXTURE WITH BUILT IN PHOTOCELL,DIMMING, AND OCCUPANCY SENSOR
	EMERGENCY LED LIGHT, 5.4 WATT	LITHONIA	ELMLT W LP06VS LTP SD	120V/1PHASE, 50W	FIXTURE WITH BUILT IN PHOTOCELL,DIMMING, AND OCCUPANCY SENSOR
	FLOOD LIGHT LED	LITHONIA	TFX1 LED 40K MVOLT THK DDBXD	120V/1PHASE, 54W	FIXTURE WITH BUILT IN PHOTOCELL,DIMMING, AND OCCUPANCY SENSOR

REGISTERED PROFESSIONAL ENGINEER
BARRETT CROOK
C 057186
Exp. 12-31-2021
8-12-2020
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Project Name and Address:

AMERICAN GRO ECO, INC.
SHEPARD PLACE CALIFORNIA CITY, CA 95125

Date: AUGUST 02, 2020
Scale: NTS

DRAWING TITLE: ELECTRICAL LIGHTING LAYOUT

Sheet : 27/40

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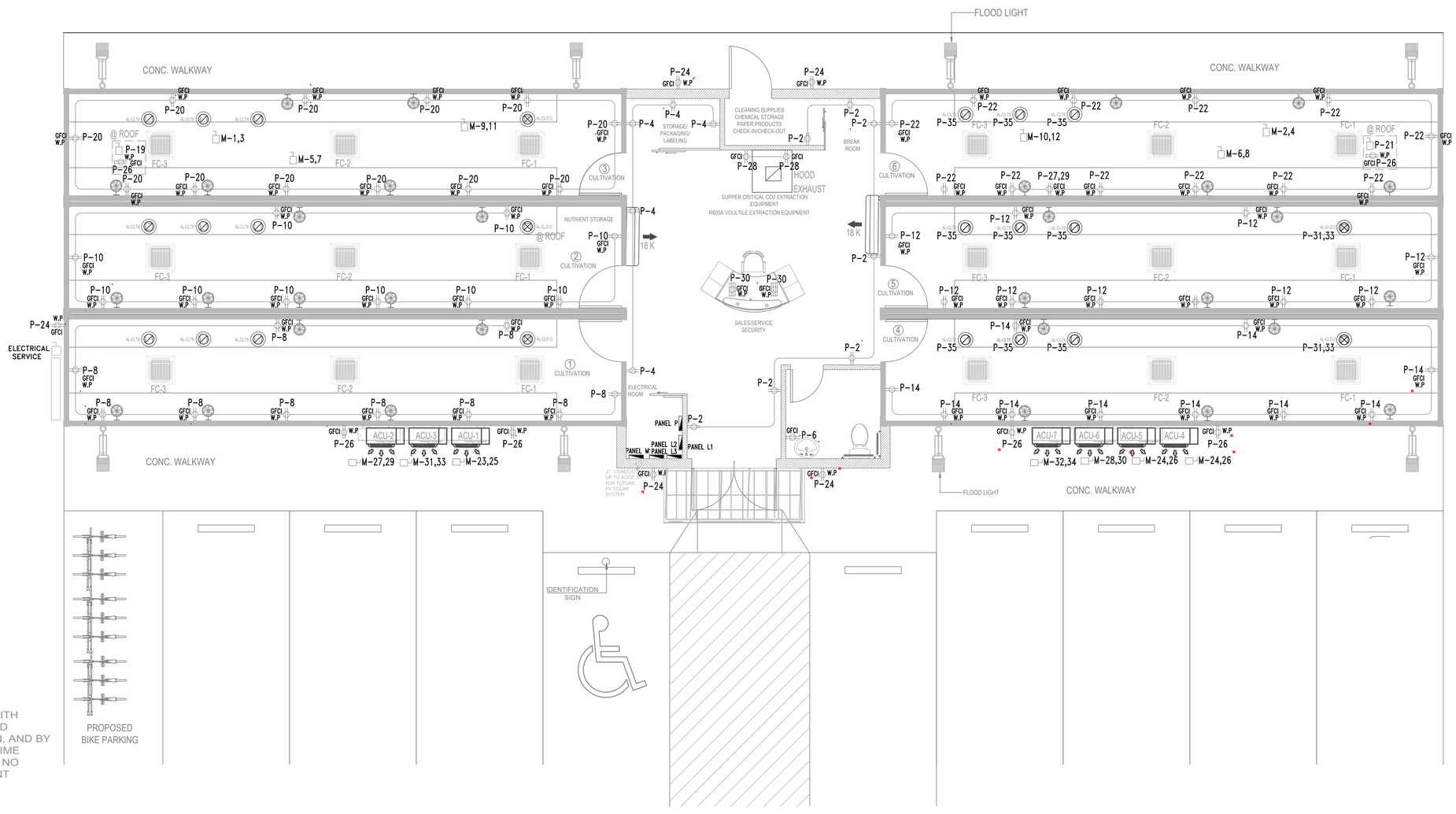
Page No. : E2.0

No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

ELECTRICAL LEGEND

- LIGHT WITH HID ELECTRIC BALLAST 1000 WATT
- LIGHT, CEILING MTD.
- LED ABOVE MIRROR
- EMERGENCY LED LIGHT, 5.4 WATT
- OUTDOOR WALL MOUNTED LIGHT
- SWITCH, SINGLE POLE @ 48" UNLESS NOTED
- SWITCH, THREE-WAY
- SWITCH, FOUR-WAY
- DIMMER SWITCH
- RECEP. @ 12" UNLESS NOTED
- RECEP. ONE SIDE SWITCHED
- 220 RECEP. 220V.
- GFCI RECEP., GRD. FAULT CRT. INTERCEPTOR @ +44"
- WP RECEP. WATER PROOF
- RECEP., RECESSED IN FLOOR
- RECEP., FOURPLEX
- 220 DISCONNECT
- RECEPTACLE BOX ON FLOOR
- ELECTRICAL PANEL BOARD
- WALL MOUNTED FAN

NOTE:
OUTDOOR LIGHTING SHALL BE EQUIPPED WITH MANUAL CONTROL SWITCH, PHOTOCELL AND MOTION SENSOR WITH NO OVERRIDE TO ON, AND BY EITHER PHOTOCONTROL AND AUTOMATIC TIME SWITCH, ASTRONOMICAL TIME CLOCK WITH NO OVERRIDE TO ON, OR ENERGY MANAGEMENT CONTROL SYSTEM PER CENC 150.0(K)3.



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Project Name and Address:

AMERICAN GRO ECO, INC.
SHEPARD PLACE CALIFORNIA CITY, CA 95125

Date: AUGUST 02, 2020
Scale: NTS

DRAWING TITLE: ELECTRICAL POWER LAYOUT

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Page No. : E3.0

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No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	
2		
3		
4		

REGISTERED PROFESSIONAL ENGINEER
BARRETT CROOKHAM
C 057196
Exp. 12.31.2021
8-12-2020
CIVIL
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PANEL L1

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	208/120V, 3Φ, 4W
BUS SIZE	200
SYSTEM TYPE	NORMAL
FEEDER PROT	200A-3P CB Bus Plug
CONDUCTOR SIZE	4/0 AWG - #3G CU
CONDUCTOR/PHASE	1
MAINS	200A ⎓ B
SCCR	SERIES RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	50
FEEDER V. DROP(%)	0.558
FAULT CURRENT	
KAIC RATING	22
ENCLOSURE	TYPE 3R

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	B	C	DEMAND TOTAL
L	Lighting	44.00	1.25	16.00	14.00	14.00	55.00
R	Convenience Receipt						
H	Heating (Space)		1.25				
C	Cooling		1.00				
A	HVAC		1.00				
P	Process		1.00				
O	Other Continuous		1.25				
K	Kitchen		0.65				
N	Noncontinuous		1.00				
M	Motor		1.00				
	Total	44.00		16.00	14.00	14.00	55.00

Total Demand Load (KVA)	55.00
Total Demand Current (A)	152.66
Min. Feeder Ampacity (A)	190.83

*	DESCRIPTION		WIRE	GRD	CB	KVA	A	B	C	KVA	CB	WIRE	GRD	DESCRIPTION	*
1	LIGHTING AT CULTIVATION 1	L	2x 12 AWG	#12G	20A-2P	1.00	2.00			1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 2	L 2
3		L				1.00		2.00		1.00					L 4
5	LIGHTING AT CULTIVATION 1	L	2x 12 AWG	#12G	20A-2P	1.00			2.00	1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 2	L 6
7		L				1.00				1.00					L 8
9	LIGHTING AT CULTIVATION 1	L	2x 12 AWG	#12G	20A-2P	1.00	2.00			1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 2	L 10
11		L				1.00		2.00		1.00					L 12
13	LIGHTING AT CULTIVATION 1	L	2x 12 AWG	#12G	20A-2P	1.00	2.00			1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 2	L 14
15		L				1.00		2.00		1.00					L 16
17	LIGHTING AT CULTIVATION 1	L	2x 12 AWG	#12G	20A-2P	1.00			2.00	1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 2	L 18
19		L				1.00	2.00			1.00					L 20
21	LIGHTING AT CULTIVATION 1	L	2x 12 AWG	#12G	20A-2P	1.00		2.00		1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 2	L 22
23		L				1.00			2.00	1.00					L 24
25	LIGHTING AT CULTIVATION 1	L	2x 12 AWG	#12G	20A-2P	1.00	2.00			1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 2	L 26
27		L				1.00		2.00		1.00					L 28
29	LIGHTING AT CULTIVATION 1	L	2x 12 AWG	#12G	20A-2P	1.00			2.00	1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 2	L 30
31		L				1.00	2.00			1.00					L 32
33	LIGHTING AT CULTIVATION 1	L	2x 12 AWG	#12G	20A-2P	1.00		2.00		1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 2	L 34
35		L				1.00			2.00	1.00					L 36
37	LIGHTING AT CULTIVATION 1	L	2x 12 AWG	#12G	20A-2P	1.00	2.00			1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 2	L 38
39		L				1.00		2.00		1.00					L 40
41	SPARE	L	2x 12 AWG	#12G	20A-2P	1.00			2.00	1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 2	L 42
43		L				1.00	2.00			1.00					L 44
45	SPARE				20A-1P						20A-1P			SPARE	46
47	SPARE				20A-1P						20A-1P			SPARE	48
		(KVA)													
	Total Connected Load						14.00	14.00	14.00						

PANEL L2

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	208/120V, 3Φ, 4W
BUS SIZE	200
SYSTEM TYPE	NORMAL
FEEDER PROT	200A-3P CB Bus Plug
CONDUCTOR SIZE	4/0 AWG - #3G CU
CONDUCTOR/PHASE	1
MAINS	200A MCB
SCCR	SERIES RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	50
FEEDER V. DROP(%)	0.508
FAULT CURRENT	
KAIC RATING	22
ENCLOSURE	TYPE 3R

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	B	C	DEMAND TOTAL
L	Lighting	44.00	1.25	16.00	14.00	14.00	55.00
R	Convenience Receipt						
H	Heating (Space)		1.25				
C	Cooling		1.00				
A	HVAC		1.00				
P	Process		1.00				
O	Other Continuous		1.25				
K	Kitchen		0.65				
N	Noncontinuous		1.00				
M	Motor		1.00				
	Total	44.00		16.00	14.00	14.00	55.00

Total Demand Load (KVA)	55.00
Total Demand Current (A)	152.66
Min. Feeder Ampacity (A)	190.83

*	DESCRIPTION		WIRE	GRD	CB	KVA	A	B	C	KVA	CB	WIRE	GRD	DESCRIPTION	*
1	LIGHTING AT CULTIVATION 3	L	2x 12 AWG	#12G	20A-2P	1.00	2.00			1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 4	L 2
3		L				1.00		2.00		1.00					L 4
5	LIGHTING AT CULTIVATION 3	L	2x 12 AWG	#12G	20A-2P	1.00			2.00	1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 4	L 6
7		L				1.00				1.00					L 8
9	LIGHTING AT CULTIVATION 3	L	2x 12 AWG	#12G	20A-2P	1.00	2.00			1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 4	L 10
11		L				1.00		2.00		1.00					L 12
13	LIGHTING AT CULTIVATION 3	L	2x 12 AWG	#12G	20A-2P	1.00	2.00			1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 4	L 14
15		L				1.00		2.00		1.00					L 16
17	LIGHTING AT CULTIVATION 3	L	2x 12 AWG	#12G	20A-2P	1.00			2.00	1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 4	L 18
19		L				1.00	2.00			1.00					L 20
21	LIGHTING AT CULTIVATION 3	L	2x 12 AWG	#12G	20A-2P	1.00		2.00		1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 4	L 22
23		L				1.00			2.00	1.00					L 24
25	LIGHTING AT CULTIVATION 3	L	2x 12 AWG	#12G	20A-2P	1.00	2.00			1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 4	L 26
27		L				1.00		2.00		1.00					L 28
29	LIGHTING AT CULTIVATION 3	L	2x 12 AWG	#12G	20A-2P	1.00			2.00	1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 4	L 30
31		L				1.00	2.00			1.00					L 32
33	LIGHTING AT CULTIVATION 3	L	2x 12 AWG	#12G	20A-2P	1.00		2.00		1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 4	L 34
35		L				1.00			2.00	1.00					L 36
37	LIGHTING AT CULTIVATION 3	L	2x 12 AWG	#12G	20A-2P	1.00	2.00			1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 4	L 38
39		L				1.00		2.00		1.00					L 40
41	SPARE	L	2x 12 AWG	#12G	20A-2P	1.00			2.00	1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 4	L 42
43		L				1.00	2.00			1.00					L 44
45	SPARE				20A-1P						20A-1P			SPARE	46
47	SPARE				20A-1P						20A-1P			SPARE	48
		(KVA)													
	Total Connected Load						14.00	14.00	14.00						

PANEL L3

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	208/120V, 3Φ, 4W
BUS SIZE	200
SYSTEM TYPE	NORMAL
FEEDER PROT	200A-3P CB Bus Plug
CONDUCTOR SIZE	4/0 AWG - #3G CU
CONDUCTOR/PHASE	1
MAINS	200A ⎓ B
SCCR	SERIES RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	50
FEEDER V. DROP(%)	0.508
FAULT CURRENT	
KAIC RATING	22
ENCLOSURE	TYPE 3R

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	B	C	DEMAND TOTAL
L	Lighting	44.00	1.25	16.00	14.00	14.00	55.00
R	Convenience Receipt						
H	Heating (Space)		1.25				
C	Cooling		1.00				
A	HVAC		1.00				
P	Process		1.00				
O	Other Continuous		1.25				
K	Kitchen		0.65				
N	Noncontinuous		1.00				
M	Motor		1.00				
	Total	44.00		16.00	14.00	14.00	55.00

Total Demand Load (KVA)	55.00
Total Demand Current (A)	152.66
Min. Feeder Ampacity (A)	190.83

*	DESCRIPTION		WIRE	GRD	CB	KVA	A	B	C	KVA	CB	WIRE	GRD	DESCRIPTION	*
1	LIGHTING AT CULTIVATION 5	L	2x 12 AWG	#12G	20A-2P	1.00	2.00			1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 6	L 2
3		L				1.00		2.00		1.00					L 4
5	LIGHTING AT CULTIVATION 5	L	2x 12 AWG	#12G	20A-2P	1.00			2.00	1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 6	L 6
7		L				1.00				1.00					L 8
9	LIGHTING AT CULTIVATION 5	L	2x 12 AWG	#12G	20A-2P	1.00	2.00			1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 6	L 10
11		L				1.00		2.00		1.00					L 12
13	LIGHTING AT CULTIVATION 5	L	2x 12 AWG	#12G	20A-2P	1.00	2.00			1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 6	L 14
15		L				1.00		2.00		1.00					L 16
17	LIGHTING AT CULTIVATION 5	L	2x 12 AWG	#12G	20A-2P	1.00			2.00	1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 6	L 18
19		L				1.00	2.00			1.00					L 20
21	LIGHTING AT CULTIVATION 5	L	2x 12 AWG	#12G	20A-2P	1.00		2.00		1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 6	L 22
23		L				1.00			2.00	1.00					L 24
25	LIGHTING AT CULTIVATION 5	L	2x 12 AWG	#12G	20A-2P	1.00	2.00			1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 6	L 26
27		L				1.00		2.00		1.00					L 28
29	LIGHTING AT CULTIVATION 5	L	2x 12 AWG	#12G	20A-2P	1.00			2.00	1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 6	L 30
31		L				1.00	2.00			1.00					L 32
33	LIGHTING AT CULTIVATION 5	L	2x 12 AWG	#12G	20A-2P	1.00		2.00		1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 6	L 34
35		L				1.00			2.00	1.00					L 36
37	LIGHTING AT CULTIVATION 5	L	2x 12 AWG	#12G	20A-2P	1.00	2.00			1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 6	L 38
39		L				1.00		2.00		1.00					L 40
41	SPARE	L	2x 12 AWG	#12G	20A-2P	1.00			2.00	1.00	20A-2P	2x 12 AWG	#12G	LIGHTING AT CULTIVATION 6	L 42
43		L				1.00	2.00			1.00					L 44
45	SPARE				20A-1P						20A-1P			SPARE	46
47	SPARE				20A-1P						20A-1P			SPARE	48
		(KVA)													
	Total Connected Load						14.00	14.00	14.00						

PANEL P

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	208/120V, 3Φ, 4W
BUS SIZE	100
SYSTEM TYPE	NORMAL
FEEDER PROT	100A-3P CB Bus Plug
CONDUCTOR SIZE	1 AWG - #8G CU
CONDUCTOR/PHASE	1
MAINS	100A MCB
SCCR	SERIES RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	50
FEEDER V. DROP (%)	0.642
FAULT CURRENT	
KAIC RATING	22
ENCLSOURE	TYPE 3R

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	B	C	DEMAND TOTAL
L	Lighting	0.57	1.25	0.47	0.10		0.71
R	Convenience Receipt	13.54		6.12	5.18	2.26	11.77
H	Heating (Space)		1.25				
C	Cooling	5.53	1.00	1.80	1.80	1.93	5.53
A	HVAC		1.00				
P	Process		1.00				
O	Other Continuous		1.25				
K	Kitchen		0.65				
N	Noncontinuous	0.60	1.00	0.60			0.60
M	Motor	9.18	1.00				
	Total	29.40		8.99	7.06	4.19	18.61

Total Demand Load (KVA)	18.61
Total Demand Current (A)	51.66
Min. Feeder Ampacity (A)	64.57

*	DESCRIPTION		WIRE	GRD	CB	KVA	A	B	C	KVA	CB	WIRE	GRD	DESCRIPTION	*
1	LIGHTING AT SALES,SERVICE, SECURITY	L	2x 12 AWG	#12G	20A-1P	0.27	1.35			1.08	20A-1P	2x 12 AWG	#12G	OUTLET AT SALES,SERVICE,SECURITY	R 2
3	SPARE		2x 12 AWG	#12G	20A-1P			1.08		1.08	20A-1P	2x 12 AWG	#12G	OUTLET AT ELECTRIC ROOM ,STORAGE	R 4
5	SPARE		2x 12 AWG	#12G	20A-1P				0.18	0.18	20A-1P	2x 12 AWG	#12G	GFCI OUTLET AT BATH	R 6
7	OUTDOOR LIGHTING	L	2x 12 AWG	#12G	20A-1P	0.20				0.90	20A-1P	2x 12 AWG	#12G	OUTLET AT CULTIVATION 1	R 8
9	EMERGENCY LIGHTING	L	2x 12 AWG	#12G	20A-1P	0.10		1.00		0.90	20A-1P	2x 12 AWG	#12G	OUTLET AT CULTIVATION 2	R 10
11	EXHAUST FAN	C	2x 12 AWG	#12G	20A-1P	0.60			1.50	0.90	20A-1P	2x 12 AWG	#12G	OUTLET AT CULTIVATION 5	R 12
13	SMOKE DETECTOR	N	2x 12 AWG	#12G	20A-1P	0.60	1.50			0.90	20A-1P	2x 12 AWG	#12G	OUTLET AT CULTIVATION 6	R 14
15	SPARE				20A-1P			1.20		1.20	20A-1P	2x 12 AWG	#12G	OVEN 120V	R 16
17	SPARE				20A-1P				0.10	0.10	20A-1P	2x 12 AWG	#12G	DIGITAL SECURITY RECORDER	R 18
19	EXHAUST HOOD	C	2x 12 AWG	#12G	20A-1P	1.50	3.12			1.62	20A-1P	2x 12 AWG	#12G	OUTLET AT CULTIVATION 3	R 20
21	EXHAUST HOOD	C	2x 12 AWG	#12G	20A-1P	1.50		3.12		1.62	20A-1P	2x 12 AWG	#12G	OUTLET AT CULTIVATION 4	R 22
23	MVP MACHINE	M	2x 12 AWG	#12G	20A-2P	1.54			2.26	0.72	20A-1P	2x 12 AWG	#12G	W.P OUTLET AT OUTDOOR	R 24
25		M				1.54	3.16			1.62	20A-1P	2x 12 AWG	#12G	W.P OUTLET AT ROOF	R 26
27	MVP MACHINE	M	2x 12 AWG	#12G	20A-2P	1.54		1.90		0.36	20A-1P	2x 12 AWG	#12G	GFCI OUTLET	R 28
29		M				1.54			1.90	0.36	20A-1P	2x 12 AWG	#12G	GFCI OUTLET ON FLOOR	R 30
31	MAKEUP AIR FAN AL-CLT8	C	2x 12 AWG	#12G	20A-2P	0.30	1.63			1.33	20A-1P	2x 12 AWG	#12G	EXHAUST FAN AL-CLS12	C 32
33		C				0.30		0.30			20A-1P			SPARE	34
35	EXHAUST FAN AL-CLS12	C	2x 12 AWG	#12G	20A-1P	1.33			1.33		20A-1P			SPARE	36
37	EDO-1068 Water Pump	M	2x 12 AWG	#12G	20A-1P	1.50	1.50				20A-1P			SPARE	38
39	Active Aqua Commercial Air Pump AAPA113L	M	2x 12 AWG	#12G	20A-1P	1.50		1.50			20A-1P			SPARE	40
41	SPARE				20A-1P						20A-1P			SPARE	42
	(KVA)						12.26	13.10	7.27						
	Total Connected Load														

PANEL M

PANELBOARD DESIGNATION

SYSTEM VOLTAGE	208/120V, 3Φ, 4W
BUS SIZE	250
SYSTEM TYPE	NORMAL
FEEDER PROT	250A-3P CB Bus Plug
CONDUCTOR SIZE	250-kcmil - #4G CU
CONDUCTOR/PHASE	1
MAINS	250A MCB
SCCR	SERIES RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	50
FEEDER V. DROP(%)	
FAULT CURRENT	
KAIC RATING	22
ENCLOSURE	TYPE 3R

*	LOAD SUMMARY	CL	DF	CONNECTED LOAD A	B	C	DEMAND TOTAL
L	Lighting		1.25				
R	Convenience Receipt	5.52		2.40	1.56	1.56	5.52
H	Heating (Space)	4.50	1.25	2.25	2.25		5.63
C	Cooling	35.59	1.00	13.85	8.74	12.99	35.59
A	HVAC		1.00				
P	Process		1.00				
O	Other Continuous		1.25				
K	Kitchen		0.65				
N	Noncontinuous		1.00				
M	Motor	19.62	1.00				
	Total	65.22		18.50	12.55	14.55	46.73

Total Demand Load (KVA)	46.73
Total Demand Current (A)	129.71
Min. Feeder Ampacity (A)	162.14

*	DESCRIPTION		WIRE	GRD	CB	KVA	A	B	C	KVA	CB	WIRE	GRD	DESCRIPTION	*
1	CO2 EXTRACTOR MACHINE	M	2x 6 AWG	#6G	40A-2P	2.22	4.44			2.22	40A-2P	2x 6 AWG	#6G	CO2 EXTRACTOR MACHINE	M 2
3		M				2.22		4.44		2.22					M 4
5	CHILLER	C	2x 6 AWG	#6G	20A-2P	1.57			3.14	1.57	20A-2P	2x 6 AWG	#6G	CHILLER	C 6
7		C				1.57				1.57					C 8
9	COMPRESSOR	M	2x 6 AWG	#6G	20A-2P	1.91	3.83			1.91	20A-1P	2x 12 AWG	#12G	COMPRESSOR	M 10
11		M				1.91		3.83		1.91					M 12
13	SCALE	R	2x 12 AWG	#12G	20A-1P	1.20	2.40			1.20	20A-1P	2x 12 AWG	#12G	SCALE	R 14
15	PUMP	M	2x 6 AWG	#6G	20A-2P	1.54		3.10		1.56	20A-2P	2x 6 AWG	#6G	REFRIGERATOR	R 16
17		M				1.54			3.10	1.56					R 18
19	WATER HEATER	H	2x 6 AWG	#6G	30A-2P	2.25	3.11			0.86	15A-2P	2x 6 AWG	#12G	CHILLER	C 20
21		H				2.25		3.11		0.86					C 22
23	ACU-1	C	2x 6 AWG	#6G	30A-2P	1.97			3.94	1.97	30A-2P	2x 6 AWG	#6G	ACU-4	C 24
25		C				1.97	3.94			1.97					C 26
27	ACU-2	C	2x 6 AWG	#6G	30A-2P	1.97		3.94		1.97	30A-2P	2x 6 AWG	#6G	ACU-5	C 28
29		C				1.97			3.94	1.97					C 30
31	ACU-3	C	2x 6 AWG	#6G	30A-2P	1.97	3.94			1.97	30A-2P	2x 6 AWG	#6G	ACU-6	C 32
33		C				1.97		3.94		1.97					C 34
35	SPARE	C			20A-2P				1.97	1.97	30A-2P	2x 6 AWG	#6G	ACU-7	C 36
37		C					1.97			1.97					C 38
39	SPARE	C			20A-2P						20A-1P			SPARE	40
41		C									20A-1P			SPARE	42
	(KVA)														
	Total Connected Load						19.80	22.36	19.92						

Available Fault Current Calc

Utility Fault Current: 42,000 amperes

kVA = 159.84

E = 208

$I = \frac{kVA \times 1000}{E \times 1.732}$ = trans. FLA = 444

$I_{sca} = \frac{\text{trans. FLA} \times 100 \times PF}{\text{transformer } Z} =$ PF = 95%

Z = 4.00%

I_{sca} = ampere short-circuit current RMS symmetrical. I_{sca} = 11,676 amperes

Point to Point Method

Length (distance) (ASC) FEET — L = 120 — Three Phase 208/120 — Copper in Metal Raceway

'f ' factor = $\frac{1.732 \times L \times I}{N \times C \times E_{L\text{-}N}}$

conductors per phase N = 2

Phase conductor constant C = 22,965 Phase Conductor 600 kcmil

Volt Line to Line E_{L-L} = 208 Volt

I_{sca} = 42,000

f = 0.914

Neutral conductor constant C = 22,965 Neutral Conductor 600 kcmil

Volt Line to Neutral E_{L-N} = 120 Volt

Multiplier f = 2.376

$M = \frac{1}{1+f}$

Line to Line M = 0.523

Line to Neutral M = 0.296

I_{sca} x M = fault current at terminals of main disconnect L-L = → 21,947 amperes

I_{sca} x M = fault current at terminals of main disconnect L-N = → 12,442 amperes

Fault Current from: Service Equipment to Panel L1 — Copper in Metal Raceway — Three Phase

Length (distance) (ASC) L = 50

'f ' factor = $\frac{1.732 \times L \times I}{N \times C \times E_{L\text{-}N}}$ I_{sca} = 21,947 Phase 12,442 Neutral

conductors per phase N = 1

Phase conductor constant C = 15,082 Phase Conductor 4/0

Volt Line to Line E_{L-L} = 208 Volt

f = 0.606

Neutral conductor constant C = 15,082 Neutral Conductor 4/0

Volt Line to Neutral E_{L-N} = 120 Volt

Multiplier f = 0.595

$M = \frac{1}{1+f}$

Line to Line M = 0.623

Line to Neutral M = 0.627

Isca x M = fault current at terminal of the panel L-L = 13,667 amperes

Isca x M = fault current at terminal of the panel L-N = 7,799 amperes

Calculation does not include motor contribution

*	LOAD SUMMARY	PANEL L1 (KVA) CL	DF	DEMAND	PANEL L2B (KVA) CL	DF	DEMAND	PANEL L3 (KVA) CL	DF	DEMAND	PANEL P (KVA) CL	DF	DEMAND	PANEL M (KVA) CL	DF	DEMAND	TOTAL LOAD DEMAND LOAD KVA	NEC CALCULATION REFRENCES
L	Lighting	44.00	1.25	55.00	44.00	1.25	55.00	55.00	1.25	68.75	0.57	1.25	0.71	0.00	1.25	0.00	179.46	220-3 (b)(9)
R	Convenience Receipt	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	13.54	1.00	13.54	5.53	1.00	5.53	19.07	220-21
H	Heating (Space)	0.00	1.25	0.00	0.00	1.25	0.00	0.00	1.25	0.00	0.00	1.25	0.00	4.50	1.25	5.63	5.63	220-21
C	Cooling	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	5.53	1.00	5.53	35.59	1.00	35.59	41.12	220-4(a), 430-24, 430-26, ARTICLE
A	HVAC	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	
P	Process	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	215-2(a), 215-3, 230-42(a)
O	Other Continuous	0.00	1.25	0.00	0.00	1.25	0.00	0.00	1.25	0.00	0.00	1.25	0.00	0.00	1.25	0.00	0.00	220-20, NEC TABLE 220.56
K	Kitchen	0.00	0.65	0.00	0.00	0.65	0.00	0.00	0.65	0.00	0.00	0.56	0.00	0.00	0.65	0.00	0.00	220-3 (b) (6), 600-5(a)
N	Noncontinuous	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.60	1.00	0.60	0.00	1.00	0.00	0.60	220-21
M	Motor	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	9.16	1.00	9.16	19.62	1.00	19.62	28.78	430.24
	Total	**44.00**		**55.00**	**44.00**		**55.00**	**55.00**		**68.75**	**29.40**		**29.54**	**65.24**		**66.37**	274.66	
	Total Demand Load (KVA)																274.66	
	Total Demand Current (A)																763.28	
	Min. Feeder Ampacity (A)																954.10	

FROM	TO	Total Connected Load (VA)	WIRE SIZE	VOLTAGE DROP VD = (K x I x D)/CM: CM(Circular mils) NEC TABLE Chapter 9, Table 8	CABEL LENGTH D	Ampacity (208V, 3Ph) I	ohms-cmil/ft K	VD
UTILITY	METER DISSCONNECT SWITCH	274,660	2 SET 600KCMIL	600000	120	1144	12.9	2.95

REGISTERED PROFESSIONAL ENGINEER — BARRETT CROOK — C 057196 Exp. 12.31.2021 — 8-12-2020 — CIVIL — STATE OF CALIFORNIA

Barrett C Crook

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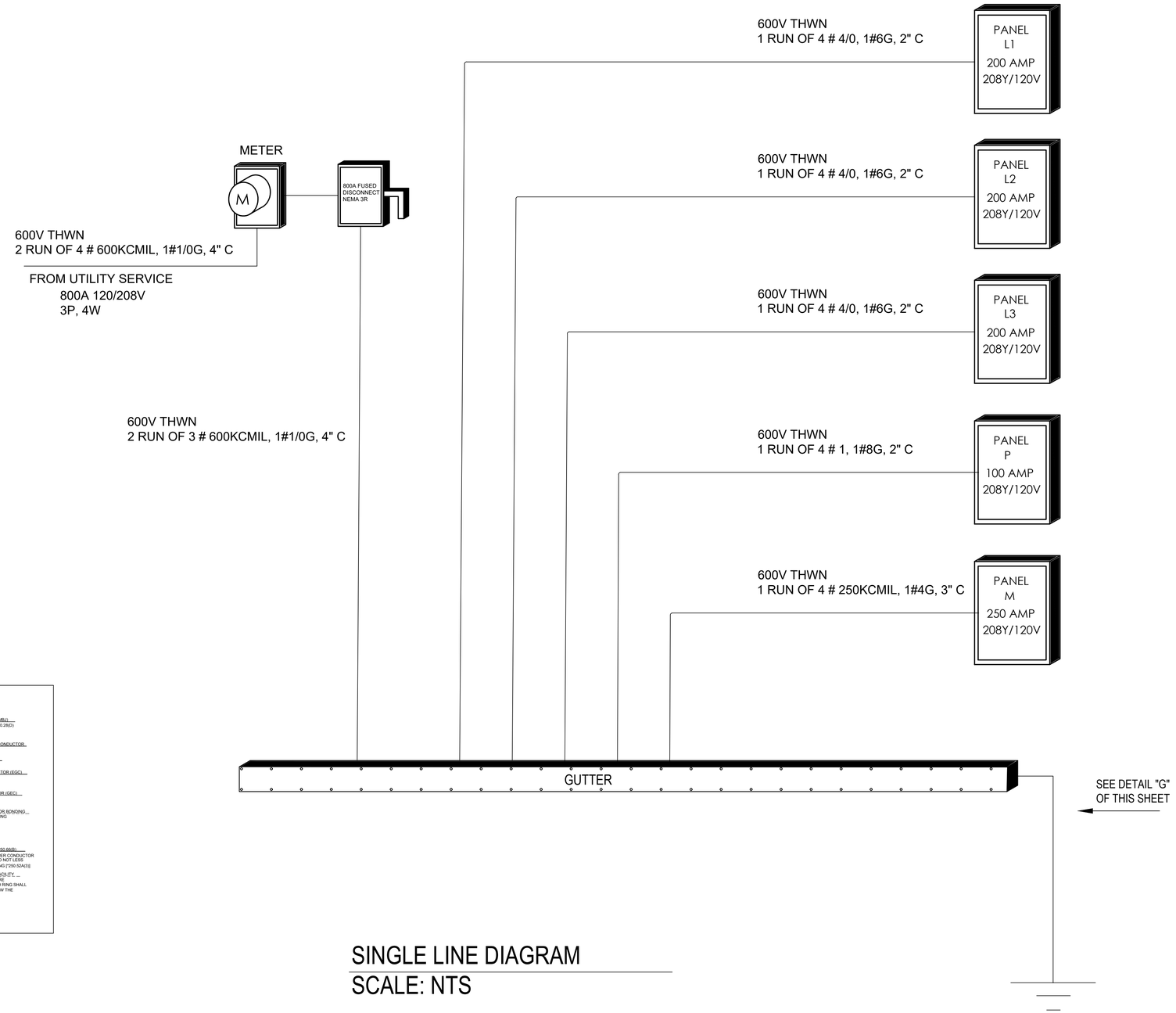

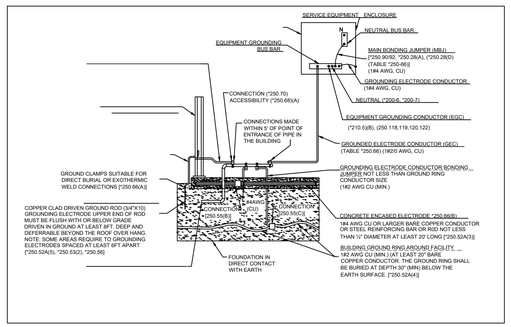

DETAIL "G" OF GROUNDING & GROUNDING ELECTRODE **CTRODE SYSTEM ("250.50) 0.52) AS SERVICE**

SCALE: NTS

SINGLE LINE DIAGRAM
SCALE: NTS

REGISTERED PROFESSIONAL ENGINEER
BARRETT CROOK
C 057196
Exp. 12.31.2021
8-12-2020
CIVIL
STATE OF CALIFORNIA

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Date: AUGUST 02, 2020
Scale: NTS
DRAWING TITLE: SINGLE LINE DIAGRAM
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No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

Instructions Manual

The HID Electric Ballasts

400W 600W 1000W

All our ballasts are compatible with Safe Grow Hydroponic Smart System.

IMPORTANT PRODUCT INFORMATION

READ IMMEDIATELY

SAFETY FIRST!

Failure to observe the following safety warnings may result in serious injury or death. Use all Hydro Crunch™ products only as directed. Failure to observe these safety warnings will result in a waiver of any and all liability on the part of Hydro Crunch™ its manufacturer, and resellers, and will void all warranties to the extent permitted by law.

WARNINGS AND INSTRUCTIONS

FOR USE:

- Disconnect power before re-lamping.
- When re-lamping, make sure lamp has time to cool before touching.
- Make sure power cord is connected properly.
- **DO NOT** hang ballast by power cord or lamp cord.
- **DO NOT** make contact with the interior of the socket while the power is on.
- **DO NOT** plug or unplug a lamp cord while the ballast is turned on.
- **ALWAYS** unplug the ballast from the power source before connecting or disconnecting any lighting device to ballast, moving ballast, or otherwise touching or handling ballast or its components.
- **DO NOT** use with generators. Warranty will be voided.
- **NEVER** stand beneath the ballast.
- **NEVER** put hands or any other objects in the interior of the ballast.
- **DO NOT** operate this or any lighting system in wet areas.
- **NEVER** get the ballast wet or allow it to come into contact with water or any other liquids.
- **NEVER** drop, shake or jostle the ballast.
- **NEVER** attempt to insulate or otherwise cover the ballast, as it releases a great deal of heat and may cause a fire or other damage. Ballasts should always have plenty of room to breathe and good ventilation around them.
- **DO NOT** plug this system into a supply voltage other than what is instructed on your fixture.
- **DO NOT** attempt open or rewire the components of the light system. It will void the warranty and may cause serious injury or death.
- **NEVER** attempt to rewire or alter any internal or external mechanisms or components on the ballast. This includes trying to cut and/or rewire the cords.
- If any part of the lamp is damaged, replace lamp immediately.
- Disconnect the unit from a power source before replacing lamps or any other parts.
- When replacing lamps, make sure the lamp has had time to cool before touching.
- Make sure power cord and lamp cord are connected securely to the unit.
- These products operate at very high temperatures. Keep away from children.
- Glass is required for reflectors using metal halide (MH) lamps for UL listing to apply. Glass is not required for high pressure sodium (HPS) lamps to be UL listed.
- Always use a three prong timer rated for 15 amps or more with light systems.
- Do not operate lamps that are a different wattage than the ballast specifies.
- Read all instructions completely before attempting to power on unit. Failure to follow the warnings and instructions for use may result in serious injury or death, for which Hydro Crunch™'s manufacturer and resellers expressly disclaim any and all liability.

Features:

Soft Start Technology ensures that lamp start-up is as lamp friendly as possible while maintaining consistent ignition. Randomized firing sequencing allows large ballast installations to be turned on simultaneously without taxing circuit breakers or switches.

Specifications:

Power Factor: 99%

Crest Factor: 1.7%

Total Harmonic Distortion (THD) < 10%

Operating Temperature: -30° C (-22° F) to 55° C (131° F)

Output Frequency: ≥ 50Hz

Input Voltage Range 100-265 VAC

Strikes both HPS and MH lamps

Generator Ready

50 Hertz to 60 Hertz operation allows for bulb brand and type versatility

Operating Instructions:

1. Make sure the power supply cord and lamp lead are properly connected.
2. Ensure the bulb is properly seated in the socket assembly. It should be tight, but not stressed.
3. Always use a bulb centric to the highest output of the ballast (e.g. 1000 Watt bulb/1000 Watt ballast, 600 Watt bulb/600 Watt ballast, etc.)
4. Confirm the ballast is not near any source of moisture or standing water.
5. Check the sealed bearing fan to confirm it is free from any obstruction. This should be periodically checked to make sure it stays clear and clean.
6. Plug the power supply cord into an appropriate power supply.
7. After ignition, give your lamp a minimum of 30 seconds to reach full power.
8. Always allow the bulb to cool before re-striking the ballast; we recommend 15 minutes.
9. Ballast can be cleaned using a clean, dry towel. Should the ballast somehow become wet, turn off main power supply and unplug the unit before attending to it.
10. Allow 10 seconds between power adjustments when using the Dimmer Switch. This will allow the ballast sufficient time to gather electrical charge to increase wattage output.

Remember, safety first. Although incredibly rewarding, indoor growing can present dangerous situations. Never allow standing water to be present, never hang a ballast from either the power or lamp cord, and always make sure your equipment is fastened safely and securely. Your ballast does not require any switches or re-wiring to change voltage or bulb spectrum. Simply turn off and unplug the unit and allow bulb to cool before changing cords or bulbs, respectively.

Technical Information:

1. Remember to set the wattage dimming knob to 100% before starting up the ballast. It takes approximately 6 seconds to warm up to full intensity. Once the lamp is ready, you can dim the ballast as desired. However, allow the bulb to adjust after each turn during dimmer. Adjusting too fast may prevent full lamp and ballast efficiency.
2. Be sure to use the correct voltage cord if you are using a multi-voltage ballast. *NOTE: 240Vconversion on a 110V system, if use with 110V type outlets the wire cord we included will work.*
3. Plug other end into your power source/timer /controller *NOTE: please make sure the any accessories added to the ballast is rated at the same Voltage level the power is being draw, for example 240Vsystem must use 240V timer and 240V controller*
4. It is very important for you to map out your circuit system before attempt of installation, make surethe ballast have enough allowance of amp to power.
5. Our ballast have a build in fan for cooling, the fan will turn on even if the power source doesn't supply enough power to ignite the lamp, so please do not be confuse that the ballast have enough power but the lamp doesn't turn on and conclude is a broken lamp.

Trouble Shooting Guide:

Q. Why is my ballast not turning on?
Your ballast might not be turning on due to the controller or timer you are using. First, plug in the ballast to the main power source. If the ballast works with main power source, but not with your controller or timer, there is something wrong with your controller or timer. Make sure to check if your circuit breaker has tripped. Check all other outlets in the area to see if it is working. If none of these is a solution to your question, please call us directly. If you are not running a light controller, please double check your breaker amperage.

Q: My ballast is on, why isn't my light working?
If your lights are not working and your ballast is on, you might need to re-screw the bulb into the socket. BE SURE TO UNPLUG the ballast from the power source before re-screwing on bulb. Be cautious, if the bulb was lighted before, it is very HOT. Handle with care. If the bulb had lighted before and won't light up, wait 15 minutes for the bulb to cool down and the smart chip will light ballast when ready. If possible try another bulb. If none are a solution, contact us directly.

Q: Why does my power go out every time I plug in my lighting setup?
The average household has 15 available amps to use and a HID lamp can use up to 10A. You might be overloading your circuits. Check if other appliances or lights are being drawn from the same power source. The best solution is to draw power directly from the grid/meter, however this should NEVER be attempted without the help of a certified electrician.

400W BALLAST 120V SETUP:	400W BALLAST 240V SETUP:	600W BALLAST 120V SETUP:	600W BALLAST 240V SET UP:	1000W BALLAST 120V SETUP:	1000W BALLAST 240V SET UP:
PLEASE MAKE SURE THERE IS 7 AMP OF ALLOWANCE PER BALLAST/ BREAKER.	PLEASE MAKE SURE THERE IS 5 AMP OF ALLOWANCE PER BALLAST/ BREAKER.	PLEASE MAKE SURE THERE IS 10 AMP OF ALLOWANCE PER BALLAST/ BREAKER.	PLEASE MAKE SURE THERE IS 7 AMP OF ALLOWANCE PER BALLAST/ BREAKER.	PLEASE MAKE SURE THERE IS 15 AMP OF ALLOWANCE PER BALLAST/ BREAKER.	PLEASE MAKE SURE THERE IS 10 AMP OF ALLOWANCE PER BALLAST/ BREAKER.
BALLAST SPECIFICATION:	**BALLAST SPECIFICATION:**	**BALLAST SPECIFICATION:**	**BALLAST SPECIFICATION:**	**BALLAST SPECIFICATION:**	**BALLAST SPECIFICATION:**
50% 1.68 AMP	50% 1.13 AMP	50% 2.68 AMP	50% 1.49 AMP	50% 4.72 AMP	50% 2.34 AMP
75% 2.5 AMP	75% 1.45 AMP	75% 3.78 AMP	75% 1.89 AMP	75% 6.64 AMP	75% 3.33 AMP
100% 3.75 AMP	100% 1.95 AMP	100% 5.48 AMP	100% 2.57 AMP	100% 8.74 AMP	100% 4.28 AMP

Warnings:

- NEVER stack multiple ballasts on top of each other, as this can also cause a fire or other damage.
- NEVER use a ballast that appears to be damaged or a ballast that you know has been dropped, shaken, exposed to water, or otherwise damaged.
- NEVER attempt to plug in any bulbs or components to any other components that are already turned on or have electricity running through them. The last step should always be to switch on the power.
- NEVER attempt to rapidly turn on and off the ballast or attached components (bulb, reflector). Ballasts and components need to cool down for approximately 15 minutes before they can be turned back on. Failure to do so can result in damaged components and is not covered under warranty.
- You should ALWAYS consult a certified electrician when setting up your lighting systems to ensure that you are not overloading your circuits. Incorrectly wired systems and overloaded circuits can result in fires and serious injuries.

Warranty Service

If the product will not work after you have read the troubleshooting guide and practiced the troubleshooting options, you are advised to return the Hydro Crunch™ light system to the retailer you purchased it from. The dealer will be able to examine the light and test its components. If they are not able to repair the light, they will return it to us for examination and repair/replacement. Do not attempt to repair any product on your own, as serious injury or death may result. If the retailer is not able to help you and the light is still under manufacturer's warranty, you may contact us for technical support. In some cases, you will be issued an RMA# (return merchandise authorization number) to return the unit for factory repair. Complete the warranty form below and return the light with all original packaging, your receipt of purchase, and a valid RMA# to the address below. Please pack and ship the light in its original packaging. If it is damaged in shipment we cannot be responsible and the warranty may be voided. Once we receive RMA package, it will be repaired or replaced and shipped back to you. Please note if an additional warranty was purchased and include the extended warranty sales receipt with your return.

RETURN FORM

Include the following if returning:

- ✓ Proof of purchase
- ✓ This completed form
- ✓ RMA# on the outside of the box
- ✓ Extended warranty receipt

Return Merchandise Authorization Number (Required): _____
Contact Name: _____
Address: _____
_____
Phone #: _____
Email Address: _____
Please give a brief description of your technical issue: _____
_____
_____
_____

SEND TO:
Hydro Crunch
20651 Golden Spring Drive Suite 115
Walnut, CA 91789
714-516-8176

REGISTERED PROFESSIONAL ENGINEER
Garrett C Crook
C 057186
Exp. 12.31.2021
8-12-2020
CIVIL
STATE OF CALIFORNIA

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Canada Office
3313 Plateau Blvd. Coquitlam BC V3E 3B8
+1 805 881 7390 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

AMERICAN GRO ECO, INC.
SHEPARD PLACE CALIFORNIA CITY, CA 95125

Date: AUGUST 02, 2020
Scale: NTS
DRAWING TITLE: LIGHTING DETAILS
Sheet : 31/40
Page No. : E6.0

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No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

TUBE ARCHITECTURAL DS-WD05-U

Ultra Narrow Beam LED Wall Mounts

WAC LIGHTING
Responsible Lighting®

Fixture Type:

Catalog Number:

Project:

Location:

SPECIFICATIONS

Input:	120V - 277VAC 50/60Hz
Dimming:	0 - 10V Dimming: 100% - 20% ELV 100% - 10% (120V only)
Standards:	IP65 rated, ETL & cETL wet location listed
Operating Temp:	-40°C to 40°C

PRODUCT DESCRIPTION

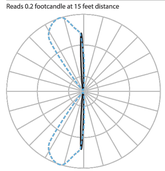
Precise engineering using the latest energy efficient LED technology with a built-in ultra narrow beam precision optics. An appealing cylinderical profile perfect for accent lighting.

FEATURES

- High performance facade LED wall mount light
- Can be mounted upwards or downwards
- Solid aluminum construction
- 80,000 hour rated life
- 5 year warranty

PHOTOMETRY

Reads 0.2 footcandle at 15 feet distance



ORDERING NUMBER

Distribution		Diameter	Watt		Beam		Color Temp		CRI	Lumens	CBCP	Light Direction		Finish	
Double	**DS-WD**	**05**	*5"*	*22W*	**U**	*6"*	**827**	*2700K*	*85*	*125 x2*	*1182 x2*	**B**	*Towards the wall*	**BK**	*Black*
							830	*3000K*	*85*	*145 x2*	*1363 x2*			**WT**	*White*
							835	*3500K*	*85*	*150 x2*	*1411 x2*			**BZ**	*Bronze*
							840	*4000K*	*85*	*155 x2*	*1462 x2*			**GH**	*Graphite*

DS-WD05-U____B-___

Example: **DS-WD05-U30B-WT**

waclighting.com
Phone (800) 526.2588
Fax (800) 526.2585

Headquarters/Eastern Distribution Center
44 Harbor Park Drive
Port Washington, NY 11050

Central Distribution Center
1600 Distribution Ct
Lithia Springs, GA 30122

Western Distribution Center
1750 Archibald Avenue
Ontario, CA 91760

WAC Lighting retains the right to modify the design of our products at any time as part of the company's continuous improvement program. JUL 2018

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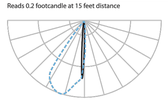

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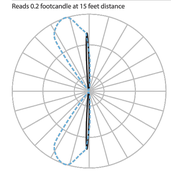

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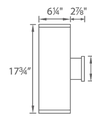
TUBE ARCHITECTURAL DS-WD06-U

Ultra Narrow Beam LED Wall Mounts

WAC LIGHTING
Responsible Lighting®



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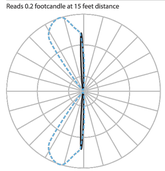

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							835	*3500K*	*85*	*130 x2*	*1478 x2*			**BZ**	*Bronze*
							840	*4000K*	*85*	*135 x2*	*1532 x2*			**GH**	*Graphite*

DS-WD06-U____B-___

Example: **DS-WD06-U30B-WT**

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Port Washington, NY 11050

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TUBE ARCHITECTURAL DS-WS06-U

Ultra Narrow Beam LED Wall Mounts

WAC LIGHTING
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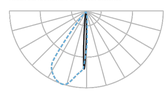

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REGISTERED PROFESSIONAL ENGINEER
BARRETT CROOK
C 057196
Exp. 12-31-2021
8-12-2020
CIVIL
STATE OF CALIFORNIA

PixelArch ltd.

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Canada Office
3313 Plateau Blvd. Coquitlam BC V3E 3B8

+1 805 881 7360 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

AMERICAN GRO ECO, INC.
SHEPARD PLACE CALIFORNIA CITY, CA 95125

Date: * AUGUST 02, 2020

Scale: NTS

DRAWING TITLE: LIGHTING DETAILS

Sheet : * 32/40

Page No. : E7.0

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* No.	Revision/Issue	Date *
1	ISSUED FOR PLANNING APPROVAL	

MECHANICAL SPECIFICATIONS

PROVIDE EQUIPMENT INDICATED ON THE DRAWINGS, AND AS REQUIRED FOR A COMPLETE FUNCTIONING SYSTEM.

DEFINITIONS: FURNISH MEANS TO SUPPLY AND DELIVER TO PROJECT SITE, READY FOR INSTALLATION. INSTALL MEANS TO PLACE IN POSITION AND MAKE CONNECTIONS FOR SERVICE OR USE. PROVIDE MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE.

WARRANTY: PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION.

PROVIDE OPERATION MANUALS, MAINTENANCE MANUALS AND SCHEMATICS FOR ALL MECHANICAL EQUIPMENT INSTALLED.

COORDINATION: COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE.

ROOF PENETRATIONS SHALL COMPLY WITH "SMACNA" AND "NRCA" STANDARDS, AND WITH THE REQUIREMENTS OF THE EXISTING ROOFING WARRANTY, IF APPLICABLE. DO NOT PERFORM ROOFING PENETRATIONS IN A MANNER WHICH WOULD VOID OR OTHERWISE LIMIT THE EXISTING ROOF WARRANTY.

DUCT DIMENSIONS: UNLESS OTHERWISE NOTED, DUCT DIMENSIONS ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS.

SHEET METAL DUCTWORK: PROVIDE SHEET METAL DUCTWORK FABRICATED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS, FOR 1" W.G. PRESSURE CLASS, SEAL CLASS "A". SHEET METAL SHALL BE GALVANIZED SHEET STEEL OF LOCK FORMING QUALITY, WITH G90 ZINC COATING. SHEET STEEL SHALL COMPLY WITH ASTM A653 STANDARD SPECIFICATION FOR STEEL SHEET METAL, ZINC COATED (GALVANIZED) OR ZINC-IRON ALLOY-COATED (GALVANNEALED) BY THE HOT DIP PROCESS, AND A924 STANDARD SPECIFICATION FOR GENERAL REQUIREMENTS FOR SHEET, METALLIC-COATED BY THE HOT DIP PROCESS. ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. CONNECTIONS TO WALLS OR FLOOR SHALL BE AIR TIGHT WITH ANGLE IRON AND CAULKING. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL, AIR TIGHT. PROVIDE TURNING VANES AT ALL 90◦ ELBOWS.

TRAPEZE DUCT HANGERS: PROVIDE MINIMUM 1" X 2" X 1" X 18 GAUGE CHANNELS WITH MINIMUM 1" X 18 GAUGE STRAPS TO STRUCTURAL SUPPORT.

ROUND SHEET METAL DUCT: PROVIDE SPIRAL SEAM (ALL SIZES) OR SNAP LOCK (DUCT SIZES UP TO 10") GALVANIZED STEEL COMPLYING WITH SMACNA STANDARDS. SPIRAL SEAM DUCTWORK SHALL HAVE SMACNA SEAM TYPE RL-1.

FIBER GLASS DUCT BOARD IS AN ACCEPTABLE ALTERNATIVE IF APPROVED BY OWNER AND THE LOCAL BUILDING CODE OFFICIAL. PRODUCT AND INSTALLATION MUST MEET NAIMA STANDARDS AND OTHER APPLICABLE CODES AND REGULATIONS.

EXPOSED DUCTWORK: EXPOSED DUCTWORK SHALL BE CLEANED OF DEBRIS AND OIL, THEN WIPED DOWN WITH VINEGAR OR OTHER SURFACE PREPARING CHEMICAL TO PREPARE DUCT FOR PAINT.

DUCT SEALANT: PROVIDE POLYMERIC RUBBER TYPE SEALANT FOR USE ON BOTH INTERIOR LOCATED DUCTWORK AND DUCTWORK EXPOSED TO OUTDOOR CONDITIONS. SEALER SHALL HAVE HIGH BONDING STRENGTH FOR SURE, FIRST TIME SEALING OF JOINTS IN LOW, MEDIUM, AND HIGH PRESSURE DUCT SYSTEMS. SEALER SHALL BE HIGH IN SOLID CONTENT. PROVIDE A TWO PART TAPE SEALING SYSTEM, CONSISTING OF WOVEN FIBER TAPE IMPREGNATED WITH A GYPSUM MINERAL COMPOUND, AND A MODIFIED ACRYLIC/SILICONE ACTIVATOR THAT REACTS EXOTHERMICALLY WITH THE TAPE. TWO PART TAPE SEALING SYSTEM MUST BE RATED FOR BOTH INDOOR AND OUTDOOR APPLICATION. TAPE SHALL NOT CONTAIN ASBESTOS.

DUCT INSULATION: MATERIAL FOR SUPPLY AND RETURN AIR DUCT ABOVE CEILING INSIDE THE BUILDING SHALL HAVE THE EQUIVALENT THERMAL RESISTANCE OF MINIMUM R-6. THE REQUIRED R VALUES ARE FOR INSTALLED INSULATION WITH 25% COMPRESSION AT THE CORNERS. PROVIDE PINS AND WASHERS IN ACCORDANCE WITH SMACNA REQUIREMENTS AND AS REQUIRED TO PREVENT INSULATION FROM SAGGING. PROVIDE ADEQUATE INSULATION AT THE SUPPLY AIR DIFFUSERS TO PREVENT CONDENSATION.

FLEXIBLE DUCT : UL #181 LISTED, CLASS 1, AND CONTAIN A 0.1 PERM RATED POLYETHYLENE INNER LINER, WITH R-8 FIBERGLASS INSULATION. FLEXIBLE DUCTS SHALL BE SECURED TO RIGID SHEET METAL COLLARS AND AIR DIFFUSERS WITH NYLON TIES OR STAINLESS STEEL WORM GEAR STRAPS. SEAL ALL CONNECTIONS AND JOINTS AIRTIGHT. SUPPORT FLEXIBLE DUCTS FROM THE BUILDINGS STRUCTURE WITH MINIMUM 1" WIDE, 18 GAUGE, GALVANIZED STEEL STRAP AT MAXIMUM 4'-0" CENTERS. PROVIDE 4" WIDE SHEET METAL SADDLES AT EACH SUPPORT EACH STRAP. SAG OF FLEXIBLE DUCT BETWEEN HANGERS SHALL NOT EXCEED 1/2" PER FOOT OF SUPPORT SPACING. RADIUS FOR TURNS OF FLEXIBLE DUCTS SHALL BE A MINIMUM OF ONE DUCT DIAMETER. FLEXIBLE DUCT RUNS SHALL NOT EXCEED 10'-0" IN LENGTH AND SHALL BE THE SAME SIZE AS THE DIFFUSER NECK CONNECTION.

ROUND VOLUME DAMPERS: PROVIDE MINIMUM 20 GAUGE GALVANIZED STEEL FRAME AND BLADES, MINIMUM 3/8" SQUARE STEEL AXLE, MOLDED SYNTHETIC BEARINGS, WITH LOCKING POSITION REGULATOR. REGULATOR SHALL BE POSITIONED WITH SHEET METAL BRACKET BEYOND DUCT COVERING. WHERE POSITIONING REGULATOR IS NOT ACCESSIBLE, PROVIDE COUPLING AND EXTENSION ROD WITH REGULATOR FOR CEILING OR WALL INSTALLATION, AS REQUIRED.

RECTANGULAR VOLUME DAMPERS: PROVIDE MINIMUM 16 GAUGE GALVANIZED STEEL CHANNEL FRAME, 16 GAUGE GALVANIZED STEEL BLADES, MINIMUM ½" HEXAGONAL AXLE, BOLDED SYNTHETIC BEARINGS, WITH 3/8" SQUARE PLATED STEEL CONTROL SHAFT. LINKAGES SHALL BE CONCEALED IN THE FRAME. OPERATING SHAFT SHALL EXTEND BEYOND FRAME AND DUCT TO A LOCKING QUADRANT WITH ADJUSTABLE LEVER. MAXIMUM BLADE WIDTH SHALL NOT EXCEED 6".

DUCT TURNING VANES: PROVIDE FABRICATED TURNING VANES AND VANE RUNNERS, CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS". PROVIDE TURNING VANES CONSTRUCTED OF CURVED BLADES, SUPPORTED WITH BARS PERPENDICULAR TO BLADES, AND SET INTO SIDE STRIPS SUITABLE FOR MOUNTING IN DUCTWORK. FOLLOW SMACNA GUIDELINES FOR SPACING SUPPORT, AND CONSTRUCTION. ALL BLADES SHALL BE DOUBLE THICKNESS AIRFOIL TYPE.

FLEXIBLE DUCT CONNECTORS: PROVIDE U.L. LABELED 30 OUNCE NEOPRENE COATED FIBERGLASS FABRIC DUCT CONNECTORS.

DUCT ACCESS DOORS: PROVIDE HINGED ACCESS DOORS IN DUCTWORK WHERE REQUIRED FOR ACCESS TO EQUIPMENT. PROVIDE INSULATED ACCESS DOORS FOR INSULATED DUCTWORK. CONSTRUCT OF SAME OR THICKER GAUGE SHEET METAL AS DUCT IN WHICH IT IS INSTALLED. PROVIDE FLUSH FRAMES FOR UN-INSULATED DUCTS, AND EXTENDED FRAMES FOR EXTERNALLY INSULATED DUCTS. PROVIDE CONTINUOUS HINGE ON ONE SIDE, WITH ONE HANDLE-TYPE LATCH FOR ACCESS DOORS 12" HIGH AND SMALLER, AND TWO HANDLE-TYPE LATCHES FOR LARGER ACCESS DOORS.

HVAC CONTROL SYSTEM: PROVIDE ALL THE NECESSARY CONTROLS AND CONTROL WIRING IN CONDUIT COMPATIBLE TO SYSTEMS SHOWN ON EQUIPMENT SCHEDULE M2.0.

PROGRAMMABLE THERMOSTAT FOR EACH SYSTEM SHALL ENABLE THE SUPPLY FAN AND CYCLE THE COOLING AND HEATING STAGES TO MAINTAIN SPACE SET-POINT. SUPPLY FAN RUNS CONTINUOUSLY DURING THE OCCUPIED MODE.

EACH THERMOSTAT SHALL HAVE A DEAD BAND OF AT LEAST 5 DEGREES (ADJ) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING IS SHUT OFF,

EACH THERMOSTAT SHALL HAVE SETBACK AND SET-UP CAPABILITY DURING THE UNOCCUPIED MODE. FOR SETBACK, THE HEATING SHALL RESTART AND TEMPORARILY OPERATE ACCORDING TO A SET-POINT ADJUSTABLE DOWN TO 55 DEGREES. FOR SET-UP, THE COOLING SHALL RESTART AND TEMPORARILY OPERATE ACCORDING TO A SET-POINT ADJUSTABLE UP TO 85 DEGREES OR TO PREVENT HIGH SPACE HUMIDITY LEVELS.

EACH SYSTEM SHALL BE PROVIDED WITH A MOTORIZED OUTSIDE AIR DAMPER THAT WILL AUTOMATICALLY SHUT WHEN THE SYSTEM OR SPACES SERVED ARE NOT IN USE. VENTILATION OUTSIDE AIR DAMPERS SHALL BE CAPABLE OF AUTOMATICALLY CLOSING DURING PREOCCUPANCY BUILDING WARM-UP, COOL DOWN, AND SETBACK, EXCEPT WHEN VENTILATION REDUCES ENERGY COSTS (e.g., NIGHT PURGE) OR WHEN VENTILATION MUST BE SUPPLIED TO MEET CODE REQUIREMENTS.

COMMISSIONING/VERIFICATION: HVAC CONTROL SYSTEM SHALL BE TESTED TO ENSURE THAT CONTROL ELEMENTS ARE CALIBRATED, ADJUSTED, AND IN PROPER WORKING CONDITION, AND THAT THE SYSTEM MEETS THE DESIGN REQUIREMENTS.

TEST AND BALANCE: CONTRACT DIRECTLY A THIRD PARTY TO PROVIDE TEST AND BALANCE OF THE HVAC SYSTEM. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR SCHEDULING. TEST AND ADJUST ALL MECHANICAL SYSTEM AND EQUIPMENT TO ASSURE PROPER BALANCE AND OPERATION. PERFORM TESTS IN ACCORDANCE WITH NEBB PROCEDURAL STANDARDS-1999 OR AABC 2002, AND ASHRAE STANDARD 111. ELIMINATE NOISE AND VIBRATION, AND ASSURE PROPER FUNCTION OF CONTROLS. SUBMIT COMPLETED TEST AND BALANCE REPORT TO OWNER'S REPRESENTATIVE. BALANCING CONTRACTOR SHALL BE INDEPENDENT AND CERTIFIED WITH NEBB OR AABC. BALANCE ALL SYSTEMS WITHIN 5% OF AIR FLOW INDICATED ON DRAWINGS, AND REPORT ALL DISCREPANCIES TO THE HVAC CONTRACTOR FOR CORRECTION. MARK FINAL BALANCE POSITIONS ON DAMPERS WITH PERMANENT MARKER.

COMPLETION REQUIREMENTS: THE CONTRACTOR SHALL PROVIDE, WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS AND AN OPERATING AND MAINTENANCE MANUAL TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE OWNER.

THE RECORD DRAWING SHALL BE OF THE ACTUAL INSTALLATION AND INCLUDE AS A MINIMUM THE LOCATION AND PERFORMANCE DATA ON EACH PIECE OF EQUIPMENT, GENERAL CONFIGURATION OF DUCT AND PIPE DISTRIBUTION SYSTEM INCLUDING SIZES, AND THE TERMINAL AIR OR WATER DESIGN FLOW RATES.

THE OPERATING AND MAINTENANCE MANUALS SHALL BE IN ACCORDANCE WITH INDUSTRY-ACCEPTED STANDARDS AND SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING; (A) SUBMITTAL DATA STATING EQUIPMENT SIZE AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE; (B) OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, EXCEPT EQUIPMENT NOT FURNISHED AS PART OF THE PROJECT. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED; (C) NAMES AND ADDRESSES OF AT LEAST ONE SERVICE AGENCY; (D) HVAC CONTROLS SYSTEMS MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SYSTEM SEQUENCE DESCRIPTIONS. DESIRED OR FIELD-DETERMINED SET-PIONTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS AT CONTROL DEVICES OR, FOR DIGITAL CONTROL SYSTEMS, IN PROGRAMMING COMMENTS; (E) A COMPLETE NARRATIVE OF HOW EACH SYSTEM EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING SET-POINTS.

HVAC GENERAL NOTES

1. THE INTENT OF THESE PLANS AND SPECIFICATIONS IS TO INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND SERVICES NECESSARY TO FURNISH, INSTALL, TEST, AND ADJUST A COMPLETE WORKABLE HEATING, VENTILATION, AND AIR CONDITIONING SYSTEM AS SHOWN, PRESCRIBED, OR REASONABLY IMPLIED BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS, BUT NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE INTENT THEREOF.

2. THE ENTIRE INSTALLATION SHALL CONFORM TO THE APPLICABLE CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION. IN THE EVENT OF CONFLICT BETWEEN SPECIFICATIONS, CODES, AND REGULATIONS, THE MORE RESTRICTIVE SHALL APPLY.

3. DRAWINGS FOR HVAC WORK ARE DIAGRAMATIC SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT, REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. PROVIDE ALL DUCTWORK, MATERIALS, CONNECTIONS, ACCESSORIES, FITTINGS, OFFSETS, TRANSITIONS, DAMPERS AS REQUIRED FOR A COMPLETE WORKABLE SYSTEM.

4. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND APPROVED LISTING. ALL EQUIPMENT, PIPING AND SUPPORTS SHALL BE RESTRAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE "GUIDLINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS" BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA). ALL EQUIPMENT SHALL BE ANCHORED TO RESIST THE LATERAL FORCE REQUIREMENTS OF CHAPTER 16 OF THE 2012 INTERNATIONAL BUILDING CODE.

5. COORDINATE THE INSTALLATION OF THE HVAC SYSTEM WITH ALL OTHER TRADES PRIOR TO FABRICATION OR INSTALLATION. COORDINATE THE LOCATIONS OF PENETRATIONS AND FINAL LOCATION OF ALL EQUIPMENT WITH THE GENERAL CONTRACTOR. PROVIDE EQUIPMENT WEIGHTS, EQUIPMENT DIMENSIONS, PLATFORM SIZES & LOCATIONS, CURB SIZES & LOCATIONS, CONCRETE PAD SIZES AND LOCATIONS AST REQUIRED. COORDINATE LOCATIONS OF GAS & CONDENSATE LINES WITH PLUMBING CONTRACTOR. COORDINTAE LOCATIONS OF POWER, DISCONNECTS, AND CONTROL CONDUIT WITH THE ELECTICAL CONTRACTOR. COORDINATE LOCATIONS OF ALL DIFFUSERS, REGISTERS, AND GRILLES WITH ARCHITECTURAL PLANS, ELECTRICAL LIGHTING PLANS AND ARCHITECTURAL ELEVATIONS.

6. DETAILS FOR EQUIPMENT PADS, PLATFORMS, AND FLASHINGS SHALL BE AS INDICATED BY THE ARCHITECTURAL/STRUCTURAL/CIVIL DRAWINGS, UNLESS NOTED OTHERWISE.

7. ALL EQUIPMENT, DUCTS, PIPING, SUPPORTS, AND OTHER DEVICES OUTSIDE OF THE BUILDING OR EXPOSED TO WEATHER, SHALL BE COMPLETELY WEATHER-PROOFED.

8. OUTSIDE AIR INTAKES SHALL BE AT LEAST 10 FT. AWAY OR 3 FT. BELOW ANY VENT OR EXHAUST DISCHARGE.

9. ALL DUCT SIZES ARE CLEAR INSIDE DIMENSIONS. DUCTWORK SHALL BE CONSTRUCTED, ERECTED, INSULATED AND TESTED IN ACCORDANCE CHAPTER 6 OF THE 2012 INTERNATIONAL MECHANICAL CODE.

10. ALL EXHAUST FANS SHALL BE EQUIPED WITH A BACK DRAFT DAMPER.

11. DUCT AND AIR TRANSFER PENETRATIONS THRU BUILDING ASSEMBLIES REQUIRING PROTECTION SHALL BE PROTECTED WITH FIRE DAMPERS, SMOKE DAMPERS, COMBINATION SMOKE/FIRE DAMPERS AND CEILING RADIATION DAMPERS IN ACCORDANCE WITH SECTION 607 OF THE INTERNATIONAL MECHANICAL CODE. DUCTS NOT REQUIRING DAMPERS SHALL COMPLY WITH SECTION 714 & 717 OF THE 2012 INTERNATIONAL BUILDING CODE.

12. INSTALL SMOKED DETECTORS AND PROVIDE FOR SMOKE DETECTION AND AUTOMATIC SHUT-OFF OF ALL AIR HANDLING EQUIPMENT IN ACCORDANCE WITH SECTION 606 OF THE INTERNATIONAL MECHANICIAL CODE.

13. UNLESS NOTED OTHERWISE, ALL LINE VOLTAGE WIRING, CONDUIT, FINAL CONNECTIONS, DISCONNECTS, STARTERS, AND OVER CURRENT PROTECTION DEVICES SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AS INDICATED ON THESE MECHANICAL DRAWINGS AND/OR ELECTRICAL DRAWINGS AND/OR ELECTRICAL SECTION OF THE SPECIFICATIONS.

14. INSTALL ALL LOW VOLTAGE HVAC CONTROL WIRE AND DEVICES PER PLAN. ALL WIRE SHALL BE IN CONDUIT PROVIDED AND INSTALLED BY THE ELECTICAL CONTRACTOR UNLESS NOTEDED OTHERWISE.

15. PROVIDE OWNER WITH THREE COPIES OF A CERTIFIED AIR BALANCE REPORT PREPARED IN BY A THIRD PARTY CERTIFIED BY THE AABC OR NEBB. TEST, ADJUST AND BALANCE THE HVAC SYSTEM IN ACCORDANCE WITH AABC OR NEBB PROCEDURES. PROVIDE START-UP/TEST REPORTS FOR ALL AIR HANDLING EQUIPMENT, FANS, AND REFRIGERATION EQUIPMENT. TEST AND VERIFY PROPER OPERATION OF ALL MAKE-UP AIR/EXHAUST AIR INTERLOCK SYSTEMS AND THIER SEQUENCES OF OPERATION. BALANCE ALL AIR FLOWS WITHIN 5% OF DESIGN VALUES. PERMANENTLY MARK BALANCE POSITION OF ALL REGULATING DEVICES.

16. PROVIDE OWNER WITH THREE SETS OF AS-BUILT PLANS AND OPERATIONS AND MAINTENANCE MANUALS. CLEARLY IDENTIFY ALL EQUIPMENT WITH PERMANENT PLASTIC OR METAL LABELS/TAGS (PEN MARKING NOT ACCEPTABLE).

17. PROVIDE ONE YEAR WARRANTY ON ALL LABOR, PARTS AND MATERIALS.

18. ANY CHANGE OR DEVIATION FROM THESE PLANS OR SPECIFICATIONS SHALL REQUIRE THE WRITTEN APPROVAL OF THE ENGINEER PRIOR TO COMMENCEMENT OF SUCH WORK.

LEGEND

AxB		DUCT WORK (WIDTHxDEPTH)
AxH		LINED DUCT WORK (WIDTHxDEPTH DIMENSIONS ARE FOR I.D.)
		SUPPLY DUCT, SECTION
		RETURN DUCT, SECTION
		EXHAUST DUCT, SECTION
R OR D		RISE OR DROP IN DIRECTION OF AIR FLOW
	FLEX. CONN.	FLEXIBLE CONNECTION
		DUCT TRANSITION, ROUND AND RECTANGULAR
		SPLITTER DAMPER
		EXTRACTOR AT BRANCH DUCT
		TURNING VANES
		FLEXIBLE DUCT
		SINGLE LINE DUCT WORK
	AVD	AUTOMATIC VOLUME DAMPER
	MVD	MANUAL VOLUME DAMPER
	BDD	BACKDRAFT DAMPER
	MD	MODULATING DAMPER
	AFD	AUTOMATIC FIRE DAMPER
	AD	ACCESS DOOR
	SD	SUPPLY DIFFUSER
	RR	RETURN REGISTER
	ER	EXHAUST REGISTER
	SWR	SIDE WALL SUPPLY REGISTER
	SWE	SIDE WALL RETURN OR EXHAUST
	LD	LINEAR DIFFUSER
D.L.	DL	DOOR LOUVER
U.C.	UC	UNDER CUT DOOR
	VAV	VARIABLE AIR VOLUME
T		THERMOSTAT
S		DUCT SMOKE DECTECTOR

SPECIAL NOTICE TO CONTRACTORS

1. ALL CONTRACTORS (GENERAL CONTRACTOR AND SUB-CONTRACTORS) BIDDING THIS PROJECT ARE REQUIRED TO VISIT THE JOB SITE AND VERIFY THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID. CONTRACTORS ARE TO CAREFULLY REVIEW ALL CONSTRUCTION DOCUMENTS AND NOTE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED AT THE JOB SITE PRIOR TO SUBMISSION OF ANY BID. THE BUILDING OWNER REPRESNENTATIVE LISTED BELOW MAY BE CONTACTED FOR ACCESS TO THE JOB SITE.
2. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION AND CONDITION OF ALL POINTS OF CONNECTION, LOCATION AND CONDITION OF ALL BUILDING (ROOF/FLOOR/CEILING) PENETRATIONS, LOCATION AND CONDITION OF ALL UTILITIES AND BUILDING SYSTEMS INCLUDING, BUT NOT LIMITED TO, GAS, WATER, SEWER, VENT, ELECTRICAL, BUILDING MECHANICAL SYSTEMS, DUCT CONNECTIONS, EXHAUST/OUTSIDE AIR CONNECTIONS, SECURITY, FIRE ALARM, DATA, AND PHONE PRIOR TO SUBMISSION OF THEIR BID.
3. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED SHALL BE BROUGHT TO THE ATTENTION, IN WRITING, TO THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
4. NO WORK SHALL BE DONE ON ANY PART OF THE BUILDING BEYOND THE POINT INDICATED IN EACH SUCCESSIVE INSPECTION WITHOUT FIRST OBTAINING THE WRITTEN APPROVAL OF THE CODE OFFICIAL. NO CONSTRUCTION SHALL BE CONCEALED WITHOUT BEING INSPECTED AND APPROVED.

CITY CODES

2019 CALIFORNIA BUILDING CODE
2019 CALIFORNIA RESIDENTIAL CODE
2019 CALIFORNIA FIRE CODE
2019 CALIFORNIA ELECTRICAL CODE
2019 CALIFORNIA MECHANICAL CODE
2019 CALIFORNIA PLUMBING CODE
2019 CALIFORNIA GREEN BUILDING STANDARDS CODE
2019 CALIFORNIA HISTORICAL BUILDING CODE
2019 CALIFORNIA REFERENCED STANDARDS CODE
2019 CALIFORNIA ADMINISTRATIVE CODE
2019 CALIFORNIA ENERGY CODE
ACI 318-14 (STRUCTURAL CONCRETE)
TMS 402/602-16 (STRUCTURAL MASONRY)
ASCE 7-16 (DESIGN LOADS FOR STRUCTURES)

REGISTERED PROFESSIONAL ENGINEER
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8-12-2020
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Date: AUGUST 02, 2020
Scale: NTS

DRAWING TITLE: MECHANICAL SPECS

Sheet : 33/40
Page No. : M1.0

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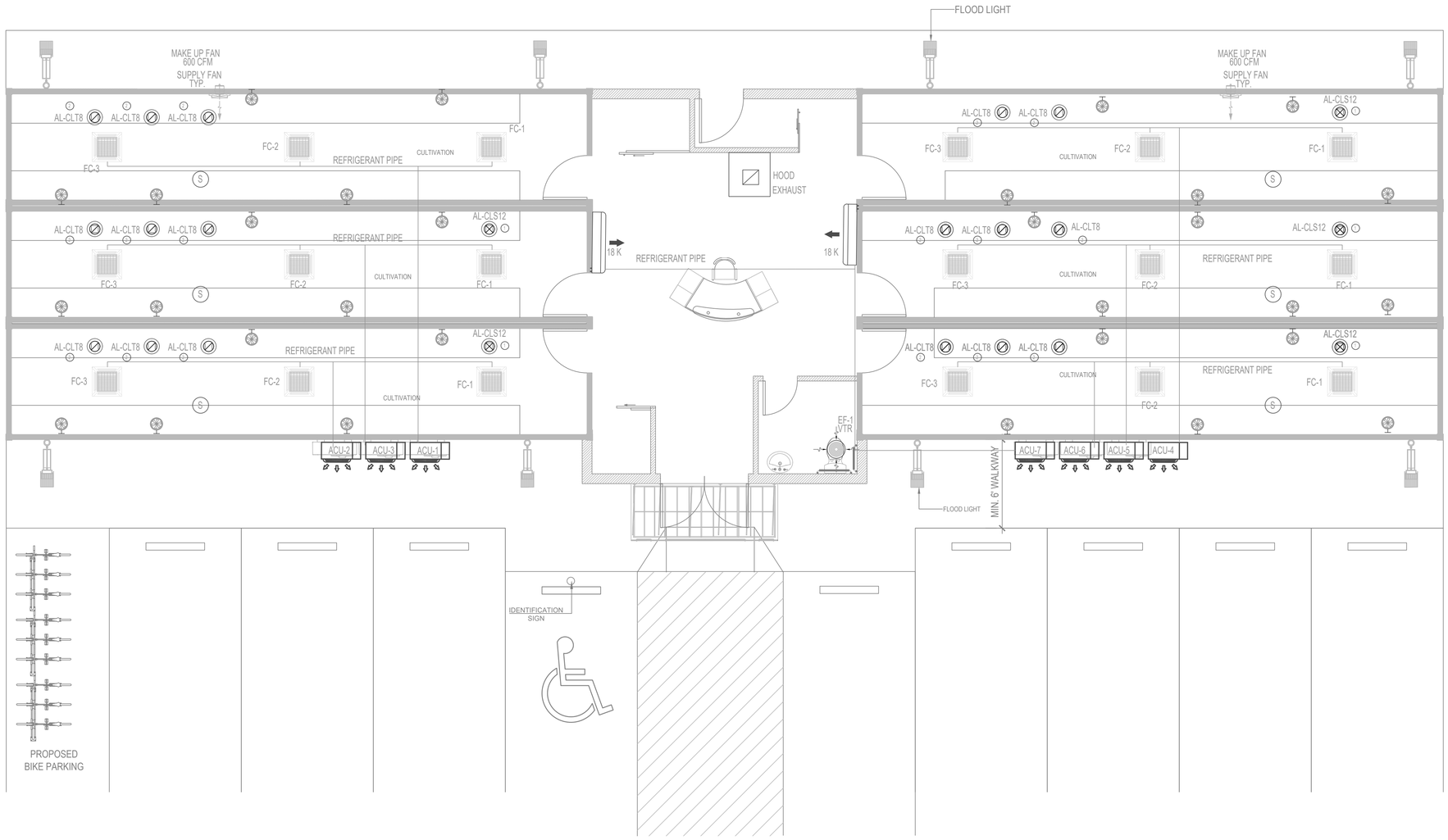
No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

(1) 12" ⏚ MAKE-UP AIR DUCT UP THRU ROOF TO APPROVED INTAKE VENT. SET OSA DAMPER TO 1604 CFM

(2) 8" ⏚ EXHAUST DUCT UP THRU ROOF

(S) C1D1 HYDROCARBON GAS SENSOR 4" A.F.F. INTERLOCK WITH CONTROL PANEL AND HVAC SYSTEM

HURRICANE 16" Oscillating Wall Mount Fan



NOTES

AN AIR BALANCE TEST WILL BE REQUIRED TO VERIFY THE MINIMUM VOLUME OF OUT SIDE AIR TO COMPLY WITH T-24 CALCULATIONS,BEFORE THE FINAL APPROVAL OF THE PROJECT.

FRESH AIR INTAKES SHALL BE AT LEAST 10 FT AWAY OR 4 FT BELOW EXHAUST OPENING OR SENSATORY VENT.

ENVIRONMENTAL AIR DUCT EXHAUST SHALL BE 3FT. FROM PROPERTY LINE 10FT. FROM A FORCED AIR INLET AND 3FT. FROM OPENING INTO THE BUILDING

HOODS, FILTERS, EXHAUST FANS, AND DUCTS SHALL HAVE A CLEARANCE OF AT LEAST 18" TO COMBUSTIBLE MATERIALS, 3" TO LIMITED COMBUSTIBLES MATERIAL, AND 0" TO NON-COMBUSTIBLE MATERIAL.

ALL INTERIOR SURFACES OF THE GREASE EXHAUST SYSTEM SHALL BE REASONABLY ACCESSIBLE FOR CLEANING AND INSPECTION PURPOSES

LISTED GREASE EXHAUST DUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE TERMS OF THEIR LISTINGS AND MANUFACTURER'S INSTALLATION INSTRUCTION.

AN EXHAUST OUTLET WITHIN AN UNLISTED HOOD SHALL BE LOCATED SO AS TO OPTIMIZE THE CAPTURE OF ARTICULATE MATTER. EACH OUTLET SHALL SERVE NOT MORE THAN 12 FOOT SECTION OF AN UNLISTED HOOD.

EXHAUST OUTLET TERMINATION OF GREASE DUCT FROM A HINGED UP BLAST FAN SHALL EXTEND THROUGH THE ROOF SHALL NOT BE LESS THAN 18 INCHES ABOVE THE ROOF AND THE FAN DISCHARGES NOT LESS THAN 40 INCHES ABOVE THE ROOF

THE MAKE-UP AIR QUANTITY SHALL PREVENT NEGATIVE PRESSURES IN THE COMMERCIAL COOKING AREA(S) FROM EXCEEDING 0.02 INCH WATER COLUMN. WHERE THE FIRE EXTINGUISHING SYSTEM ACTIVATES, MAKE-UP AIR SUPPLIED INTERNALLY TO A HOOD SHALL BE SHUT-OFF

THE EXHAUST AND MAKE-UP AIR SYSTEM SHALL BE CONNECTED BY ELECTRICAL INTERLOCK SWITCH.

ALL GREASE DUCTS SHALL BE INSTALLED WITHOUT FORMING DIPS OR TRAPS THAT MIGHT COLLECT RESIDUES

THE HOOD EXHAUST SYSTEM SHALL BE PROVIDED WITH FIRE EXTINGUISHING SYSTEM THAT AUTOMATICALLY SHUT OFF THE FUEL OR CURRENT SUPPLIED TO ALL EQUIPMENT UNDER THE HOOD.

A PERFORMANCE TEST WILL BE REQUIRED TO VERIFY THE RATE OF AIRFLOW AND THE PROPER OPERATION OF THE EXHAUST AND MAKE-UP AIR FOR HOOD SYSTEM BEFORE THE FINAL APPROVAL OF THIS INSTALLATION

HOODS SHALL BE SECURED IN PLACE TO RESIST THE LATERAL LOADS GIVEN IN THE CBC, TITLE 24, PART 2 BY NON-COMBUSTIBLE SUPPORTS. THE SUPPORTS SHALL BE CAPABLE OFTHE HOOD AND PLUS 800 LBS.

REGISTERED PROFESSIONAL ENGINEER
BARRETT CROOK
C 057196
Exp. 12-31-2021
8-12-2020
CIVIL
STATE OF CALIFORNIA

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Date: MARCH 22, 2020
Scale: 1/4"=1'

DRAWING TITLE: MECHANICAL PLAN

Sheet : 34/40
Page No. : M2.0

No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

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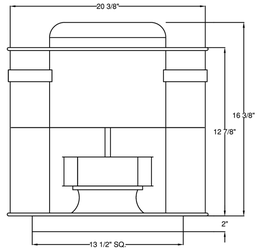
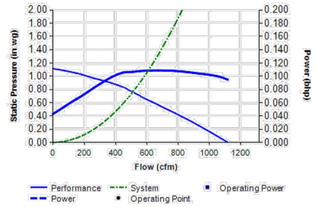
MODEL# **10D**

UL762 UPBLAST EXHAUST FAN DIRECT DRIVE



DIMENSIONAL DATA
12" SQ. CURB



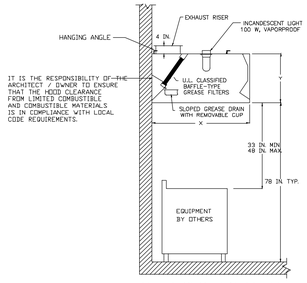
PERFORMANCE DATA

PHASE	1	**VOLTS**	115
AMPS	3.3	**HP**	1/10

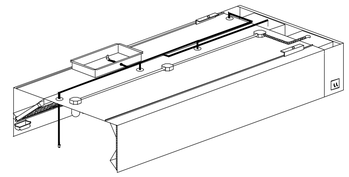
RPM	.000" S.P.		.125" S.P.		.250" S.P.		.375" S.P.		.50" S.P.		.625" S.P.		.750" S.P.	
	CFM	Sone	CFM	Sone	CFM	Sone	CFM	Sone	CFM	Sone	CFM	Sone	CFM	Sone
1550	1017	10.1	951	10.2	885	10.6	816	9.6	731	9.5	617	9.5	506	9.5

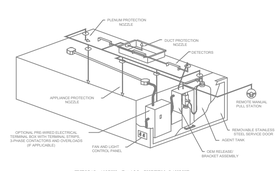
STANDARD FEATURES
UL762
HEAVY GAUGE ALUMINUM HOUSING
1 YEAR LIMITED WARRANTY ON ALL ELECTRIC MOTORS
FACTORY SET DRIVE
DIRECT DRIVEN MOTORS ARE ENCLOSED IN WEATHER-TIGHT COMPARTMENTS
AVERAGE UNIT WEIGHT: 30 LBS
AVERAGE SHIPPING WEIGHT: 43 LBS

LISTED
FANS
UL 762
11062 1/20



Hood SECTION VIEW





TYPICAL ANSUL R-102 SYSTEM LAYOUT

SPECIFICATIONS

THE RESTAURANT FIRE SUPPRESSION SYSTEM SHALL BE THE PRE-ENGINEERED TYPE WITH A FIXED NOZZLE AGENT DISTRIBUTION NETWORK. IT SHALL BE LISTED WITH UNDERWRITERS LABORATORIES, INC. (UL).

THE SYSTEM SHALL BE CAPABLE OF AUTOMATIC DETECTION AND ACTUATION WITH LOCAL OR REMOTE MANUAL ACTUATION. ACCESSORIES SHALL BE AVAILABLE FOR MECHANICAL OR ELECTRICAL GAS LINE SHUT-OFF APPLICATIONS.

THE EXTINGUISHING AGENT SHALL BE A POTASSIUM CARBONATE, POTASSIUM ACETATE-BASED FORMULATION DESIGNED FOR FLAME KNOCKDOWN AND SECUREMENT OF GREASE RELATED FIRES. IT SHALL BE AVAILABLE IN PLASTIC CONTAINERS WITH INSTRUCTIONS FOR LIQUID AGENT HANDLING AND USAGE.

THE REGULATED RELEASE MECHANISM SHALL BE COMPATIBLE WITH A FUSIBLE LINK DETECTION SYSTEM. THE FUSIBLE LINK SHALL BE SELECTED AND INSTALLED ACCORDING TO THE OPERATING TEMPERATURE IN THE VENTILATING SYSTEM. THE FUSIBLE LINK SHALL BE SUPPORTED BY A DETECTOR BRACKET/ LINKAGE ASSEMBLY.

Wall Canopy Hoods
Wall canopy hoods are used over cooking equipment producing heat and grease laden effluent (Type I hood). A wide variety of sizing and hood options along with several accessories makes these hoods the right choice to meet your varying design requirements. Wall canopy hoods are intended to be used when the cooking equipment is placed against a wall.

Standard construction features:
U. L. 710 listed and bears the National Sanitation Foundation (NSF) Seal of Approval (Standard2)
Rated for 400°F, 600°F, 700°F
Standard construction is a minimum of 18 gauge 430 stainless steel with an embossed finish
Longer hoods are available in multiple sections and can be made to appear as one hood by utilizing our continuous capture option to improve performance and aesthetics
Includes Performance Enhancing Lip (PEL) to improve capture efficiency by turning air back into the hood
Flexible lengths, widths and heights (see performance and sizing availability)
Hood lengths are available in 1 inch increments
Hood widths are available in 3 inch increments
Standing Seam Construction for superior strength
Excellent dimensional tolerances due to highly tooled manufacturing

KITCHEN EXHAUST HOOD REQUIREMENTS

1. KITCHEN TYPE I EXHAUST HOODS SHALL BE UL LISTED (SEE UL LISTING DESCRIPTION)
2. JOINTS AND SEAMS ON EXHAUST HOODS SHALL BE WELDED LIQUID-TIGHT
3. EXHAUST FAN MOTOR SHALL BE LOCATED OUTSIDE OF THE EXHAUST DUCT. EXHAUST DISCHARGE MUST TERMINATE AT LEAST 40 INCHES ABOVE THE HIGHEST POINT OF THE SURFACE OF THE ROOF MEETS THE DUCT
4. MAKE UP AIR FANS MUST BE ELECTRICALLY INTERLOCKED WITH THE HOOD EXHAUST
5. ALL OUTSIDE AIR INTAKES SHALL BE LOCATED A MINIMUM OF 10 FEET AWAY FROM THE EXHAUST OUTLET OF ANY SYSTEM
6. FOR LISTED HOODS, A 6 INCH OVERHANGE MINIMUM IS REQUIRED ON ALL SIDES OF COOKING APPLIANCES
7. GREASE TROUGH SHALL BE SLOPED TO REMOVEABLE GREASE CUP (1 GALLON MAX)
8. CLEARENCES TO COMBUSTABLE MATERIALS SHALL BE OBSERVED FOR THE FOLLOWING:
   18" OR
   3-HOUR RATED DUCT W. DESIGN LISTING INFORMATION; OR
   2-HOUR RATED DUCT PER NFPA 96 GUIDELINES (1-52.1); OR
   AS ALLOWED BY HOOD'S LISTING
9. EXHAUST HOOD METAL SHALL BE A MINIMUM OF 18 GA. ALUMINIZED STEEL AND 20 GA STAINLESS STEEL
10. DISTANCE FROM THE FLOOR TO THE BOTTOM OF THE HOOD (FOR CANOPY STYLE) SHALL BE 78"-84"
11. DISTANCE FROM THE COOKING SURFACE TO THE BOTTOM OF THE FILTER SHALL BE 33"-48"
12. CLEANOUTS ON THE EXHAUST DUCT SHALL BE PROVIDED AT ALL CHANGES OF DIRECTION AND 20 FOOT INTERVALS ON HORIZONTAL RUNS
13. CLEANOUTS ON THE EXHAUST DUCT SHALL HAVE A MINIMUM DIMENSION OF 12"
14. AN AUTOMATIC SUPPRESSION SYSTEM COMPLYING WITH UL300 SHALL BE INSTALLED IN THE KITCHEN EXHAUST SYSTEM
15. IF A FIRE ALARM IS PROVIDED, THE AUTOMATIC SUPPRESSION SYSTEM MUST BE INTERLOCKED WITH THE BUILDING FIRE ALARM
16. ACTIVATION OF THE FIRE SYSTEM SHALL AUTOMATICALLY SHUT OFF ALL FUEL AND HEAT COMPONENTS TO ALL EQUIPMENT UNDER THE HOOD
17. MANUAL ACTIVATION OF THE SUPPRESSION SYSTEM SHALL BE LOCATED AT LEAST 10' BUT NOT MORE THAN 20' AWAY FROM THE EXHAUST HOOD, IN THE PATH OF EGRESS
18. KITCHEN EXHAUST SYSTEMS SHALL BE PROVIDED FOR ALL COMMERCIAL COOKING APPLIANCES. DOMESTIC COOKING APPLIANCES USED FOR COMMERCIAL PURPOSES SHALL ALSO BE PROVIDED WITH A COMMERCIAL EXHAUST HOOD

HOODMART
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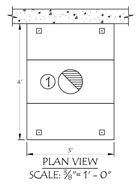
TOLL FREE FAX: 800-716-1214
WWW.HOODMART.COM
SALES@HOODMART.COM



HOOD NO.	MODEL	LENGTH	MAX. COOKING TEMP.	② EXHAUST PLENUM					③ SUPPLY PLENUM						HOOD CONSTRUCTION
				TOTAL EXH. CFM	RISER(S)				TOTAL SUP. CFM	RISER(S)					
					DIA.	QTY.	CFM	S.P.		WIDTH	LENG.	QTY.	CFM	S.P.	
1	TYPE II	55" NOM 56" OD	700 Deg.	600	10"	1	600	0.5"	-	-	-	-	-	-	STAINLESS/ALUMINIZED

DUCT OPENING ARE RECOMMENDED SIZES
OPENINGS TO BE PUT IN FIELD

ANSI/NSF2

c UL us LISTED Safety Certified MH29547

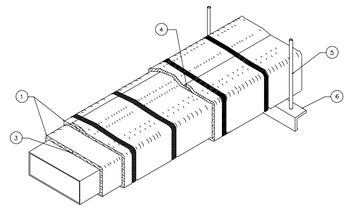
Thermal Ceramics
Insulating Our World

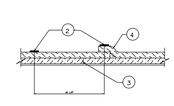
A. Grease Duct Enclosure System Test Standards:
1. ASTM E 2336 (AC101), 'Standard Test Methods for Fire Resistive Grease Duct Enclosure Systems Acceptance Criteria for Grease Duct Enclosures':
   a. ASTM E 2336 SECTION 16.1 – ASTM E 136; 'Standard Test Method for Materials in a Vertical Tube Furnace at 750C'.
   b. ASTM E 2336 SECTION 16.2 – ASTM E 119; 'Standard Test Methods for Fire Tests of Building Construction and Materials' – Applied to a wall configuration.
   c. ASTM E 2336 SECTION 16.3 – ASTM C 518; 'Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus'.
   d. ASTM E 2336 SECTION 16.4 – Internal fire test tested to 500F for 4 hours, and 2000F for 30 minutes.
   e. ASTM E 2336 SECTION 16.5 – ASTM E 119, 'Standard Test Methods for Fire Tests of Building Construction and Materials' – Applied to a elbow shaped duct configuration.
2. ASTM E 814 (UL1479), 'Standard Test Method for Fire Tests of Through-Penetration Fire Stops'.
3. ASTM E 84, 'Standard Test Method for Surface Burning Characteristics of Building Materials'.
4. NFPA 96, 'Standard for Ventilation Control & Fire Protection of Commercial Cooking Operations'.
5. ASTM D 6329, 'Standard Guide for Developing Methodology for Evaluating the Ability of Indoor Materials to Support Microbial Growth Using Static Environmental Chambers'.
6. UL 1978, 'Standard for Grease Ducts'.

B. Ventilation Air Duct Enclosure System Test Standards:
1. ISO 6944-1985, 'Fire Resistive Tests – Ventilation Ducts'.
2. ISO 834, 'Fire Resistive Tests – Elements of Building Construction'
3. ASTM E 814 (UL1479), 'Standard Test Method for Fire Tests of Through-Penetration Fire Stops',
4. ASTM E 84, 'Standard Test Method for Surface Burning Characteristics of Building Materials'.
5. ASTM D 6329, 'Standard Guide for Developing Methodology for Evaluating the Ability of Indoor Materials to Support Microbial Growth Using Static Environmental Chambers'.
6. NFPA 90A; 'Standard for the Installation of Air-Conditioning and Ventilating Systems.

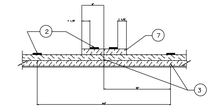
C. Independent Listing Agency References:
1. Underwriters Laboratories (UL).
2. International Code Council – Engineering Service (ICC-ES).
3. Intertek Testing Service (ITS) – Label Mark is OPL.

COMMERCIAL KITCHEN GREASE DUCT ENCLOSURE SYSTEM
AIR VENTILATION DUCT ENCLOSURE SYSTEM
1 OR 2 HOUR SHAFT ALTERNATIVE / ZERO CLEARANCE TO COMBUSTIBLES





BUTT–JOINT/3"OVERLAP



BUTT–JOINT/COLLAR

LEGEND	
1	2 LAYERS OF FIREMASTER FASTWRAP XL BLANKET FOR GREASE DUCT ENCLOSURES
2	STEEL BANDING MINIMUM 1/2" WIDE BY 0.015" THICK.
3	TIGHT BUTT JOINTS ON INNER LAYER
4	MIN. 3" OVERLAP ON PERIMETER AND BETWEEN ADJACENT BLANKET ON OUTSIDE LAYER
5	MIN. 3/8" DIAMETER HANGER ROD
6	MIN. 2" x 2" x 1/8" ANGLE FOR GREASE DUCT ENCLOSURES MIN. 1-1/2" x 1-1/2" x 1/8" ANGLE OR SMACNA EQUIVALENT FOR AIR VENTILATION DUCT ENCLOSURES
7	OPTIONAL 6" FIREMASTER FASTWRAP XL COLLAR

THE INTEGRITY OF FIREMASTER DUCT SYSTEMS IS LIMITED TO THE QUALITY OF THE INSTALLATION
FMXL001–2

REGISTERED PROFESSIONAL ENGINEER
BARRETT CROOK
C 057199
Exp. 12.31.2021
CIVIL
8-12-2020
STATE OF CALIFORNIA

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SHEPARD PLACE CALIFORNIA CITY, CA 95125

Date: AUGUST 02, 2020
Scale: NTS
DRAWING TITLE: HOOD DETAILS
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No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

INDOOR UNIT

						ELECTRICAL DATA		
INDOOR UNIT MARK	MANUF. MODEL NUMBER	COOLING	HEATING	SUPPLY AIRFLOW (CFM)	DP	V/PH/HZ	MCA (AMPS)	MOP (AMPS)
FC-1	GREE/GAS12HP230V1AC	**9000**	**11000**	**337**	0.64	208/1/60	19.00	30
FC-2	GREE/GAS12HP230V1AC	**9000**	**11000**	**337**	0.64	208/1/60	19.00	30
FC-3	GREE/GAS12HP230V1AC	**9000**	**11000**	**337**	0.64	208/1/60	19.00	30
FC-4	GREE/VIR12HP230V1AH	12000	13000	400	0.64	208/1/60	19.00	30
FC-5	GREE/VIR12HP230V1AH	12000	13000	400	0.64	208/1/60	19.00	30

NOTES:
1) PROVIDE MOTORIZED DAMPER FOR OA INTAKE
2) PROVIDE WALL MOUNTED 7-DAY PROGRAMMABLE THERMOSTAT , 1 -STAGE COOLING AND 2-STAGE HEATING
3) COORDINATE CONDENSATE DRAIN WITH PLUMBING CONTRACTOR. PIPE TO NEAREST APPROVED PLUMBING FIXTURE
4) PROVIDE FLOAT SWITCH IN SECONDARY DRAIN PAN FOR EMERGENCY SHUT-DOWN
5) PROVIDE CONCENTRIC VENT KIT. ALLOWS FOR BOTH EXHAUST AND COMBUSTION AIR.

OUT DOOR UNITE

								ELECTRICAL DATA		
INDOOR UNIT MARK	OUTDOOR UNIT MARK	MANUF. MODEL NUMBER	HEATING	COOLING	SEER	EER	CFM	V/PH/HZ	MCA (AMPS)	MOP (AMPS)
FC-1/FC-2/FC-3	ACU-1	GREE/ MULTI30HP230V1BO	32414	33438	10	3.80	2330.00	208/230/1/60	19.00	30
FC-1/FC-2/FC-3	ACU-2	GREE/ MULTI30HP230V1BO	32414	33438	10	3.80	2330.00	208/230/1/60	19.00	30
FC-1/FC-2/FC-3	ACU-3	GREE/ MULTI30HP230V1BO	32414	33438	10	3.80	2330.00	208/230/1/60	19.00	30
FC-1/FC-2/FC-3	ACU-4	GREE/ MULTI30HP230V1BO	32414	33438	10	3.80	2330.00	208/230/1/60	19.00	30
FC-1/FC-2/FC-3	ACU-5	GREE/ MULTI30HP230V1BO	32414	33438	10	3.80	2330.00	208/230/1/60	19.00	30
FC-1/FC-2/FC-3	ACU-6	GREE/ MULTI30HP230V1BO	32414	33438	10	3.80	2330.00	208/230/1/60	19.00	30
FC-4/FC-5	ACU-7	GREE/ MULTI30HP230V1BO	32414	33438	10	3.80	2330.00	208/230/1/60	19.00	30

NOTES:
1) PROVIDE MOTORIZED DAMPER FOR OA INTAKE
2) PROVIDE WALL MOUNTED 7-DAY PROGRAMMABLE THERMOSTAT , 1 -STAGE COOLING AND 2-STAGE HEATING
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4) PROVIDE FLOAT SWITCH IN SECONDARY DRAIN PAN FOR EMERGENCY SHUT-DOWN
5) PROVIDE CONCENTRIC VENT KIT. ALLOWS FOR BOTH EXHAUST AND COMBUSTION AIR.

EXHAUST FAN SCHEDULE

MARK	MANUF./ MODEL	TYPE	CFM	S.P. WG	FAN RPM	VOLT	DRIVE
EF-2	GREENHECK G-060-VG	ROOF	53	0.15	1050	115	DIRECT

FRESH AIR FANS SCHEDULE

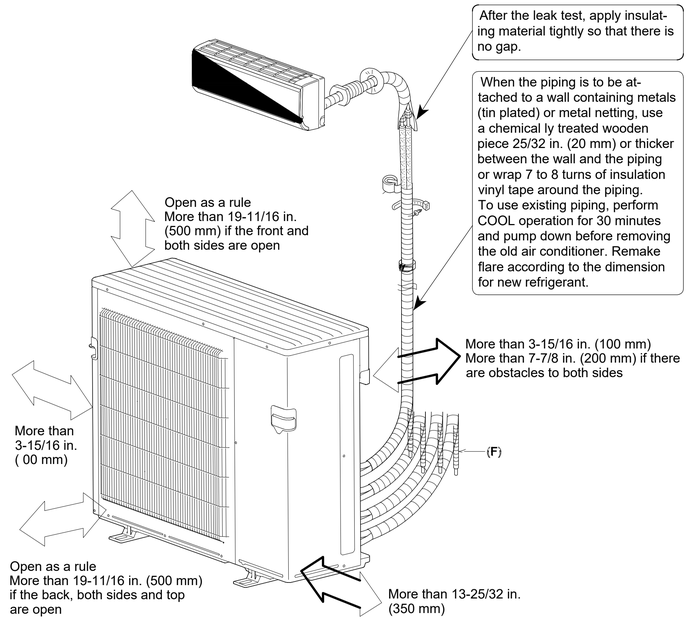
UNIT NO.	AREA SERVED	TYPE	QTY	CAPACITY (CFM)	DRIVE	ELECTRICAL DATA			REMARKS
						VOLTS	PHASE	HERTZ	
FAN	AS SHOWN	WALL MOUNTED	1	600	DIRECT	115	1	60	1-2-3

NOTES :

1. ALL WALL MOUNTED / INLINE FANS SHALL BE PROVIDED WITH SHUTTER DAMPERS.
2. ALL INDOOR FANS SHALL BE SELECTED AT NOISE LEVEL OF 40 dBA MAX.
3. EXTERNAL STATIC PRESSURE AND ELECTRICAL POWER TO BE VERIFIED BY CONTRACTOR UP ON ACTUAL SELECTION OF SYSTEM COMPONENTS.

BASIC MECHANICAL REQUIREMENTS:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE FOLLOWING:
   - A. LATEST EDITION AND AMENDMENTS OF THE APPLICABLE STATE AND LOCAL CODES.
   - B. LATEST (OR APPLICABLE) EDITION OF INTERNATIONAL MECHANICAL CODE.
   - C. LATEST (OR APPLICABLE) EDITION OF NFPA CODE 90A.
2. FURNISH AND INSTALL ALL LABOR, MATERIAL, AND EQUIPMENT AND SERVICES NECESSARY FOR COMPLETE AND SAFE INSTALLATION OF THE MECHANICAL SYSTEM INDICATED ON THE DRAWINGS AND NOTED IN THE SPECIFICATIONS HEREINAFTER. MECHANICAL DRAWINGS ARE CONSIDERED DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF WORK AND SYSTEMS. REFER TO ARCHITECTURAL DRAWINGS TO VERIFY LOCATION OF DEVICES, EQUIPMENT, ETC. CHECK DRAWINGS OF OTHER TRADES TO VERIFY EXACT SPACE CONDITIONS OF DUCTWORK AND EQUIPMENT. MATERIALS SHALL BE NEW, FREE FROM DEFECTS AND LISTED BY ARI OR UL WHERE APPLICABLE. CONTRACTOR SHALL COORDINATE ALL NEW WORK WITH EXISTING CONDITIONS. CONTRACTOR SHALL VISIT SITE AND EXAMINE EXISTING CONDITIONS PRIOR TO BID.
3. SUBMIT SIX (6) COPIES OF SHOP DRAWINGS TO OWNER OR ARCHITECT FOR EACH PIECE OF EQUIPMENT TO INCLUDE RTU'S, ASSOCIATED PIPING, HEATERS, EQUIPMENT, DIFFUSERS, INSULATION, FANS, CONTROLS AND DUCTWORK. OBTAIN APPROVAL BEFORE EQUIPMENT IS ORDERED, BUILT, OR INSTALLED.



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BARRETT CROOK
C 057196
Exp. 12.31.2021
8-12-2020
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Date: AUGUST 02, 2020
Scale: NTS

DRAWING TITLE: MECHANICAL SCHEDULES

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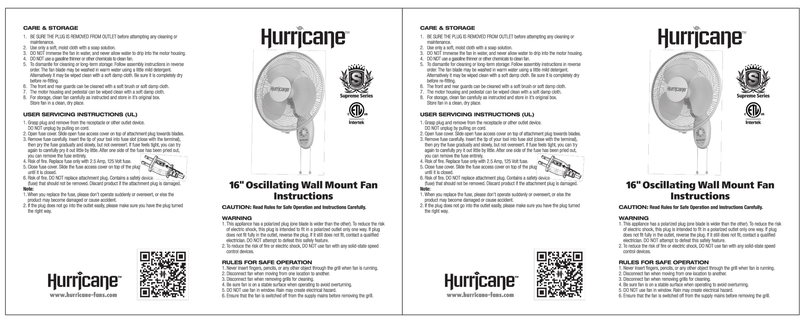
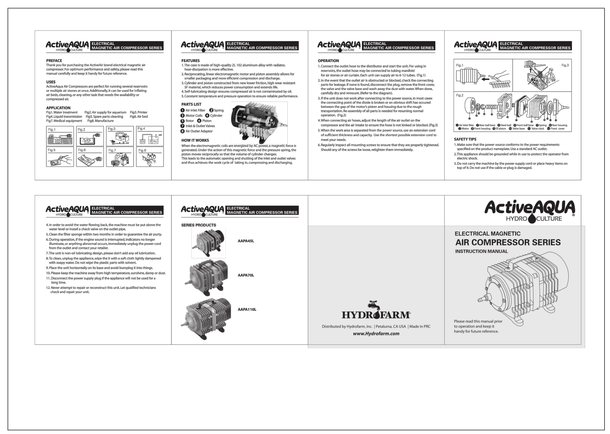
No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

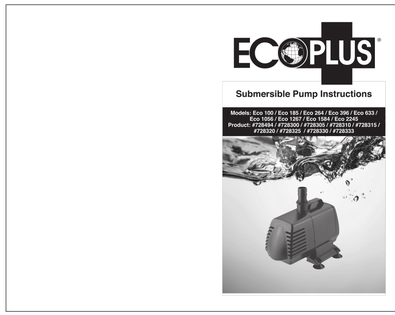
Description of Equipment	QTY	Voltage	Amp	Kva	Total Kva	Web Link
1000W Digital Ballast	132	240	10	2400	316800	https://images.homedepot-static.com/catalog/pdfImages/5b/5b5971ee-2306-43fe-acb8-f18bd5054622.pdf
Tri Mini Split HVAC MULTI30HP230V1B0	7	230	19	4370	30590	https://www.greecomfort.com/wp-content/uploads/2017/07/GREE_MULTI21_B_SUBMITTAL_30MBH_230V_062217.pdf
ECO-1056 Water Pump	12	120	0.74	88.8	1065.6	https://images-na.ssl-images-amazon.com/images/I/91ZoW9DFOVL.pdf
Active Aqua Commercial Air Pump AAPA110L	12	120	1	120	1440	https://www.hydrofarm.com/p/active-commercial-air-pump-outlet-test/aapa110l#rvdsfProductDetailDescriptionSpecifications
Hurricane Oscillating Wall Mount Fan 16" HGC736505	36	120	0.5	60	2160	https://scotts-hawthorne-public-prod.s3-us-west-2.amazonaws.com/PROD/documents/Documents/736505_Instructions.pdf
Cloudline T8 Inline Fan / Temp & Humidity Controller AI-CLT8	18	110	2.27	249.7	4494.6	https://www.acinfinity.com/component-cooling/inline-duct-fan-systems/cloudline-t8-quiet-inline-duct-fan-system-with-temperature-and-humidity-controller-8-inch/?gclid=Cj0KCQjwmpb0BRCBARIsAG7y4zZgqdkqtW230x4ALbfDw3Kqw94Tqwnh_xlm3L8zF-Q_cWYZ_MuDZlUaAqKpEALw_wcB#product-warranty
Cloudline T12 Inline Fan / Temp & Humidity Controller AI-CLS12	4	240	2.5	600	2400	https://www.acinfinity.com/component-cooling/inline-duct-fan-systems/cloudline-s12-quiet-inline-duct-fan-system-with-speed-controller-12-inch/#product-warranty
GW5516NPG NVR Digital Security Recorder	1	48	2	96	96	https://www.gwsecurityusa.com/product/gw5516npg/
GW8536MIC 8MP 4K UHD-PoE IP Fixed Lens Turret Security Camera	8	12	0.46	5.52	44.16	https://www.gwsecurityusa.com/product/gw8536mic-4k-uhd-ip-poe-camera-with-built-in-microphone/
GW8537IP 4K IP PoE Fixed Lens Bullet Security Camera	8	12	0.59	7.08	56.64	https://www.gwsecurityusa.com/product/gw8537ip-4k-poe-ip-bullet-security-camera/
Model MVP-6CFM-1PH: Single-phase (1 HP, 1800 RPM, 60 HZ)	1	230	13.4	3082	3082	https://mastervaporpumps.com/products/mvp-60-psi
45 Liter Refrigerated Circulator, -25°C AD45R-20	1	240	13	3120	3120	https://www.polyscience.com/circulating-baths/45-liter-refrigerated-circulator-25%C2%B0c-2
Polyscience IP-100 Chiller	1	230	7.5	1725	1725	https://www.polyscience.com/system/files/product-pdfs/110-810.pdf
4500-watt heat bath (extractor) Hi-Flo Pro 5 Liter	1	240	18.5	4440	4440	https://www.edenlabs.com/co2-extraction/hi-flo/
4500-watt heat bath (separator) Hi-Flo Pro 5 Liter	1	240	18.5	4440	4440	https://www.edenlabs.com/co2-extraction/hi-flo/
Chiller Hi-Flo Pro 5 Liter	1	230	13.7	3151	3151	https://www.edenlabs.com/co2-extraction/hi-flo/
Compressor Hi-Flo Pro 5 Liter	1	208	18.4	3827.2	3827.2	https://www.edenlabs.com/co2-extraction/hi-flo/
Scales Hi-Flo Pro 5 Liter	2	240	0.2	48	96	https://www.edenlabs.com/co2-extraction/hi-flo/
1.9CF BVV Neocision Certified Lab Vacuum Oven	1	120	10	1200	1200	https://shopbvv.com/collections/1-9-cubic-feet/products/1-9cf-bvv-neocision-certified-lab-vacuum-oven-5-wall-heating-led-s-11-shelves-standard-3-year-warranty

EXHAUST FAN AL-CLT8
Product Identification
- Manufacturer: AC Infinity Inc.
- Product Name: CLOUDLINE T8
- Product Model: AI-CLT8
- UPC Code: 819137020276
- Product and Mounting Dimensions - Fan Unit
- Duct Size: 8"
- Total Dimensions: 8.54 x 11.89 x 9.17 in. (21.7 x 30.2 x 12.3 cm)
- Mounting Hole-To-Hole Distance: 3.94 X 3.70 in. (10.0 x 9.4 cm)
- Screw Hole Size: 0.217㏌ in. (0.55㏌ cm)
- Cord Length to Controller: 240 in. (20 feet)
- Cord Length to Plug: 96 in. (8 feet)
- Product and Mounting Dimensions - Controller
- Total Dimensions: 5.19 x 2.91 x 1.06 in. (13.2 x 7.4 x 2.7 cm)
- Hole to Hole Distance: 4.71 x 2.64 in. (12.0 x 6.7 cm)
- Screw Hole Size: 0.119㏌ in. (0.3㏌ cm)
- Display Size: 3.5 x 1.4 in. (9 x 3.5 cm)
- Sensor Probe Length: 144 in. (12 feet)
- Product Performance and Technical Specs
- Total Airflow: 807 CFM
- Total Noise: 39 dBA
- Static Pressure: 746 Pa
- Operating Voltage: 120V AC
- Max Power Draw: 110 W
- Average Power Usage: 78 W
- Current: 2.27 A
- Operating Humidity: 35 to 85% RH
- Operating Temperature: 0 to 140°F
- Ingress Protection: IP 44
- Fan Bearings: Dual Ball
- L10 Life Expectancy: 67,000 Hours

MAKE-UP AIR FAN AL-CLS12
- Manufacturer: AC Infinity Inc.
- Product Name: CLOUDLINE S12
- Product Model: AI-CLS12
- UPC Code: 819137021006
- Product and Mounting Dimensions - Fan Unit
- Duct Size: 12"
- Total Dimensions: 12.28 x 17.71 x 14.05 in. (31.2 x 45.0 x 35.7 cm)
- Mounting Hole-To-Hole Distance: 7.00 x 7.12 in. (17.8 x 18.1 cm)
- Screw Hole Size: 0.462㏌ in. (1.18㏌ cm)
- Cord Length to Controller: 240 in. (20 feet)
- Cord Length to Plug: 96 in. (8 feet)
- Product and Mounting Dimensions - Controller
- Total Dimensions: 3.34 x 2.95 x 0.51 in. (8.5 x 3.6 x 1.3 cm)
- Required Mounting Area: 2.95 x 0.51 in. (3.6 x 1.3 cm)
- Hole to Hole Distance: 2.87 in. (7.3 cm)
- Screw Hole Size: 0.157㏌ in. (0.4㏌ cm)
- Product Performance and Technical Specs
- Total Airflow: 1604 CFM
- Total Noise: 62 dBA
- Static Pressure: 818 Pa
- Voltage: 100-240V AC
- Frequency: 50/60Hz
- Max Power Draw: 250 W
- Average Power Usage: 139 W
- Current: 2.5 A
- Power Connector Type: US Plug (NEMA 1-15 Type-A)
- Operating Humidity: 35 to 85% RH
- Operating Temperature: 0 to 140°F
- Ingress Protection: IP 44
- Fan Bearings: Dual Ball
- L10 Life Expectancy: 67,000 Hours







Submersible Pump Instructions

The EcoPlus submersible pumps are quality products, designed using the very latest technological developments. The pumps are suitable for use in hydroponic systems, pools, aquariums, fountains and filter systems. The pumps have been developed on the basis of the so-called synchronous technology, whereby the electrical parts are fully encapsulated in epoxy resin.

USE

The pumps have an economical, powerful and reliable motor. The entire series are suitable for installation on dry land for in-line use or submersibly into the water. The EcoPlus submersible pumps are equipped with a ceramic shaft and therefore also suitable for use in salt water.

OPERATION

Read these instructions very carefully before you start. NEVER let the pump run dry. Place the pump on a solid base in the water at a depth of at least 10 cm. Ensure that the water surface that is free of sludge, sand and other debris. Add fountain extension pipes so that the fountain head is above the surface of the pond. (1) Turn the flow control clockwise to increase flow and counter-clockwise to reduce flow. (2) Water ball nozzle is adjusted by moving the head higher for small ball and lower for a wider ball shape.

SAFETY REQUIREMENTS

The power supply must comply with the specifications on the product. The national code requires that a GFCI (Ground Fault Circuit Interrupter) be utilized in the branch circuit, which supplies electrical power to the EcoPlus pump and all other electrical aquarium or hydroponic equipment. NEVER pull the pump by the power cord and NEVER remove the pump from the water by pulling on the power cord. NEVER remove the power plug or shorten the cable. Your warranty is void if you do not comply with the operation and instructions noted above. Keep the electrical connection (plug and wall socket) dry.

The pump is not suitable for use in swimming pools, swimming ponds or other situations where persons could make bodily contact with the water. Always unplug the power cord before cleaning the pump or carrying out water maintenance.

MAINTENANCE & CLEANING

The EcoPlus submersible pumps do not require lubrication or special maintenance. The following maintenance and cleansing will improve the pumps performance and life.

Cleaning: When the flow is visibly reduced you may want to clean the pump. Unplug the pump's power cord first, then remove the pump form the water (Do NOT use the cord to lift the pump). Firmly pull the pre-filter cage from the pump motor. Remove the pre-filter sponge and wash thoroughly in fresh water. A blocked sponge will reduce the pump flow rate and performance.

Regular Maintenance: Remove the impeller cover by turning counterclockwise to release lock. Firmly pull away from the pump motor. Carefully remove impeller locator and complete

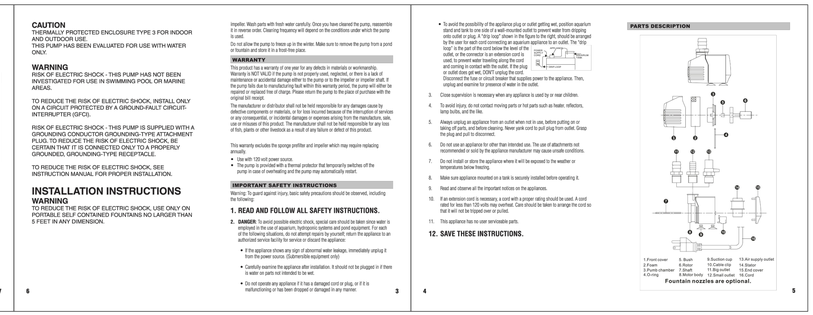
ECOPLUS

Eco Submersible Pump Technical Information

MODEL	VOLT	FREQ	AMPS (A)	OUTPUT (L/H)	OUTPUT (GPH)	H MAX (M)	H MAX (FEET)	DIMENSIONS (MM)	DIMENSIONS (INCH)
ECO-100	110V	60Hz	2(0)	210	71	0.70	2.3	45x50x68.5	1.75x1.97.7
ECO-185	110V	60Hz	2(6)	360	100	0.90	3.0	76x50(0	3x1.6x2.1
ECO-132	110V	60Hz	2(1	320	102	1.22	4.0	45x67.2x(0	1.8x2.6x2.3
ECO-185	110V	60Hz	2(2	600	158	1.20	4.0	143x54x76	5.6x2.1x2.9
ECO-264	110V	60Hz	2(5	1100	290	1.80	6.0	162x65x90	6.2x2.5x3.5
ECO-396	110V	60Hz	2(6	1500	396	1.95	6.5	165x85x115	6.4x3.1x4.5
ECO-633	110V	60Hz	4(5	2550	664	2.40	7.5	180x85x118	7.7x3.1x4.5
ECO-1056	110V	60Hz	7A	4100	1080	2.80	9.0	200x150x140	7.8x4.5x5.5
ECO-1584	110V	60Hz	10A	6100	1600	3.40	11.0	220x150x140	8.6x4.5x5.5
ECO-1587	110V	60Hz	1.7	5700	1505	9.70	35.0	170x124x232	6.6x4.8x9.1
ECO-1584	110V	60Hz	2.04A	6050	1608	4.58	12.5	208x126x176	8.5x5.1x6.9
ECO-2245	110V	60Hz	2.0A	8200	2166	5.05	16.5	275x134x178	10.6x5.3x7

* Not UL listed

UL LISTED



CAUTION

THERMALLY PROTECTED ENCLOSURE TYPE 3 FOR INDOOR AND OUTDOOR USE.
THIS PUMP HAS BEEN EVALUATED FOR USE WITH WATER ONLY.

WARNING

RISK OF ELECTRIC SHOCK - THIS PUMP HAS NOT BEEN INVESTIGATED FOR USE IN SWIMMING POOL OR MARINE AREAS.

TO REDUCE THE RISK OF ELECTRIC SHOCK, INSTALL ONLY ON A CIRCUIT PROTECTED BY A GROUND-FAULT CIRCUIT-INTERRUPTER (GFCI).

RISK OF ELECTRIC SHOCK - THIS PUMP IS SUPPLIED WITH A GROUNDING CONDUCTOR GROUNDING-TYPE ATTACHMENT PLUG. TO REDUCE THE RISK OF ELECTRIC SHOCK, BE CERTAIN THAT IT IS CONNECTED ONLY TO A PROPERLY GROUNDED, GROUNDING-TYPE RECEPTACLE.

TO REDUCE THE RISK OF ELECTRIC SHOCK, SEE INSTRUCTION MANUAL FOR PROPER INSTALLATION.

INSTALLATION INSTRUCTIONS

WARNING

TO REDUCE THE RISK OF ELECTRIC SHOCK, USE ONLY ON PORTABLE SELF CONTAINED FOUNTAINS NO LARGER THAN 5 FEET IN ANY DIMENSION.

impeller. Wash parts with fresh water carefully. Once you have cleaned the pump, reassemble it in reverse order. Cleaning frequency will depend on the conditions under which the pump is used.

Do not allow the pump to freeze up in the winter. Make sure to remove the pump from a pond or fountain and store it in a frost-free place.

WARRANTY

This product has a warranty of one year for any defects in materials or workmanship. Warranty is NOT VALID if the pump is not properly used, neglected, or there is a lack of maintenance or accidental damage either to the pump or to the impeller or impeller shaft. If the pump fails due to manufacturing fault within this warranty period, the pump will either be repaired or replaced free of charge. Please return the pump to the place of purchase with the original bill receipt.

The manufacturer or distributor shall not be held responsible for any damages cause by defective components or materials, or for loss incurred because of the interruption of services or any consequential, or incidental damages or expenses arising from the manufacture, sale, or use of this product. In no event shall the liability of the manufacturer exceed the sale loss of fish, plants or other livestock as a result of any failure or defect of this product.

This warranty excludes the sponge prefilter and impeller which may require replacing annually.

- Use with 120 volt power source.
- The pump is provided with a thermal protector that temporarily switches off the pump in case of overheating and the pump may automatically restart.

IMPORTANT SAFETY INSTRUCTIONS

Warning: To guard against injury, basic safety precautions should be observed, including the following:

1. READ AND FOLLOW ALL SAFETY INSTRUCTIONS.

2. **DANGER**- To avoid possible electric shock, special care should be taken since water is employed in the use of aquarium, hydroponic systems and pond equipment. For each of the following situations, do not attempt repairs by yourself, return the appliance to an authorized service facility for service or discard the appliance.
   - If the appliance shows any sign of abnormal water leakage, immediately unplug it from the power source. (Submersible equipment only)
   - Carefully examine the appliance after installation. It should not be plugged in if there is water on parts not intended to be wet.
   - Do not operate any appliance if it has a damaged cord or plug, or if it is malfunctioning or has been dropped or damaged in any manner.

- To avoid the possibility of the appliance plug or outlet getting wet, position aquarium stand and tank to one side of a wall-mounted outlet to prevent water from dripping onto outlet or plug. A "drip loop" shown in the figure to the right, should be arranged by the user for each cord connecting an aquarium appliance to an outlet. The "drip loop" is the part of the cord below the level of the outlet or the lowest part of the appliance when used, to prevent water traveling along the cord and coming in contact with the outlet. If the plug or outlet does get wet, DONT unplug the cord. Disconnect the fuse or circuit breaker that supplies power to the appliance. Then, unplug and examine for presence of water in the outlet.

3. Close supervision is necessary when any appliance is used by or near children.
4. To avoid injury, do not contact moving parts or hot parts such as heater, reflectors, lamp bulbs, and the like.
5. Always unplug an appliance from an outlet when not in use, before putting on or taking off parts, and before cleaning. Never yank cord to pull plug from outlet. Grasp the plug and pull to disconnect.
6. Do not use an appliance for other than intended use. The use of attachments not recommended or sold by the appliance manufacturer may cause unsafe conditions.
7. Do not install or store the appliance where it will be exposed to the weather or temperatures below freezing.
8. Make sure appliance mounted on a tank is securely installed before operating it.
9. Read and observe all the important notices on the appliances.
10. If an extension cord is necessary, a cord with a proper rating should be used. A cord rated for less than 125 volts may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
11. This appliance has no user serviceable parts.

12. SAVE THESE INSTRUCTIONS.

PARTS DESCRIPTION

1.Foam cover 5. Bush 9.Suction cup 13.Air supply outlet
2.Body 6. Impeller 10.Hose nut 14.Cord clip
3.Fumb chamber 7.Shaft 11.Big outlet 15.End cover
4.O-ring 8.Motor body 12.Small outlet 16.Cord

Fountain nozzles are optional.

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No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

PLUMBING SPECIFICATIONS

THE WORK INCLUDES MODIFICATION TO THE EXISTING PLUMBING SYSTEM AND PROVIDING NEW MATERIALS, FITTINGS AND ACCESSORIES NECESSARY FOR A COMPLETE FUNCTIONING PLUMBING SYSTEM. THE WORK ALSO INCLUDES ROUGH-IN AND FINAL CONNECTIONS TO FOOD SERVICE EQUIPMENT AND BEVERAGE DISPENSING EQUIPMENT PROVIDED BY OTHERS. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND/OR ORDINANCES AND IS SUBJECT TO INSPECTION.

HOOK-UP CHARGES, PERMITS AND ALL OTHER EXPENSES RELATED TO A COMPLETE AND FUNCTIONING PLUMBING SYSTEM ARE INCLUDED AS A PART OF THIS SECTION.

WARRANTY: PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION.

THE INTENT OF THE DRAWINGS IS TO INDICATE THE GENERAL EXTENT OF WORK REQUIRED FOR THE PROJECT. THE DRAWINGS FOR PLUMBING WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, FIXTURES AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. REFER TO MANUFACTURER'S STANDARD ROUGH-IN DRAWINGS FOR PLUMBING FIXTURE INSTALLATION REQUIREMENTS. COMPLY WITH ALL APPLICABLE ADA INSTALLATION REQUIREMENTS.

COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE.

PIPING SYSTEMS – GENERAL: ALL PIPING SHALL BE RUN PARALLEL TO BUILDING LINES AND SUPPORTED AND ANCHORED AS REQUIRED TO FACILITATE EXPANSION AND CONTRACTION. ALL PIPING SHALL BE CONCEALED EXCEPT IN UNFINISHED SPACES. INSTALL AS REQUIRED TO MEET ALL CONSTRUCTION CONDITIONS AND TO ALLOW FOR INSTALLATION OF OTHER WORK SUCH AS DUCTS AND ELECTRICAL CONDUIT. AT ALL CONNECTIONS BETWEEN FERROUS PIPING AND NONFERROUS PIPING, PROVIDE AN ISOLATING DIALECTIC UNION. ALL HANGERS SHALL BE COMPATIBLE WITH PIPING MATERIAL TO PREVENT CORROSION.

PROVIDE ALL FITTINGS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE THE PLUMBING SYSTEM'S FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT INDICATED.

FIXTURES/EQUIPMENT FURNISHED BY OTHERS: PLUMBING CONTRACTOR SHALL PROVIDE UTILITY CONNECTIONS REQUIRED SUCH AS WATER, GAS, AIR, SUPPLIES, WASTE OUTLET, TRAPS, ETC. AT ALL PLUMBING TYPE FIXTURES OR EQUIPMENT FURNISHED BY OWNER, GENERAL CONTRACTOR, FOOD SERVICE CONTRACTOR, EQUIPMENT SUPPLIER, ETC. INCLUDED ARE STOP VALVES, ESCUTCHEONS, AND CHROME PLATED BRASS TUBING WITH COMPRESSION FITTINGS.

SEWER AND WASTE PIPING: PROVIDE ALL DRAINS AND SEWERS WITHIN THE SPACE WITH CONNECTION TO THE EXISTING DRAINAGE SYSTEMS ON-SITE. SANITARY DRAINAGE PIPING ABOVE FLOOR SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE, FITTINGS AND CONNECTIONS. SANITARY DRAINAGE PIPING BELOW GRADE SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE WITH SOLVENT WELD FITTINGS MAY BE USED (WHERE PERMITTED BY CODE/LOCAL AUTHORITIES). ALL DRAINAGE PIPING SHALL BE UNIFORMLY PITCHED, 1/4" PER FOOT UNLESS OTHERWISE REQUIRED BY EXISTING CONDITIONS, OR INDICATED ON THE DRAWINGS.

VENTS: PROVIDE A COMPLETE SYSTEM OF STANDARD WEIGHT CAST IRON NO-HUB VENT RISERS WHERE THE CEILING SPACE IS USED AS A RETURN AIR PLENUM OR USE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE (WHERE PERMITTED BY CODE/LOCAL AUTHORITIES) WHERE THERE IS A DUCTED RETURN AIR SYSTEM. DO NOT USE PVC PIPE IN RETURN AIR PLENUM SPACES. THE VENT SYSTEM SHALL BE CARRIED THROUGH THE ROOF WITH APPROPRIATE FLASHING.

CONDENSATE AND INDIRECT DRAIN PIPING:PIPING ABOVE FLOOR SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE, FITTINGS AND CONNECTIONS. PIPING BELOW GRADE SHALL BE CO-EXTRUDED PVC DWV(SCHEDULE 40) PIPE WITH SOLVENT WELD FITTINGS.

CLEANOUTS: PROVIDE CLEANOUTS AT THE END OF EACH HORIZONTAL RUN, AND AT THE BASE OF ALL VERTICAL WASTE AND DRAIN PIPES. CLEANOUTS SHALL BE OF THE SAME SIZE AS THE PIPES THEY SERVE, CONFORMING TO CODE REQUIREMENTS. PROVIDE SUITABLE WALL OR FLOOR CLEANOUTS WITH ACCESSORIES TO OBSCURE FROM VIEW.

WATER DISTRIBUTION PIPING: LAYOUT WATER PIPING SO THAT THE ENTIRE SYSTEM CAN BE DRAINED. HOT AND COLD WATER PIPING SHALL BE 1/2" MIN. CPVC PIPE WITH SOLVENT FITTING. PROVIDE WATER HAMMER ARRESTERS AT EACH FIXTURE OR GROUP OF FIXTURES AS REQUIRED. INSTALL CHROME PLATED BRASS ESCUTCHEON PLATES AT ALL PENETRATIONS THROUGH FINISHED SURFACES (INCLUDING CABINET INTERIORS).

PIPE INSULATION: INSULATE (AS ALLOWED BY CODE) ALL LISTED SERVICE PIPING AS FOLLOWS. DOMESTIC COLD/HOT WATER, HOT WATER RETURN, STORM WATER PIPING. PROVIDE 1" PREFORMED FIBERGLASS, ASJ/SS-11, FLAME SPREAD 25, SMOKE DEVELOPED 50, ASTM C-547, FOR CONDENSATE PIPING PROVIDE 1/2" THICK INSULATION OF SAME CHARACTERISTICS AS LISTED FOR 1" ABOVE. WHERE PERMITTED BY LOCAL CODES, PROVIDE 1/2" SELF-ADHESIVE UNICELLULAR FOAM PIPE INSULATION WITH PRE-FORMED PVC FITTING COVERS – EQUAL TO SELF-ADHESIVE ARMSTRONG 2000 WITH K FACTOR OF 0.27 AT 75 DEGREES MEAN TEMPERATURE. INSULATE ANY EXPOSED CONDENSATE PIPING WITH WASTE TEMPERATURE BELOW 60 DEGREES F.

SHUTOFF VALVES, WITH UNIONS SHALL BE PROVIDED FOR SERVICE TO EACH PLUMBING FIXTURE, FOOD SERVICE EQUIPMENT ITEM OR OTHER EQUIPMENT ITEM, TO FACILITATE ISOLATION FOR REPAIR OR REPLACEMENT. VALVES SHALL BE EQUAL TO JENKINS #902-T BALL VALVE, CHROME-FINISHED BRONZE, TEFLON SEATS AND PACKING, 400 LB. W.O.G., SOLDER END.

ACCESS PANELS SHALL BE PROVIDED WHERE CONCEALED CONTROL DEVICES, VALVES, ETC. ARE CONCEALED WITHIN WALLS. WHERE ACCESS FOR ADJUSTMENT AND MAINTENANCE IS POSSIBLE THROUGH LAY-IN SUSPENDED CEILINGS, ACCESS PANELS ARE NOT REQUIRED.

PIPING SYSTEM- PVC SCHEDULE 40, SCHEDULE 80 AND CPVC PIPE WITH SOLVENT FITTINGS SHALL BE USED WHERE PEMITTED BY CODE/LOCAL AUTHORITIES.

INSTALLATION: THOROUGHLY CLEAN ITEMS BEFORE INSTALLATION. CAP PIPE OPENINGS TO EXCLUDE DIRT UNTIL FIXTURES ARE INSTALLED AND FINAL CONNECTIONS HAVE BEEN MADE. PROCEED AS RAPIDLY AS CONSTRUCTION WILL PERMIT. SET FIXTURES LEVEL AND IN PROPER ALIGNMENT. INSTALL SUPPLIES IN PROPER ALIGNMENT WITH FIXTURES. INSTALL SILICONE SEALANT BETWEEN FIXTURES AND ADJACENT MATERIAL, FOR SANITARY JOINT, AND OMIT ESCUTCHEONS.

REPAIR EXISTING PLUMBING SYSTEM COMPONENTS DAMAGED BY CONSTRUCTION OPERATIONS AND RESTORE TO ORIGINAL CONDITIONS.

TEST WATER SYSTEM UNDER 150 PSIG HYDROSTATIC PRESSURE, FOR FOUR (4) HOURS MINIMUM. WHEN TESTING INDICATES MATERIALS OR WORKMANSHIP IS DEFICIENT, REPLACE OR REPAIR AS REQUIRED, AND REPEAT TEST UNTIL STANDARDS ARE ACHIEVED.

ROOF PENETRATIONS SHALL COMPLY WITH "SMACNA" AND "NRCA" STANDARDS, AND WITH THE REQUIREMENTS OF THE EXISTING ROOFING WARRANTY, IF APPLICABLE. DO NOT PERFORM ROOFING PENETRATIONS IN A MANNER WHICH WOULD VOID OR OTHERWISE LIMIT THE EXISTING ROOFING WARRANTY.

GENERAL NOTES

1. THE INTENT OF THESE PLANS AND SPECIFICATIONS IS TO INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND SERVICES NECESSARY TO FURNISH, INSTALL, TEST, AND ADJUST A COMPLETE WORKABLE PLUMBING INSTALLATION AS SHOWN, PRESCRIBED, OR REASONABLY IMPLIED BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS, BUT NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE INTENT THEREOF.

2. THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2006 UNIFORM PLUMBING CODE, 2006 INTERNATIONAL BUILDING CODE, 2006 INTERNATIONAL ENERGY CONSERVATION CODE AND ALL OTHER APPLICABLE CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION. IN THE EVENT OF CONFLICT BETWEEN SPECIFICATIONS, CODES, AND REGULATIONS, THE MORE RESTRICTIVE SHALL APPLY.

3. COORDINATE ENTIRE INSTALLATION OF THE PLUMBING SYSTEM WITH THE WORK OF OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS. REPORT ANY DISCREPANCIES, IN WRITING, TO THE ENGINEER PRIOR TO COMMENCEMENT OF WORK.

4. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT IN ACCORDANCE WITH THE SPECIFICATIONS.

5 PROVIDE ONE YEAR WARRANTY ON ALL PARTS AND LABOR.

6. THE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW SCOPE. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES TO PROVIDE THE BEST ARRANGEMENT OF ALL DUCT, PIPE, CONDUIT, ETC.

7. ALL CUTTING AND PATCHING OF THE EXISTING STRUCTURE SHALL BE PROVIDED UNDER OTHER SECTIONS OF THE WORK. PROVIDE NECESSARY REQUIREMENTS TO THE PROJECT SUPERINTENDENT.

8. ALL HOT WATER PIPING AND RECIRCULATION PIPING (EXCEPT RUNOUTS 12 FT. OR SHORTER TO INDIVIDUAL FIXTURES) SHALL BE INSULATED TO MEET THE REQUIREMENTS OF THE 2006 INTERNATIONAL ENERGY CONSERVATION CODE

9. CONDENSATE DRAINS SHALL BE PROVIDED FOR EACH AIR CONDITIONING UNIT. HORIZONTAL CONDENSATE DRAINS ABOVE ANY CEILING SHALL BE INSULATED WITH MIN. 3/8" THICK CLOSED CELL INSULATION.

10. PIPING:
   A. WASTE, VENT, AND STORM DRAIN PIPING SHALL BE CO-EXTRUDED PVC SCHEDULE 40) PIPE
   B. WATER PIPE SHALL BE CPVC PIPE
   C. CONDENSATE PIPING SHALL BE CO-EXTRUDED PVC (SCHEDULE 40) PIPE
   D. INSIDE GAS PIPING SHALL BE BLACK IRON SCHEDULE 40 WITH MALLEABLE IRON FITTINGS. OUTSIDE SHALL BE GALVANIZED IRON SCHEDULE 40 WITH GALVANIZED FITTINGS. GAS LINE TO BE PAINTED GRAY IN COLOR. A 24 HOUR METERED GAS TEST SHALL BE REQUIRED.
   E. ALL PIPING NOT ENCLOSED IN CONDITION SPACE OR AT EXTERIOR WALLS SHALL BE INSULATED.
   F. PIPING: PVC SCHEDULE 40, SCHEDULE 80 AND CPVC PIPING WITH SOLVENT WELD FITTINGS SHALL BE USED WHERE PERMITTED BY CODE/LOCAL AUTHORITIES

11. ALL VENTS OR EXHAUSTS SHALL BE AT LEAST 10 FT. AWAY OR 3 FT. ABOVE ANY WINDOW, DOOR, OPENING, OR AIR INTAKE.

12. CLEANOUTS SHALL BE INSTALLED PER THE UNIFORM PLUMBING CODE.

13. PROVIDE WATER TIGHT FLASHINGS WHEREVER PIPES PASS THROUGH EXTERIOR WALLS, ROOFS, OR FLOORS.

14. PROVIDE ISOLATION FOR ALL PIPES THAT COME IN CONTACT WITH THE STRUCTURE.

15. LOCATION OF EXISTING UTILITIES AND POINTS OF CONNECTION ARE APPROXIMATE. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICES PRIOR TO STARTING WORK OF THIS SECTION. IF INDICATED POINTS OF CONNECTION CANNOT BE MADE TO EXISTING UTILITIES AS FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO INSTALLING ANY WORK WHICH MAY BE AFFECTED.

16. VALVES SHALL BE NIBCO, JENKINS, HAMMOND, RED & WHITE OR APPROVED EQUAL. SERVICE PRESSURE SHALL BE SUITABLE FOR SERVICE INTENDED. THE MAIN WATER SHUT OF VALVE SHALL BE A FULL PORT BALL TYPE AND APPROVED FOR SERVICE INTENDED.

17. CONTRACTOR SHALL PROVIDE ALL SHUT OFF VALVES AS NECESSARY TO ISOLATE ANY EQUIPMENT, PLUMBING ITEMS, OR FIXTURES, THAT MAY NEED SERVICING OR ARE SUBJECT TO FAILURE WHETHER OR NOT SUCH VALVES ARE SHOWN ON THE DRAWINGS.

18. PROVIDE HANGERS AND SUPPORTS AS REQUIRED. PLUMBERS TAPE AND WIRE ARE NOT ACCEPTABLE.

19. CONTRACTOR IS RESPONSIBLE FOR HIS OWN TRENCHING, BACKFILL, AND COMPACTION OF TRENCHES NECESSARY TO COMPLETE HIS SCOPE OF WORK. BACKFILLED TRENCHES SHALL BE RETURNED TO THEIR ORIGINAL GRADE UNLESS NOTED OTHERWISE.

20. CONTRACTOR SHALL AFFIX A MAINTENANCE LABEL TO ALL EQUIPMENT REQUIRING ROUTINE MAINTENANCE AND SHALL PROVIDE MAINTENANCE AND OPERATIONAL MANUALS IN ACCORDANCE WITH THE SPECIFICATIONS.

21. ALL EQUIPMENT THAT REQUIRES KEYS OR SPECIAL TOOLS TO OPERATE SHALL SUPPLY THE OWNER WITH TWO OF ANY SUCH KEYS OR TOOLS FOR EACH PIECE OF EQUIPMENT THAT REQUIRE THE SAME.

25. ANY CHANGE OR DEVIATION FROM THESE PLANS OR SPECIFICATIONS SHALL REQUIRE THE APPROVAL, IN WRITING, OF THE ENGINEER PRIOR TO COMMENCEMENT OF SUCH WORK.

26. ALL PLUMBING, ELECTRICAL, AND GAS LINES SHALL BE CONCEALED WITHIN THE THE BUILDING STRUCTURE TO AS GREAT EXTENT AS POSSIBLE. ALL LINES NOT CONCEALED SHALL BE SECURED 6" OFF THE FLOOR AND 3/4" FROM THE WALLS USING STANDOFF BRACKETS

27. AN APPROVED BACKFLOW PREVENTOR SHALL BE PROPERLY INSTALLED UPSTREAM OF ANY POTENTIAL HAZARD BETWEEN THE POTABLE WATER SUPPLY AND SOURCE OF CONTAMINATION.

28. WATER SUPPLY CARBONATORS SHALL BE PROTECTED BY AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTOR. THE RELIEF VALVE SHALL DRAIN IN-DIRECTLY TO A FLOOR SINK WITH A 1" MIN. AIR GAP.

PLUMBING FIXTURE FLOW RATE

FIXTURE TYPE	MAXIMUM FLOW RATE
Waterclosets	1.28 gallons flush
Showerheads	1.8gpm@ 80psi
Lavatory faucets	1.2gpm@ 60psi
Kitchen faucets	1.8gpm@ 60psi

PIPE MATERIAL SCHEDULE

SERVICE		COPPER TYPE "M"	COPPER TYPE "L"	COPPER TYPE "K"	CAST IRON	BLACK STEEL	GALV. STEEL	VITRI. CLAY	ABS	SCH.40 PVC	SCH.40 CPVC	REMARKS
WATER PIPING	INSIDE		X									
	OUTSIDE									X		
SANITARY DRAIN	INSIDE									X		
	OUTSIDE									X		
SANITARY VENT	INSIDE									X		
	OUTSIDE									X		
GAS PIPING	INSIDE					X						
	OUTSIDE						X					
STORM DRAIN	INSIDE									X		
	OUTSIDE									X		
INDIRECT DRAINAGE	INSIDE									X		
	OUTSIDE									X		
CONDESATE	INSIDE									X		
	OUTSIDE									X		
COMPRESSED AIR	INSIDE					X						
	OUTSIDE						X					

NOTES:

PLUMBING LEGEND

SYMBOL	ABBREV	DESCRIPTION
	SS or W	NEW SEWER OR WASTE
	V	NEW VENT
	CW	NEW COLD WATER
	HW	NEW HOT WATER
	G	NEW GAS
	CD	NEW CONDENSATE DRAIN
CA	CA	COMPRESSED AIR
FCO	FCO	FLOOR CLEANOUT
WCO	WCO	WALL CLEANOUT
FD	FD	FLOOR DRAIN
FS	FS	FLOOR SINK
TP	TP	TRAP PRIMER & TRAP PRIMER PIPING
SOV	SOV	SHUT-OFF VALVE
CV	CV	CHECK VALVE
PRV	PRV	BACKFLOW PREVENTER W SOV'S
T & P	T & P	
DN	DN	PIPE DOWN
UP	UP	PIPE UP
POC	POC	POINT OF CONNECTION
1	–	PLUMBING NOTE CALL-OUT
ABV	ABV	ABOVE
AFF	AFF	ABOVE FINISH FLOOR
AP	AP	ACCESS PANEL
BEL	BEL	BELOW
BLDG	BLDG	BUILDING
CLG	CLG	CEILING
CONT	CONT	CONTINUATION
EL	EL	ELEVATION
FIN	FIN	FINISH
FL	FL	FLOOR
GR	GR	GRADE
NTS	NTS	NOT TO SCALE
OC	OC	ON CENTER
3%	3%	SLOPE AT A PERCENTAGE
SHT	SHT	SHEET
TYP	TYP	TYPICAL
VTR	VTR	VENT THRU ROOF

PLUMBING / GENERAL NOTES

BATHTUBS AND WHIRLPOOL BATHTUBS. THE MAX. HOT WATER TEMPERATURE DISCHARGING SHALL BE LIMITED TO 120 DEGREES. CPC 414/2019
BATHTUBS WASTE OPENING IN FLOOR OVER CRAWL SPACES SHALL BE PROTECTED BY A METAL SCREEN NOT EXCEEDING 12" OR SOLID COVER. CPC 313.12.4 2019
SHOWERS AND TUB-SHOWERS COMBINATIONS IN ALL BUILDINGS SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE, THERMOSTATIC, OR COMBINATION OF BOTH THAT PROVIDE SCALD AND THERMAL SHOCK PROTECTION. VALVES SHALL BE ADJUSTED TO DELIVER A MAXIMUM MIXED WATER
SETTING OF 120 DEGREES FAHRENHEIT. THE WATER HEATER THERMOSTAT SHALL NOT BE CONSIDERED A SUITABLE CONTROL FOR MEETING THIS PROVISION. 418.0 CPC/2019
VERIFY AND WHERE WATER PRESSURE EXCEEDS 80 PSI AN APPROVED PRESSURE REGULATOR PRECEDED BY AN ADEQUATE STRAINER SHALL BE INSTALLED 608.2 CPC / 2019
1-INSTALL TEMPERATURE AND PRESSURE RELIEF VALVE WITH MINIMUM 34" DRAIN PIPE AND TERMINATE TO THE EXTERIOR OF THE BUILDING OVER WINDOW, DOOR OR VISIBLE LOCATION. DISCHARGE FROM A RELIEF VALVE INTO A WATER HEATER PAN SHALL BE PROHIBITED CPC 608.5, 510.8.
2-PROVIDE (ON THE PLANS) A GAS PIPING DIAGRAM OF THE GAS PIPING SYSTEM THAT INCLUDES ALL PIPE SIZES, PIPE LENGTHS AND BTU RATINGS.
3-SUBMIT GAS LOAD CALCULATIONS IN ACCORDANCE WITH CPC TABLE 12-8 TO VERIFY THE PIPE SIZES ARE ADEQUATE FOR THE MAXIMUM DELIVERY CAPACITY OF CUBIC FEET OF GAS PER HOUR.
4- A WHOLE HOUSE HAS TEST IS REQUIRED UPON COMPLETION OF THE
INSTALLATION, ALTERATION, OR REPAIR OF ANY GAS PIPING. NOTE ON THE PLANS THE CITY OF CITY SHALL BE NOTIFIED WHEN GAS PIPING IS READY FOR INSPECTION.
5-2 GPM SHOWER FIXTURE, MAX.1.5 GPM BATHROOM FAUCET, MAX. 2 GPM KITCHEN FAUCET, AND MAX 1.28 WATER CLOSET TO CONFORM TO
CITY GREEN REQUIREMENTS.
BATHROOMS: PROVIDE AN EXHAUST FAN DUCTED TO THE OUTSIDE (MINIMUM 4" DIAMETER FLEX DUCT WITH A MAXIMUM LENGTH OF 70") WITH A MINIMUM VENTILATION RATE OF 100 CFM.
6-NOTE THAT ALL PLUMBING VENTS SHALL TERMINATE NOT LESS THAN 6"
ABOVE ROOF NOR LESS THAN 1' FROM ANY VERTICAL SURFACE.
VENTS
SHALL TERMINATE NOT LESS THAN 10" FROM OR 3' ABOVE ANY WINDOW,
DOOR OPENING AIR INTAKE, OR VENT SHAFT NOR 3' FROM LOT LINE. (2019 CPC 906) IF WATER PRESSURE EXCEEDS 80 PSI, AND EXPANSION TANK AND AN APPROVED PRESSURE REGULATOR SHALL BE INSTALLED. (2019 CPC608.2)
NON-REMOVABLE BACK FLOW PRE-VENTER OR BIBB-TYPE VACUUM BREAKER WILL BE INSTALLED ON ALL EXTERIOR HOSE BIBS. (2019 CPC603.4.7)
HOT WATER RE-CIRCULATING SYSTEM IS INSTALLED, THE ENTIRE LENGTH
OF HOT WATER PIPES SHALL BE INSULATED. (2008 CALIFORNIA ENERGY REGULATIONS 150 (J)) HOT WATER PIPE FROM THE WATER HEATER TO THE KITCHEN WILL BE INSULATED. (2008 CALIFORNIA ENERGY REGULATIONS 151(F)8 D)

BUILDING CODES AND STANDARDS:

2019 CALIFORNIA BUILDING CODE
2019 CALIFORNIA RESIDENTIAL CODE
2019 CALIFORNIA FIRE CODE
2019 CALIFORNIA ELECTRICAL CODE
2019 CALIFORNIA MECHANICAL CODE
2019 CALIFORNIA PLUMBING CODE
2019 CALIFORNIA GREEN BUILDING STANDARDS CODE
2019 CALIFORNIA HISTORICAL BUILDING CODE
2019 CALIFORNIA REFERENCED STANDARDS CODE
2019 CALIFORNIA ADMINISTRATIVE CODE
2019 CALIFORNIA ENERGY CODE
ACI 318-14 (STRUCTURAL CONCRETE)
TMS 402/602-16 (STRUCTURAL MASONRY)
ASCE 7-16 (DESIGN LOADS FOR STRUCTURES)

NOTES:

1-Projects which disturb less than one acre of soil shall manage storm water drainage during construction by one of the following: A. Retention basins. B. Where storm water is conveyed to a public drainage system, water shall be filtered by use of a barrier system, wattle or other approved method.
2-Site grading or drainage system will manage all surface water flows to keep water from entering buildings (swales, water collection, French drains, etc.). CGC Section 4.106.3. Exception: Additions not altering the drainage path.
3-When a shower is provided with multiple shower heads, the sum of flow to all the heads shall not exceed 1.8 gpm @ 80 psi, or the shower shall be designed so that only one head is on at a time. CGC Section 4.303.1.3.2.
4-Landscape irrigation water use shall have weather or soil based controllers. CGC Section 4.304.1.
5-The plans that a minimum of 65% of construction waste is to be recycled. CGC Section 4.408.1.
6-The contractor shall submit a Construction Waste Management Plan, per CGC Section 4.408.2.
7-The builder is to provide an operation manual (containing information for maintaining appliances, etc.) for the owner at the time of final inspection. CGC Section 4.410.1.
8-The gas fireplace(s) shall be a direct-vent sealed- combustion type. Woodstove or pellet stoves must be US EPA Phase II rated appliances. CGC Section 4.503.1.

WATER SAVING STANDARDS.

THE WATER SAVING PERFORMANCE STANDARDS FOR A PLUMBING FIXTURE ARE THOSE ESTABLISHED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), CURRENT REVISION, OR THE FOLLOWING STANDARDS, WHICHEVER ARE THE MORE RESTRICTIVE
1.THE MAXIMUM FLOW FROM A SINK OR LAVATORY FAUCET OR A FAUCET AERATOR SHALL NOT EXCEED 0.5 GALLONS OF WATER PER MINUTE AT A PRESSURE OF 60 POUNDS PER SQUARE INCH WHEN TESTED IN ACCORDANCE WITH ANSI TESTING PROCEDURES
2.THE MAXIMUM VOLUME OF WATER PER FLUSH FROM A TOILET SHALL NOT EXCEED AN AVERAGE OF 1.28 GALLONS WHEN TESTED IN ACCORDANCE WITH ANSI TESTING PROCEDURES
3. THE MAXIMUM VOLUME OF WATER PER FLUSH FROM A URINAL AND THE ASSOCIATED FLUSH VALVE, IF ANY, SHALL NOT EXCEED AN AVERAGE OF ONE GALLON WHEN TESTED IN ACCORDANCE WITH ANSI TESTING PROCEDURES

SPECIAL NOTICE TO CONTRACTORS

1. ALL CONTRACTORS (GENERAL CONTRACTOR AND SUB-CONTRACTORS) BIDDING THIS PROJECT ARE REQUIRED TO VISIT THE JOB SITE AND VERIFY THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID. CONTRACTORS ARE TO CAREFULLY REVIEW ALL CONSTRUCTION DOCUMENTS AND NOTE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED AT THE JOB SITE PRIOR TO SUBMISSION OF ANY BID. THE BUILDING OWNER REPRESENTATIVE LISTED BELOW MAY BE CONTACTED FOR ACCESS TO THE JOB SITE.
2. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION AND CONDITION OF ALL POINTS OF CONNECTION, LOCATION AND CONDITION OF ALL BUILDING (ROOF/FLOOR/CEILING) PENETRATIONS, LOCATION AND CONDITION OF ALL UTILITIES AND BUILDING SYSTEMS INCLUDING, BUT NOT LIMITED TO, GAS, WATER, SEWER, VENT, ELECTRICAL, BUILDING MECHANICAL SYSTEMS, DUCT CONNECTIONS, EXHAUST/OUTSIDE AIR CONNECTIONS, SECURITY, FIRE ALARM, DATA, AND PHONE PRIOR TO SUBMISSION OF THEIR BID.
3. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED SHALL BE BROUGHT TO THE ATTENTION, IN WRITING, TO THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

REGISTERED PROFESSIONAL ENGINEER
Garrett C Crook
C 057186
Exp. 12-31-2021
8-12-2020
CIVIL
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Date: AUGUST 02, 2020
Scale: NTS
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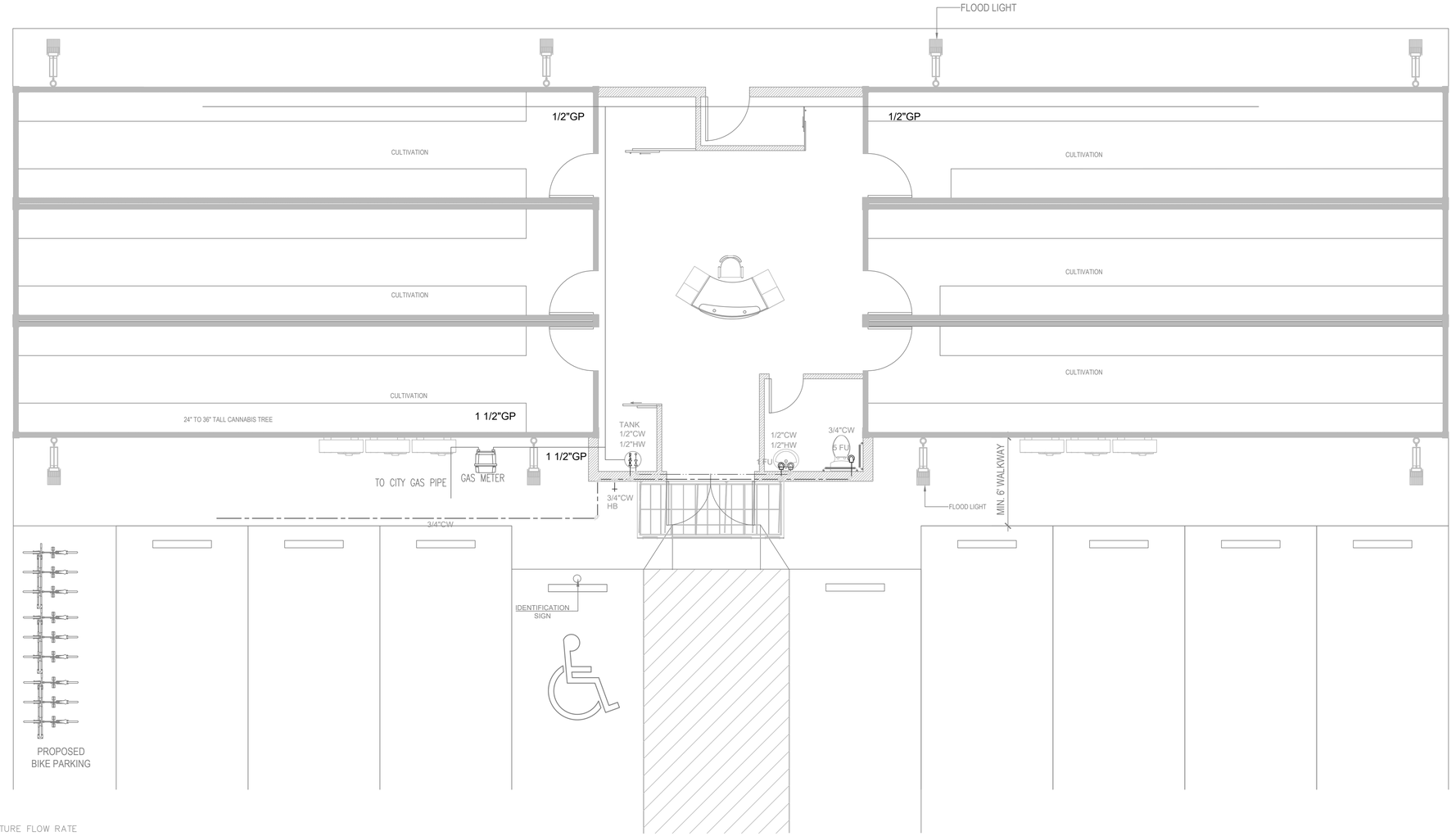
NOTES
HOSE BIBBS SHALL BE EQUIPPED WITH NON-REMOVABLE VACUUM BREAKER

POTABLE WATER SUPPLY TO BEVERAGE DISPENSERS, CARBONATED BEVERAGE
DISPENSERS OR COFFEE MACHINES SHALL BE PROTECTED BY AN AIR GAP OR A VENTED BACKFLOW PREVENTER IN ACCORDANCE WITH ASSE 1022.

UNIONS SHALL BE INSTALLED IN THE WATER SUPPLY NOT MORE THAN 12 INCHES OFTHE REGULATING EQUIPMENT, WATER HEATER, CONDITIONING TANKS AND SIMILAR EQUIPMENT THAT REQUIRES SERVICES BY REMOVAL OR REPLACEMENT IN A MANNER THAT WILL FACILITATE ITS READY REMOVAL.

POT SINKS, SCULLERY SINKS, DISHWASHING SINKS, SILVERWARE SINKS AND
SIMILAR FIXTURES SHALL BE DIRECTLY CONNECTED TO THE DRAINAGE SYSTEM WITH A FLOOR DRAIN.

INSTALL AN AUTOMATIC SAFETY SHUTOFF VALVE ON THE GAS LINE TO KITCHEN APPLIANCES.



ABBREVIATIONS :

ABBREV.	DESCRIPTION
CO.	CLEAN OUT
DN.	DOWN
FD	FLOOR DRAIN
FCO	FLOOR CLEAN OUT
F.F.L	FINISH FLOOR LEVEL
UG	UNDER GROUND
GP	GAS PIPE
DP	WASTE PIPE
VP	VENT PIPE
VS	VENT STACK
VTR	VENT TO ROOF
FU	FIXTURE UNIT
CW	COLD WATER
HW	HOT WATER
HB	HOSE PIPE

PLUMBING FIXTURE FLOW RATE

FIXTURE TYPE	MAXIMUM FLOW RATE
Waterclosets	1.28 gallons flush
Urinal	0.5 gpm
Showerheads	2 gpm@ 80psi
Lavatory faucets	1.2gpm@ 60psi
Kitchenfaucets	1.8gpm@ 60psi

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Date: MARCH 22, 2020
Scale: 1/4"=1'

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WATER SUPPLY PLAN

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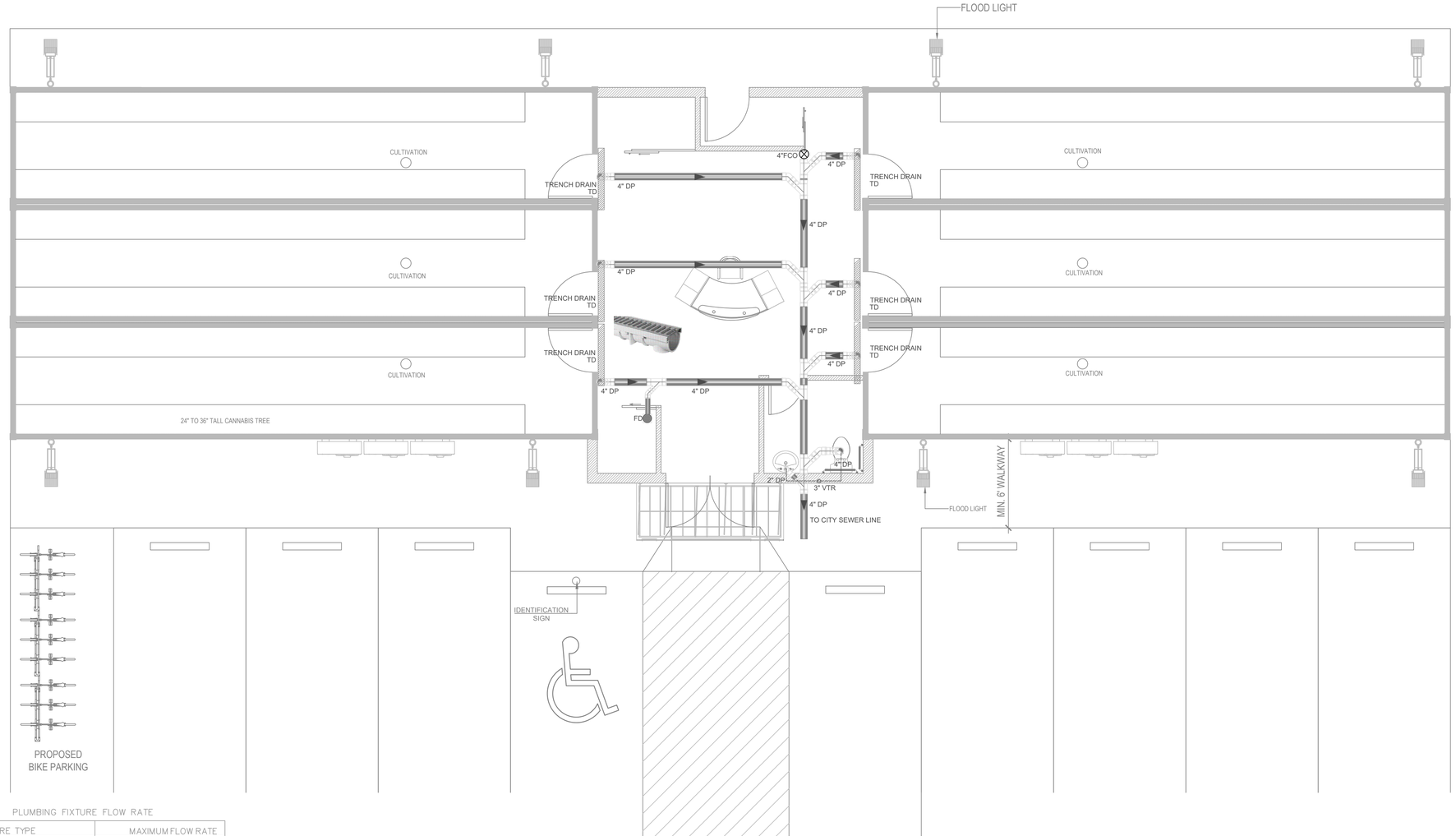

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PLUMBING FIXTURE FLOW RATE

FIXTURE TYPE	MAXIMUM FLOW RATE
Waterclosets	1.28 gallons flush
Urinal	0.5 gpm
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Lavatory faucets	1.2gpm@ 60psi
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DRAINAGE PLAN

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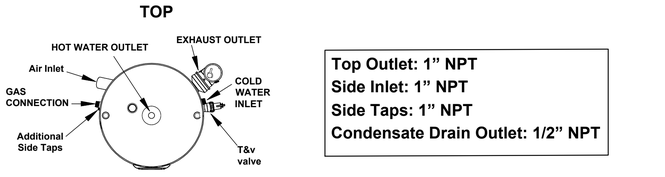
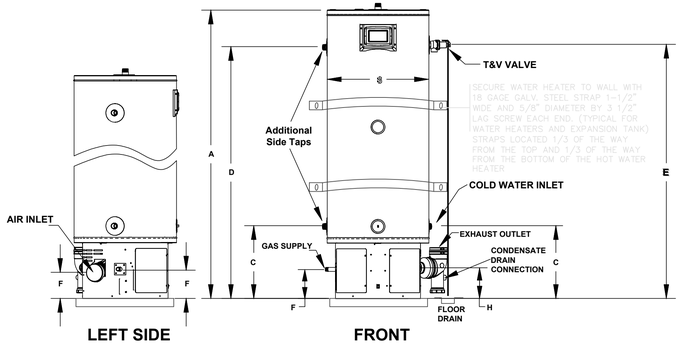
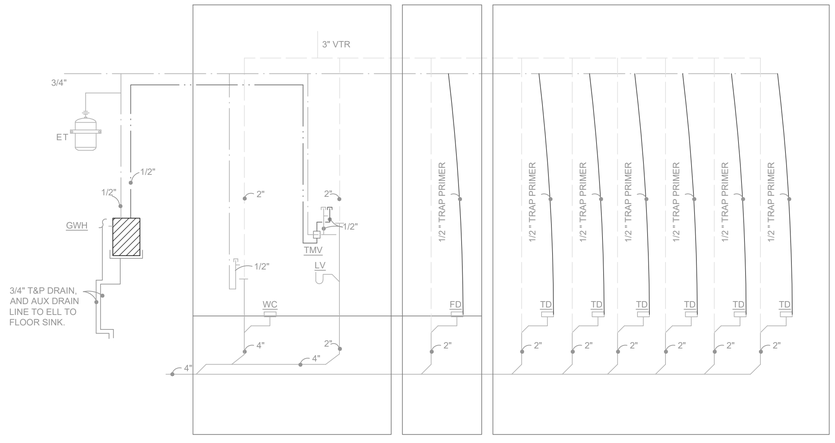
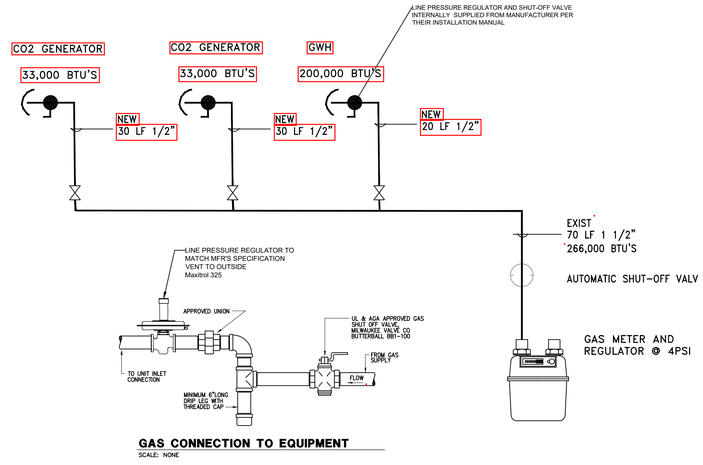
GAS WATER HEATER DETAILS





WATER HEATER SCHEDULE						
TAG NUMBER	AREA SERVED	MANUFATURER/MODEL	SIZE (GALLON)	BTU/HR	Recovery @ 90° Rise Gallon Per Hour	Weight (lbs)
GWH	SEE PLAN	AO SMITH/GSP 130	50.00	200000	129.00	150.00





1215.2 Tables for Sizing Gas Piping Systems

Table 1215.2(1) through Table 1215.2(36) shall be used to size gas piping in conjunction with one of the methods described in Section 1215.1.1 through Section 1215.1.3. [NFPA 54:6.2]

TABLE 1215.2(1)
SCHEDULE 40 METALLIC PIPE [NFPA54:TABLE6.2(b)][1,2]

GAS: NATURAL

INLET PRESSURE: LESS THAN 2 psi

PRESSURE DROP: 0.5 in. w.c.

SPECIFIC GRAVITY: 0.60

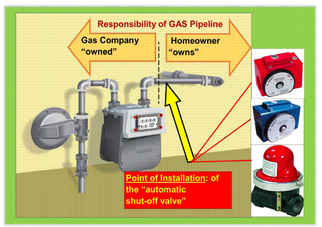
PIPE SIZE (inch)

NOMINAL:	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12
ACTUAL ID:	0.622	0.824	1.049	1.380	1.610	2.067	2.469	3.068	4.026	5.047	6.065	7.981	10.020	11.938
LENGTH (feet)	CAPACITY IN CUBIC FEET OF GAS PER HOUR													
10	172	360	678	1390	2090	4020	6400	11 300	23 100	41 800	67 600	139 000	252 000	399 000
20	118	247	466	957	1430	2760	4400	7780	15 900	28 700	46 500	95 500	173 000	275 000
30	95	199	374	768	1150	2220	3530	6250	12 700	23 000	37 300	76 700	139 000	220 000
40	81	170	320	657	985	1900	3020	5350	10 900	19 700	31 900	65 600	119 000	189 000
50	72	151	284	583	873	1680	2680	4740	9660	17 500	28 300	58 200	106 000	167 000
60	65	137	257	528	791	1520	2430	4290	8760	15 800	25 600	52 700	95 700	152 000
70	60	126	237	486	728	1400	2230	3950	8050	14 600	23 600	48 500	88 100	139 000
80	56	117	220	452	677	1300	2080	3670	7490	13 600	22 000	45 100	81 900	130 000
90	52	110	207	424	635	1220	1950	3450	7030	12 700	20 600	42 300	76 900	122 000
100	50	104	195	400	600	1160	1840	3260	6640	12 000	19 500	40 000	72 600	115 000
125	44	92	173	355	532	1020	1630	2890	5890	10 600	17 200	35 400	64 300	102 000
150	40	83	157	322	482	928	1480	2610	5330	9650	15 600	32 100	58 300	92 300
175	37	77	144	296	443	854	1360	2410	4910	8880	14 400	29 500	53 600	84 900
200	34	71	134	275	412	794	1270	2240	4560	8260	13 400	27 500	49 900	79 000
250	30	63	119	244	366	704	1120	1980	4050	7320	11 900	24 300	44200	70 000
300	27	57	108	221	331	638	1020	1800	3670	6630	10 700	22 100	40 100	63 400
350	25	53	99	203	305	587	935	1650	3370	6100	9880	20 300	36 900	58 400
400	23	49	92	189	283	546	870	1540	3140	5680	9190	18 900	34 300	54 300
450	22	46	86	177	266	512	816	1440	2940	5330	8620	17 700	32 200	50 900
500	21	43	82	168	251	484	771	1360	2780	5030	8150	16 700	30 400	48 100
550	20	41	78	159	239	459	732	1290	2640	4780	7740	15 900	28 900	45 700
600	19	39	74	152	228	438	699	1240	2520	4560	7380	15 200	27 500	43 600
650	18	38	71	145	218	420	669	1180	2410	4360	7070	14 500	26 400	41 800
700	17	36	68	140	209	403	643	1140	2320	4190	6790	14 000	25 300	40 100
750	17	35	66	135	202	389	619	1090	2230	4040	6540	13 400	24400	38 600
800	16	34	63	130	195	375	598	1060	2160	3900	6320	13 000	23 600	37 300
850	16	33	61	126	189	363	579	1020	2090	3780	6110	12 600	22 800	36 100
900	15	32	59	122	183	352	561	992	2020	3660	5930	12 200	22 100	35 000
950	15	31	58	118	178	342	545	963	1960	3550	5760	11 800	21 500	34 000
1000	14	30	56	115	173	333	530	937	1910	3460	5600	11 500	20 900	33 100

GAS METER & REGULATOR @ 5PSI

GWH	200,000 BTU'S
CO2 GENERATOR	33,000 BTU'S
CO2 GENERATOR	33,000 BTU'S
TOTAL GAS LOAD:	266,000 BTU'S

MAX DISTANCE TO REMOTE GAS FIXTURE – 70'

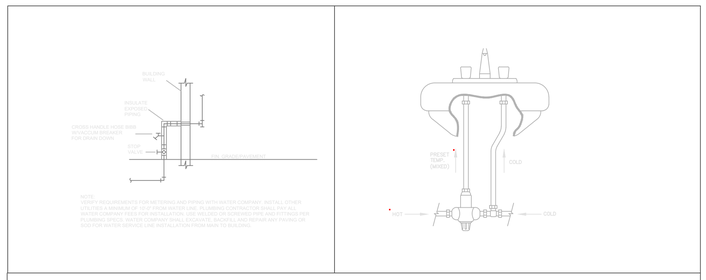


GAS AUTOMATIC SHUT OFF VALVE

Specifications (English units)

Pipe Size (ins.)	Orifice Size (ins.)	Cv Flow Factor	Fluid & Ambient Temp. °F		Operating Pressure Differential (psi)		Catalog Numbers Cable Operation		Agency
			Min	Max.	Min	Max.	Release to Close	Pull to Close	UL
COMBUSTION (Fuel Gas) - Normally Closed									
1/2	3/4	5.2	32	132	0	5	HV216-585-8	JV216-587-1	❍
3/4	3/4	6.5	32	132	0	5	HV216-585-1	JV216-587-2	❍
1	1 5/8	23	32	132	0	5	HV216-585-2	JV216-587-3	❍
1 1/4	1 5/8	34	32	132	0	5	HV216-585-3	JV216-587-4	❍
1 1/2	1 5/8	38	32	132	0	5	HV216-585-4	JV216-587-5	❍
2	2 3/32	54	32	132	0	5	HV216-585-5	JV216-587-6	❍
2 1/2	3	110	32	132	0	5	HV216-585-6	JV216-587-7	❍
3	3	138	32	132	0	5	HV216-585-7	JV216-587-8	❍

❍ = Safety Shutoff Valve. Safe working pressure 50 psi.



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SHEPARD PLACE CALIFORNIA CITY, CA 95125

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1	ISSUED FOR PLANNING APPROVAL	

MAXITROL®

325 Series Line Pressure Regulators with Over-Pressure Protection Devices

c SP us

For Piping Systems up to 5 PSI

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DESCRIPTION

325 Series pounds to inches regulators are for use on residential, commercial, and industrial applications.

The 325 Series with OPDs features a high leverage valve linkage assembly to deliver positive dead-end lock-up. The regulators are capable of precise regulating control from full flow down to pilot flow.

B Models: Imblue Technology™ increases corrosion resistance and provides extra protection against the elements for regulators used in outdoor applications.

NOTE: (B) in model number designates Imblue Technology™.

NOTICE

To comply with the ANSI standard Z21.80/CSA 6.22 for Line Pressure Regulators, installations exceeding 2 psi nominal require a tested and approved overpressure protection device (OPD) for use with the regulator.

Line pressure regulators with separate overpressure protection devices shall be factory preassembled and supplied to the field as a unit.

⚠ WARNING

Immediately after installation and prior to operating any appliance it is important to check the preassembled pipe connection between the regulator and the OPD for leakage. Even though the Maxitrol 5 psi line regulator w/OPD is shipped as an assembly, installation of the assembly can result in turning (tightening or loosening) of the preassembled connection. If gas leakage is detected, follow the same procedures to stop the leak as you would use with any field pipe connection, and repeat step 3 according to Maxitrol Safety Warning Instructions, LPROPD_MI_EN.FR.

SPECIFICATIONS

Gases
Suitable for natural, manufactured, mixed gases, liquefied petroleum gases, and LP gas-air mixtures.

Approvals
CSA: ANSI Z21.80/CAN 6.22

Minimum Inlet Pressure
CSA Certified..... 1 psi (7 kPa)

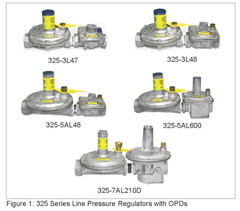

Figure 1: 325 Series Line Pressure Regulators with OPDs

Maximum Inlet Pressure

Model	CSA Certified
325-3(B)L47	Natural/LP 5 psi (34.5 kPa)
325-3(B)L48	
325-5A(B)L48	
325-5A(B)L600	
325-7A(B)L210D	
With 12A09, 12A39, and 12A49 Installed	
Model	**CSA Certified**
325-3(B)L47	NAT: 5 psi (34.5 kPa) LP: 2 psi (13.8 kPa)
325-3(B)L48	
325-5A(B)L48	
325-5A(B)L600	
325-7A(B)L210D	

Outlet Pressure Range
Certified Spring ..... 7 - 11" w.c.

Emergency Exposure Limits
All Models (Inlet Side Only) ..... 65 psi (450 kPa)

Maximum Individual Load/Capacity
325-3(B)L47 (3/8", 1/2") (w/OPD 47 attached)..... 125,000 Btu/hr
325-3(B)L48 (1/2") (w/OPD 48 attached)..... 200,000 Btu/hr
325-5A(B)L48 (1/2") (w/OPD 48 attached)..... 235,000 Btu/hr
325-5A(B)L48 (3/4") (w/OPD 48 attached)..... 320,000 Btu/hr
325-5A(B)L600 (3/4") (w/OPD 600 attached)..... 425,000 Btu/hr
325-5A(B)L600 (1") (w/OPD 600 attached)..... 465,000 Btu/hr
325-7A(B)L210D (1 1/2", 1 1/4") (w/OPD 210D attached) ..... 1,250,000 Btu/hr

Ambient Temperature Limits
All Models ..... -40ºF to 205ºF (-40ºC to 96ºC)

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Mounting Position
The 325 Series is suitable for multi-poise mounting, but when used with a vent limiting device, the regulator must be mounted in a horizontal upright position (see Figure 2). Install the regulator properly with gas flowing as indicated by the arrow on the casting. (See Maxitrol Safety Warning Instructions, LPROPD_MI_EN.FR.)

Figure 2: 325 Regulator in Upright Position

Limiter® Vent Limiting Devices for Indoor Applications:
325-3(B)L..... 12A09
325-5A(B)L..... 12A39
325-7A(B)L..... 12A49
OPD 48..... 12A09
OPD 600..... 12A09
OPD 210D..... 12A39

NOTICE

Maxitrol vent limiting devices eliminate the need to run vent piping to the outside. Vent limiting devices are designed for use indoors and in spaces where limiting the amount of gas escapement due to diaphragm failure is critical. **Vent limiting devices should not be used outdoors if they are exposed to the environment.** Vent protectors are available for all outdoor applications to ensure proper vent protection.

Protector® Vent Protectors for Outdoor Applications:
325-3(B)L..... 13A15
325-5A(B)L..... 13A15-5
325-7A(B)L..... 13A25
OPD 48..... 13A15
OPD 600..... 13A15
OPD 210D..... 13A15-5

Figure 3: Vent Accessories

CAPACITIES - 0.64 sp gr gas expressed in CFH (m³/h)

Model Number (pipe size)	Outlet Pressure Set Point	Operating Inlet Pressure		
		3 psi (6.9 kPa)	4 psi (10.3 kPa)	5 psi (13.8 kPa)
325-3(B)L47 (3/8", 1/2")	8.0" w.c.	110	110	110
	11.0" w.c.	103	113	113
325-3(B)L48 (1/2")	8.0" w.c.	184	184	184
	11.0" w.c.	181	181	181
325-5A(B)L48 (1/2")	8.0" w.c.	229	229	229
	11.0" w.c	213	220	220
325-5A(B)L48 (3/4")	8.0" w.c.	263	263	263
	11.0" w.c.	237	254	254
325-5A(B)L600 (3/4")	8.0" w.c.	396	396	396
	11.0" w.c.	326	355	355
325-5A(B)L600 (1")	8.0" w.c.	413	441	441
	11.0" w.c.	355	377	407
325-7A(B)L210D (1 1/2", 1 1/4")	8.0" w.c.	1123	1123	1189
	11.0" w.c.	1081	1107	1107

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PRESSURE DROP - 0.64 sp gr gas expressed in CFH (m³/h) (for system pressure drop calculations)

Model Number	Pressure Drop			
	7.0" w.c. (1.7 kPa)	1/2 psi (3.4 kPa)	3/4 psi (5.2 kPa)	1 psi (6.9 kPa)
325-3(B)L47 (3/8")	140	198	246	283
325-3(B)L48 (1/2")	145	204	250	289
325-5A(B)L48 (1/2")	304	441	552	632
325-5A(B)L48 (3/4")	315	448	568	652
325-5A(B)L600 (3/4")	347	488	620	732
325-5A(B)L600 (1")	362	513	644	750
325-7A(B)L210D (1 1/4", 1 1/2")	804	1096	1362	1624

NOTE: All Maxitrol line pressure regulators with OPDs must be installed and operated in accordance with Maxitrol's Safety Warning Instructions.

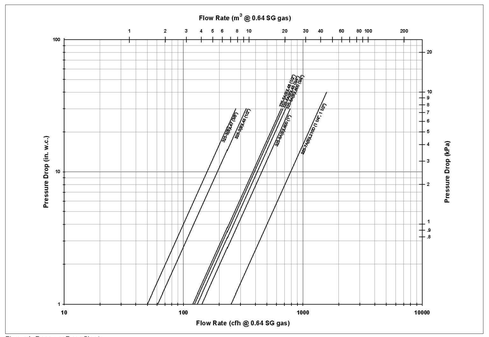

Figure 4: Pressure Drop Chart

SPRING RANGE SELECTION

Outlet Pressure Range (all models):
Certified Spring ..... 7 - 11" w.c.

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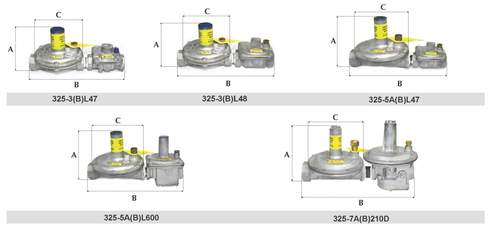
DIMENSIONS - Expressed in inches (mm)

Model Number	Pipe Size*	Swing Radius	Dimensions		
			A	B	C
325-3(B)L47	3/8", 1/2"	3 (76)	3 1/2 (90)	8 (203)	4 (100)
325-3(B)L48	1/2"	3 (76)	3 1/2 (90)	8 1/2 (216)	4 (100)
325-5A(B)L48	1/2", 3/4"	4 13/32 (112)	5 1/3 (135)	10 (254)	5 1/2 (140)
325-5A(B)L600	3/4", 1"	4 13/32 (112)	5 1/2 (140)	11 (279)	5 1/2 (140)
325-7A(B)L210D	1 1/4", 1 1/2"	6 3/4 (171)	7 (178)	15 3/8 (391)	9 (229)

* Standard models NPT threads

NOTE: Dimensions are to be used only as an aid in designing clearance for the regulator. Actual production dimensions may vary somewhat from those shown.



SIZING INSTRUCTIONS

TO SELECT A REGULATOR WITH OPD OF SUFFICIENT FLOW - ONE MUST KNOW:

1. Available inlet pressure (maximum static/minimum operating).
2. Desired outlet pressure.
3. Required maximum capacity (total load, all appliances combined) and maximum individual load.
4. Pipe size.

Example: To select a 325 series line regulator with OPD of sufficient capacity to handle flow...

KNOWN:

A. Required: 1/2" NPT line regulator with OPD, outlet pressure of 7" w.c., with static pressure of 5 psi, and a minimum operating inlet pressure of 1 psi, Natural Gas.

B. Combined BTU rating of all appliances to be served by the regulator: 145,000 Btu/hr.

C. Largest single appliance's BTU rating: 90,000 Btu/hr

SOLUTION:

A. In the Capacities Table (page 2), locate 325-3L47 (1/2") = 125 CFH, 325-3L48 (1/2") = 200 CFH, 325-5AL48 (1/2") = 235 CFH.

B. The total BTU load requirement cannot exceed the equivalent CFH result from step A. The combined 145,000 Btu/hr requirement exceeds the 325-3L47 (1/2") capacity, but is less than that of the 325-3L48 (1/2"), and 325-5AL48 (1/2").

C. The 90,000 Btu/hr single largest appliance rating is below the 325-3L48 maximum individual load capacity of 200,000 Btu/hr.

D. The 325-3L48 is the correct (1/2") line regulator with OPD for this application.

MAXITROL

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LPROPD_MS_EN_09.2011

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Project Name and Address:

AMERICAN GRO ECO, INC.
SHEPARD PLACE CALIFORNIA CITY, CA 95125

Date: AUGUST 02, 2020
Scale: NTS

DRAWING TITLE: SUPPLIER CATALOG

Sheet : 42/

Page No. : P5.0

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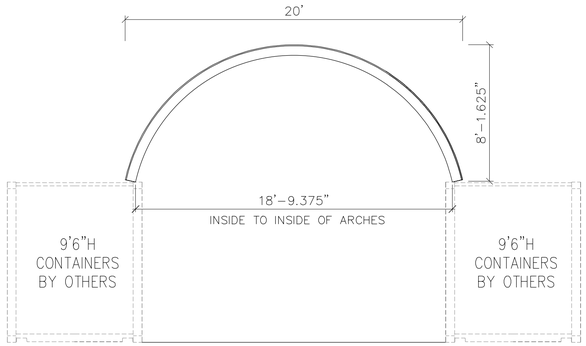
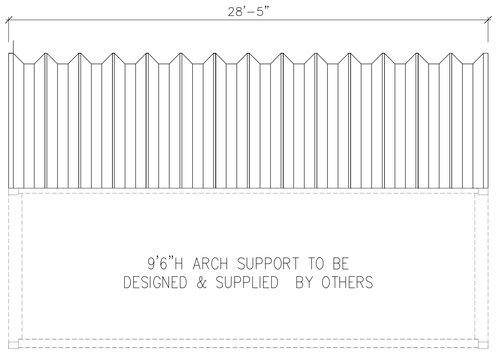
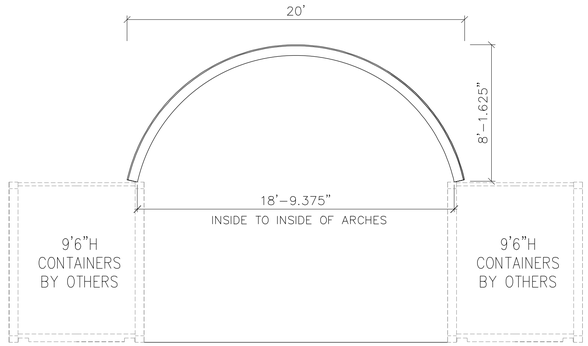


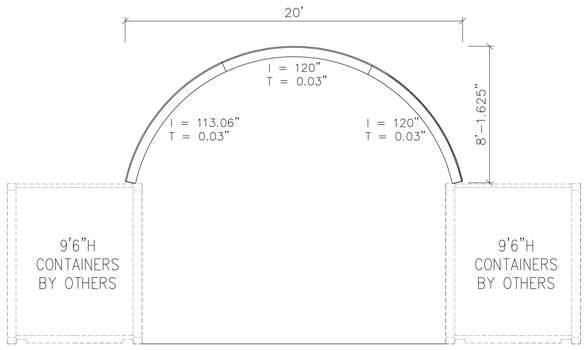
1 — REAR ELEVATION



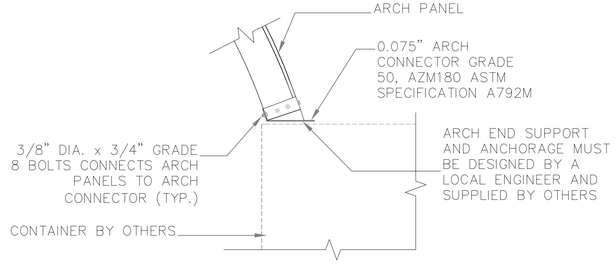
2 — SIDE ELEVATION



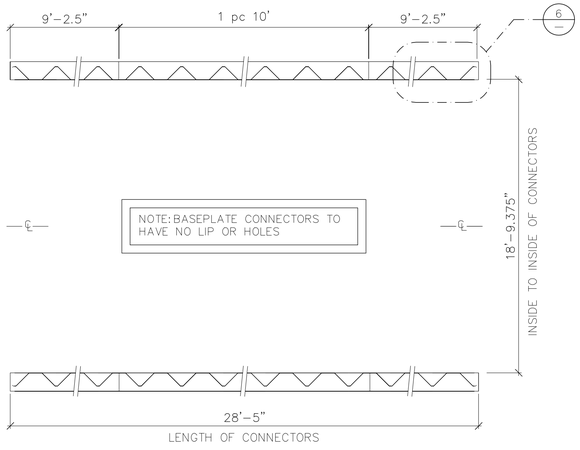
3 — FRONT ELEVATION



4 — ARCH PROFILE

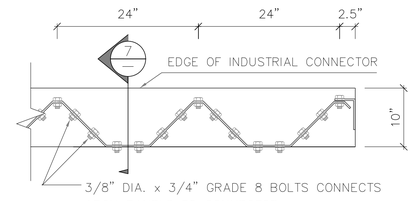


7 — ARCH BASE/ CONNECTOR DETAIL

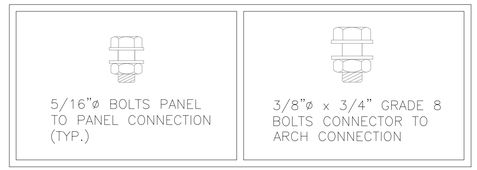


5 — INDUSTRIAL CONNECTOR LAYOUT

SPECIFIED ARCH REACTIONS PER ARCH END		
LOAD TYPE	Rh (lbs/ft)	Rv (lbs/ft)
DEAD LOAD	17	28
LIVE LOAD	67	124
SNOW LOAD	0	0
EXTERNAL WIND	-219	-242
INTERNAL WIND PRESSURE	-56	-185



6 — CORNER DETAIL

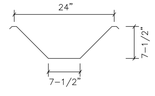


8 — BOLT DATA

GENERAL NOTES

1. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM WITH THE REQUIREMENTS OF THE LATEST REVISION OF THE IBC 2018 & CBC 2019. DESIGN ACCORDING TO AISI S100-16W/S1-18 NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, AND WITH ANSI/ASCE 7-16.
2. NO LOADS OTHER THAN THOSE GIVEN UNDER "DESIGN DATA" BESIDE SHALL BE IMPOSED ON THE "STRUCTURE".
3. SPECIFIC NOTES AND DETAILS SHOWN ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER THE BUILDING MANUAL SUPPLIED.
4. THE BUILDING, INCLUDING THE FOUNDATION, MUST BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE DRAWING AND ERECTION INSTRUCTIONS. ANY DEVIATION, UNLESS APPROVED BY US IN WRITING, SHALL NULLIFY OUR CERTIFICATE AND SEAL AND SHALL BE THE SOLE RESPONSIBILITY OF THE ERECTOR.
5. A PROFESSIONAL ENGINEER SHOULD BE RETAINED WHERE SITE INSPECTIONS ARE WARRANTED.
6. NO ARCH PANEL MAY BE CUT OR MODIFIED UNLESS IT IS TO ACCOMMODATE AN ACCESSORY PROVIDED BY THE MANUFACTURER IN ACCORDANCE WITH ITS INSTRUCTIONS AND/OR THIS DRAWING.
7. MINIMUM SEPARATION FROM THIS BUILDING TO ANY TALLER BUILDING MUST BE THE SMALLER OF 20FT OR 6 TIMES THE HEIGHT DIFFERENCE.
8. THE ANCHORAGE & STRUCTURAL SUPPORT FOR OUR ROOF SYSTEM, THE ANCHORAGE OF THE CONTAINER TO A BASE AND ITSELF MUST BE DESIGNED BY A LOCAL ENGINEER BASED ON THE UNFACTORED ARCH REACTIONS, SITE CONDITIONS AND BUILDING CODE REQUIREMENTS & SUPPLIED BY OTHERS.
9. OUR DESIGN IS LIMITED TO OUR ROOF SYSTEM ITSELF ONLY AND ASSUMES PROPER LEVEL SUPPORT & ANCHORAGE BY OTHERS.

ARCH DATA



BOLTS: SAE GRADE 2 OR ASTM A307
ARCH STEEL THICKNESS - SEE ARCH PROFILE

GALVALUME SHEET STEEL:
STRUCTURAL QUALITY ASTM SPECIFICATION A792-10 (2015)
55% ALUMINUM-ZINC ALLOY (HOT DIP COATING)
ASTM A792 GRADE 50 CLASS 1
50 KSI MINIMUM YIELD
65 KSI MINIMUM TENSILE
OTHER SECTIONS SHALL CONFORM TO:
ASTM A36 (Fy=36 KSI)

ARCH DESIGN DATA IN ACCORDANCE
WITH ANSI/ASCE 7-16:
Lr: ROOF LIVE LOAD (PSF) = 20
Pg: GROUND SNOW LOAD (PSF) = 0
Ce: EXPOSURE FACTOR = 1.0
Ct: THERMAL FACTOR = 1.0
I: IMPORTANCE FACTOR (SNOW) = 1.0
CATEGORY II BUILDING
Pnet: COMPONENT WIND PRESSURE (PSF) = +/- 23
V: BASIC WIND SPEED (MPH) = 110
Kh: VELOCITY PRESSURE EXPOSURE COEFFICIENT = 0.85
Kzt: PEAK GUST TOPOGRAPHIC FACTOR = 1.00
GCpi: INTERNAL PRESSURE COEFFICIENTS = +/- 0.18
Kd: DIRECTIONALITY FACTOR = 0.85
Ke: GROUND ELEVATION FACTOR = 1.00
WIND EXPOSURE CATEGORY = C
SEISMIC DESIGN CATEGORY = D2

ENGINEERS SEAL:

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STEEL MASTER
220 CHRYSLER DR., BRAMPTON, ONTARIO, CANADA (905) 790-8500

SCALE: N.T.S.	APPROVED BY: P.G.	CHECKED BY: T.G.	DATE: JUL. 21 2020

PROJECT:
HOWARD CHOU
CALIFORNIA CITY, CA

MODEL: R20-8	DWG: 81-57213

Best Management Practices for the Construction Industry

Remember: The property owner and the contractor share ultimate responsibility for the activities that occur on a construction site. You may be held responsible for any environmental damage caused by your subcontractors or employees.

Preventing Pollution: It's Up to Us

Stormwater pollution is a serious problem for wildlife dependent on our creeks and bays and for the people who live near polluted streams or baylands. Common sources of this pollution include spilled oil, fuel, and fluids from vehicles and heavy equipment; construction debris; sediment created by erosion; landscaping runoff containing pesticides or weed killers; and materials such as used motor oil, antifreeze, and paint products that people pour or spill into a street .or storm drain

General Construction and Site Supervision

Who should use this information?

- General Contractors
- Site Supervisors
- Inspectors
- Home Builders
- Developers
- Homeowners

Storm Drain Pollution from Construction Activities

Construction sites are common sources of storm water pollution. Materials and wastes that blow or wash into a storm drain, gutter, or street have a direct impact on local creeks and the Bay.

As a contractor, or site supervisor, owner or operator of a site, you may be responsible for any environmental damage caused by your subcontractors or employees.

Doing the Job Right
General Principles

Keep an orderly site and ensure good housekeeping practices are used.

Maintain equipment properly.

Cover materials when they are not in use.

Keep materials away from streets, storm drains and drainage channels.

Ensure dust control water doesn't leave site or discharge to storm drains.

Advance Planning To Prevent Pollution

Schedule excavation and grading activities for dry weather periods. To reduce soil erosion, plant temporary vegetation or place other erosion controls before rain begins. Use the *Erosion and Sediment Control Field Manual, available* form the Regional Water Quality Control Board San Francisco Bay Region, as a reference.

Control the amount of runoff crossing your site (especially during excavation!) by using berms or temporary or permanent drainage ditches to divert water flow around the site. Reduce stormwater runoff velocities by constructing temporary check dams or berms where appropriate.

Train your employees and subcontractors. Make sure everyone who works at the construction site is familiar with this information. Inform subcontractors about the storm-water requirements and their own responsibilities. Use *BAASMA, Blueprint for a Clean Bay, a construction best* management practices guide available from the Santa Clara Valley Urban Runoff Pollution Prevention Program, and California Storm Water Quality Association Stormwater Best Management Practice Handbook: Construction; (Jan 2003) as references.

Good Housekeeping Practices

Designate one area of the site for auto parking, vehicle refueling, and routine equipment maintenance. The designated area should be well away from streams or storm drain inlets, bermed if necessary. Make major repairs off site.

Keep materials out of the rain – prevent runoff contamination at the source. Cover exposed piles of soil or construction materials with plastic sheeting or temporary roofs. Before it rains, sweep and remove materials from surfaces that drain to storm drains, creeks, or channels.

Keep pollutants off exposed surfaces. Place trash cans and recycling receptacles around the site to minimize litter.

Clean up leaks, drips and other spills immediately so they do not contaminate soil or groundwater or leave residue on paved surfaces.

Never hose down "dirty" pavement or surfaces where materials have spilled.

Use dry cleanup methods whenever possible. If you must use water, use just enough to keep the dust down.

Cover and maintain dumpsters. Check frequently for leaks. Place dumpsters under roofs or cover with tarps or plastic sheeting secured around the outside of the dumpster. Never clean out a dumpster by hosing it down on the construction site.

Place portable toilets away from storm drains. Make sure portable toilets are in good working order. Check frequently for leaks.

Materials/Waste Handling

Practice Source Reduction -- minimize waste when you order materials. Order only the amount you need to finish the job.

Use recyclable materials whenever possible. Arrange for pick-up of recyclable materials such as concrete, asphalt, scrap metal, solvents, degreasers, cleared vegetation, paper, rock, and vehicle maintenance materials such as used oil, antifreeze, batteries, and tires.

Dispose of all wastes properly. Many construction materials and wastes, including solvents, water-based paints, vehicle fluids, broken asphalt and concrete, wood, and cleared vegetation can be recycled. (See Sunnyvale Recycling Program information listed above.) Materials that cannot be recycled must be taken to an appropriate landfill or disposed of as hazardous waste. Never bury waste materials or leave them in the street or near a creek or stream bed.

Permits

In addition to local grading and building permits, you will need to obtain coverage under the State's General Construction Activity Stormwater Permit if your construction site's disturbed area totals 1 acre or more. Information on the General Permit can be obtained from the Regional Water Quality Control Board.

Painting and Application of Solvents and Adhesives

Who should use this information?

- Painters
- Paperhangers
- Plasterers
- Graphic Artists
- Dry Wall Crews
- Floor Covering Installers
- General Contractors
- Home Builders
- Developers
- Homeowners

Storm Drain Pollution from Paints, Solvents, and Adhesives

All paints, solvents, and adhesives contain chemicals that are harmful to wildlife in local creeks, San Francisco Bay, and the Pacific Ocean. Toxic chemicals may come from liquid or solid products or from cleaning residues or rags. Paint material and wastes, adhesives and cleaning fluids should be recycled when possible, or disposed of properly to prevent these materials from flowing into storm drains and watercourses.

Doing the Job Right
Handling Paint Products

Keep all liquid paint products and wastes away from the gutter, street, and storm drains. Liquid residues from paints, thinners, solvents, glues, and cleaning fluids are hazardous wastes and must be disposed of as hazardous. Contact the Santa Clara County Hazardous Waste Program at (408) 299-7300.

Wash water from painted buildings constructed before 1978 can contain high amounts of lead, even if paint chips are not present. Before you begin stripping paint or cleaning pre-1978 building exteriors with water under high pressure, test paint for lead by taking paint scrapings to a local laboratory. See Yellow Pages for a state-certified laboratory.

If there is loose paint on the building, or if the paint tests positive for lead, block storm drains. Check with the wastewater treatment plant to determine whether you may discharge water to the sanitary sewer, or if you must send it offsite for disposal as hazardous waste.

Paint Removal

Buildings constructed before 1978 may have lead paint in them. Test paint for lead by taking samples to a local environmental testing laboratory to determine if removed paint must be disposed of as hazardous waste.

Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash.

Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury or tributyl tin must be disposed of as hazardous wastes. Lead based paint removal requires a state-certified contractor.

When stripping or cleaning building exteriors with high-pressure water, block storm drains. Direct wash water onto a dirt area, or check Sunnyvale Water Pollution Control Plant (408) 730-7270 to find out if you can collect (mop or vacuum) building cleaning water and dispose to the sanitary sewer. Sampling of the water may be required to assist the wastewater treatment authority in making its decision.

Painting Cleanup

Never clean brushes or rinse paint containers into a street, gutter, storm drain, French drain, or stream.

For water-based paints, paint out brushes to the extent possible, and rinse into a drain that goes to the sanitary sewer. Never pour paint down a storm drain. Dispose of excess liquids and residue as hazardous waste.

For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids and residue as hazardous waste.

When thoroughly dry, empty paint cans, used brushes, rags, and drop cloths may be disposed of as garbage in a sanitary landfill. Leave lids off paint cans so the refuse collector cam see that they are empty. Empty, dry paint cans also may be recycled as metal.

Dispose of empty aerosol paint cans as hazardous waste or at household hazardous waste collection events.

Recycle/Reuse Leftover Paints Whenever Possible

Donate excess water-based (latex) paint for reuse. Call the Santa Clara County Hazardous Waste Program at (408) 299-7300 for details.

Reuse leftover oil-based paint. Dispose of non-recyclable thinners, sludge and unwanted paint, as hazardous waste.

Unopened cans of paint may be able to be returned to the paint vendor. Check with the vendor regarding its "buy-back" policy.

Landscaping,Gardening, And Pool Maintenance

Who should use this information?

- Landscapers
- Gardeners
- Swimming Pool/Spa Service and Repair Workers
- General Contractors
- Home Builders
- Developers
- Homeowners

Storm Drain Pollution from Landscaping and Swimming Pool Maintenance

Many landscaping activities expose soils and increase the likelihood that earth and garden chemicals will run off into the storm drains during irrigation or when it rains. Swimming pool water containing chlorine and copper-based algaecides should never be discharged to storm drains. These chemicals are toxic to aquatic life.

Doing the Job Right
General Business Practices

Protect stockpiles (e.g. asphalt, sand, or soil) and landscaping materials from wind and rain by storing them under tarps or secured plastic sheeting.

Store pesticides, fertilizers, and other chemicals indoors or in a shed or storage cabinet.

Schedule grading and excavation projects during dry weather.

Use temporary check dams or ditches to divert runoff away from storm drains.

Protect storm drains with sandbags or other sediment controls.

Revegetation is an excellent form of erosion control for any site. Replant as soon as possible with temporary vegetation such as grass seed.

Landscaping/Garden Maintenance

Consider using Integrated Pest Management Techniques. Use pesticides sparingly, according to instructions on the label. Rinse empty containers, and use rinsewater as product. Dispose of rinsed, empty containers in the trash.

Dispose of unused pesticides as hazardous waste.

Earth-Moving and Dewatering Activities

Who should use this information?

- Bulldozer, Back Hoe, and Grading Machine Operators
- Dump Truck Drivers
- Site Supervisors
- General Contractors
- Home Builders
- Developers

Storm Drain Pollution from Earth-Moving Activities

Soil excavation and grading operations loosen large amounts of soil that can flow or blow into storm drains when handled improperly. Sediments in runoff can clog storm drains, smother aquatic life, and destroy habitats in creeks and the Bay. Effective erosion control practices reduce the amount of runoff crossing a site and slow the flow with check dams or roughened ground surfaces.

Contaminated groundwater is a common problem in the Santa Clara Valley. Depending on soil types and site history, groundwater pumped from construction sites may be contaminated with toxics (such as oil or solvents) or laden with sediments. Any of these pollutants can harm wildlife in creeks or the Bay, or interfere with wastewater treatment plant operation. Discharging sediment-laden water from a dewatering site into any water of the state without treatment is prohibited.

Doing the Job Right
General Business Practices

Schedule excavation and grading work during dry weather.

Perform major equipment repairs away from the job site.

When refueling or vehicle/equipment maintenance must be done on site, designate a location away from storm drains.

Do not use diesel oil to lubricate equipment parts, or clean equipment.

Practices During Construction

Remove existing vegetation only when absolutely necessary. Plant temporary vegetation for erosion control on slopes or where construction is not immediately planned.

Protect downslope drainage courses, streams, and storm drains with wattles, or temporary drainage swales. Use check dams or ditches to divert runoff around excavations. Refer to the Regional Water Quality Control *Board's Erosion and Sediment Control* Field Manual for proper erosion and sediment control measures, and California Stormwater Quality Association Stormwater Best Management Practice Handbook (construction, 2003)

Cover stockpiles and excavated soil with secured tarps or plastic sheeting.

Dewatering Operations

Check for Toxic Pollutants

Check for odors, discoloration, or an oily sheen on groundwater.

Call your local wastewater treatment agency and ask whether the groundwater must be tested.

If contamination is suspected, have the water tested by a certified laboratory.

Depending on the test results, you may be allowed to discharge pumped groundwater to the storm drain (if no sediments present) or sanitary sewer. OR, you may be required to collect and haul pumped groundwater offsite for treatment and disposal at an appropriate treatment facility.

Check for Sediment Levels

If the water is clear, the pumping time is less than 24 hours, and the flow rate is less than 20 gallons per minute, you may pump water to the street or storm drain.

If the pumping time is more than 24 hours and the flow rate greater than 20 gpm, call your local wastewater treatment plant for guidance.

If the water is not clear, solids must be filtered or settled out by pumping to a settling tank prior to discharge. Options for filtering include:

- Pumping through a perforate pipe sunk part way into a small pit filled with gravel;
- Pumping from a bucket placed below water level using a submersible pump;
- Pumping through a filtering device such as a swimming pool filter or filter fabric wrapped around end of suction pipe.

When discharging to a storm drain, protect the inlet using a barrier of burlap bags filled with drain rock, or cover inlet with filter fabric anchored under the grate. OR pump water through a grassy swale prior to discharge.

Detecting Contaminated Soil or Groundwater

Contaminated groundwater is a common problem in the Santa Clara Valley. It is essential that all contractors and subcontractors involved know what to look for in detecting contaminated soil or groundwater, and testing ponded groundwater before pumping. Watch for any of these conditions:

1. Unusual soil conditions, discoloration or odor.
2. Abandoned under-ground tanks.
3. Abandoned wells.
4. Buried barrels, debris or trash.

If any of these are found follow the procedures below.

Fresh Concrete and Mortar Application

Who should use this information?

- Masons and Bricklayers
- Sidewalk Construction Crews
- Patio Construction Workers
- Construction Inspectors
- General Contractors
- Home Builders
- Developers
- Concrete Delivery/Pumping Workers

Storm Drain Pollution from Fresh Concrete And Mortar Applications

Fresh concrete and cement-related mortars that wash into lakes, streams, or estuaries are toxic to fish and the aquatic environment. Disposing of these materials to the storm drains or creeks can block storm drains, causes serious problems, and is prohibited by law.

Doing the Job Right
General Business Practices

Wash out concrete mixers only in designated wash-out areas in your yard, away from storm drains and waterways, where the water will flow into a temporary waste pit in a dirt area. Let water percolate through soil and dispose of settled, hardened concrete as garbage. Whenever possible, recycle washout by pumping back into mixers for reuse.

Wash out chutes onto dirt areas at site that do not flow to streets or drains.

Always store both dry and wet materials under cover, protected from rainfall and runoff and away from storm drains or waterways. Protect dry materials from wind.

Secure bags of cement after they are open. Be sure to keep wind-blown cement powder away from streets, gutters, storm drains, rainfall, and runoff.

Do not use diesel fuel as a lubricant on concrete forms, tools, or trailers.

Roadwork and Paving

Who should use this information?

- Road Crews
- Driveway/Sidewalk/Parking Lot Construction Crews
- Seal Coat Contractors
- Operators of Grading Equipment, Paving Machines, Dump Trucks, Concrete Mixers
- Construction Inspectors
- General Contractors
- Developers
- Home Builders

Storm Drain Pollution from Roadwork

Road paving, surfacing, and pavement removal happen right in the street where there are numerous opportunities for asphalt, saw-cut slurry, or excavated material to illegally enter storm drains. Extra planning is required to store and dispose of materials properly and guard against pollution of storm drains, creeks, and the Bay.

Doing the Job Right
General Business Practices

Develop and implement erosion/sediment control plans for roadway embankments.

Schedule excavation and grading work during dry weather.

Check for and repair leaking equipment.

Perform major equipment repairs at designated areas in your maintenance yard, where cleanup is easier. Avoid performing equipment repairs at construction sites.

When refueling or when vehicle/equipment maintenance must be done on site, designate a location away from storm drains and creeks.

Do not use diesel oil to lubricate equipment parts or clean equipment.

Recycle used oil, concrete, broken asphalt, etc. whenever possible, or dispose of properly.

Take broken up concrete to a local recycling facility. Call the Sunnyvale Recycling Program at (408) 730-7262 for information.

During Construction

Avoid paving and seal coating in wet weather, or when rain is forecast, to prevent fresh materials from contacting stormwater runoff.

Cover and seal catch basins and manholes when applying seal coat, slurry seal, fog seal, or similar materials.

Protect drainage ways by using earth dikes, sand bags, or other controls to divert or trap and filter runoff.

Never wash excess material from exposed aggregate concrete or similar treatments into a street or storm drain. Collect and recycle, or dispose to dirt area.

Cover stockpiles (asphalt, sand, etc.) and other construction materials with plastic tarps. Protect from rainfall and prevent runoff with temporary roofs or plastic sheets and berms.

Park paving machines over drip pans or absorbent material (cloth, rags, etc.) to catch drips when not in use.

Clean up all spills and leaks using "dry" methods (with absorbent materials and/or rags) Dig up, remove, and properly dispose of contaminated soil. Collect and recycle or appropriately dispose of excess abrasive gravel or sand.

Avoid over-application by water trucks for dust control.

Asphalt/Concrete Removal

Avoid creating excess dust when breaking asphalt or concrete.

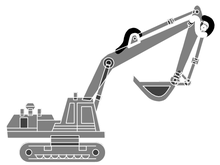
After breaking up old pavement, be sure to remove all chunks and pieces. Make sure broken pavement does not come in contact with rainfall or runoff.

When making saw cuts, use as little water as possible. Shovel or vacuum saw-cut slurry and remove from the site. Cover or protect storm drain inlets during saw-cutting. Sweep up, and properly dispose of, all residues.

Sweep, never hose down streets to clean up tracked dirt. Use a street sweeper or vacuum truck. Do not dump vacuumed liquor in storm drains.

Heavy Equipment Operation

Who should use this information?



- Vehicle and Equipment Operators
- Site Supervisors
- General Contractors
- Home Builders
- Developers

Stormwater Pollution from Heavy Equipment on Construction Sites

Poorly maintained vehicles and heavy equipment that leak fuel, oil, antifreeze or other fluids on the construction site are common sources of storm drain pollution Prevent spills and leaks by isolating equipment from runoff channels, and by watching for leaks and other maintenance problems. Remove construction equipment from the site as soon as possible.

Doing the Job Right
Site Planning and Preventive Vehicle Maintenance

Designate one area of the construction site, well away from streams or storm drain inlets, for auto and equipment parking, refueling, and routine vehicle and equipment maintenance. Contain the area with berms, sand bags, or other barriers.

Maintain all vehicles and heavy equipment. Inspect frequently for and repair leaks.

Perform major maintenance, repair jobs, and vehicle and equipment washing off site where cleanup is easier.

If you must drain and replace motor oil, radiator coolant, or other fluids on site, use drip pans or drop cloths to catch drips and spills. Collect all spent fluids, store in separate containers. Recycle them wherever possible, otherwise, dispose of them as hazardous wastes.

Do not use diesel oil to lubricate equipment parts, or clean equipment. Use only water for any onsite cleaning.

Cover exposed fifth wheel hitches and other oily or greasy equipment during rain events.

Use as little water as possible for dust control. Ensure water used doesn't leave silt or discharge to storm drains.

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www.pixelarchltd.com

Project Name and Address:

AMERICAN GRO ECO, INC.
SHEPARD PLACE CALIFORNIA CITY, CA 93505

Date: AUGUST 06, 2020
Scale:
DRAWING TITLE: Best Management Practices for the construction Industry
Sheet :

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A. 800

No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	

City of California City
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Phone: 760-373-7152
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Dust Control Plan

FOR ALL DUST CONTRO L REQUIREMENTS REFERENE CODE OF ORDINANCES SEC. 6-6.101 LAND CLEARING

Section 1: General Information

1-A Project Name and Location

Project Name:

Project Address:

Major X-Streets:

City: APN #:

Land Use Agency:

1-B Contacts

Report the names, addresses, and phone numbers of persons and owners or operators responsible for the preparation, submittal, and implementation of the Dust Control Plan and responsible for the dust generating operation and dust control applications.

Project Owner:

Address:

City/State/Zip:

Phone: Cell Phone: Email:

General Contractor:

Address: City/State/Zip:

Contact Person:

Phone: Cell Phone: Email:

Dust Control Plan was Prepared by:

Name:

Company Name:

Phone: Cell Phone: Email:

1-C 24 Hour Contact

Primary Project Contact:

Company Name:

Address

City/State/Zip:

Phone: Cell Phone: Email:

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Dust Control Plan

Section 2: Fugitive PM10 Sources

2-A Disturbed Surface Area

Report the total area in acres of land surface to be disturbed, the total area in acres of the entire project site and total acreage of disturbed areas that will be left inactive for more than seven days.

Total area of land surface to be disturbed: _____Acres

Total area of entire project site: _____Acres

Total disturbed areas left inactive for more than seven days: _____Acres

Prior to the start of earth moving or site-clearing activity, Contractor must meet with City Field Inspector on-site to review DCP requirements. Inspector will confirm compliance with Code of Ordinances – Land Clearing.

2-B Dust Generating Activity Dates

The expected start and completion dates of dust generating activities and soil disturbance activities to be performed on site.
For phased projects, it might be necessary to report expected start and completion dates separately

Expected Start Date: Completion Date:

Signage Requirements

Pursuant to City Dust Control Approval requirements, signage must be located within 50 feet of each project.
The signage must have the current contact information for the site operator and 24-hr point of contact responsible for dust control.
If the point of contact changes the sign must be updated with the new contact information within 30 days.

District Use Only:

Signage Installed:	Track out Device Installed:	Water Source: Number of Trucks available exclusively for Dust control:

19

Project: AMERICAN GRO ECO, INC.					Job Ref.	
Address: SHEPARD PLACE CALIFORNIA CITY, CA 95125 TEXAS					Sheet no./rev. 1	
Client:	Date: 05-05-20	Chk'd by	Date	App'd by	Date	

ASCE 7-16

MRI 10-Year	66	mph
MRI 25-Year	72	mph
MRI 50-Year	77	mph
MRI 100-Year	82	mph
Risk Category I	89	mph
Risk Category II	95	mph
Risk Category III	102	mph
Risk Category IV	106	mph

ASCE 7-10

MRI 10-Year ⚠ Special Region mph

You are in a special wind region. Please contact the Authority Having Jurisdiction.

MRI 25-Year ⚠ Special Region mph

You are in a special wind region. Please contact the Authority Having Jurisdiction.

MRI 50-Year ⚠ Special Region mph

You are in a special wind region. Please contact the Authority Having Jurisdiction.

MRI 100-Year ⚠ Special Region mph

You are in a special wind region. Please contact the Authority Having Jurisdiction.

Risk Category I ⚠ Special Region mph

You are in a special wind region. Please contact the Authority Having Jurisdiction.

Risk Category II ⚠ Special Region mph

You are in a special wind region. Please contact the Authority Having Jurisdiction.

ASCE 7-05

ASCE 7-05 Wind Speed ⚠ Special Region mph

You are in a special wind region. Please contact the Authority Having Jurisdiction.

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Dust Control Plan

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Land Use Agency:

1-B Contacts

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Project Owner:

Address:

City/State/Zip:

Phone: Cell Phone: Email:

General Contractor:

Address: City/State/Zip:

Contact Person:

Phone: Cell Phone: Email:

Dust Control Plan was Prepared by:

Name:

Company Name:

Phone: Cell Phone: Email:

1-C 24 Hour Contact

Primary Project Contact:

Company Name:

Address

City/State/Zip:

Phone: Cell Phone: Email:

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Dust Control Plan

Section 3: Dust Control Methods

3-A Water Application

Complete this section if water application will be used as a control method for limiting visible dust emissions and stabilizing surface areas.
Check all that apply to this project.

Water Application Equipment:

Water Truck ☐	Water Trailer ☐	Water Wagon	☐ Other:

Describe the activities that will utilize this equipment:

Number of application equipment available for dust suppression:

Application equipment capacity:

Application frequency:

Hours of operation:

Water application equipment is available to operate after normal working hours, on weekends and holidays

After-hours contact: Phone No.:

Alt. After-hours contact: Phone No.:

Water Supply

☐ Hydrants

Number of hydrants available: On-Site: Off-Site: Distance:

Approval granted by the owner or public agency to use hydrants for this project:

Owner or Agency:

Contact: Phone :

On-Site Storage Tanks	Number:	Capacity:
☐ Wells	Number:	Flow rate:

Other:

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3-B Dust Suppressant Products

Complete this section if a dust suppressant product will be used. These materials include, but are not limited to: hygroscopic suppressants (road salts), adhesives, petroleum emulsions, polymer emulsions, and bituminous materials (road oils).
Copy this page if more than one dust suppressant product will be used.

☐ Not Applicable. Only water application will be the control method used. Skip to 3-C.

Application Area:

Product Name

Contractor's Name Phone No.:

Application Rate: gallons of undiluted material per: ☐ mile or ☐ acre treated

Application Frequency: Applications per ☐ week ☐ month ☐ acre treated

Application Equipment:

Number of Application Equipment Available:

Application Equipment Capacity:

Attach the following information that fully describes this product. Use the checklist below to make sure all information is submitted with this plan

☐ Product Specifications (MSDS, Product Safety Data Sheet, etc) Manufacturer's Usage

☐ Instructions (method, frequency, and intensity of application)

☐ Environmental impacts and approvals of certifications related to the appropriate and safe use for ground application.

3-C Other Dust Control Methods

Check below the other types of dust control methods that will be employed at the site.

☐ Physical barriers for restricting unauthorized vehicle access:

☐ Fences	☐ Gates	☐ Posts	☐ Berms	☐ Concrete Barriers
☐ Wind Fencing	☐ Other:			

☐ Wind barriers Describe:

☐ Posted speed limit signs meet State and Federal Department of Transportation standards.

☐ Posted at 15 miles per hour ☐ Posted at miles per hour(less than 15 mph)

☐ Re-establish vegetation for temporarily stabilizing disturbed surfaces:
Explain:

☐ Apply and maintain gravel:

☐ On Haul roads ☐ On access roads ☐ At equipment storage yards ☐ At vehicle traffic areas

☐ For temporarily stabilizing previously disturbed areas:
Explain:

☐ Apply pavement:
Explain:

☐ Other:

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Dust Control Plan

3-D Contingencies

Contingencies to be implemented if application equipment becomes inoperable, more equipment is needed to effectively control fugitive dust emissions during active and inactive periods, accessibility limitations occur at the water sources, or staff is not available to operate the application equipment. Describe the contingencies that will be in place and when they will be implemented. Attach any additional information if needed.

3-E Record keeping

Records and any other supporting documents for demonstrating compliance must be maintained, but only for those days when a control measure is implemented

3-F Long Term Site Stabilization

☐ Vegetation	☐ Hydro mulch	☐ Mulch	☐ Palliative	☐ Other

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Dust Control Plan

Section 4: Carryout and Trackout

4-A Treatments for Preventing Trackout

Select the control devices that will be used for preventing trackout from occurring onto paved public roads.
Trackout is any material that adheres to vehicle tires and is deposited onto a paved public road or the paved shoulder of a paved public road.
Check one or a combination that will apply to this project.

☐ Grizzly: Rails, pipes, or grates used to dislodge debris off of vehicles before exiting the site. Extends from the intersection with the paved public road surface for the full width of the unpaved exit surface for a distance of at least 25 feet.

Describe:

☐ Gravel Pad: A layer of washed gravel at least one (1) inch or larger in diameter, three (3) inches deep, and extends from the intersection with the public paved road surface for the full width of the unpaved exit surface for a distance of at least 50 feet.

Gravel Size inches Pad Width: feet

Length: feet Depth: inches

☐ Paved Surface: Extends from the intersection with the paved public road surface for the full width of the unpaved access road for at least 100 feet to allow mud and dirt to drop off of vehicles before exiting the site.

Width: feet Length: feet

Mud and dirt deposits accumulating on paved interior roads will be removed with sufficient frequency, but not less frequently than once per workday. Cleanup will commence within ½ hour of generating any carryout and trackout.

Clean-up Frequency:

☐ Wheel Washer: Uses water to dislodge debris from tires and vehicle undercarriage
Describe:

☐ Other:

4-B Treatments for Preventing Carryout

Report the required treatments that will be used for preventing carryout from occurring on paved public roads. Carryout occurs when materials from emptied or loaded haul trucks, vehicles, or trailers falls onto a paved public road or paved shoulder of a paved public road.

☐ No haul trucks will be routinely entering or leaving the project site.

Emptied Haul Trucks:

☐ Interior cargo compartments will be cleaned before leaving the project site.

☐ Cargo compartment will be covered with a tarp or suitable cover before leaving the project site

Loaded Haul Trucks: Spillage or loss of materials from holes or other opening in the cargo compartment will be prevented ☐ when material is transported onto any paved public access road.

Select one or both of the required applications:

☐ Haul trucks will be loaded such that the freeboard is not less than six inches with water applied to the top of the load before leaving the project site.

☐ Cargo compartment and load will be covered with a tarp or suitable cover before leaving the project site.

☐ Other:

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Canada Office
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+1 805 881 7390 info@pixelarchltd.com
www.pixelarchltd.com

Project Name and Address:

AMERICAN GRO ECO, INC.
SHEPARD PLACE CALIFORNIA CITY, CA 93505

Date: AUGUST 06, 2020
Scale:

DRAWING TITLE: CITY DUST CONTROL PLAN FORM

Sheet :

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Dust Control Plan

4-C Cleaning up Carryout and Trackout
Check and report below the methods and frequency for cleaning up carryout and trackout from the surface and paved shoulders of paved public roads. The use of blower devices, or dry rotary brushers or brooms, for removal of carryout and trackout from paved public roads is prohibited. In the event the control device becomes ineffective due to an accumulation of mud and dirt, material must be removed within 30 minutes of the generation of carryout and trackout.
The project is located in: ☐ An Urban Area, within an incorporated city boundary or an unincorporated area surrounded by a city. Minimum cleanup frequency will be at the end of the workday and removed immediately if carryout and trackout extends beyond 50 feet. ☐ A Rural Area, located within an unincorporated area and not surrounded by an incorporated city. ☐ The construction project is less than 10 acres in size: minimum cleanup frequency is at the end of the workday. ☐ Construction projects 10 or more acres in size: minimum cleanup frequency is end of the workday and immediately if carryout and trackout extends beyond 50 feet.
Cleanup Method: Check the method below that will be used for cleaning carryout and trackout.
☐ Manually sweeping and picking up.
☐ Operating street sweeper.

Section 5 Certification		
5-A Certification		
I certify that all information contained herein or submitted in the attachments to these documents is true and correct		
Print Name	Title	
Signature	Date	
Phone	Cell Phone	Email

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DUST CONTROL PLAN SIGNAGE GUIDELINES
(Minimum Requirements)

The purpose of this signage is to allow the public to contact the responsible party if Visible Dust Emissions or Track-out of material is observed from the site.

Sign size	48" x 96"

Sign Template	Text Size
Site Name	4"
Project Name / Project Number	4"
IF YOU SEE DUST COMING FROM THIS PROJECT CALL:	4"
Contact Name, Phone Number (XXX) XXX-XXXX	6"
AFTER-HOURS CALL:	4"
24-Hour Contact Name, Phone Number (XXX) XXX-XXXX	6"
If you do not receive a response, Please call Police Dispatch at 1-760-373-8606	3"

Signage must be located within 50 feet of each project site entrance.

Text height shall be at a minimum as shown on right side of sign template above.

Sign background must contrast with lettering, black text with white background.

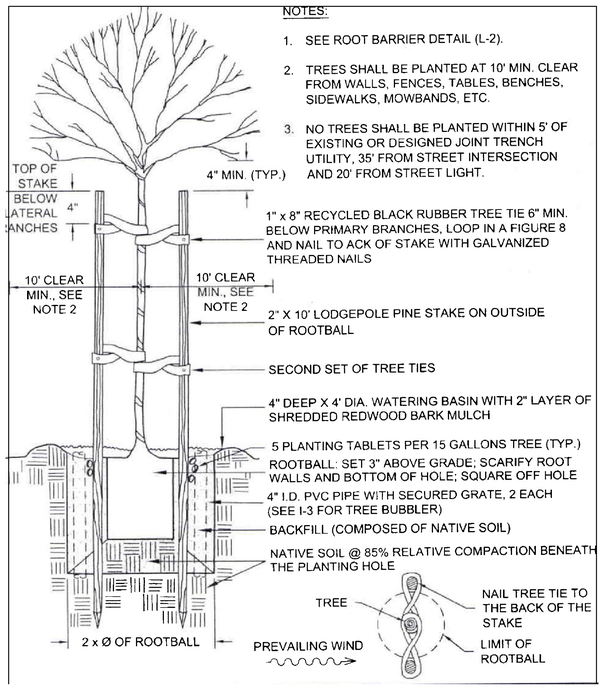
Sign should be one inch AC laminated plywood board.

The lower edge of the sign board must be between six and seven feet above grade.

The telephone number listed for the contact must be a local or a toll-free number and shall be accessible 24 hours per day.

Original signage used during site construction will satisfy the signage requirement of the Active Operation Dust Control Plan/Active Operation Dust Control Plan-Renewable Energy (if required) and can remain if contact information is current and the sign is in satisfactory condition.

19



NOTES:

1. SEE ROOT BARRIER DETAIL (L-2).
2. TREES SHALL BE PLANTED AT 10' MIN. CLEAR FROM WALLS, FENCES, TABLES, BENCHES, SIDEWALKS, MOWBANDS, ETC.
3. NO TREES SHALL BE PLANTED WITHIN 5' OF EXISTING OR DESIGNED JOINT TRENCH UTILITY, 35' FROM STREET INTERSECTION AND 20' FROM STREET LIGHT.

1" x 8" RECYCLED BLACK RUBBER TREE TIE 6" MIN. BELOW PRIMARY BRANCHES, LOOP IN A FIGURE 8 AND NAIL TO ACK OF STAKE WITH GALVANIZED THREADED NAILS

2" X 10' LODGEPOLE PINE STAKE ON OUTSIDE OF ROOTBALL

SECOND SET OF TREE TIES

4" DEEP X 4' DIA. WATERING BASIN WITH 2" LAYER OF SHREDDED REDWOOD BARK MULCH

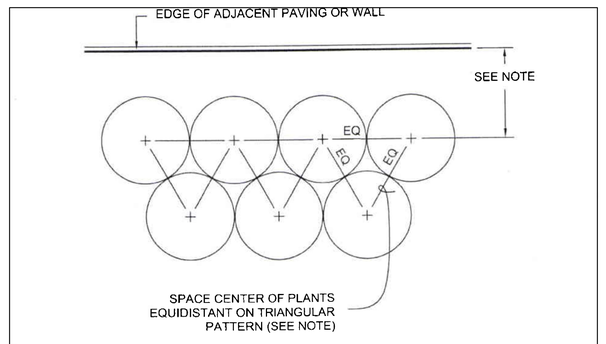
5 PLANTING TABLETS PER 15 GALLONS TREE (TYP.)

ROOTBALL: SET 3" ABOVE GRADE; SCARIFY ROOT WALLS AND BOTTOM OF HOLE; SQUARE OFF HOLE

4" I.D. PVC PIPE WITH SECURED GRATE, 2 EACH (SEE I-3 FOR TREE BUBBLER)

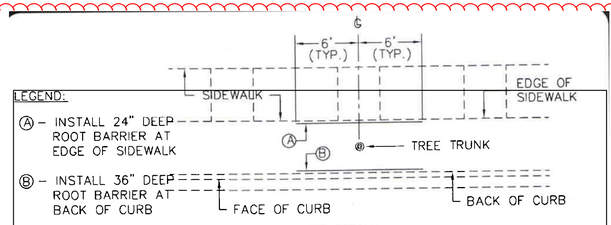
BACKFILL (COMPOSED OF NATIVE SOIL)

NATIVE SOIL @ 85% RELATIVE COMPACTION BENEATH THE PLANTING HOLE

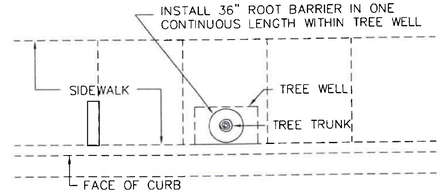


NOTE:

PLANTING DISTANCE OF THE PLANT MATERIAL TO THE SIDEWALK, CURB, AND/OR HARDSCAPED AREAS SHALL BE DETERMINED BY THE MAXIMUM SPREAD AT MATURITY OF SHRUBS AND GROUND COVER.



DETACHED SIDEWALK



MONOLITHIC CURB AND SIDEWALK

NOTES:

1. ROOT BARRIERS SHALL BE REQUIRED FOR ALL TREES PLANTED WITHIN 5' OF HARDSCAPE.
2. 24" AND 36" ROOT BARRIER SHALL BE HIGH DENSITY AND HIGH IMPACT PLASTIC AS AVAILBLE FROM "DEEP ROOT," VESPRO, INC. OR EQUIVALENT AS APPROVED BY PARKS AND RECREATION DEPARTMENT.
3. TOP OF ROOT BARRIER SHALL BE SET ½" ± ABOVE FINISHED GRADE OF SOIL. HOWEVER, UNDER NO CIRCUMSTANCES SHALL THE TOP OF ROOT BARRIER EXTEND ABOVE ADJACENT CURB, SIDEWALK OR OTHER HARD SURFACING, AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

1 TREE PLANTING DETAIL

Scale: NTS

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Date: AUGUST 06, 2020
Scale:

DRAWING TITLE: CITY DUST CONTROL PLAN FORM

Sheet : A. 800.1

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No.	Revision/Issue	Date
1	ISSUED FOR PLANNING APPROVAL	