COTA VERA SWIM CLUB

CHULA VISTA, CALIFORNIA

A DEVELOPMENT OF:

HOMEFED CORPORATION

REVIEW /APPROVAL OF RAILS

IT WILL BE THE RESPONSIBILITY OF THE OWNER/ BUILDER TO ENSURE THAT ALL INTERIOR AND EXTERIOR HAND RAIL AND GUARD RAIL FABRICATION, CONSTRUCTION, AND CONNECTIONS SHALL BE REVIEWED AND OFFICIALLY APPROVED IN WRITING BY A QUALIFIED LICENSED STRUCTURAL ENGINEER PRIOR TO FABRICATION AND INSTALLATION.

DEFERRED SUBMITTALS

PLANS FOR THE DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED IN A TIMELY MANNER THAT ALLOWS A MINIMUM OF 30 WORKING DAYS FOR INITIAL PLAN REVIEW. ALL COMMENTS RELATED TO THE DEFERRED SUBMITTAL MUST BE ADDRESSED TO THE SATISFACTION OF THE PLAN CHECK DIVISION PRIOR TO APPROVAL OF THE SUBMITTAL ITEMS.

1. PRE-FABRICATED ROOF TRUSSES.

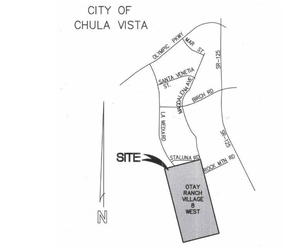
2. FIRE ALARM ARE A DEFERRED ITEM.

3. SOLAR SYSTEM.

I/WE UNDERSTAND THAT I/WE WILL NOT BE AUTHORIZED TO DO AN INSPECTION OF THE DEFERRED ITEMS PROPOSED PRIOR TO THE SUBMITTAL AND APPROVAL OF PLANS AND/OR CALCULATIONS FOR THOSE DEFERRED ITEMS.

IT IS UNDERSTOOD THAT PLANS FOR THE PROJECT HAVE, AT THIS TIME, BEEN REVIEWED FOR COMPLIANCE WITH ALL APPLICABLE STATE AND CITY REGULATIONS, AND THAT THE PROJECT AS A WHOLE HAS BEEN APPROVED BY THE CITY, WITH THE EXCEPTION OF THE DEFFERED ITEMS LISTED.

VICINITY MAP



VICINITY MAP
NOT TO SCALE

PROJECT DATA

PROJECT DESCRIPTION:	NEW CONSTRUCTION OF SWIM CLUB COMPRISED OF: 1. ONE-STORY OFFICE BUILDING OFFICE WITH COVERED ENTRY AND COVERED EXERCISE AREA. 2. ONE-STORY RESTROOMS/ POOL EQUIPMENT/ STORAGE BUILDING. 3. TRASH ENCLOSURE.
JURISDICTION:	CHULA VISTA, CALIFORNIA
TYPE OF CONSTRUCTION:	TYPE V-B (NON RATED CONSTRUCTION)
OCCUPANCY GROUP:	B, A3
NUMBER OF STORIES:	1
FIRE SPRINKLERS:	NO.
SITE ADDRESS:	AVENIDA CAPRISE, BETWEEN MAIN ST. EAST & IA MEDIA PARKWAY.
APN:	644-072-07, 08
CODES:	THIS PROJECT WILL COMPLY WITH: 2022 CALIFORNIA BUILDING CODE 2022 CALIFORNIA MECHANICAL CODE 2022 CALIFORNIA PLUMBING CODE 2022 CALIFORNIA ELECTRICAL CODE 2022 CALIFORNIA FIRE CODE 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE 2022 CALIFORNIA ENERGY CODE, AS ADOPTED AND AMENDED BY THE STATE OF CALIFORNIA
LOT SIZE:	65,920 S.F.
F.A.R.	4.6 1%
BUILDING COVERAGE:	7.8 7 %
LANDSCAPE COVERAGE:	41.1 7%
GROSS FLOOR AREA:	3,038 S.F.
BUILDING HEIGHT:	MAIN BUILDING = 28'-0", TRASH ENCLOSURE = 12'-0"

SPECIAL INSPECTION

ITEM	REQUIRED	REMARKS
(SEE STRUCTURAL DRAWINGS)		

WHEN SPECIAL INSPECTION IS REQUIRED, THE ARCHITECT OR ENGINEER OF RECORD SHALL PREPARE AN INSPECTION PROGRAM WHICH SHALL BE SUBMITTED TO THE BUILDING OFFICIAL FOR APPROVAL PRIOR TO ISSUANCE OF THE BUILDING PERMIT.

PROJECT TEAM

OWNER:
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PROJECT TEAM CONT.

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SHEET INDEX

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COTA VERA SWIM CLUB
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LICENSED ARCHITECT JAMIE STARCK No. C-10560 STATE OF CALIFORNIA
REN 4-30-25

1/11/23 CITY SUBMITTAL

1/17/2023 10:13:45 AM PRINT DATE

TITLE SHEET

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ABBREVIATIONS

@ At (the rate of)
& And
" Inch, Ditto (which means "same as above")
Number or Pound
~ Diameter

A: Area, Acre, Alcove
AB: Anchor Bolt
ABV: Above
AC: Air Conditioning, Alternating Current
ACC: Access, Accesserories
ACF: Architectural Concrete Finish
ACI: American Concrete Institute
ACR: Acrylic
ACST: Acoustic(al)
ACT: Acoustical Tile, Actual
AD: Access Door, Area Drain
ADA: Americans with Disabilities Act of 1992
ADAAG: ADA Architectural Guidelines
ADD: Addendum, Addition(al)
ADH: Adhesive
ADJ: Adjust, Adjustable, Adjacent
AFF: Above Finished Floor
AGA: American Gas Association
AGG: Aggregate
AIA: American Institute of Architects
AISC: American Institute of Steel Construction
AL: Aluminum
ALM: Alarm
ALT: Alternate, Alteration, Altitude
AMB: Ambient
AMP: Ampere, Ampacity
AMT: Amount
ANCH: Anchor, Anchorage
ANN: Annunciator
ANOD: Anodized
ANT: Antenna
AP: Access Panel
APPD: Approved
APPROX: Approximate
APT: Apartment
ARCH: Architect, Architectural
AS: Acoustic Sealant
ASC: Above Suspended Ceiling
ASPH: Asphalt
ASSEM: Assemble, Assembly
ASSOC: Association, Associate
ASTM: American Society for Testing and Materials
AT: Acoustical Tile, Asphalt Tile
ATC: Acoustical Tile Ceiling
ATTEN: Attenuation
AUTH: Authorized
AUTO: Automatic
AVG: Average

B/: Bottom of
BA: Bath(room)
BAL: Balance, Ballast
BALC: Balcony
BB: Bulletin Board
BD: Board, Blow Down (pipe)
BDY: Boundary
BDRM: Bedroom
BEL: Below
BET: Between
BEV: Bevel
BF: Back Face, Bottom Face, Both Faces
BIT: Bituminous
BJF: Bituminous Joint Filler
BKR: Breaker
BL: Base Line, Building Line, Block
BLDG: Building
BLK: Block
BLKG: Blocking
BLKT: Blanket
BLT-IN: Built-In
BM: Beam, Bench Mark
BN: Bullnose, Boundary Nailing
BOT: Bottom
BP: Base Plate
BPL: Bearing Plate
BR: Bedroom, Brick, Brass
BRCG: Bracing
BRDG: Bridge, Bridging
BRG: Bearing
BRKT: Bracket
BS: Both Sides, Backset
BSMT: Basement
BT: Bathtub, Bolt
BTU: British Thermal Units
BTUH: British Thermal Units per Hour
BUR: Built-up Roof
BV: Butterfly Valve
BVL: Bevelled
BW: Both Ways
BYP: By Pass

C: Courses, Curb, Channel
C/C: Center to Center
CAB: Cabinet
CAD: Cadmium, Computer-Aided Drafting
CANT: Cantilever
CAP: Capacity
CAT: Catalog
CAV: Cavity
CB: Catch Basin
CBC: California Building Code
CCW: Counter Clockwise
CELC: California Electrical Code
CEM: Cement
CENC: California Energy Code
CER: Ceramic
CF: Cubic Feet
CFL: Counterflashing
CFM: Cubic Feet per Minute
CFS: Cubic Feet per Second
CI: Cast Iron
CIP: Cast Iron Pipe, Cast-in-Place
CIR: Circle, Circular, Circuit, Circumference
CJ: Control Joint
CL: Centerline, Clear(ance), Closure, Class, Closet
CLG: Ceiling
CLKG: Caulking
CLR: Clear
CLR OPG: Clear Opening
CM: Cultured Marble
CMC: California Mechanical Code
CMU: Concrete Masonry Unit
CMUP: Concrete Masonry Unit Painted
CND: Condition, Conduit
CNDS: Condensate
CNTR: Center, Counter
COAX: Coaxial
CO: Company, Cleanout, Cased Opening, Cut Out
COEF: Coefficient
COL: Column
COMB: Combination, Combustion
COMP: Composition, Compressed, Compacted
COML: Commercial
COMPT: Compartment
CONC: Concrete
CONCP: Concrete Painted
COND: Condenser, Conduit
CONN: Connection
CONST: Construction
CONT: Continuous, Continue, Control
CONTR: Contractor
CONV: Convector, Convenience
CORR: Corridor, Corrugate
COV: Cover
CPC: California Plumbing Code
CPT: Carpet
CR: Curtain Rod
CRS: Course, Cold Rolled Steel
CS: Countersink, Cast Steel, Cast Stone
CSG: Casing
CSMT: Casement
CT: Ceramic Tile
CTD: Coated
CTR: Center, Counter
CTSK: Countersunk
CU: Cubic
CU FT: Cubic Feet
CU YD: Cubic Yard
CUR: Current
CV: Check Valve
CW: Clockwise, Cold Water
CY: Cubic Yard, Cycle
CYL: Cylinder

D: Deep, Depth, Drop, Drain, Dryer
DB: Decibel
DBL: Double
DC: Direct Current
DD: Driveway Drain, Deck Drain
DEG: Degree
DEMO: Demolish, Demolition
DEPT: Department
DF: Douglas Fir, Drinking Fountain
DH: Double Hung
DIA: Diameter
DIAG: Diagonal
DIM: Dimension
DISP: Dispenser, Disposal
DIV: Division
DL: Dead Load
DN: Down
DO: Door Opening
DP: Dampproof(ing)
DPR: Damper
DR: Door
DS: Downspout, Disconnect Switch, Door Switch
DTL: Detail
DW: Dishwasher, Dumbwaiter
DWG: Drawing
DWL: Dowel
DWR: Drawer
DS: Downspout

E: East
EA: Each
EB: Expansion Bolt
ECP: Exterior Cement Plaster
EJ: Expansion Joint
ELB: Elbow
ELEC: Electrical
ELEV: Elevator, Elevation
EMER: Emergency
ENAM: Enamel
ENCL: Enclosure
ENG: Engineer
ENT: Entrance
EP: Electrical Panelboard
EQ: Equal
EQUIV: Equivalent
EQUIP: Equipment
ES: Each Side
ESC: Escalator
EST: Estimate
EW: Each Way
EWH: Electric Water Heater
EXC: Excavate
EXEC: Executive
EXH: Exhaust
EXIST: Existing
EXP: Expansion, Exposed
EXT: Exterior, Extinguish(er)

F: Degrees Fahrenheit, Fuse, Fluorescent
F TO F: Face to Face
FA: Fire Alarm, Fresh Air
FAB: Fabricate
FACP: Fire Alarm Control Panel
FAR: Floor Area Ratio
FAU: Forced Air Unit
FBO: Furnished By Others
FC: File Cabinet, Foot Candle, Fault Current
FD: Floor drain
FDC: Fire Department Connection
FDN: Foundation
FE: Fire Extinguisher
FF: Far Face, Finished Floor, Factory Finish
FFE: Finished Floor Elevation
FF&E: Fixtures, Furnishings & Equipment
FG: Fuel Gas
FGL: Fiberglass
FGR: Fiberglass Reinforced
FH: Flat Head, Fire Hose
FHC: Fire Hose Cabinet
FIN: Finish, finished
FIXT: Fixture
FL: Flush
FLG: Flooring
FLEX: Flexible
FLG: Flange, Flashing, Flooring
FLR: Floor
FLUOR: Fluorescent
FLX: Flexible
FO: Finished Opening
FOC: Face of Concrete
FOF: Face of Finish
FOM: Face of Masonry
FOS: Face of Studs
FP: Fireproof
FPL: Fireplace
FPM: Feet per minute
FPRF: Fireproof
FPS: Feet per Second
FR: Frame, Front, Fire Riser
FR DR: French Door(s)
FRG: Forged
FRM: Frame
FRT: Fire Retardant
FS: Full Size, Far Side, Fused Switch, Floor Sink
FT: Foot, Feet, Fully Tempered
FTG: Footing, Fitting
FURN: Furnish, Furniture
FURR: Furring
FX: Fixed

G: Gas, Girder, Gutter, Gram
GA: Gauge, Gage
GAL: Gallon
GALV: Galvanized
GAR: Garage
GB: Grab Bar, Glass Block
GC: General Contractor
GD: Guard
GEN: General, Generator
GFCI: Ground Fault Circuit Interrupted
GI: Galvanized Iron
GKT: Gasket
GL: Glass, Glazing
GL BLK: Glass Block
GLB: Glue-Lam Beam
GOVT: Government
GP: Galvanized Pipe
GPH: Gallons Per Hour
GPM: Gallons Per Minute
GPS: Gallons Per Second
GR: Grade, Grille, Granite
GRND: Ground
GT: Girder Truss, Grout
GVA: Gate Valve
GVL: Gravel
GYP: Gypsum
GYP BD: Gypsum Board

H: High
HB: Hose Bib
HBD: Hardboard
HC: Hollow Core
HD: Head, Heavy Duty
HDR: Header
HDW: Hardware
HDWD: Hardwood
HGR: Hanger
HM: Hollow Metal
HOR: Horizontal
HP: High Point, High Pressure, Horse Power
HR: Hour
HSG: Housing
HT: Height, Heat, High Tension Duct
HTG: Heating
HTR: Heater
HVAC: Heating, Ventilating & Air Conditioning
HW: Hot Water, Heavy Wall
HWS: Hot Water Supply
HWY: Highway

IBC: International Building Code
ID: Inside Diameter
IMC: International Mechanical Code
IN: Inch
INCAND: Incandescent
INCL: Incline, Include(d)
INFO: Information
INS: Insulate, Insulation
INSP: Inspect
INSTL: Install
INT: Interior, Internal
INV: Invert
IPC: International Plumbing Code
IRC: International Residential Code

J-BOX: Junction Box
JAN: Janitor
JC: Janitor's Closet
JCT: Junction
JF: Joint Filler
JST: Joist
JT: Joint

KIT: Kitchen
KO: Knockout
KP: Kickplate
KS: Kitchen Sink

L: Angle, Left, Length, Long, Line
LA: Landscape Architect
LAB: Laboratory, Labor
LAM: Laminate, Laminated
LAT: Lateral
LAV: Lavatory
LB: Pound (weight), Lag Bolt
LBR: Lumber
LH: Left Hand
LIN: Linear, Linen
LIQ: Liquid
LKR: Locker
LL: Live Load
LP: Low Point, Low Pressure, Lighting Panel
LPS: Low Pressure Sodium
LT: Light, Laundry Tray
LTG: Lighting
LTL: Lintel
LV: Low Voltage
LVR: Louver
LW: Light Weight
LWC: Light Weight Concrete

M: Meter, Motor, Bending Moment
MAINT: Maintenance
MAN: Manual
MAS: Masonry
MAT: Material
MB: Mail Box, Machine Bolt, Mop Basin
MC: Medicine Cabinet, Mineral Core
ME: Mechanical Engineer
MECH: Mechanical
MED: Medium
MEMB: Membrane
MET: Metal
MEZZ: Mezzanine
MFR: Manufacture, Manufacturer
MI: Malleable Iron, Miles
MIN: Minimum
MISC: Miscellaneous
MLDG: Molding
MM: Millimeter
MO: Masonry Opening
MONO: Monolithic
MRD: Metal Roof Deck
MTD: Mounted
MTL: Material, Metal
MTR: Motor
MULT: Multiple

N: North, Nitrogen
NAT: Natural
NEC: National Electrical Code
NF: Near Face
NI: Nickel
NIC: Not In Contract
NO: Number, Normally Open
NOM: Nominal
NR: Noise Reduction
NRC: Noise Reduction Coefficient
NS: Near Side
NTS: Not To Scale

O/: Over
O TO O: Out to Out
OA: Outside Air, Overall
OBL: Oblique
OBS: Obscure
OC: On Center
OD: Outside Diameter
OF: Outside Face
OFF: Office
OH: Overhead, Overhang
OHD: Overhead Door
OI: Ornamental Iron
OP: Opaque
OPNG: Opening
OPP: Opposite
OPP H: Opposite Hand
OR: Outside Radius
ORN: Ornamental
OVFL: Overflow
OZ: Ounce

P: Pitch, Pole
PA: Public Address
PAR: Parallel, Parapet
PART: Particle
PARTN: Partition
PASS: Passage, Passenger
PB: Pull Box, Push Button, Panic Bar
PC: Pull Chain, Piece, Precast Concrete
PCF: Pounds per cubic foot
PED: Pedestal, Pedestrian
PERF: Perforate(d), Performance
PERIM: Perimeter
PERP: Perpendicular
PFN: Prefinished
PG: Pressure Gauge
PH: Phase, Preheat, Phone
PIV: Pivoted, Post Indicator Valve
PKG: Parking
PL: Plate, Property Line, Plastic Laminate
PLAS: Plaster, Plastic
PLAT: Platform
PLF: Pounds Per Lineal Foot
PLTF: Platform
PLUMB: Plumbing
PLYWD: Plywood
PNL: Panel
PNT: Paint
POL: Polish, Polished
PORT: Portable
PR: Pair
PRCST: Precast
PRE: Prefinished
PREFAB: Prefabricated
PREP: Prepare, Preparation
PRES: Pressure
PRI: Primary
PRMLD: Premolded
PROP: Property
PROT: Protection, Protective
PRSTR: Prestressed
PRV: Pressure Reducing Valve
PS: Plumbing Stack
PSC: Prestressed Concrete
PSF: Pounds per square foot
PSI: Pounds per square inch
PT: Point, Part, Pressure Treated
PTC: Post-Tensioned Concrete
PTD: Painted, Paper Towel Dispenser
PTDF: Pressure Treated Douglas Fir
PV: Paving
PVC: Polyvinyl Chloride
PVG: Paving
PVMT: Pavement
PVT: Private
PWR: Power

QUAL: Quality
QT: Quarry Tile, Quart
QTR: Quarter
QTY: Quantity

R: Riser, Radius, Resistance, Relay Panel
RA: Return Air
RAD: Return Air Duct
RAG: Return Air Grille
RBR: Rubber(ized)
RCP: Reflected Ceiling Plan
RD: Roof Drain, Round
REBAR: Reinforcing Bar
REC: Receiver, Recess(ed)
RECEP: Receptacle
REF: Refer, Reference, Refrigerator
REFL: Reflected, Reflector
REG: Register, Regular
REINF: Reinforcement, or Reinforce
REM: Remove
REQ: Require, Required
RES: Resawn, Resilient
RET: Return, Retaining
REV: Reverse, Revise, Revision
REV DR: Revolving Door
RF: Resilient Flooring, Roof
RFG: Roofing
RG: Rough Grade
RGTR: Register
RGH: Rough
RH: Right Hand, Reheat, Relative Humidity
RK: Rake
RM: Room
RO: Rough Opening
ROW: Right of Way
RPM: Revolutions Per Minute
RS: Rough Sawn
RTR: Route Through Roof
RTW: Route Through Wall

S: Shelf, South, Sealant, Supply, Sink
S2S: Surfaced 2 Sides
S4S: Surfaced 4 Sides
S&S: Stained & Sealed
S&V: Stain & Varnish
SAN: Sanitary
SB: Setting Basin, Splash Block
SBD: Sound Board
SC: Solid Core, Short Circuit, Self Closing, Scale
SCD: Seat Cover Dispenser
SCH: Schedule
SCR: Screen
SCUP: Scupper
SD: Soap Dispenser, Smoke Detector
SEAL: Sealant
SEC: Second, Section, Secondary, Secure
SECT: Section
SEIS: Seismic
SERV: Service
SF: Square Foot
SH: Single Hung
SHR: Shower
SHT: Sheet
SHTHG: Sheathing
SHWR: Shower
SI: Square Inch
SIM: Similar
SKL: Skylight
SL: Sliding, Slider
SLP: Slope, Sloping
SLV: Sleeve
SND: Sanitary Napkin Dispenser
S/O: Stacked Over
SOF: Soffit
SP: Soil Pipe, Standpipe, Soundproof, Single Pole
SPC: Spacer
SPEC: Specification(s)
SPLR: Sprinkler
SQ: Square
SS: Stainless Steel, Service Sink, Slop Sink
ST: Straight, Storm Water, Steel
STC: Sound Transmission Class
STD: Standard
STOR: Storage
STRUCT: Structural
SUPP: Supplementary, Supplement, Support
SUPT: Superintendent
SUR: Surface
SUSP: Suspended, Suspend
SW: Switch
SWBD: Switchboard
SWGR: Switchgear
SY: Square Yard
SYM: Symmetrical
SYS: System

T: Tread, Thick
T/: Top of
T&B: Top and Bottom
T&G: Tongue & Groove
T&P: Temperature & Pressure Relief Valve
TAN: Tangent
TB: Towel Bar
TD: Trench Drain
TEL: Telephone
TEMP: Temporary, Tempered, Temperature
TEN: Tenant
TH: Thermostat
THRU: Through
TOL: Tolerance
TPH: Toilet Paper Holder
TPTN: Toilet Partition
TR: Transom
TRANS: Transformer, Translucent
TV: Television
TYP: Typical

UBC: Uniform Building Code
UL: Underwriters' Laboratories
UMC: Uniform Mechanical Code
UNEXC: Unexcavated
UNF: Unfinished
UNO: Unless Noted Otherwise
UON: Unless Otherwise Noted
UP: Unpainted
UPC: Uniform Plumbing Code
UR: Urinal
UT: Utility
UV: Ultraviolet

V: Volt(age), Valve
VAR: Varnish, Varies
VB: Vapor Barrier, Vinyl Base, Vacuum Breaker
VBC: Vinyl Base (Coved)
VBS: Vinyl Base (Straight)
VCT: Vinyl Composition Tile
VENT: Ventilate, Ventilation, Ventilator
VERT: Vertical
VEST: Vestibule
VIF: Verify in the Field
VLT: Vault
VOL: Volume
VP: Vapor Proof, Vent Pipe
VR: Vapor Retarder, Vacuum Return, Vertical Riser
VS: Vent Stack
VT: Vinyl Tile
VTR: Vent Through Roof

W: West, Width, Wide, Watt, Waste, Water, Washer
W/: With
W/O: Without
WB: Wood Base
WC: Watercloset
WD: Wood
WDW: Window
WF: Wide Flange (structural steel)
WGL: Wire-Glass
WH: Water Heater, Wall Hung, Wall Hydrant
WI: Wrought Iron
WM: Wire Mesh, Water Meter
WP: Waterproof(ing), Weatherproof
WPM: Waterproof Membrane
WR: Water Resistant/Repellant, Waste Receptacle
WRSTP: Weatherstripping
WSCT: Wainscot
WT: Weight, Water Table, Watertight
WWF: Welded Wire Fabric
WWM: Welded Wire Mesh

YD: Yard
YR: Year

FIRE NOTES

NOTE: NOT ALL NOTES LISTED ARE APPLICABLE TO PROJECT.

1. FIRE PROTECTION, INCLUDING FIRE APPARATUS ACCESS ROADS AND WATER SUPPLIES FOR FIRE PROTECTION, SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO AND DURING TIME OF CONSTRUCTION (CFC).
2. BUILDING UNDERGOING CONSTRUCTION ALTERATION OR DEMOLITION SHALL BE IN ACCORDANCE WITH CFC CHAPTER 33. WELDING, CUTTING, AND OTHER HOT WORK SHALL BE IN CONFORMANCE WITH CFC CHAPTER 35 (UFC/CFC).
3. COMPLETE PLANS AND SPECIFICATIONS FOR FIRE ALARM SYSTEMS; FIRE-EXTINGUISHING SYSTEMS, INCLUDING AUTOMATIC SPRINKLERS AND WET & DRY STANDPIPES; HALON SYSTEMS AND OTHER SPECIAL TYPES OF AUTOMATIC FIRE-EXTINGUISHING SYSTEMS; BASEMENT PIPE INLETS; AND OTHER FIRE-PROTECTION SYSTEMS AND APPURTENANCES THERTO SHALL BE SUBMITTED TO FIRE AND HAZARD PREVENTION SERVICES FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. (UFC/CFC SEC. 1001.3).
4. COMPLETE PLANS AND SPECIFICATIONS FOR ALL FIRE EXTINGUISHING SYSTEMS, INCLUDING AUTOMATIC SPRINKLER AND STANDPIPE SYSTEMS AND OTHER SPECIAL FIRE EXTINGUISHING SYSTEMS AND RELATED APPURTENANCES SHALL BE SUBMITTED TO THE LOCAL JURISDICTION FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION (CFC 901.2).
5. COMPLETE PLANS AND SPECIFICATIONS FOR FIRE ALARM SYSTEMS SHALL BE SUBMITTED TO THE LOCAL JURISDICTION FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION (CFC 907.1.1 AND REFER TO SECTION 907.2.9).
6. FIRE-EXTINGUISHING SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH CBC SEC. 904 AND COMPLY WITH UBC STANDARDS 9-1 AND 9-2.
7. ALL VALVES CONTROLLING THE WATER SUPPLY FOR AUTOMATIC SPRINKLER SYSTEMS AND WATER FLOW SWITCHES ON ALL SPRINKLER SYSTEMS SHALL BE ELECTRONICALLY MONITORED WHERE THE NUMBER OF SPRINKLERS IS 100 OR MORE. (UBC/CBC SEC. 1003.3.1)
8. FIRE ALARM SYSTEMS SHALL BE IN ACCORDANCE WITH UFC/CFC SEC. 1007.
9. FIRE ALARM SYSTEMS SHALL ACTIVATE A MEANS OF WARNING THE HEARING IMPAIRED (CBC SECTION 907.5.2.1.3).
10. AT LEAST ONE FIRE EXTINGUISHER WITH A MINIMUM RATING OF 4-A-20BC SHALL BE PROVIDED OUTSIDE EACH MECHANICAL, ELECTRICAL, OR BOILER ROOM. (UFC/CFC SEC. 1002, CFC STANDARD 10-1, CAL CODE REGS., TIT. 19, SEC 3.29).
11. FIRE PROTECTION, INCLUDING FIRE APPARATUS ACCESS ROADS AND WATER SUPPLIES FOR FIRE PROTECTION, SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO AND DURING TIME OF CONSTRUCTION. (CFC SEC. 901.3, 8704.2, 8704.3).
12. FIRE HYDRANTS SHALL COMPLY WITH FHPS POLICY F-96-01 FOR ON-SITE HYDRANTS.
13. FIRE HYDRANT LOCATIONS SHALL BE IDENTIFIED BY THE INSTALLATION OF REFLECTIVE MARKER. (UFC/CFC SEC. 901.4.3).
14. FIRE HYDRANT LOCATIONS AND CLASSIFICATIONS OF EXTINGUISHERS SHALL BE IN ACCORDANCE WITH CFC 906 AND CALIFORNIA CODE OF REGS. (CCR) TITLE 19.
15. DURING CONSTRUCTION, AT LEAST ONE EXTINGUISHER SHALL BE PROVIDED ON EACH FLOOR LEVEL AT EACH STAIRWAY, IN ALL STORAGE AND CONSTRUCTION SHEDS, IN LOCATIONS WHERE FLAMMABLE OR COMBUSTIBLE LIQUIDS ARE STORED OR USED, AND WHERE OTHER SPECIAL HAZARDS ARE PRESENT PER CFC SECTION 3315.1.
16. DUMPSTERS AND TRASH CONTAINERS EXCEEDING 1.5 CU YDS SHALL NOT BE STORED IN BUILDINGS OR PLACED WITHIN 5 FT OF COMBUSTIBLE WALLS, OPENINGS, OR COMBUSTIBLE ROOF EAVE LINES UNLESS PROTECTED BY AN APPROVED SPRINKLER SYSTEM OR LOCATED IN A TYPE 1 OR IIA STRUCTURE SEPARATED BY 10 FT FROM OTHER STRUCTURES. CONTAINERS LARGER THAN 1CU YD SHALL BE OF NON- OR LIMITED-COMBUSTIBLE MATERIALS OR SIMILARLY PROTECTED OR SEPARATED. CFC 304.3.
17. WALL, FLOOR AND CEILING FINISHES AND MATERIALS SHALL NOT EXCEED THE INTERIOR FINISH CLASSIFICATIONS IN CBC TABLE 803.9 AND SHALL MEET THE FLAME PROPAGATION PERFORMANCE CRITERIA OF THE CALIFORNIA CODE OF REGS., TITLE 19, DIVISION 1.
18. OPEN FLAMES, FIRE, AND BURNING ON THE PREMISES IS PROHIBITED EXCEPT AS SPECIFICALLY PERMITTED BY THE LOCAL JURISDICTION AND CFC 308.
19. ALL DECORATIVE MATERIALS SHALL BE MAINTAINED IN A FLAME-RETARDANT CONDITION (TITLE 19, SECTION 3.08, 3.21, CFC 807).

FIRE SPRINKLER NOTES

NOTE: NOT ALL NOTES LISTED ARE APPLICABLE TO PROJECT.

THE SUBMITTAL OF RESIDENTIAL FIRE SPRINKLER PLANS REQUIRED BY SECTION R313 OF THE 2016 CALIFORNIA RESIDENTIAL CODE OR WHEN REQUIRED BY SECTION 903 OF THE CALIFORNIA BUILDING CODE HAS BEEN DEFERRED.

TO AVOID DELAYS IN CONSTRUCTION, PLANS FOR THE 13R OR NFPA 13D FIRE SPRINKLER SYSTEM HALL BE SUBMITTED NOT LESS THAN 30 CALENDAR DAYS PRIOR TO INSTALLATION OR PRIOR TO REQUESTING A FOUNDATION INSPECTION WHEN THE SUBMITTAL OF FIRE SPRINKLER IS DEFERRED. A FRAMING / ROUGH INSPECTION SHALL NOT BE REQUESTED PRIOR TO APPROVAL OF THE FIRE SPRINKLER PLANS.

VHFSZ GENERAL NOTES

NOTE: NOT ALL NOTES LISTED ARE APPLICABLE TO PROJECT.

1. VALLEY FLASHING SHALL BE NOT LESS THAN 0.019 (NO. 26 GALV. SHEET GAGE) CORROSION- RESISTANT METAL INSTALLED OVER A MIN. 48" WIDE UNDERPAYMENT CONSISTING OF ONE LAYER OF NO. 72 ASTM CAP SHEET RUNNING THE FULL LENGTH OF THE VALLEY (CBC SECTION 705A.3).
2. ROOF GUTTERS SHALL BE PROVIDED WITH THE MEANS TO PREVENT THE ACCUMULATION OF LEAVES AND DEBRIS IN THE GUTTER. ALL ROOF GUTTERS AND DOWNSPOUTS SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIALS (CBC SECTION 705A.4)
3. DRIP EDGE FLASHING USED AT THE FREE EDGES OF ROOFING MATERIALS SHALL BE NON COMBUSTIBLE (CBC SECTION 705A.4.1).
4. TURBINE ATTIC VENTS SHALL BE EQUIPPED TO ALLOW ONE-WAY DIRECTION ROTATION ONLY AND SHALL NOT FREE SPIN IN BOTH DIRECTIONS (CBC SECTION 706A.4 (d))
5. GLAZING FRAMES MADE OF VINYL MATERIALS SHALL HAVE WELDED CORNERS, METAL REINFORCEMENT IN THE INTERLOCK AREA, AND BE CERTIFIED TO THE MOST CURRENT EDITION OF ANSI/AAMA/NWWDA 101/I.S.2 STRUCTURAL REQUIREMENTS (CBC SECTION 706A.2.2.1).
6. CHIMNEYS, FLUES OR STOVEPIPES ATTACHED TO ANY FIREPLACE, STOVE, BARBECUE OR OTHER SOLID OR LIQUID FUEL BURNING EQUIPMENT WITH AN APPROVED SPARK ARRESTOR (CBC SECTION 711A.1).
7. VENT OPENINGS (ATTIC, UNDERFLOOR, COMBUSTION AIR, ETC.) SHALL BE PROTECTED BY NONCOMBUSTIBLE, CORROSION RESISTANT MESH THAT MEETS THE FOLLOWING REQUIREMENTS (CBC SECTION 706A.2 AND 706A.4):
   - 7.A. INDIVIDUAL VENT OPENINGS SHALL NOT EXCEED 144 SQUARE INCHES.
   - 7.B. THE DIMENSIONS OF THE OPENINGS SHALL BE A MINIMUM OF 1/16" AND SHALL NOT EXCEED 1/8".
8. DECORATIVE MATERIALS SHALL BE MAINTAINED IN A FLAME RETARDANT CONDITION. (CAL CODE REGS., TIT. 19, SEC. 3.08, 3.21, UFC/CFC SEC. 2501.5.
9. ROOF VENTS, DORMER VENTS, GABLE VENTS, FOUNDATION VENTILATION OPENINGS, VENTILATION OPENINGS IN VERTICAL WALLS, OR OTHER SIMILAR VENTILATION OPENINGS SHALL BE LOUVERED AND COVERED WITH METAL MESH REQUIRED BY CBC SECTION 706A.2 , OR OTHER APPROVED MATERIAL THAT OFFERS EQUIVALENT PROTECTIONS.
10. IGNITION RESISTANT CONSTRUCTION SHALL COMPLY WITH:
   - 10.1. CRC SECTION R337.4.3 WHEN TESTED IN ACCORDANCE WITH ASTM E84 OR UL 723.
   - 10.2. CONSTRUCTION WHICH COMPLIES WITH THE TEST PROCEDURES SET FORTH IN SFM STANDARD 12-7A-5.
   - 10.3. ONE OF THE ALTERNATIVE METHODS PER CRC SECTION R337.4.4.
11. ROOF VENT DIMENSIONS OF THE OPENINGS THEREIN SHALL BE A MINIMUM OF 1/16" AND SHALL NOT EXCEED 1/8" AND SHALL BE NON COMBUSTABLE (CRC SECTION R337.7.6.2.2).

CRC GENERAL NOTES

NOTE: NOT ALL NOTES LISTED ARE APPLICABLE TO PROJECT.

1. EXTERIOR DOORS MAY SWING OUTWARD ONLY IF THE EXTERIOR LANDING IS NOT MORE THAN 1 1/2 INCHES LOWER THAN THE TOP OF THE THRESHOLD AT SINGLE-FAMILY DWELLING. (CRC SECTION R311.3.1).
2. STAIRWAY WITHIN DWELLING UNITS IN OCCUPANCIES IN GROUP R-2, THE MAXIMUM RISER HEIGHT SHALL BE 7.75", AND THE MINIMUM TREAD DEPTH SHALL BE 10". A NOSING NOT LESS THAN .75" BUT NOT MORE THAN 1.25" SHALL BE PROVIDED ON STAIRWAYS WITH SOLID RISERS WHERE THE TREAD DEPTH IS LESS THAN 11"
3. EAVE PROJECTIONS MUST BE AT LEAST 24" FROM A PROPERTY LINE. (CRC TABLE R302.1).
4. OPERABLE WINDOWS SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY PLUMBING VENTS, CHIMNEYS, ETC. (CRC SECTION R303.5).
5. PENETRATIONS OF FIRE-RESISTIVE WALLS, FLOOR-CEILINGS AND ROOF-CEILINGS SHALL BE PROTECTED AS REQUIRED IN CRC (SECTION R302.4).
6. OPENINGS AND PENETRATIONS THROUGH THE WALLS OR CEILINGS SEPARATING THE DWELLING FROM THE GARAGE SHALL BE IN ACCORDANCE WITH CRC SECTION R302.5.1 THROUGH R302.5.3).
7. OPENINGS BETWEEN THE GARAGE AND RESIDENCE SHALL BE EQUIPPED WITH SOLID WOOD DOORS NOT LESS THAN 1-3/8" IN THICKNESS, SOLID, OR HONEYCOMBED CORE STEEL DOORS NOT LESS THAN 1-3/8" THICK OR 20 MINUTE RATED FIRE DOORS, EQUIPPED WITH SELFCLOSING OR AUTO-CLOSING AND SELF-LATCHING DEVICE PER CRC SECTION 302.5.1. EXCEPTION: WHERE THE RESIDENCE AND PRIVATE GARAGE ARE PROTECTED BY FIRE SPRINKLERS PER R313, OTHER DOOR OPENINGS BETWEEN THE PRIVATE GARAGE AND THE RESIDENCE NEED ONLY BE SELF-CLOSING AND SELF-LATCHING. THIS EXCEPTION SHALL NOT APPLY TO ROOMS USED FOR SLEEPING PURPOSES.
8. THE GARAGE SHALL BE SEPARATED AS REQUIRED BY TABLE CRC R302.6.
   - 8.1. GARAGE FROM RESIDENCE AND ATTIC – NOT LESS THAN ½ GYPSUM BOARD APPLIED TO THE GARAGE SIDE.
   - 8.2. FROM HABITABLE ROOMS ABOVE GARAGE – NOT LESS THAN 5/8" TYPE 'X' GYPSUM BOARD.
   - 8.3. STRUCTURE SUPPORTING FLOOR / CEILING USED FOR SEPARATION – NOT LESS THAN ½" GYPSUM BOARD.
   - 8.4. GARAGES LOCATED LESS THAN 3 FEET FROM A DWELLING UNIT ON THE SAME LOT – NOT LESS THAN ½" GYPSUM BOARD APPLIED TO THE INTERIOR SIDE OF EXTERIOR WALLS THAT ARE WITHIN THIS AREA.

ELECTRICAL NOTES

NOTE: NOT ALL NOTES LISTED ARE APPLICABLE TO PROJECT.

1. ELECTRIC VEHICLE CHARGING CAPABILITY PER CGBC 4.106.4.1 & 4.106.4.1.1.
   - 1.1. INSTALL A LISTED J-BOX AND RACEWAY TO ACCOMMODATE AT DEDICATED 208/240V BRANCH CIRCUIT.
     - 1.1.1. RACEWAY SHALL BE NOT LESS THAN TRADE SIZE 1 (NOMINAL 1-IN. DIAMETER).
     - 1.1.2. RACEWAY SHALL ORIGINATE AT THE MAIN SERVICE OR SUBPANEL AND TERMINATE INTO A LISTED CABINET, BOX OR OTHER ENCLOSURE IN CLOSE PROXIMITY TO THE PROPOSED LOCATION OF THE EV CHARGER.
     - 1.1.3. RACEWAY SHALL BE CONTINUOUS AT ENCLOSED, INACCESSIBLE OR CONCEALED AREAS AND SPACES.
   - 1.2. THE SERVICE SHALL PANEL SHALL PROVIDE CAPACITY TO INSTALL A 40AMP MIN DEDICATED BRANCH CIRCUIT AND SPACE(S) TO PERMIT INSTALLATION OF A BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE.
   - 1.3. THE SERVICE PANEL OR SUBPANEL CIRCUIT DIRECTORY SHALL IDENTIFY:
     - A. THE OVERCURRENT PROTECTIVE DEVICE SPACE(S) FOR FUTURE EV CHARGING AS "EV CAPABLE".
     - B. THE RACEWAY TERMINATION LOCATION AS "EV CAPABLE".
2. LIGHTING IN BATHROOMS SHALL HAVE ALL HIGH EFFICACY LUMINAIRE AND AT LEAST ONE LUMINAIRE MUST BE CONTROLLED BY A VACANCY SENSOR.
3. KITCHENS: ALL THE INSTALLED WATTAGE OF LUMINAIRES IN KITCHENS SHALL BE HIGH EFFICACY AND SHALL HAVE A MANUAL ON/OFF IN ADDITION TO A VACANCY SENSOR OR DIMMER. UNDER CABINET LIGHTING SHALL BE SWITCHED SEPARATELY.
4. LIGHTING IN GARAGES, LAUNDRY ROOMS AND UTILITY ROOMS: ALL LUMINAIRES SHALL BE HIGH EFFICACY AND AT LEAST ONE LUMINAIRE IN EACH OF THESE SPACES SHALL BE CONTROLLED BY A VACANCY SENSOR.
5. OTHER ROOMS: ALL LUMINAIRES SHALL BE HIGH EFFICACY AND SHALL HAVE A MANUAL ON/OFF IN ADDITION TO A VACANCY SENSOR OR DIMMER.
6. OUTDOOR LIGHTING: ALL LUMINAIRES MOUNTED TO THE BUILDING OR TO OTHER BUILDINGS ON THE SAME LOT SHALL BE HIGH EFFICACY LUMINAIRES AND MUST BE CONTROLLED BY A MANUAL ON AND OFF SWITCH, AND CONTROLLED BY ONE OF THESE AUTOMATIC CONTROL TYPES: PHOTOCONTROL AND A MOTION SENSOR, OR ASTRONOMICAL TIME CLOCK, OR ENERGY MANAGEMENT CONTROL SYSTEM (EMCS).
7. ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUIT OF 30 AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES SHALL BE LOCATED NO HIGHER THAN 48" MEASURED FROM THE BOTTOM OF THE OUTLET BOX TO THE LEVEL OF THE FINISHED FLOOR OR WORKING PLATFORM (CEC 406.3).
8. THE TOP OF THE OUTLET BOX FOR SWITCHES USED TO CONTROL THERMOSTATS AND OTHER ENVIRONMENTAL CONTROLS SHALL BE LOCATED NO HIGHER THAN 48" AND NO LOWER THAN 15" TO THE BOTTOM OF THE BOX ABOVE THE FLOOR (CEC SECTION 404.8).
9. PROVIDE TAMPER-RESISTANT RECEPTACLES IN ALL AREAS SPECIFIED IN CEC.
10. PROVIDE WEATHER RESISTANT TYPE FOR RECEPTACLES INSTALLED IN DAMP OR WET LOCATIONS.
11. PROVIDE GFCI PROTECTED OUTLETS FOR ALL LOCATIONS DESCRIBED IN CEC SECTION 210.8.
12. PROVIDE ARC-FAULT CIRCUIT INTERRUPTERS FOR ALL OUTLETS IN ROOMS DESCRIBED IN CEC 210.12.
13. BATHROOM CIRCUITING SHALL BE EITHER 1) A 20 AMP CIRCUIT DEDICATED TO EA. BATHROOM OR 2) AT LEAST ONE 20 AMP CIRCUIT SUPPLYING ONLY BATHROOM RECEPTACLE OUTLETS, PER CA ELEC. CODE.
14. THE MAIN ELECTRICAL SERVICE PANEL SHALL HAVE A RESERVED SPACE TO ALLOW FOR THE INSTALLATION OF A DOUBLE POLE CIRCUIT BREAKER FOR FUTURE SOLAR ELECTRIC INSTALLATION.
   - 14.1. LOCATION. THE RESERVED SPACE SHALL BE POSITIONED AT THE OPPOSITE (LOAD) END FROM THE INPUT FEEDER LOCATION OR MAIN CIRCUIT LOCATION.
   - 14.2. THE RESERVED SPACE SHALL BE PERMANENTLY MARKED AS "FOR FUTURE SOLAR ELECTRIC".
15. ALL 120V, 15, AND 20 AMP BRANCH CIRCUITS SUPPLYING OUTLETS (LIGHTING AND RECEPTACLES) INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOM PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC FAULT CIRCUIT INTERRUPTER, OR COMBINATION TYPE INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUITS. CEC 210.12(A).
16. SMOKE ALARMS SHALL BE INSTALLED ON EACH STORY OF THE DWELLING NEAR STAIRWAY. CRC R314.3.
17. SMOKE ALARMS SHALL BE INSTALLED ON EACH ADDITIONAL STORY OF THE DWELLING NEAR STAIRWAY, NFPA 72 SECTION 29.8.34 (8).
18. RECEPTACLE OUTLETS SHALL BE INSTALLED IN BATHROOMS WITHIN 3 FEET OF THE OUTSIDE EDGE OF EACH BASIN. CEC 210.52(D).

MECHANICAL / PLUMBING NOTES

NOTE: NOT ALL NOTES LISTED ARE APPLICABLE TO PROJECT.

1. PLUMBING FIXTURES AND FITTINGS SHALL COMPLY WITH THE REQUIREMENTS IN SECTION 4.303 IN THE CALIFORNIA GREEN BUILDING CODE.
2. LAVATORY FAUCETS IN RESTROOMS OF COMMERCIAL PROJECTS SHALL BE THE SELF-CLOSING TYPE.
3. SHOWERS AND TUB/SHOWER COMBINATIONS SHALL BE PROVIDED WITH MIXING VALVES (CPC SECTION 420.0).
4. LAVATORY FAUCETS TO EMIT 1.2 GAL/MAX AT 60 PSI (CBC SECTION 407.2.1).
5. KITCHEN FAUCETS TO EMIT 1.8 GAL/MIN. MAX. AT 60 PSI (CBC SECTION 420.2).
6. SHOWERHEADS TO EMIT 1.8 G.P.M. MAXIMUM AT 80 PSI. (CBC SECTION 408.2).
7. EACH TOILET SHALL BE THE ULTRA LOW FLUSH TYPE AND NOT EXCEED 1.28 GPF (ASME A112.19.2/ CSA B34.1. PER CBC SECTION 411.2).
8. WALL MOUNTED URINALS SHALL HAVE AN AVERAGE WATER CONSUMPTION NOT TO EXCEED 0.125 GPF. OTHER URINALS SHALL HAVE AN AVERAGE WATER CONSUMPTION NOT TO EXCEED .5 GPF (CBC SECTION 412.0).
9. VACUUM BREAKERS SHALL BE PROVIDED AT HOSE BIBS.
10. FLOOR DRAINS OR SIMILAR TRAPS DIRECTLY CONNECTED TO THE DRAINAGE SYSTEM AND SUBJECT TO INFREQUENT USE SHALL BE PROVIDED WITH AN APPROVED AUTOMATIC MEANS OF MAINTAINING THEIR WATER SEALS.
11. INSULATION MATERIAL SHALL MEET THE CALIFORNIA QUALITY STANDARDS PER ENERGY EFFICIENCY STANDARDS SEC. 118.
12. DOORS AND WINDOWS SHALL MEET THE MINIMUM INFILTRATION REQUIREMENTS PER ENERGY EFFICIENCY STANDARDS SEC 116.
13. ALL PIPING AND DUCTWORK SHALL BE INSULATED CONSISTENT WITH THE REQUIREMENTS OF ENERGY EFFICIENCY STANDARDS SEC. 1118, 123, 124 AND CMC TABLE 6-D AS APPLICABLE.
14. ALL HVAC SYSTEMS SHALL MEET THE CONTROL REQUIREMENTS OF ENERGY STANDARDS SEC. 112, 122 AS APPLICABLE.
15. ALL HVAC EQUIPMENT AND APPLIANCES SHALL MEET THE REQUIREMENTS OF ENERGY EFFICIENCY STANDARDS SEC. 111, 115, 120-129 AS APPLICABLE.
16. SERVICE WATER HEATING SYSTEMS AND EQUIPMENT SHALL COMPLY WITH THE ENERGY EFFICIENCY STANDARDS SEC. 113.
17. SWIMMING POOL AND SPA HEATING SYSTEMS AND EQUIPMENT SHALL COMPLY WITH ENERGY EFFICIENCY STANDARDS SEC. 114.
18. SMOKE DETECTORS SHALL BE PROVIDED AT SUPPLY AIR DUCTS OF MOVING AIR SYSTEMS EXCEEDING 2000 CFM. PER CMC SEC. 608.
19. PERMANENT LADDER/ACCESS TO ROOF MOUNTED EQUIPMENT SHALL COMPLY WITH CMC SEC. 307.
20. BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH CPC SEC. 701.0.
21. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AND APPROVED LISTING AGENCY.
22. CHEMICAL WASTE PIPING SHALL COMPLY WITH CPC SEC. 811.0.
23. ALL STORAGE WATER HEATING EQUIPMENT SHALL BE PROVIDED WITH AN APPROVED, LISTED EXPANSION TANK OR OTHER DEVICE DESIGNED FOR INTERMITTENT OPERATION FOR THERMAL EXPANSION CONTROL PER CPC SEC. 608.3.
24. CROSS CONNECTION PROTECTION SHALL BE PROVIDED AT ALL POTABLE WATER SUPPLIED APPLIANCES AND EQUIPMENT EXCEPT THOSE SPECIFIC ITEMS LISTED IN INFORMATION BULLETIN 103.
25. WATER HEATERS SHALL BE ANCHORED OR STRAPPED TO RESIST HORIZONTAL DISPLACEMENT DUE TO SEISMIC MOTION PER CPC SEC. 510.5.
26. MATERIALS EXPOSED WITHIN A DUCT OR PLENUM SHALL COMPLY WITH CMC 601.1.3.
27. CHLORINATED POLYVINYL CHLORIDE (CPVC) SHALL NOT BE USED FOR INTERIOR WATER SUPPLY PIPING PER STATE HEALTH & SAFETY CODE SEC. 17921.9.
28. HVAC EQUIPMENT AND WATER HEATERS SHALL COMPLY WITH CMC CHAP. 3.
29. MEDIUM PRESSURE GAS PIPING SHALL BE LABELED EVERY FIVE FEET.
30. MECHANICAL VENTILATION, WHEN REQUIRED IN RESIDENTIAL BATHROOMS AND LAUNDRY ROOMS AS APPLICABLE PER CBC SEC. 1203.3 SHALL PROVIDE A MINIMUM OF FIVE AIR CHANGES PER HOUR AND BE ROUTED TO THE EXTERIOR.
31. ATTIC/UNDERFLOOR INSTALLATION MUST COMPLY WITH SECTIONS 904, 908, AND 909 OF THE CALIFORNIA MECHANICAL CODE (CMC).
32. WATER HEATER FLUES SHALL COMPLY WITH CPC.
33. SHOWERS AND TUB/SHOWER COMBINATIONS, SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE, THERMOSTATIC, OR COMBINATION PRESSURE BALANCE/ THERMOSTATIC MIXING VALVE TYPE THAT PROVIDE SCALD AND THERMAL SHOCK PROTECTION PER CPC.
34. WATER HEATER(S)/BOILER(S) TO BE STRAPPED IN SEISMIC ZONES 3 AND 4 IN ACCORDANCE WITH CPC.
33. FAU CLOSET OR ALCOVE MUST BE 12 INCHES WIDER THAN THE FURNACE OR FURNACES BEING INSTALLED PER CMC.
34. A TEMPERATURE LIMITING DEVICE SHALL BE PROVIDED AT SOAKING TUBS IN CONFORMANCE WITH THE CPC SECTION 414.5 LIMITATION OF HOT WATER IN BATHTUBS AND WHIRLPOOL BATHTUBS.
35. DUCT INSULATION SHALL BE R-8 IN ACCORDANCE WITH THE CF-1R REPORT.
36. FOR THE AC CONDENSER, A WORKING SPACE OF 30" MINIMUM WIDTH AND 36" MINIMUM DEPTH IS REQUIRED IN FRONT OF DISCONNECT PER CEC 110.26A.

GENERAL NOTES

NOTE: NOT ALL NOTES LISTED ARE APPLICABLE TO PROJECT.

1. THIS PROJECT SHALL COMPLY WITH THE CBC,CFC, CMC, CPC, CA ELEC. CODE, AND CA ENERGY CODE
2. IT WILL BE THE RESPONSIBILITY OF THE OWNER/BUILDER TO ENSURE THAT ALL INTERIOR AND EXTERIOR HAND RAIL AND GUARD RAIL FABRICATION, CONSTRUCTION, AND INSTALLATION SHALL BE REVIEWED AND OFFICIALLY APPROVED IN WRITING BY A QUALIFIED LICENSED STRUCTURAL ENGINEER PRIOR TO FABRICATION AND INSTALLATION.
3. AN APPLICATION FOR OFF-SITE FABRICATION MUST BE SUBMITTED TO THE INSPECTION SERVICES DIVISION FOR APPROVAL PRIOR TO FABRICATION.
4. A CERTIFICATE OF COMPLIANCE FOR OFF-SITE FABRICATION MUST BE COMPLETED AND SUBMITTED TO THE INSPECTION SERVICES DIVISION PRIOR TO ERECTION OF PREFABRICATED COMPONENTS.
5. ALL REQUIRED PERMITS AND APPROVALS MUST BE OBTAINED FROM THE LOCAL FIRE PREVENTION AGENCY PRIOR TO BUILDING OCCUPANCY.
6. AN ELECTRONICALLY SIGNED AND REGISTERED INSTALLATION CERTIFICATE(S) (CF-2R) POSTED BY THE INSTALLING CONTRACTOR SHALL BE SUBMITTED TO THE FIELD INSPECTOR DURING CONSTRUCTION AT THE BUILDING SITE. A REGISTERED CF-2R WILL HAVE A UNIQUE 21-DIGIT REGISTRATION NUMBER FOLLOWED BY FOUR ZEROS LOCATED AT THE BOTTOM OF EACH PAGE. THE FIRST 12 DIGITS OF THE NUMBER WILL MATCH THE REGISTRATION NUMBER OF THE ASSOCIATED CF-1R. CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED UNTIL FORMS CF-2R IS REVIEWED AND APPROVED.
7. AN ELECTRONICALLY SIGNED AND REGISTERED CERTIFICATE(S) OF FIELD VERIFICATION AND DIAGNOSTIC TESTING (CF-3R) SHALL BE POSTED AT THE BUILDING SITE BY A CERTIFIED HERS RATER. A REGISTERED CF-3R WILL HAVE A UNIQUE 25-DIGIT REGISTRATION NUMBER LOCATED AT THE BOTTOM OF EACH PAGE. THE FIRST 20 DIGITS OF THE NUMBER WILL MATCH THE REGISTRATION NUMBER OF THE ASSOCIATED CF-2R. CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED UNTIL FORMS CF-3R IS REVIEWED AND APPROVED.
8. CONTRACTOR SHALL VERIFY THE LOCATION OF TRANSFORMERS AND UNDERGROUND UTILITIES WITH APPLICABLE UTILITY COMPANIES.
9. ALL DIMENSIONS SHOWN SHALL TAKE PRECEDENCE OVER SCALE OF DRAWINGS. DIMENSIONS ARE TO FACE OF STUD, SLAB, OR MASONRY UNLESS NOTED OTHERWISE. DO NOT SCALE DRAWINGS.
10. IF A CONFLICT OR AMBIGUITY OCCURS BETWEEN THE DESCRIPTION OF WORK ON THESE PLANS, THE SUBCONTRACT AGREEMENT OR ANY APPLICABLE BUILDING CODES, THE MORE STRINGENT AND/OR INCLUSIVE, AS DETERMINED BY BUILDER, SHALL APPLY.
11. NEW AND EXISTING BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS, OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. THESE NUMBERS SHALL CONTRAST IN COLOR TO BACKGROUND. NUMBERS SHALL BE A MINIMUM OF 4" HIGH WITH A MIN. STROKE WIDTH OF ½" (CFC SECTION 505.1, FHPS P-00-6).
12. FIRE STOPS SHALL BE LOCATED AT THE FOLLOWING LOCATIONS PER CBC:
    A. IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AT THE CEILING AND FLOOR LEVELS AND AT 10 FOOT INTERVALS BOTH VERTICAL AND HORIZONTAL.
    B. AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS, AT SOFFIT, DROP CEILINGS AND COVE CEILINGS.
    C. IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN AND BETWEEN STUDS ALONG AND INLINE WITH THE RUN OF STAIRS IF THE WALLS UNDER THE STAIRS ARE UNFINISHED.
    D. IN OPENINGS AROUND VENTS, PIPES, DUCTS, CHIMNEYS, FIREPLACES, AND SIMILAR OPENINGS WHICH AFFORD A PASSAGE FOR FIRE AT CEILING AND FLOOR LEVELS, WITH NONCOMBUSTIBLE MATERIALS.
    E. AT OPENINGS BETWEEN ATTIC SPACE AND CHIMNEY CHASES FOR FACTORY-BUILT CHIMNEYS IN ACCORDANCE WITH UL 103 AND UL 127.
13. ALL EXITS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF KEY OR OTHER SPECIAL KNOWLEDGE.
14. INTERIOR FINISHES SHALL CONFORM TO THE REQUIREMENTS OF THE CBC AND ALL LOCAL ORDINANCES.
15. ALL INTERIOR WALLS SHALL RECEIVE BULLNOSE CORNER BEAD TYPICAL EXCEPT AT WINDOWS.
16. CONTRACTOR TO PROVIDE COVER OVER WOOD FRAMING WITH #15 FELT IN BATHTUB AND SHOWER ENCLOSURE. TILE MUST BE ATTACHED TO A BACKING WHICH IS NOT ADVERSELY EFFECTED BY MOISTURE. SEE INTERIOR ELEVATIONS FOR HEIGHT OF TILE SURROUNDS AT SHOWER/TUB AREAS.
17. PROVIDE 30 INCHES CLEAR WIDTH FOR WATER CLOSET COMPARTMENTS AND 24 INCHES CLEARANCE IN FRONT OF WATER CLOSETS PER CBC.
18. PERMANENT VACUUM BREAKERS SHALL BE INCLUDED WITH ALL HOSE BIBS.
19. THE DISCHARGE POINT FOR EXHAUST AIR WILL BE AT LEAST 3'-6" (3'-0" MIN. PER CODE) FROM ANY OPENING INTO THE BUILDING PER CMC.
20. ALL WEATHER-EXPOSED SURFACES SHALL HAVE A WEATHER-RESISTIVE BARRIER TO PROTECT THE INTERIOR WALL COVERING AND EXTERIOR OPENINGS SHALL BE FLASHED IN SUCH A MANNER AS TO MAKE THEM WEATHERPROOF PER CBC.
21. APPROVED SPARK ARRESTERS SHALL BE INSTALLED ON ALL CHIMNEYS PER CBC.
22. NEW WATER CLOSETS AND ASSOCIATED FLUSHOMETER VALVES, IF ANY, SHALL USE NO MORE THAN 1.28 GALLONS PER FLUSH AND SHALL MEET PERFORMANCE STANDARDS ESTABLISHED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE STANDARD A112.19.2, AND URINALS AND ASSOCIATED FLUSHOMETER VALVES, IF ANY, SHALL USE NO MORE THAN 0.5 GALLON PER FLUSH AND SHALL MEET PERFORMANCE STANDARDS ESTABLISHED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE A112.19.2 H & S CODE, SECTION 17921.3(b).
23. ALL NEW GLAZING WILL BE INSTALLED WITH A CERTIFYING LABEL ATTACHED, SHOWING 1) THE U-VALUE, 2) CERTIFICATION BY THE NFRC, AND COMPLIANCE W/ENERGY CALCULATIONS.
24. SURFACE WATER SHALL DRAIN AWAY FROM BUILDINGS.
25. AN A.I.T.C. CERTIFICATE OF COMPLIANCE FOR GLUE LAMINATED WOOD MEMBERS SHALL BE GIVEN TO THE BUILDING INSPECTOR PRIOR TO INSTALLATION PER CBC.
26. RESIDENTIAL GAS APPLIANCES ARE REQUIRED TO BE OF THE DIRECT-VENT SEALED COMBUSTION STYLE - CALGREEN 4.503.1.
27. PROVIDE ADDITIONAL REINFORCING TO CONTROL CRACKING AT THE CORNERS OF ALL WINDOWS, DOORS AND RE-ENTRANT CORNERS TYPICAL.
28. DUCTLESS FANS CANNOT BE USED IN BATHROOMS IF A TUB OR SHOWER IS PRESENT PER CBC.
29. GAS VENTS AND NONCOMBUSTIBLE PIPING IN WALLS, PASSING THROUGH THREE FLOORS OR LESS, SHALL BE EFFECTIVELY DRAFT STOPPED AT EACH FLOOR OR CEILING PER CBC.
30. EXTERIOR DOORS MAY NOT SWING OUTWARD WHEN THERE IS GREATER THAN A 1" DROP PER CBC.
31. STRUCTURAL MEMBERS SUPPORTING AN OCCUPANCY SEPARATION MUST HAVE THE SAME FIRE-RESISTIVE RATING AS THE SEPARATION.
32. ALL GLASS IN DOORS AND SLIDING GLASS DOORS TO BE TEMPERED.
33. ALL ELECTRICAL SERVICE SHALL BE UNDERGROUND.
34. ALL CONDENSATE LINES MUST DISCHARGE IN A PLUMBING FIXTURE.
35. UNDER SLABS THERE SHALL BE A MINIMUM 6-MIL MOISTURE BARRIER WITH MINIMUM 2" OF SAND COVER.
36. THE RETURN AIR PLENUM SERVING THE MECHANICAL EQUIPMENT MUST BE FULLY DUCTED FROM THE EQUIPMENT TO THE CONDITIONED SPACE. DROP CEILINGS, WALL CAVITIES AND EQUIPMENT PLATFORMS MAY NOT BE USED AS PLENUMS.
37. RESCUE OR ESCAPE WINDOWS FROM BEDROOMS SHALL COMPLY WITH CBC.
38. GUTTERS, DOWNSPOUTS & SCUPPERS SHALL BE DESIGNED TO ACCOMMODATE 2" RAINFALL.
39. BARS, GRILLES, COVERS, SCREENS OR SIMILAR DEVICES ARE PERMITTED TO BE PLACED OVER EMERGENCY ESCAPE AND RESCUE OPENINGS, BULKHEAD ENCLOSURES, OR WINDOW WELLS THAT SERVE SUCH OPENINGS, PROVIDED THE MINIMUM NET CLEAR OPENING SIZE COMPLIES WITH SECTIONS R310.1.1 TO R310.1.3, AND SUCH DEVICES SHALL BE RELEASABLE OR REMOVABLE FROM THE INSIDE WITHOUT THE USE OF A KEY, TOOL, SPECIAL KNOWLEDGE OR FORCE GREATER THAN THAT WHICH IS REQUIRED FOR NORMAL OPERATION OF THE ESCAPE AND RESCUE OPENING. THE RELEASE MECHANISM SHALL BE MAINTAINED OPERABLE AT ALL TIMES. SUCH BARS, GRILLES, GRATES OR ANY SIMILAR DEVICES SHALL BE EQUIPPED WITH AN APPROVED EXTERIOR RELEASE DEVICE FOR USE BY THE FIRE DEPARTMENT ONLY WHEN REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
40. ALL DUCTWORK SHALL BE CONSTRUCTED, ERECTED, AND TESTED IN ACCORDANCE WITH THE MOST RESTRICTIVE OF LOCAL REGULATIONS, THE PROCEDURES DETAILED IN THE ASHRAM HANDBOOK OF FUNDAMENTALS, OR THE APPLICABLE STANDARDS ADOPTED TO THE SHEET METAL AND AIR CONDITIONING CONTRACTOR ASSOCIATION.
41. WHEN STUCCO IS APPLIED OVER WOOD BASED SHEATHING A WATER RESISTIVE BARRIER SHALL BE APPLIED OVER THE WOOD BASED SHEATHING CONSISTING OF A WATER-RESISTIVE VAPOR-PERMEABLE BARRIER AT LEAST EQUIVALENT TO TWO LAYERS OF GRADE D PAPER (CBC 2510.6).
42. IN SLEEPING ROOMS THE MINIMUM NET CLEAR WINDOW OPENING FOR EMERGENCY ESCAPE AND RESCUE GRADE-FLOOR OPENINGS SHALL BE 5.7 SQ. FT. THE MINIMUM NET CLEAR OPENING SHALL BE 24" HIGH AND 20" WIDE. THE NET CLEAR OPENING SHALL BE THE RESULT OF NORMAL OPERATION OF THE OPENING (CBC 1028.2).
43. COMMON USE AREAS SHALL BE MADE ACCESSIBLE (CBC 1102A.2.1).
44. KITCHENS REQUIRE EXHAUST FANS WITH A MINIMUM 100 CFM DUCTED TO THE EXTERIOR.
45. PROVIDE MINIMUM 50 CF/MIN. EXHAUST FOR INTERMITTENT VENTILATION OR 20 CF/MIN. EXHAUST FOR CONTINUOUS VENTILATION AT BATH AND LAUNDRY ROOMS.
46. ALL FANS INSTALLED MUST BE SPECIFIED AT A NOISE RATING OF A MAXIMUM 1 SONE (CONTINUOUS USE) OR 3 SONE (INTERMITTENT USE).
47. RESIDENTIAL BATHROOM EXHAUST FANS SHALL BE ENERGY STAR RATED AND SHALL BE CONTROLLED BY A HUMIDISTAT CAPABLE OF AN ADJUSTMENT BETWEEN 50% AND 80% HUMIDITY (CALGREEN 4.506.1). EXCEPTION: CONTROL BY A HUMIDISTAT IS NOT REQUIRED IF THE BATHROOM EXHAUST FAN IS ALSO THE DWELLING WHOLE HOUSE VENTILATION.
48. WALL AND FLOOR/CEILING ASSEMBLIES SEPARATING DWELLING UNITS FROM EACH OTHER AND FROM COMMON SPACE (SUCH AS CORRIDORS, LAUNDRY ROOMS, COMMON GARAGES, SERVICE AREAS, ETC.) MUST HAVE A LISTED RATING OF STC 50 (AND IIC OF 50 FOR FLOORS) (CBC SECTION 1207).
49. PENETRATIONS OF FIRE-RESISTIVE WALLS, FLOOR-CEILINGS AND ROOF-CEILINGS SHALL BE PROTECTED AS REQUIRED BY CBC.
50. PENETRATIONS OF FIRE-RESISTIVE WALLS, FLOOR-CEILINGS AND ROOF-CEILINGS SHALL BE PROTECTED AS REQUIRED IN IBC SECTION 714.
51. PENETRATIONS INTO OR THROUGH AN EXIT ENCLOSURE ARE PROHIBITED, EXCEPT FOR EQUIPMENT AND DUCTS NECESSARY FOR INDEPENDENT PRESSURIZATION, SPRINKLER PIPING, STANDPIPES AND ELECTRICAL CONDUIT SERVING THE ENCLOSURE (CBC SECTION 1023.5).
52. RECYCLE AND/OR SALVAGE FOR REUSE A MINIMUM OF 65% OF THE NON-HAZARDOUS CONSTRUCTION AND DEMOLITION WASTE IN ACCORDANCE WITH CALIFORNIA GREEN BUILDING STANDARDS CODE, CHAPTER 4, DIVISION 4.4.

GENERAL NOTES (CONT'D)

53. FOR VENT TERMINATION AT EXTERIOR WALLS - REFER TO DETAIL:
    7 / AD-11
54. FOR PENETRATIONS OF SLAB AND EXTERIOR WALLS REFER TO DETAILS:
    1 / AD-11, 2 / AD-11, 3 / AD-11, 4 / AD-11
55. NOT USED.
56. FOR ALL NEW RESIDENTIAL CONSTRUCTION WHERE LANDSCAPE IRRIGATION WATER IS PLANNED A WATER BUDGET SHALL BE DEVELOPED THAT CONFORMS TO LOCAL LANDSCAPE ORDINANCE OR THE CALIFORNIA DEPARTMENT OF WATER RESOURCES MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO), WHICH EVER IS MORE STRINGENT. TO VIEW MWELO: http://www.water.ca.gov/wateruseefficiency/docs/MWELO_TbContent_Law.pdf FOR THE LOCAL LANDSCAPE ORDINANCE CHECK WITH CITY/COUNTY PLANNING DEPARTMENT. (CGC 4.304.1)
57. STAIRWAY RISER MUST BE 4" MINIMUM AND 7" MAXIMUM AND MINIMUM RUN SHALL BE 11" PER CBC SECTION 1011.5.2.
    - 57.A. STAIRWAY WITHIN DWELLING UNITS IN OCCUPANCIES IN GROUP R-2, THE MAXIMUM RISER HEIGHT SHALL BE 7.75", AND THE MINIMUM TREAD DEPTH SHALL BE 10". A NOSING NOT LESS THAN .75" BUT NOT MORE THAN 1.25" SHALL BE PROVIDED ON STAIRWAYS WITH SOLID RISERS WHERE THE TREAD DEPTH IS LESS THAN 11"
58. ENCLOSED FRAMING IN WOOD EXTERIOR BALCONIES AND DECKS SHALL BE PROVIDED WITH OPENINGS THAT PROVIDE A NET FREE CROSS VENTILATION AREA NO LESS THAN 1/150 OF THE AREA OF EACH SEPARATE SPACE (CBC SECTION 2304.12.2.6, AS AMENDED BY THE EMERGENCY BUILDING STANDARDS).
59. WOOD BALCONIES AND DECKS THAT SUPPORT MOISTURE-PERMEABLE FLOORS SHALL BE PROVIDED WITH AN IMPERVIOUS MOISTURE BARRIER SYSTEM UNDER THE MOISTURE-PERMEABLE FLOOR, WITH POSITIVE DRAINAGE (CBC SECTION 2304.12.2.5, AS AMENDED BY EMERGENCY BUILDING STANDARDS).
60. ACCESSIBLE ROUTES OF TRAVEL SHALL BE PROVIDED FROM PUBLIC TRANSPORTATION STOPS, ACCESSIBLE PARKING AND ACCESSIBLE PASSENGER LOADING ZONES, AND PUBLIC STREETS OR SIDEWALKS TO THE ACCESSIBLE ENTRANCE THEY SERVE. THE ACCESSIBLE ROUTE SHALL TO THE EXTENT FEASIBLE, COINCIDE WITH THE ROUTE FOR THE GENERAL PUBLIC (CBC SECTION 1110A.1).
61. ACCESSIBLE PARKING STALLS SHALL BE IDENTIFIED BY A SIGN, COMPLYING WITH CBC SECTION 1109A.8.8.
    - 61.A. AN ADDITIONAL SIGN SHALL BE POSTED IN A CONSPICUOUS PLACE AT EACH ENTRANCE TO OFF-STREET PARKING FACILITIES OR IMMEDIATELY ADJACENT TO AND VISIBLE FROM EACH STALL OR SPACE. THE SIGN SHALL NOT BE LESS THAN 17" BY 22" IN SIZE WITH LETTERING NOT LESS THAN 1" IN HEIGHT, WHICH STATES THE FOLLOWING"
    "UNAUTHORIZED VEHICLES PARKED IN DESIGNATED HANDICAPPED SPACES NOT DISPLAYING DISTINGUISHED PLACARDS OR LICENSE PLATES ISSUED FOR PHYSICALLY DISABLED PERSONS MAY BE TOWED AWAY AT OWNER'S EXPENSE. TOWED VEHICLES MAY BE RECLAIMED AT _____ OR BY TELEPHONING _____." (CBC SECTION 1109A.8.8).
62. GLAZING IN FIXED AND OPERABLE PANELS OF DOOR ASSEMBLIES SHOULD BE OF SAFETY GLAZING MATERIALS IN ACCORDANCE WITH CBC SECTION 2406.4.
63. SHOWER ENCLOSURES SHALL BE SAFETY GLAZING.
64. PARKING GARAGES SHALL HAVE UNOBSTRUCTED HEADROOM CLEARANCE OF NOT LESS THAN 7'-0" ABOVE THE FINISH FLOOR TO ANY CEILING, BEAM, PIPE, OR SIMILAR CONSTRUCTION PER CBC SECTION 406.4.1
65. ALL ENTRY DOORS TO THE HOUSE SHALL BE SELF LATCHING.
66. ACCESSIBLE SWITCHES, OUTLETS, AND CONTROLS SHALL COMPLY WITH CBC SECTION 1142A.
67. LIGHTING INSTALLED IN CORRIDORS AND STAIRWELLS SHALL BE CONTROLLED BY OCCUPANT SENSORS THAT REDUCE THE LIGHTING POWER IN EACH SPACE BY AT LEAST 50%. THE OCCUPANT SENSORS SHALL BE CAPABLE OF TURNING THE LIGHT ON AND OFF FROM ALL DESIGNED PATHS OF INGRESS AND EGRESS.
68. DOORS OTHER THAN THE HOISTWAY DOOR AND THE ELEVATOR CAR DOOR ARE PROHIBITED AT THE POINT OF ACCESS TO ELEVATOR CAR, EXCEPT DOORS READILY OPENABLE FROM THE CAR SIDE WITHOUT A KEY, TOOL, SPECIAL KNOWLEDGE OR EFFORT. (CBC SECTION 3002.6)
69. BUILDING MATERIALS WITH VISIBLE SIGNS OF WATER DAMAGE SHALL NOT BE INSTALLED. WALLS AND FRAMING SHALL NOT BE ENCLOSED WHEN THE FRAMING MEMBERS EXCEED 19% MOISTURE CONTENT. INSULATION PRODUCTS THAT ARE VISIBLY WET OR HAVE HIGH MOISTURE CONTENT SHALL BE REPLACED OR ALLOWED TO DRY PRIOR TO ENCLOSURE IN WALL OR FLOOR CAVITIES. WET-APPLIED INSULATION SHALL FOLLOW MANUFACTURES DRYING RECOMMENDATIONS PRIOR TO ENCLOSURE.
70. AN A.I.T.C. CERTIFICATE OF COMPLIANCE FOR GLUED LAMINATED WOOD MEMBERS SHALL BE GIVEN TO THE BUILDING INSPECTOR PRIOR TO INSTALLATION.
82. THE CONSTRUCTION SHALL NOT RESTRICT A FIVE-FOOT CLEAR AND UNOBSTRUCTED ACCESS TO ANY WATER OR POWER DISTRIBUTION FACILITIES (POWER POLES, PULL-BOXES, TRANSFORMERS, VAULTS, PUMPS, VALVES, METERS, APPURTENANCES, ETC.) OR TO THE LOCATION OF THE HOOKUP. THE CONSTRUCTION SHALL NOT BE WITHIN TEN FEET OF ANY POWER LINES-WHETHER OR NOT THE LINES ARE LOCATED ON THE PROPERTY. FAILURE TO COMPLY MAY CAUSE CONSTRUCTION DELAYS AND/OR ADDITIONAL EXPENSES.
83. SHOWER COMPARTMENTS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEADS SHALL BE FINISHED WITH A SMOOTH, NONABSORBENT SURFACE TO HEIGHT NOT LESS THAN 72 INCHES ABOVE THE DRAIN INLET (SECTION 1210.2.3). USE OF WATER-RESISTANT GYPSUM BACKING BOARD SHALL BE AS STATED IN CBC SECTION 2509.3.
84. TOILET ROOM FLOORS SHALL HAVE A SMOOTH, HARD NON-ABSORBENT SURFACE SUCH AS PORTLAND CEMENT, CERAMIC TILE OR OTHER APPROVED MATERIAL THAT EXTENDS UPWARD ONTO THE WALLS AT LEAST 4 INCHES (1210.2.1).
85. CEMENT, FIBER-CEMENT, OR GLASS MAT GYPSUM BAKERS IN COMPLIANCE WITH ASTM C1178, C1288 OR C1325 SHALL BE USED AS A BASE FOR WALL TILE IN TUB AND SHOWER AREAS AND WALL AND CEILING PANELS IN SHOWER AREAS. WATER-RESISTANCE GYPSUM BACKING BOARD SHALL BE USED AS A BASE FOR TILE IN WATER CLOSET COMPARTMENT WALLS WHEN INSTALLED IN ACCORDANCE WITH GA-216 OR ASTM C840. REGULAR GYPSUM WALLBOARD IS PERMITTED UNDER TILE OR WALL PANELS IN OTHER WALL AND CEILING AREAS WHEN INSTALLED IN ACCORDANCE GA-216 OR ASTM C840. WATER-RESISTANT GYPSUM BOARD SHALL NOT BE USED IN THE FOLLOWING LOCATIONS: CBC SECTION 2509.2.
86. IN R1 AND R2 OCCUPANCIES, WHERE THE TOP OF THE SILL OF AN OPERABLE WINDOW OPENING IS LOCATED LESS THAN 36" ABOVE THE FINISHED FLOOR AND MORE THAN 72 INCHES ABOVE THE FINISHED GRADE OR OTHER SURFACE BELOW ON THE EXTERIOR OF THE BUILDING, SHALL COMPLY WITH CBC SECTION1013.8.
87. WOOD, HARDBOARD, AND WOOD STRUCTURAL PANEL SIDING SHALL BE INSTALLED IN ACCORDANCE WITH CBC CHAPTER 23 AND TABLE 1405.2. BASIC HARDBOARD SHALL CONFORM TO THE REQUIREMENTS OF AHA A135.4. HARDBOARD SIDING SHALL CONFORM TO THE REQUIREMENTS OF AHA A135.6 AND, WHERE USED STRUCTURALLY, SHALL BE SO IDENTIFIED BY THE LABEL OF THE APPROVED AGENCY
88. HORIZONTAL LAP SIDING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WHERE THERE ARE NO MANUFACTURER'S RECOMMENDATIONS, FIBER-CEMENT LAP SIDING HAVING A MAXIMUM WIDTH OF 12 INCHES SHALL COMPLY WITH THE REQUIREMENTS OF ASTM C1186, TYPE A, MINIMUM GRADE II (OR ISO 8336, CATEGORY A, MINIMUM CLASS 2). LAP SIDING SHALL BE LAPPED A MINIMUM OF 1 1/4 INCHES AND LAP SIDING NOT HAVING TONGUE-AND-GROOVE END JOINTS SHALL HAVE THE ENDS PROTECTED WITH CAULKING, COVERED WITH AND H-SECTION JOINT COVER, LOCATED OVER A STRIP OF FLASHING OR SHALL BE OTHERWISE DESIGNED TO COMPLY WITH CBC SECTION 1403.2. LAP SIDING COURSES SHALL BE INSTALLED WITH THE FASTENER HEADS EXPOSED OR CONCEALED IN ACCORDANCE WITH THE APPROVED MANUFACTURER'S INSTRUCTIONS. (CBC 1405.16.2)
89. A MINIMUM OF ONE LAYER OF NO. 15 ASPHALT FELT, COMPLYING WITH ASTM D226 FOR TYPE 1 FELT OR OTHER APPROVED MATERIALS, SHALL BE ATTACHED TO THE STUDS OR SHEATHING, WITH FLASHING AS DESCRIBED IN CBC SECTION 1405.4, IN SUCH A MANNER AS TO PROVIDE A CONTINUOUS WATER RESISTIVE BARRIER BEHIND THE EXTERIOR WALL.
90. DUCTS IN A PRIVATE GARAGE AND DUCTS PENETRATING THE WALLS OR CEILINGS SEPARATING THE DWELLING UNIT FROM THE GARAGE SHALL BE CONSTRUCTED OF A MINIMUM NO. 26 GAGE SHEET STEEL OR OTHER APPROVED MATERIAL AND SHALL HAVE NO OPENINGS INTO THE GARAGE.
91. NEW OR REPLACEMENT GARAGES SHALL HAVE BATTERY BACK-UP INSTALLED FOR ANY GARAGE DOOR OPENERS (SB969).
92. WINDOW AND SLIDING GLASS DOORS WOULD BE MOUNTED IN LOW AIR INFILTRATION RATE FRAMES (0.5 CUBIC FEET PER MINUTE OR LESS, PER ANSI SPECIFICATIONS)
93. EXTERIOR DOORS WOULD HAVE A SOLID CORE WITH PERIMETER WEATHER-STRIPPING AND THRESHOLD SEALS WITH A SOUND TRANSMISSION CLASS (STC) RATING OF AT LEAST 31, WITH THE POTENTIAL FOR STC RATING OF 36 OR HIGHER IF NECESSARY.
94. EXTERIOR WALLS WOULD INCLUDE MINIMUM OF 5/8-INCH OF STUCCO OR BRICK VENEER OVER A MINIMUM 1/2-INCH PLYWOOD OR OSB SHEAR PANEL, R11 INSULATION AND IN

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COTA VERA SWIM CLUB
2022014 HOMEFED CORPORATION

LICENSED ARCHITECT
JAMES ... STARCK
No. C 10560
REN 4-30-21
STATE OF CALIFORNIA

1/17/23 CITY SUBMITTAL

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GENERAL NOTES, ABBREVIATIONS

A0-2

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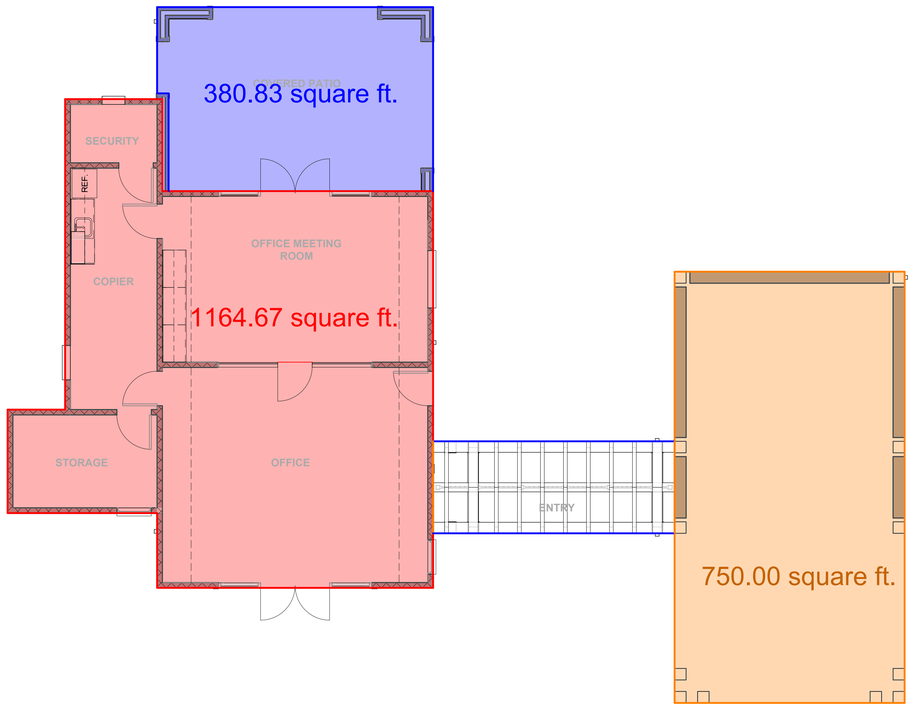

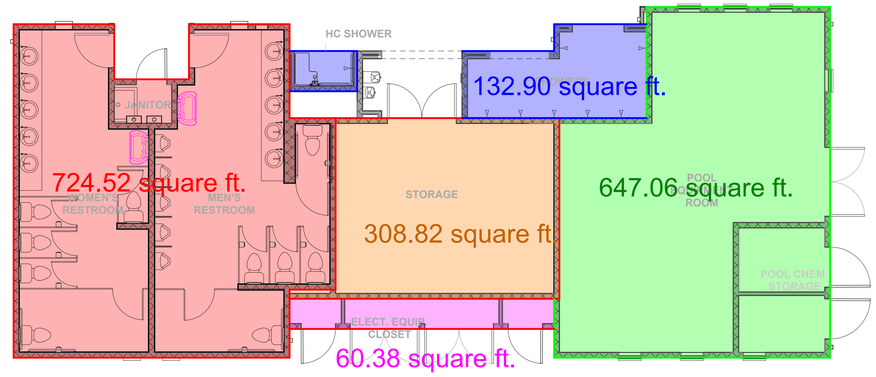

OFFICE AND COVERED EXERCISE AREA	11/29/2022
OFFICE/CONFERENCE RM./ SUPPORT	1164.67 S.F.
COVERED PATIO	380.83 S.F.
COVERED YOGA AREA	750.00 S.F.
TOTAL COVERED AREA	**2295.50 S.F.**

RESTROOM / POOL STORAGE BUILDING	
RESTROOM	724.52 S.F.
POOL EQUIPMENT ROOM	647.06 S.F.
STORAGE	308.82 S.F.
COVERED SHOWER AREAS	132.90 S.F.
UTILITY CLOSET	60.38 S.F.
TOTAL FLOOR AREA	**1680.40 S.F.**

TRASH ENCLOSURE	
COVERED TRASH ENCLOSURE	**192.83 S.F.**

G.F.A.	3038.35 S.F.
LOT AREA	65920.00 S.F.
F.A.R.	4.61%

AREA ANALYSIS

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AREA ANALYSIS

A0-3

COTA VERA SWIM CLUB CODE ANALYSIS
PROJECT NO.: 2022014
CODE: 2022 CBC

1. OCCUPANCY TYPE:
    a. Rec Bldg + Covered Exercise = A3
    b. Restroom / Pool Equipment Bldg = A3
    c. Covered Trash Enclosure = A3
2. TYPE OF CONSTRUCTION: VB (non-rated)
3. ALLOWABLE AREA: A3 = 6000 SF PER FLOOR
4. ACTUAL AREA:
    a. Rec Bldg + Covered Exercise = 2295 SF (COMPLIES)
    b. Restroom / Pool Equipment Bldg = 1741 SF (COMPLIES)
    c. Covered Trash Enclosure = 193 SF (COMPLIES)
5. FIRE SPRINKLERS:
    a. Rec Bldg + Covered Exercise = none
    b. Restroom / Pool Equipment Bldg = none
    c. Covered Trash Enclosure = none
6. ALLOWABLE STORIES: A3 = 1
7. ACTUAL STORIES:
    a. Rec Bldg + Covered Exercise = 1 (COMPLIES)
    b. Restroom / Pool Equipment Bldg = 1 (COMPLIES)
    c. Covered Trash Enclosure = 1 (COMPLIES)
8. ALLOWABLE HEIGHT: A3 = 40 FT
9. ACTUAL HEIGHT:
    a. Rec Bldg + Covered Exercise = 25'-6" FT (COMPLIES)
    b. Restroom / Pool Equipment Bldg = 28'-0" FT (COMPLIES)
    c. Covered Trash Enclosure = 12'-0" FT (COMPLIES)
10. FIRE SEPARATION DISTANCE:
    a. For non-rated construction, it is required that there be 10'-0" from building wall to real or imaginary property line. Therefore, if 20'-0" separation between buildings is NOT provided, then at least one wall of a structure will need a 1 hour fire rating.
11. ACCESSIBILITY:
    a. All structures and pools on site will be accessible per chapter 11A and 11B.

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CODE ANALYSIS

A0-4

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

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 1101.1et 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), enhanced advanced technology PZEV (enhanced AT ZEV) or transitional zero emission vehicles (TZEV) regulated under CCR, Title 13, Section 1962.
2. High-efficiency vehicles, regulated by U.S. EPA, bearing a fuel economy and greenhouse gas rating of 9 or 10 as regulated under 40 CFR Section 600 Subpart D.

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.

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.

5.106.4.1.2Long-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.

5.106.4.1.3For 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.

5.106.4.1.4For 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.

5.106.4.1.5Acceptable 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.

5.106.5.3 Electric vehicle (EV) charging . [N] Construction to provide electric vehicle infrastructure and facilitate electric vehicle charging shall comply with Section 5.106.5.3.1 and shall be provided in accordance with regulations in the California Building Code and the California Electrical Code.

Exceptions:
1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:
   a. Where there is no local utility power supply
   b. Where the local utility is unable to supply adequate power.
   c. Where there is evidence suitable to the local enforcement agency substantiating the 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.
2. Parking spaces accessible only by automated mechanical car parking systems are not required to comply with this code section

5.106.5.3.1 EV capable spaces.
[N] EV capable spaces shall be provided in accordance with Table 5.106.5.3.1 and the following requirements:
1. Raceways complying with the California Electrical Code and no less that 1-inch (25 mm) diameter shall be provided and 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 EV capable and into a suitable listed cabinet, box,enclosure or equivalent. A common raceway may be used to serve multiple EV charging spaces.
2. A service panel or subpanel (s) shall be provided with panel space and electrical load capacity for a dedicated 208/240 volt, 40-ampere minimum branch circuit for each EV capable space, with delivery of 30-ampere minimum to an installed EVSE at each EVCS.
3. The electrical system and any on-site distribution transformers shall have sufficient capacity to supply full rated amperage at each EV capable space.
4. The service panel or subpanel circuit directory shall identify the reserved overcurrent protective devices space(s) as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE."

Note: A parking space served by electric vehicle supply equipment or designed as a future EV charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by an enforcement agency. See vehicle Code Section 22511.2 for further details.

TABLE 5.106.5.3.1

TOTAL NUMBER OF ACTUAL PARKING SPACES	NUMBER OF REQUIRED EV CAPABLE SPACES	NUMBER OF EVCS (EV CAPABLE SPACES PROVIDED WITH EVSE)^2
0-9	0	0
10-25	2	0
26-50	8	2
51-75	13	3
76-100	17	4
101-150	25	6
151-200	35	9
201 AND OVER	20% of total[1]	25% of EV capable spaces[1]

1. Where there is insufficient electrical supply.
2. The number of required EVCS (EV capable spaces provided with EVSE) in column 3 count towards the total number of required EV capable spaces shown in column 2.

5.106.5.3.2 Electric vehicle charging stations (EVCS)
EV capable spaces shall be provided with EVSE to create EVCS in the number indicated in Table 5.106.5.3.1. The EVCS required by Table 5.106.5.3.1 may be provided with EVSE in any combination of Level 2 and Direct Current Fast Charging (DCFC), except that at least one Level 2 EVSE shall be provided.

One EV charger with multiple connectors capable of charging multiple EVs simultaneously shall be permitted if the electrical load capacity required by Section 5.106.5.3.1 for each EV capable space is accumulatively supplied to the EV charger.

The installation of each DCFC EVSE shall be permitted to reduce the minimum number of required EV capable spaces without EVSE by five and reduce proportionally the required electrical load capacity to the service panel or subpanel.

5.106.5.3.3 Use of automatic load management systems (ALMS).
ALMS shall be permitted for EVCS. When ALMS is installed, the required electrical load capacity specified in Section
5.106.5.3.1 for each EVCS may be reduced when serviced by an EVSE controlled by an ALMS. Each EVSE controlled by an ALMS shall deliver a minimum 30 amperes to an EV when charging one vehicle and shall deliver a minimum 3.3 kW while simultaneously charging multiple EVs.

5.106.5.3.4 Accessible EVCS.
When EVSE is installed, accessible EVSC shall be provided in accordance with theCalifornia Building Code, Chapter 11B, Section 11B-228.3.
Note: For EVCS signs, refer to Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s).

5.106.5.4 Electric Vehicle (EV) charging: medium-duty and heavy-duty. [N]
Construction shall comply with section 5.106.5.4.1 to facilitate future installation of electric vehicle supply equipment (EVSE). Construction for warehouses, grocery stores and retail stores with planned off-street loading spaces shall also comply with Section 5.106.5.4.1 for future installation of medium- and heavy-duty EVSE.
Exceptions:
1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:
   a. Where there is no local utility power supply.
   b. Where the local utility is unable to supply adequate power.
   c. 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.

When EVSE(s) is/are installed, it shall be in accordance with theCalifornia Building Code, the California Electrical Code and as follows:

5.106.5.4.1 Electric vehicle charging readiness requirements for warehouse, grocery stores and retail stores with planned off-street loading spaces.
[N] In order to avoid future demolition when adding EV charging supply and distribution equipment, spare raceways(s) or busway(s) and adequate capacity for transformers(s), service panels(s) or subpanel(s) shall be installed at the time of construction in accordance with the California Electrical Code. Construction plans and specifications shall include but are not limited to, the following:
1. The transformer, main service equipment and subpanel shall meet the minimum power requirement in Table 5.106.5.4.1 to accommodate the dedicated branch circuits for the future installation of EVSE.
2. The construction documents shall indicate on or more location(s) convenient to the planned offstreet loading space(s) reserved for medium-and heavy-duty ZEV charging cabinets and charging dispensers, and a pathway reserved for routing of conduit from the termination of the raceway(s) or busway(s) to the charging cabinet(s) and dispenser(s) as shown in Table 5.106.5.4.1
3. Raceway(s) or busway(s) originating at a main service panel or a subpanel(s) serving the area where potential future medium-and heavy-duty EVSE will be located and shall terminate in close proximity to the potential future location of the charging equipments for medium- and heavy-duty vehicles.
4. The raceway(s) or busway(s) shall be sufficient size to carry the minimum additional system load to the future location of the charging for medium- and heavy-duty ZEVs as shown in Table 5.106.5.4.1.

TABLE 5.106.5.4.1 RACEWAY CONDUIT AND PANEL POWER REQUIREMENTS FOR MEDIUM- AND HEAVY-DUTY EVSE [N]

BUILDING TYPE	BUILDING SIZE (SQ. FT.)	NUMBER OF OFF-STREET LOADING SPACES	ADDITIONAL CAPACITY REQUIRED (KVA) FOR RACEWAY & BUSWAY AND TRANSFORMER & PANEL
Grocery	10,000 to 90,000	1 or 2	200
		3 or Greater	400
	Greater than 90,000	1 or Greater	400
Retail	10,000 to 135,000	1 or 2	200
		3 or Greater	400
	Greater than 135,000	1 or Greater	400
Warehouse	20,000 to 256,000	1 or 2	200
		3 or Greater	400
	Greater than 256,000	1 or Greater	400

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 Sections 130.2 (b) and 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.
5. Luminaires with less than 6,200 initial luminaire lumens.

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					
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 [3]	N/A	U0	U0	U0	U0
For all other outdoor lighting,including decorative luminaires	N/A	U1	U2	U3	UR
MAXIMUM ALLOWABLE GLARE RATING (G)					
MAXIMUM ALLOWABLE GLARE RATING (G)	N/A	G1	G2	G3	G4
MAXIMUM ALLOWABLE GLARE RATING (G)	N/A	G0	G1	G1	G2
MAXIMUM ALLOWABLE GLARE RATING (G)	N/A	G0	G0	G1	G1
MAXIMUM ALLOWABLE GLARE RATING (G)	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. General lighting luminaires in areas such as outdoor parking, sales or storage lots shall meet these reduced ratings. Decorative luminaries located in these areas shall meet*U*-value limits for "all other outdoor lighting"

5.106.8.1 Facing- Backlight
Luminaries within 2MH of a property line shall be oriented so that the nearest property line is behind the fixture, and shall comply with the backlight rating specified in Table 5.106.8 based on the lighting zone and distance to the nearest point of that property line.
Exception: Corners. If two property lines (or two segments of the same property line) have equidistant point to the luminaire, then the luminaire may be oriented so that the intersection of the two lines (the corner) is directly behind the luminaire. The luminaire shall still use the distance to the nearest points(s) on the property lines to determine the required backlight rating.

5.106.8.2 Facing-Glare.
For luminaires covered by 5.106.8.1, if a property line also exists within or extends into the front hemisphere within 2MH of the luminaire then the luminaire shall comply with the more stringent glare rating specified in Table 5.106.8 based on the lighting zone and distance to the nearest point on the nearest property line within the front hemisphere.

Note: [N]
1.See alsoCalifornia 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 CodeTables 130.2-A and 130.2-B.
3. Refer to theCalifornia Building Codefor requirements for additions and alterations.

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.

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: Surface parking area covered by solar photovoltaic shade structures with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5 shall be permitted in whole or in part in lieu of shade tree planting.

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:
1. Walks, hardscape areas covered by solar photovoltaic shade structures or shade structures with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5 shall be permitted in whole or in part in lieu of shade tree planting.
2. Designated and marked play areas of organized sport activity 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. [HCD 1]A secondary device beyond a meter that measures water consumption of an individual rental unit within a multiunit residential structure or mixed-use residential and commercial structure. (See Civic Code Section 1954.202 (g) and Water code Section 517 for additional details.)

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).

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GREEN STANDARDS

A0-5

36 x 24

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

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

Y	N/A	RESPON. PARTY

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.

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.

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

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

TABLE H-2

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

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

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 Codeand 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 soiled 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 by weight or volume, but not by both.

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

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

Exceptions to Sections 5.408.1.1 and 5.408.1.2:

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 www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen 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/universalwaste/

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 does 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°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)).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 Of/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.

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

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GREEN STANDARDS

A0-6

36 x 24

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
NONRESIDENTIAL MANDATORY MEASURES, SHEET 3 (January 2023)

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

Y	N/A	RESPON. PARTY
☐	☐	

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

TABLE 5.504.4.3 - CONT.

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

COATING CATEGORY	CURRENT VOC LIMIT
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 the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers." Version 1.2, January 2017 (Emission testing method for California Specifications 01350).

See California Department of Public Health's website for certification programs and testing labs.
https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material

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

See California Department of Public Health's website for certification programs and testing labs.
https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material

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

See California Department of Public Health's website for certification programs and testing labs.
https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material

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

5.504.4.7 Thermal insulation
Comply with the requirements of the California Department of Public Health, "Standard Method of the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, "Version 1.2, January 1.2, January 2017 (Emission testing method for California Specification 01350).
See California Department of Public Health's website for certification programs and testing labs.
https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material

5.504.4.7.1 Verification of compliance.
Documentation shall be provided verifying that thermal insulation materials meet the pollutant emission limits.

5.504.4.8 Acoustical ceiling and wall panels.
Comply with the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350).
See California Department of Public Health's website for certification programs and testing labs.

5.504.4.8.1 Verification of compliance. Documentation shall be provided verifying that acoustical finish 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).

5.506.3 Carbon dioxide (CO_2) monitoring in classrooms.
(DSA-SS) Each public K-12 school classroom, as listed in Table 120.1-A of the California Energy Code,shall be equipped with a carbon dioxide monitor or sensor that meets the following requirements:
1. The monitor or sensor shall be permanently affixed in a tamper-proof manner in each classroom between 3 and 6 feet (914 mm and 1829 mm) above the floor and at least 5 feet (1524 mm) away from door and operable windows.
2. When the monitor or sensor is not integral to an Energy Management Control System (EMCS), the monitor or sensor shall display the carbon dioxide readings on the device. When the sensor is integral to an EMCS, the carbon dioxide readings shall be available to and regularly monitored by facility personnel.
3. A monitor shall provide notification though a visual indicator on the monitor when the carbon dioxide levels in the classroom have exceeded 1,100ppm. A sensor integral to an EMCS shall provide notification to facility personnel through a visual and/or audible indicator when the carbon dioxide levels in the classroom have exceeded 1,100ppm.
4. The monitor or sensor shall measure carbon dioxide levels at minimum 15- minute intervals and shall maintain a record of previous carbon dioxide measurements of not less than 30 days duration.
5. The monitor or sensor used to measure carbon dioxide levels shall have the capacity to measure carbon dioxide levels with a range of 400ppm to 2000ppm or greater.
6. The monitor or sensor shall be certified by the manufacturer to be accurate within 75ppm at 1,000ppm carbon dioxide concentration and shall be certified by the manufacturer to require calibration no more frequently than once every 5 years.

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 (CQ), 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 Codeand 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.

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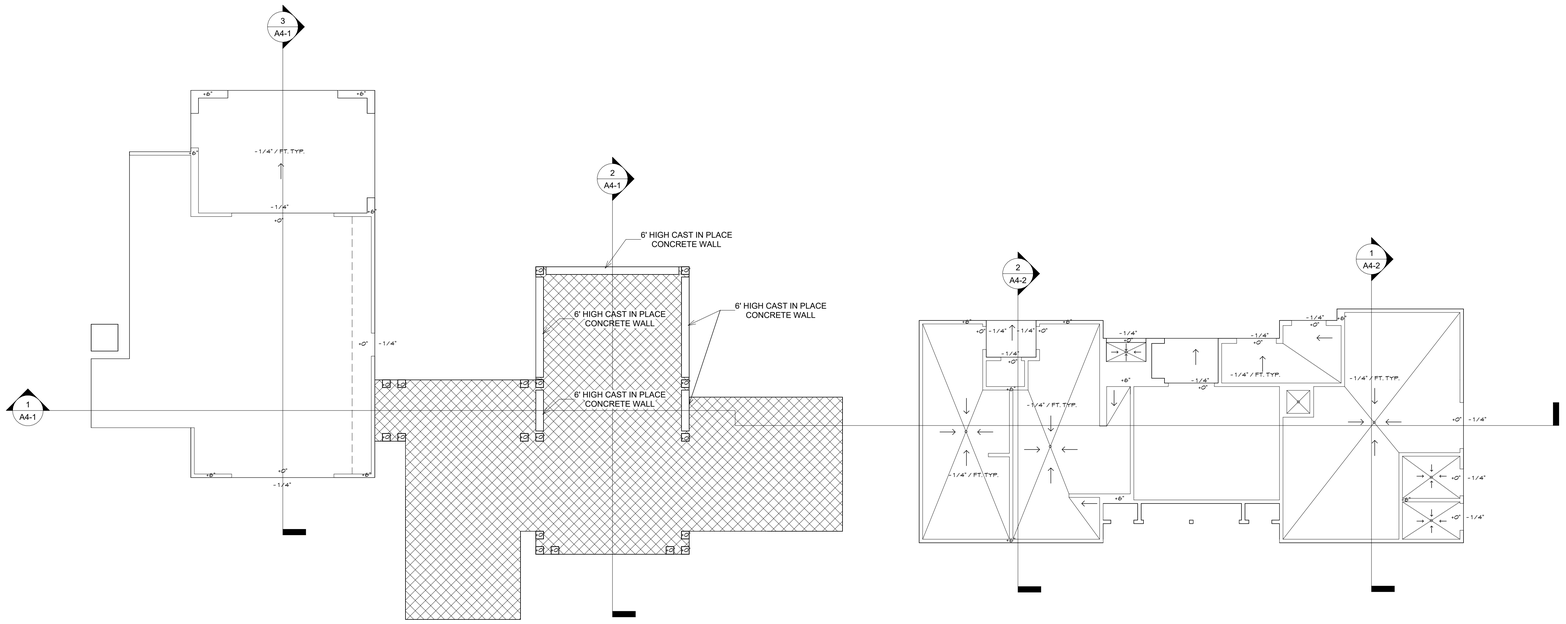
GREEN STANDARDS

A0-7



SEE SHEET A2-1, A2-2 FOR ENLARGED PLANS.

FLAT WORK KEYPLAN

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

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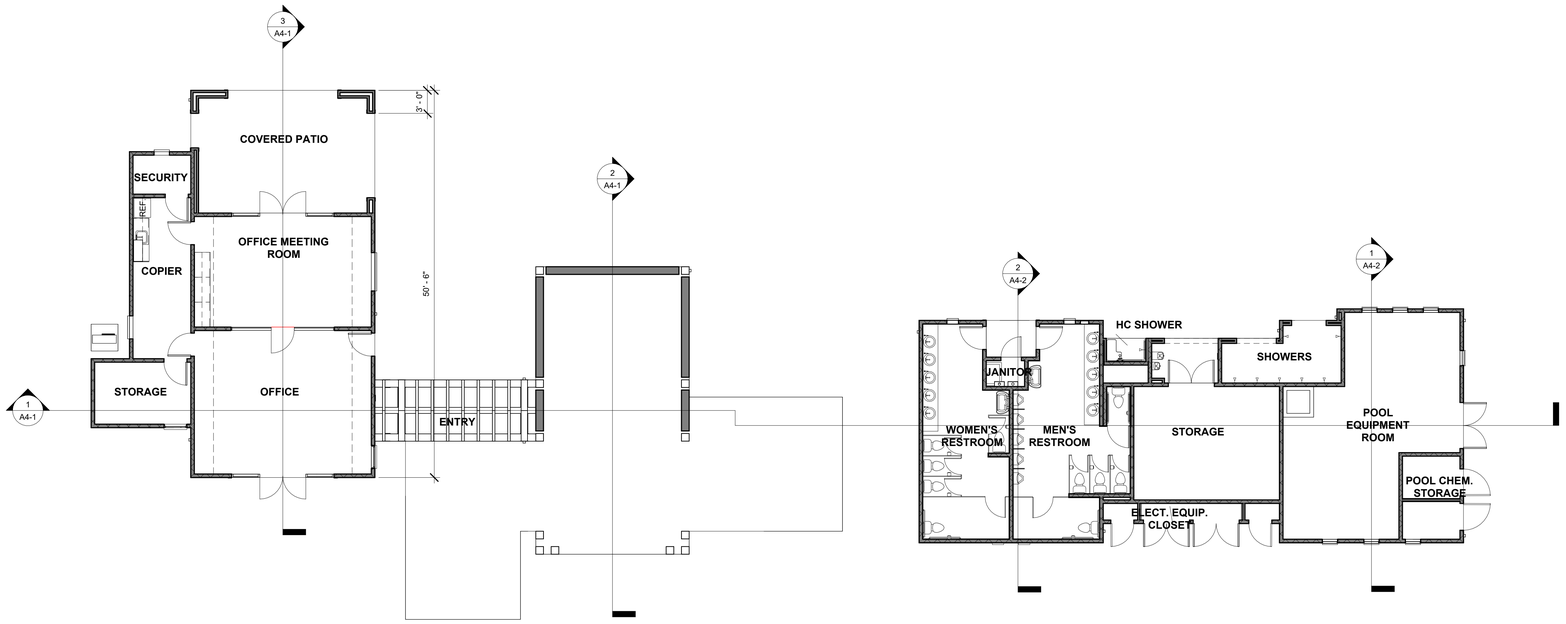
FLAT WORK KEYPLAN

A1-1



SEE SHEET A2-3, A2-4 FOR ENLARGED PLANS.

FIRST FLOOR KEYPLAN

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

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FIRST FLOOR KEYPLAN

A1-2

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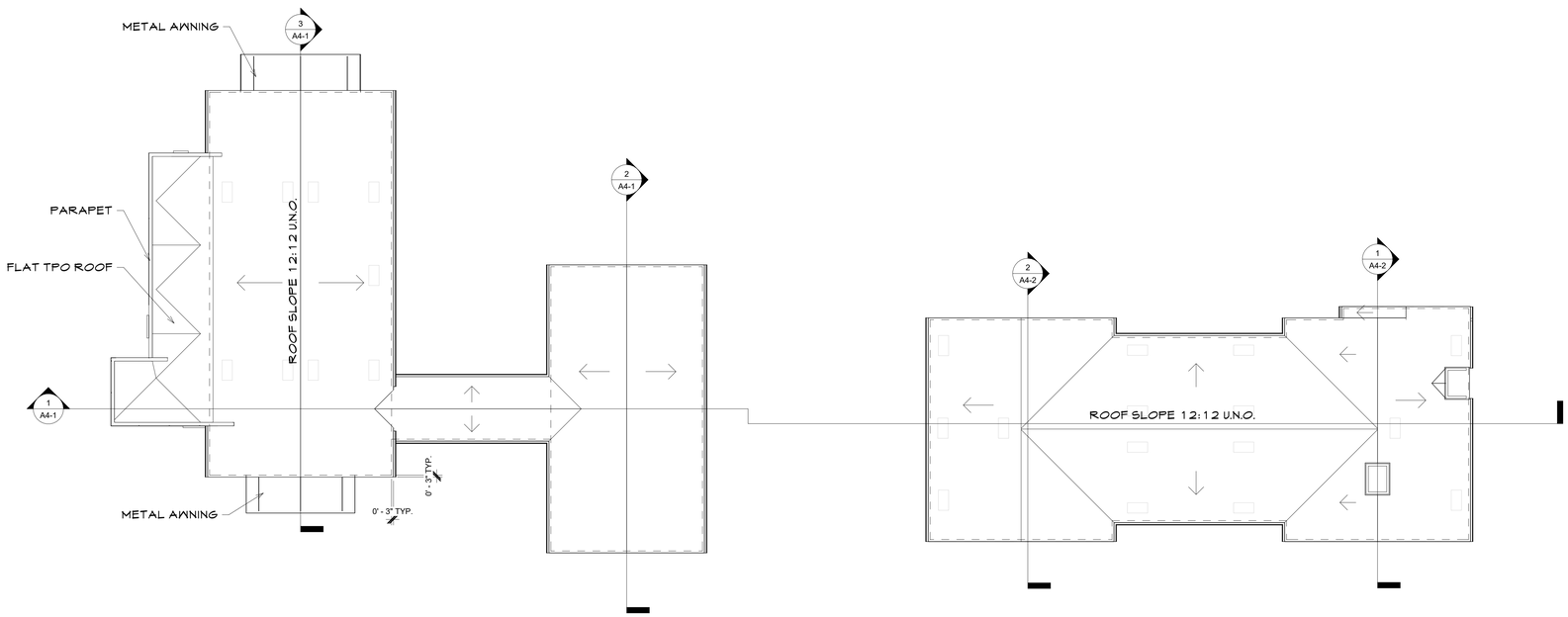

SEE SHEET A2-5, A2-6 FOR ENLARGED PLANS.

ROOF PLAN KEYPLAN

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

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ROOF KEYPLAN

A1-3

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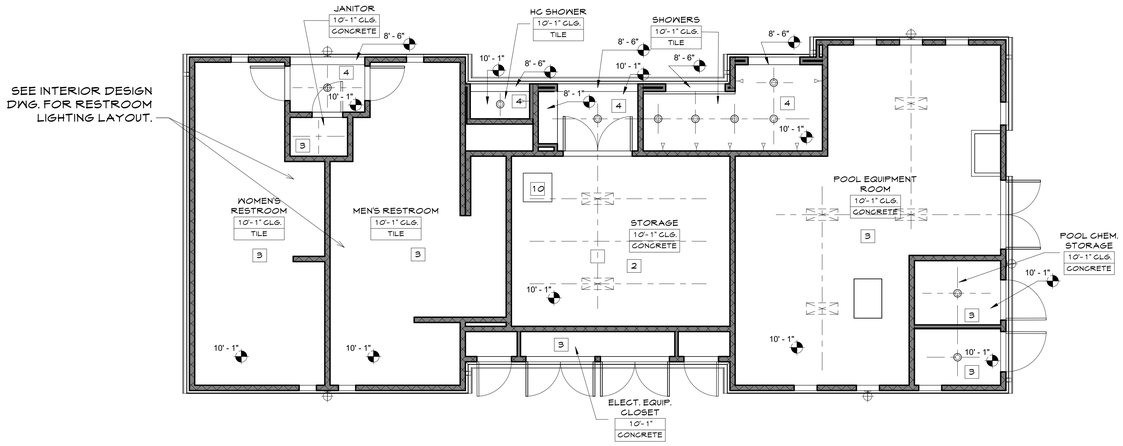

REFLECTED CEILING PLAN

SCALE 3/16" = 1'-0" | 1

REFLECTED CEILING KEYNOTES

1. SOFFIT/ ARCH PER INTERIOR / EXTERIOR ELEVATIONS.
2. GYP. BOARD CEILING FINISH - TYP. U.N.O.
3. WATER PROOF GYP. BOARD CEILING FINISH.
4. PLASTER HARD TROWEL CEILING FINISH.
5. 1X6 T&G CEDAR CEILING FINISH.
6. 2X6 T&G OVER ROOF RAFTERS.
7. RESAWN STAINED DECORATIVE BEAM/ JOIST - SIZE AS NOTED.
8. RESAWN WOOD BEAMS/ RAFTERS PER ELEVATIONS/ DETAILS.
9. RESAWN WOOD POST.
10. ATTIC ACCESS 30"X30" U.N.O.

ELECTRICAL LEGEND

- 4" RECESSED CAN DOWNLIGHT TYP. U.N.O. - PER INT. DESIGN DWG.
- SCONCE LIGHT FIXTURE PER INT. DESIGN DWG.
- 1'X4' LED FLUSH LIGHT FIXTURE.
- TUBE UP AND DOWN WALL LIGHT FIXTURE PER INT. DESIGN DWG.
- HANGING LIGHT FIXTURE PER INT. DESIGN DWG.
- HANGING INDIRECT LIGHT FIXTURE PER INT. DESIGN DWG., POSITION ABOVE CONF. ROOM TABLE.
- CEILING FAN PER INT. DESIGN DWG.

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REFLECTED CEILING PLAN

A1-4

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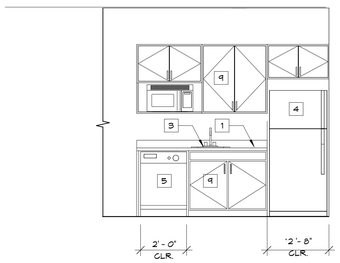
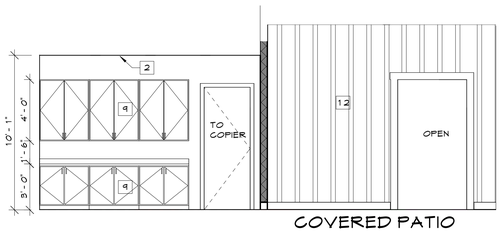


COPIER/ KITCHEN (A)



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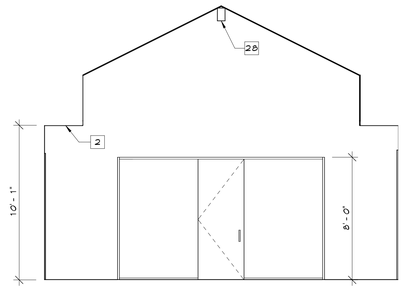

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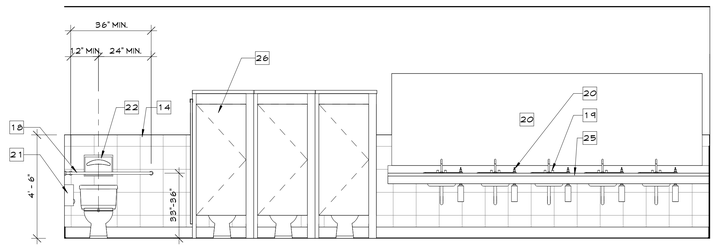
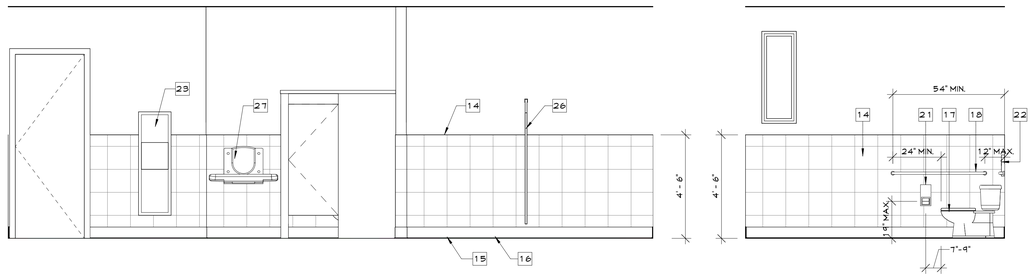
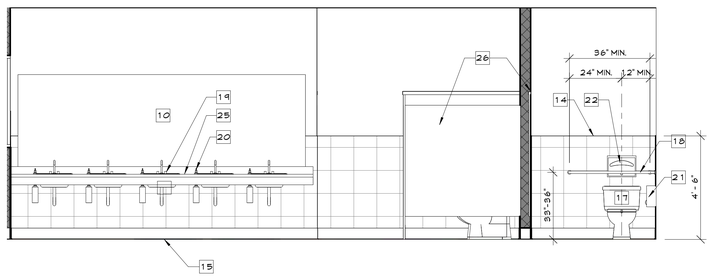


WOMEN'S (D)



(E)

(F)



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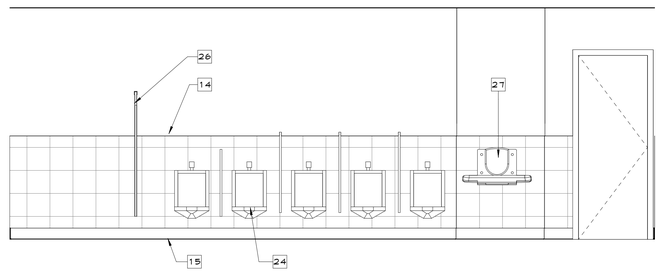

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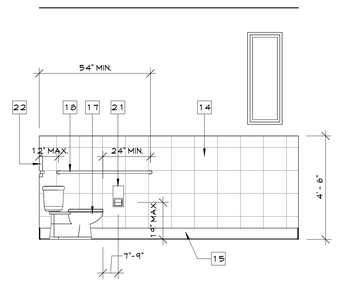

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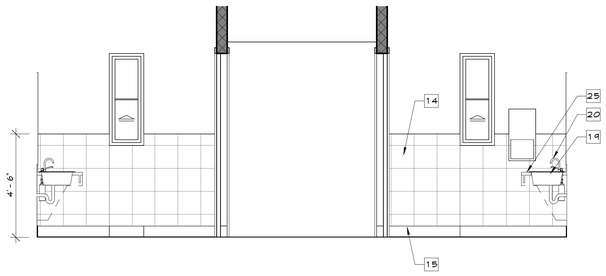
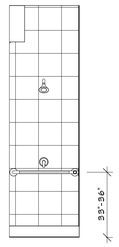
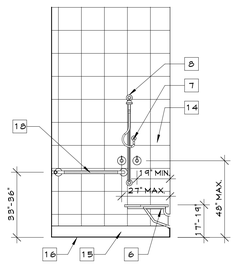


WOMEN'S & MEN'S (J)



ACC. SHOWER (K)



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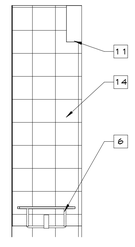

(M)

INT. KEYNOTES

(NOTE: NOT ALL KEYNOTES MAY APPLY TO THIS SHEET)

1. KITCHEN COUNTERTOP; PER PLAN.
2. GYP. BOARD SOFFIT.
3. KITCHEN SINK WITH GARBAGE DISPOSAL; PER PLAN.
4. REFRIGERATOR SPACE PER FLOOR PLAN.
5. DISHWASHER; STAINLESS STEEL, 24" WIDE CLEAR.
6. FOLDING SEAT; PER CBC 11B-608.4, 11B-610.
7. FLEXIBLE SHOWER SPRAY HOSE 59" LONG MIN. 48" MAX. TO TOP OF MOUNTING BRACKET FROM SHOWER FLOOR; PER CBC 11B-608.6
8. SHOWER HEAD; PER PLAN.
9. CABINETS; 4" HIGH x 3" DEEP TOE SPACE.
10. WALL MOUNTED MIRROR;FIXED PLATE GLASS, 5' A.F.F. (U.N.O.).
11. EXTERIOR PLASTER SOFFIT.
12. EXTERIOR SIDING FINISH.
13. DRINKING FOUNTAIN, PER CBC 11B-602, STAINLESS STL. MODEL: PER PLAN
14. CERAMIC WALL TILE OVER CEMENT BACKER BOARD O/ 15# ASPHALT PAPER. 4"X12" TILE WAINSCOT FOR RESTROOM (INTERIORS), 4"X12" FULL HEIGHT TILES FOR SHOWERS.
15. 3"X6" CERAMIC TILE COVE BASE WITH A 3/8" RADIUS. ARCTIC WHITE.
16. SHOWER FLOOR: 12"X12" SLIP RESISTANT CERAMIC TILE FLOOR. PER 11B-608.4 SLOPE SHALL BE MAX. 1:48 IN ANY DIRECTION. WHERE DRAINS ARE PROVIDED, THE GRATE SHALL HAVE OPENINGS 1/4" MAX. AND LOCATED FLUSH W/THE FLOOR SURFACE. COVE BASE 3/8" RADIUS.
17. WATER CLOSET TO CONFORM WITH CAL AND ADA CODES. CONTROLS FOR FLUSH VALVES SHALL BE MOUNTED ON THE WIDE SIDE OF THE TOILET AREAS.
18. GRAB BAR; PER PLAN. HEIGHT AS NOTED.
19. LAVATORY TO CONFORM WITH CAL AND ADA CODES. HOT WATER AND DRAIN PIPES TO BE INSULATED.
20. SOAP DISPENSER, UNDERSINK MOUNTED.
21. TOILET PAPER DISPENSER PER CBC 11B-604.7.
22. SANITARY NAPKIN DISPENSER.
23. COMBINATION PAPER TOWEL DISPENSER / WASTE BIN.
24. URINAL MIN. 13.5" DEEP TO CONFORM WITH CAL AND ADA CODES.
25. RESTROOM COUNTERTOP; QUARTZ SLAB, ADA COMPLIANT WITH 4" BACKSPLASH, AND UNDER-COUNTER CHINA LAVATORIES. PROVIDE SAFETY COVERS FOR SUPPLY AND DRAIN PIPES.
26. FLOOR / WALL MOUNTED TOILET PARTITION.
27. WALL MOUNTED BABY CHANGING STATION; PER FLOOR PLAN.
28. DECORATIVE WOOD BEAM; SEE REFLECTED CEILING PLAN.

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STATE OF CALIFORNIA

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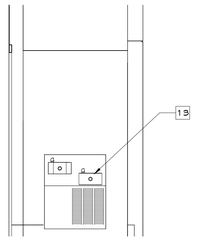
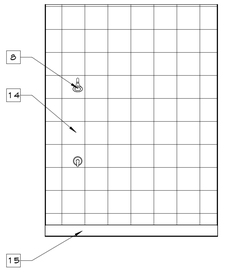
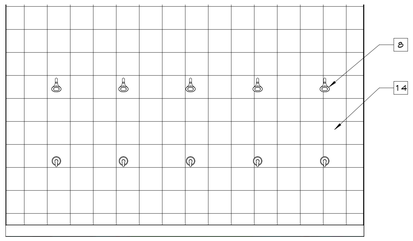
INTERIOR ELEVATIONS

A1-5





DRINK. FOUNTAIN (N)



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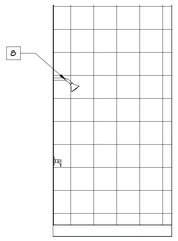
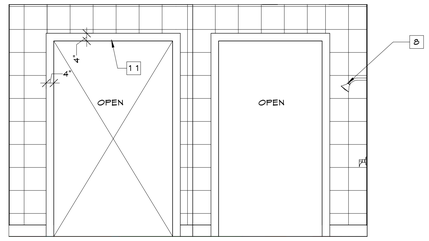


(P)

(Q)



SHOWERS (R)

INT. KEYNOTES

(NOTE: NOT ALL KEYNOTES MAY APPLY TO THIS SHEET)

1. KITCHEN COUNTERTOP; PER PLAN.
2. GYP. BOARD SOFFIT.
3. KITCHEN SINK WITH GARBAGE DISPOSAL; PER PLAN.
4. REFRIGERATOR SPACE PER FLOOR PLAN.
5. DISHWASHER; STAINLESS STEEL, 24" WIDE CLEAR.
6. FOLDING SEAT, PER CBC 11B-608.4, 11B-610.
7. FLEXIBLE SHOWER SPRAY HOSE 59" LONG MIN. 48" MAX. TO TOP OF MOUNTING BRACKET FROM SHOWER FLOOR, PER CBC 11B-608.6
8. SHOWER HEAD; PER PLAN.
9. CABINETS: 4" HIGH x 3" DEEP TOE SPACE.
10. WALL MOUNTED MIRROR,FIXED PLATE GLASS, 5' A.F.F. (U.N.O.).
11. EXTERIOR PLASTER SOFFIT.
12. EXTERIOR SIDING FINISH.
13. DRINKING FOUNTAIN, PER CBC 11B-602, STAINLESS STL. MODEL: PER PLAN
14. CERAMIC WALL TILE OVER CEMENT BACKER BOARD O/ 15# ASPHALT PAPER. 4"X1'2" TILE WAINSCOT FOR RESTROOM (INTERIORS), 4"X1'2" FULL HEIGHT TILES FOR SHOWERS.
15. 3"X6" CERAMIC TILE COVE BASE WITH A 3/8" RADIUS. ARCTIC WHITE.
16. SHOWER FLOOR: 12"X12" SLIP RESISTANT CERAMIC TILE FLOOR. PER 11B-608.4 SLOPE SHALL BE MAX. 1:48 IN ANY DIRECTION. WHERE DRAINS ARE PROVIDED, THE GRATE SHALL HAVE OPENINGS 1/4" MAX. AND LOCATED FLUSH W/THE FLOOR SURFACE. COVE BASE 3/8" RADIUS.
17. WATER CLOSET TO CONFORM WITH CAL AND ADA CODES. CONTROLS FOR FLUSH VALVES SHALL BE MOUNTED ON THE WIDE SIDE OF THE TOILET AREAS.
18. GRAB BAR; PER PLAN. HEIGHT AS NOTED.
19. LAVATORY TO CONFORM WITH CAL AND ADA CODES. HOT WATER AND DRAIN PIPES TO BE INSULATED.
20. SOAP DISPENSER, UNDERSINK MOUNTED.
21. TOILET PAPER DISPENSER PER CBC 11B-604.7.
22. SANITARY NAPKIN DISPENSER.
23. COMBINATION PAPER TOWEL DISPENSER / WASTE BIN.
24. URINAL MIN. 13.5" DEEP TO CONFORM WITH CAL AND ADA CODES.
25. RESTROOM COUNTERTOP; QUARTZ SLAB, ADA COMPLIANT WITH 4" BACKSPLASH, AND UNDER-COUNTER CHINA LAVATORIES. PROVIDE SAFETY COVERS FOR SUPPLY AND DRAIN PIPES.
26. FLOOR / WALL MOUNTED TOILET PARTITION.
27. WALL MOUNTED BABY CHANGING STATION; PER FLOOR PLAN.
28. DECORATIVE WOOD BEAM; SEE REFLECTED CEILING PLAN.

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INTERIOR ELEVATIONS

A1-6

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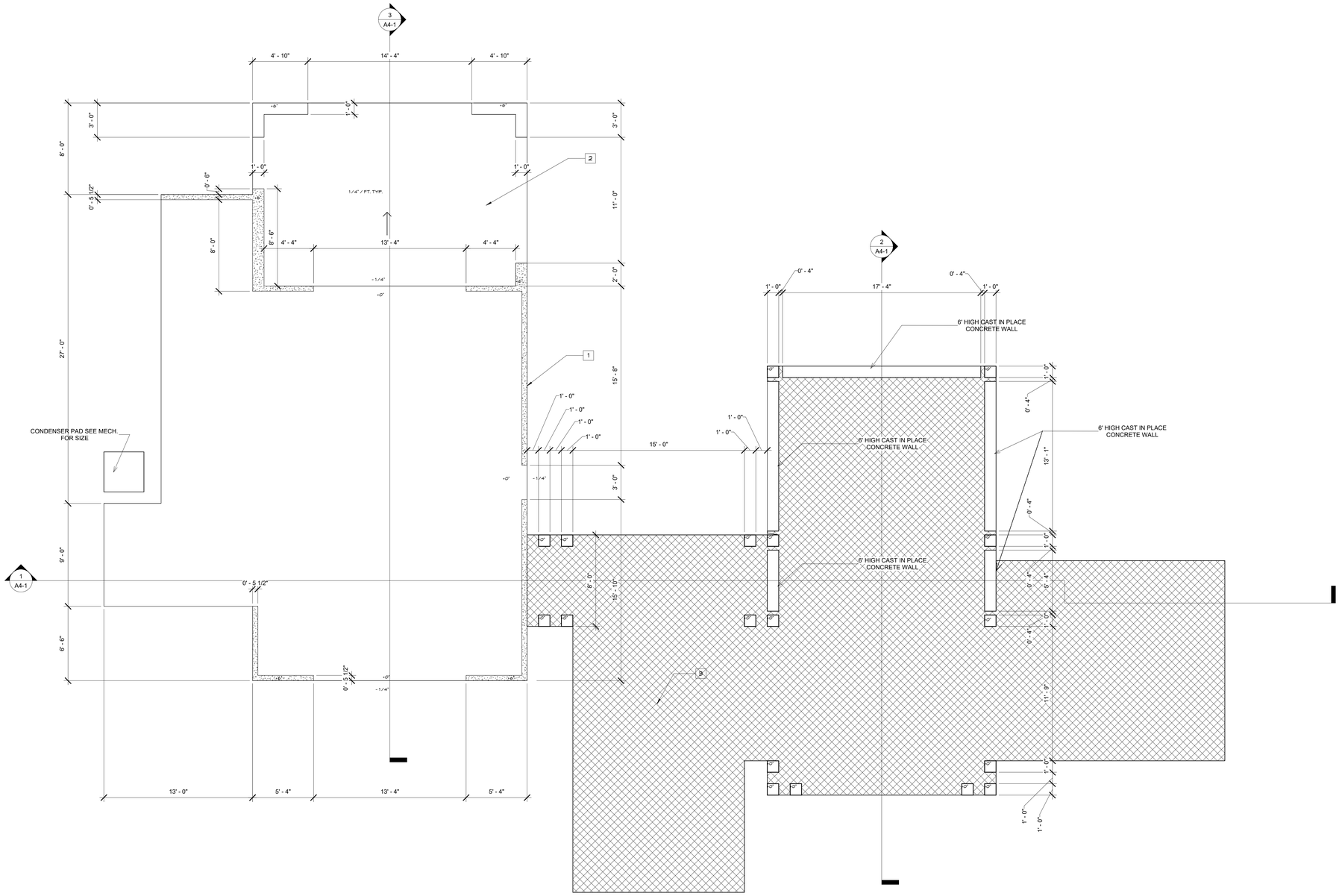

FLATWORK KEYNOTES

1. EDGE OF GURB / SLAB EDGE TYPICAL - VERIFY WITH STRUCTURAL DRAWINGS.
2. SLAB WITH SLOPE FOR DRAINAGE.
3. HARDSCAPE WITH SLOPE. SEE LANDSCAPE DRAWINGS.
4. UTILITY CLOSET SLAB TO BE COMPLETED AFTER UTILITY INSTALLATIONS.

FLAT WORK SEGMENT 1

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

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FLAT WORK SEGMENT 1

A2-1

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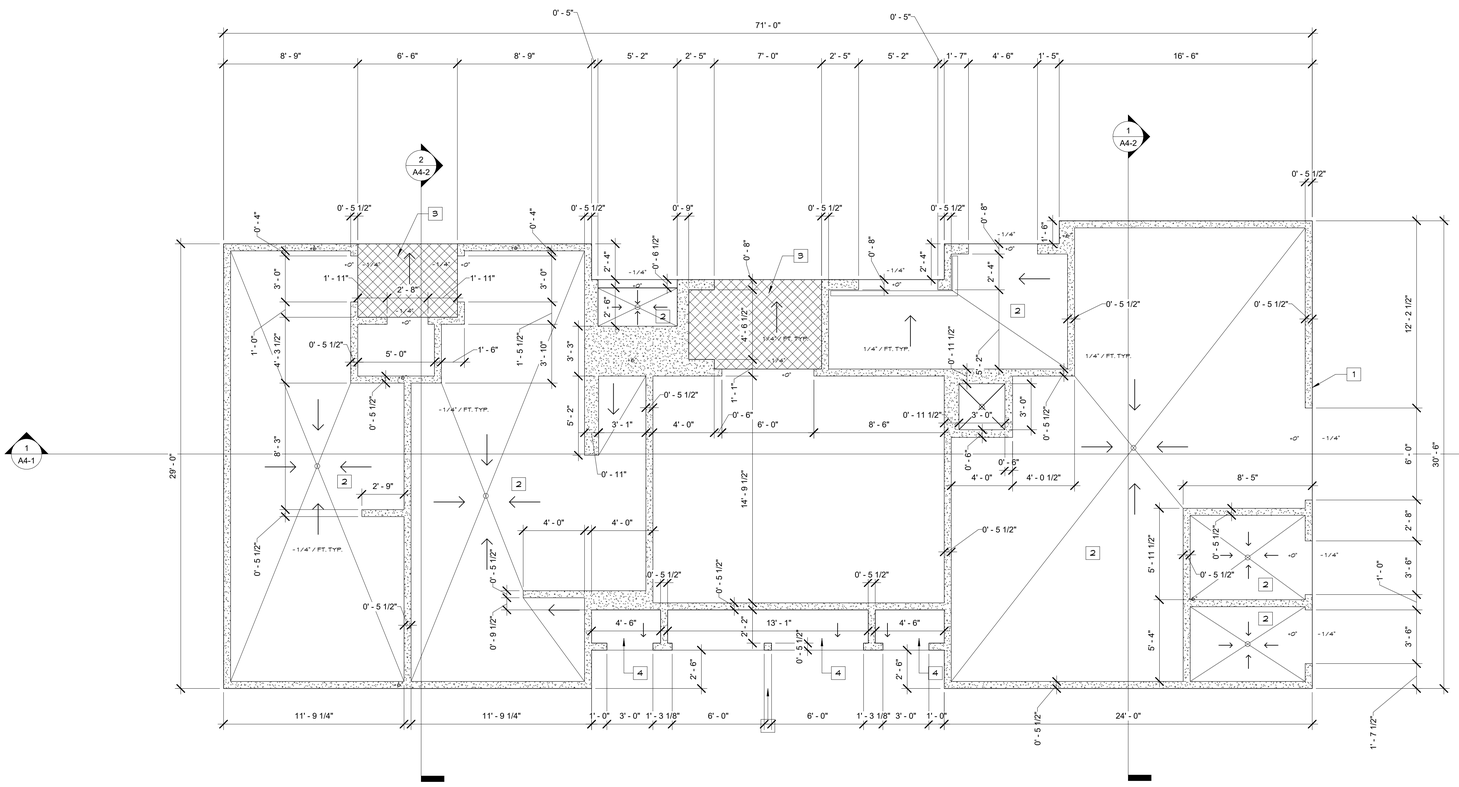

FLATWORK KEYNOTES

1. EDGE OF GURB / SLAB EDGE TYPICAL - VERIFY WITH STRUCTURAL DRAWINGS.
2. SLAB WITH SLOPE FOR DRAINAGE.
3. HARDSCAPE WITH SLOPE. SEE LANDSCAPE DRAWINGS.
4. UTILITY CLOSET SLAB TO BE COMPLETED AFTER UTILITY INSTALLATIONS.

FLAT WORK SEGMENT 2

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

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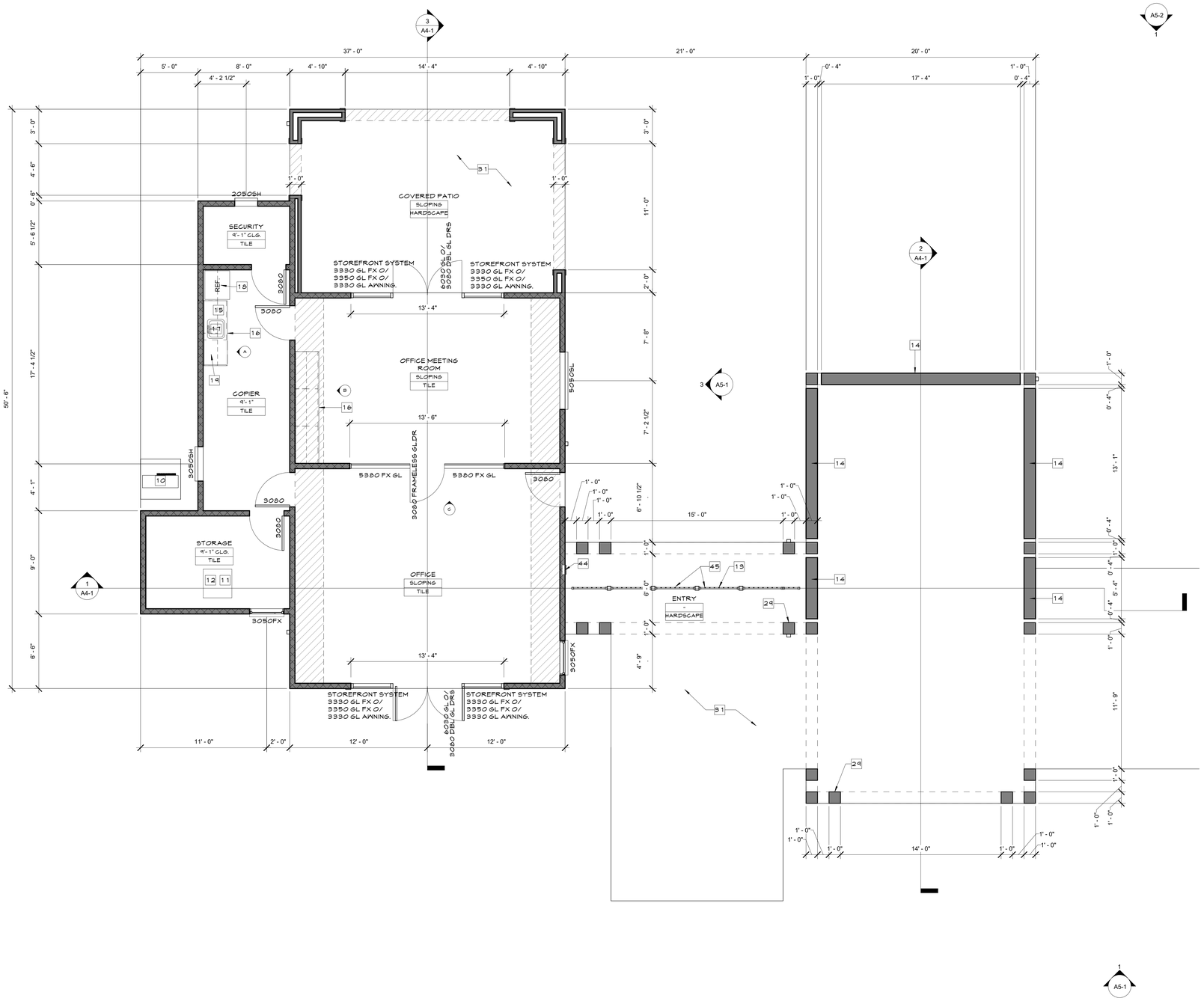
FLAT WORK SEGMENT 2

A2-2



F.P. KEYNOTES

(NOTE: NOT ALL KEYNOTES MAY APPLY TO THIS SHEET)

1. OUTLINE OF FLOOR ABOVE OR BELOW.
2. FLOOR MATERIAL TRANSITION.
3. FLOOR DRAIN.
4. TANK-LESS WATER HEATER: PER ENERGY COMPLIANCE: RINNAI RUR 9 BI.
5. IRRIGATION CONTROL/ FIRE ALARM.
6. UTILITY EQUIPMENT PANELS: VERIFY LOCATION WITH UTILITY CO.
7. LOW VOLTAGE CONTROL CABINETS.
8. ELECTRICAL METER/ MAIN PANEL : VERIFY LOCATION WITH UTILITY CO.
9. GAS METER: VERIFY LOCATION WITH UTILITY CO.
10. A/C CONDENSER W/ CONCRETE PAD
11. ATTIC FAU: LOCATE WITHIN 20' OF ATTIC ACCESS OPENING.
12. 30"X30" CEILING MOUNTED ATTIC ACCESS PANEL.
13. METAL FENCE/ GATE. SEE LANDSCAPE DRAWINGS FOR DETAILS.
14. CAST-IN-PLACE CONCRETE PER ELEVATIONS.
15. KITCHEN COUNTERTOP: QUARTZ SLAB. 4"X16" TILE BACKSPLASH. VERIFY WITH INTERIOR DESIGNER DRAWINGS.
16. CABINETS: 4" HIGH X 3" DEEP TOE SPACE. VERIFY WITH INTERIOR DESIGNER DRAWINGS.
17. SINK: 33" X 18" UNDERMOUNT STAINLESS ST.; DOUBLE BOWL: KOHLER K3498-4-NA W/ GARBAGE DISPOSAL; INSINKERATOR. FAUCET: MOEN 87140R. VERIFY WITH INTERIOR DESIGNER DRAWINGS.
18. REFRIGERATOR (N.I.C.). 33" WIDE CLEAR. - VERIFY WITH INTERIOR DESIGNER DRAWINGS.
19. ABOVE-THE-COUNTER MICRONAVE OVEN.
20. WALL-MOUNTED DOUBLE DRINKING FOUNTAIN, HIGH & LOW: PER CBC SECTION 1.1.39A.
21. RESTROOM COUNTERTOP: QUARTZ SLAB. DESIGNER: 4" BACK-SPLASH AND RECTANGULAR UNDERMOUNT LAV: KOHLER K2291-0 FAUCET: MOEN T6193 OR EQUAL.
22. 6" CMU WALL AT TRASH ENCLOSURE.
23. SHOWERHEAD: MOEN T2702EP. OR EQUAL MOUNT AT 72" A.F.F.
24. ADA SHOWERHEAD: MOEN 3887EP; TRANSFER VALVE: MOEN T2701
25. SHOWER WALLS: 11"X12" WALL TILE FULL HEIGHT. 12"X12" FLOOR TILE.
26. WATER CLOSET: KOHLER K-72516-NA. PROVIDE 18" FROM WALL TO CENTERLINE OF FIXTURE @ ACCESSIBLE TOILET COMPARTMENTS.
27. URINAL: KOHLER K4991-ET-0.
28. TOILET PAPER HOLDER.
29. RE-SAWN WOOD: BEAM / POST
30. NOT USED.
31. HARDSCAPE. PER LANDSCAPE.
32. TRASH/RECYCLING CONTAINER.
33. 8" CMU WALL WITH STACK BOND.
34. SUFFICIENT MANEUVERING SPACE: 60" DIAMETER TURNING SPACE PROVIDED.
35. GRAB BAR PER CBC 11B-604.5, 11B-604.8.2.3, 11B-608.3, 11B-609, SEE INTERIOR ELEVATIONS.
36. FIXED MIRROR: HEIGHT AS NOTED ON INTERIOR ELEVATIONS.
37. FLOOR/WALL MOUNTED TOILET PARTITION: BOBRICK STAINLESS STEEL.
38. TOILET SEAT COVER DISPENSER.
39. PAPER TOWEL DISPENSER: POOL RESTROOM BOBRICK B-3944.
40. PAINTED METAL POST AT TRASH ENCLOSURE.
41. WALL-MOUNTED BABY CHANGING STATION W/ 30"X48" CLEAR FLOOR SPACE. 48" MAX. TO OPERABLE PORTION. 34" MAX. TO TOP SURFACE. 21" MIN. TO BOTTOM.
42. MOP SINK.
43. HOSE BIBB.
44. FIRE EXTINGUISHER: 2A RATED INSIDE DEDICATED CABINET. SEE 7/AD-9
45. EGRESS DOOR: INSTALL HORIZONTAL TOUCH BAR EXIT HARDWARE: MONARCH 25L/510 TRIM @ 13 PANIC W/ CYLINDER.
46. SOAP DISPENSER, SINK UNDERMOUNT.

FLOOR PLAN NOTES

1. ALL DIMENSIONS TO FACE OF STUD (F.O.S.) U.N.O.
2. WRITTEN DIMENSIONS TO PREVAIL OVER SCALING OF DRAWINGS. SUBCONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY DEVELOPER OR ARCHITECT OF ANY INCONSISTENCIES.
3. REFER TO BUILDING SECTIONS AND INT. ELEV. FOR CLARIFICATION AND DIMENSIONS OF SOFFITED AREAS AND POTSHELVES.
4. ALL WINDOWS TO HAVE VINYL FRAMES. SEE EXTERIOR ELEVATIONS FOR DIRECTION OF OPERATION AND LOCATION OF MUNTIN BARS (ALL OPERABLE WINDOWS TO HAVE SCREENS).
5. ALL GLASS IN DOORS AND SLIDING GLASS DOORS TO BE TEMPERED. PROVIDE TEMPERED GLASS WHERE BOTTOM EDGE IS LESS THAN 60" FROM WALKING SURFACE AT 1) STAIRWAYS, 2) SHOWERS AND TUBS, AND 3) WITHIN A 24" ARC OF A DOOR IN CLOSED POSITION (CBC).
6. REFER TO INTERIOR ELEVATIONS DESIGNATED BY THIS SYMBOL (A)
7. SHOWERS AND TOILETS FOR BATHERS TO BE PROVIDED WITH HOT AND COLD WATER AND NOT TO EXCEED 110°F AND NOT ADJUSTABLE BY BATHERS.
8. HOSE BIBB TO BE PROVIDED WITH POTABLE WATER AND BACKFLOW PREVENTION.
9. ALL EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
10. MAIN ENTRANCE TO INCLUDE SIGN FIXED TO DOOR THAT READS THE FOLLOWING: "THIS DOOR IS TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED."

WALL LEGEND

- PARTTIAL HEIGHT 2x4 STUD WALL
- 2x4 STUD WALL
- PARTIAL 2x6 STUD WALL
- 2x6 STUD WALL
- SOFFIT OR ARCH SOFFIT - SEE INTERIOR OR EXTERIOR ELEVATIONS FOR HEIGHTS

FIRST FLOOR SEGMENT 1

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

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FLOOR PLAN

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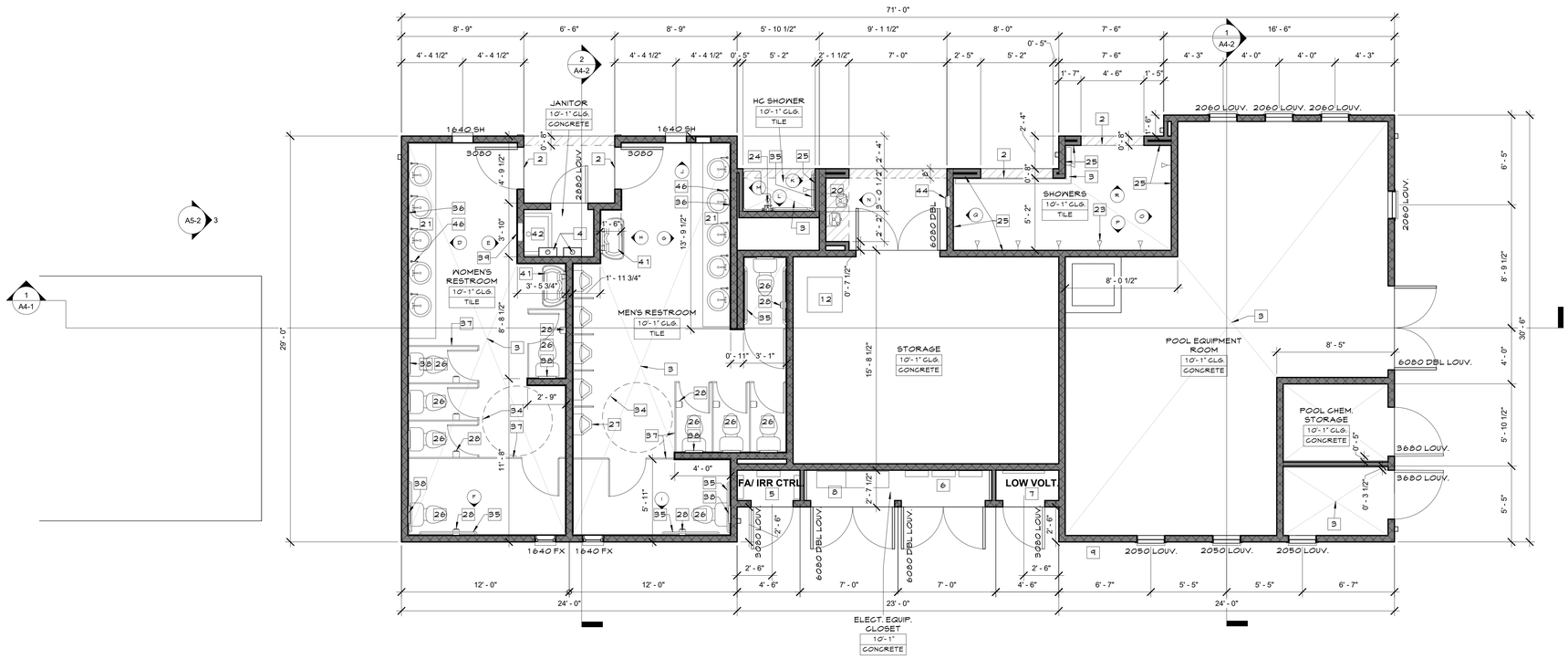
FLOOR PLAN SEGMENT 1

A2-3



F.P. KEYNOTES (NOTE: NOT ALL KEYNOTES MAY APPLY TO THIS SHEET)

1. OUTLINE OF FLOOR ABOVE OR BELOW.
2. FLOOR MATERIAL TRANSITION.
3. FLOOR DRAIN.
4. TANK-LESS WATER HEATER; PER ENERGY COMPLIANCE: RINNAI RUR98i.
5. IRRIGATION CONTROL/ FIRE ALARM.
6. UTILITY EQUIPMENT PANELS: VERIFY LOCATION WITH UTILITY CO.
7. LOW VOLTAGE CONTROL CABINETS.
8. ELECTRICAL METER/ MAIN PANEL ; VERIFY LOCATION WITH UTILITY CO.
9. GAS METER: VERIFY LOCATION WITH UTILITY CO.
10. A/C CONDENSER W/ CONCRETE PAD
11. ATTIC FAU: LOCATE WITHIN 20' OF ATTIC ACCESS OPENING.
12. 30"X30" CEILING MOUNTED ATTIC ACCESS PANEL.
13. METAL FENCE/ GATE. SEE LANDSCAPE DRAWINGS FOR DETAILS.
14. CAST-IN-PLACE CONCRETE PER ELEVATIONS.
15. KITCHEN COUNTERTOP: QUARTZ SLAB, 4"X16" TILE BACKSPLASH. VERIFY WITH INTERIOR DESIGNER DRAWINGS.
16. CABINETS: 4" HIGH X 3" DEEP TOE SPACE. VERIFY WITH INTERIOR DESIGNER DRAWINGS.
17. SINK: 33" X 18" UNDERMOUNT STAINLESS ST.; DOUBLE BOWL: KOHLER K3446-4-NA W/ GARBAGE DISPOSAL: INSINKERATOR. FAUCET: MOEN 87140S. VERIFY WITH INTERIOR DESIGNER DRAWINGS.
18. REFRIGERATOR (N.I.C.). 33" WIDE CLEAR. - VERIFY WITH INTERIOR DESIGNER DRAWINGS.
19. ABOVE-THE-COUNTER MICRONAVE OVEN.
20. WALL-MOUNTED DOUBLE DRINKING FOUNTAIN, HIGH & LOW; PER CBC SECTION 1.13.9A.
21. RESTROOM COUNTERTOP: QUARTZ SLAB, DESIGNER, 4" BACK-SPLASH AND RECTANGULAR UNDERMOUNT LAV: KOHLER K2271-0 FAUCET: MOEN T6193 OR EQUAL.
22. 6" CMU WALL AT TRASH ENCLOSURE.
23. SHOWERHEAD: MOEN T2702EP, OR EQUAL MOUNT AT 72" A.F.F.
24. ADA SHOWERHEAD: MOEN 3887EP; TRANSFER VALVE: MOEN T2701
25. SHOWER WALLS: 4"X12" WALL TILE FULL HEIGHT, 12"X12" FLOOR TILE.
26. WATER CLOSET: KOHLER K-72516-NA. PROVIDE 18" FROM WALL TO CENTERLINE OF FIXTURE @ ACCESSIBLE TOILET COMPARTMENTS.
27. URINAL: KOHLER K4991-ET-0.
28. TOILET PAPER HOLDER.
29. RE-SAWN WOOD: BEAM / POST
30. NOT USED.
31. HARDSCAPE: PER LANDSCAPE.
32. TRASH/RECYCLING CONTAINER.
33. 8" CMU WALL WITH STACK BOND.
34. SUFFICIENT MANEUVERING SPACE: 60" DIAMETER TURNING SPACE PROVIDED.
35. GRAB BAR PER CBC 11B-604.5, 11B-604.8.2.3, 11B-608.3, 11B-609, SEE INTERIOR ELEVATIONS.
36. FIXED MIRROR; HEIGHT AS NOTED ON INTERIOR ELEVATIONS.
37. FLOOR/WALL MOUNTED TOILET PARTITION: BOBRICK STAINLESS STEEL.
38. TOILET SEAT COVER DISPENSER.
39. PAPER TOWEL DISPENSER; POOL RESTROOM BOBRICK B-3944.
40. PAINTED METAL POST AT TRASH ENCLOSURE.
41. WALL-MOUNTED BABY CHANGING STATION W/ 30"X48" CLEAR FLOOR SPACE, 48" MAX. TO OPERABLE PORTION, 34" MAX. TO TOP SURFACE, 27" MIN. TO BOTTOM.
42. MOP SINK.
43. HOSE BIBB.
44. FIRE EXTINGUISHER: 2A RATED INSIDE DEDICATED CABINET. SEE 7/AD-9
45. EGRESS DOOR: INSTALL HORIZONTAL TOUCH BAR EXIT HARDWARE: MONARCH 25L/510 TRIM & 13 PANIC W/ CYLINDER.
46. SOAP DISPENSER, SINK UNDERMOUNT.

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3. REFER TO BUILDING SECTIONS AND INT. ELEV. FOR CLARIFICATION AND DIMENSIONS OF SOFFITED AREAS AND POTSHELVES.
4. ALL WINDOWS TO HAVE VINYL FRAMES. SEE EXTERIOR ELEVATIONS FOR DIRECTION OF OPERATION AND LOCATION OF MUNTIN BARS (ALL OPERABLE WINDOWS TO HAVE SCREENS).
5. ALL GLASS IN DOORS AND SLIDING GLASS DOORS TO BE TEMPERED. PROVIDE TEMPERED GLASS WHERE BOTTOM EDGE IS LESS THAN 60" FROM WALKING SURFACE AT 1) STAIRWAYS, 2) SHOWERS AND TUBS, AND 3) WITHIN A 24" ARC OF A DOOR IN CLOSED POSITION (CBC).
6. REFER TO INTERIOR ELEVATIONS DESIGNATED BY THIS SYMBOL (A)
7. SHOWERS AND TOILETS FOR BATHERS TO BE PROVIDED WITH HOT AND COLD WATER AND NOT TO EXCEED 110°F AND NOT ADJUSTABLE BY BATHERS.
8. HOSE BIBB TO BE PROVIDED WITH POTABLE WATER AND BACKFLOW PREVENTION.
9. ALL EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
10. MAIN ENTRANCE TO INCLUDE SIGN FIXED TO DOOR THAT READS THE FOLLOWING: "THIS DOOR IS TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED."

WALL LEGEND

- PARTTIAL HEIGHT 2x4 STUD WALL
- 2x4 STUD WALL
- PARTIAL 2x6 STUD WALL
- 2x6 STUD WALL
- SOFFIT OR ARCH SOFFIT - SEE INTERIOR OR EXTERIOR ELEVATIONS FOR HEIGHTS

FIRST FLOOR SEGMENT 2

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

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FLOOR PLAN

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FLOOR PLAN SEGMENT 2

A2-4

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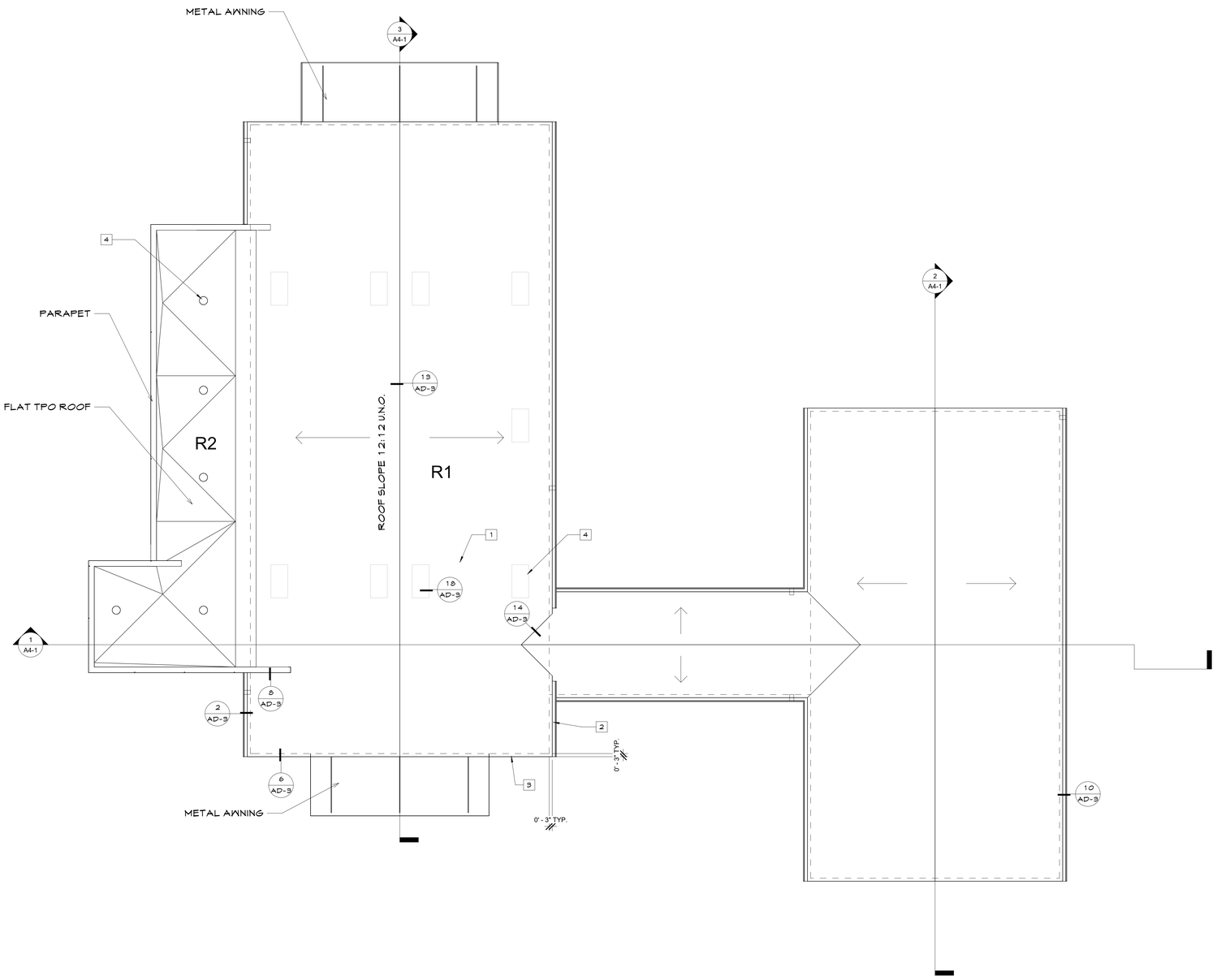

R.P. KEYNOTES

(NOTE: NOT ALL KEYNOTES MAY APPLY TO THIS SHEET)

1. ASPHALT SHINGLE ROOFING: PER ELEVATIONS.
2. EAVE: 2x6 RESAWN FASCIA.
3. RAKE: 2x6 RESAWN RAKE BOARD.
4. ATTIC VENTS WITH INSECT SCREEN (SEE ATTIC VENT CALCS).
5. ALUMINUM DOWNSPOUTS: STANDARD RECTANGULAR.
6. ALUMINUM GUTTERS: STANDARD OGEE SHAPED GUTTERS.
7. CHIMNEY SHROUD.

FOR EXHAUST VENT PENETRATION SEE. ## AD-#

ATTIC VENT CALCS

OFFICE

R1

ROOF AREA:		**174528 S.I.**	
REQUIRED ATTIC VENTILATION: (1/300)		581.76 S.I.	
PROVIDED ATTIC VENTILATION:			
HIGH:	(4) O'HAGIN @ 64.8 S.I EA. =	259.2 S.I.	
LOW:	(5) O'HAGIN @ 64.8 S.I EA. =	324 S.I.	
TOTAL		583.2 S.I.	

R2

ROOF AREA:		**47952 S.I.**	
REQUIRED ATTIC VENTILATION: (1/150)		319.68 S.I.	
PROVIDED ATTIC VENTILATION:			
	(5) TPO VENT @ 122 S.I EA. =	610 S.I.	
TOTAL		610 S.I.	

RESTROOMS/ POOL EQUIPMENT

R3

ROOF AREA:		**284062 S.I.**	
REQUIRED ATTIC VENTILATION: (1/300)		946.84 S.I.	
PROVIDED ATTIC VENTILATION:			
HIGH:	(6) O'HAGIN @ 64.8 S.I EA. =	388.8 S.I.	
LOW:	(9) O'HAGIN @ 64.8 S.I EA. =	583.2 S.I.	
TOTAL		972 S.I.	

VENTS:

PROVIDE O'HAGIN CLOAKED VENTS:
MODEL TAPERED ASPHALT SHINGLE STYLE IGC-ES 5BCGI-9650A

INSTALL O'HAGINS CLOAKED VENT TILES IN ACCORDANCE WITH MANUFACTURERS PUBLISHED RECGOMMENDATIONS.

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ROOF PLAN SEGMENT 1

A2-5

ROOF PLAN SEGMENT 1 — SCALE 1/4" = 1'-0" — 1

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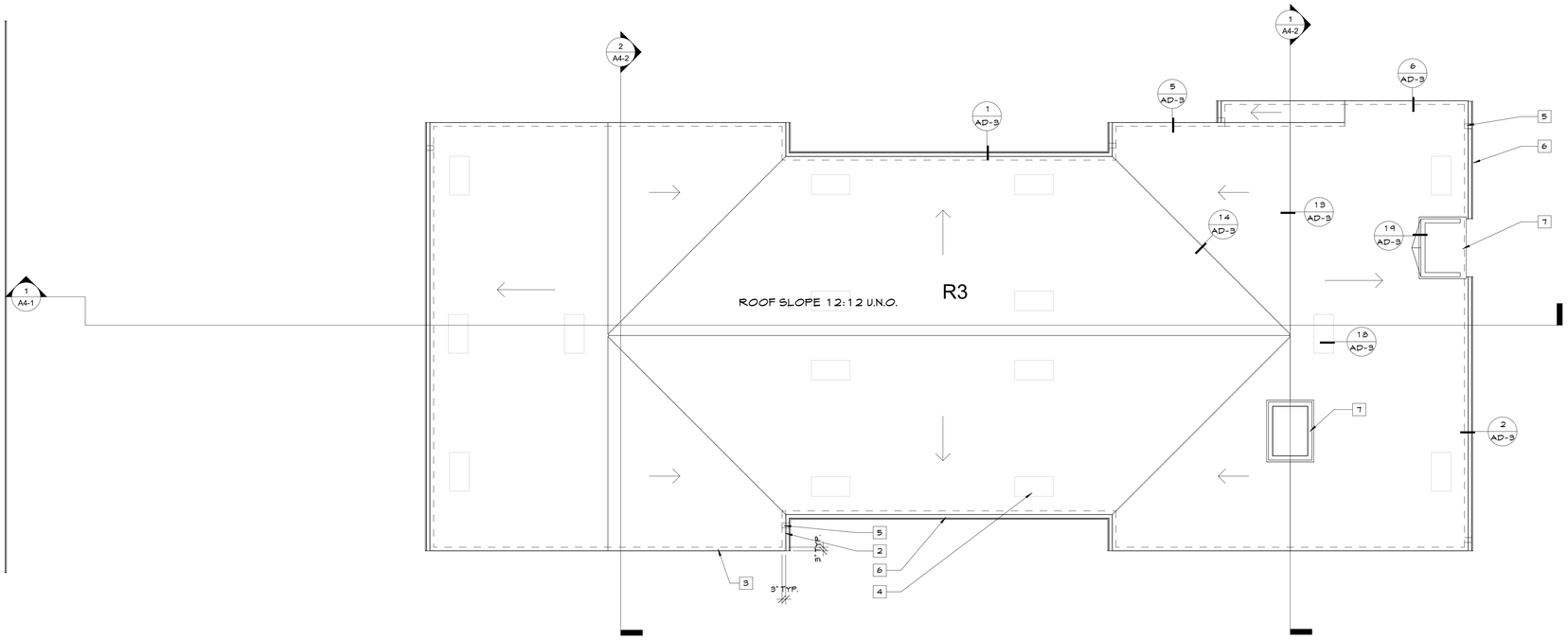

R.P. KEYNOTES

(NOTE: NOT ALL KEYNOTES MAY APPLY TO THIS SHEET)

1. ASPHALT SHINGLE ROOFING: PER ELEVATIONS.
2. EAVE: 2x6 RESAWN FASCIA.
3. RAKE: 2x6 RESAWN RAKE BOARD.
4. ATTIC VENTS WITH INSECT SCREEN (SEE ATTIC VENT CALCS).
5. ALUMINUM DOWNSPOUTS: STANDARD RECTANGULAR.
6. ALUMINUM GUTTERS: STANDARD OGEE SHAPED GUTTERS.
7. CHIMNEY SHROUD.

FOR EXHAUST VENT PENETRATION SEE. ## AD-#

ATTIC VENT CALCS

OFFICE

R1

ROOF AREA:			**174528 S.I.**
REQUIRED ATTIC VENTILATION: (1/300)			581.76 S.I.
PROVIDED ATTIC VENTILATION:			
HIGH:	(4)	O'HAGIN @ 64.8 S.I EA. =	259.2 S.I.
LOW:	(5)	O'HAGIN @ 64.8 S.I EA. =	324 S.I.
TOTAL			583.2 S.I.

R2

ROOF AREA:			**47952 S.I.**
REQUIRED ATTIC VENTILATION: (1/150)			319.68 S.I.
PROVIDED ATTIC VENTILATION:			
	(5)	TPO VENT @ 122 S.I EA. =	610 S.I.
TOTAL			610 S.I.

RESTROOMS/ POOL EQUIPMENT

R3

ROOF AREA:			**284062 S.I.**
REQUIRED ATTIC VENTILATION: (1/300)			946.84 S.I.
PROVIDED ATTIC VENTILATION:			
HIGH:	(6)	O'HAGIN @ 64.8 S.I EA. =	388.8 S.I.
LOW:	(9)	O'HAGIN @ 64.8 S.I EA. =	583.2 S.I.
TOTAL			972 S.I.

VENTS:

PROVIDE O'HAGIN CLOAKED VENTS:
MODEL TAPERED ASPHALT SHINGLE STYLE IGC-ES 5BCCI-9650A

INSTALL O'HAGIN'S CLOAKED VENT TILES IN ACCORDANCE WITH MANUFACTURERS PUBLISHED RECCOMMENDATIONS.

ROOF PLAN SEGMENT 2

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

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ROOF PLAN SEGMENT 2

A2-6

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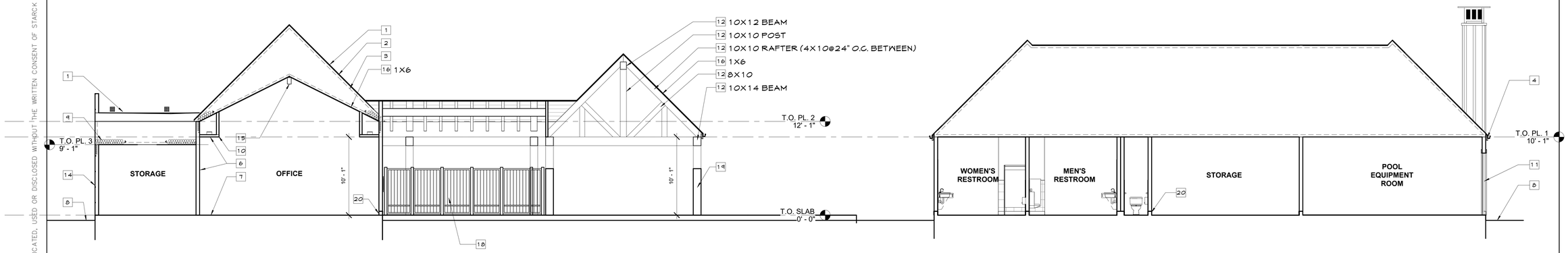
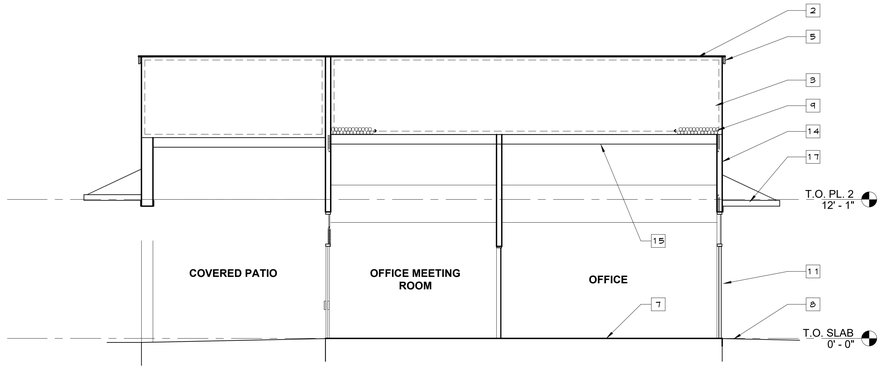


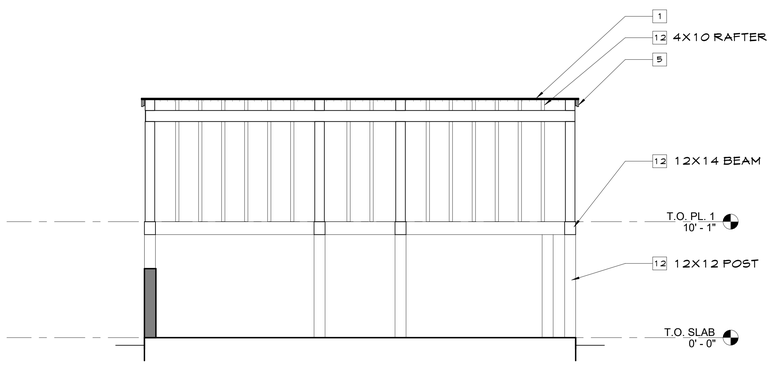
BUILDING SECTION

SCALE 3/16" = 1'-0" | 1



BUILDING SECTION

SCALE 3/16" = 1'-0" | 3



BUILDING SECTION 2

SCALE 3/16" = 1'-0" | 2

B.S. KEYNOTES

1. ROOFING: PER ROOF PLANS.
2. ROOF SHEATHING: PER STRUCTURAL DRAWINGS.
3. PREFABRICATED TRUSSES - SEE STRUCT DWGS.
4. EAVE: PER ROOF PLANS.
5. RAKE: PER ROOF PLANS.
6. 1/2" GYPSUM BOARD AT WALLS AND CEILINGS. TYPICAL.
7. CONCRETE SLAB-ON-GRADE.
8. FINISH GRADE/SURFACE: SLOPE 2% MINIMUM AWAY FROM BUILDING EXTERIOR.
9. THERMAL BATT INSULATION: SEE INSULATION SCHEDULE AND ENERGY COMPLIANCE BY OTHERS.
10. ARCH / SOFFIT: PER INTERIOR ELEVATIONS.
11. WINDOWS / DOORS: SEE EXTERIOR ELEVATIONS.
12. RESAWN WOOD BEAMS, RAFTER TAILS, POST SIZE AS NOTED OR DETAILED.
13. TOILET PARTITION WALL/ DOOR.
14. FINISH PER EXTERIOR ELEVATIONS.
15. WOOD BEAMS - SIZE AS NOTED PER RCP PLANS - SEE INT DESIGN DWGS.
16. T&G CEILING FINISH - SEE RCP PLANS - SEE INT DESIGN DWGS.
17. METAL AWNING: PER DETAILS.
18. POOL GATE/ FENCE: SEE LANDSCAPE ARCHITECT DWGS.
19. 6' HIGH CAST-IN-PLACE CONCRETE WALL.
20. 6" HIGH CONCRETE CURB: SEE FLAT WORK PLAN.

LEGEND

GYPSUM BOARD ATTACHMENT
1. CEILINGS TO BE NAILED AT 7" O.C. OR SCREWED AT 12" O.C. 2. WALLS TO BE NAILED AT 8" O.C. OR SCREWED AT 12" O.C.

INSULATION SCHEDULE		
ROOF INSULATION	= R-30	CONFIRM
2x4 WALL INSULATION	= R-13	
2x6 WALL INSULATION	= R-19	
FLOOR / CEILING INSULATION	= R-19	

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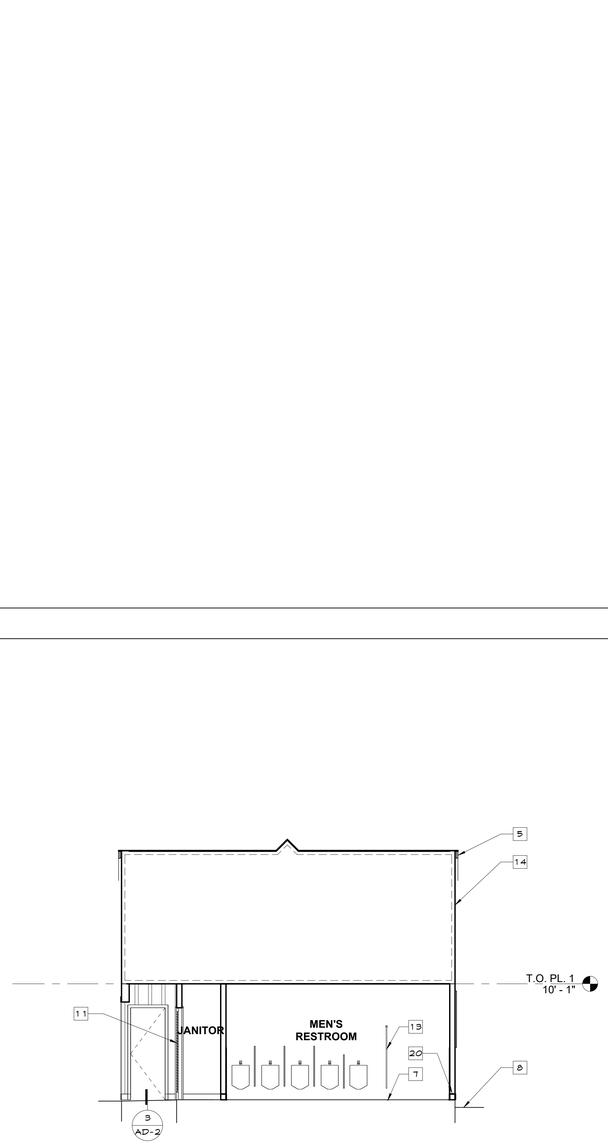
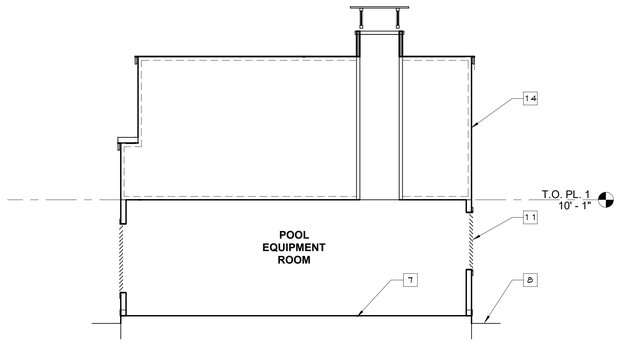
BUILDING SECTIONS

A4-1



BUILDING SECTION 4 SCALE 3/16" = 1'-0" 2



BUILDING SECTION 5 SCALE 3/16" = 1'-0" 1

B.S. KEYNOTES

1. ROOFING: PER ROOF PLANS.
2. ROOF SHEATHING: PER STRUCTURAL DRAWINGS.
3. PREFABRICATED TRUSSES - SEE STRUCT DWGS.
4. EAVE: PER ROOF PLANS.
5. RAKE: PER ROOF PLANS.
6. 1/2" GYPSUM BOARD AT WALLS AND CEILINGS. TYPICAL.
7. CONCRETE SLAB-ON-GRADE.
8. FINISH GRADE/SURFACE: SLOPE 2% MINIMUM AWAY FROM BUILDING EXTERIOR.
9. THERMAL BATT INSULATION: SEE INSULATION SCHEDULE AND ENERGY COMPLIANCE BY OTHERS.
10. ARCH / SOFFIT: PER INTERIOR ELEVATIONS.
11. WINDOWS / DOORS: SEE EXTERIOR ELEVATIONS.
12. RESAWN WOOD BEAMS, RAFTER TAILS, POST SIZE AS NOTED OR DETAILED.
13. TOILET PARTITION WALL/ DOOR.
14. FINISH PER EXTERIOR ELEVATIONS.
15. WOOD BEAMS - SIZE AS NOTED PER RCP PLANS - SEE INT DESIGN DWGS.
16. T&G CEILING FINISH - SEE RCP PLANS - SEE INT DESIGN DWGS.
17. METAL AWNING: PER DETAILS.
18. POOL GATE/ FENCE: SEE LANDSCAPE ARCHITECT DWGS.
19. 6' HIGH CAST-IN-PLACE CONCRETE WALL.
20. 6" HIGH CONCRETE CURB: SEE FLAT WORK PLAN.

GYPSUM BOARD ATTACHMENT
1. CEILINGS TO BE NAILED AT 7" O.C. OR SCREWED AT 12" O.C. 2. WALLS TO BE NAILED AT 8" O.C. OR SCREWED AT 12" O.C.

INSULATION SCHEDULE		
ROOF INSULATION	= R-30	
2x4 WALL INSULATION	= R-13	CONFIRM
2x6 WALL INSULATION	= R-19	
FLOOR / CEILING INSULATION	= R-19	

LEGEND

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BUILDING SECTIONS

A4-2

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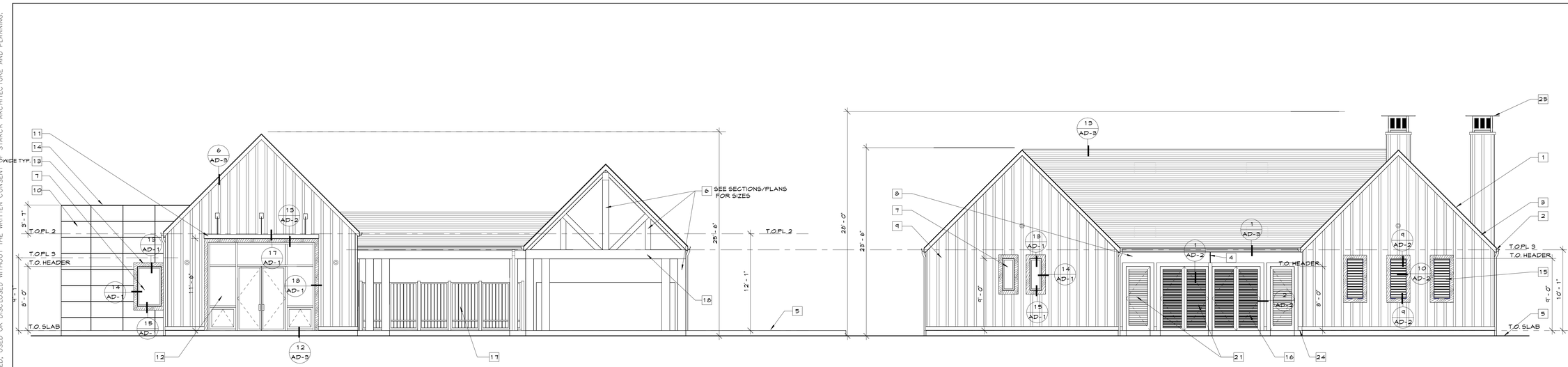
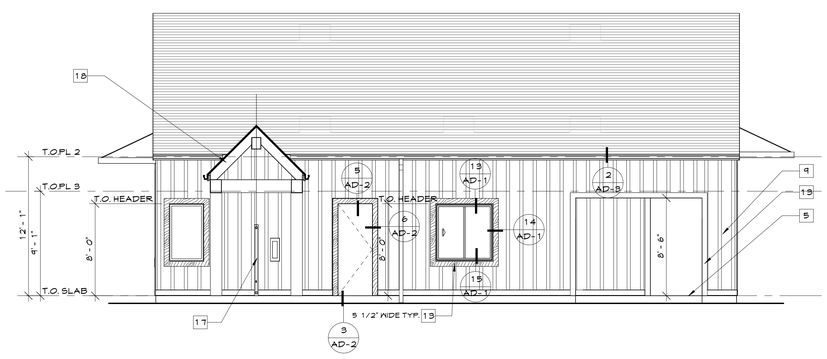


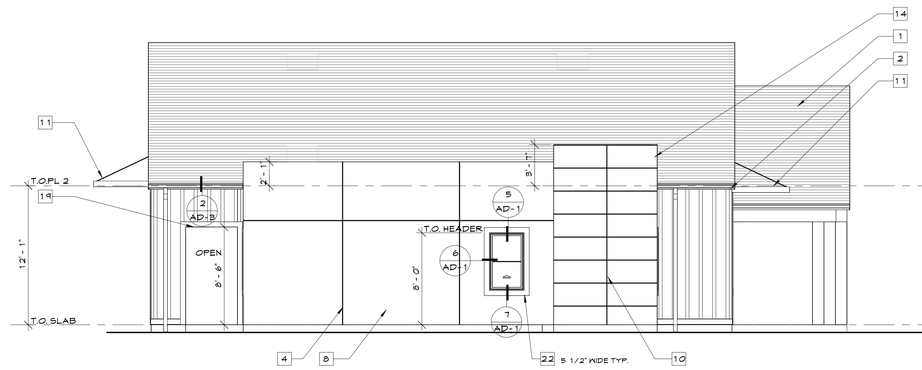
FRONT ELEVATION (SOUTH)

SCALE 3/16" = 1'-0" | 1



OFFICE RIGHT SIDE ELEVATION

SCALE 3/16" = 1'-0" | 3



LEFT SIDE ELEVATION (WEST)

SCALE 3/16" = 1'-0" | 2

ELEVATION KEYNOTES (NOTE: NOT ALL KEYNOTES MAY APPLY TO THIS SHEET)

1. ROOFING: PER LEGEND.
2. EAVE: RESAWN WOOD FASCIA PER ROOF PLAN.
3. RAKE: RESAWN WOOD RAKE BOARD PER ROOF PLAN.
4. PLASTER EXPANSION JOINT.
5. FINISH GRADE / TOP OF HARDSCAPE OR SIDEWALK: SLOPE 2% MIN. AWAY FROM BUILDING.
6. RESAWN WOOD POST: SIZE AS NOTED OR DETAILED.
7. VINYL WINDOW/ SLIDING GLASS DOOR.
8. EXTERIOR CEMENT PLASTER FINISH: PER LEGEND.
9. BOARD AND BATTEN SIDING: PER LEGEND.
10. HARDIE ARTISAN REVEAL PANEL SIDING: PER LEGEND.
11. PAINTED METAL AWNING PER DETAIL.
12. STOREFRONT SYSTEM: PER PLANS.
13. WOOD/ HARDBOARD TRIM: SIZE PER DETAIL OR AS NOTED.
14. PARAPET WALL: PER ROOF PLANS.
15. LOUVERED VENT: SIZE PER PLAN.
16. LOUVERED DOOR: SIZE PER PLAN.
17. METAL GATE/ FENCE: PER LANDSCAPE ARCHITECT DWGS.
18. RESAWN WOOD BEAMS, RAFTER TAILS, POST. SIZE AS NOTED OR DETAILED.
19. ARCH. SOFFIT.
20. GAS METER: VERIFY LOCATION WITH UTILITY CO.
21. UTILITY CABINET.
22. DECORATIVE PLASTER WINDOW TRIM.
23. TILED WALL AT SHOWER ENCLOSURE.
24. PLASTER WEEP SCREED.
25. PAINTED METAL CHIMNEY SHROUD.

ELEVATION NOTES

1. ALL DETAIL REFERENCES ARE TYPICAL AND APPLY TO SIMILAR CONDITIONS WHETHER SPECIFICALLY REFERENCED OR NOT.
2. ALL DIMENSIONS ARE TO BE FACE OF FRAMING UNLESS NOTED OTHERWISE.
3. ALL WINDOWS REQUIRED FOR EMERGENCY EXITING PER CBC SHALL BE VERIFIED BY THE WINDOW SUB-CONTRACTOR, AND THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY IF ANY PROPOSED WINDOW SIZES ARE REQUIRED PRIOR TO START CONSTRUCTION.
4. EXTERIOR WINDOW TRIM SHALL BE FOAM OVER SCRATCH & BROWN COAT W/ FINISH PLASTER COAT PAINTED CONTRASTING COLOR UNLESS OTHERWISE NOTED OR DETAILED.

LEGEND

- ASPHALT SHINGLE ROOFING: CERTAINTEED COMPOSITION SHINGLE ROOFING, OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS.
- EXTERIOR CEMENT PLASTER FINISH: INTEGRAL COLOR FINISH TEXTURE: LIGHT SAND CORNER CONDITION: BULLNOSE CORNER BEAD
- BOARD AND BATTEN SIDING: HARDI PANEL VERTICAL SIDING. 1X4 BATTEN @16" O.C. -SMOOTH FINISH. INSTALL PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS.
- HARDIE ARTISAN REVEAL PANEL INSTALL PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS.
- LOCATION OF WOOD TRIM AND WOOD PANEL

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EXTERIOR ELEVATIONS

A5-1

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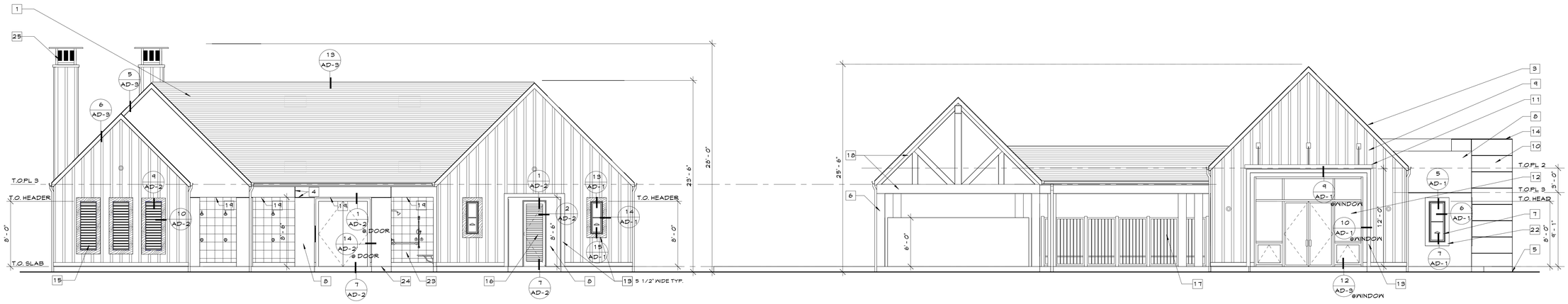
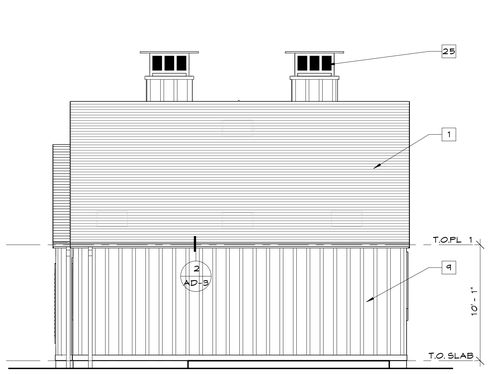
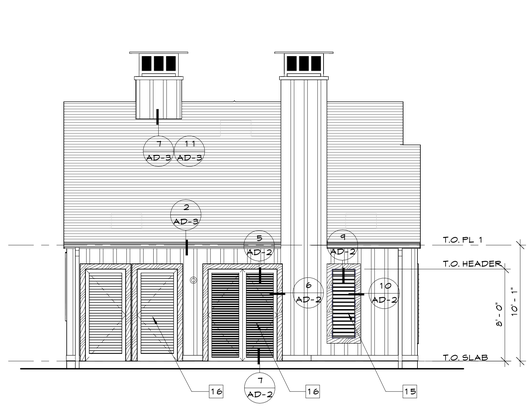


REAR ELEVATION (NORTH - POOL SIDE)

SCALE 3/16" = 1'-0" | 1





RIGHT SIDE ELEVATION (EAST)

SCALE 3/16" = 1'-0" | 2

ELEVATION KEYNOTES (NOTE: NOT ALL KEYNOTES MAY APPLY TO THIS SHEET)

1. ROOFING: PER LEGEND.
2. EAVE: RESAWN WOOD FASCIA PER ROOF PLAN.
3. RAKE: RESAWN WOOD RAKE BOARD PER ROOF PLAN.
4. PLASTER EXPANSION JOINT.
5. FINISH GRADE / TOP OF HARDSCAPE OR SIDEWALK: SLOPE 2% MIN. AWAY FROM BUILDING.
6. RESAWN WOOD POST: SIZE AS NOTED OR DETAILED.
7. VINYL WINDOW/ SLIDING GLASS DOOR.
8. EXTERIOR CEMENT PLASTER FINISH: PER LEGEND.
9. BOARD AND BATTEN SIDING: PER LEGEND.
10. HARDIE ARTISAN REVEAL PANEL SIDING: PER LEGEND.
11. PAINTED METAL AWNING PER DETAIL.
12. STOREFRONT SYSTEM: PER PLANS.
13. WOOD/ HARDBOARD TRIM: SIZE PER DETAIL OR AS NOTED.
14. PARAPET WALL: PER ROOF PLANS.
15. LOUVERED VENT: SIZE PER PLAN.
16. LOUVERED DOOR: SIZE PER PLAN.
17. METAL GATE/ FENCE: PER LANDSCAPE ARCHITECT DWGS.
18. RESAWN WOOD BEAMS, RAFTER TAILS, POST. SIZE AS NOTED OR DETAILED.
19. ARCH. SOFFIT.
20. GAS METER: VERIFY LOCATION WITH UTILITY CO.
21. UTILITY CABINET.
22. DECORATIVE PLASTER WINDOW TRIM.
23. TILED WALL AT SHOWER ENCLOSURE.
24. PLASTER WEEP SCREED.
25. PAINTED METAL CHIMNEY SHROUD.

ELEVATION NOTES

1. ALL DETAIL REFERENCES ARE TYPICAL AND APPLY TO SIMILAR CONDITIONS WHETHER SPECIFICALLY REFERENCED OR NOT.
2. ALL DIMENSIONS ARE TO BE FACE OF FRAMING UNLESS NOTED OTHERWISE.
3. ALL WINDOWS REQUIRED FOR EMERGENCY EXITING PER CBC SHALL BE VERIFIED BY THE WINDOW SUB-CONTRACTOR, AND THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY IF ANY EGRESS WINDOW SIZES ARE REQUIRED PRIOR TO START CONSTRUCTION.
4. EXTERIOR WINDOW TRIM SHALL BE FOAM OVER SCRATCH & BROWN COAT W/ FINISH PLASTER COAT PAINTED CONTRASTING COLOR UNLESS OTHERWISE NOTED OR DETAILED.

LEGEND

- ASPHALT SHINGLE ROOFING: CERTAINTEED COMPOSITION SHINGLE ROOFING, OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS.
- EXTERIOR CEMENT PLASTER FINISH: INTEGRAL COLOR FINISH TEXTURE: LIGHT SAND CORNER CONDITION: BULLNOSE CORNER BEAD
- BOARD AND BATTEN SIDING: HARDI PANEL VERTICAL SIDING. 1X4 BATTEN @16" O.C. -SMOOTH FINISH. INSTALL PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS.
- HARDIE ARTISAN REVEAL PANEL INSTALL PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS.
- LOCATION OF WOOD TRIM AND WOOD PANEL

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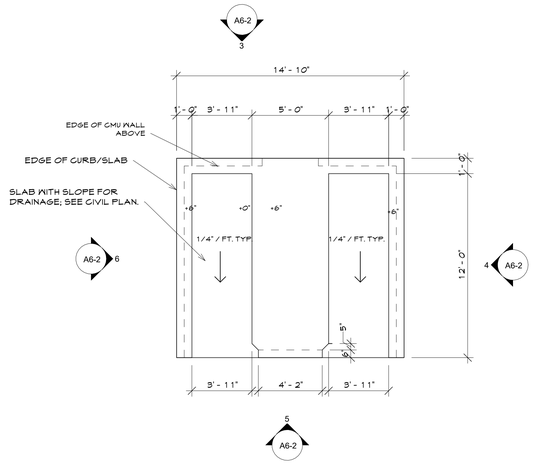
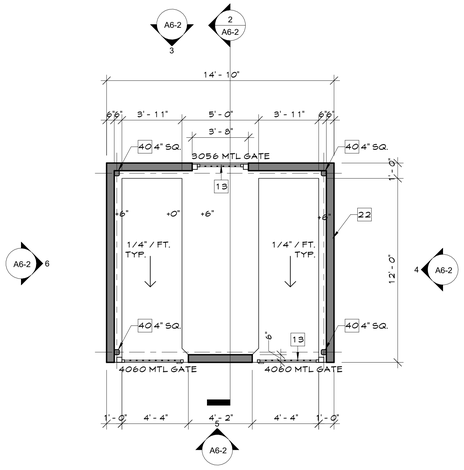
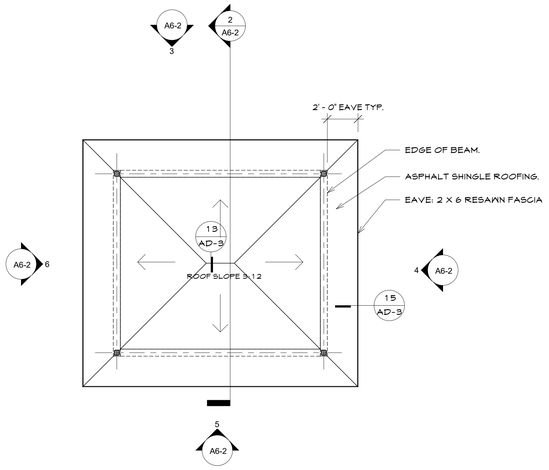
EXTERIOR ELEVATIONS

A5-2







F.P. KEYNOTES

(NOTE: NOT ALL KEYNOTES MAY APPLY TO THIS SHEET)

1. OUTLINE OF FLOOR ABOVE OR BELOW.
2. FLOOR MATERIAL TRANSITION.
3. FLOOR DRAIN.
4. TANK-LESS WATER HEATER; PER ENERGY COMPLIANCE: RINNAI RUR98i.
5. IRRIGATION CONTROL/ FIRE ALARM.
6. UTILITY EQUIPMENT PANELS: VERIFY LOCATION WITH UTILITY CO.
7. LOW VOLTAGE CONTROL CABINETS.
8. ELECTRICAL METER/ MAIN PANEL ; VERIFY LOCATION WITH UTILITY CO.
9. GAS METER: VERIFY LOCATION WITH UTILITY CO.
10. A/C CONDENSER W/ CONCRETE PAD
11. ATTIC FAU: LOCATE WITHIN 20' OF ATTIC ACCESS OPENING.
12. 30"X30" CEILING MOUNTED ATTIC ACCESS PANEL.
13. METAL FENCE/ GATE. SEE LANDSCAPE DRAWINGS FOR DETAILS.
14. CAST-IN-PLACE CONCRETE PER ELEVATIONS.
15. KITCHEN COUNTERTOP: QUARTZ SLAB, 4"X16" TILE BACKSPLASH. VERIFY WITH INTERIOR DESIGNER DRAWINGS.
16. CABINETS: 4" HIGH X 3" DEEP TOE SPACE. VERIFY WITH INTERIOR DESIGNER DRAWINGS.
17. SINK: 33" X 18" UNDERMOUNT STAINLESS ST.; DOUBLE BOWL: KOHLER K3846-4-NA W/ GARBAGE DISPOSAL: INSINKERATOR. FAUCET: MOEN 87140R. VERIFY WITH INTERIOR DESIGNER DRAWINGS.
18. REFRIGERATOR (N.I.C.). 33" WIDE CLEAR. - VERIFY WITH INTERIOR DESIGNER DRAWINGS.
19. ABOVE-THE-COUNTER MICROWAVE OVEN.
20. WALL-MOUNTED DOUBLE DRINKING FOUNTAIN, HIGH & LOW; PER CBC SECTION 1.11.9A.
21. RESTROOM COUNTERTOP: QUARTZ SLAB, DESIGNER, 4" BACK-SPLASH AND RECTANGULAR UNDERMOUNT LAV: KOHLER K2291-0 FAUCET: MOEN T6193 OR EQUAL.
22. 6" CMU WALL AT TRASH ENCLOSURE.
23. SHOWERHEAD: MOEN T2702EP, OR EQUAL.MOUNT AT 72" A.F.F.
24. ADA SHOWERHEAD: MOEN 3887EP; TRANSFER VALVE: MOEN T2701
25. SHOWER WALLS:4"X12" WALL TILE FULL HEIGHT, 12"X12" FLOOR TILE.
26. WATER CLOSET: KOHLER K-72516-NA. PROVIDE 18" FROM WALL TO CENTERLINE OF FIXTURE @ AGGESSIBLE TOILET COMPARTMENTS.
27. URINAL: KOHLER K4991-ET-0.
28. TOILET PAPER HOLDER.
29. RE-SAWN WOOD: BEAM / POST
30. NOT USED.
31. HARDSCAPE: PER LANDSCAPE.
32. TRASH/RECYCLING CONTAINER.
33. 8" CMU WALL WITH STACK BOND.
34. SUFFICIENT MANEUVERING SPACE: 60" DIAMETER TURNING SPACE PROVIDED.
35. GRAB BAR PER CBC 11B-604.5, 11B-604.8.2.3, 11B-608.3, 11B-609, SEE INTERIOR ELEVATIONS.
36. FIXED MIRROR; HEIGHT AS NOTED ON INTERIOR ELEVATIONS.
37. FLOOR/WALL MOUNTED TOILET PARTITION: BOBRICK STAINLESS STEEL.
38. TOILET SEAT COVER DISPENSER.
39. PAPER TOWEL DISPENSER; POOL RESTROOM BOBRICK B-3944.
40. PAINTED METAL POST AT TRASH ENCLOSURE.
41. WALL-MOUNTED BABY CHANGING STATION W/ 30"X48" CLEAR FLOOR SPACE. 48" MAX. TO OPERABLE PORTION. 34" MAX. TO TOP SURFACE. 27" MIN. TO BOTTOM.
42. MOP SINK.
43. HOSE BIBB.
44. FIRE EXTINGUISHER: 2A RATED INSIDE DEDICATED CABINET. SEE 7 AD-9
45. EGRESS DOOR: INSTALL HORIZONTAL TOUCH BAR EXIT HARDWARE: MONARCH 25L/510 TRIM & 13 PANIC W/ CYLINDER.
46. SOAP DISPENSER, SINK UNDERMOUNT.

FLOOR PLAN NOTES

1. ALL DIMENSIONS TO FACE OF STUD (F.O.S.) U.N.O.
2. WRITTEN DIMENSIONS TO PREVAIL OVER SCALING OF DRAWINGS. SUBCONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY DEVELOPER OR ARCHITECT OF ANY INCONSISTENCIES.
3. REFER TO BUILDING SECTIONS AND INT. ELEV. FOR CLARIFICATION AND DIMENSIONS OF SOFFITED AREAS AND POTSHELVES.
4. ALL WINDOWS TO HAVE VINYL FRAMES. SEE EXTERIOR ELEVATIONS FOR DIRECTION OF OPERATION AND LOCATION OF MUNTIN BARS (ALL OPERABLE WINDOWS TO HAVE SCREENS).
5. ALL GLASS IN DOORS AND SLIDING GLASS DOORS TO BE TEMPERED. PROVIDE TEMPERED GLASS WHERE BOTTOM EDGE IS LESS THAN 60" FROM WALKING SURFACE AT 1.) STAIRWAYS, 2.) SHOWERS AND TUBS, AND 3.) WITHIN A 24" ARC OF A DOOR IN CLOSED POSITION (CBC).
6. REFER TO INTERIOR ELEVATIONS DESIGNATED BY THIS SYMBOL (A)
7. SHOWERS AND TOILETS FOR BATHERS TO BE PROVIDED WITH HOT AND COLD WATER AND NOT TO EXCEED 110°F AND NOT ADJUSTABLE BY BATHERS.
8. HOSE BIBB TO BE PROVIDED WITH POTABLE WATER AND BACKFLOW PREVENTION.
9. ALL EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
10. MAIN ENTRANCE TO INCLUDE SIGN FIXED TO DOOR THAT READS THE FOLLOWING: "THIS DOOR IS TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED."

WALL LEGEND

- PARTTIAL HEIGHT 2x4 STUD WALL
- 2x4 STUD WALL
- PARTIAL 2x6 STUD WALL
- 2x6 STUD WALL
- SOFFIT OR ARCH SOFFIT - SEE INTERIOR OR EXTERIOR ELEVATIONS FOR HEIGHTS

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STATE OF CALIFORNIA

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TRASH ENCL.

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FLAT WORK, FLOOR PLAN, ROOF PLAN

A6-1

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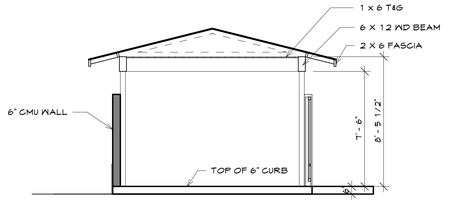
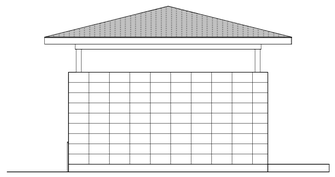
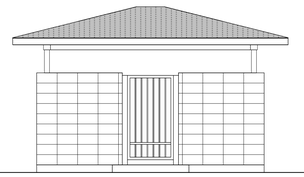


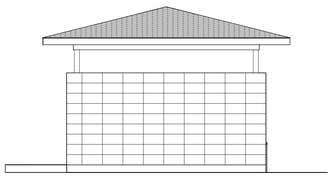
TRASH ENCLOSURE SECTION 1 — SCALE 1/4" = 1'-0" — 2



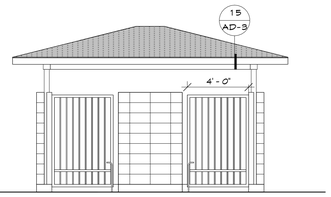
TRASH ENCL. RIGHT ELEVATION — SCALE 1/4" = 1'-0" — 4



TRASH ENCL. REAR ELEVATION — SCALE 1/4" = 1'-0" — 3



TRASH ENCL. LEFT ELEVATION — SCALE 1/4" = 1'-0" — 6



TRASH ENCL. FRONT ELEVATION — SCALE 1/4" = 1'-0" — 5

TRASH ENCL.ELEV. KN.

1. ROOFING: PER LEGEND.
2. EAVE: RESAWN WOOD FASCIA PER ROOF PLAN.
3. PAINTED METAL POST; 4"X4"; SET INDEPENDENTLY FROM WALLS.
4. CANE BOLT; DROPPED TO SLEEVED HOLES IN CONCRETE.
5. FINISH GRADE / TOP OF HARDSCAPE OR SIDEWALK: SLOPE 2% MIN. AWAY FROM BUILDING.
6. 6" CMU WALL WITH STACKED BOND.
7. PAINTED METAL GATE.
8. RESAWN WOOD BEAMS; SIZE AS NOTED OR DETAILED.

ELEVATION NOTES

1. ALL DETAIL REFERENCES ARE TYPICAL AND APPLY TO ALL SIMILAR CONDITIONS WHETHER SPECIFICALLY REFERENCED OR NOT.
2. ALL DIMENSIONS ARE TO BE FACE OF FRAMING UNLESS NOTED OTHERWISE.

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SECTION, EXT. ELEVATIONS

A6-2

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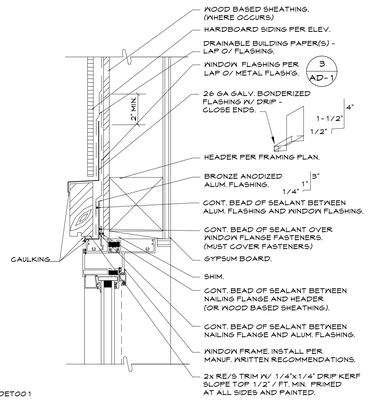
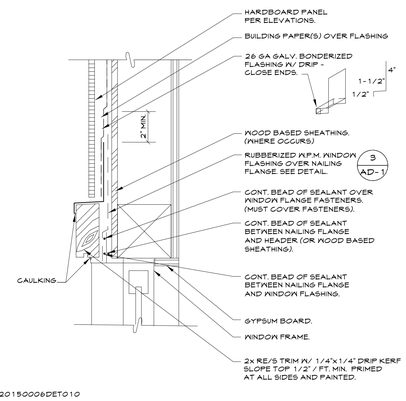


2022014DET001

STOR.FRNT. WINDOW HEAD - SIDING 17

SCALE 3" = 1'-0"



20150006DET010

WINDOW HEAD - SIDING 13

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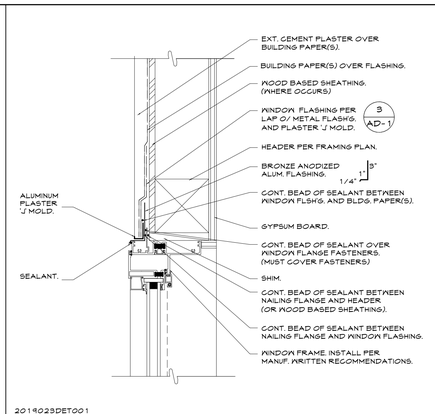
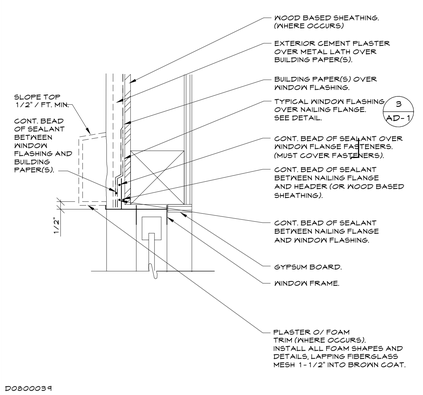


20190023DET001

STOR.FRNT. WINDOW HEAD - PLASTER 9

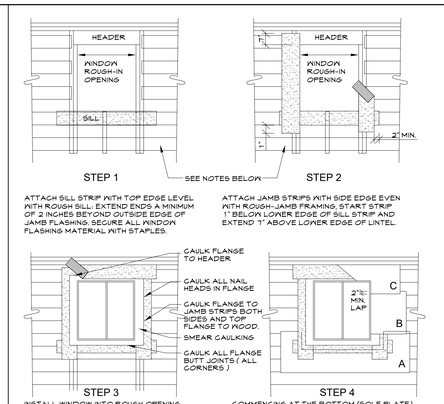
SCALE 3" = 1'-0"



D0800039

WINDOW HEAD - PLASTER 5

SCALE 3" = 1'-0"



ATTACH SILL STRIP WITH TOP EDGE LEVEL WITH ROUGH SILL. EXTEND ENDS A MINIMUM OF 2 INCHES BEYOND OUTSIDE EDGE OF JAMB FLASHING. SEQUIRE ALL WINDOW FLASHING MATERIAL WITH STAPLES.

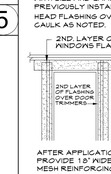
ATTACH JAMB STRIPS WITH SIDE EDGE EVEN WITH ROUGH-JAMB FRAMING, START STRIP 1" BELOW LOWER EDGE OF SILL STRIP AND EXTEND 1" ABOVE LOWER EDGE OF LINTEL.

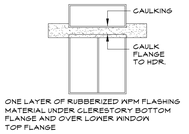
INSTALL WINDOW INTO ROUGH OPENING WITH SILL AND JAMB FLANGES OVER PREVIOUSLY INSTALLED FLASHING. ATTACH HEAD FLASHING OVER THE WINDOW FLANGE. CAULK AS NOTED.

COMMENCING AT THE BOTTOM (SOLE PLATE) OF THE WALL, LAY BUILDING PAPER(S) UNDER SILL STRIP.

NOTE: CUT ANY EXCESS BUILDING PAPER(S) THAT MAY EXTEND ABOVE THE SILL FLANGE LINE ON EACH SIDE OF THE OPENING (SHOWN AS SHORT DASHED LINES).

DO NOT SPLICE BUILDING PAPER(S) HORIZONTALLY SO THAT THE PAPER WILL LAP OVER THE JAMB STRIPS. INSTALL SUCCESSIVE LINES OF BUILDING PAPER(S) (B.S.P. ETC.) OVER JAMB AND HEAD FLANGES, LAPPING EACH COURSE.





ONE LAYER OF RUBBERIZED WPM FLASHING MATERIAL UNDER CLERESTORY BOTTOM FLANGE AND OVER LOWER WINDOW TOP FLANGE

AFTER APPLICATION OF LATH, PROVIDE 1.8" WIDE STRIP OF DIAMOND-WIRE MESH REINFORCING AT CORNERS OF ALL WINDOWS, DOORS & RE-ENTRANT CORNERS TYPICAL

1. LINE-WIRE, WHEN USED AS BACKING TO SUPPORT BUILDING PAPER(S) BENEATH WIRE LATH (NETTING) FOR PORTLAND CEMENT (STUCCO), SHALL BE INSTALLED, AS FOLLOWS.

WIRE GAUGE, SPACING AND ATTACHMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIFICATIONS.

PERIPHERAL FLASHING AT ALL EDGES OF WALL OPENINGS MUST COVER THE WIRE BACKING.

NO ATTACHMENT DEVICES NOR THE WIRE BACKING SHALL COVER OR PENETRATE THE FLASHING MATERIAL.

2. WINDOW FLASHING MINIMUM
A. 9" WIDE RUBBERIZED WPM BY JIFFY-SEAL OR EQUAL. TYPICAL U.N.O.
B. 9" WIDE NEXT STRIP AT GARAGE ROLL-UP DOOR AND GARAGE MAN DOOR ONLY. USE RUBBERIZED WPM (ICBO #ER-5213) OVER SOLID BACKING AT WOOD SIDING AND WOOD TRIM CONDITIONS.

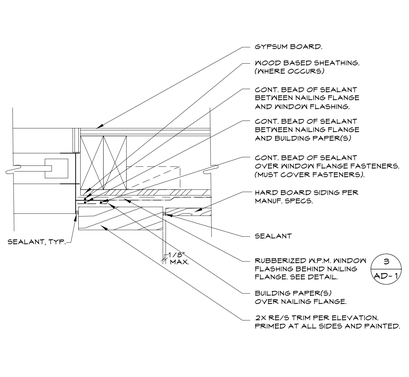
3. PROVIDE CONTINUOUS BEAD OF SEALANT (BUTYL TAPE CAULKING) AS RECOMMENDED BY THE WINDOW MANUFACTURER PRIOR TO THE INSTALLATION OF WINDOWS OR SLIDING DOORS. (SEALANT/ CAULKING TO BE COMPATIBLE WITH WINDOW FLASHING). APPLY TOOL, CAULK AND INSTALL WINDOWS WITHIN THE TIME LIMITS SET FORTH BY MANUFACTURER'S INSTRUCTIONS.
4. ALL WINDOWS SHALL BE HAND-NAILED, USE 6d GALV. BOX NAILS (NO STAPLES ALLOWED)
5. WINDOW HEAD, JAMBS AND SILL GORNER FASTENERS ARE TO BE NAILED THROUGH THE FIN NO CLOSER THAN 3" TO CORNERS AND WITHIN 10 INCHES OF CORNERS.
6. NAILS IN FINS SHALL BE NO MORE THAN 16" ON CENTER.
7. NO NAILS SHALL BE BENT OVER THE NAILING FIN TO SEGURE THE WINDOW.
8. PROVIDE TOOL CAULK O/ WINDOW FLANGE COVERING FASTENERS AFTER INSTALLATION.
9. PROVIDE (2) LAYERS OF BUILDING PAPER (TYP.)

THORTON-CONTINENTAL STANDARD DETAIL

TMD0800252

STANDARD WINDOW / DOOR FLASHING 3

SCALE 1/4" = 1'-0"



2022014DET002

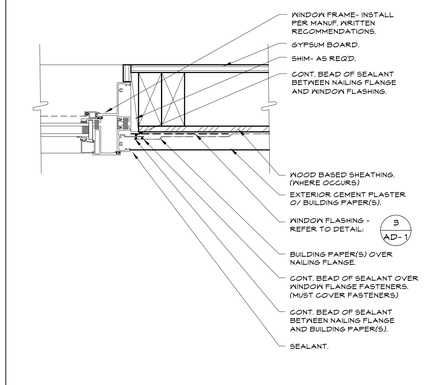
STOR.FRNT. WINDOW SILL - SIDING 18

SCALE 3" = 1'-0"

D0800298

WINDOW JAMB - SIDING 14

SCALE 3" = 1'-0"



20190232DET002

STOR.FRNT. WINDOW JAMB - PLASTER 10

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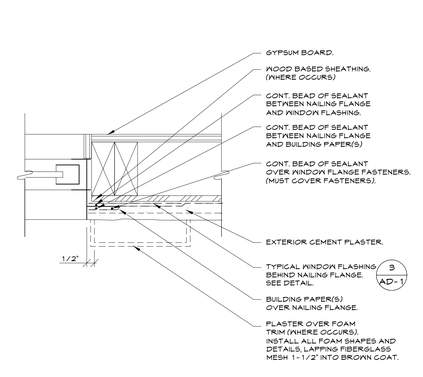

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WINDOW JAMB - PLASTER 6

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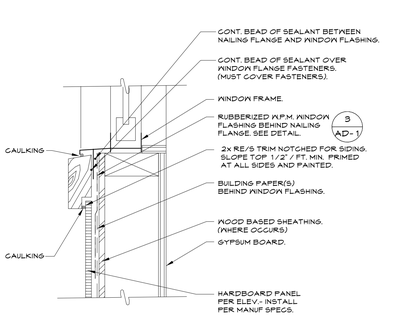

2015006DET009

WINDOW SILL - SIDING 15

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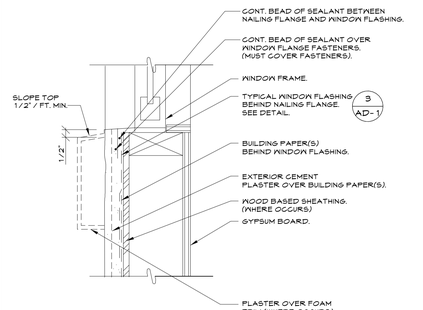

D0800041

WINDOW SILL - PLASTER 7

SCALE 3" = 1'-0"

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DETAILS

ARCHITECTURAL DETAILS

AD-1

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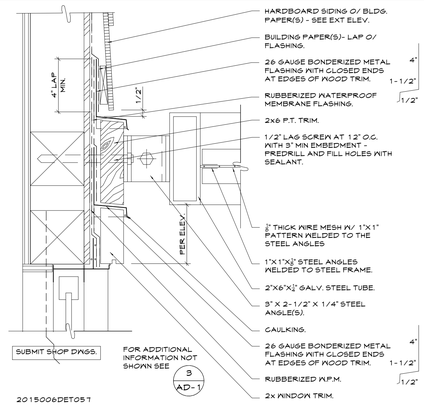

2015006DET057

METAL AWNING AT WINDOW HD. 13

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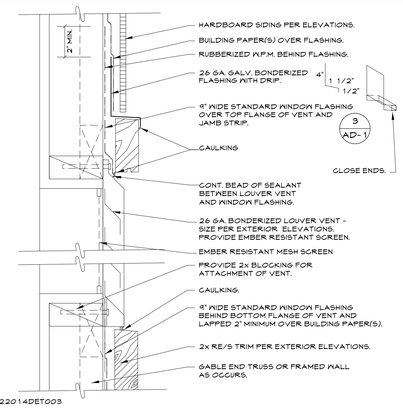
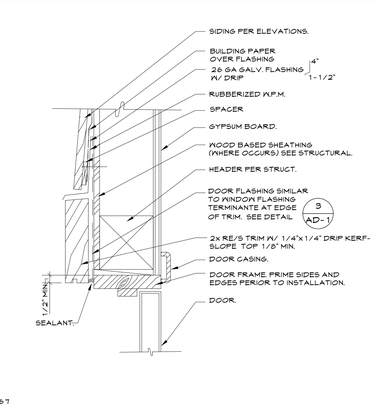


2022014DET003

LOUVERED VENT HEAD & SILL 9

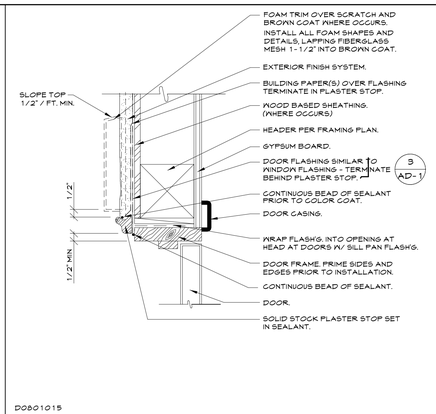
SCALE 3" = 1'-0"



D0003367

DOOR HEAD - SIDING 5

SCALE 3" = 1'-0"



D0801015

DOOR HEAD - PLASTER 1

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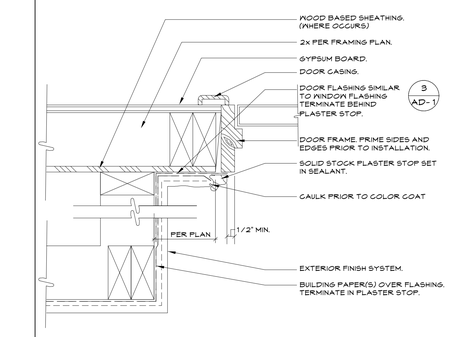

2022014DET004

DOOR JAMB AT RECESS - PLASTER 14

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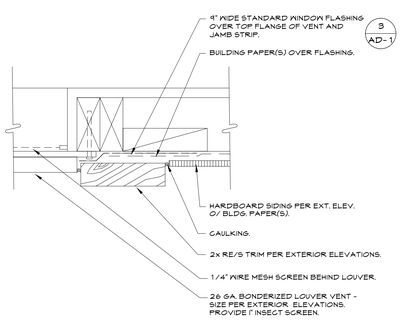

2016022DET027

LOUVERED VENT JAMB 10

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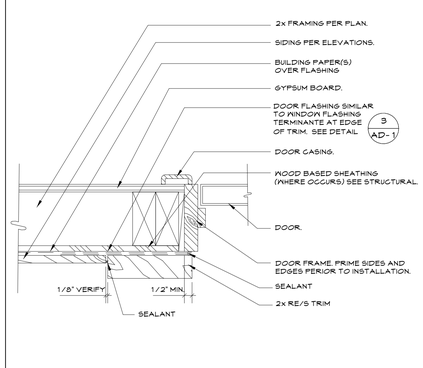

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DOOR JAMB - SIDING 6

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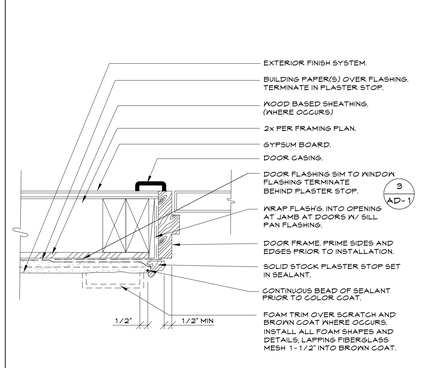

D0800199

DOOR JAMB - PLASTER 2

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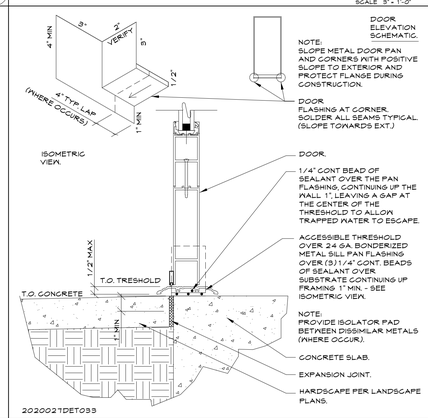
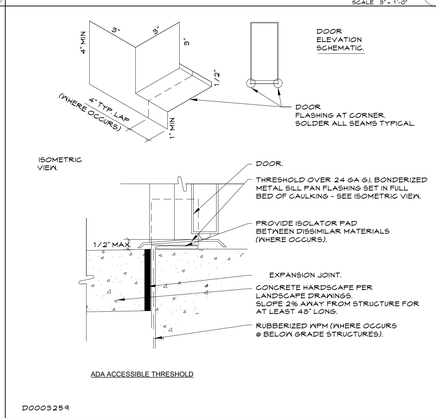


20200217DET033

OUTSWING EXTERIOR DOOR SILL 7

SCALE 3" = 1'-0"



D0003259

ACCESS. EXTERIOR DOOR SILL 3

SCALE 3" = 1'-0"

COTA VERA SWIM CLUB

2022014 HOMEFED CORPORATION

LICENSED ARCHITECT — STATE OF CALIFORNIA

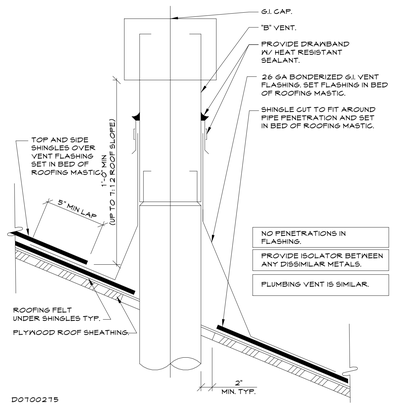
1/11/23 CITY SUBMITTAL

DETAILS

1/16/2023 8:05:14 PM PRINT DATE

ARCHITECTURAL DETAILS

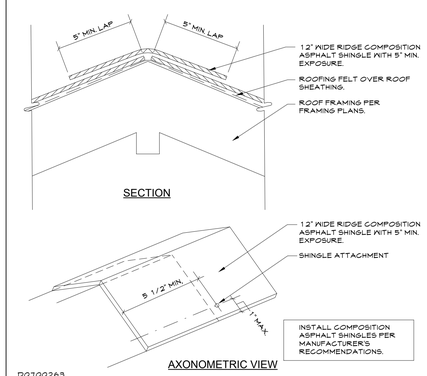
AD-2



D0100275

EXHAUST VENT PENETRATION

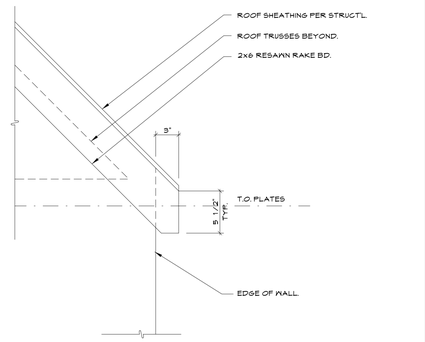
SCALE 3" = 1'-0" 17



D0100263

HIP/ RIDGE

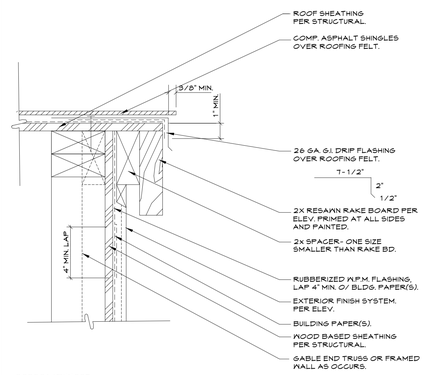
SCALE 3" = 1'-0" 13



2022014DET006

PLUMB CUT EAVE PROFILE

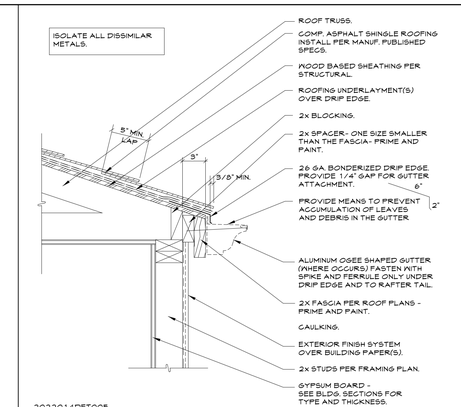
SCALE 1 1/2" = 1'-0" 9



2022014DET007

RAKE AT PLASTER

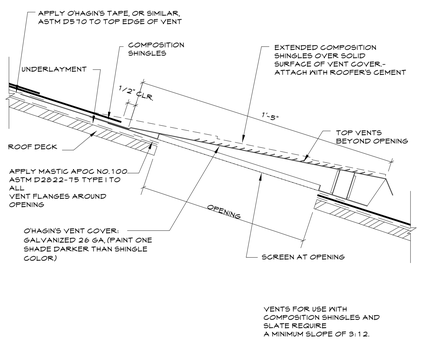
SCALE 3" = 1'-0" 5



2022014DET005

EAVE AT PLASTER

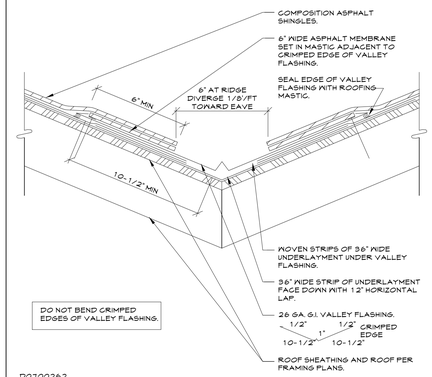
SCALE 1 1/2" = 1'-0" 1



D0003451

CONCEALED ROOF VENT

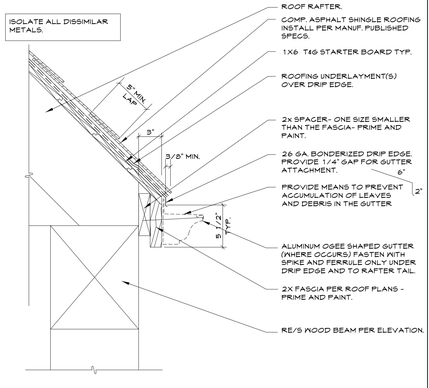
SCALE 3" = 1'-0" 18



D0100262

VALLEY

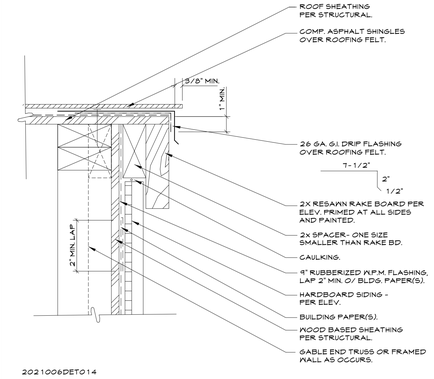
SCALE 3" = 1'-0" 14



2022014DET008

EAVE AT BEAM

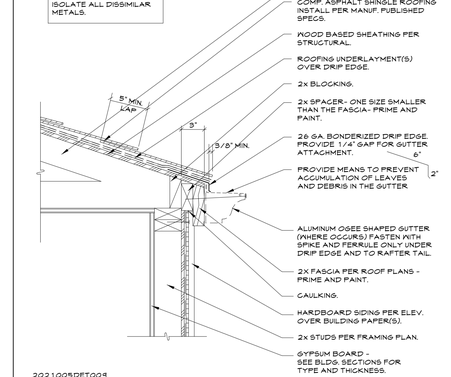
SCALE 1 1/2" = 1'-0" 10



2021006DET014

RAKE AT SIDING

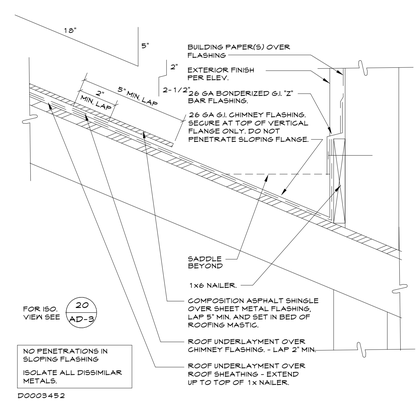
SCALE 3" = 1'-0" 6



2021005DET009

EAVE AT SIDING

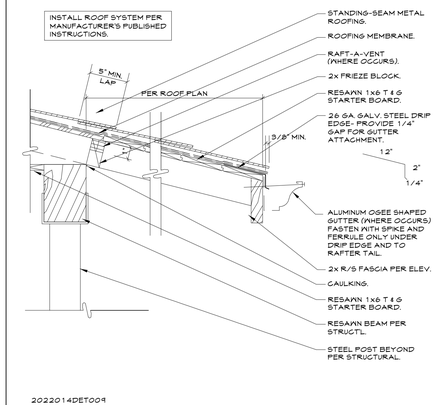
SCALE 1 1/2" = 1'-0" 2



D0003452

CHIMNEY FLASHING

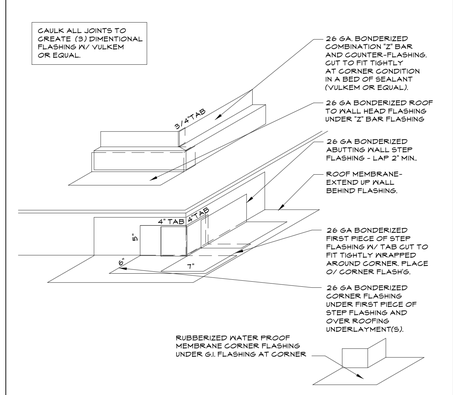
SCALE 3" = 1'-0" 19



2022014DET009

EAVE AT TRASH ENCLOSURE

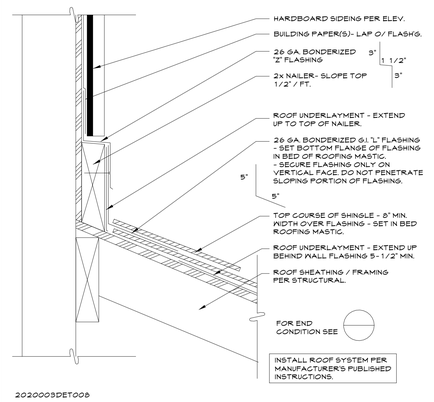
SCALE 1 1/2" = 1'-0" 15



20200903DET019

OUTSIDE CORNER FLASHING

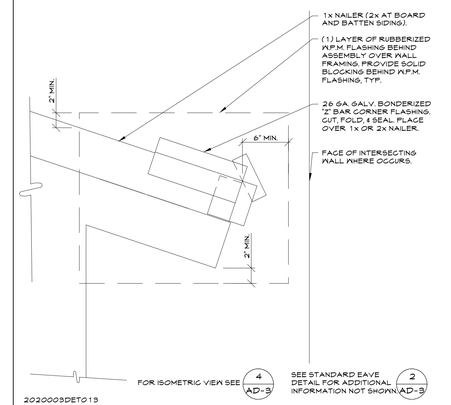
SCALE 1 1/2" = 1'-0" 11



20200903DET008

FLASHING AT INTERSECTING WALL

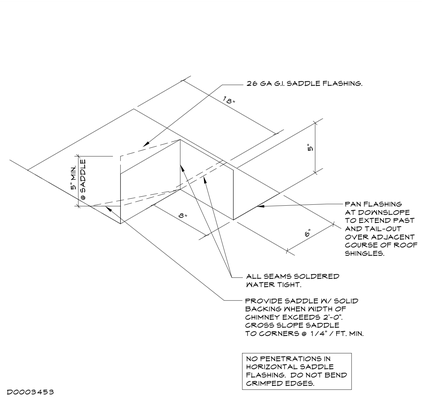
SCALE 3" = 1'-0" 7



20200903DET013

EAVE AT INTERSECTING WALL

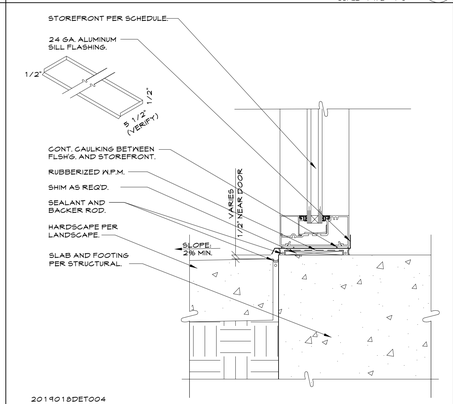
SCALE 1 1/2" = 1'-0" 3



D0003453

ISO OF CORNER CHIMNEY FLSH'G

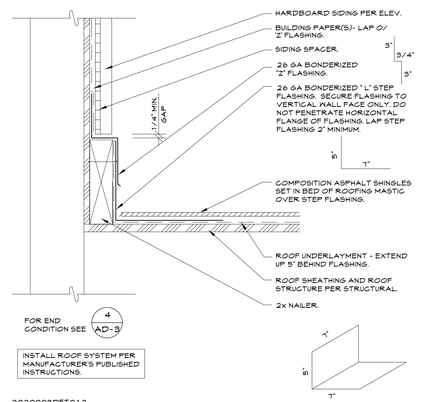
SCALE 1 1/2" = 1'-0" 20



20190108DET004

STOREFRONT AT HARDSCAPE

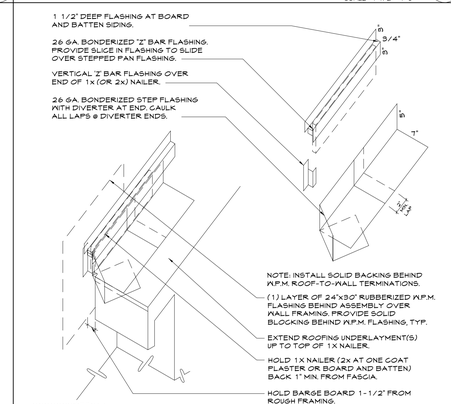
SCALE 3" = 1'-0" 12



20200903DET012

FLASHING AT ABUTTING WALL

SCALE 3" = 1'-0" 8



20200903DET014

EAVE AT ABUTTING WALL

SCALE 1" = 1'-0" 4

COTA VERA SWIM CLUB

2022014 HOMEFED CORPORATION

LICENSED ARCHITECT — STATE OF CALIFORNIA

DETAILS

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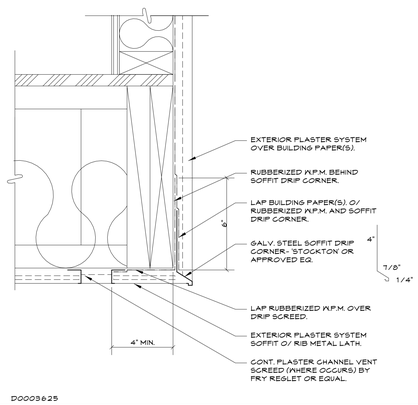
ARCHITECTURAL DETAILS

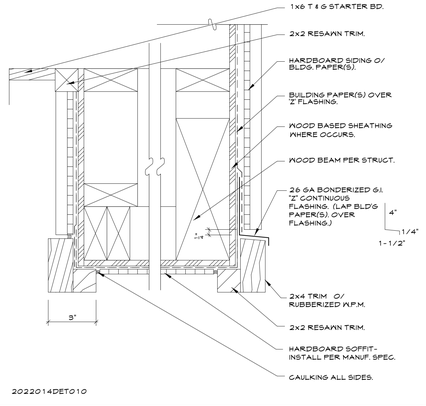
AD-3



D0003625

SOFFIT SCREED

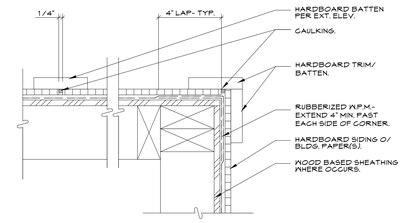
SCALE 3" = 1'-0" 17



2022014DET010

SIDING AT SOFFIT

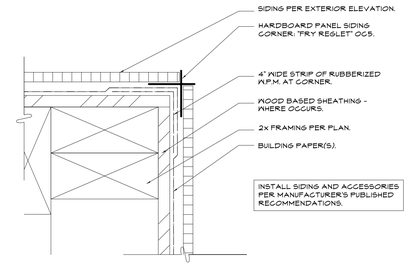
SCALE 3" = 1'-0" 13



2017010DET077

BOARD AND BATT OUTSIDE CORNER

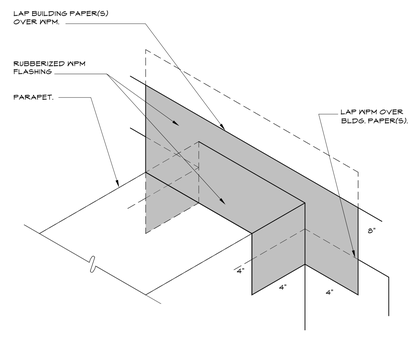
SCALE 3" = 1'-0" 5



2020026DET007

PANEL SIDING OUTSIDE CORNER

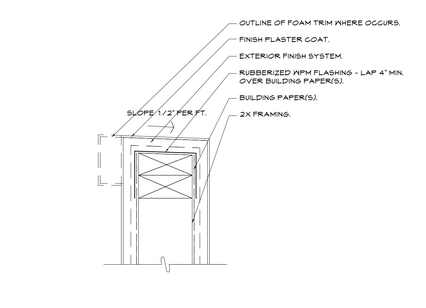
SCALE 3" = 1'-0" 1



2015006DET050

ISO. AT WPM FLASHING - AT WALL

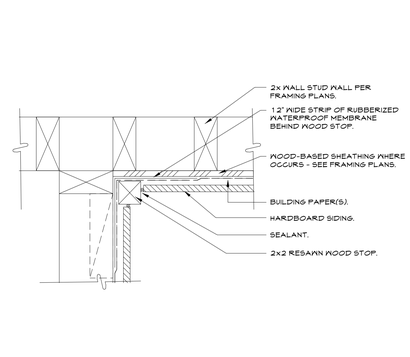
SCALE 3" = 1'-0" 18



D0003654

PLASTER CAP

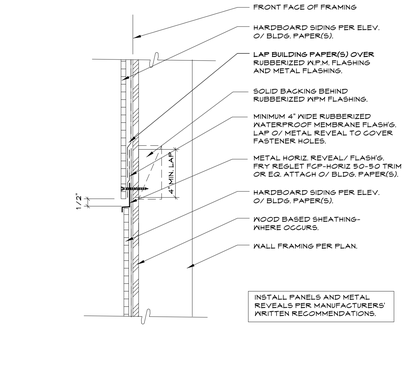
SCALE 3" = 1'-0" 14



D0003310

SIDING/ SIDING INSIDE CORNER

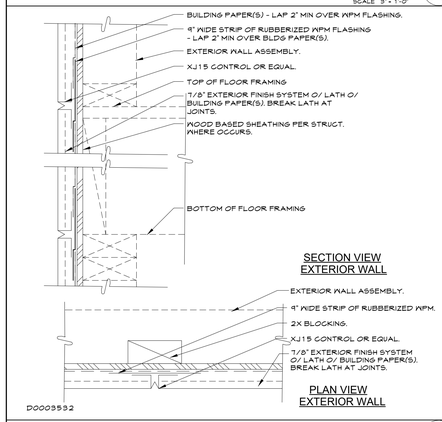
SCALE 3" = 1'-0" 6



2020026DET024

HORIZONTAL REVEAL AT SIDING

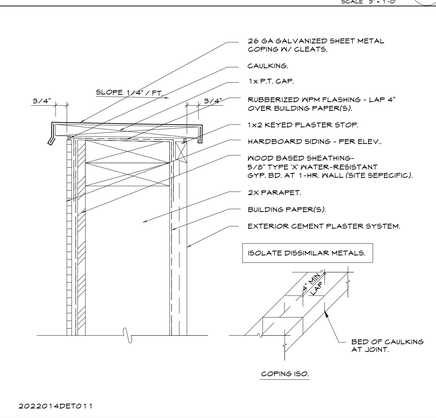
SCALE 3" = 1'-0" 2



D0003532

HOR./ VERT. CONTRAL JOINTS

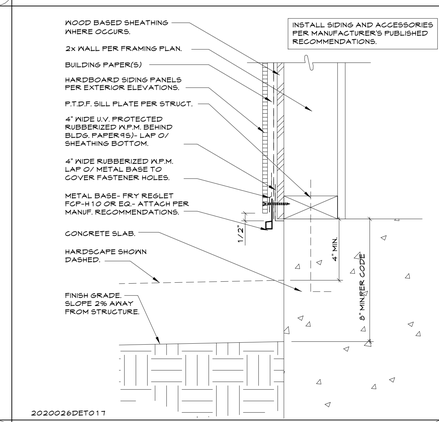
SCALE 3" = 1'-0" 19



2022014DET011

PARAPET TOP AT REVEAL PANEL

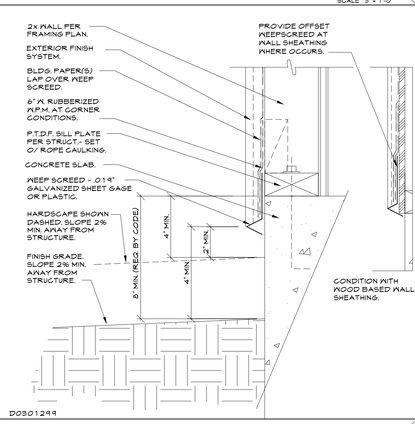
SCALE 3" = 1'-0" 15



2020026DET017

PANEL SIDING AT GRADE

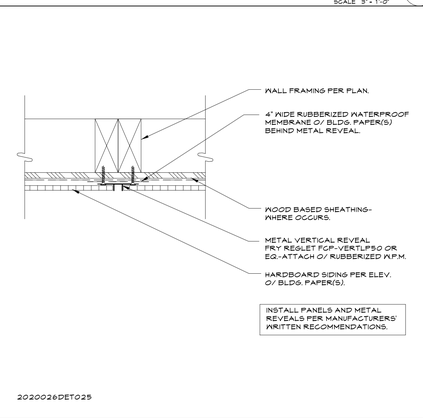
SCALE 3" = 1'-0" 11



D0301249

PLASTER AT GRADE

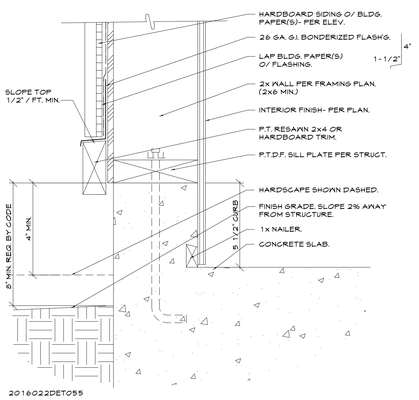
SCALE 3" = 1'-0" 7



2020026DET025

VERTICAL REVEAL AT SIDING

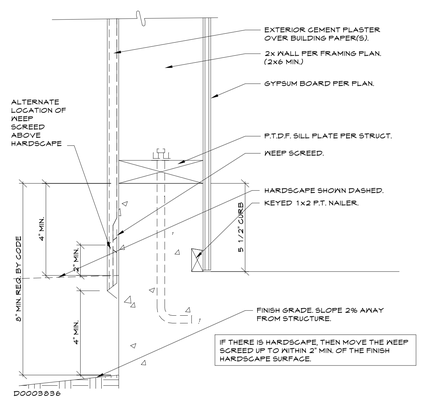
SCALE 3" = 1'-0" 3



2016022DET055

SIDING AT CURB

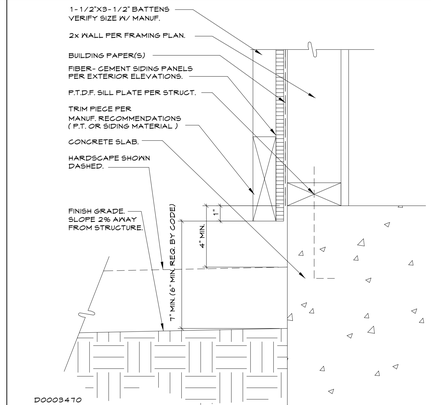
SCALE 3" = 1'-0" 20



D0003836

WEEP SCREED AT CURB - PLASTER

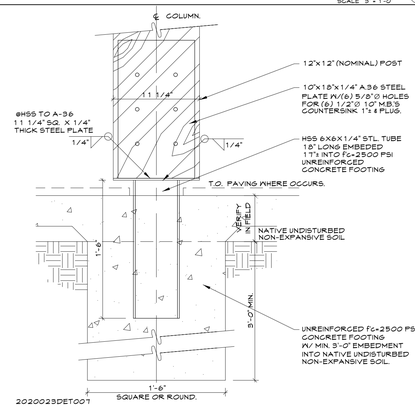
SCALE 3" = 1'-0" 16



D0003470

SIDING AT GRAGE

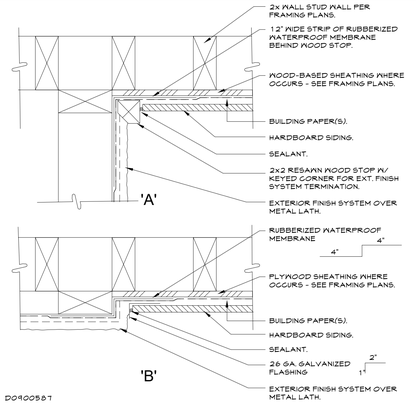
SCALE 3" = 1'-0" 12



2020023DET007

POST AT BASE

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



D0900587

SIDING AT PLASTER INSIDE CORNER

SCALE 3" = 1'-0" 4

COTA VERA SWIM CLUB

2022014 HOMEFED CORPORATION

LICENSED ARCHITECT — STEVEN ALAN STARCK — No. C-30660 — 08/31/25 — CALIFORNIA

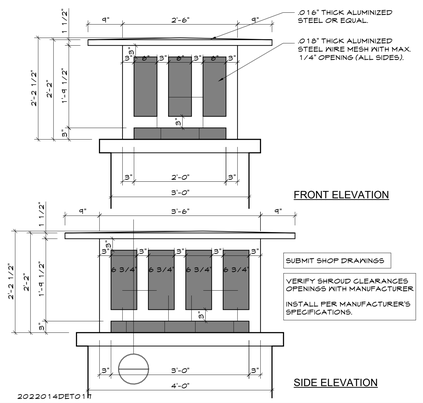
DETAILS

1/11/23 CITY SUBMITTAL

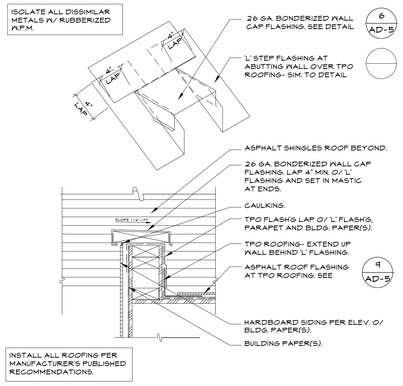
1/16/2023 8:05:26 PM PRINT DATE

ARCHITECTURAL DETAILS

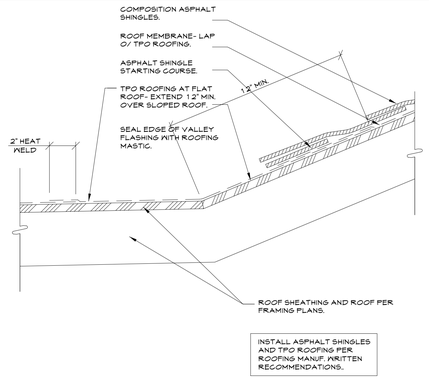
AD-4



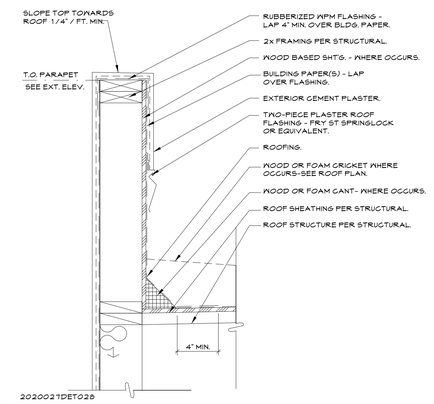
CHIMNEY SHROUD — SCALE 3/4" = 1'-0" — 17



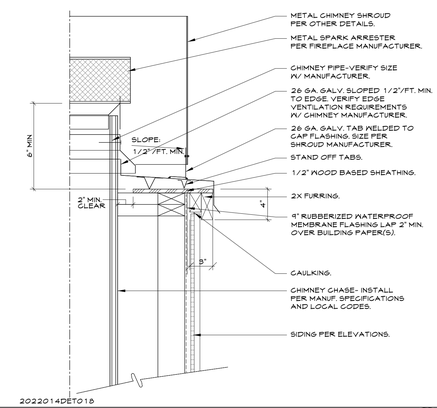
PARAPET AT SLOPED ROOF FLASH'G — SCALE 1 1/2" = 1'-0" — 13



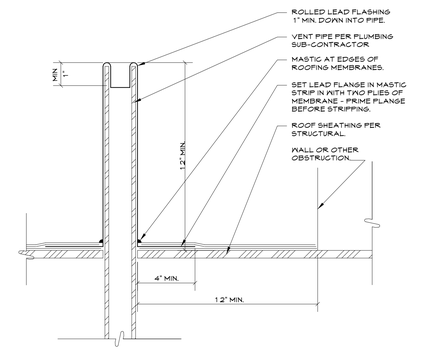
VALLEY — SCALE 3" = 1'-0" — 9



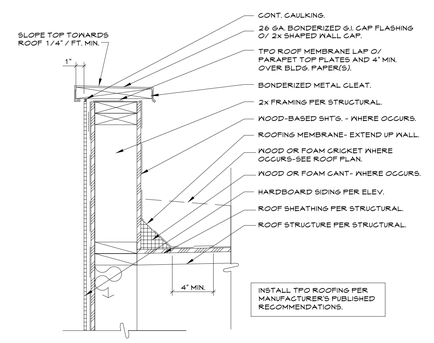
PARAPET DETAIL AT PLASTER — SCALE 1 1/2" = 1'-0" — 5



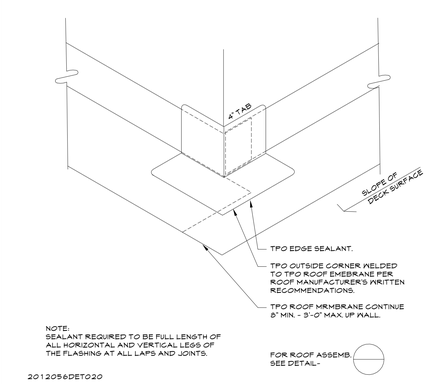
CHIMNEY TOP — SCALE 1 1/2" = 1'-0" — 18



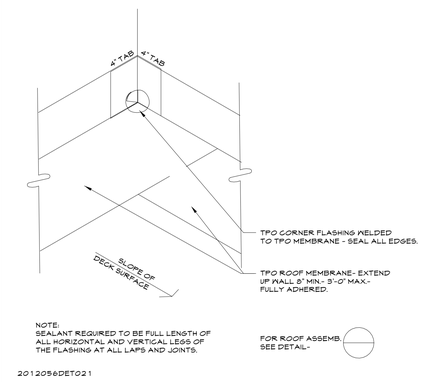
PLUMBING VENT AT ROOF — SCALE 3" = 1'-0" — 10



PARAPET DETAIL AT REVEAL PANEL — SCALE 1 1/2" = 1'-0" — 6



OUTSIDE CORNER AT TPO ROOF — SCALE 1 1/2" = 1'-0" — 7



INSIDE CORNER AT TPO ROOF — SCALE 1 1/2" = 1'-0" — 8

COTA VERA SWIM CLUB

2022014 HOMEFED CORPORATION

LICENSED ARCHITECT — STATE OF CALIFORNIA

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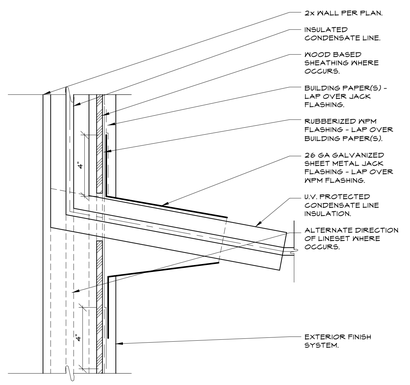
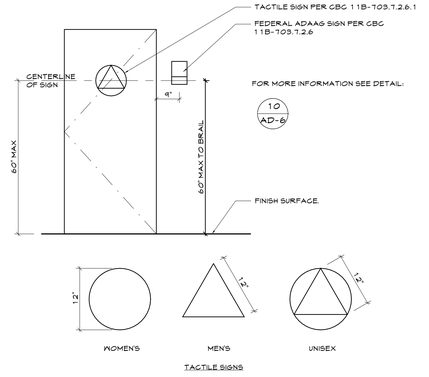
AD-5



D0003623

AC LINE SET AT WALL

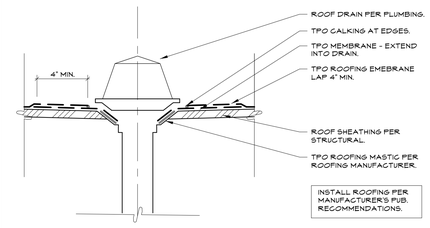
SCALE 3" = 1'-0" 13



D0003830

TOILET ROOM SIGNAGE

SCALE 1/2" = 1'-0" 9



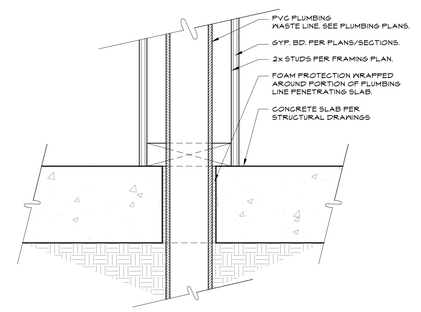
NOTES:

1. TPO EDGE SEALANT IS USED TO SEAL THE MEMBRANE EDGES WHERE REINFORCING FABRIC IS CUT AND EXPOSED. EDGE SEALANT IS REQUIRED ON ALL END LAPS, T-JOINTS, AND FIELD CUT EDGES.
2. FIELD MEMBRANE SEAMS MUST NOT RUN THROUGH DRAIN BOWL.
3. ALL MEMBRANE CUTS MUST BE ROUNDED TO PREVENT TEARING.
4. SUMP AREA MUST BE PROPERLY TAPERED SO THAT THE DRAIN FLASHING IS NOT INSTALLED UNDER TENSION.
5. SUBTRATE MUST BE COMPATIBLE WITH TPO BONDING ADHESIVE.

20120506DET023

ROOF DRAIN

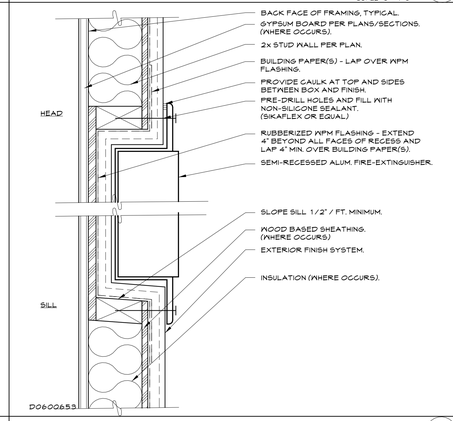
SCALE 3" = 1'-0" 5



D0003201

PLUMB WASTE LINE PROTECTION

SCALE 3" = 1'-0" 1



D0600853

REC FIRE-EXTINGUISHER CABINET

SCALE 3" = 1'-0" 14

CALIFORNIA SYMBOL REQUIREMENTS : DOORWAYS LEADING TO A PUBLIC RESTROOM MUST BE IDENTIFIED BY A GEOMETRIC SYMBOL, CENTERED HORIZONTALLY ON THE DOOR AT A CENTERED HEIGHT OF 58" MIN. AND 60" MAX ABOVE THE FINISHED FLOOR OR GROUND SURFACE MEASURED FROM THE CENTERLINE OF THE SYMBOL WHERE A DOOR IS PROVIDED THE SYMBOL SHALL BE MOUNTED WITHIN 1" OF THE VERTICAL CENTERLINE OF THE DOOR. (CBC 11B-703.7.2.6)

- MEN'S RESTROOMS ARE IDENTIFIED BY A 1/4" THICK EQUILATERAL TRIANGLE WITH 12" LONG EDGES AND THE VERTEX POINTING UP. THE COLOR OF THE SYMBOL MUST CONTRAST WITH THAT OF THE DOOR. (CBC 11B-703.7.2.6.1)
- WOMEN'S RESTROOMS ARE IDENTIFIED BY A 1/4" THICK CIRCLE WITH A 12" DIAMETER. THE COLOR OF THE SYMBOL MUST CONTRAST WITH THAT OF THE DOOR. (CBC 11B-703.7.2.6.2)
- UNISEX RESTROOMS ARE IDENTIFIED BY THE DESIGNATED 12: CIRCLE WITH THE DESIGNATED 12" TRIANGLE SUPERIMPOSED UPON IT. THE VERTICES OF THE TRIANGLE SHALL BE LOCATED 1/4: MAX FROM THE EDGE OF THE CIRCLE. THE COLOR OF THE TRIANGLE MUST CONTRAST WITH THAT OF THE CIRCLE WITH MUST CONTRAST THAT OF THE DOOR (CBC 11B-703.7.2.6.3)
- FEDERAL ADAAG SIGN WITH THE TACTILE TEXT, BRAILLE, AND POSSIBLE VISUAL FEATURES MUST BE INSTALLED WITH CHARACTERS LOCATED 48" MIN ABOVE THE FINISHED FLOOR OR GROUND SURFACE MEASURED TO THE BASELINE OF THE LOWEST BRAILLE CELLS AND 60" MAX ABIVE THE FINISHED FLOOR OR GROUND SURFACE MEASURED TO THE BASELINE OF THE HIGHEST LINE OF RAISED CHARACTERS. THE SIGN SHOULD BE LOCATED ON THE WALL ADJACENT TO THE LATCH SIDE OF THE DOOR. WHERE THERE IS NO WALL SPACE ON THE LATCH SIDE, THE SIGN SHOULD BE PLACED ON THE NEAREST ADJACENT WALL, PREFERABLY ON THE RIGHT. (CBC 11B-703.4.1-4.2)

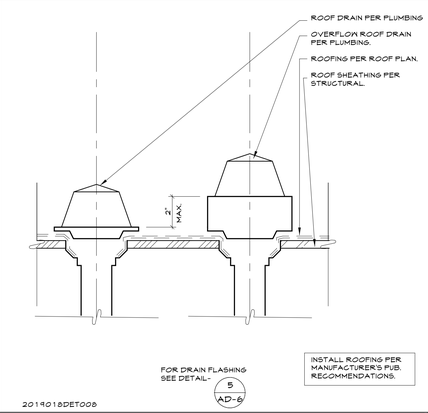
FOR MORE INFORMATION SEE DETAILS:

11
AD-6

D0003831

TOILET ROOM SIGNAGE

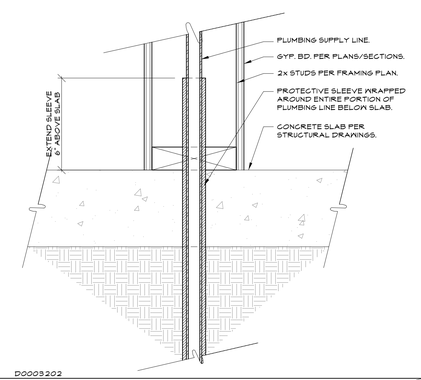
SCALE 1/2" = 1'-0" 10



20190108DET008

ROOF DRAIN / OVERFLOW DRAIN

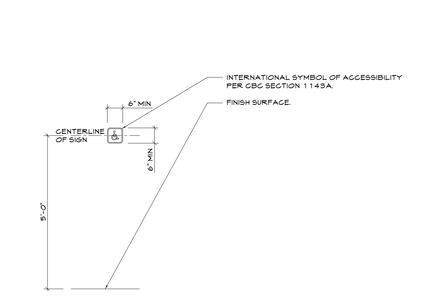
SCALE 3" = 1'-0" 6



D0003202

PLUMB SUPPLY LINE PROTECTION

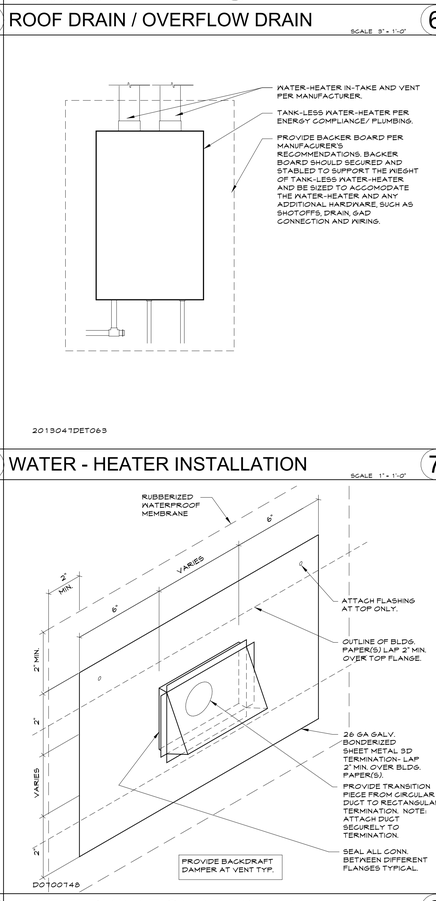
SCALE 3" = 1'-0" 2



D0003806

ACCESSIBLE SIGN AT WALL

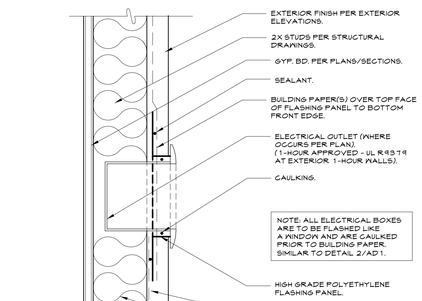
SCALE 1/2" = 1'-0" 11



20130417DET063

WATER - HEATER INSTALLATION

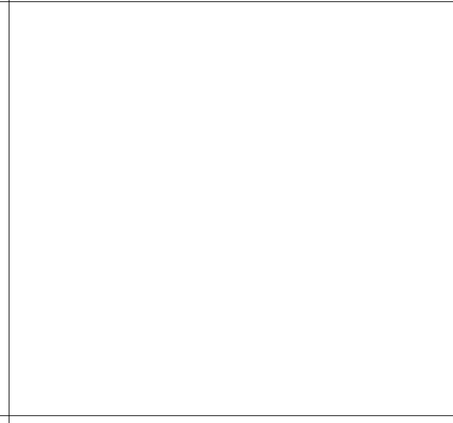
SCALE 1" = 1'-0" 7



D0003250

EXT ELECTRICAL PENETRATION

SCALE 3" = 1'-0" 3



D0003804

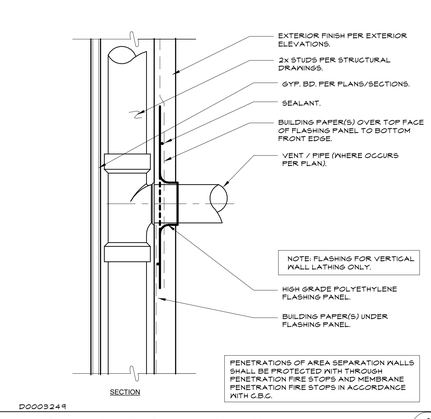
ACCESSIBLE DOOR

SCALE 3/4" = 1'-0" 12

D0100748

VENT TERMINATION AT EXT WALL

SCALE 3" = 1'-0" 8



D0003249

PENETRATIONS OF AREA SEPARATION WALLS SHALL BE PROTECTED WITH THROUGH PENETRATION FIRE STOPS AND MEMBRANE PENETRATION FIRE STOPS IN ACCORDANCE WITH C.B.C.

EXT PLUMBING PENETRATION

SCALE 3" = 1'-0" 4

COTA VERA SWIM CLUB

2022014 HOMEFED CORPORATION

LICENSED ARCHITECT — STATE OF CALIFORNIA — 32660

1/11/23 CITY SUBMITTAL

1/16/2023 8:05:32 PM PRINT DATE

DETAILS

ARCHITECTURAL DETAILS

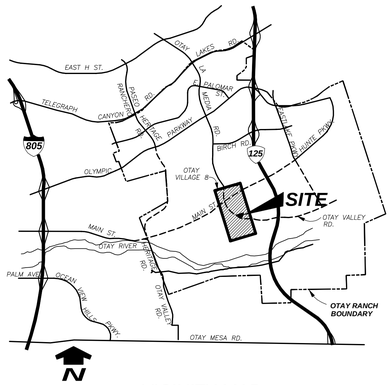
AD-6

PRECISE GRADING PLANS FOR:

COTA VERA SWIM CLUB

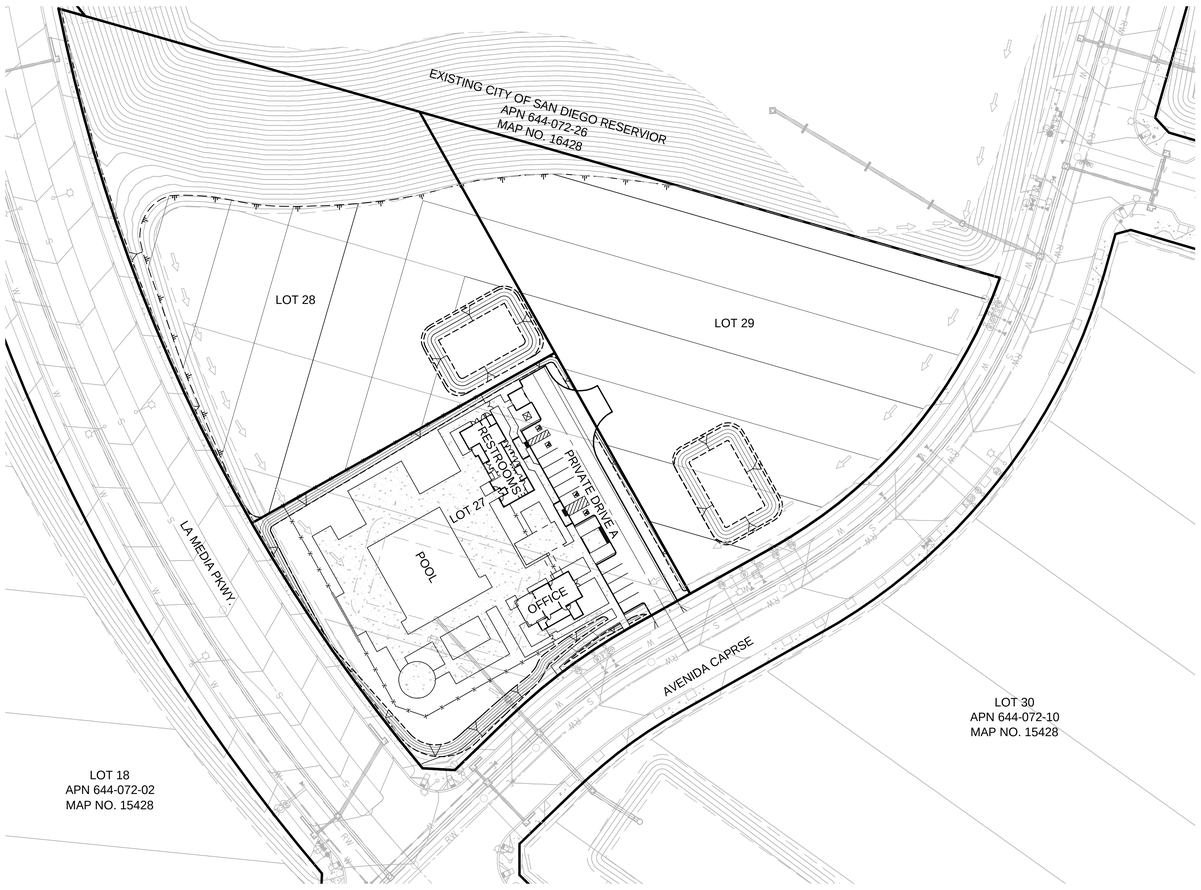
OTAY RANCH VILLAGE 8 WEST (LOT 27)

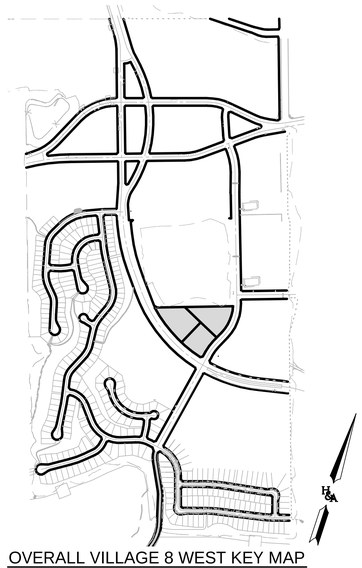
CITY OF CHULA VISTA, CALIFORNIA



VICINITY MAP

NOT TO SCALE





OVERALL VILLAGE 8 WEST KEY MAP

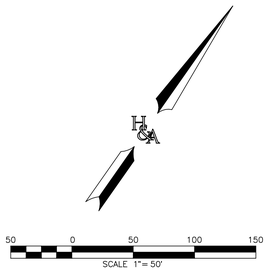
SCALE: 1"=600'

LEGEND

- RIGHT OF WAY/PROPERTY LINE
- EASEMENT
- BACKFLOW PREVENTOR REQUIRED
- 1A — PLAN NUMBER (R=REVERSE)
- 2 — BUILDING NUMBER
- P=460.7 — PAD ELEVATION
- FF=461.37 — FINISH FLOOR ELEVATION
- GFF=460.87 — GARAGE FINISH FLOOR ELEVATION (FRONT)
- 305.6 HP — SWALE FLOW LINE ELEVATION (VARIES EACH LOT)
- 305.25 FS — HARDSCAPE FINISH SURFACE ELEVATION
- XXX.X TG / XXX.X FL — DRAINAGE SWALE (1.0% MINIMUM)
- XXX.X CO / XXX.X FL — PVC AREA DRAIN (SIZE PER PLAN) & GRATE
- PVC AREA DRAIN (SIZE PER PLAN) & CLEANOUT
- 0.4'D.F. — DEEPENED FOOTING (PER PLAN)
- 0.4'S.W. — STEM WALL (PER PLAN)
- 100 — EXISTING CONTOUR
- 100 — PROPOSED CONTOUR
- SLOPE 2:1 OR FLATTER (SLOPE <4' EQUALS 1.5:1 AS NOTED)
- DAYLIGHT LINE (LIMITS OF GRADING)
- 1.7% — DRIVEWAY GRADE
- RETAINING WALL (PER C.V. DWG _____)
- 100.5 TW / 100.0 TF — RETAINING WALL TOP OF WALL/FOOTING ELEVATION PER SEPARATE PERMIT
- XXX.X TLW — TOP OF LANDSCAPE WALL
- W — EXISTING WATER LINE
- S — EXISTING SEWER LINE
- Ⓦ — EXISTING WATER LATERAL
- Ⓢ — EXISTING SEWER LATERAL
- EXISTING SEWER MANHOLE
- EXISTING FIRE HYDRANT ASSEMBLY
- EXISTING STREET LIGHT
- ADA PATH OF TRAVEL
- LANDSCAPE WALL PER LANDSCAPE PLAN

NOTES:

1. FOR ROUGH GRADING PLANS AND SPECIFICATIONS SEE CITY OF CHULA VISTA DWG. NUMBERS 18016 & 14011 FOR IMPROVEMENT PLANS AND SPECIFICATIONS SEE CITY OF CHULA VISTA DWG. NUMBERS 14012 & 19036
2. STREET, CURB, & PAD ELEVATIONS ARE PER EXIST. PLANS & SHOULD BE VERIFIED IN THE FIELD. IF ACTUAL ELEVATIONS VARY FROM THOSE SHOWN, NOTIFY THE ENGINEER OF WORK AT (858) 558-4500.
3. FOOTPRINTS ARE BASED UPON ARCHITECTURAL PLANS RECEIVED FROM STARCK ARCHITECTURE DATED 01/05/23
4. DRIVEWAY PAVING MATERIAL TO BE 4" P.C.C. MIN. STREET
5. ADDRESS SHALL BE LOCATED ON BUILDING EXTERIOR IN ACCORDANCE WITH SECTION 12.48.030 OF THE CHULA VISTA MUNICIPAL CODE.
6. APPROVED BACKWATER VALVE IS REQUIRED FOR DRAINAGE PIPING SERVING FIXTURES LOCATED BELOW THE ELEVATION OF THE NEXT UPSTREAM MANHOLE COVER.
7. BACKFLOW PREVENTERS ARE BASED ON FF ELEV.
8. BACKFLOW PREVENTORS CAN BE SUBSTITUTED WITH A LOOSENED GEM CAP.
9. SEWER CLEAN-OUTS ARE PER CITY OF CHULA VISTA CONSTRUCTION STANDARD #20 (CVCS 20).
10. ALL PROPERTY LINE (REAL OR ASSUMED), EASEMENTS AND BUILDINGS (BOTH EXISTING AND PROPOSED), ARE SHOWN ON THIS SITE PLAN.
11. SURFACE WATER WILL DRAIN AWAY FROM BUILDING AT 2% MINIMUM GRADE.
12. SEWER SYSTEM IS PRIVATE UNLESS OTHERWISE NOTED.
13. MINIMUM DISTANCE FROM BOTTOM OF RETAINING WALL FOOTING TO DAYLIGHT IS 7'.
14. ASSESSOR'S PARCEL NUMBER: 644-072-07, 08 & 09
15. BUILDER WILL INSTALL PRESSURE REGULATORS ON ALL BUILDINGS.
16. THIS PROJECT SHALL COMPLY WITH (2016) CALIFORNIA BUILDING CODE AS AMENDED BY CITY OF CHULA VISTA MUNICIPAL CODE TITLE 15, (2016) CALIFORNIA RESIDENTIAL CODE, (2016) CALIFORNIA MECHANICAL CODE (2016) CALIFORNIA PLUMBING CODE, (2016) CALIFORNIA ELECTRICAL CODE, (2016) CALIFORNIA FIRE CODE, (2016) CALIFORNIA GREEN BUILDING STANDARDS, (2016) CALIFORNIA ENERGY CODE, CITY OF CHULA VISTA INCREASED ENERGY EFFICIENCY ORDINANCE, THE PHOTOVOLTAIC PRE-WIRING ORDINANCE SECTION 15.24.065, SOLAR WATER HEATING PRE-PLUMBING ORDINANCE SECTION 15.28.015, (2000)URBAN-WILDLAND INTERFACE CODE, (1997)UNIFORM HOUSING CODE, (1997) UNIFORM CODE FOR THE ABATEMENT OF DANGEROUS BUILDINGS. ANY CHANGES OR REVISIONS THEREFROM SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO ANY REQUEST FOR INSPECTION.
17. CONTACT THE BUILDING DEPARTMENT AT (619)409-5434 TO SCHEDULE FIRE SPRINKLER OVERHEAD VISUAL, HYDROSTATIC AND FINAL FOR ALL NFPA 13D FIRE SPRINKLER SYSTEMS IN SINGLE FAMILY DWELLING UNITS.
18. BUILDING CONSTRUCTION SHALL ALSO COMPLY WITH MUNICIPAL CODE SECTION 15.28.020 REGARDING CLOTHES WASHER GRAY WATER PRE-PLUMBING AND STUB-OUT.



SHEET INDEX

ASSESSORS PARCEL NUMBER

PORTIONS OF 644-072-07, 08 AND 09

LEGAL DESCRIPTION

LOT 27, 28 AND 29 OF CITY OF CHULA VISTA TRACT NO. 19-03 OTAY RANCH VILLAGE 8 WEST 'A' MAP, IN THE CITY OF CHULA VISTA, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 16428, FILED IN THE OFFICE OF THE SAN DIEGO COUNTY RECORDER ON NOVEMBER 3, 2020, AS DOCUMENT NO. 2020-7000372 OF OFFICIAL RECORDS.

SOURCE OF TOPOGRAPHY

ROUGH GRADING PLANS BY HALE ENGINEERING:
C.V. DRAWING NUMBERS 18016 & 14011

OWNER

HOMEFED VILLAGE 8, LLC
A DELAWARE LIMITED LIABILITY COMPANY
1903 WRIGHT PLACE
SUITE 220
CARLSBAD, CA 92008-6528
(760) 918-8200

REGISTERED PROFESSIONAL ENGINEER — YOLANDA CALVO — No. 61827 — CIVIL — STATE OF CALIFORNIA

HUNSAKER & ASSOCIATES SAN DIEGO, INC
PLANNING 9707 Waples Street
ENGINEERING San Diego, Ca 92121
SURVEYING PH(858)558-4500 · FX(858)558-1414

TOTAL NUMBER OF SHEETS = 4

OTAY RANCH VILLAGE 8 WEST, SWIM CLUB
PRECISE GRADING PLAN

W.O. NO. 2395-0052

CONSTRUCTION RECORD	REFERENCES	BY	REVISIONS	Date	App'd
Contractor	C.V. DWG. 18016 (OTV8 MASS GRADING, PHASE 2)				
Inspector	C.V. DWG. 14011 (OTV8 MASS GRADING, PHASE 1)				
Date Completed	C.V. DWG. 14012 (OTV8 IMP. PLANS, PHASE 1)				
	C.V. DWG. 19036 (OTV8 IMP. PLANS, PHASE 2)				

BENCH MARK
DESCRIPTION: TOPOGRAPHY CONF I RMED BY HUNSAKER TO BE WITHIN ALLOWABLE TOLERANCE BASED ON FIELD SURVEY USING BRASS DISK MARKED SDDTY ENGR. IN IRON PIPE 1.5 MILES EAST OF INT. OF MAIN ST. & HERITAGE RD. ON ROCK MOUNTAIN 100' EASTERLY OF PROMINENT 10' HIGH BOULDER & 1700' SOUTHERLY OF WATER STORAGE FACILITY.(PT.#1359 PER ROS 14841)ELV=628.319(NAVD 88)

SCALE	Designed By	Drawn By	Checked By
Horizontal N/A	Y.C.	S.M.L.	A.S.V.
Vertical N/A	Plans Prepared Under Supervision Of	Date	
	YOLANDA CALVO	R.C.E. No. 61827	

Submitted _____ By _____ Office

Approved _____ By _____ City Engineer

CITY OF CHULA VISTA ENGINEERING DIVISION

PRECISE GRADING FOR:
COTA VERA SWIM CLUB
OTAY RANCH VILLAGE 8 WEST (LOT 27)

C01

ACT. NO. _____ THRU _____

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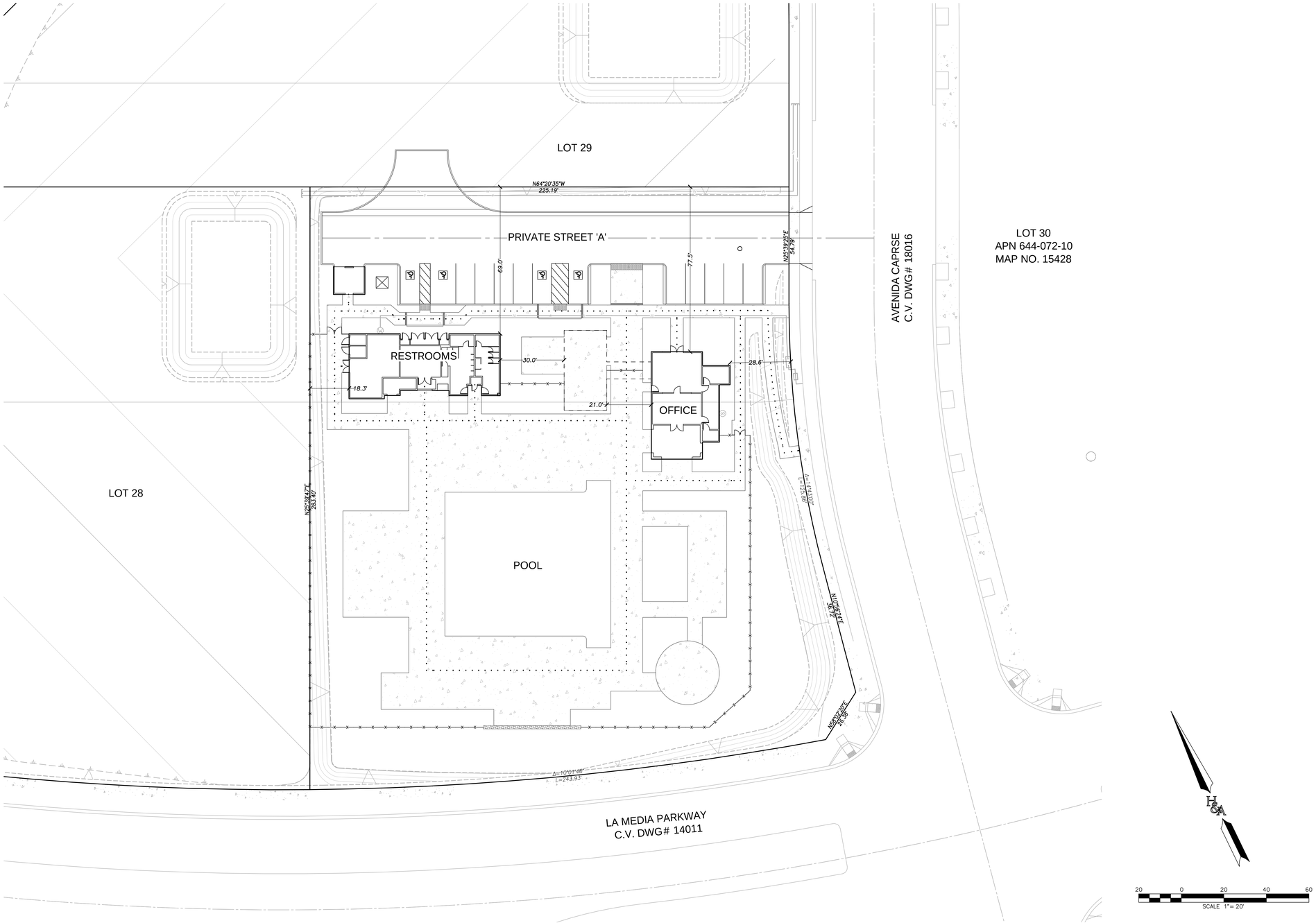

ACCESSIBLE PATH OF TRAVEL & SITE PLAN EXHIBIT

SCALE: 1"=20'

ACCESSIBLE PARKING STALL.....

ACCESSIBLE PATH OF TRAVEL.....

REGISTERED PROFESSIONAL ENGINEER
YOLANDA CALVO
No. 61827
CIVIL
STATE OF CALIFORNIA

HUNSAKER & ASSOCIATES
SAN DIEGO, INC
PLANNING 9707 Waples Street
ENGINEERING San Diego, Ca 92121
SURVEYING PH(858)558-4500 - FX(858)558-1414

OTAY RANCH VILLAGE 8 WEST, SWIM CLUB
PRECISE GRADING PLAN

W.O. NO. 2395-0052

CONSTRUCTION RECORD	REFERENCES	BY	REVISIONS	Date	App'd
Contractor	C.V. DWG. 18016 (OTVB MASS GRADING, PHASE 2)				
Inspector	C.V. DWG. 14011 (OTVB MASS GRADING, PHASE 1)				
Date Completed	C.V. DWG. 14012 (OTVB IMP. PLANS, PHASE 1)				
	C.V. DWG. 19036 (OTVB IMP. PLANS, PHASE 2)				

BENCH MARK
DESCRIPTION: TOPOGRAPHY CONF I RMED BY HUNSAKER TO BE WITHIN ALLOWABLE TOLERANCE BASED ON FIELD SURVEY USING BRASS DISK MARKED SDDTY ENGR. IN IRON PIPE 1.5 MILES EAST OF INT. OF MAIN ST. & HERITAGE RD. ON ROCK MOUNTAIN 100' EASTERLY OF PROMINENT 10' HIGH BOULDER & 1700' SOUTHERLY OF WATER STORAGE FACILITY.(PT.#1359 PER ROS 14841)ELV=628.319(NAVD 88)

SCALE
Horizontal 1"=20'
Vertical 1"=20'

Designed By Y.C. | Drawn By S.M.L. | Checked By A.S.V.
Plans Prepared Under Supervision Of
YOLANDA CALVO
Date
R.C.E. No. 61827

Submitted
By
Office

Approved
By
City Engineer

CITY OF CHULA VISTA ENGINEERING DIVISION
PRECISE GRADING FOR:
COTA VERA SWIM CLUB
OTAY RANCH VILLAGE 8 WEST (LOT 27)

C02

ACT. NO.
THRU

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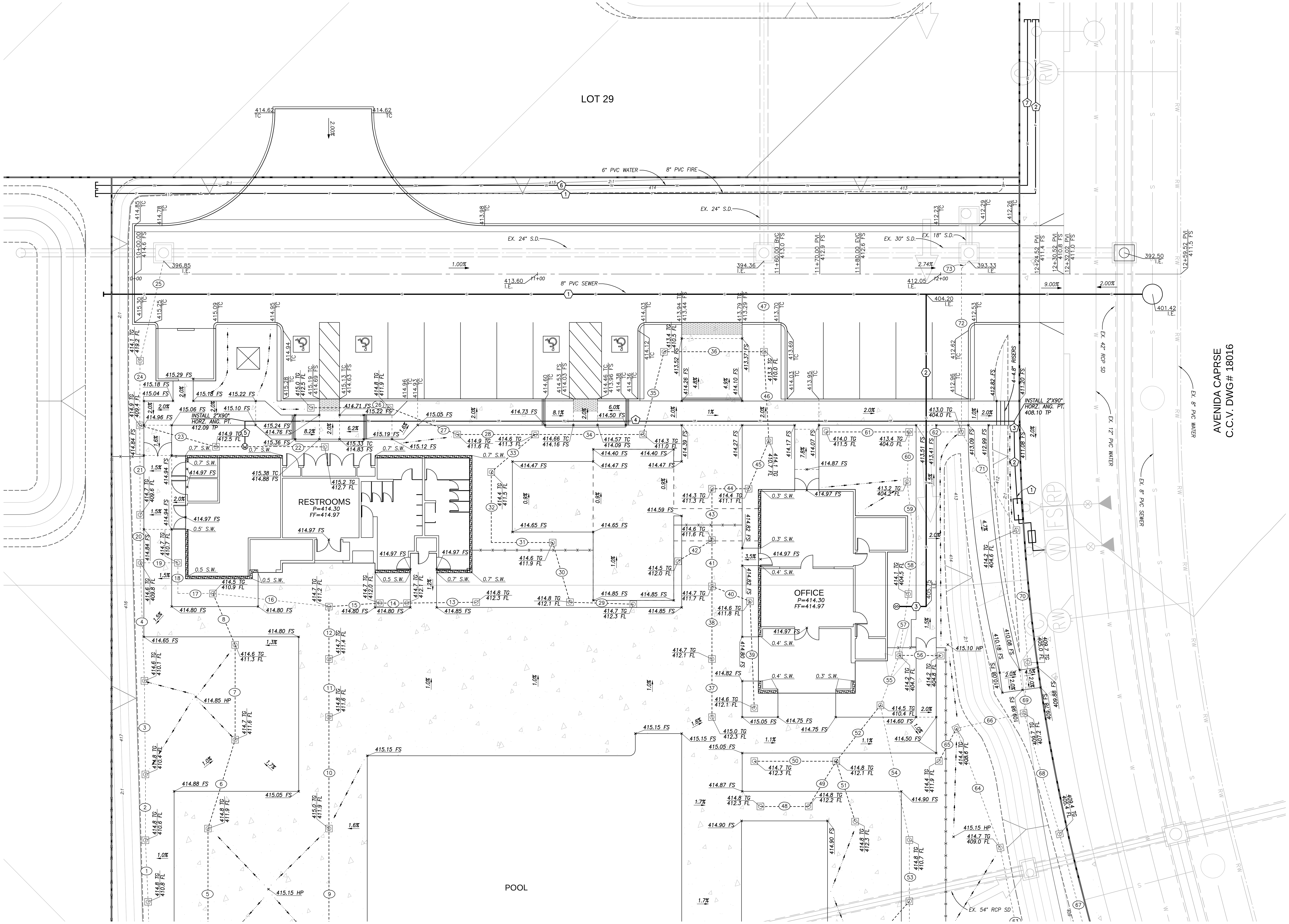

SEE SHEET 4

AREA DRAIN TABLE		
No.	LENGTH	MATERIAL
1	15.29'	6" PVC
2	16.34'	6" PVC
3	23.22'	6" PVC
4	29.30'	6" PVC
5	32.50'	4" PVC
6	23.06'	4" PVC
7	23.53'	4" PVC
8	13.88'	4" PVC
9	32.50'	4" PVC
10	27.65'	4" PVC
11	14.42'	4" PVC
12	13.01'	4" PVC
13	17.19'	4" PVC
14	6.70'	4" PVC
15	12.65'	4" PVC
16	28.96'	6" PVC
17	8.69'	6" PVC
18	7.60'	6" PVC
19	9.37'	6" PVC
20	11.93'	8" PVC
21	22.18'	8" PVC
22	27.01'	4" PVC
23	19.64'	4" PVC
24	16.04'	8" PVC
25	25.45'	8" PVC
26	19.50'	4" PVC
27	18.08'	4" PVC
28	19.35'	4" PVC
29	15.73'	4" PVC
30	15.41'	4" PVC
31	15.25'	4" PVC
32	17.49'	4" PVC
33	14.37'	4" PVC
34	26.76'	4" PVC
35	21.16'	4" PVC
36	24.80'	4" PVC
37	14.42'	4" PVC
38	18.02'	4" PVC
39	26.57'	4" PVC
40	10.14'	4" PVC
41	11.48'	4" PVC
42	9.91'	4" PVC
43	12.75'	4" PVC
44	9.08'	4" PVC
45	12.94'	4" PVC
46	22.08'	4" PVC
47	22.55'	6" PVC
48	11.96'	4" PVC
49	13.16'	4" PVC
50	20.33'	4" PVC
51	15.70'	4" PVC
52	17.69'	4" PVC
53	15.22'	6" PVC
54	34.17'	6" PVC
55	13.23'	6" PVC
56	10.40'	4" PVC
57	15.35'	6" PVC
58	14.40'	8" PVC
59	13.67'	8" PVC
60	12.31'	8" PVC
61	20.67'	4" PVC
62	12.98'	8" PVC
63	37.22'	6" PVC
64	31.55'	6" PVC
65	9.19'	4" PVC
66	17.17'	6" PVC
67	36.42'	6" PVC
68	31.26'	6" PVC
69	12.68'	8" PVC
70	32.86'	8" PVC
71	27.93'	8" PVC
72	40.59'	8" PVC
73	2.63'	8" PVC

WATER DATA

	BEARING/DELTA	RADIUS	LENGTH	REMARKS
1	N 21°17'22" E		2.65'	2" COPPER
2	4°22'03"	200.00'	15.25'	2" COPPER
3	N 25°39'24" E		2.46'	2" COPPER
4	N 64°20'35" W		190.84'	2" COPPER
5	N 25°39'25" E		5.52'	2" COPPER
6	N 64°20'35" W		231.19'	6" PVC
7	N 25°39'25" E		41.14'	6" PVC

WATER DATA (FIRE)

	BEARING/DELTA	RADIUS	LENGTH	REMARKS
1	N 64°20'35" W		233.19'	8" PVC
2	N 25°39'25" E		43.14'	8" PVC

SEWER DATA

	BEARING/DELTA	RADIUS	LENGTH	REMARKS
1	N 64°20'35" W		260.19'	8" PVC
2	N 25°39'25" E		77.49'	8" PVC
3	N 64°20'35" W		6.61'	6" PVC

10 0 10 20 30
SCALE 1"= 10'

OTAY RANCH VILLAGE 8 WEST, SWIM CLUB
PRECISE GRADING PLAN

REGISTERED PROFESSIONAL ENGINEER
YOLANDA CALVO
No. 61827
CIVIL
STATE OF CALIFORNIA

HUNSAKER & ASSOCIATES
SAN DIEGO, INC.

PLANNING 9707 Waples Street
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SURVEYING PH(858)558-4500 · FX(858)558-1414

W.O. NO. 2395-0052

CONSTRUCTION RECORD	REFERENCES	BY	REVISIONS	Date	App'd
Contractor	C.V. DWG. 18016 (OTV8 MASS GRADING, PHASE 2)				
Inspector	C.V. DWG. 14011 (OTV8 MASS GRADING, PHASE 1)				
Date Completed	C.V. DWG. 14012 (OTV8 IMP. PLANS, PHASE 1)				
	C.V. DWG. 19036 (OTV8 IMP. PLANS, PHASE 2)				

BENCH MARK

DESCRIPTION: TOPOGRAPHY CONF I RMED BY HUNSAKER TO BE WITHIN ALLOWABLE TOLERANCE BASED ON FIELD SURVEY USING BRASS DISK MARKED SDCITY ENGR. IN IRON PIPE 1.5 MILES EAST OF INT. OF MAIN ST. & HERITAGE RD. ON ROCK MOUNTAIN 100' EASTERLY OF PROMINENT 10' HIGH BOULDER & 1700' SOUTHERLY OF WATER STORAGE FACILITY.(PT.#1359 PER ROS 14841)ELV=628.319(NAVD 88)

SCALE
Horizontal 1"=10'
Vertical 1"=10'

Designed By	Drawn By	Checked By
Y.C.	S.M.L.	A.S.V.

Plans Prepared Under Supervision Of
YOLANDA CALVO
Date
R.C.E. No. 61827

Submitted
By
Office

Approved
By
City Engineer

CITY OF CHULA VISTA
ENGINEERING DIVISION

PRECISE GRADING FOR:
COTA VERA SWIM CLUB
OTAY RANCH VILLAGE 8 WEST (LOT 27)

C03

ACT. NO.
THRU

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SEE SHEET 3

POOL

AVENIDA CAPRSE
C.C.V. DWG# 18016

LA MEDIA PARKWAY
C.C.V. DWG# 14011

EX. 12" PVC WATER
EX. 8" PVC WATER
EX. 8" PVC SEWER
EX. 42" RCP SD
EX. 54" RCP SD

AREA DRAIN TABLE		
No.	LENGTH	MATERIAL
1	29.16'	4" PVC
2	23.72'	4" PVC
3	19.68'	4" PVC
4	10.65'	4" PVC
5	20.32'	4" PVC
6	14.02'	4" PVC
7	22.42'	4" PVC
8	20.74'	4" PVC
9	21.87'	6" PVC
10	15.09'	6" PVC
11	20.33'	4" PVC
12	49.56'	4" PVC
13	27.03'	4" PVC
14	8.95'	4" PVC
15	14.00'	4" PVC
16	17.25'	4" PVC
17	11.15'	4" PVC
18	14.00'	4" PVC
19	7.97'	4" PVC
20	22.18'	6" PVC
21	15.28'	6" PVC
22	21.76'	4" PVC
23	18.84'	4" PVC
24	5.73'	4" PVC
25	11.96'	4" PVC
26	12.14'	4" PVC
27	13.32'	4" PVC
28	20.34'	4" PVC
29	25.97'	4" PVC
30	27.59'	4" PVC
31	20.96'	4" PVC
32	47.55'	4" PVC
33	18.29'	4" PVC
34	27.03'	4" PVC
35	42.82'	4" PVC
36	38.21'	4" PVC
37	27.94'	4" PVC
38	36.60'	4" PVC

10 0 10 20 30
SCALE 1"= 10'

REGISTERED PROFESSIONAL ENGINEER
YOLANDA CALVO
No. 61827
CIVIL
STATE OF CALIFORNIA

HUNSAKER & ASSOCIATES
SAN DIEGO, INC

PLANNING 9707 Waples Street
ENGINEERING San Diego, Ca 92121
SURVEYING PH(858)558-4500 - FX(858)558-1414

OTAY RANCH VILLAGE 8 WEST, SWIM CLUB
PRECISE GRADING PLAN

W.O. NO. 2395-0052

CONSTRUCTION RECORD	REFERENCES	BY	REVISIONS	Date	App'd
Contractor	C.V. DWG. 18016 (OTV8 MASS GRADING, PHASE 2)				
Inspector	C.V. DWG. 14011 (OTV8 MASS GRADING, PHASE 1)				
Date Completed	C.V. DWG. 14012 (OTV8 IMP. PLANS, PHASE 1)				
	C.V. DWG. 19036 (OTV8 IMP. PLANS, PHASE 2)				

BENCH MARK
DESCRIPTION: TOPOGRAPHY CONF I RMCD BY HUNSAKER TO BE WITHIN ALLOWABLE TOLERANCE BASED ON FIELD SURVEY USING BRASS DISK MARKED SDCITY ENGR. IN IRON PIPE 1.5 MILES EAST OF INT. OF MAIN ST. & HERITAGE RD. ON ROCK MOUNTAIN 150' EASTERLY OF PROMINENT 10' HIGH BOULDER & 1700' SOUTHERLY OF WATER STORAGE FACILITY.(PT.#1359 PER ROS 14643)ELEV=628.318(NAVD 88)

SCALE	
Horizontal	1"=10'
Vertical	1"=10'

Designed By	Drawn By	Checked By
Y.C.	S.M.L.	A.S.V.

Plans Prepared Under Supervision Of
YOLANDA CALVO
Date
R.C.E. No. 61827

Submitted
By
Office

Approved
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City Engineer

CITY OF CHULA VISTA ENGINEERING DIVISION

PRECISE GRADING FOR:
COTA VERA SWIM CLUB
OTAY RANCH VILLAGE 8 WEST (LOT 27)

C04
ACT. NO.
THRU

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STANDARD NOTES AND SPECIFICATIONS

6.3 NAILING & HARDWARE SCHEDULE

1. GENERAL REQUIREMENTS:

1.1. STEEL GRADES SHALL MEET OR EXCEED THE FOLLOWING ASTM GRADES UNO:

HARDWARE GRADES						
TYPE	ALL-THREAD	ANCHOR BOLT	HS BOLTS/ALL-THREADS	NUT	HEAVY HEX NUT	PLATE WASHER
GRADE	A307 OR F1554 GR 36	F1554 GR 36	A449 OR A193 GR B7	A563 GR A	A194 GR 2H	A36

1.2. ALL NAILS & HARDWARE EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED STEEL (PER ASTM A153 OR A653), MECHANICALLY-COATED GALVANIZED STEEL (PER ASTM B695), OR STAINLESS STEEL.

1.3. ALL METAL HARDWARE AND FASTENERS IN CONTACT WITH ACQ-C/D AND CBA-A & CA-B PRESSURE TREATED LUMBER SHALL BE OF HOT DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER; COATING WEIGHTS PER ASTM A153. STAINLES STEEL PER ASTM F1667. FOR FASTENERS OTHER THAN NAILS, TIMBER RIVETS, WOOD SCREWS AND LAG SCREWS, COATING WEIGHTS PER ASTM B695.

1.4. HOLES FOR BOLTS IN WOOD SHALL BE THE SAME NOMINAL DIAMETER AS THE BOLT + 1/16". LAG SCREWS AND WOOD SCREWS SHALL BE SCREWED AND NOT DRIVEN INTO PLACE. ALL BOLTS & ANCHORS SHALL BE PROVIDED WITH METAL WASHERS UNDER HEADS AND NUTS WHICH BEAR ON WOOD. ALL BOLT AND LAG SCREWS SHALL BE TIGHTENED AT THE TIME OF INSTALLATION AND RE-TIGHTENED BEFORE CLOSING IN OR COMPLETION OF CONSTRUCTION.

1.5. SILL PLATE ANCHORS SHALL HAVE WASHERS PER SECTION 1.4. ALL OTHER BOLTS TO HAVE WASHERS PER TABLE BELOW, UNO ON PLAN:

BOLTED WOOD CONNECTIONS					
BOLT DIAMETER	1/2"Φ	5/8"Φ	3/4"Φ	7/8"Φ	1"Φ
MALLEABLE IRON WASHER	2 1/2"Φ X 1/4"	2 3/4"Φ X 5/16"	3"Φ X 3/8"	3 1/2"Φ X 7/16"	4"Φ X 1/2"
STEEL WASHER	2" X 2" X 1/4"	2 1/2" X 2 1/2" X 1/4"	3" X 3" X 5/16"	3 1/2" X 3 1/2" X 3/8"	3 3/4" X 3 3/4" X 3/8"

2. HARDWARE

2.1. ALL JOIST HANGERS, STRAPS, HOLDOWNS, CLIPS, ANCHORS, ETC TO BE SIMPSON STRONG TIE. AT BUILDERS OPTION, UNITED STEEL PRODUCTS (USP) MAY BE SUBSTITUTED PER THE HARDWARE CONVERSION CHART BELOW. INSTALL ALL HARDWARE AND FASTENERS PER MANUFACTURERS SPECIFICATIONS AS REQUIRED TO ACHIEVE FULL LOAD VALUES, UNO.

2.2. HOLDOWN STRAP TO BUCKET SUBSTITUTIONS: NAIL ON HOLDOWN STRAPS BETWEEN FLOORS MAY BE REPLACED WITH (2) HOLDOWNS, (1) ABOVE FLOOR SYSTEM AND (1) INVERTED BELOW FLOOR SYSTEM. USE F1554 ALL-THREAD ROD BETWEEN HOLDOWNS & HOLDOWN POST SPECIFIED ON PLANS. PERMISSIBLE SUBSTITUTIONS:

BUCKET ALTERNATES FOR PLAN SPECIFIED HOLDOWN STRAPS			
STRAP	CS16, (2) CS16, OR CMSTC16	MSTC66, MSTC78 OR CMST14	CMST12
BUCKET	HDU4 OR HTT5 W/ 5/8"Φ ROD	HDU8 W/ 7/8"Φ ROD	HDU11 W/ 1" Φ ROD

2.3. CONNECTION ALTERNATES:

ALTERNATE CONNECTIONS[1]	
PLAN SPECIFIED	ALTERNATE[2]
10d @ 4" OC (TO JOIST/BLK)	LTP4 OR LTP5 @ 16" OC OR A35 @ 12" OC [3]
(2) ROWS 10d @ 6" OC	LTP4 OR LTP5 @ 12" OC OR A35 @ 8" OC [3]
16d @ 6" OC[4]	LTP4 OR LTP5 @ 16" OC OR A35 @ 12" OC
16d @ 4" OC[4]	LTP4 OR LTP5 @ 10" OC OR A35 @ 8" OC
16d @ 3" OC[4]	LTP4 OR LTP5 @ 6" OC OR A35 @ 6" OC
A35	LTP4 OR LTP5 @ SAME SPACING
LTP4 OR LTP5 @ 24" OC	A35 @ 16" OC
LTP4 OR LTP5 @ 16" OC	A35 @ 12" OC
LTP4 OR LTP5 @ 12" OC	A35 @ 8" OC
LTP4	LTP5 @ SAME SPACING

1. ALTERNATE CONNECTIONS ARE NOT INTERCHANGEABLE OR REVERSIBLE. CONTACT HSCGI FOR SPECIFICATIONS NOT SHOWN.
2. HARDWARE MAY NOT BE INSTALLED TO SIDE OF MANUFACTURED I-JOIST
3. CONNECTION MAY ONLY BE USED WITH SOLID SAWN OR SCL BLOCKS.
4. WHERE PLANS/DETAILS SPECIFY NAILING AT MEMBER TO BACKING, BACKING TO TOP PLATE AND THE MEMBER ALIGNS WITH THE TOP PLATES, CLIPS MAY BE INSTALLED DIRECTLY FROM MEMBER TO PLATES.

2.4. HARDWARE CONVERSION CHART:

HANGERS: SIMPSON	USP	HANGERS / POST CAPS / BASES: SIMPSON	USP	STRAPS / HOLDOWNS: SIMPSON	USP	FRAMING CLIPS / ANCHORS: SIMPSON	USP
LUS24	JUS24	U414	SUH414	CS16	RS150	A34	MP34
HUS26	HUS26	IUS1.81/14	THF17140	CMSTC16	CMSTC16	A35	MPA1
HU412-MAX	HD412	IUS2.37/14	THF23140	CMST14	CMST14	LTP4	MP4F
HU414-MAX	HD414	ITS1.81/14	TFL1714	CMST12	CMST12	LTP5	MP6F
HU416-MAX	HD416	ITS2.37/14	TFL2314	MSTA36	MSTA36	H1	RT15
HU68-MAX	HD68	PC44	PCM44	MSTC28	MSTC28	H2.5A	RT7A
HU610-MAX	HD610	PC46	PCM46	MSTC40	MSTC40	H7	RT20
HU612-MAX	HD612	PC66	PCM66	MSTC52	MSTC52	HTS16	HTW16
HHUS410	THDH410	EPC44	EPCM44	MSTC66	MSTC66	MASA	FA4 @ 2X SILLS
HHUS5.50/10	THD610	EPC46	EPCM46	MSTC78	MSTC78	LS	MP
HGUS26-2	THDH26-2	EPC66	EPCM66	HDU4	PHD4A	SSTB16	STB16
HGUS414	THDH414	CCQ/ECCQ	KCCQ/KECCQ	HDU8	PHD8	SSTB20	STB20
HGUS5.50/12	THDH612	ABU44	PAU44	HDU8	UPHD8	SSTB24	STB24
HGUS5.50/14	THDH614	ABU46	PAU46	HDU11/HDU14	UPHD11	SSTB28	STB28
		ABU66	PAU66	STHD10	STAD10	SSTB34	STB34
		ABU88	PAU88	STHD14	STAD14	SSTB36	STB36

3. NAILS

3.1. ALL NAILS SPECIFIED IN PLANS SHOULD HAVE PROPERTIES NOTED AS FOLLOWS:

NAIL SPECIFICATIONS					
NAIL	8d	10d	16d	16d COMMON	20d
SHANK DIAMETER	0.131"	0.148"	0.148"	0.162"	0.192"
HEAD DIAMETER	0.281"	0.312"	0.344"	0.344"	0.406"
MIN LENGTH	2 1/2"	3"	3 1/4"	3 1/2"	4"

3.2. ALL NAILS IN HARDWARE SHALL BE PER THE MANUFACTURER'S SPECIFICATIONS AS NEEDED TO ACHIEVE THE MAXIMUM HARDWARE VALUE.

3.3. ALL NAILING NOT SPECIFIED ON PLANS OR IN TABLE BELOW TO BE PER CBC TABLE 2304.10.2

NAILING SCHEDULE (PARTIAL)[1]			
CONNECTION	NAILING	CONNECTION	NAILING
JOIST TO SILL OR GIRDER, TOENAIL	(3) 8d	RIM BOARD TO TOP PLATE, TOENAIL	8d @ 6" OC
BRIDGING TO JOIST, TOENAIL EA END	(2) 8d	SOLID SAWN JOIST/JOIST BLOCK TO TOP PLATES OR BEAM	(3) 10d TOE NAILS OR (3) 16d @ TRUSS
SOLE PLATE TO JOIST, BLKG OR RIM TYP FACE NAIL	16d @ 12" OC	I-JOIST/I-JOIST BLOCK TO TOP PLATES OR BEAM	(2) 8d @ BOTTOM FLANGE
STUD TO TOP PLATE OR SILL/SOLE PLATE	(3) 10d END NAILS OR (4) 8d TOE NAILS; (2) 20d END NAILS AT 3X SILL PLATE	TOP PLATES, LAPS AND INTERSECTIONS, FACE NAIL	(3) 16d
		CONT HEADER, TWO PIECES	(2) ROWS 16d @ 12" OC
POST TO TOP PLATE OR SILL/SOLE PLATE	DETAIL B/SN.2	CEILING JOISTS TO TOP PLATE, TOENAIL	(3) 8d
		CONT HEADER TO STUD, TOENAIL	(4) 8d
DBL STUDS, FACE NAIL	16d @ 16" OC	CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL	(4) 16d
DBL TOP PLATES, TYP. FACE NAIL	16d @ 12" OC	CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	(4) 16d
DBL TOP PLATES, LAP SPLICE	(12) 16d[2]	RAFTER TO TOP PLATE, TOENAIL	(3) 8d
BLKG BTWN JOISTS OR RAFTERS TO TOP PLATE OR BEAM, TOENAIL	(3) 10d	BUILT-UP CORNER STUD	16d @ 16" OC
		BUILT-UP GIRDERS AND BEAMS	(3) ROWS 16d @ 12"OC
		2" PLANKS	(2) 16d @ EA BEARING

1. SEE NAIL SPECIFICATIONS ABOVE.
2. REPRESENTS HARRIS & SLOAN NAILING REQUIREMENT, DOES NOT REPRESENT MIN CODE REQUIREMENT.

6.7 PRE-MANUFACTURED ROOF TRUSS NOTES

1. GENERAL:

1.1. DESIGN AND FABRICATE USING CODE CRITERIA, LOAD SPECIFICATIONS, AND LOAD DURATION INCREASE SPECIFIED IN SECTION 1.1

1.2. ALL ROOF TRUSSES TO BE 24" OC MAXIMUM UNO. SEE DETAIL P/SN.2 FOR ALLOWABLE SPACING ADJUSTMENTS.

1.3. TRUSS PLATE CONNECTIONS SHALL BE IN ACCORDANCE WITH PUBLISHED APPROVALS OF ICC & TPI 1.

1.4. TRUSS DRAWINGS AND CALCULATIONS SHALL HAVE ORIGINAL SIGNATURE BY CIVIL OR STRUCTURAL ENGINEER LICENSED IN THE STATE AND SHALL BE SUBMITTED TO THE PROJECT ENGINEER AND LOCAL BUILDING DEPARTMENT FOR REVIEW PRIOR TO FABRICATION

2. MATERIALS / MEMBER SIZES:

2.1. MINIMUM MEMBER SIZES: TOP CHORD 2X4, BOTTOM CHORD 2X4, WEBS 2X4. MINIMUM GRADE OF LUMBER SHALL BE SET BY THE TRUSS DESIGN ENGINEER. LUMBER SPECIES TO BE DF (NO HEM FIR).

3. SHOP DRAWINGS:

3.1. PROVIDE COMPLETE TRUSS CALCULATION PACKAGE WITH TRUSS IDENTIFICATION NUMBERS AND TRUSS TO TRUSS CONNECTIONS CLEARLY IDENTIFIED ON LAYOUT. SPECIFY TRUSS MANUFACTURER ON TRUSS DRAWINGS. PROVIDE COPIES OF ICC APPROVALS FOR METAL CONNECTOR PLATES USED.

3.2. TRUSS MANUFACTURER TO CLEARLY INDICATE ALL BRACING AND BRIDGING. MEMBERS SHALL BE ADEQUATELY BRACED DURING ERECTION. MEMBERS SHALL BE ALIGNED AND ALL CONNECTIONS COMPLETED BEFORE REMOVAL OF BRACING.

3.3. WHERE A FIRE SPRINKLER SYSTEM IS PROVIDED IN ACCORDANCE WITH NFPA-13 OR 13R, TRUSSES SHALL BE DESIGNED TO SUPPORT A MINIMUM LIVE LOAD OF 250# AT ANY POINT ACCESSIBLE TO SPRINKLER INSTALLATION PERSONNEL.

3.4. MAXIMUM TRUSS TO TRUSS TOTAL LOAD DIFFERENTIAL DEFLECTION SHALL NOT EXCEED 0.25" & MAXIMUM TOTAL LOAD DEFLECTION IN ANY TRUSS SHALL NOT EXCEED 0.75" (0.35" AND 1.0" RESPECTIVELY WITH CREEP FACTOR OF 3.0) UNO

3.5. TRUSS TOP CHORD PANEL TO PANEL SPANS SHALL NOT EXCEED 7'-6" FOR 2X4 MEMBERS & 10'-6" FOR 2X6 MEMBERS. TRUSS BOTTOM CHORD PANEL TO PANEL SPAN SHALL NOT EXCEED 9'-6" FOR 2X4 OR 2X6 MEMBERS.

3.6. WHERE TWO OR MORE ADJACENT TRUSSES WITH WEB CONFIGURATIONS CAPABLE OF ACCOMMODATING AN ASSUMED RECTANGLE 42" HIGH X 24" WIDE OR GREATER INSTALL A MIN 1X4 SCAB MAX 42" ABOVE BC WITH (2) 8d NAILS TO EA WEB UNO ON PLANS. WHERE SCAB IS NOT INSTALLED AFFECTED TRUSSES SHALL BE DESIGNED FOR 20 PSF BC LIVE LOAD WITHIN THE ASSUMED RECTANGLE (CONCURRENT WITH TYPICAL TC LIVE LOAD) AND 10 PSF BC DEAD LOAD APPLIED ALONG THE ENTIRE LENGTH OF THE TRUSS. ACCEPTABLE ALTERNATE AT FAU PLATFORMS: DESIGN EACH TRUSS WITH FAU OPENING WITH A 250# POINT LOAD APPLIED TO THE BOTTOM CHORD AT THE MIDDLE OF THE RECTANGLE.

3.7. WHEN TRUSSES ARE DESIGNED WITH LIVE LOAD REDUCTION PER CBC 1607.14.2. ALL TRUSSES WITH PITCH GREATER THAN 4:12 TO BE DESIGNED WITH INCREASED ROOF DEAD LOAD PER FOLLOWING TABLE:

DEAD LOAD INCREASES BASED ON ROOF PITCH								
PITCH	4.1:12 TO 5.9:12	6:12 TO 6.9:12	7:12 TO 7.9:12	8:12 TO 8.9:12	9:12 TO 9.9:12	10:12 TO 10.9:12	11:12 TO 11.9:12	12:12 AND ABOVE
FACTOR	1.08	1.12	1.16	1.20	1.25	1.30	1.36	1.41

3.8. DRAG TRUSSES SHALL BE DESIGNED TO TRANSFER THE PLAN SPECIFIED DRAG LOAD FROM THE TC TO THE BC.

3.9. ALL GABLE END TRUSSES TO BE DESIGNED TO TRANSFER A MINIMUM OF 100 PLF FROM TC TO BC, DRAG LOAD NEED NOT EXCEED 2000#, UNO.

4. CONSTRUCTION:

4.1. GABLE STUDS TO BE 2X4 STANDARD DF MIN. TRUSS MANUFACTURER TO PROVIDE BRACING DETAILING WHERE HEIGHT EXCEEDS 72".

4.2. PROVIDE 2X BLOCKING BETWEEN TRUSSES AT ALL RIDGES.

4.3. PROVIDE MINIMUM DOUBLE 2X POST UNDER EACH END AND ALL INTERIOR BEARING POINTS (WHERE APPLICABLE) OF GIRDER/HIP TRUSSES UNO

4.4. PROVIDE CLIP AT ALL TRUSS TO BEARING WALL TOP PLATE/BEAM CONNECTIONS PER THE FOLLOWING, UNO:
SINGLE PLY TRUSS..........H1 CLIP MULTI-PLY TRUSS.........H2.5A CLIP GABLE END TRUSS........H2.5A CLIP

1.6 ROOF FRAMING NOTES

1. SHEATHING:

1.1. FOR ROOF SLOPES 3:12 AND GREATER, ROOF SHEATHING TO BE MINIMUM 15/32" APA RATED SHEATHING. PANEL ID 32/16, EXPOSURE 1. FOR UNINHABITABLE ROOFS WITH SLOPES LESS THAN 3:12, ROOF SHEATHING TO BE MINIMUM 19/32" APA RATED SHEATHING PANEL ID 40/20 EXPOSURE 1. FOR HABITABLE ROOFTOP DECKS ROOF SHEATHING TO BE MINIMUM 23/32" APA RATED SHEATHING. PANEL ID 48/24, EXPOSURE 1.

1.2. FACE GRAIN PERPENDICULAR TO FRAMING.

2.2. NAIL SHEATHING WITH 8d @ 6" OC EDGE, 12" OC FIELD TYP UNO. SEE DETAIL C/SN.2.

2.3. NAIL SHEATHING AT ALL DRAG MEMBERS W/ 8d @ 6" OC, TYP UNO.

2.4. CONTINUE ROOF SHEATHING UNDER OVERFRAMING.

3. FRAMING LAYOUTS:

3.1. FRAMING LAYOUTS SHOWN ON PLANS ARE APPROXIMATE. GIRDER/DRAG/HIP/COLLECTOR ELEMENTS ARE TO BE PLACED AS SHOWN ON THE PLANS. ALL OTHER MEMBERS SHOWN MAY BE ADJUSTED AS REQUIRED PROVIDED THAT THE PLAN SPECIFIED MAXIMUM SPACING IS MAINTAINED. SEE DETAIL P/SN.2 FOR ALLOWABLE ADJUSTMENTS.

3.2. DO NOT CUT OR MODIFY ANY FRAMING MEMBER WITHOUT WRITTEN CONSENT OF THE MANUFACTURER AND PROJECT ENGINEER.

3.3. BRACE ROOF FRAMING TO BEARING WALLS AND BEAMS DESIGNED FOR SUCH LOADS ONLY.

3.4. PROVIDE RESTRAINT AT ENDS OF ALL MEMBERS TO PREVENT ROTATION.

1.7 WALL FRAMING NOTES

1. FRAMING MATERIALS:

1.1. ALL FRAMING MATERIAL SHALL BE DF UNO & MEET OR EXCEED GRADE SPECIFIED IN SECTION 6.1.

1.2. ALL MUDSILLS IN CONTACT WITH CONCRETE TO BE PRESSURE TREATED DF, SEE SECTION 6.1.

1.3. ALL WOOD EXPOSED TO WEATHER TO BE NATURALLY DURABLE OR PRESSURE TREATED, SEE SECTION 6.1. ALL HARDWARE EXPOSED TO WEATHER SHALL BE CORROSION RESISTANT PER SECTION 6.3.

1.4. IF FINGER JOINTED STUDS ARE USED, THEY MUST BE DF STRESS RATED AND STAMPED BY AN APPROVED ICC INSPECTION AGENCY. FINGER JOINTED STUDS ARE NOT TO BE USED IN HORIZONTAL APPLICATIONS, AS HOLDOWN POSTS, OR IN RATED FIREWALLS.

2. MEMBER SIZES:

2.1. FRAME ALL BEARING WALLS PER THE BEARING WALL STUD SCHEDULES ON THE FRAMING SHEETS.

2.2. STUDS IN INTERIOR NON-BEARING WALLS SHALL BE STUD GRADE AND SPACED NOT MORE THAN 24" OC.

2.3. TRIMMERS: PROVIDE TRIMMERS PER PLAN. UNO, PROVIDE (2) 2X TRIMMERS AT ALL OPENINGS GREATER THAN 8'-0" EXCEPT THAT (1) 2X TRIMMER IS OK AT GARAGE DOOR HEADERS AND ALL NON-BEARING WALL OPENINGS UP TO 16'-0".

2.4. KING STUDS: PROVIDE KING STUDS PER THE TABLES ON THE FRAMING PLANS UNO.

2.5. HEADERS: PROVIDE BEARING WALL HEADERS PER PLAN AND NON-BEARING HEADERS PER THE FOLLOWING TABLE:

WALL WIDTH / OPENING WIDTH	3'-0"	6'-0"	8'-0"	12'-0"	16'-0"
4" WALL	2X4	4X4 OR (2) 2X4	4X6	4X8	4X10
6" WALL	2X6	4X6 FLAT	6X6	6X6	6X8

(1) 9 1/2" TJI 110 OR EQUIVALENT MAY BE USED @ NON-BEARING WALL OPENINGS UP TO 16'-0"

3. CONSTRUCTION REQUIREMENTS:

3.1. SEE DETAIL B/SN.2 FOR TYPICAL BEARING WALL FRAMING & PLATE LAP/SPLICE REQUIREMENTS.

3.2. SEE SECTION 6.3 FOR TYPICAL MEMBER TO MEMBER CONNECTIONS.

3.3. BEARING AND SHEARWALLS TO HAVE DOUBLE TOP PLATES, LAPPED & SPLICED PER DETAIL B/SN.2. DO NOT INSTALL SHIM OVER TOP PLATES.

3.4. PROVIDE FIRE BLOCKING AT 10'-0" INTERVALS AND AT ALL FLOOR AND CEILING LEVELS.

3.5. SEE DETAIL S/SN.2 FOR BLOCKING REQUIREMENTS AT GRAB BAR LOCATIONS.

3.6. CRIPPLE WALLS SHALL BE FRAMED OF STUDS NOT LESS IN SIZE THAN THE STUDDING AT FLOOR ABOVE.

3.7. ALL POSTS TO BE CARRIED THROUGH TO FOUNDATION OR BEAM/HEADER BELOW. PROVIDE SQUASH BLOCKING IN FLOOR CAVITY PER DETAIL N/SN.2. MIN BEARING WIDTH TO BE SAME AS POST ABOVE. SQUASH BLOCK MAY BE OMITTED AT DOUBLE 2X4 STUDS WHERE SCL RIM IS PRESENT

2.1 RETROFIT & POST-INSTALLED ANCHOR SPECIFICATIONS

1. GENERAL:

1.1. ALL POST-INSTALLED ANCHORS REQUIRE PERIODIC SPECIAL INSPECTION IN ACCORDANCE WITH CBC, SECTION 1705.

1.2. UNLESS NOTED OTHERWISE, EPOXIED REBAR AND ANCHORS MAY NOT BE INSTALLED FOR 21 DAYS AFTER CONCRETE POUR. IN ACCORDANCE WITH SIMPSON BULLETIN STRONG-TIE CATALOG C-A-2018, WHEN APPROVED IN ADVANCE BY THE ENGINEER OF RECORD, ANCHORS MAY BE INSTALLED WITH SIMPSON SET-3G EPOXY 7 DAYS AFTER CONCRETE POUR. INSTALLATION OF ALL POST-INSTALLED ANCHORS MUST BE PERFORMED BY TRAINED PERSONNEL AND IN ACCORDANCE WITH THE PRODUCT MANUFACTURERS INSTRUCTIONS. MANUFACTURER'S REQUIREMENTS REGARDING AGE OF CONCRETE, CONCRETE TEMPERATURE, MOISTURE CONDITION OF THE CONCRETE, DRILLING, AND PREPARATION MUST BE SATISFIED.

1.3. WHEN INSTALLING DRILLED ANCHORS IN EXISTING CONCRETE CONCRETE OR MASONRY, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING EXISTING REINFORCING BARS.

2. POST-INSTALLED ANCHORS IN CONCRETE:

2.1. FOR MISPLACED/UNINSTALLED ANCHOR BOLTS & MUDSILL ANCHORS IN FOUNDATION PROVIDE ALL-THREAD ROD WITH DIAMETER, SPACING, & GRADE PER ANCHOR BOLT SPECIFICATIONS IN SECTION 1.4, UNLESS MORE RESTRICTIVE ANCHOR SPACING IS NOTED ON PLAN. EPOXY ROD INTO CONCRETE MIN 7" W/ SIMPSON SET-3G EPOXY (ICC ESR-4057 LABC AND LARC SUPPLEMENT).

2.2. SIMPSON TITEN HD ANCHOR BOLTS MAY BE USED IN PLACE OF MISSED 1/2"Φ ANCHOR BOLTS, 5/8"Φ ANCHOR BOLTS OR MUDSILL ANCHORS IN BOTH SHEARWALL AND NON-SHEARWALL LOCATIONS. INSTALL (1) TITEN HD FOR EACH MISSED ANCHOR. PROVIDE 5/8"Φ X 6" TITENS AT 2X SILL PLATES AND 5/8"Φ X 6 1/2" TITENS AT 3X SILL PLATES. TITEN HD TO BE INSTALLED WITH PLATE WASHERS PER ANCHOR BOLT SPECIFICATIONS IN SECTION 1.4. INSTALLATION TO BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND PER ICC ESR-2713. ZINC PLATED TITENS MAY ONLY BE INSTALLED IN SBX-DOT (SODIUM BORATE) TREATED SILL PLATES. AT FIRE RETARDANT TREATED WOOD USE MECHANICALLY GALVANIZED TITEN HD ANCHOR BOLTS.

2.3. FOR MISPLACED/UNINSTALLED HOLDOWNS IN FOUNDATION SEE DETAIL MM/SN.3.

3.1 CONCRETE (SEE PT PLANS BY OTHERS FOR PT SLAB SPECIFICATIONS)

1. GENERAL REQUIREMENTS: CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318.

2. MATERIALS:

2.1. CONCRETE SHALL BE NORMAL WEIGHT, UNO AND SHALL MEET THE REQUIREMENTS OF SECTION 1.1 AND AS NOTED ON THE FOUNDATION PLAN.

2.2. CEMENT SHALL CONFORM TO ASTM C150. WHERE A PROJECT SOILS REPORT IS PROVIDED, VERIFY SITE SPECIFIC CRITERIA, SUCH AS PROTECTION AGAINST SOIL CORROSIVITY, PRIOR TO CONSTRUCTION.

2.3. CONCRETE AGGREGATES: NATURAL SANDS AND ROCK AGGREGATES SHALL CONFORM TO ASTM C33.

2.4. FLY ASH & GROUND GRANULATED BLAST FURNACE SLAG (GGBFS) MAY REPLACE UP TO 30% OF THE CEMENT (BY WEIGHT) PROVIDED FORM BOARDS ARE LEFT IN PLACE AND SLAB IS NOT LOADED UNTIL CONCRETE HAS REACHED 65% OF THE SPECIFIED DESIGN STRENGTH.

2.4.1. FLY ASH MUST CONFORM TO ASTM C618.

2.4.2. GGBFS MUST CONFORM TO ASTM C989.

2.4.3. CEMENT REPLACEMENTS OUTSIDE THESE LIMITATIONS MUST BE APPROVED BY THE PROJECT ENGINEER PRIOR TO CONSTRUCTION.

3. CONSTRUCTION REQUIREMENTS:

3.1. MAXIMUM FREE FALL OF CONCRETE SHALL BE 4'-0".

3.2. REINFORCING DOWELS, BOLTS, ANCHORS, SLEEVES, ETC TO BE EMBEDDED IN CONCRETE SHALL BE SECURELY POSITIONED BEFORE CONCRETE PLACEMENT.

3.3. WOOD SPREADERS ARE NOT ALLOWED. WOOD & METAL STAKES ARE NOT ALLOWED IN AREAS TO BE CONCRETED.

3.4. PIPES PASSING THROUGH CONCRETE MAY BE SLEEVED OR OTHERWISE PROTECTED BY FOAM, BUT MAY NOT BE EMBEDDED THEREIN. SEE DETAIL 11/SN.3.

3.5. CONCRETE SHALL NOT BE ALLOWED TO CURE IN TEMPERATURES LESS THAN 40° F FOR THE FIRST SEVEN DAYS UNLESS THE COLD WEATHER CONCRETING PROVISIONS OF ACI 306 ARE FOLLOWED.

3.2 REINFORCING (SEE PT PLANS BY OTHERS FOR TENDON SPECIFICATIONS)

1. MATERIALS:

1.1. REINFORCING SHALL CONFORM TO ASTM A615 GRADE 40 FOR #3 BARS AND SMALLER, GRADE 60 FOR #4 BARS AND LARGER.

1.2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A1064. LAP SHALL BE 18" MIN.

2. CONSTRUCTION REQUIREMENTS:

2.1. REINFORCING STEEL SHALL BE DETAILED, FABRICATED, AND INSTALLED ACCORDING TO THE "MANUAL OF STANDARD PRACTICE" BY CRSI.

2.2. DIMENSIONS SHOWN FOR LOCATION OF REINFORCING ARE TO THE FACE OF CONCRETE AND DENOTE CLEAR COVERAGE UNO. COVERAGE SHALL BE AS FOLLOWS UNO ON PLANS:
3" CLEAR FOR CONCRETE CAST AGAINST EARTH, 2" CLEAR FOR CONCRETE EXPOSED TO MOISTURE BUT NOT CAST AGAINST EARTH, AND 1 1/2" FOR ALL OTHER CONDITIONS.

2.3. LAPS, SPLICES, AND BENDS SHALL BE AS DEFINED IN DETAIL FF/SN.3.

6.1 WOOD SPECIFICATIONS

1. ALL STRUCTURAL WOOD SHALL CONFORM WITH THE FOLLOWING SPECIFICATIONS:

MATERIAL	SPECIFICATION
DOUGLAS FIR - COAST REGION	WEST COAST LUMBER INSPECTION BUREAU GRADING RULES #17. AT TIME OF CONSTRUCTION MOISTURE CONTENT NOT TO EXCEED 19%.
REDWOOD	CALIFORNIA REDWOOD ASSOCIATION GRADING RULES, 1987 EDITION
OSB/PLYWOOD	DOC PS-1-09 & PS-2-10
LVL/PSL/LSL BEAMS	MANUFACTURER'S ICC REPORT IN COMPLIANCE WITH CODE LISTED IN ICC REPORT
GLUED LAMINATED BEAMS	STANDARD SPECIFICATIONS FOR STRUCTURAL GLUED LAMINATED TIMBER, AITC 117-04. GLU-LAM BEAMS SHALL BE INSPECTED AND A CERTIFICATE PROVIDED TO FIELD INSPECTOR AT THE TIME OF FRAMING INSPECTION. FABRICATION SHALL BE PERFORMED IN AN APPROVED FABRICATOR'S SHOP, IN ACCORDANCE WITH CBC 1704.2.5. ALL GLU-LAM BEAMS CONTINUOUS OVER SUPPORTS OR CANTILEVERED SHALL HAVE TENSION LAMINATIONS ON TOP OF BEAMS. AT TIME OF INSTALLATION, MOISTURE CONTENT SHALL NOT EXCEED 16%.
GLUED LAMINATED BEAMS (1-HOUR FIRE-RATED)	ALL BEAMS NOTED AS "ONE-HOUR FIRE-RATED" ON THE PLANS SHALL BE PER THE "GLUED LAMINATED BEAMS" SECTION ABOVE WITH THE FOLLOWING REQUIREMENTS: PROVIDE (1) ADDITIONAL OUTER TENSION LAMINATION IN LIEU OF (1) CORE LAMINATION ON THE TENSION SIDE OF 24F-V4 BEAMS AND ON EACH TENSION SIDE OF 24F-V8 BEAMS.
PRESSURE TREATED [1,2]	DOT SODIUM BORATE, ALKALINE COPPER QUAT ACQ-C/D (CARBONATE), OR COPPER AZOLE (CBA-A & CA-B)

1. BORATE TREATED LUMBER SHALL NOT BE USED IN ANY APPLICATIONS WHERE LUMBER IS EXPOSED TO WEATHER CONDITIONS.
2. SEE SECTION 6.3 FOR HARDWARE SPECIFICATIONS.

2. MINIMUM GRADES AND DESIGN CRITERIA SHALL MEET OR EXCEED THE FOLLOWING, UNO ON PLANS:

FRAMING MEMBER	SPECIFICATION
WALL STUDS	PER SN.1, SECTION 1.7
RIM BOARD (DIMENSIONAL)	N/A
RIM BOARD (SCL)	1 1/4" 1.3E SCL
RIM BOARD (CURVED)	(3) LAYERS OF 3/8" APA RATED SHTG GLUED & NAILED TOGETHER
TOP PLATES	2X #2 DF (1 1/8" PLYWOOD AT CURVED TOP PLATES)
PLATES & SILLS	SILLS: MIN 2X PT DF STD & BETTER, OTHER PLATES: MIN 2X OF STUD GRADE CURVED: 1 1/8" PLYWOOD FOR SOLE PLATES & 1 1/8" PT PLYWOOD FOR SILL PLATES
SCL BLOCKING	1 1/4" 1.3E SCL
BEAMS/POSTS/RAFTERS & ALL OTHER STRUCTURAL FRAMING	2X FRAMING: #2 DF 4X FRAMING: #2 DF 6X FRAMING: #1 DF
STRUCTURAL SHEATHING	APA RATED

3. ALL BEAMS SHALL HAVE THE FOLLOWING MIN DESIGN STRENGTHS

GLUE LAMINATED MEMBERS[1,3]						
SPEC	F_b	F_c	F_v	E	CAMBER	CONDITION[4]
24F-V4	2400 PSI	650 PSI	265 PSI	1.8E6 PSI	3500' RADIUS	SINGLE SPAN
24F-V8	2400 PSI	650 PSI	265 PSI	1.8E6 PSI	ZERO	ALL OTHERS

STRUCTURAL COMPOSITE LUMBER SPECIFICATIONS[1,2,3]							
SPEC	SG	F_b	$F_{c\ perp}$	$F_{c\ parallel}$	F_v	E	TYP MATERIAL
1.3E SCL	0.50	1700 PSI	680 PSI	1400 PSI	285 PSI	1.3E6 PSI	LSL, LVL OR PSL
1.5E SCL	0.50	2250 PSI	750 PSI	1600 PSI	285 PSI	1.5E6 PSI	LSL, LVL OR PSL
2.0E SCL	0.50	2900 PSI	750 PSI	1600 PSI	285 PSI	2.0E6 PSI	LVL OR PSL
2.2E SCL	0.50	2900 PSI	750 PSI	1600 PSI	290 PSI	2.2E6 PSI	LVL OR PSL

1. GLUE-LAM BEAMS MAY NOT BE USED IN PLACE OF SCL LUMBER
2. SCL LUMBER MUST MEET ALL OF THE DESIGN STRENGTHS SHOWN
3. BEAMS SHALL BE SINGLE-PLY UNLESS SPECIFICALLY NOTED AS "BUILT-UP" OR "MULTI-PLY" ON PLANS
4. INCLUDES MULTI-SPAN AND CANTILEVER CONDITIONS

6.2 WALL SHEATHING NOTES

1. UNO ON PLAN OR WITHIN THE SHEARWALL SCHEDULE, WALL SHEATHING, WHERE OCCURS, SHALL BE 3/8" APA RATED SHEATHING W/ 8d @ 6" OC EDGE, 12" OC FIELD AND SHALL CONFORM TO THE SPECIFICATIONS OF SECTION 6.1.

2. SHEARWALL CONSTRUCTION: SEE DETAIL C/SN.2

2.1. SHEATHING USED IN THE CONSTRUCTION OF SHEARWALLS TO BE 4'-0" X 8'-0" MINIMUM EXCEPT AT BOUNDARIES OR AT CHANGES IN FRAMING WHERE THE MINIMUM WIDTH IS TO BE 16" (TYP.)

2.2. FRAMING MEMBERS OR BLOCKING ARE REQUIRED AT ALL PANEL EDGES IN SHEARWALLS.

2.3. DO NOT BREAK FACE PLY WHEN NAILING ANY SHEARWALLS.

2.4. ALL NAILS SPECIFIED FOR USE IN SHEARWALLS TO BE OF SUFFICIENT LENGTH TO PROVIDE 1 5/8" PENETRATION INTO FRAMING MEMBERS.

2.5. ALL FRAMING MEMBERS USED IN THE CONSTRUCTION OF THE SHEARWALLS MUST BE DOUGLAS FIR.

2.6. IT IS ACCEPTABLE TO INSTALL 7/16" SHEATHING AT ALL LOCATIONS WHERE 3/8" SHEATHING IS SPECIFIED ON THE PLANS.

1.1 DESIGN CRITERIA

1. GENERAL PROJECT INFORMATION:

1.1. PROJECT SHALL CONFORM TO THE 2022 CBC, ITS REFERENCED STANDARDS, AND APPLICABLE LOCAL BUILDING DEPARTMENT STANDARDS.

1.2. THE PROJECT IS RISK CATEGORY II, SEISMIC ANALYSIS IS COMPLETED USING THE EQUIVALENT FORCE PROCEDURE.

1.3. DESIGN LOAD AND FOUNDATION CRITERIA ARE AS FOLLOWS:

SEISMIC CRITERIA (ASCE 7-16, CH 12)	
RESPONSE MODIFICATION FACTOR, R	6.5
SEISMIC IMPORTANCE FACTOR, I	1.0
SITE CLASS	C
SHORT PERIOD SPECTRAL ACCELERATION, S_s	0.754
1 SECOND SPECTRAL ACCELERATION, S_1	0.275
SHORT PERIOD ACCELERATION PARAMETER, S_{DS}	0.603
1 SECOND ACCELERATION PARAMETER, S_{D1}	0.275
SEISMIC RESPONSE COEFFICIENT, C_s	0.093
SEISMIC DESIGN CATEGORY	D
DESIGN BASE SHEAR, W	0.065

WIND DESIGN PARAMETERS	
WIND SPEED	96 MPH
EXPOSURE	C
INTERNAL PRESSURE COEFFICIENT	0.18
COMPONENT & CLADDING DESIGN PRESSURE	18 PSF

SOILS REPORT	
BY	ADVANCED GEOTECHNICAL SOLUTIONS INCORPORATED
REPORT	2202-04-B-2
DATE	04/08/2022
NOTES:	POST-TENSIONED SLAB DESIGN BY OTHERS

GRAVITY LOADS					
ROOF	LIVE LOAD	20 PSF	SNOW	GROUND, P_g	0 PSF
ROOF	DEAD LOAD	15 PSF*	SNOW	FLAT ROOF, P_f	N/A
ROOF	CEILING LL	10 PSF**	SNOW	EXPOSURE, C_e	N/A
ROOF	CEILING DL	10 PSF	SNOW	IMPORTANCE, I_s	N/A
FLOOR	UNIT LIVE LOAD	40 PSF	SNOW	THERMAL, C_t	N/A
FLOOR	DEAD LOAD	18 PSF		* INCLUDES 2 PSF FOR SOLAR PANELS	
FLOOR	CEILING DL	7 PSF		** CEILING LL NOT CONCURRENT WITH ROOF LL	

1.4. SPECIAL INSPECTION AND TESTING SHALL BE PERFORMED FOR THE ITEMS BELOW AND MUST CONFORM TO CBC SECTION 1704.

SPECIAL INSPECTION AND TESTING SUMMARY	
E	MAIN WINDFORCE-RESISTING SYSTEM
R	SEISMIC-FORCE-RESISTING SYSTEM · WOOD DIAPHRAGMS AND SHEARWALLS.

R = SPECIAL INSPECTION REQUIRED
CR = SPECIAL INSPECTION AND STATEMENT OF CONTRACTOR RESPONSIBILITY REQUIRED[3]
E = EXEMPT PER EXCEPTION(S) IN REFERENCED CODE SECTION.
NA = NOT APPLICABLE TO THIS PROJECT.

1. VERIFY SPECIAL INSPECTION REQUIREMENTS WITH THE BUILDING OFFICIAL PRIOR TO CONSTRUCTION.
2. SEE THE STATEMENT OF SPECIAL INSPECTIONS FOR SPECIFIC INSPECTION REQUIREMENTS.
3. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF ANY DESIGNATED COMPONENT(S) SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE COMPONENT(S) IN ACCORDANCE WITH THE REQUIREMENTS OF CBC 1704.

1.5. DEFERRED SUBMITTALS:

THE FOLLOWING ITEMS ARE DEFERRED SUBMITTALS IN ACCORDANCE WITH CBC 107.3.4.2. PRIOR TO FABRICATION, SUBMITTAL DOCUMENTS SIGNED & STAMPED BY AN ENGINEER LICENSED IN THE STATE WHERE WORK IS PERFORMED SHALL BE PROVIDED TO THE ARCHITECT/ENGINEER FOR REVIEW & SUBMITTAL TO THE BUILDING DEPARTMENT.
· ROOF TRUSSES

1.2 GENERAL NOTES

1. SCOPE:

1.1. THE PROJECT DOCUMENTS MAY NOT BE USED IN A LOCATION OTHER THAN THAT DESIGNATED ON THE DRAWINGS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER.

1.2. THIS IS A "BUILDER'S SET" PRODUCED SOLELY FOR USE BY A KNOWLEDGEABLE AND EXPERIENCED CONTRACTOR.

1.3. THESE PLANS CONTAIN INFORMATION FOR GENERAL CONSTRUCTION AND BUILDING PERMIT PURPOSES ONLY. THEY ARE NOT EXTENSIVELY DETAILED NOR ARE COMPLETE SPECIFICATIONS PROVIDED. DETAILS OF CONSTRUCTION NOT FULLY SHOWN SHALL BE OF THE SAME NATURE AS SHOWN FOR SAME OR SIMILAR CONSTRUCTION SHOWN ELSEWHERE WITHIN THE PLAN SET. FOR ITEMS, METHODS AND/OR MATERIALS NOT SPECIFIED WITHIN THE SET, THE MINIMUM REQUIREMENT OF THE APPLICABLE CODE SHALL GOVERN.

1.4. THE ENGINEER PROVIDES NO WARRANTY OR GUARANTEE ON THE FINAL PROJECT, NOR DUTY TO ANY PERSON OR ENTITY BEYOND THE AFOREMENTIONED LIMITED INFORMATION OF THESE PLANS.

1.5. FLASHING & WATERPROOFING SHALL BE SPECIFIED BY THE PROJECT ARCHITECT. UNO, IT IS ASSUMED THAT ALL STRUCTURAL MEMBERS AND CONNECTIONS ARE PROPERLY WATERPROOFED.

1.6. WHERE SPECIFIED WITHIN THIS SET, 1-COAT STUCCO APPLIES TO PRODUCTS COVERED UNDER ICC ESR-1194. CONTACT HARRIS & SLOAN TO CONFIRM REQUIREMENTS FOR ALL OTHER PRODUCTS.

2. CONTRACTOR REQUIREMENTS:

2.1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE QUALITY AND CONSTRUCTION STANDARDS FOR THIS PROJECT. CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND REGULATIONS.

2.2. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC.

2.3. ANY OR PART OF ALL SYSTEMS, MATERIALS, CONNECTIONS AND DETAILS NOT SPECIFICALLY PROVIDED IN THESE PLANS ARE THE SOLE AND COMPLETE RESPONSIBILITY OF THE CONTRACTOR TO PROPERLY VERIFY AND INSTALL.

2.4. CONTRACTOR SHALL NOTIFY THE ENGINEER AND ARCHITECT WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DRAWINGS OR DOCUMENTS. CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE BUILDING THAT IS IN CONFLICT, UNTIL CONFLICT IS RESOLVED BY THE AFFECTED PARTIES.

2.5. 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 PRIOR TO THE APPLICATION OF ALL SHEARWALLS, ROOF DIAPHRAGMS, AND FINISH MATERIALS. CONTRACTOR SHALL PROVIDE THE NECESSARY BRACING TO PROVIDE STABILITY PRIOR TO THE APPLICATION OF THE AFOREMENTIONED MATERIALS. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.

2.6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE ENGINEER OR ARCHITECT FOR ANY REQUIRED DIMENSIONS NOT SHOWN. DRAWINGS & DETAILS WITHIN THIS SET SHALL NOT BE SCALED FOR ANY PURPOSE.

2.7. THE GENERAL CONTRACTOR AND IT'S SUB-CONTRACTORS MUST SUBMIT IN WRITING ANY REQUESTS FOR MODIFICATIONS TO THE PLANS AND SPECIFICATIONS. SHOP DRAWINGS THAT ARE SUBMITTED TO THE ENGINEER OF RECORD FOR THEIR REVIEW DO NOT CONSTITUTE "IN WRITING". CHANGES TO THE PLANS AND SPECIFICATIONS BY MEANS OF SHOP DRAWINGS BECOME THE RESPONSIBILITY OF THE PERSON INITIATING SUCH CHANGES.

1.3 TYPICAL ABBREVIATIONS

AB	ANCHOR BOLT	FRT	FIRE RETARDANT TREATED	PERP	PERPENDICULAR
ABV	ABOVE	FTG	FOOTING	PL	PLATE
AFF	ABOVE FINISHED FLOOR	GA	GAUGE	PLF	POUNDS PER LINEAR FOOT
ALT	ALTERNATE	GALV	GALVANIZED	PSF	POUNDS PER SQUARE FOOT
APA	AMERICAN PLYWOOD ASSN	GLB	GLUE-LAMINATED BEAM	PSI	POUNDS PER SQUARE INCH
BC	BOTTOM CHORD	HD	HOLDOWN	PSL	PARALLEL STRAND LUMBER
BLKG	BLOCKING	HDR	HEADER	PT	PRESSURE TREATED (WOOD)
BLW	BELOW	HORIZ	HORIZONTAL	PT	POST TENSIONED (CONCRETE)
BM	BEAM	HS	HIGH STRENGTH	REINF	REINFORCING
BRG	BEARING	HSS	HOLLOW STRUCTURAL SECTION	REQ'D	REQUIRED
CBC	CALIFORNIA BUILDING CODE	IBC	INTERNATIONAL BUILDING CODE	SAD	SEE ARCHITECTURAL DRAWINGS
CL	CENTERLINE	ICC	INTERNATIONAL CODE COUNCIL	SCL	STRUCTURAL COMPOSITE LUMBER
CLR	CLEAR	LL	LIVE LOAD	SHTG	SHEATHING
CMU	CONCRETE MASONRY UNIT	LSL	LAMINATED STRAND VENEER	SOG	SLAB ON GRADE
CONC	CONCRETE	LVL	LAMINATED VENEER LUMBER	SPEC	SPECIFICATION
CONT	CONTINUOUS	MFR	MANUFACTURER	SQ	SQUARE
DBL	DOUBLE	MAX	MAXIMUM	STD	STANDARD
DF	DOUGLAS FIR LARCH	MB	MACHINE BOLT	SW	SHEARWALL
DIA	DIAMETER	MIN	MINIMUM	T&B	TOP & BOTTOM
DIST	DISTANCE	(N)	NEW	TC	TOP CHORD
DL	DEAD LOAD	NHR	NO HOLDOWNS REQUIRED	TS	TUBE STEEL
(E)	EXISTING	NTS	NOT TO SCALE	TYP	TYPICAL
EA	EACH	O/	OVER	UNO	UNLESS NOTED OTHERWISE
ELEV	ELEVATION	OC	ON CENTER	VERT	VERTICAL
EN	EDGE NAIL	OSB	ORIENTED STRAND BOARD	W	W SHAPE STEEL
EQ	EQUAL	PERF	PERFORATED	WTS	WELDED-THREADED STUD

1.4 FOUNDATION NOTES

1. SOIL CLASSIFICATIONS & GENERAL REQUIREMENTS:

1.1. FOUNDATION SYSTEM TO BE DESIGN BUILD BY OTHERS. COORDINATION WITH GRADING PLANS, UTILITIES, SOILS CONDITIONS, AND CONTRACTORS SHALL BE PER THE FOUNDATION DESIGNER.

2. DIMENSIONS, GRADING, AND PAD PREPARATION:

2.1. AT FOUNDATION PERIMETER, PROVIDE MINIMUM 8" CLEARANCE BETWEEN WOOD AND EARTH, 4" BETWEEN WOOD AND CONCRETE, UNO. AT EXTERIOR WOOD COLUMNS/POSTS, PROVIDE MINIMUM 6" BETWEEN WOOD AND EARTH, 1" BETWEEN WOOD AND CONCRETE, UNO.

2.2. SAD FOR FOUNDATION STEPS & SLOPES.

3. SILL PLATE ATTACHMENT: SEE GG/SN.3 FOR ANCHOR PLACEMENT INFORMATION

3.1. ANCHOR BOLT SPECIFICATIONS: 1/2" Φ X 10" ANCHOR BOLTS @ 6'-0" OC MAX AT ONE & TWO STORY STRUCTURES, 4'-0" OC AT THREE STORY AND ABOVE, UNO AT SHEARWALL LOCATIONS. MINIMUM 7" EMBEDMENT INTO CONCRETE. PROVIDE 3"X3"X0.229" PLATE WASHERS AT ALL SHEARWALL LOCATIONS AND STD CUT WASHERS ELSEWHERE.

3.2. MASA DRIVEN NAIL (SHOT PIN) SPECIFICATIONS: PROVIDE MASA @ 6'-0" OC MAX AT ONE & TWO STORY STRUCTURES, 4'-0" OC AT THERE STORY AND ABOVE, UNO AT SHERWALL LOCATIONS. MASA ANCHORS SHALL COMPLY WITH ICC ESR-2555.

3.3. POWDER DRIVEN NAIL (SHOT PIN) SPECIFICATIONS: AT INTERIOR, NON-STRUCTURAL WALLS UNDER 14" TALL W/ 2X SILL PLATES, SHOT PINS MAY BE USED TO ANCHOR THE SILL TO THE FOUNDATION. PROVIDE SIMPSON PDPA-287 PINS @ 4'-0" OC OR HILTI X-CF PINS @ 3'-0".

1.5 FLOOR FRAMING NOTES

1. GENERAL REQUIREMENTS:

1.1. SAD FOR FLOOR FRAMING STEPS AND SLOPES.

1.2. SEE SECTION 6.3 FOR TYPICAL MEMBER TO MEMBER CONNECTIONS.

1.3. DURING CONSTRUCTION MAX 20 SHEETS OF GYPSUM BOARD MAY BE STACKED IN ANY ROOM. DO NOT INSTALL CEILING TO BOTTOM OF FLOOR FRAMING UNTIL STACK IS REMOVED.

2. FLOOR SHEATHING:

2.1. TO BE 3/4" T&G OR 23/32" APA RATED SHEATHING GLUED AND NAILED W/ 8d AT 6" OC EDGE, 12" OC FIELD MINIMUM. PANEL ID 48/24. EXPOSURE 1 FACE GRAIN PERPENDICULAR TO FRAMING, AND AS NOTED ON PLAN.

2.2. NAIL SHEATHING WITH 8d @ 6" OC EDGE, 12" OC FIELD TYP UNO. SEE DETAIL C/SN.2.

2.3. NAIL SHEATHING AT ALL DRAG MEMBERS W/ 8d @ 6" OC, TYP UNO.

3. FRAMING LAYOUTS:

3.1. LAYOUTS SHOWN ON PLANS ARE APPROXIMATE. COLLECTORS AND DOUBLE FRAMING MEMBERS ARE TO BE PLACED AS SHOWN ON THE PLANS. ALL OTHER MEMBERS SHOWN MAY BE ADJUSTED AS REQUIRED PROVIDED THAT THE PLAN SPECIFIED MAXIMUM SPACING IS MAINTAINED. SEE DETAIL O/SN.2 FOR ALLOWABLE ADJUSTMENTS.

3.2. SEE DETAIL J/SN.2 FOR ALLOWABLE FRAMING PENETRATIONS - MODIFICATIONS BEYOND THOSE SPECIFIED IN THIS PLAN SET REQUIRE WRITTEN CONSENT OF MANUFACTURER AND PROJECT ENGINEER.

4. RIM BOARD:

4.1. RIM BOARD SHALL BE THE SAME DEPTH AS FLOOR FRAMING AND SHALL MEET OR EXCEED THE MINIMUM GRADE SPECIFIED IN SECTION 6.1.

4.2. SEE DETAIL J/SN.2 FOR ALLOWABLE RIM PENETRATIONS.

5. STAIR FRAMING: STRINGERS SHALL BE SCL LUMBER, NUMBER AND SPACING PER MANUFACTURER'S SPAN TABLES. SEE DETAIL NN/SN.3 FOR TYPICAL CONNECTIONS. WHERE CONFLICTS OCCUR, STRINGER MFR DETAILS TAKE PRECEDENCE.

6. GUARD/HAND RAILS:

6.1. CONNECTIONS FOR MANUFACTURED RAILS SHALL BE PROVIDED BY OTHERS. RAIL SYSTEMS MUST BE CAPABLE OF SUPPORTING A 200# POINT LOAD.

6.2. HALF-HEIGHT WALL CONDITIONS SHALL BE CONNECTED TO FLOOR FRAMING PER DETAIL OO/SN.3

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1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER: PJ
DESIGNER: LK
DRAWN BY: QES
CHECKED BY: PJ
ISSUE DATE: 01-13-2023
REVISIONS:

STAMP:
REGISTERED PROFESSIONAL ENGINEER
No. 5550
Exp. 06-30-24
STRUCTURAL
STATE OF CALIFORNIA

PLAN NUMBER:

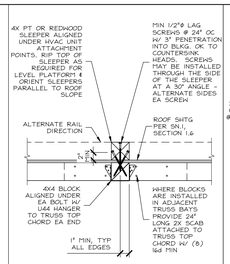
SHEET TITLE:
STANDARD NOTES

SCALE:

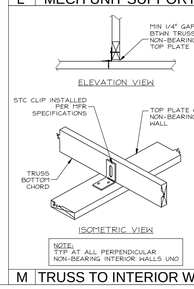
SHEET NUMBER:
SN.1

JOB NUMBER: HS22244

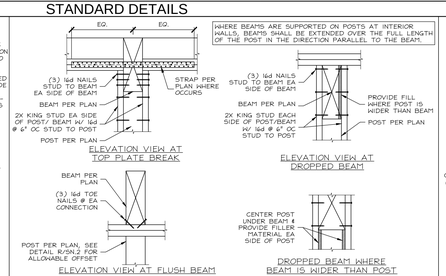
STANDARD DETAILS



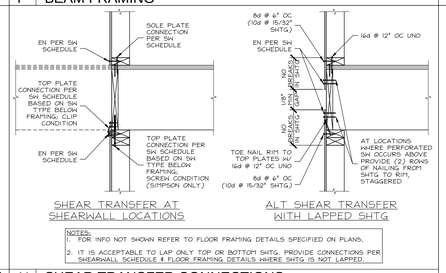
L | MECH UNIT SUPPORT



NOTE:
TYP AT ALL PERPENDICULAR NON-BEARING INTERIOR WALLS UNO

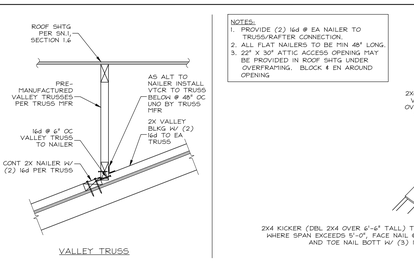


F | BEAM FRAMING

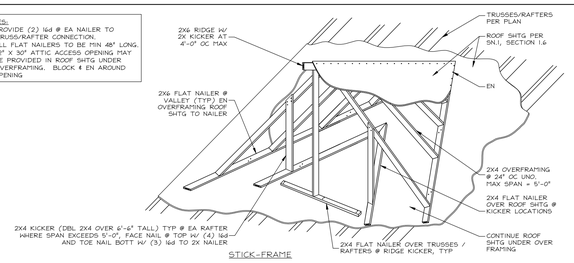


NOTES:
1. FOR INFO NOT SHOWN REFER TO FLOOR FRAMING DETAILS SPECIFIED ON PLANS.
2. IT IS ACCEPTABLE TO LAP ONLY TOP OR BOTTOM SHTG. PROVIDE CONNECTIONS PER SHEARWALL SCHEDULE & FLOOR FRAMING DETAILS WHERE SHTG IS NOT LAPPED.

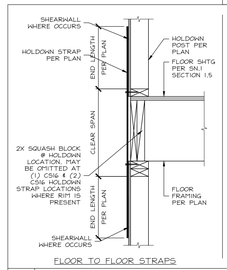
A | OVERFRAMING

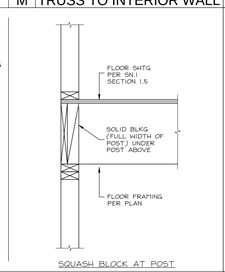


NOTES:
1. PROVIDE (2) 16d @ EA NAILER TO TRUSS/RAFTER CONNECTION.
2. ALL FLAT NAILERS TO BE MIN 48" LONG.
3. 22" x 30" ATTIC ACCESS OPENING MAY BE PROVIDED IN ROOF SHTG UNDER OVERFRAMING. BLOCK & EN AROUND OPENING

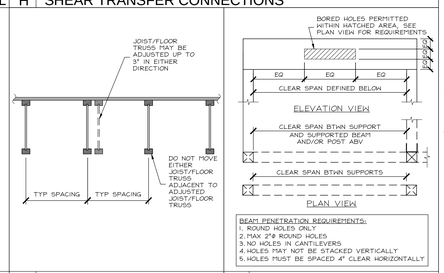


M | TRUSS TO INTERIOR WALL



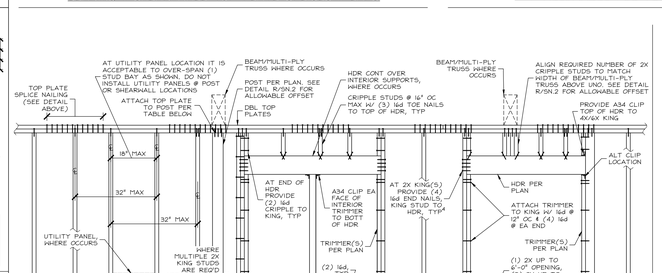


H | SHEAR TRANSFER CONNECTIONS



BEAM PENETRATION REQUIREMENTS:
1. ROUND HOLES ONLY
2. MAX 2"Ø ROUND HOLES
3. NO HOLES IN CANTILEVERS
4. HOLES MAY NOT BE STACKED VERTICALLY
5. HOLES MUST BE SPACED 4" CLEAR HORIZONTALLY

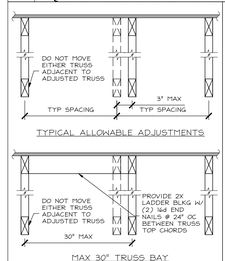
C | DIAPHRAGM & SHEARWALL SHEATHING



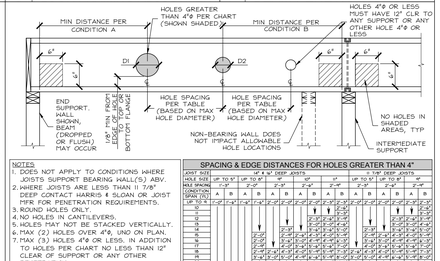
TOP PLATE/SOLE PLATE/SILL PLATE TO POST CONNECTIONS		
POST	TOP PLATE/SOLE PLATE/2X SILL	3X SILL
4X4	(3) 16d	(2) 20d
4X6	(5) 16d	(3) 20d
4X8	(5) 16d	(3) 20d
4X10	(6) 16d	(3) 20d
4X12	(7) 16d OR (3) 4" SDWH SCREWS	(4) 20d
6X6	(8) 16d OR (4) 4" SDWH SCREWS	(4) 20d
6X8	(11) 16d OR (5) 4" SDWH SCREWS	(5) 20d
6X10	(14) 16d OR (6) 4" SDWH SCREWS	(6) 20d
6X12	(17) 16d OR (7) 4" SDWH SCREWS	(6) 20d

TYPICAL WALL FRAMING SPECIFICATIONS

N | SQUASH BLOCKS & FLOOR TO FLOOR STRAPS



O | FLOOR FRAMING ADJUSTMENT



I | BEAM PENETRATIONS

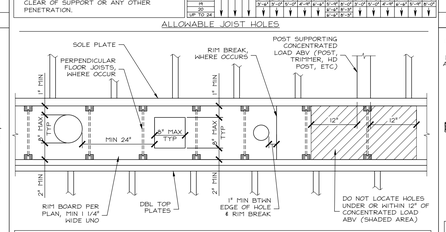
HOLES 4"Ø OR LESS MUST HAVE 12" CLR TO ANY SUPPORT OR ANY OTHER HOLE 4"Ø OR LESS

NOTES:
1. DOES NOT APPLY TO CONDITIONS WHERE JOISTS SUPPORT BEARING WALL(S) ABV.
2. WHERE JOISTS ARE LESS THAN 11 7/8" DEEP CONTACT HARRIS & SLOAN OR JOIST MFR FOR PENETRATION REQUIREMENTS.
3. ROUND HOLES ONLY.
4. NO HOLES IN CANTILEVERS.
5. HOLES MAY NOT BE STACKED VERTICALLY.
6. MAY (2) HOLES OVER 4"Ø, UNO ON PLAN.
7. MAX (3) HOLES 4"Ø OR LESS. IN ADDITION TO HOLES PER CHART NO LESS THAN 12" CLEAR OF SUPPORT OR ANY OTHER PENETRATION.

SPACING & EDGE DISTANCES FOR HOLES GREATER THAN 4"

JOIST SIZE	9 1/4" DEEP JOISTS				11 7/8" DEEP JOISTS			
	UP TO 9'	UP TO 11'	UP TO 13'	UP TO 15'	UP TO 9'	UP TO 11'	UP TO 13'	UP TO 15'
HOLE SPACING	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
HOLE CONDITION	A	B	A	B	A	B	A	B
UP TO 9"								
10								
12								
14								
16								
18								
20								
22								
UP TO 24"								

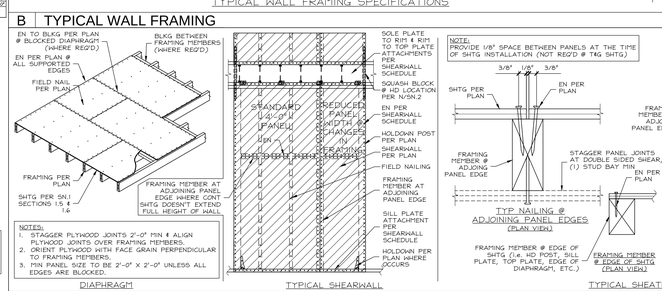
ALLOWABLE JOIST HOLES



NOTES:
1. APPLIES ONLY TO 11 7/8" & 14" DEEP RIM BOARDS. CONTACT HARRIS & SLOAN OR MFR FOR PENETRATION REQUIREMENTS AT ALL OTHER CONDITIONS.
2. NO HOLES IN CANTILEVERED RIM BOARDS(S).
3. HOLES MAY NOT BE STACKED VERTICALLY.

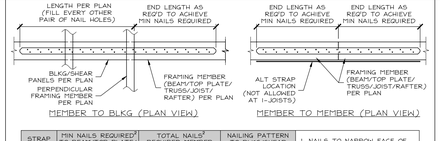
ALLOWABLE RIM BOARD HOLES

B | TYPICAL WALL FRAMING



NOTES:
1. STAGGER PLYWOOD JOINTS 2'-0" MIN & ALIGN PLYWOOD JOINTS OVER FRAMING MEMBERS.
2. ORIENT PLYWOOD WITH FACE GRAIN PERPENDICULAR TO FRAMING MEMBER.
3. MIN PANEL SIZE TO BE 2'-0" X 2'-0" UNLESS ALL EDGES ARE BLOCKED.

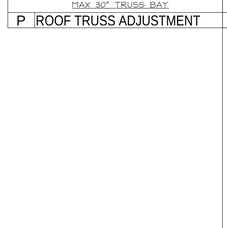
E | STRAP NAILING REQUIREMENTS



STRAP TYPE	MIN NAILS REQUIRED[1] TO BEAM/TOP PLATE/ TRUSS/JOIST/RAFTER	TOTAL NAILS[2] REQUIRED MEMBER TO MEMBER	NAILING PATTERN TO BLKG/SHEAR PANELS
CS16[3]	(11) 8d	(22) 8d	FILL EVERY OTHER PAIR OF NAIL HOLES UNO
MSTC28	(18) 16d	(36) 16d	N/A
MSTC40	(26) 16d	(52) 16d	N/A
MSTC52	(31) 16d	(62) 16d	N/A
MSTC66	(38) 16d	(76) 16d	N/A
CMSTC16[3]	(25) 16d	(50) 16d	FILL EVERY OTHER PAIR OF NAIL HOLES UNO
CMSTI14[3]	(33) 16d	(66) 16d	
CMSTI12[3]	(43) 16d	(86) 16d	

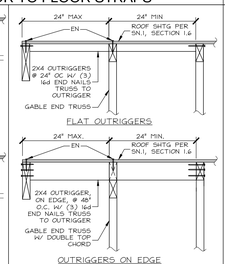
1. NAILS TO NARROW FACE OF SCL MEMBERS MAY NOT BE LOCATED CLOSER THAN THE MANUFACTURER'S SPECIFIED MIN SPACING. LENGTHEN STRAP AS NEEDED TO INSTALL MIN REQUIRED NAILS
2. MIN 4" END DISTANCE FROM EDGE OF MEMBER TO FIRST NAIL IN STRAP @ SCL OR MANUFACTURED JOIST
3. DO NOT BEND STRAPS UNLESS SPECIFICALLY NOTED.

P | ROOF TRUSS ADJUSTMENT



NOTES:
1. OFFSET IS MEASURED BETWEEN FRAMING MEMBER CENTERLINES
2. WHERE BEAM BREAKS TOP PLATES, BEAM MUST HAVE FULL BEARING ON POST BELOW. SEE DETAIL F/SN.2

Q | TRUSS OUTRIGGER

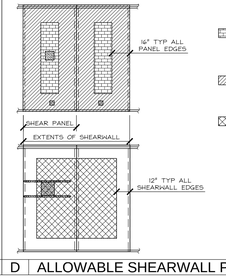


R | STUD/POST OFFSET

J | ALLOWABLE FLOOR FRAMING PENETRATIONS

K | SHARED HD & WALL CHANNEL AT SHEARWALL

D | ALLOWABLE SHEARWALL PENETRATIONS



OPENING PARAMETERS

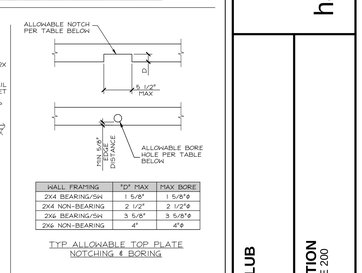
ZONE A: 6"x6" MAX UNBLOCKED PENETRATION OR 8"x8" MAX PENETRATION WITH ALL EDGES BLOCKED & EN WITHIN AREA HATCHED AS SHOWN. FOR LARGER PENETRATIONS, SEE ZONE C SPECIFICATIONS FOR STRAPPED OPENINGS

ZONE B: 6"x6" MAX PENETRATION WITH ALL EDGES BLOCKED & EN WITHIN AREA HATCHED AS SHOWN. FOR LARGER PENETRATIONS, SEE ZONE C SPECIFICATIONS FOR STRAPPED OPENINGS

ZONE C: 12"X12" MAX PENETRATION WITH ALL EDGES BLOCKED & EN. PROVIDE STUD EACH SIDE OF OPENING. PROVIDE CS16 STRAP OVER 2X BLKG, MIN 12" PAST OPENING EA WAY. FILL EVERY OTHER PAIR OF NAIL HOLES

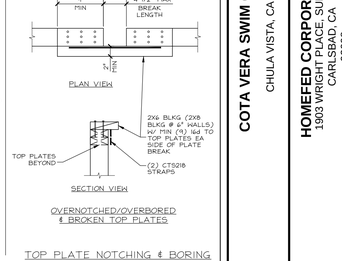
LIMITATIONS

1. APPLIES TO SINGLE-SIDED OSB & PLYWOOD SHEARWALLS ONLY.
2. THE NUMBER OF PENETRATIONS SHALL NOT EXCEED ANY OF THE FOLLOWING CRITERIA:
   (1) OPENING 3 6"x6" PER SHEARWALL
   (2) OPENINGS PER SHEAR PANEL
   (4) OPENINGS PER SHEARWALL



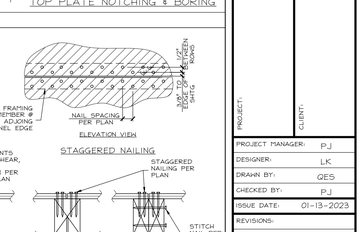
WALL FRAMING	"D" MAX	MAX BORE
2X4 BEARING/SW	1 5/8"	1 5/8"Ø
2X4 NON-BEARING	2 1/2"	2 1/2"Ø
2X6 BEARING/SW	3 5/8"	3 5/8"Ø
2X6 NON-BEARING	4"	4"Ø

TYP ALLOWABLE TOP PLATE NOTCHING & BORING



OVERNOTCHED/OVERBORED & BROKEN TOP PLATES

TOP PLATE NOTCHING & BORING



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PROJECT MANAGER:	P.J
DESIGNER:	L.K
DRAWN BY:	G.E.S
CHECKED BY:	P.J
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP: REGISTERED PROFESSIONAL ENGINEER PHILIP J. LINDSAY No. S 5813 STRUCTURAL STATE OF CALIFORNIA

PLAN NUMBER:

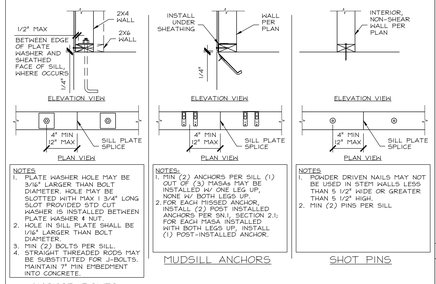
SHEET TITLE: STANDARD DETAILS

SCALE:

SHEET NUMBER: SN.2

JOB NUMBER: HS22244

STANDARD DETAILS



NOTES
1. PLATE WASHER HOLE MAY BE 3/16" LARGER THAN BOLT DIAMETER. HOLE MAY BE SLOTTED WITH MAX 1 3/4" LONG SLOT PROVIDED STD CUT WASHER IS INSTALLED BETWEEN PLATE WASHER & NUT.
2. HOLE IN SILL PLATE SHALL BE 1/16" LARGER THAN BOLT DIAMETER.
3. MIN (2) BOLTS PER SILL.
4. STRAIGHT THREADED RODS MAY BE SUBSTITUTED FOR J-BOLTS. MAINTAIN 7" MIN EMBEDMENT INTO CONCRETE.

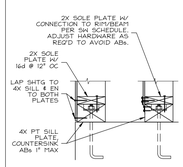
ANCHOR BOLTS

NOTES:
1. MIN (2) ANCHORS PER SILL (1) OUT OF (3) MASAs MAY BE INSTALLED W/ ONE LEG UP, NONE W/ BOTH LEGS UP.
2. FOR EACH TYSSED ANCHOR, INSTALL (2) ADHESIVE ANCHORS PER SN.1, SECTION 2.1; FOR EACH MASA INSTALLED WITH BOTH LEGS UP, INSTALL (1) POST-INSTALLED ANCHOR.

MUDSILL ANCHORS

NOTES
1. POWDER DRIVEN NAILS MAY NOT BE USED IN STEP WALLS LESS THAN 5 1/2" WIDE OR GREATER THAN 5 1/2" HIGH.
2. MIN (2) PINS PER SILL

SHOT PINS



ALT ANCHOR BOLT CONNECTIONS

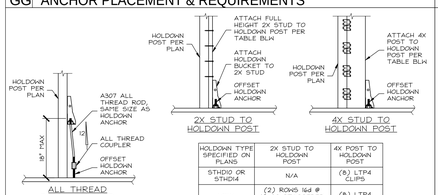
ANCHOR BOLT SUBSTITUTIONS

AT SHEARWALL LOCATIONS IT IS ACCEPTABLE TO SUBSTITUTE LARGER DIAMETER ANCHOR BOLTS AT A WIDER SPACING PER THE TABLES BELOW.

SH TYPE	ANCHOR BOLT SPACING		
	1/2"ø	5/8"ø	3/4"ø
1	40" OC	48" OC	48" OC
2	34" OC	48" OC	48" OC
3	20" OC	28" OC	40" OC
4	16" OC	22" OC	32" OC
6	16" OC	26" OC	34" OC
7	10" OC	18" OC	22" OC
8	8" OC	14" OC	18" OC
9	34" OC	48" OC	48" OC
10 & 11	20" OC	28" OC	40" OC
12	14" OC	22" OC	30" OC

SH TYPE	ANCHOR BOLT SPACING		
	1/2"ø	5/8"ø	3/4"ø
13	10" OC	16" OC	22" OC
14 & 15	8" OC	14" OC	18" OC
16	34" OC	48" OC	48" OC
17	20" OC	28" OC	40" OC
18	14" OC	24" OC	30" OC
19	12" OC	18" OC	24" OC
20	10" OC	14" OC	20" OC
21 & 22	6" OC	12" OC	15" OC
99	44" OC	48" OC	48" OC

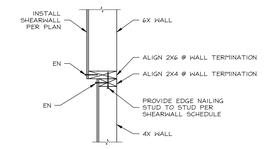
GG ANCHOR PLACEMENT & REQUIREMENTS



HOLDOWN TYPE SPECIFIED ON PLANS	2X STUD TO HOLDOWN POST	4X POST TO HOLDOWN POST
STHD10 OR STHD14	N/A	(8) LTP4 CLIPS
HDU4	(2) ROWS 16d @ 8" OC STAGGERED (TYP 26 NAILS)	(8) LTP4 CLIPS
HDU8	(2) ROWS 16d @ 4" OC STAGGERED (TYP 42 NAILS)	(12) LTP4 CLIPS

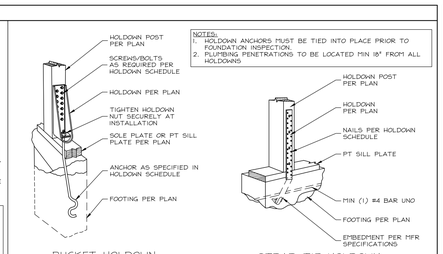
NOTE:
1. CONTACT HARRIS & SLOAN FOR RETROFIT SPECIFICATIONS AT ALL OTHER HOLDOWN TYPES NOT NOTED ABOVE.

LL OFFSET HOLDOWN ANCHOR

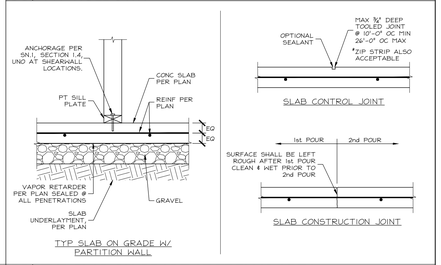


H522244_SN SHEETS

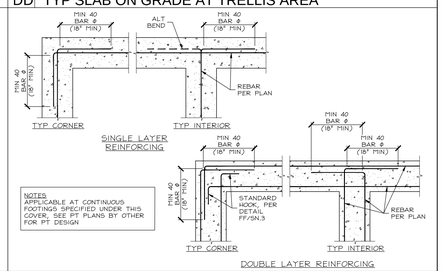
ZZ SHEARWALL AT WALL TRANSITION



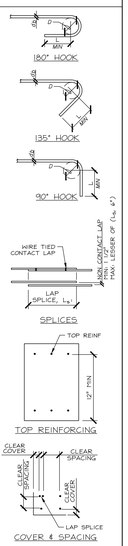
CC TYP HOLDOWN



DD TYP SLAB ON GRADE AT TRELLIS AREA



EE CONTINUOUS FOOTING REINFORCING



TYPICAL REINFORCING PROPERTIES & LENGTHS

REINFORCEMENT PROPERTIES

	BAR SIZE	#3	#4	#5	#6	#7	#8	#9	#10	#11
REINFORCEMENT PROPERTIES	REINF GRADE (ksi)	60	60	60	60	60	60	60	60	60
	NOMINAL AREA (A_b)	0.11	0.20	0.31	0.44	0.60	0.79	1.00	1.27	1.56
	HEIGHT (in/ft)	0.376	0.668	1.043	1.502	2.044	2.670	3.400	4.309	5.313
	NOMINAL DIA (in/in²)	.375	.500	0.625	0.750	0.875	1.000	1.128	1.270	1.410

DEVELOPMENT LENGTH, L_d (LENGTH IN INCHES)

CONCRETE STRENGTH (PSI)										
2500	TYPICAL	18	24	30	36	53	60	68	77	86
3000 3500	TOP REINF²	24	32	39	47	69	78	88	100	112
	TYPICAL	16	21	26	31	45	51	58	65	72
4500	TOP REINF²	20	27	33	40	58	66	75	84	93
	TYPICAL	13	17	22	26	38	43	48	54	60
5000	TOP REINF²	17	23	28	34	49	56	63	71	78

LAP SPLICE LENGTH, L_d (LENGTH IN INCHES)

CONCRETE STRENGTH (PSI)										
2500	TYPICAL	23	31	39	47	69	78	88	100	111
3000 3500	TOP REINF²	31	42	51	61	90	101	114	130	145
	TYPICAL	21	27	34	40	59	66	75	86	94
4500	TOP REINF²	26	35	43	52	75	84	98	109	121
	TYPICAL	17	22	28	34	49	56	62	70	78
5000	TOP REINF²	22	30	36	44	64	73	82	92	101

STANDARD HOOKED DEVELOPMENT LENGTH, L_{dh} (LENGTH IN INCHES)

CONCRETE STRENGTH (PSI)										
	2500-3000	6	8	11	13	15	17	19	21	24
	3500-4500	6	7	9	11	12	14	16	18	20
	5000	6	6	7	9	10	12	13	15	17

BAR BENDS AND HOOKS (LENGTH IN INCHES)

STIRRUPS, TIES, HOOPS, AND CROSS-TIES	"D"		1 1/2	2	2 1/2	4 1/2	5 1/4	6		
	"L"	90° BEND	3	3	3 3/4	9	10 1/2	12		
		135° BEND	3	3	3 3/4	4 1/2	5 1/4	6		
		180° BEND	2 1/2	2 1/2	2 1/2	3	3 1/2	4		
OTHER THAN STIRRUPS, TIES, HOOPS, AND CROSS-TIES	"D"		2 1/4	3	3 3/4	4 1/2	5 1/4	6	9	10 1/4
	"L"	90° BEND	4 1/2	6	7 1/2	9	10 1/2	12	13 1/2	15 1/4
		180° BEND	2 1/2	2 1/2	2 1/2	3	3 1/2	4	4 1/2	5

									9	9 3/4
									11 1/2	11 1/4
									4 1/2	5

NOTES:
1. REINFORCEMENT TABLE IS BASED ON ACI 318
2. TOP REINF IS HORIZONTAL REINFORCEMENT PLACED SUCH THAT 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE.
3. FOR LAP SPLICES LAP LENGTH IS BASED ON NORMAL WEIGHT CONCRETE. FOR LIGHT WEIGHT CONCRETE MULTIPLY THE TENSION DEVELOPMENT AND SPLICE LENGTHS BY 1.3.
4. THE DEVELOPMENT AND LAP SPLICE SCHEDULE CAN BE USED FOR NON CONTACT LAP SPLICES WHEN BAR SPACING IS LESS THAN 6".
5. THE SCHEDULE ABOVE IS APPLICABLE FOR THE FOLLOWING CONDITIONS. IF THE FOLLOWING CONDITIONS ARE NOT MET MULTIPLY THE LENGTHS PROVIDED BY 1.5.
   - BARS NOT CONFINED BY TIES:
     - CLEAR SPACING OF DEVELOPED OR SPLICED BARS GREATER THAN OR EQUAL TO 2 TIMES THE BAR DIAMETER AND
     - CLEAR COVER GREATER THAN OR EQUAL TO BAR DIAMETER
   - BARS CONFINED BY TIES:
     - CLEAR SPACING OF DEVELOPED OR SPLICED BARS GREATER THAN OR EQUAL TO (2) TIMES THE BAR DIAMETER AND
     - CLEAR COVER GREATER THAN OR EQUAL TO BAR DIAMETER
6. USE 3 3/4" FOR CONCRETE BLOCK CONSTRUCTION
7. SPLICE AND DEVELOPMENT LENGTHS MAY BE USED FOR CONCRETE WITH DESIGN STRENGTHS LESS THAN OR EQUAL TO THE VALUE SHOWN IN THE TABLE

FF TYP REINFORCEMENT DETAILS & DEVELOPMENT

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PROJECT MANAGER:	PJ
DESIGNER:	LK
DRAWN BY:	GES
CHECKED BY:	PJ
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:

REGISTERED PROFESSIONAL ENGINEER
PHILIP JOSEPH
Exp. 06-30-24
STRUCTURAL
STATE OF CALIFORNIA

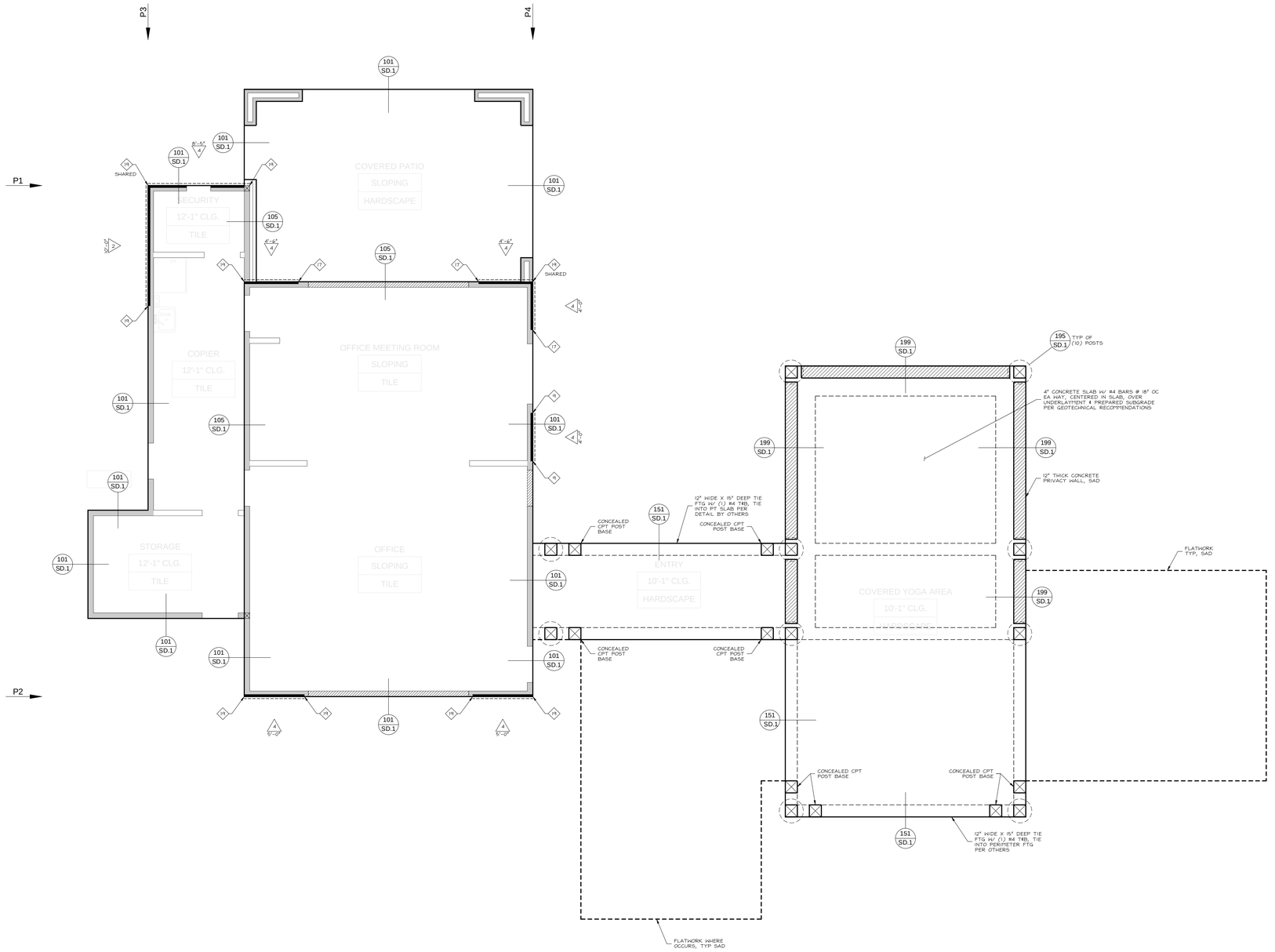
PLAN NUMBER:

SHEET TITLE:
STANDARD DETAILS

SCALE:

SHEET NUMBER:
SN.3

JOB NUMBER: H522244



GENERAL NOTES

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FOUNDATION NOTES

1. REFER TO SECTION 1.4 ON SHEET SN.1 FOR GENERAL FOUNDATION SPECIFICATIONS.
2. REFER TO CURB SPECIFICATIONS BY OTHERS ON FOUNDATION & ARCHITECTURAL PLANS, ALL CURBS SHALL MEET ALL NECESSARY ANCHORAGE REQUIREMENTS AND SHALL BE WIDENED TO EXTEND FULLY UNDER STRUCTURAL FRAMING.

GRAVITY LOADS

GRAVITY LOADS EXCEEDING 5K (D+L) ARE NOTED ON THE FOUNDATION PLAN. MINIMUM AND MAXIMUM EXTERIOR LINE LOADS ARE AS FOLLOWS:

MIN	D=200 PLF L= 40 PLF
MAX	D=550 PLF L= 350 PLF

ADDITIONALLY, VERTICAL LOADS FROM THE LATERAL SYSTEM ARE APPLIED AT HOLDOWN LOCATIONS, CORRESPONDING DESIGN LOADS ARE LISTED IN THE TABLE BELOW.

HOLDOWN SCHEDULE

TYPE	SIMPSON[1] TYPE	MIN[2] HD POST	HD TO POST CONNECTION	ANCHOR DIAMETER	DESIGN LOAD[3]
17	HDU4	4X	(10) SDS 1/4X2 1/2 SCREWS	5/8"	5.0K
19	HDU8	4X	(20) SDS 1/4X2 1/2 SCREWS	7/8"	8.0K
19A	HDU8	4X6 OR 6X6			
21	HDU14	4X8 OR 6X6	(36) SDS 1/4X2 1/2 SCREWS	1"	15.0K

1. SEE DETAIL CC/SN.3 FOR TYPICAL HOLDOWN INSTALLATION.
2. HOLDOWN POSTS TO MATCH WALL DEPTH. WHERE 4X6 & 6X6 OPTION IS GIVEN, INSTALL 4X6 IN A 4" WALL, 6X6 IN A 6" WALL.
3. UPLIFT CAN BE APPLIED IN UPWARD OR DOWNWARD DIRECTION.

SHEARWALL SCHEDULE[1]

TYPE	SILL[2] PLATE	ANCHOR SPACING[3,4] ANCHOR BOLTS	ANCHOR SPACING[3,4] MASA ANCHORS
2	2X	1/2"Ø X 10" @ 34" OC	34" OC
4	2X	1/2"Ø X 10" @ 16" OC	16" OC

1. SEE DETAIL C/SN.2 FOR TYPICAL SHEARWALL FRAMING ILLUSTRATION, DETAIL D/SN.2 FOR ALLOWABLE SHEARWALL PENETRATIONS.
2. 3X SILLS TO BE SINGLE MEMBERS AND REQUIRE STAGGERED NAILING. AT 3X SILL PLATES ANCHOR BOLTS ARE 12" LONG AND MASA ANCHORS ARE INSTALLED WITH (4) 10d NAILS.
3. EITHER ANCHOR TYPE MAY BE USED. MIN (2) ANCHORS PER SHEARWALL. SEE DETAIL GG/SN.3 FOR INSTALLATION REQUIREMENT. SEE SN.1, SECTION 2.1 FOR MISSED ANCHOR RETROFIT SPECIFICATIONS.
4. SEE SN.1 SECTION 1.4 FOR ANCHOR PLATE WASHER SPECIFICATIONS.

SYMBOLS LEGEND

- LENGTH — DENOTES SHEARWALL TYPE & MINIMUM LENGTH REQUIRED. REFER TO SHEARWALL SCHEDULE ON THIS SHEET.
- WHERE OCCURS, NHR = NO HOLDOWNS REQUIRED
- WHERE OCCURS, DENOTES ALIGNMENT WITH HOLDOWN ABOVE
- DENOTES HOLDOWN & POST SIZE REQUIRED AT END OF SHEARWALL. REFER TO HOLDOWN SCHEDULE ON THIS SHEET.
- DENOTES KEYNOTE SPECIFICATION. REFER TO KEYNOTE SCHEDULE ON THIS SHEET.
- DENOTES DETAIL REFERENCE.
- REFER TO DENOTED SHEET #.
- DENOTES INTERIOR BEARING WALL.
- DENOTES 2X PRESSURE TREATED SLEEPER EMBEDDED INTO CONCRETE. PROVIDE (2) 20d AT EACH END AND AT 24" OC, TYP AT DOORS WITH THRESHOLD.
- DENOTES PLUMBING FIXTURE (VERIFY EXACT LOCATION W/ ARCHITECTURAL PLANS).

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CLIENT:

PROJECT MANAGER:	PJ
DESIGNER:	LK
DRAWN BY:	GES
CHECKED BY:	PJ
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:

REGISTERED PROFESSIONAL ENGINEER — PAUL W. JOSLIN — No. S6650 — Exp. 09-30-24 — STRUCTURAL — STATE OF CALIFORNIA

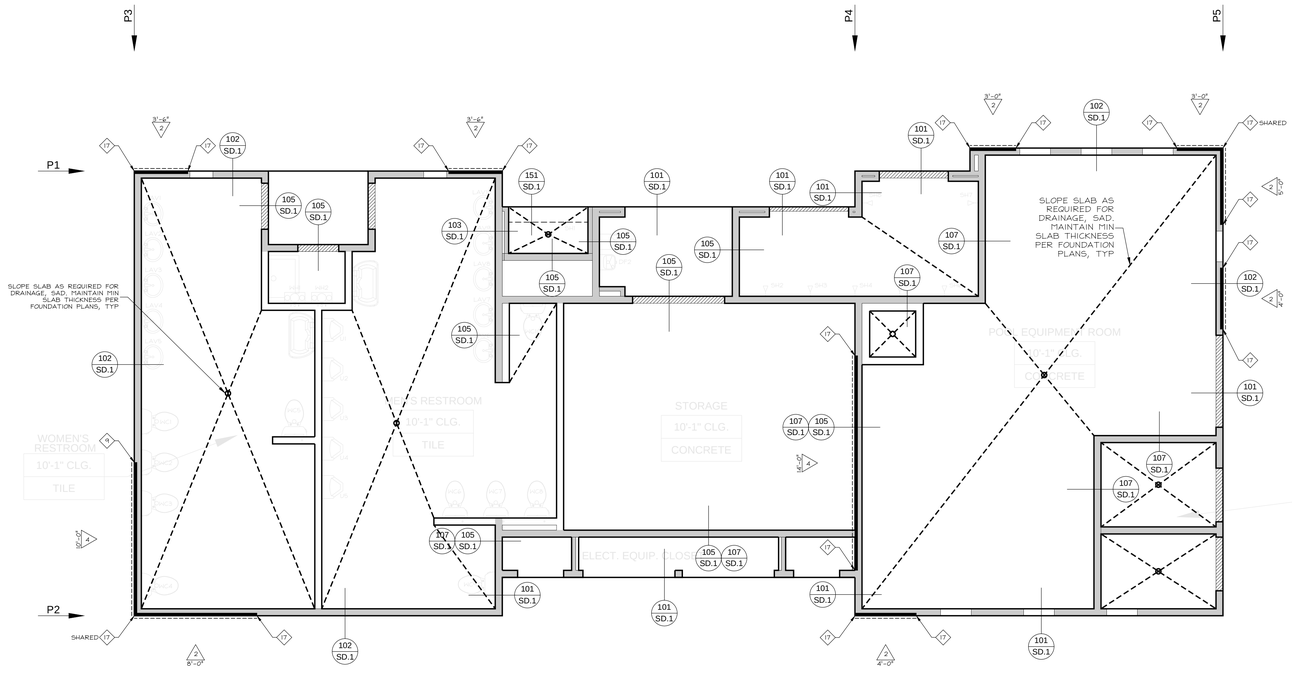
PLAN NUMBER: SEGMENT 1

SHEET TITLE: LEVEL 0 PLAN (FOUNDATION)

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

SHEET NUMBER: S1.1

JOB NUMBER: HS22244



GENERAL NOTES

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FOUNDATION NOTES

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GRAVITY LOADS

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1. SEE DETAIL GG/SN.3 FOR TYPICAL HOLDOWN INSTALLATION.
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SHEARWALL SCHEDULE[1]

TYPE	SILL[2] PLATE	ANCHOR SPACING[3,4] ANCHOR BOLTS	ANCHOR SPACING[3,4] MASA ANCHORS
2	2X	1/2"ø X 10" @ 34" OC	34" OC
4	2X	1/2"ø X 10" @ 16" OC	16" OC

1. SEE DETAIL C/SN.2 FOR TYPICAL SHEARWALL FRAMING ILLUSTRATION, DETAIL D/SN.2 FOR ALLOWABLE SHEARWALL PENETRATIONS.
2. 3X SILLS TO BE SINGLE MEMBERS AND REQUIRE STAGGERED NAILING. AT 3X SILL PLATES ANCHOR BOLTS ARE 12" LONG AND MASA ANCHORS ARE INSTALLED WITH (9) 10d NAILS.
3. EITHER ANCHOR TYPE MAY BE USED. MIN (2) ANCHORS PER SHEARWALL. SEE DETAIL GG/SN.3 FOR INSTALLATION REQUIREMENT. SEE SN.1 SECTION 2.1 FOR MISSED ANCHOR RETROFIT SPECIFICATIONS.
4. SEE SN.1 SECTION 1.4 FOR ANCHOR PLATE WASHER SPECIFICATIONS.

SYMBOLS LEGEND

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- DENOTES PLUMBING FIXTURE (VERIFY EXACT LOCATION W/ ARCHITECTURAL PLANS).

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PROJECT MANAGER:	PJ
DESIGNER:	LK
DRAWN BY:	QES
CHECKED BY:	PJ
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:
REGISTERED PROFESSIONAL ENGINEER — PAUL J. LUTHRINGER — No. S5884 — 09-30-24 — STRUCTURAL — STATE OF CALIFORNIA

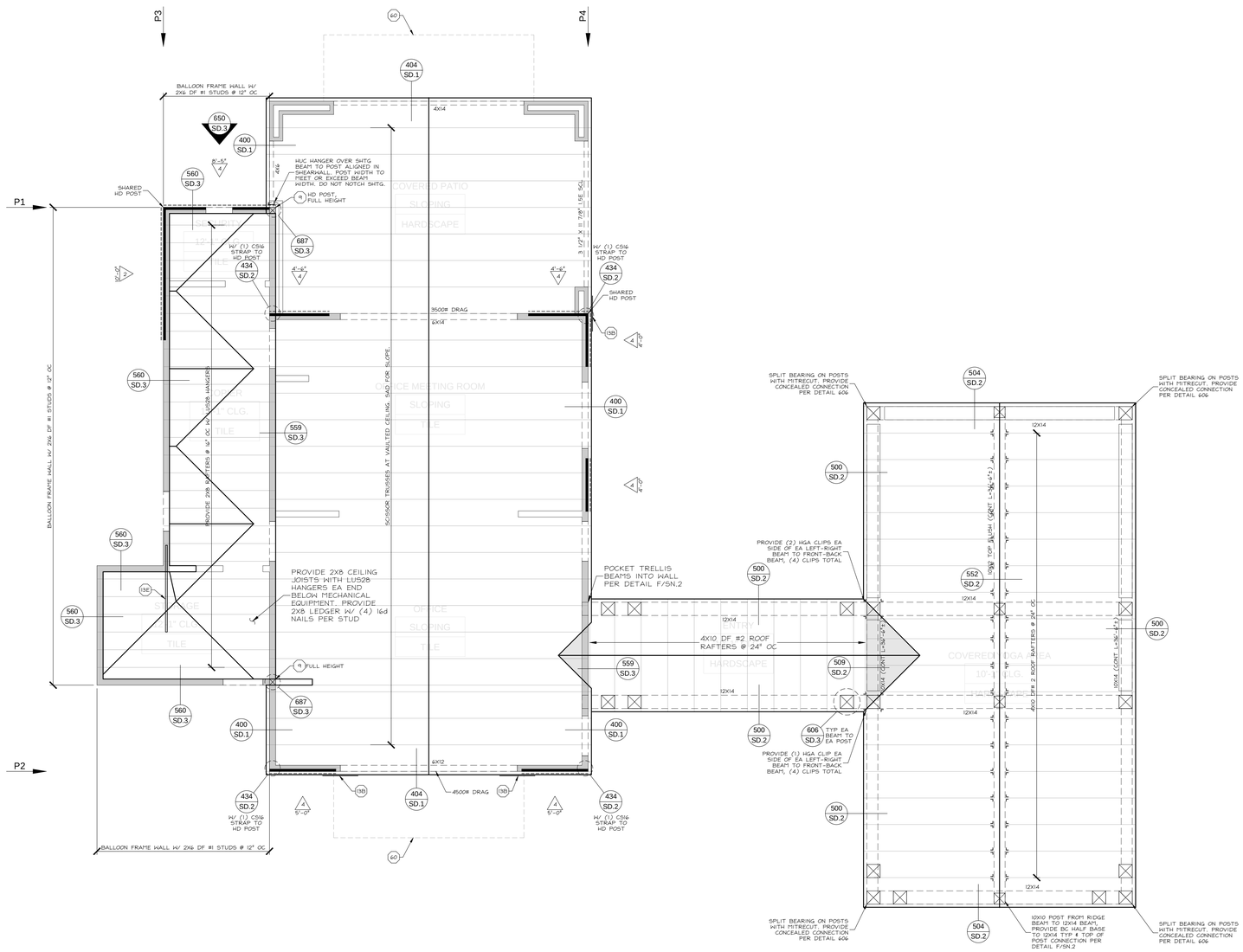
PLAN NUMBER: SEGMENT 2

SHEET TITLE: LEVEL 0 PLAN (FOUNDATION)

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

SHEET NUMBER: S1.1A

JOB NUMBER: H522244



KEYNOTES

- (9) 6X6 POST
- (13) CS16 STRAP TOP PLATE/BEAM TO TRUSS/DRAG MEMBER. SEE DETAIL 433/SD.2 FOR ACCEPTABLE CONNECTIONS. (SEE DETAIL 428 AT ALIGNED TRUSS CONDITION).
- (13D) CS16 STRAP TOP PLATE TO TOP PLATE WHERE TOP PLATES ARE NOT CONT LAPPED PER DETAIL B/SN.2. SEE DETAIL 645/SD.3:WHERE TOP FLUSH BEAM OCCURS.
- (13E) CS16 STRAP TOP PLATE/BEAM TO 2X FULL DEPTH BLKG OR BLKG PANELS BETWEEN TRUSSES. EXTEND STRAP UNDER BLKG AS DIMENSIONED ON PLAN. SEE DETAIL 417/SD.2
- (13F) CS16 STRAP OVER SHTG, BLKG PANELS TO 2X FLAT BLKG BETWEEN TRUSSES. EXTEND STRAP FULL LENGTH OF BLKG PANELS. SEE DETAIL 427/SD.2
- (14) (2) CS16 STRAPS TRUSS TO TOP PLATE/BEAM. SEE DETAIL 428/SD.2
- (21Z) (2) A35 CLIPS RIM/BEAM TO RIM/BEAM
- (29A) 2X WALL/RAKEWALL TO BE BUILT ON TOP OF ROOF SHTG. PROVIDE 2X BLKG BETWEEN TRUSSES OR ALIGN TRUSS/DBL RAFTER DIRECTLY BELOW RAKEWALL. COVER WALLS W/ SHTG PER SN.1, SECTION 6.2. TRUSS MFR TO ACCOUNT FOR ADDITIONAL LOADS. SEE DETAIL 429/SD.2 AS ALT HIGH HEEL VALLEY TRUSSES MAY BE USED IN LIEU OF RAKEWALL (SEE DETAIL 453).
- (29A) MANUFACTURED BLKG PANELS BETWEEN TRUSSES, TRUSS BOTTOM CHORDS TO ROOF SHTG. TRUSS MFR TO ALIGN TRUSS VERTICAL @ PANEL LOCATIONS. DESIGN EA PANEL TO TRANSFER 350 PLF. INSTALL ADDITIONAL STRAP FROM TOP OF TOP PLATE/BEAM TO BOTTOM OF BLKG PANELS. SEE DETAIL 419/SD.2.
- (54A) 3 1/2" WIDE 1.5E SCL BEAM, SAME DEPTH AS FLOOR.
- (54C) 5 1/4" WIDE 2.0E SCL BEAM,SAME DEPTH AS FLOOR.
- (60) PRE-FABRICATED AWNING/COVER, SAD. SEE DETAIL 620/SD.3 FOR STRUCTURAL SUPPORT REQUIREMENTS.

SHEARWALL SCHEDULE[1]

TYPE	APA RATED SHEATHING	FRAMING[2] AT ADJOINING PANEL EDGE	SOLE PLATE CONNECTION[3,4,6] TO BLOCKING[5]	TO RIM/BEAM[7]	TOP PLATE 4-7 CONNECTION TO RIM/BEAM/BLKG
2	3/8" ONE FACE W/ 8d @ 4" OC EDGE, 12" OC FIELD	2X	16d @ 4" OC	16d @ 4" OC	LTP CLIPS @ 12" OC OR 6" SDWC @ 16" OC
4	3/8" ONE FACE W/ 8d @ 2" OC EDGE 12" OC FIELD	3X	(2) ROWS 16d @ 4" OC OR (1) ROW SDWC @ 6" OC	16d @ 4" OC & LTP@ @ 16" OC OR SDWC @ 6" OC	LTP CLIPS @ 6" OC OR 6" SDWC @ 8" OC

1. SEE DETAIL C/SN.2 FOR TYPICAL SHEARWALL FRAMING ILLUSTRATION, DETAIL D/SN.2 FOR ALLOWABLE SHEARWALL PENETRATIONS.
2. 3X FRAMING MEMBERS TO BE SINGLE MEMBERS AND REQUIRE STAGGERED NAILING (SEE DETAIL C/SN.2). DOUBLE 2X MEMBERS SHALL BE CONNECTED W/ (2) ROWS 16d @ 6" OC STAGGERED, FULL HEIGHT.
3. SOLE PLATE TO BE 2X UNO ON PLAN. SOLE PLATE CONNECTION OCCURS ABOVE FOUNDATION PLATE LEVEL AT RAISED FLOOR AND/OR SECOND FLOOR APPLICATIONS ONLY. ALL SHEARWALL NAILING TO SOLE PLATE TO BE STAGGERED WHEN SPACING IS LESS THAN 4" OC. SOLE PLATE TO RIM/BEAM/BLKG CONNECTIONS MAY BE OMITTED WHERE SHTG IS LAPPED PER DETAIL H/SN.2
4. WHERE (2) ROWS OF SCREWS ARE SPECIFIED, PROVIDE DOUBLE 1 1/4" WIDE SCL RIM/BLOCK. 3 1/2" SCL AND DOUBLE 1 3/4" SCL ARE ACCEPTABLE ALTERNATIVES. DOUBLE RIM/BLOCK SHALL BE CONNECTED W/ (2) ROWS 16d @ 4" OC, STAGGERED.
5. AVERAGE SPACING TO BLOCKING IS NOTED. SCREW CONNECTIONS TO BLOCKS SHALL HAVE MIN 3" END DISTANCE AND MIN 3" SPACING.
6. LTP CLIPS MAY BE EITHER LTP4 OR LTP5 INSTALLED IN THE HORIZONTAL ORIENTATION. WHERE CLIPS ARE REQUIRED ON EA FACE RIM/BLKG TO BE SAME WIDTH AS WALL UNO. SCREWS (SIMPSON HARDWARE ONLY) ARE TO BE INSTALLED FROM UNDERSIDE OF DOUBLE 2X TOP PLATES INTO BOTT OF RIM/BEAM/BLOCKING.
7. CONNECTION MAY BE OMITTED WHERE SHEAR IS LAPPED PER DETAIL H/SN.2, PROVIDE MIN 16d @ 12" OC SOLE PLATE TO RIM. AT DBL-SIDED SHEARWALLS WHERE SHTG IS LAPPED ON ONLY (1) SIDE OF THE WALL IT IS ACCEPTABLE TO ELIMINATE CLIPS ON (1) SIDE OF THE WALL OR DOUBLE THE SPECIFIED NAILING/SCREW SPACING

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WALL FRAMING NOTES

1. UNO FRAME ALL WALLS CONTINUOUS FROM FLOOR/FOUNDATION TO UNDERSIDE OF FLOOR/ROOF FRAMING PER BEARING WALL STUD SCHEDULE & DETAIL B/SN.2.
2. COVER ALL EXTERIOR WALLS WITH SHTG PER SN.1, SECTION 6.2 UNO AT SHEARWALL LOCATIONS OR AS NOTED ON PLANS.

LEVEL 1 BEARING WALL STUD SCHEDULE

PLATE HEIGHT	LOCATION	SIZE & SPEC [1,2]
10'-1 1/2" PLATE	INTERIOR	2X4 #2 DF @ 16" OC OR 2X6 STUD @ 16" OC
	EXTERIOR	2X4 #2 DF @ 16" OC OR 2X6 STUD @ 16" OC
12'-1 1/2" PLATE	INTERIOR	2X4 #2 DF @ 16" OC OR 2X6 STUD @ 16" OC
	EXTERIOR	(2) 2X4 #2 DF @ 16" OC OR 2X6 STUD @ 16" OC

1. UNLESS NOTED OTHERWISE
2. ALL 2X STUDS TO BE SAME DEPTH AS WALL.

LEVEL 1 KING STUD SCHEDULE

PLATE HEIGHT	OPENING[1] WIDTH	KING STUDS [2,3,4]
10'-1 1/2" PLATE (1-COAT STUCCO OR SIDING)	3'-0" MAX	(1) 2X4 OR (1) 2X6
	4'-0" MAX	(1) 2X4 OR (2) 2X4 OR (2) 2X6
	8'-0" MAX	(2) 2X4 OR (3) 2X4 OR (1) 4X4 OR (1) 2X6
	10'-0" MAX	(2) 2X4 OR (4) 2X4 OR (1) 4X6 OR (1) 2X6
	12'-0" MAX	(3) 2X4 OR (1) 4X4 OR (4) 2X4 OR (1) 4X6 OR (1) 2X6
	16'-0" MAX	(4) 2X4 OR (1) 4X6 OR (3) 2X4 OR (1) 4X8 OR (2) 2X6
12'-1 1/2" PLATE (1-COAT STUCCO OR SIDING)	8'-0" MAX	(1) 2X6
	12'-0" MAX	(2) 2X6
	16'-0" MAX	(2) 2X6

1. FOR BACK TO BACK OPENINGS W/ A FULL HEIGHT CENTER KING, SIZE CENTER KING FOR SUM OF OPENING WIDTHS (EXAMPLE: (2) 3'-0" OPENINGS + KING FOR A 6'-0" OPENING)
2. 1-COAT/SIDING WALLS ARE DESIGNED W/ A DEFLECTION LIMIT OF L/240. 3-COAT WALLS ARE DESIGNED W/ A DEFLECTION LIMIT OF L/360. OWNER/CONTRACTOR TO VERIFY MATERIAL DEFLECTION REQUIREMENTS FOR ALL OTHER FINISHES.
3. PROVIDE THE FOLLOWING AT NON-STANDARD CONDITIONS PER, UNO: GARAGE DOOR & PORCH HEADERS: (2) 2X KING STUDS; INTERIOR & GARAGE/HOUSE WALLS: (1) 2X KING AT OPENINGS UP TO 12' WIDE & (2) 2X KINGS AT OPENINGS UP TO 16' WIDE.
4. SEE SECTION 6.3 ON SHEET SN.1 FOR ADDITIONAL FRAMING CONNECTION REQUIREMENTS.

LEVEL 1 BEARING WALL HEADER SCHEDULE

OPENING	SIZE & SPEC [1,2,3]
3'-0" MAX	(2) 2X6 OR 4X6 OR 6X6
5'-0" MAX	(2) 2X8 OR 4X8 OR 6X6
6'-0" MAX	(2) 2X10 OR 4X8 OR 6X8

1. UNO SEE SN.1, SECTION 6.1 FOR MIN DESIGN STRENGTHS.
2. 4X HEADER MAY BE USED IN 2X6 WALL. INSTALL FLUSH WITH EXTERIOR FACE OF WALL UNO.
3. INSTALL (1) 2X TRIMMER (MIN WIDTH AS HEADER) AT EA END OF HEADER UNO.
4. SUPPORTS GABLE END TRUSS ONLY; DOES NOT APPLY WHERE FLOOR OCCURS ABOVE.
5. SEE DETAIL T/SN.2 FOR INSULATED HEADER FRAMING, WHERE REQUIRED.

ROOF FRAMING NOTES

1. REFER TO SECTION 1.6 ON SHEET SN.1 FOR GENERAL ROOF FRAMING SPECIFICATIONS. ALL FRAMING MEMBERS IN THIS SECTION ARE TYPICAL FOR THE CONDITION LISTED. REFER TO PLANS FOR ALTERNATE SPECIFICATIONS WHERE REQUIRED IN SPECIFIC LOCATIONS.
2. SEE DETAIL P/SN.2 FOR ALLOWABLE SPACING ADJUSTMENTS.

TYPICAL ROOF FRAMING:
PRE-MANUFACTURED ROOF TRUSSES BY TRUSS MANUFACTURER @ 24" OC, TYP. SEE SN.1, SECTION 6.7 FOR DESIGN, MATERIAL, & SHOP DRAWING REQUIREMENTS. ALL TRUSS TO TRUSS CONNECTIONS SHALL BE PROVIDED BY THE TRUSS MANUFACTURER. TRUSS TO BUILDING CONNECTIONS SHALL BE AS FOLLOWS:

SINGLE-PLY NON-GIRDER
(MAX 8' SPAN) LUS24*
(GREATER THAN 8' SPAN) HUS26
SINGLE-PLY GIRDER HUS26
TWO-PLY GIRDER HGUS26-2
THREE-PLY GIRDER HGUS26-3

* OR PRESSURE BLOCKING: (4) 16d BLOCK TO CARRIER TRUSS, (2) 16d TOE NAILS BC TO CARRIER, (2) 16d END NAILS BC TO BLOCK.

SYMBOLS LEGEND

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- WHERE OCCURS, NHR = NO HOLDOWNS REQUIRED
- WHERE OCCURS, DENOTES ALIGNMENT WITH HOLDOWN ABOVE
- DENOTES HOLDOWN & POST SIZE REQUIRED AT END OF SHEARWALL. REFER TO HOLDOWN SCHEDULE ON THIS SHEET (WHERE OCCURS).
- WHERE OCCURS, DENOTES ALIGNMENT WITH HOLDOWN BELOW
- DENOTES KEYNOTE SPECIFICATION. REFER TO KEYNOTE SCHEDULE ON THIS SHEET.
- DENOTES DETAIL REFERENCE.
- REFER TO DENOTED SHEET #.
- DENOTES DETAIL REFERENCE IS AN ELEVATION.
- REFER TO DENOTED SHEET #.
- DENOTES LOCATION OF OVERFRAMING/VALLEY TRUSSES. SEE DETAIL A/SN.2
- DENOTES EXTENTS OF CONTINUOUS 2X BACKING. REFER TO APPLICABLE DETAIL.
- DENOTES EXTENTS OF BLOCKED & EDGE NAILED DIAPHRAGM. REFER TO APPLICABLE KEYNOTE.
- DENOTES BEARING WALL.
- DENOTES SHEATHING REQUIRED AT NON-SHEARWALL LOCATION. COVER WALL FULL HEIGHT. SHEATHING THICKNESS AND NAILING AS NOTED ON PLAN
- WHERE OCCURS, DENOTES WALL ABOVE.
- DENOTES INTERIOR NON-BEARING WALL.
- DENOTES BEAM OR HEADER. REFER TO BEAM SCHEDULE/BEARING WALL HEADER SCHEDULE ON THIS SHEET.
- DENOTES PLUMBING FIXTURE ABOVE (VERIFY EXACT LOCATION W/ ARCHITECTURAL PLANS). ADJUST FRAMING LAYOUT AS REQUIRED. SEE DETAIL D/SN.2 FOR ALLOWABLE ADJUSTMENTS.
- ATTIC ACCESS PER ARCHITECT W/ MIN 30" HEADROOM. PROVIDE 2X LADDER FRAMING @ 24" OC WHERE FRAMING BAY EXCEEDS 27". TRUSS MFR TO PROVIDE ADD'L FRAMING AS REQUIRED TO CENTER/LOCATE ACCESS AND MAINTAIN MAX SPACING, SAD.

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92008

PROJECT MANAGER:	PJ
DESIGNER:	LK
DRAWN BY:	GES
CHECKED BY:	PJ
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:

REGISTERED PROFESSIONAL ENGINEER — PAUL JOHNSON — No. S6050 — Exp. 6/30/24 — STRUCTURAL — STATE OF CALIFORNIA

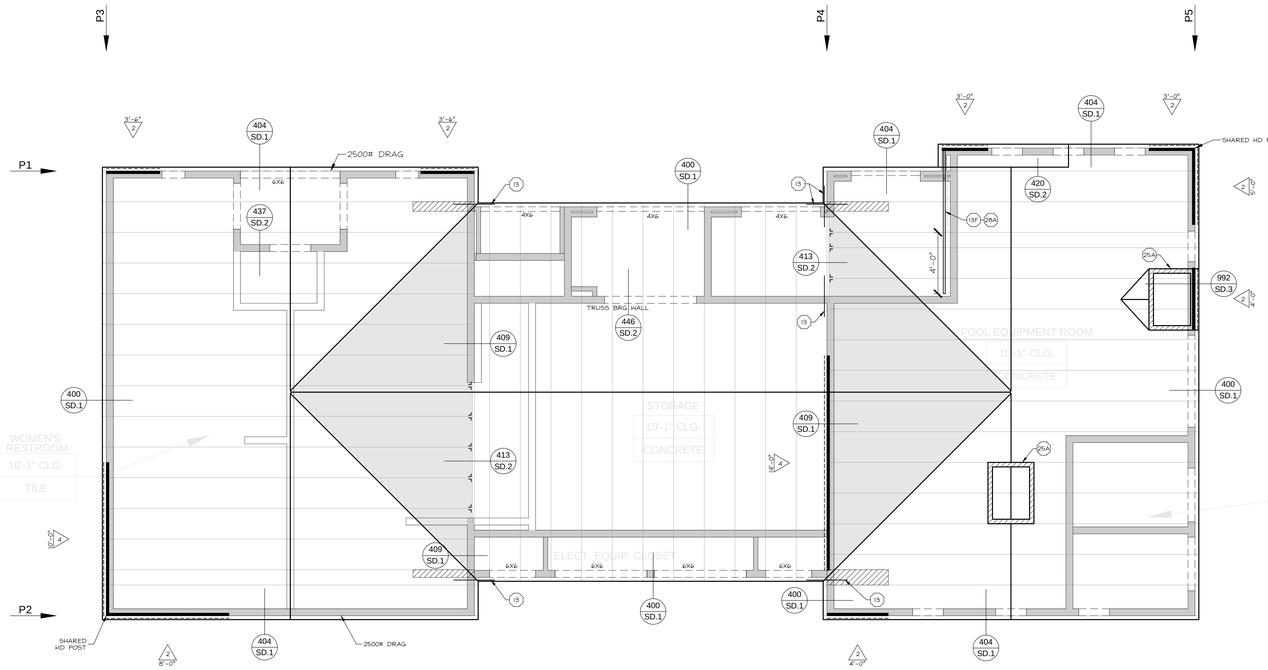
PLAN NUMBER: SEGMENT 1

SHEET TITLE: LEVEL 1 PLAN (ROOF FRAMING)

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

SHEET NUMBER: S1.2

JOB NUMBER: H522244



GENERAL NOTES

1. IT IS THE CONTRACTORS/OWNERS/DEVELOPERS RESPONSIBILITY TO REVIEW ALL NOTES AND DETAILS ON THE SN & SD SHEETS AND INCORPORATE IN THE CONSTRUCTION OF THE STRUCTURE.
2. PRIOR TO BUILDING DEPARTMENT APPROVAL, THESE CONSTRUCTION DOCUMENTS ARE SUBJECT TO CHANGE AND SHALL NOT BE USED FOR CONSTRUCTION. ANY CONSTRUCTION/BIDS PERFORMED BEFORE PERMIT ISSUANCE IS THE RESPONSIBILITY OF THE CONTRACTOR/BIDDER.

WALL FRAMING NOTES

1. UNO FRAME ALL WALLS CONTINUOUS FROM FLOOR/FOUNDATION TO UNDERSIDE OF FLOOR/ROOF FRAMING PER BEARING WALL STUD SCHEDULE & DETAIL B/SN.2.
2. COVER ALL EXTERIOR WALLS WITH SHTG PER SN.1, SECTION 6.2 UNO AT SHEARWALL LOCATIONS OR AS NOTED ON PLANS.

LEVEL 1 BEARING WALL STUD SCHEDULE

PLATE HEIGHT	LOCATION	SIZE & SPEC [1,2]
10'-1 1/2" PLATE	INTERIOR	2X4 #2 DF @ 16" OC OR 2X6 STUD @ 16" OC
	EXTERIOR	2X4 #2 DF @ 16" OC OR 2X6 STUD @ 16" OC
12'-1 1/2" PLATE	INTERIOR	2X4 #2 DF @ 16" OC OR 2X6 STUD @ 16" OC
	EXTERIOR	(2) 2X4 #2 DF @ 16" OC OR 2X6 STUD @ 16" OC

1. UNLESS NOTED OTHERWISE
2. ALL 2X STUDS TO BE SAME DEPTH AS WALL.

LEVEL 1 KING STUD SCHEDULE

PLATE HEIGHT	OPENING WIDTH [1]	KING STUDS [2,3,4]
10'-1 1/2" PLATE (1-COAT STUCCO OR SIDING)	3'-0" MAX	(1) 2X4 OR (1) 2X6
	4'-0" MAX	(1) 2X4 OR (2) 2X4 OR (2) 2X6
	8'-0" MAX	(2) 2X4 OR (3) 2X4 OR (1) 4X4 OR (1) 2X6
	10'-0" MAX	(2) 2X4 OR (4) 2X4 OR (1) 4X6 OR (1) 2X6
	12'-0" MAX	(3) 2X4 OR (1) 4X4 OR (4) 2X4 OR (1) 4X6 OR (1) 2X6
	16'-0" MAX	(4) 2X4 OR (1) 4X6 OR (5) 2X4 OR (1) 4X8 OR (2) 2X6
12'-1 1/2" PLATE (1-COAT STUCCO OR SIDING)	5'-0" MAX	(1) 2X6
	12'-0" MAX	(2) 2X6
	16'-0" MAX	(2) 2X6

1. FOR BACK TO BACK OPENINGS W/ A FULL HEIGHT CENTER KING, SIZE CENTER KING FOR SUM OF OPENING WIDTHS (EXAMPLE: (2) 3'-0" OPENINGS = KING FOR A 6'-0" OPENING)
2. 1-COAT/SIDING WALLS ARE DESIGNED W/ A DEFLECTION LIMIT OF L/240. 3-COAT WALLS ARE DESIGNED W/ A DEFLECTION LIMIT OF L/360. OWNER/CONTRACTOR TO VERIFY MATERIAL DEFLECTION REQUIREMENTS FOR ALL OTHER FINISHES.
3. PROVIDE THE FOLLOWING AT NON-STANDARD CONDITIONS MIN. UNO: GARAGE DOOR & PORCH HEADERS: (2) 2X KING STUDS; INTERIOR & GARAGE/HOUSE WALLS: (1) 2X KING AT OPENINGS UP TO 12' WIDE & (2) 2X KINGS AT OPENINGS UP TO 16' WIDE.
4. SEE SECTION 6.3 ON SHEET SN.1 FOR ADDITIONAL FRAMING CONNECTION REQUIREMENTS.

LEVEL 1 BEARING WALL HEADER SCHEDULE

OPENING	SIZE & SPEC [1,2,3]
3'-0" MAX	(2) 2X6 OR 4X6 OR 6X6
5'-0" MAX	(2) 2X8 OR 4X8 OR 6X6
6'-0" MAX	(2) 2X10 OR 4X8 OR 6X8

1. UNO, SEE SN.1, SECTION 6.1 FOR MIN DESIGN STRENGTHS.
2. 4X HEADER MAY BE USED IN 2X6 WALL. INSTALL FLUSH WITH EXTERIOR FACE OF WALL UNO.
3. INSTALL (1) 2X TRIMMER (MIN WIDTH AS HEADER) AT EA END OF HEADER UNO.
4. SUPPORTS GABLE END TRUSS ONLY; DOES NOT APPLY WHERE FLOOR OCCURS ABOVE.
5. SEE DETAIL T/SN.2 FOR INSULATED HEADER FRAMING, WHERE REQUIRED.

ROOF FRAMING NOTES

1. REFER TO SECTION 1.6 ON SHEET SN.1 FOR GENERAL ROOF FRAMING SPECIFICATIONS. ALL FRAMING MEMBERS IN THIS SECTION ARE TYPICAL FOR THE CONDITION LISTED. REFER TO PLANS FOR ALTERNATE SPECIFICATIONS WHERE REQUIRED IN SPECIFIC LOCATIONS.
2. SEE DETAIL P/SN.2 FOR ALLOWABLE SPACING ADJUSTMENTS.

TYPICAL ROOF FRAMING:
PRE-MANUFACTURED ROOF TRUSSES BY TRUSS MANUFACTURER @ 24" OC, TYP. SEE SN.1, SECTION 6.7 FOR DESIGN, MATERIAL, & SHOP DRAWING REQUIREMENTS. ALL TRUSS TO TRUSS CONNECTIONS SHALL BE PROVIDED BY THE TRUSS MANUFACTURER. TRUSS TO BUILDING CONNECTIONS SHALL BE AS FOLLOWS:

SINGLE-PLY NON-GIRDER
(MAX 8' SPAN) ..... LUS24+
(GREATER THAN 8' SPAN) HUS26
SINGLE-PLY GIRDER HUS26
TWO-PLY GIRDER HGUS26-2
THREE-PLY GIRDER HGUS28-3

+ OR PRESSURE BLOCKING: (4) 16d BLOCK TO CARRIER TRUSS, (2) 16d TOE NAILS BC TO CARRIER, (2) 16d END NAILS BC TO BLOCK.

KEYNOTES

- (4) 6X6 POST
- (13) CS16 STRAP TOP PLATE/BEAM TO TRUSS/DRAG MEMBER. SEE DETAIL 433/SD.2 FOR ACCEPTABLE CONNECTIONS. (SEE DETAIL 428 AT ALIGNED TRUSS CONDITION).
- (13D) CS16 STRAP TOP PLATE TO TOP PLATE WHERE TOP PLATES ARE NOT CONT LAPPED PER DETAIL B/SN.2. SEE DETAIL 645/SD.3=WHERE TOP FLUSH BEAM OCCURS.
- (13Z) CS16 STRAP TOP PLATE/BEAM TO 2X FULL DEPTH BLKG OR BLKG PANELS BETWEEN TRUSSES. EXTEND STRAP UNDER BLKG AS DIMENSIONED ON PLAN. SEE DETAIL 417/SD.2
- (13F) CS16 STRAP OVER SHTG, BLKG PANELS TO 2X FLAT BLKG BETWEEN TRUSSES. EXTEND STRAP FULL LENGTH OF BLKG PANELS. SEE DETAIL 427/SD.2
- (14) (2) CS16 STRAPS TRUSS TO TOP PLATE/BEAM. SEE DETAIL 428/SD.2
- (21Z) (2) A35 CLIPS RIM/BEAM TO RIM/BEAM
- (25A) 2X WALL/RAKEWALL TO BE BUILT ON TOP OF ROOF SHTG. PROVIDE 2X BLKG BETWEEN TRUSSES OR ALIGN TRUSS/DBL RAFTER DIRECTLY BELOW RAKEWALL. COVER WALLS W/ SHTG PER SN.1, SECTION 6.2. TRUSS MFR TO ACCOUNT FOR ADDITIONAL LOADS. SEE DETAIL 429/SD.2 AS ALT HIGH HEEL VALLEY TRUSSES MAY BE USED IN LIEU OF RAKEWALL (SEE DETAIL 453).
- (28A) MANUFACTURED BLKG PANELS BETWEEN TRUSSES, TRUSS BOTTOM CHORDS TO ROOF SHTG. TRUSS MFR TO ALIGN TRUSS VERTICAL @ PANEL LOCATIONS. DESIGN EA PANEL TO TRANSFER 350 PLF. INSTALL ADDITIONAL STRAP FROM TOP OF TOP PLATE/BEAM TO BOTTOM OF BLKG PANELS. SEE DETAIL 419/SD.2.
- (34A) 3 1/2" WIDE 1.5E SCL BEAM, SAME DEPTH AS FLOOR.
- (34C) 5 1/4" WIDE 2.0E SCL BEAM,SAME DEPTH AS FLOOR.
- (60) PRE-FABRICATED AWNING/COVER, SAD. SEE DETAIL 620/SD.3 FOR STRUCTURAL SUPPORT REQUIREMENTS.

SHEARWALL SCHEDULE[1]

TYPE	APA RATED SHEATHING	FRAMING[2] MEMBERS & ADJOINING PANEL EDGE	SOLE PLATE CONNECTION[3,4,5] TO BLOCKING[6]	TO RIM/BEAM[7]	TOP PLATE CONNECTION TO RIM/BEAM/BLKG [4-7]
2	3/8" ONE FACE W/ 8d @ 4" OC EDGE, 12" OC FIELD	2X	16d @ 4" OC	16d @ 4" OC	LTP CLIPS @ 12" OC OR 6" SDWC @ 16" OC
4	3/8" ONE FACE W/ 8d @ 2" OC EDGE 12" OC FIELD	3X	(2) ROWS 16d @ 6" OC OR (2) ROWS @ 10d @ 4" OC	16d @ 4" OC & LTP5 @ 16" OC OR 6" SDWC @ 6" OC	LTP CLIPS @ 6" OC OR 6" SDWC @ 8" OC

1. SEE DETAIL C/SN.2 FOR TYPICAL SHEARWALL FRAMING ILLUSTRATION, DETAIL D/SN.2 FOR ALLOWABLE SHEARWALL PENETRATIONS.
2. 3X FRAMING MEMBERS TO BE SINGLE MEMBERS AND REQUIRE STAGGERED NAILING (SEE DETAIL C/SN.2). DOUBLE 2X MEMBERS SHALL BE CONNECTED W/ (2) ROWS 16d @ 6" OC STAGGERED, FULL HEIGHT.
3. SOLE PLATE TO BE 2X UNO ON PLAN. SOLE PLATE CONNECTION OCCURS ABOVE FOUNDATION PLATE LEVEL AT RAISED FLOOR AND/OR SECOND FLOOR APPLICATIONS ONLY. ALL SHEARWALL NAILING TO SOLE PLATE TO BE STAGGERED WHEN SPACING IS LESS THAN 4" OC. SOLE PLATE TO RIM/BEAM/BLKG CONNECTIONS MAY BE OMITTED WHERE SHTG IS LAPPED PER DETAIL H/SN.2
4. WHERE (2) ROWS OF SCREWS ARE SPECIFIED, PROVIDE DOUBLE 1 1/4" WIDE SCL RIM/BLOCK, 3 1/2" SCL AND DOUBLE 1 3/4" SCL ARE ACCEPTABLE ALTERNATIVES. DOUBLE RIM/BLOCK SHALL BE CONNECTED W/ (2) ROWS 16d @ 4" OC, STAGGERED.
5. AVERAGE SPACING TO BLOCKING IS NOTED. SCREW CONNECTIONS TO BLOCKS SHALL HAVE MIN 3" END DISTANCE AND MIN 3" SPACING.
6. LTP CLIPS MAY BE EITHER LTP4 OR LTP5 INSTALLED IN THE HORIZONTAL ORIENTATION. WHERE CLIPS ARE REQUIRED ON EA FACE RIM/BLKG TO BE SAME WIDTH AS WALL UNO. SCREWS (SIMPSON HARDWARE ONLY) ARE TO BE INSTALLED FROM UNDERSIDE OF DOUBLE 2X TOP PLATES INTO BOTT OF RIM/BEAM/BLOCKING.
7. CONNECTION MAY BE OMITTED WHERE SHEAR IS LAPPED PER DETAIL H/SN.2, PROVIDE MIN 16d @ 12" OC SOLE PLATE TO RIM. AT DBL-SIDED SHEARWALLS WHERE SHTG IS LAPPED ON ONLY (1) SIDE OF THE WALL IT IS ACCEPTABLE TO ELIMINATE CLIPS ON (1) SIDE OF THE WALL OR DOUBLE THE SPECIFIED NAILING/SCREW SPACING.

SYMBOLS LEGEND

- LENGTH — DENOTES SHEARWALL TYPE & MINIMUM LENGTH REQUIRED. REFER TO SHEARWALL SCHEDULE ON THIS SHEET.
- WHERE OCCURS, NHR = NO HOLDOWNS REQUIRED
- WHERE OCCURS, DENOTES ALIGNMENT WITH HOLDOWN ABOVE
- DENOTES HOLDOWN & POST SIZE REQUIRED AT END OF SHEARWALL. REFER TO HOLDOWN SCHEDULE ON THIS SHEET (WHERE OCCURS).
- WHERE OCCURS, DENOTES ALIGNMENT WITH HOLDOWN BELOW
- DENOTES KEYNOTE SPECIFICATION. REFER TO KEYNOTE SCHEDULE ON THIS SHEET.
- DENOTES DETAIL REFERENCE.
- REFER TO DENOTED SHEET #.
- DENOTES DETAIL REFERENCE IS AN ELEVATION.
- REFER TO DENOTED SHEET #.
- DENOTES LOCATION OF OVERFRAMING/VALLEY TRUSSES. SEE DETAIL A/SN.2
- DENOTES EXTENTS OF CONTINUOUS 2X BACKING. REFER TO APPLICABLE DETAIL.
- DENOTES EXTENTS OF BLOCKED & EDGE NAILED DIAPHRAGM. REFER TO APPLICABLE KEYNOTE.
- DENOTES BEARING WALL.
- DENOTES SHEATHING REQUIRED AT NON-SHEARWALL LOCATION. COVER WALL FULL HEIGHT. SHEATHING THICKNESS AND NAILING AS NOTED ON PLAN
- WHERE OCCURS, DENOTES WALL ABOVE.
- DENOTES INTERIOR NON-BEARING WALL.
- DENOTES BEAM OR HEADER. REFER TO BEAM SCHEDULE/BEARING WALL HEADER SCHEDULE ON THIS SHEET.
- DENOTES PLUMBING FIXTURE ABOVE (VERIFY EXACT LOCATION W/ ARCHITECTURAL PLANS). ADJUST FRAMING LAYOUT AS REQUIRED. SEE DETAIL D/SN.2 FOR ALLOWABLE ADJUSTMENTS.
- ATTIC ACCESS PER ARCHITECT W/ MIN 30" HEADROOM. PROVIDE 2X LADDER FRAMING @ 24" OC WHERE FRAMING BAY EXCEEDS 27". TRUSS MFR TO PROVIDE ADDL FRAMING AS REQUIRED TO CENTER/LOCATE ACCESS AND MAINTAIN MAX SPACING, SAD.

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CLIENT:
HOMEFED CORPORATION
1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER:	PJ
DESIGNER:	LK
DRAWN BY:	QES
CHECKED BY:	PJ
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:
REGISTERED PROFESSIONAL ENGINEER — PAUL JUSTICE — No. S-6250 — STRUCTURAL — STATE OF CALIFORNIA

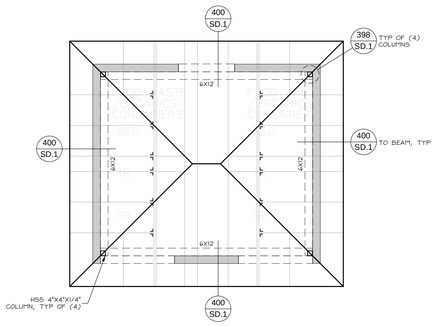
PLAN NUMBER: SEGMENT 2

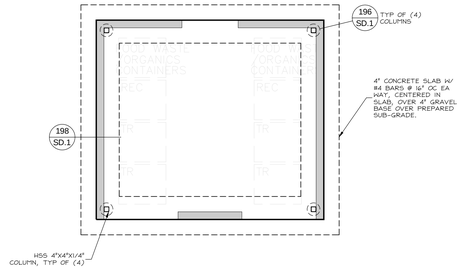
SHEET TITLE:
LEVEL 1 PLAN (ROOF FRAMING)

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

SHEET NUMBER:
S1.2A

JOB NUMBER: H522244





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TYPICAL ROOF FRAMING:
PRE-MANUFACTURED ROOF TRUSSES BY TRUSS MANUFACTURER @ 24" OC, TYP. SEE SN.1, SECTION 6.7 FOR DESIGN, MATERIAL, & SHOP DRAWING REQUIREMENTS. ALL TRUSS TO TRUSS CONNECTIONS SHALL BE PROVIDED BY THE TRUSS MANUFACTURER. TRUSS TO BUILDING CONNECTIONS SHALL BE AS FOLLOWS:

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(MAX 8' SPAN) LUS24*
(GREATER THAN 8' SPAN) HUS26
SINGLE-PLY GIRDER HUS26
TWO-PLY GIRDER HGUS26-2
THREE-PLY GIRDER HGUS26-3

* OR PRESSURE BLOCKING: (4) 16d BLOCK TO CARRIER TRUSS, (2) 16d TOE NAILS BC TO CARRIER, (2) 16d END NAILS BC TO BLOCK.

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- DENOTES KEYNOTE SPECIFICATION. REFER TO KEYNOTE SCHEDULE ON THIS SHEET.
- DENOTES DETAIL REFERENCE.
- REFER TO DENOTED SHEET #.
- DENOTES BEARING WALL.
- DENOTES 2X PRESSURE TREATED SLEEPER EMBEDDED INTO CONCRETE. PROVIDE (2) 20d AT EACH END AND AT 24" OC, TYP AT DOORS WITH THRESHOLD.
- DENOTES PLUMBING FIXTURE (VERIFY EXACT LOCATION W/ ARCHITECTURAL PLANS).
- DENOTES CONTINUOUS EXTERIOR FOOTING, REFER TO FOUNDATION SPECIFICATIONS ON THIS SHEET.
- DENOTES CONTINUOUS FOOTING WITH STEMWALL, REFER TO FOUNDATION SPECIFICATIONS ON THIS SHEET.
- DENOTES CONTINUOUS INTERIOR FOOTING, REFER TO FOUNDATION SPECIFICATIONS ON THIS SHEET.

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DESIGNER:	LK
DRAWN BY:	GES
CHECKED BY:	PJ
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:
REGISTERED PROFESSIONAL ENGINEER — PHILIP J. JOHNSON — No. S6850 — EXP. 09-30-24 — STRUCTURAL — STATE OF CALIFORNIA

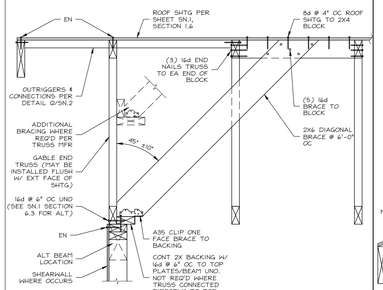
PLAN NUMBER: TRASH ENCLOSURE

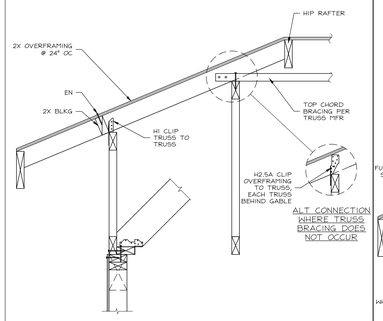
SHEET TITLE:
LEVEL 0 PLAN (FOUNDATION) & LEVEL 1 PLAN (ROOF FRAMING)

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

SHEET NUMBER:
S2.1

JOB NUMBER: H522244



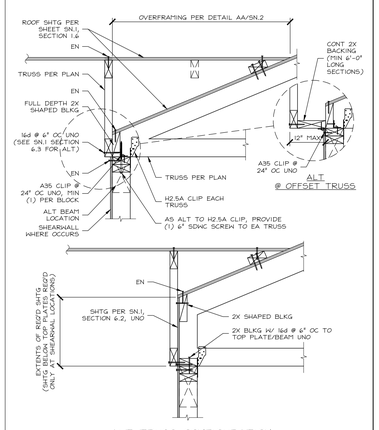


ALT CONNECTION WHERE TRUSS BRACING DOES NOT OCCUR

ALT AT CLIPPED GABLE

WRT-404-00

404 | TYPICAL GABLE END

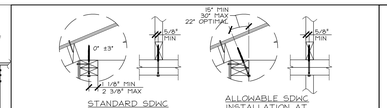


ALT TRUSS CONFIGURATION

ALT HIP TRUSS CONFIGURATION

WRT-409-00

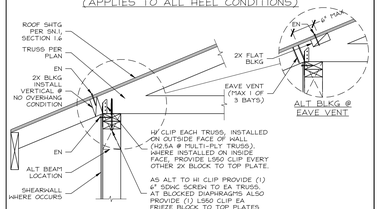
409 | ROOF FRAMING AT INTERIOR - PERPENDICULAR



STANDARD SDWC INSTALLATION

ALLOWABLE SDWC INSTALLATION AT (1) OF 4 TRUSSES

TYP SDWC INSTALLATION (APPLIES TO ALL HEEL CONDITIONS)

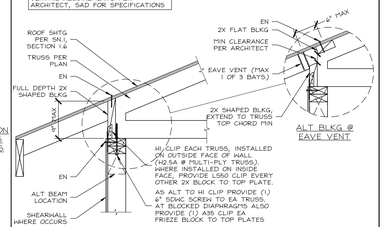


ALT BLKG @ EAVE VENT

STANDARD HEEL (UP TO 2X6 TOP CHORD)

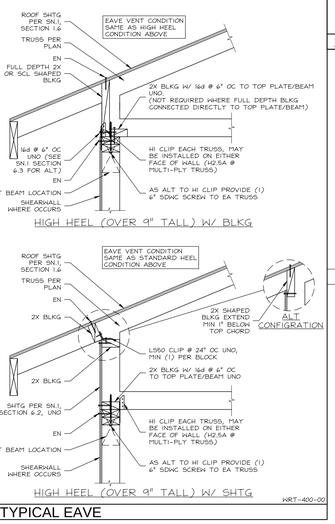
NOTES:
HEEL HEIGHT PER ARCHITECTURAL AND ENERGY REQUIREMENTS, SAD FOR SPECIFICATIONS.

VENTING REQUIREMENTS PER ARCHITECT, SAD FOR SPECIFICATIONS



ALT BLKG @ EAVE VENT

HIGH HEEL (UP TO 9" TALL MAX)

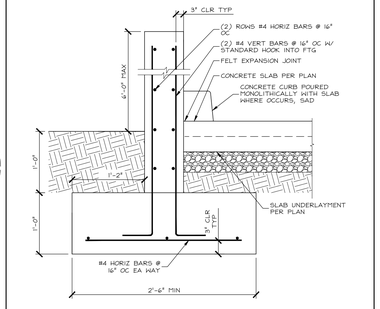


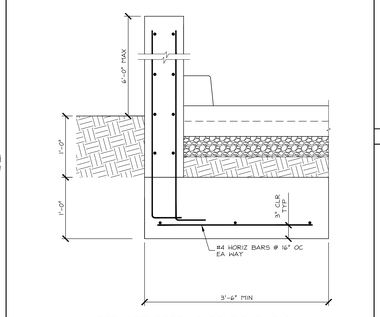
HIGH HEEL (OVER 9" TALL) W/ BLKG

HIGH HEEL (OVER 9" TALL) W/ SHTG

WRT-400-00

400 | TYPICAL EAVE

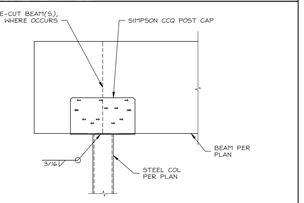




ALTERNATE FOOTING CONFIGURATION WHERE REQUIRED

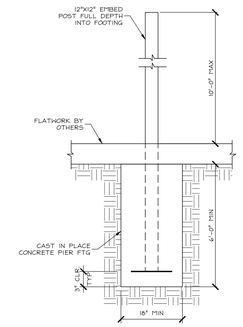
199

199 | CONCRETE WALL



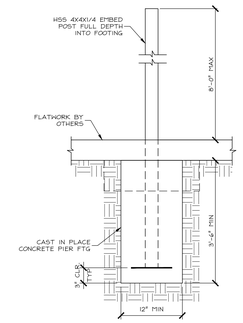
398

398 | WOOD BEAM TO STEEL POST



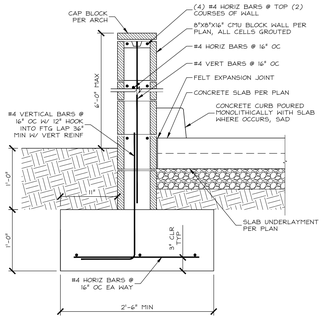
WFP-107-00 (PT by others)

195 | WOOD POST EMBEDMENT



WFP-107-00 (PT by others)

196 | STEEL POST EMBEDMENT

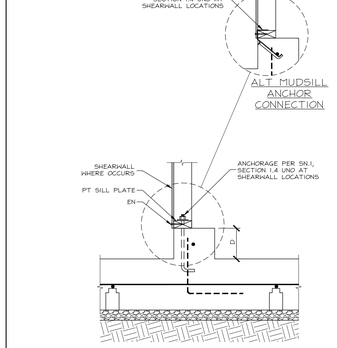


198 | MASONRY WALL

NON-STEPPED CONDITION

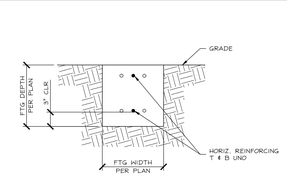
WFP-105-00

105 | SLAB AT STEP



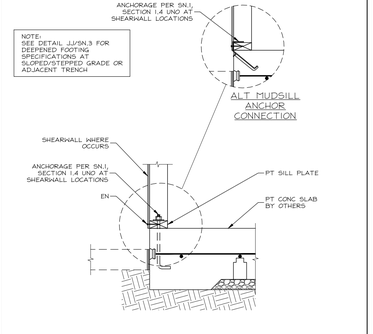
WFP-107-00 (PT by others)

107 | SLAB AT INTERIOR W/ STEM



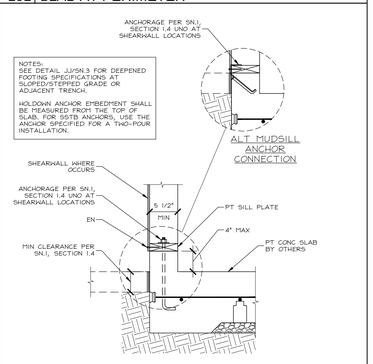
WFP-151-00

151 | TIE FOOTING - SLAB ON GRADE



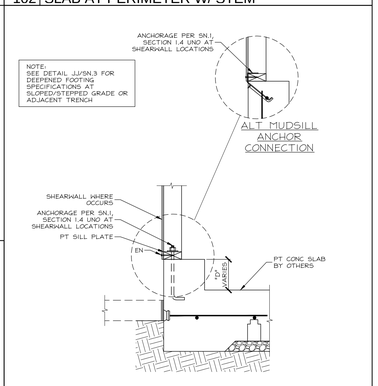
WFP-101-00.DWG

101 | SLAB AT PERIMETER



WFP-102-03(PTBO)

102 | SLAB AT PERIMETER W/ STEM



WFP-103-03 (PTBO)

103 | SLAB AT PERIMETER W/ STEM WALL

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PROJECT:
COTA VERA SWIM CLUB
CHULA VISTA, CA

CLIENT:
HOMEFED CORPORATION
1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER:	PJ
DESIGNER:	LK
DRAWN BY:	GES
CHECKED BY:	PJ
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:

REGISTERED PROFESSIONAL ENGINEER — PETER J. LIU — No. S5813 — STRUCTURAL — STATE OF CALIFORNIA

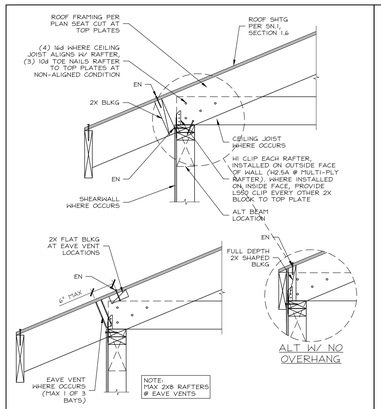
PLAN NUMBER: PLAN

SHEET TITLE: STRUCTURAL DETAILS

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

SHEET NUMBER: SD.1

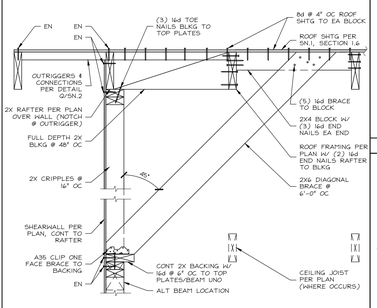
JOB NUMBER: H522244



ALT BLKG AT EAVE VENT LOCATIONS

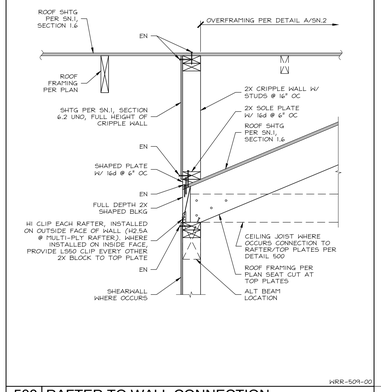
WRR-500-00

500 | TYPICAL EAVE DETAIL



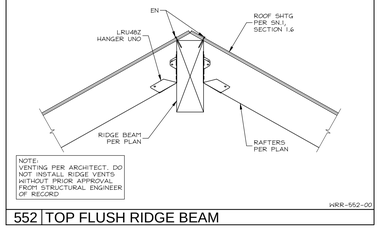
WRR-504-00

504 | GABLE END



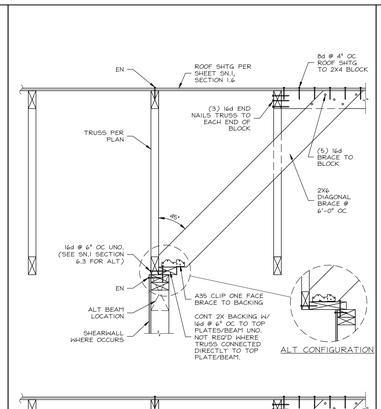
WRR-509-00

509 | RAFTER TO WALL CONNECTION



WRR-552-00

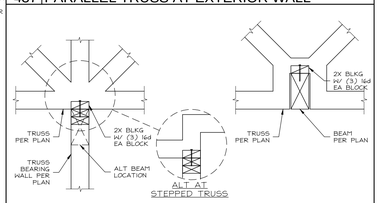
552 | TOP FLUSH RIDGE BEAM



ALT W/ TRUSS OFFSET (NON-SHEARWALL LOCATIONS ONLY)

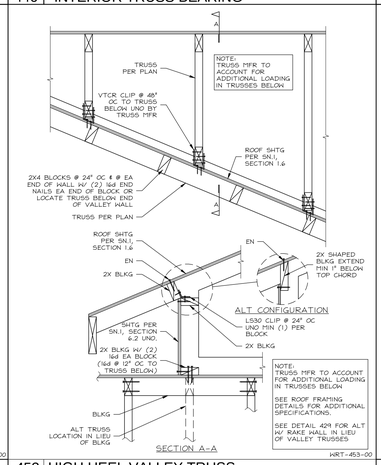
WRT-437-00

437 | PARALLEL TRUSS AT EXTERIOR WALL



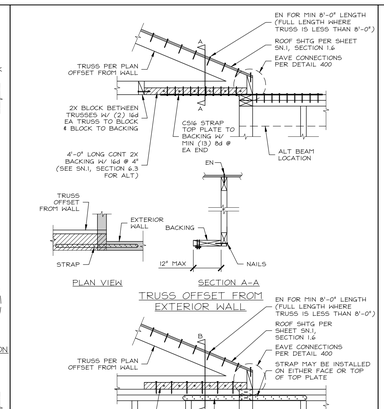
WRT-446-00

446 | INTERIOR TRUSS BEARING



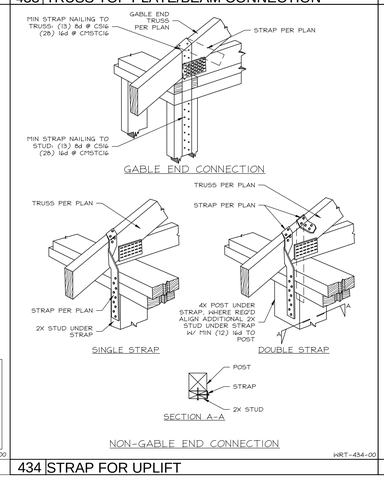
WRT-453-00

453 | HIGH HEEL VALLEY TRUSS



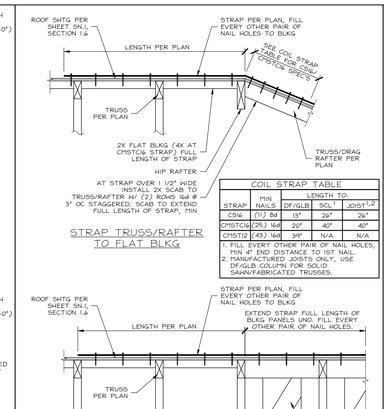
WRT-433-00

433 | TRUSS TOP PLATE/BEAM CONNECTION



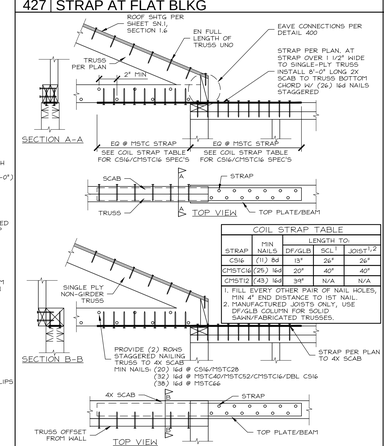
WRT-434-00

434 | STRAP FOR UPLIFT



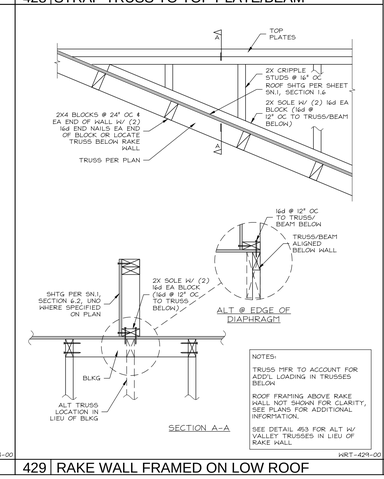
WRT-427-00

427 | STRAP AT FLAT BLKG



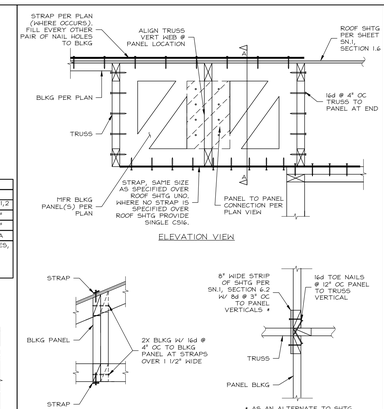
WRT-428-00

428 | STRAP TRUSS TO TOP PLATE/BEAM



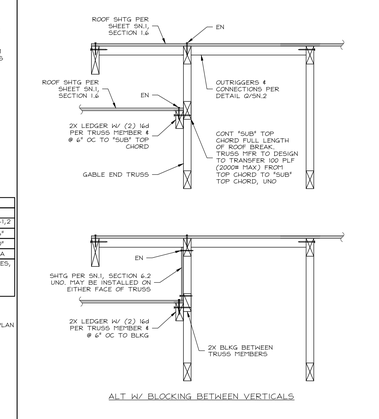
WRT-429-00

429 | RAKE WALL FRAMED ON LOW ROOF



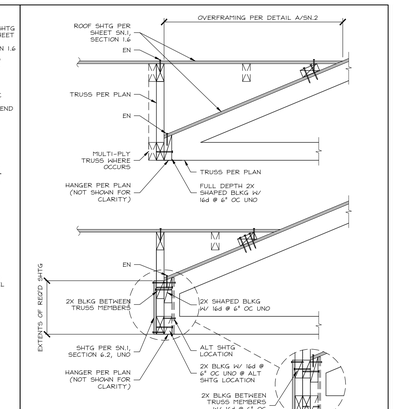
WRT-419-00

419 | BLOCKING PANELS - MANUFACTURED



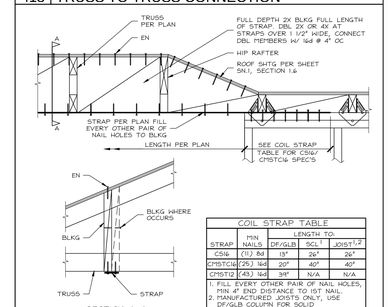
WRT-420-00

420 | RIDGE BREAK



WRT-413-00

413 | TRUSS TO TRUSS CONNECTION



WRT-417-00

417 | STRAP AT FULL DEPTH BLOCKING

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PROJECT:
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CLIENT:
HOMEFED CORPORATION
1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER: PJ
DESIGNER: LK
DRAWN BY: GES
CHECKED BY: PJ
ISSUE DATE: 01-13-2023

REVISIONS:

STAMP:

REGISTERED PROFESSIONAL ENGINEER PAUL J. LIPPOLD No. 39102 CIVIL STRUCTURAL STATE OF CALIFORNIA

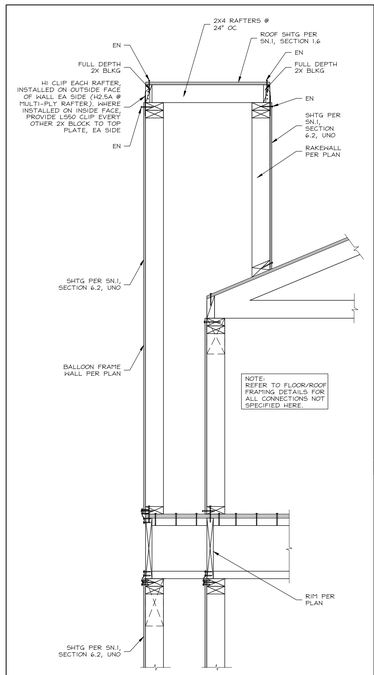
PLAN NUMBER: PLAN

SHEET TITLE:
STRUCTURAL DETAILS

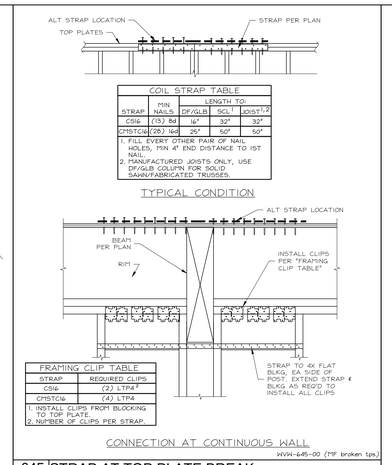
SCALE: 1/4" = 1'-0"

SHEET NUMBER:
SD.2

JOB NUMBER: H522244



992 FRAMING AT CHIMNEY



COIL STRAP TABLE				
STRAP	MIN NAILS	LENGTH TO DF/GLB	LENGTH TO SCL[1]	LENGTH TO JOIST[1,2]
CS16	(13) 8d	16"	32"	32"
CMSTC16	(28) 16d	25"	50"	50"

1. FILL EVERY OTHER PAIR OF NAIL HOLES, MIN 4" END DISTANCE TO IST NAIL.
2. MANUFACTURED JOISTS ONLY, USE DF/GLB COLUMN FOR SOLID SAWN/FABRICATED TRUSSES.

TYPICAL CONDITION

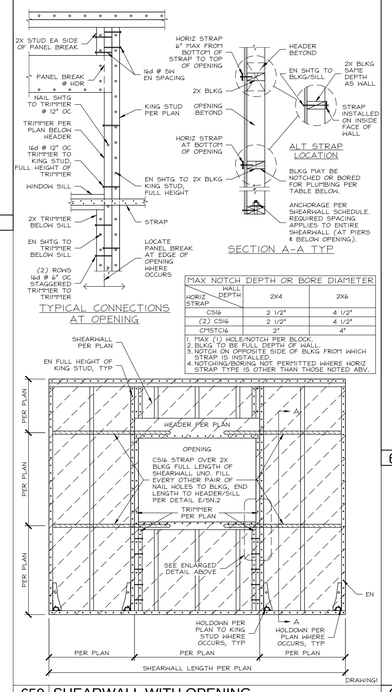
FRAMING CLIP TABLE	
STRAP	REQUIRED CLIPS
CS16	(2) LTP4[2]
CMSTC16	(4) LTP4

1. INSTALL CLIPS FROM BLOCKING TO TOP PLATE.
2. NUMBER OF CLIPS PER STRAP.

CONNECTION AT CONTINUOUS WALL

HVVH-645-00 (TYP broken tps)

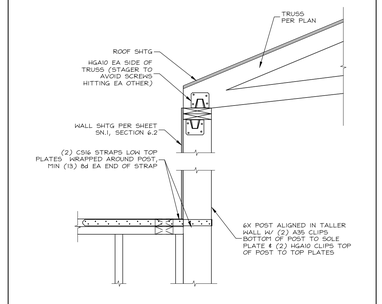
645 STRAP AT TOP PLATE BREAK



MAX NOTCH DEPTH OR BORE DIAMETER		
HORIZ STRAP \ WALL DEPTH	2X4	2X6
CS16	2 1/2"	4 1/2"
(2) CS16	2 1/2"	4 1/2"
CMSTC16	2"	4"

1. MAX (1) HOLE/NOTCH PER BLOCK.
2. BLKG TO BE FULL DEPTH OF WALL.
3. NOTCH ON OPPOSITE SIDE OF BLKG FROM WHICH STRAP IS INSTALLED.
4. NOTCHING/BORING NOT PERMITTED WHERE HORIZ STRAP TYPE IS OTHER THAN THOSE NOTED ABV.

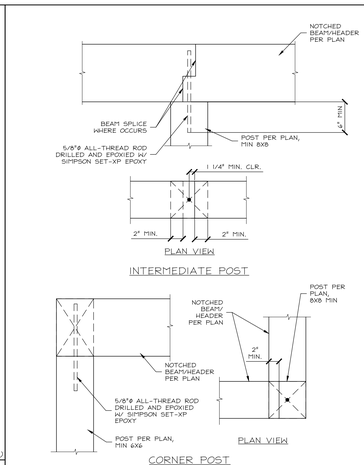
650 SHEARWALL WITH OPENING



HIGH TRUSS PERPENDICULAR

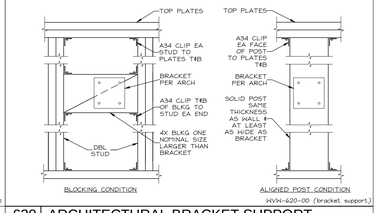
687

687 STEPPED CEILING CONNECTIONS



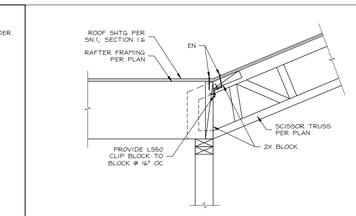
HVVH-606-00

606 BEAM TO POST CONNECTION



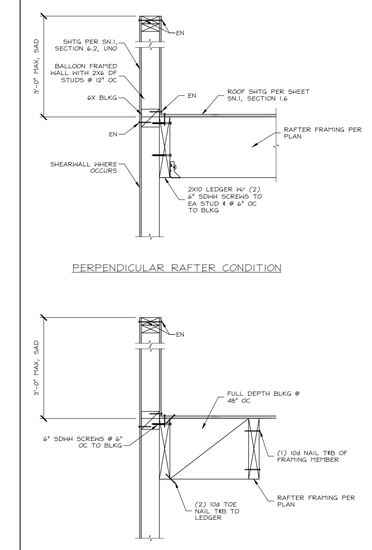
HVVH-620-00 (bracket support)

620 ARCHITECTURAL BRACKET SUPPORT



559

559 RAFTER TO TRUSS CONNECTION AT BEARING WALL



560

560 PARAPET FRAMING

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CLIENT:
HOMEFED CORPORATION
1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER:	PJ
DESIGNER:	LK
DRAWN BY:	GES
CHECKED BY:	PJ
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:

REGISTERED PROFESSIONAL ENGINEER — PAUL E. LILLYWHITE — No. 39135 — Exp. 06/30/24 — STRUCTURAL — STATE OF CALIFORNIA

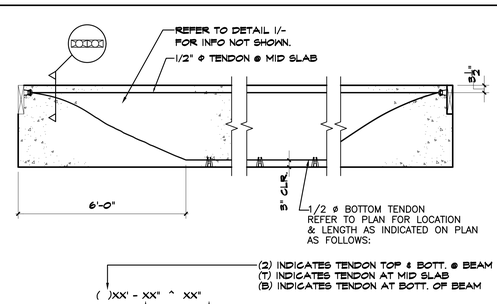
PLAN NUMBER: PLAN

SHEET TITLE: STRUCTURAL DETAILS

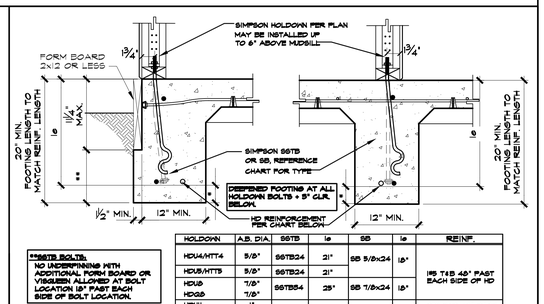
SCALE: 1/4" = 1'-0"

SHEET NUMBER: SD.3

JOB NUMBER: H522244



DRAPED TENDON @ INT. & EXT. BEAM | 15

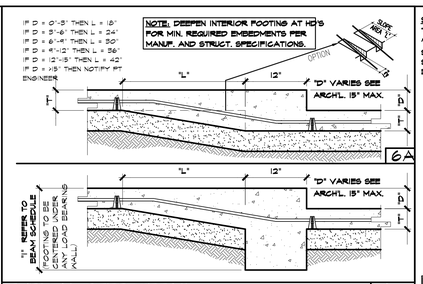


HOLDOWN	A.B. DIA.	SSTB	lo	SB	lo	REINF.
HDU4/HTT4	5/8"	SSTB24	21"	SB 5/8x24	18"	#5 T4B 48" PAST EACH SIDE OF HD
HDU5/HTT5	5/8"	SSTB24	21"			
HDU8	7/8"	SSTB34	28"	SB 7/8x24	18"	
HDQ8	7/8"					
HDU11	1"	N/A	N/A	SB 1x30	24"	2#5 T4B 48" PAST EACH SIDE OF HD
HDU14	1"					
STHD10					10"	#5 T4B 30" PAST EACH SIDE OF HD
STHD14					14"	

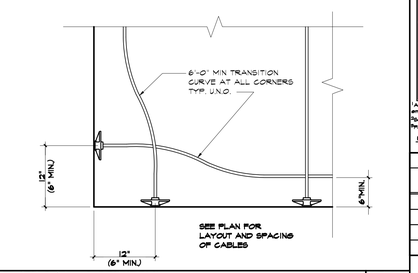
**SSTB BOLTS:
NO UNDERPINNING WITH ADDITIONAL FORM BOARD OR WASHERS ALLOWED AT BOLT LOCATION 18" PAST EACH SIDE OF BOLT LOCATION.

ICC-ESR 2611
FOR 2X, 5X, AND 2-2X MUDSILLS

TYPICAL INT. AND EXT. HOLDOWN FOOTING DETAIL | 14



TYPICAL STEP DETAIL | 6

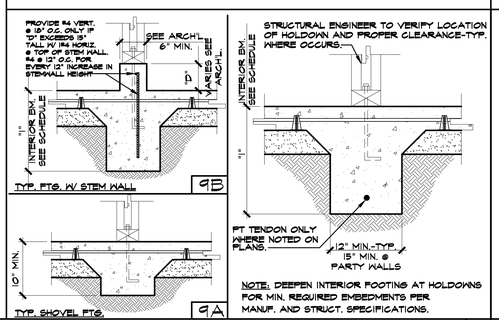


TYPICAL CORNERS | 7

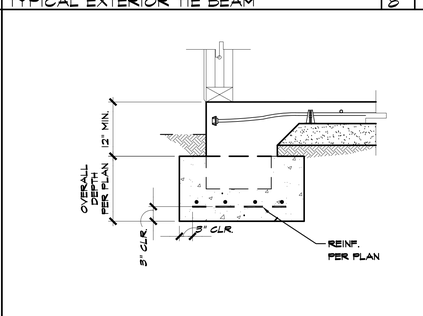
TYP. EXTERIOR BEAM W/ STEM WALL | 2

TYPICAL EXTERIOR TIE BEAM | 8

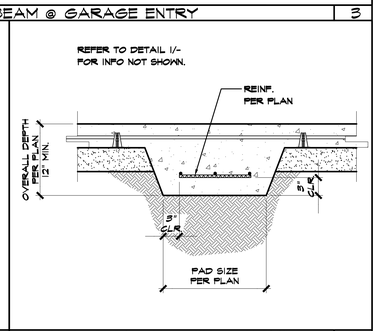
EXT. BEAM @ GARAGE ENTRY | 3



TYPICAL INTERIOR / SLAB BEAM | 9



EXTERIOR PAD FOOTING DETAIL | 5



INTERIOR PAD FOOTING DETAIL | 4

SOILS REPORT FOUNDATION PARAMETERS

THIS IS TO CERTIFY THAT THE FOUNDATIONS DEPICTED HEREIN HAVE BEEN DESIGNED IN ACCORDANCE WITH RECOGNIZED ENGINEERING PRACTICE FOR SOIL CONDITIONS AS CLASSIFIED BY;

SOILS ENGINEER: ADVANCED GEOTECHNICAL SOLUTIONS, INC.
SOILS REPORT NUMBER: 2202-04-B-2
DATED: April 8, 2022

POST-TENSION SLABS HAVE BEEN ENGINEERED USING THE DESIGN CRITERIA OF THE POST-TENSION INSTITUTE (PTI) 3rd EDITION, DC 10.5-12 AND GEOTECHNICAL PARAMETERS.

CATEGORY		DIFFERENTIAL SWELL CENTER	DIFFERENTIAL SWELL EDGE	DIFFERENTIAL SETTLEMENT	ALLOWABLE SOIL BEARING CAPACITY	EXPANSION INDEX
CAT. I	Em	9.0"	5.4"	1.0" IN 20'	2000 psf	E.I. = 0-50 LOW
	Ym	0.23"	0.54"			
CAT. II	Em	9.0"	4.6"	1.0" IN 20'	2000 psf	E.I. = 51-90 MEDIUM
	Ym	0.38"	0.90"			
CAT. III	Em	7.5"	3.4"	1.0" IN 20'	2000 psf	E.I. = 91-130 HIGH
	Ym	0.51"	1.26"			

ENCAPSULATED POST-TENSION SYSTEM

SULFATE EXPOSURE	WATER-SOLUBLE SULFATE(SO$_4$) IN SOIL, PERCENTAGE BY WEIGHT	SULFATE(SO$_4$) IN WATER, ppm	CEMENT TYPE	MAXIMUM WATER-CEMENTITIOUS MATERIALS RATIO, BY WEIGHT-NORMAL-WEIGHT AGGREGATE CONCRETE	MINIMUM f'c, NORMAL-WEIGHT AND LIGHTWEIGHT AGGREGATE CONCRETE, psi x 0.0069 for MPa
NEGLIGIBLE	0.00-0.10	0-150	-	-	-
MODERATE[2]	0.10-0.20	150-1500	II, (MS), (IP(MS)), (IS(MS))	0.50	4,000
SEVERE	0.20-2.00	1500-10,000	V	0.45	4,500
VERY SEVERE	OVER 2.00	OVER 10,000	V plus pozzolan[3]	0.45	4,500

[1]A lower water-cementitious materials ratio or higher strength may be required for low permeability or for protection against corrosion of embedded items or freezing and thawing(Table R4.4.2).
[2]Seawater.
[3]Pozzolan that has been determined by test or service record to improve sulfate resistance when used in concrete containing Type V cement.

CORROSION: CONSULTATION WITH A CORROSION EXPERT/ENGINEER SHOULD BE CONSIDERED FOR RECOMMENDATIONS / REMEDIES IF CORROSIVITY EXIST ON SITE. BUILDER/CONTRACTOR TO PROVIDE SUCH INFORMATION TO PT ENGINEER.

BEAM/SLAB SCHEDULE

CATEGORY	'T' MIN. SLAB THICKNESS	' I ' MIN. INT. BM. HEIGHT	'E' MIN. EMBED. PER SOILS	'H' MIN. EXT. BM. HEIGHT	CONCRETE * STRENGTH & SPECS.
CAT. I	5.0"	15"	12"	20"	NOT APPLICABLE SULFATES USE 3,000 PSI CONC.
CAT. II	5.0"	15"	15"	26"	
CAT. III	5.0"	16"	24"	32"	

PLACING OF STRANDS AND TENDONS

1. DO NOT ERECT INSIDE FORM OR DOUBLED-UP FORMS UNTIL STRANDS ARE IN PLACE.
2. MARK LOCATIONS OF INDIVIDUAL STRESSING ANCHORAGES AND DRILL 1" DIA. HOLE IN BULKHEAD PER STRAND LAYOUT ON PLAN.
3. PLACE ANCHOR, POCKET FORMER INTO BULKHEAD AND NAIL ANCHORS TIGHT TO BULKHEAD.
4. LAY ALL THE STRANDS IN ONE DIRECTION, BEGINNING AT THE DEAD END, IF THERE IS ONE. THEN IN THE OTHER DIRECTION.
5. WHERE DEAD-ENDS OCCUR, NAIL OR TIE APPROXIMATELY 5/4" FROM THE BULKHEAD. CENTERLINE OF THE ANCHORAGES ARE MINIMUM 5 1/2" BELOW TOP OF SLAB.
6. SPACING OF STRANDS MAY DEVIATE AS NECESSARY TO AVOID PLUMBING, HARDWARE, ETC. STRAND LOCATIONS AND DIMENSIONS SHOWN ON PLANS ARE FOR PLACING CONVENIENCE AND MAY VARY ± 12", 5" MIN. CLR. REQ'D. FROM PLUMBING, HOLDOWNS, PIPES, AND INSERTS.
7. AT STRESSING ENDS, REMOVE SHEATH APPROXIMATELY 6" INSIDE THE BULKHEAD. SLIDE END OF STRAND THROUGH THE HOLE IN THE ANCHOR AND THROUGH THE BULKHEAD.
8. STRAIGHTEN STRANDS, CURVING THEM SMOOTHLY AROUND HOLES OR OBSTRUCTIONS. PLACE SUPPORTS AT CABLE INTERSECTIONS AND TIE STRANDS TOGETHER.
10. P.E. AND S.E. MAY BE REVERSED END TO END.
11. CHECK STRANDS FOR TEARS IN PLASTIC SHEATH & REWRAP IF TEAR IS LARGER THAN 12" IN LENGTH.

CONCRETE (REFER TO ACI 318 Tables 4.2.1 & 4.5.1 SHOWN ON THIS SHT. FOR SULFATE EXPOSURE REQUIREMENTS)

1. CONCRETE TO BE A MINIMUM OF f'c= 3,000 PSI AT 28 DAYS. SEE FINAL SOILS REPORT & 2019 CBC. FOR TYPE, PSI, WATER CEMENT RATIO, ETC., IF MORE RESTRICTIVE. 5" MAXIMUM SLUMP. DESIGN BASED ON PSI & CONSIST OF PORTLAND CEMENT ASTM C-150, WATER TO BE CLEAN AND POTABLE. CORROSIVE ADDITIVES (i.e. CALCIUM CHLORIDE) ARE NOT TO BE USED.
2. DEPUTY INSPECTION IS REQUIRED AT POURING OF CONCRETE.
3. PLACEMENT SHALL BE IN ONE CONTINUOUS OPERATION UNLESS OTHERWISE SPECIFIED. SLAB SURFACE SHALL BE CURED WITH HANTS COMPOUND OR EQUAL APPROVED ASTM 309 SPECIFICATIONS PRODUCT.
4. CONCRETE SHALL BE UNIFORMLY PLACED AND CONSOLIDATED AROUND ANCHORAGES. NO ROCK POCKETS.
5. A MINIMUM OF THREE (3) CYLINDERS PER SLAB SHALL BE TAKEN TO DETERMINE CONCRETE STRENGTH.

PREPARATION FOR STRESSING

1. CHECK INSIDE EACH POCKET HOLE MAKING SURE THAT THE EXPOSED PORTION OF THE ANCHORAGE IS CLEAR. IF A FILM OF CEMENT PASTE HAS INTRUDED, REMOVE IT COMPLETELY.
2. MARK ON THE STRAND AT A CONSTANT DIMENSION FROM THE EDGE OF SLAB.

STRESSING PROCEDURE

1. THE STRESSING OPERATION SHALL NOT COMMENCE UNTIL CONCRETE TEST CYLINDERS, CURED UNDER JOBSITE CONDITIONS, HAVE BEEN TESTED AND INDICATE THAT THE CONCRETE HAS ATTAINED 2000 PSI MINIMUM.
2. THE STRESSING OPERATION SHALL BE CONDUCTED BY A POST-TENSION EXPERIENCED EMPLOYEE IN THIS TYPE OF WORK. HE/SHE MUST EXERCISE CLOSE CHECKING AND RIGID CONTROL OF ALL HORIZONS OPERATIONS.
3. ALL PRESTRESSING SHALL BE BY MEANS OF HYDRAULIC JACKS OR EQUAL, EQUIPPED WITH ACCURATE READING AND CALIBRATED HYDRAULIC PRESSURE GAUGES.
4. THE DEPUTY INSPECTOR SHALL RECORD ALL JACKING FORCES AND ELONGATIONS AND SUBMIT REPORTS TO THE ENGINEER FOR THE STRUCTURAL ENGINEERS APPROVAL.
5. STRANDS THAT ARE STRESSED FROM BOTH ENDS NEED NOT BE STRESSED SIMULTANEOUSLY. ELONGATION FROM BOTH ENDS MUST TOTAL THE ELONGATION SHOWN ON PLANS.
6. TAKE SAFETY PRECAUTIONS NECESSARY. DO NOT PERMIT WORKMEN TO STAND BEHIND OVER, OR IN LINE WITH RAM AND STRANDS DURING STRESSING OF STRANDS.

SEALING STRESSING HOLES

1. AFTER STRESSING AND APPROVAL SAWCUT OR BURN EXCESS STRAND.
2. WHEN EXCESS IS BURNED CUT OR PAINT EXPOSED ANCHORAGE, GRIPPERS AND STUB OF STRAND WITH RUST-O-LEUM PRIMER OR EQUAL. IF SAWCUT PLACE PLASTIC CAP @ END OF STRAND-NO PAINTING REQUIRED.
3. AFTER ANCHORS HAVE BEEN COATED OR CAPPED, THE CONCRETE CONTRACTOR SHALL DRY PACK POCKET HOLES WITHIN TEN (10) DAYS. A NON-METALLIC, NON-SHRINK GROUT MIX SHALL BE USED FOR THIS PURPOSE.

POST-TENSIONING SUPPLIER QUALIFICATIONS:

POST-TENSIONING PRODUCTS SHALL BE SUPPLIED BY A PTI CERTIFIED PLANT.

TECHNICAL NOTES

DEFORMED MILL REINFORCING STEEL SHALL CONFORM TO ASTM A-615 GRADE 40 (#5 & #4) GRADE 60 (#6 & UP)

STRANDS SHALL CONFORM TO ASTM A-416

PROPERTIES OF 7-WIRE STRAND 1/2"ø (DIA.)
f' (ULTIMATE) 270 ksi
AREA (SQ. IN.) .153
f' (ULTIMATE in pounds) 41,300 lbs
E (psi) 29,000,000+/-

MAXIMUM FORCE (Δ fpu) TO OVERCOME FRICTION 35,000 lbs
MAX. ANCHOR FORCE (Tfpu) 28,400 lbs
UNIT ELONGATION PER FOOT = 0.081" (P A lbs) (12")
AREA E

SHEATHING SHALL BE NO LESS THAN 40 MIL THICKNESS AND EXTRUDED IN A PTI CERTIFIED PLANT.

GENERAL NOTES

1. INFORMATION REGARDING TYPE, SIZE, AND LOCATION OF SHEAR WALLS, BREEDS, AND HOLD-DOWN DEVICES ARE SHOWN ON THIS POST-TENSIONED FOUNDATION DRAWING FOR THE CONVENIENCE AND CLARITY OF THE CONSTRUCTION PROCESS. THIS INFORMATION IS PROVIDED BY THE STRUCTURAL ENGINEER OF RECORD IN THE STRUCTURAL DRAWINGS AND IT IS THE RESPONSIBILITY OF THE BUILDER/ CONTRACTOR TO COORDINATE THIS INFORMATION WITH THE STRUCTURAL DRAWINGS. SHOULD DISCREPANCIES EXIST, THE STRUCTURAL DRAWINGS SHALL GOVERN. WADDELL & ASSOCIATES WILL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OF THE SHEAR WALL, EMBED, AND HOLD-DOWN INFORMATION SHOWN ON THIS FOUNDATION DRAWING.
2. SILL ANCHORAGES PER ARCHITECTURAL PLANS. THICKEN SLAB AS REQUIRED FOR PROPER CONCRETE COVERAGE AT ANCHOR BOLTS AS REQUIRED PER 2019 CBC, WHERE THEY OCCUR.
3. UNLESS NOTED OTHERWISE, STUDDING, FURRING, OR OTHER ATTACHMENTS SHALL BE CAST INDEPENDENT OF THE POST TENSIONING SLAB.
4. DRAINAGE: ALL SURFACE WATER MUST DRAIN AWAY FROM SLAB AND NO PONDING SHALL BE ALLOWED NEXT TO FOUNDATION.
5. THE SOILS UNDER SLAB SHALL BE PRE-SATURATED PER THE SOILS REPORT RECOMMENDATIONS.
6. SEE LPFTD.
7. POST-TENSIONING SHOP DRAWINGS ARE ONLY FOR STRAND PLACEMENT AND STRESSING DETAILS, AND ARE TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS OF RECORD.
8. FOUNDATION DIMENSIONS ARE EXTRACTED FROM ARCHITECTURAL DRAWINGS. WADDELL & ASSOCIATES HAS NOT ASSUMED ANY LIABILITY WITH RESPECT TO THESE DIMENSIONS. CONTRACTOR SHALL VERIFY ALL FOUNDATION DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS AND WITH FIELD CONDITIONS. CONTRACTOR SHALL VERIFY THE LOCATION AND SIZES OF ALL ANCHOR BOLTS, HOLDOWNS, EMBEDDED STRUPS, AND FRAMING MATERIALS. CONTRACTOR SHALL VERIFY CONFIGURATION AND LOCATION OF ALL ARCHITECTURAL FEATURES, SUCH AS BUT NOT LIMITED TO DEPRESSIONS, SLOPES, SHELVES, PATIOS, PORCHES, AND STOOPS.
9. COORDINATE ALL DETAILS WITH ALL TRADES PRIOR TO STARTING CONSTRUCTION.
10. OBTAIN APPROVAL OF MINIMUM FOUNDATION DIMENSIONS FROM SOILS ENGINEER PRIOR TO CONSTRUCTION.
11. AN UNDERLAYMENT OR SLIP SURFACE SHALL BE APPLIED ON THE POST-TENSIONED SLAB ON AREAS WHERE HARD SURFACE FLOORING MATERIALS ARE TO BE USED.
12. POINT LOADS & LINE LOADS WERE PROVIDED BY THE STRUCTURAL ENGINEER OF RECORD FOR THE POST TENSION DESIGN.
13. ZIP STRIP OR HAND TOOL JOINT PER CONTRACTOR.

RESTRICTIVE NOTICE

THESE DRAWINGS ARE THE PROPERTY OF WADDELL & ASSOCIATES AND ARE TO BE USED EXCLUSIVELY BY A PTI CERTIFIED PLANT FOR THE SUPPLY AND INSTALLATION OF THE POST-TENSIONING SYSTEM FOR THIS PROJECT. ANY RECIPIENT OF THESE DRAWINGS SHOULD IMMEDIATELY RETURN THEM TO WADDELL & ASSOCIATES IN THE EVENT THE RECIPIENT DOES NOT INTEND TO COMPLY WITH THE ABOVE.

THE ENGINEERS STAMP PLACED HERE IS FOR THE DESIGN OF THE POST-TENSION FOUNDATION SYSTEM ONLY. SEE STRUCTURAL ENGINEERS DRAWINGS FOR COMPLETE DESIGN & SEE SOILS ENGINEER REPORT FOR SPECIAL CONDITIONS.

REVISIONS

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	DATE	BY
DWG. INFO		
DRAWN	01/16/25	RVK
CHECKED		RVK
DESIGNED		RVK
APPROV.		RVK

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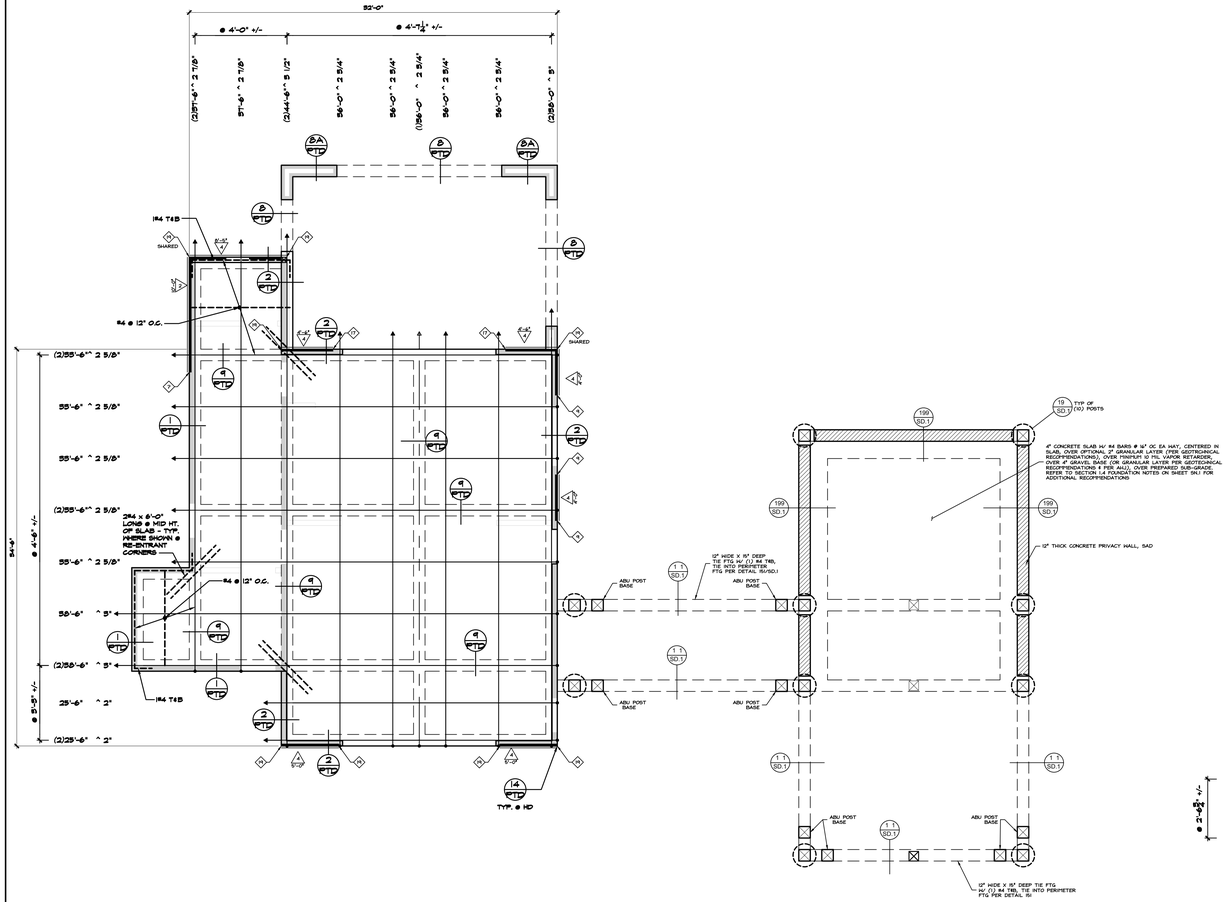
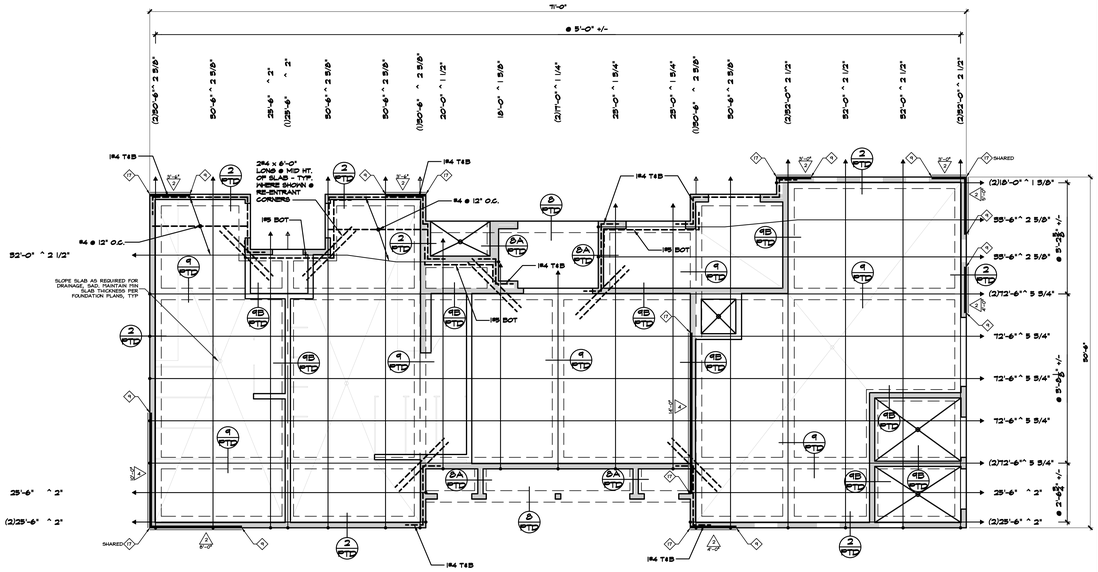
REGISTERED PROFESSIONAL ENGINEER — RICHARD V. WADDELL — No. C041219 — exp. 03-31-25 — CIVIL — STATE OF CALIFORNIA

PROJECT: COTA VERA SWIM CLUB
OTAY RANCH VILLAGE 8 WEST
LOCATION: CHULA VISTA, CA
BUILDER: HOMEFED CORPORATION
INFORMATION THIS SHEET: POST-TENSION DETAILS AND GENERAL NOTES
SCALE: N.T.S.

SHT. NO. PTD
JOB NO. 23-01





POST-TENSION PLACEMENT PLAN SWIM CLUB

HOLDOWN SCHEDULE					
TYPE	SIMPSON TYPE	FIN² TO POST	HD TO POST CONNECTION	ANCHOR DIAMETER	DESIGN LOAD³
HD14	4X	(30) SDS 1/4X3 1/2 SCREWS	5/8"	5.0K	
HD8	4X	(30) SDS 1/4X3 1/2 SCREWS	7/8"	8.0K	
HD8	4X6 OR 4X4				
HD14	4X6 OR 4X4	(36) SDS 1/4X3 1/2 SCREWS	1"	15.0K (2)?	

1. SEE DETAIL CC/HD.3 FOR TYPICAL HOLDOWN INSTALLATION.
2. HOLDOWN POSTS TO MATCH WALL DEPTH, WHERE 4X4 & 2X6 CONDITION IS GIVEN, INSTALL 4X6 IN 6" WALL, 4X4 IN 4" WALL.
3. UPLIFT CAN BE APPLIED IN UPWARD OR DOWNWARD DIRECTION.

NOTES:
1. HOLDOWN HARDWARE MUST BE IN PLACE PRIOR TO FOUNDATION INSPECTION.
2. SEE SHEET PT0 FOR GENERAL NOTES AND SPECIAL CONSTRUCTION NOTES.
3. REFER TO DETAIL 14/PT0 FOR HOLDOWN ANCHOR BOLT AND REINFORCEMENT INFORMATION.
4. VERIFY PETH STRUCTURAL PLANS FOR SHEARWALL, HOLDOWN, AND ANCHOR BOLT LOCATIONS.
5. VERIFY PETH ARCHITECTURAL PLANS FOR SLAB DIMENSIONS.
6. MISC. #4 T4B REINFORCEMENT SHALL HAVE MINIMUM 18" TAIL.

(3) INDICATES TENDON TOP & BOTT. @ BEAM
(1) INDICATES (1) TENDON AT BOTT. OF BEAM
(2B) INDICATES (2) TENDON AT BOTT. OF BEAM

(XX" - XX" ^ XX"
- XX" INDICATES TENDON ELONGATION
- ^ XX" INDICATES TENDON LENGTH
- - XX" INDICATES TENDON SPACING

● X'-X" +/-

REVISIONS

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	BY	DATE
DWG INFO	BY	
DRAWN	RWK	01/16/23
CHECKED	RWK	
DESIGNED	RWK	
APPRVD.	RWK	

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REGISTERED PROFESSIONAL ENGINEER
RYAN K. WADDELL
No. C041219
exp. 03-31-23
CIVIL
STATE OF CALIFORNIA

PROJECT: COTA VERA SWIM CLUB
OTAY RANCH VILLAGE 8 WEST
LOCATION: CHULA VISTA, CA
BUILDER: HOMEFED CORPORATION
INFORMATION THIS SHEET: POST-TENSION FOUNDATION & PLACEMENT PLAN
SCALE: 3/16" = 1'-0"

SHT. NO. PT1
JOB NO. 23-01

STANDARD NOTES AND SPECIFICATIONS

3.7 CALGREEN CODE MANDATORY MEASURES REQUIREMENTS

SECTION 5.410 BUILDING MAINTENANCE AND OPERATION

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 BY 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.

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.

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 PERCENT BASED ON ASHRAE 52.11992. 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 VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM.

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.
EXCEPTION: EXISTING MECHANICAL EQUIPMENT.
5.504.5.3.1 LABELING. INSTALLED FILTERS SHALL BE CLEARLY LABELED BY THE MANUFACTURER INDICATING THE MERV RATING.

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 AIR QUALITY AND EXHAUST

5.506.1 OUTDOOR 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, CO2 SENSORS AND VENTILATION CONTROLS SHALL BE SPECIFIED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA ENERGY CODE, SECTION 120.1(C)(4).

SECTION 5.508 OUTDOOR AIR QUALITY

5.508.1 OZONE DEPLETION AND GLOBAL WARMING 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.

2.6 THERMOSTATS

1. GENERAL REQUIREMENTS:
1.1. THERMOSTATS SHALL BE PROGRAMMABLE SET BACK TYPE AND HAVE THE CAPABILITY OF TERMINATING COOLING AT 75° F AND HEATING AT 70° F. THERMOSTATS SHALL HAVE AN ADJUSTABLE RANGE UP TO 10° F.
1.2. UNLESS INDICATED OTHERWISE, PULL MIN THREE WIRES BETWEEN THERMOSTAT AND CONDENSER TO ALLOW FOR FUTURE CHANGES. FOR BEST RESULTS, CENTRALLY LOCATE THERMOSTAT IN ZONE, NOT NEAR OPERABLE WINDOW OPENINGS.
1.3. WHERE SOLAR PANELS ARE NOT INSTALLED AND SOLAR READY ZONE IS NOT PROVIDED, INSTALL DEMAND RESPONSE THERMOSTAT TO COMPLY WITH SOLAR READY ZONE EXCEPTION.
2. CONSTRUCTION REQUIREMENTS:
2.1. MOUNT THERMOSTAT BETWEEN 4'-6" - 5'-0" (4'-0" AT ACCESSIBLE DWELLINGS) ABOVE FINISH FLOOR HEIGHT, ALIGNED OVER LIGHT SWITCHES, UNO ON ARCHITECTURAL PLANS.
2.2. AT BUILDER OPTION, THERMOSTAT MAY BE RELOCATED WITHIN THE ZONE IT CONTROLS.

3.1 SUPPLY AND RETURN GRILLES

1. GENERAL REQUIREMENTS:
SUPPLY, RETURN, & TRANSFER GRILLES SHALL BE OF THE SIZE, LOCATION, TYPE, AND BLOW PATTERN INDICATED ON PLAN.
1.1. EXHAUST GRILLES, WHERE USED, SHALL BE TITUS #50 OR EQUAL.
1.2. WHERE STAMPED FACE RETURNS ARE USED IN PLACE OF RETURN AIR GRILLE SPECIFIED, THE CONTRACTOR SHALL INSTALL A LARGER SIZE OR ADDITIONAL GRILLES TO MAINTAIN AN EQUIVALENT CORE EFFECTIVE AREA, REFER TO MANUFACTURER'S DATA FOR SIZING.
1.3. ALTERNATE MANUFACTURER'S PRODUCTS MAY BE USED. CONTRACTOR SHALL SELECT SUPPLY GRILLE ALTERNATES BASED UPON MAX PRESSURE DROP OF 0.04" WATER COLUMN AT DEVICE AND MAX FACE VELOCITY OF 700 FEET PER MINUTE. ALL PRODUCTS SHALL BE PERFORMANCE TESTED IN ACCORDANCE WITH ANSI/ASHRAE STANDARD 70.
2. CONSTRUCTION REQUIREMENTS:
2.1. LOCATE SUPPLY & RETURN AIR GRILLES MIN 3'-0" FROM SMOKE/CO DETECTOR, TYPICAL AT ALL LOCATIONS. COORDINATE SMOKE/CO DETECTOR ADJUSTMENTS WITH ARCHITECT/ELECTRICAL ENGINEER PRIOR TO CONSTRUCTION.
3. ALTERNATES & MODIFICATIONS:
3.1. ALTERNATE LOCATIONS
3.1.1. LOCATION OF GRILLES ON PLAN IS DIAGRAMMATIC IN NATURE AND MAY BE ADJUSTED TO MAINTAIN REQUIRED CLEARANCES, PROVIDED DUCT LENGTH IS NOT INCREASED BY MORE THAN 10%. CONTRACTOR SHALL VERIFY THAT ADJUSTED LOCATION DOES NOT NEGATIVELY IMPACT AIRFLOW.
3.1.2. ADJUSTED LOCATIONS TO BE APPROVED BY BUILDER FOR AESTETHIC PURPOSES.

3.2 INTAKE DUCTS

1. GENERAL REQUIREMENTS:
1.1. ELECTRICAL CONTRACTOR WILL FURNISH A SEPARATE DISCONNECT SWITCHING DEVICE AND INSTALL ALL COMPONENTS FOR THIS IN THE SAME LOCATION AS THE WHOLE BUILDING VENTILATION SYSTEM.
2. MATERIALS:
2.1. 26 GA HARD PIPE TO ROOF JACK.
2.2. PROVIDE INTAKE DAMPER & SCREEN OPENING PER SECTION 3.3.
2.3. PROVIDE BACKDRAFT DAMPER AT INTAKE DUCT WHERE CONNECTED TO SUPPLY/RETURN DUCT. DAMPER TO BE INSTALLED BETWEEN INTAKE FAN AND SUPPLY/RETURN DUCT OR BE INTEGRATED INTO FAN SYSTEM
3. CONSTRUCTION REQUIREMENTS:
3.1. FRESH AIR INTAKE DUCT TO MAINTAIN MIN 10'-0" CLEARANCE FROM ANY EXHAUST OR WASTE VENT.

3.3 VENTILATION AND EXHAUST DUCTS

WHOLE BUILDING VENTILATION

1. WHOLE BUILDING VENTILATION MUST BE PROVIDED PER ASHRAE 62.1.
2. BUILDING VENTILATION PER LOCAL EXHAUST REQUIREMENTS.
3. WHERE OCCURS OR AT BUILDERS REQUEST, TRANSFER GRILLE MAY BE REPLACED WITH IDENTICAL SIZED JUMPER DUCT IN CEILING TO ELIMINATE CONFLICTS WITH DOOR HEIGHTS, MOLDINGS, CEILING TREATMENTS, ETC.

EXHAUST DUCTS

1. EXHAUST DUCTS SHALL BE CONSTRUCTED OF GALVANIZED STEEL SHEET METAL DUCT WITH SMOOTH INTERIOR SURFACES. ALL DUCTS SHALL BE CONSTRUCTED PER CMC CHAPTER 6.

BATHROOM

1. LOCAL EXHAUST VENTILATION FOR BATHROOMS MUST BE AS SCHEDULED ON THE DRAWINGS, FOR A BATH FAN EITHER THROUGH ONSITE TESTING OR USING THEIR CERTIFIED RATED FLOW AT 0.25" WATER COLUMN.
2. BATH FANS MUST BE RATED AT 3.0 SONES OR LESS (OR BE REPLACED BY A PICKUP GRILLE FOR A REMOTE FAN) AND BE ENERGY STAR RATED.

3.4 SUPPLY AND RETURN DUCTS

1. ALL DUCTWORK SHALL BE HARD DUCT.
2. WHERE SUPPLY AIR DUCTS AND PLENUMS THAT ARE DESIGNED TO OPERATE AT STATIC PRESSURES 25"+/- WATER COLUMN ARE LOCATED OUTSIDE OF CONDITIONED SPACE OR IN RETURN PLENUMS, THEIR JOINTS SHALL BE SEALED IN ACCORDANCE WITH CLASS C, AS DEFINED IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE AND CMC CHAPTER 6.
3. INSULATE ALL UNLINED INTERIOR SUPPLY AND RETURN DUCTWORK WITH FIBERGLASS INSULATION. SEAL ALL JOINTS PRIOR TO INSULATING. SEE TITLE 24 ENERGY DOCUMENTS FOR INSULATION REQUIREMENTS.
4. ENSURE THAT FLEXIBLE DUCTS ARE TO MAINTAIN A MAXIMUM LENGTH OF 5' AND A MINIMUM RADIUS AT THE CENTERLINE OF THE DUCT, MINIMUM 1X THE DIAMETER OF THE DUCT TURN OR PROVIDE SHEET METAL ELBOWS AS REQUIRED.
5. ALL DUCTWORK DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSIONS.
6. MATERIALS EXPOSED WITHIN DUCTS OR PLENUMS SHALL HAVE A FLAME-SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED RATING OF NOT MORE THAN 50.
7. DUCT LINING MATERIALS SHALL HAVE A MOLD, HUMIDITY AND EROSION RESISTANT SURFACE THAT MEETS THE REQUIREMENTS OF UL 181.
8. BALANCE AIR FLOW TO ALL AIR INLETS AND OUTLETS TO AIR QUANTITIES SHOWN ON FLOOR PLAN.
9. INITIAL FILTER PRESSURE DROP SHALL NOT EXCEED 0.1"WATER COLUMN WITH THE USE OF A MINIMUM MERV 8 FILTER.
10. DUCT OPENINGS AND ALL OTHERS RELEASED AIR DISTRIBUTION COMPONENT OPENINGS TO BE COVERED WITH TAPE, PLASTIC, OR OTHER METHODS UNTIL FINAL STARTUP HVAC EQUIPMENT.
11. MANUAL VOLUME DAMPERS IN ALL BRANCH DUCTS ARE REQUIRED FOR COMFORT BALANCING.
12. THE CONTRACTOR SHALL PROVIDE ACCESSIBLE & ADJUSTABLE VOLUME DAMPERS (SHOWN OR NOT) AS REQUIRED TO BALANCE THE SYSTEMS AND MAINTAIN A NOISE CRITERIA LEVEL NOT TO EXCEED 25-35.
13. SEE ARCHITECTURAL PLANS AND ACOUSTICAL REPORT (WHERE OCCURS) FOR ACOUSTICAL REQUIREMENTS.
14. RETURN DUCT LENGTH SHALL NOT EXCEED 30 FEET AND SHALL CONTAIN NO MORE THAN 180 DEGREES OF BEND. IF THE TOTAL BENDING EXCEEDS 90 DEGREES, ONE BEND SHALL BE A METAL ELBOW.
15. FABRICATE AND INSTALL DUCTWORK IN ACCORDANCE WITH THE LATEST EDITION OF ASHRAE GUIDE, SMACNA MANUALS AND CMC CHAPTER 6
16. ALL FACTORY MADE DUCTWORK TO BE CLASS 1 PER CMC 602.6

3.5 NONRESIDENTIAL PROJECT GENERAL REQUIREMENTS

START-UP REQUIREMENTS

1. ALL MAJOR EQUIPMENT START-UP SHALL BE PERFORMED BY EQUIPMENT MANUFACTURE, THEIR REPRESENTATIVE, OR FACTORY TRAINED INSTALLERS. ALL OTHERS MUST GET PRIOR AUTHORIZATION BEFORE PERFORMING EQUIPMENT START-UP

TESTING AND BALANCING (TAB)

1. ALL INSTALLED HVAC SYSTEMS WILL REQUIRE SYSTEMS TESTING AND BALANCING. TAB SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR, AGENT OF CONTRACTOR, BALANCING COMPANY, MANUFACTURE, OR MANUFACTURE'S REPRESENTATIVE. ALL TAB WORK SHALL BE PERFORMED BY INDIVIDUALS EXPERIENCED AND CAPABLE OF PERFORMING REQUIRED WORK SCOPE AND HAVE APPLICABLE LICENSES, CREDENTIALS, OR TRAINING WHEN REQUIRED.
2. SYSTEMS SHALL BE TESTED AND BALANCED PER T24 REQUIREMENTS AND GREEN CODE SECTIONS 5.410.4
3. SYSTEM TESTING SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURE'S SPECIFICATIONS AND APPLICABLE STANDARDS ON EACH SYSTEMS PER GREEN CODE 5.410.4.3
4. HVAC BALANCING SHALL BE PERFORMED IN ACCORDANCE WITH PROCEDURES FROM TESTING ADJUSTING AND BALANCING BUREAU NATIONAL STANDARDS, THE NATIONAL ENVIRONMENTAL BALANCING BUREAU PROTOCOL STANDARDS, ASSOCIATED AIR BALANCE COUNCIL NATIONAL STANDARDS OR AS APPROVED BY ENFORCING AGENCY PER GREEN CODE 5.410.4.3.1,
5. PROVIDE A FINAL REPORT OF TESTING RESULTS AFTER COMPLETION OF TESTING, ADJUSTING, AND BALANCING PER GREEN CODE 5.410.4.4
6. Provide A COPY OF ALL INSPECTIONS VERIFICATIONS AND REPORTS REQUIRED BY THE ENFORCING AGENCY PER GREEN CODE 5.410.4.5.1

OPERATION AND MAINTENANCE (O&M) MANUAL

1. PROVIDE BUILDING OWNER DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS AND COPIES OR WARRANTIES FOR EACH SYSTEM PER GREEN CODE 5.410.4.5.

CONSTRUCTION NOTES

1. THE PERMANENT HVAC SYSTEM SHALL ONLY BE USED DURING CONSTRUCTION IF SPACE CONDITIONING IS NECESSARY AND WITH REQUIRED AIR FILTERS. REPLACE ALL FILTERS IMMEDIATELY AFTER CONSTRUCTION PER GREEN CODE 5.504.1
2. COVER AND PROTECT DUCT OPENINGS AND MECHANICAL EQUIPMENT DURING CONSTRUCTIONS PER GREEN CODE 5.504.3
3. INSTALLATION OF HVAC OR REFRIGERATION EQUIPMENT SHALL COMPLY WITH THE OZONE DEPLETION AND GREEN HOUSE GAS REDUCTIONS REQUIREMENTS PER T24.
3.1. DO NOT INSTALL HVAC OR REFRIGERATION EQUIPMENT THAT CONTAIN CHLOROFLUOROCARBONS (CFC) OR HALONS.

INDOOR MOISTURE CONTROL AND INDOOR AIR QUALITY

1. HVAC SYSTEMS SHALL PROVIDE MINIMUM EXHAUST OR VENTILATION REQUIRED TO MEET T24 INDOOR MOISTURE REQUIREMENTS.
2. HVAC SYSTEMS SHALL PROVIDE MINIMUM OUTSIDE VENTILATION AIR AS NEEDED TO MEET T24 VENTILATION REQUIREMENTS.
3. FOR BUILDING THAT HAVE CARBON DIOXIDE MONITORING (CO2) FOR DEMAND CONTROL VENTILATION, SENSORS AND CONTROLS SHALL BE PROVIDED AND INSTALLED FOR A FULLY FUNCTIONAL SYSTEMS MEETING THE T24 VENTILATION REQUIREMENTS.
4. PROVIDE MINIMUM MERV 13 FILTERS FOR ALL OUTSIDE AIR AND RETURN AIR. FILTERS TO BE CLEARLY LABELED WITH FILTRATION RATINGS.

3.6 PROJECT BASIS OF DESIGN AND COMMISSIONING

BASIS OF DESIGN

1. THESE PROJECT DOCUMENTS INCLUDING THE SMEP-T24, CALCULATION PACKAGES AND REPORTS SHALL BE CONSIDERED THE PROJECTS BASIS OF DESIGN.
2. EQUIPMENT AND COMPONENTS INCLUDED IN THESE DRAWINGS HAVE BEEN SELECTED BASED ON PERFORMANCE, RELIABILITY AND PROJECT SUITABILITY.
3. THESE DOCUMENTS REPRESENT THE HVAC DESIGN INTENT THAT THE CONTRACTOR IS EXPECTED TO BUILD, INSTALL, AND PROVIDE THE FUNCTIONING HVAC SYSTEMS AS DESCRIBED IN THESE DOCUMENTS.

COMMISSIONING REQUIREMENTS

1. NONRESIDENTIAL BUILDING WITH LESS THAN 10,000 SF OF CONDITIONED SPACE SHALL COMPLY WITH THE APPLICABLE COMMISSIONING REQUIREMENTS BELOW PER T24 ENERGY CODE.
2. DESIGN PHASE REVIEW
2.1. DESIGN REVIEWER REQUIREMENTS. THE DESIGN REVIEWER SHALL BE THE SIGNER OF THE DESIGN REVIEW KICKOFF CERTIFICATE OF COMPLIANCE AND CONSTRUCTION DOCUMENT DESIGN REVIEW CHECKLIST AS SPECIFIED IN PART 1 SECTION 10-103(A)1.
2.2. DESIGN REVIEW KICKOFF. DURING THE SCHEMATIC DESIGN PHASE OF THE BUILDING PROJECT, THE OWNER REPRESENTATIVE, DESIGN TEAM AND DESIGN REVIEWER MUST MEET TO DISCUSS THE PROJECT SCOPE, SCHEDULE AND HOW THE DESIGN REVIEWER WILL COORDINATE WITH THE PROJECT TEAM. THE BUILDING OWNER OR OWNER'S REPRESENTATIVE SHALL INCLUDE THE DESIGN REVIEW KICKOFF CERTIFICATE OF COMPLIANCE FORM IN THE CERTIFICATE OF COMPLIANCE DOCUMENTATION AS SPECIFIED IN PART 1 SECTION 10-103.
2.3. CONSTRUCTION DOCUMENTS DESIGN REVIEW. THE CONSTRUCTION DOCUMENT DESIGN REVIEW CHECKLIST CERTIFICATE OF COMPLIANCE SHALL LIST THE ITEMS CHECKED BY THE DESIGN REVIEWER DURING THE CONSTRUCTION DOCUMENT REVIEW. THE COMPLETED FORM SHALL BE RETURNED TO THE OWNER AND DESIGN TEAM FOR REVIEW AND SIGN-OFF. THE BUILDING OWNER OR OWNER'S REPRESENTATIVE SHALL INCLUDE THIS FORM IN THE CERTIFICATE OF COMPLIANCE DOCUMENTATION AS SPECIFIED IN PART 1 SECTION 10-103.
3. COMMISSIONING MEASURES SHOWN IN THE CONSTRUCTION DOCUMENTS. COMPLETE DESCRIPTIONS OF ALL MEASURES OR REQUIREMENTS NECESSARY FOR COMMISSIONING SHALL BE INCLUDED IN THE CONSTRUCTION DOCUMENTS (PLANS AND SPECIFICATIONS). COMMISSIONING MEASURES OR REQUIREMENTS SHALL BE CLEAR, DETAILED AND COMPLETE TO CLARIFY THE COMMISSIONING PROCESS.

1.1 DESIGN CRITERIA

1. GENERAL PROJECT INFORMATION:
1.1. PROJECT SHALL CONFORM TO THE 2022 CMC, ITS REFERENCED STANDARDS, AND APPLICABLE LOCAL BUILDING DEPARTMENT STANDARDS.
1.2. DESIGN CRITERIA ARE AS FOLLOWS:

DESIGN VALUES		
CLIMATE ZONE	12	
DESIGN TEMPERATURES	HEATING	COOLING
OUTDOOR DRY BULB	33° F	83° F
INDOOR DRY BULB	68° F	75° F
INDOOR RELATIVE HUMIDITY	50	

1.2 GENERAL NOTES

1. SCOPE:
1.1. THE PROJECT DOCUMENTS MAY NOT BE USED IN A LOCATION OTHER THAN THAT DESIGNATED ON THE DRAWINGS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER.
1.2. THIS IS A "BUILDER'S SET" PRODUCED SOLELY FOR USE BY A KNOWLEDGEABLE AND EXPERIENCED CONTRACTOR.
1.3. THESE PLANS CONTAIN INFORMATION FOR GENERAL CONSTRUCTION AND BUILDING PERMIT PURPOSES ONLY. THEY ARE NOT EXTENSIVELY DETAILED NOR ARE COMPLETE SPECIFICATIONS PROVIDED. DETAILS OF CONSTRUCTION NOT FULLY SHOWN SHALL BE OF THE SAME NATURE AS SHOWN FOR SAME OR SIMILAR CONSTRUCTION SHOWN ELSEWHERE WITHIN THE PLAN SET. FOR ITEMS, METHODS AND/OR MATERIALS NOT SPECIFIED WITHIN THE SET, THE MIN REQUIREMENT OF THE APPLICABLE CODE SHALL GOVERN.
1.4. THE ENGINEER PROVIDES NO WARRANTY OR GUARANTEE ON THE FINAL PROJECT, NOR DUTY TO ANY PERSON OR ENTITY BEYOND THE AFOREMENTIONED LIMITED INFORMATION OF THESE PLANS.
2. CONTRACTOR REQUIREMENTS:
2.1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE QUALITY AND CONSTRUCTION STANDARDS FOR THIS PROJECT. CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND REGULATIONS.
2.2. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ETC.
2.3. ANY OR PART OF ALL SYSTEMS, MATERIALS, CONNECTIONS AND DETAILS NOT SPECIFICALLY PROVIDED IN THESE PLANS ARE THE SOLE AND COMPLETE RESPONSIBILITY OF THE CONTRACTOR TO PROPERLY VERIFY AND INSTALL.
2.4. CONTRACTOR SHALL NOTIFY THE ENGINEER AND ARCHITECT WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DRAWINGS OR DOCUMENTS. CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE BUILDING THAT IS IN CONFLICT, UNTIL CONFLICT IS RESOLVED BY THE AFFECTED PARTIES.
2.5. 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 MECHANICAL ENGINEER.
2.6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE ENGINEER OR ARCHITECT FOR ANY REQUIRED DIMENSIONS NOT SHOWN. DRAWINGS & DETAILS WITHIN THIS SET SHALL NOT BE SCALED FOR ANY PURPOSE.
2.7. THE GENERAL CONTRACTOR AND ITS SUB-CONTRACTORS MUST SUBMIT IN WRITING ANY REQUESTS FOR MODIFICATIONS TO THE PLANS AND SPECIFICATIONS. SHOP DRAWINGS THAT ARE SUBMITTED TO THE ENGINEER OF RECORD FOR ITS REVIEW DO NOT CONSTITUTE "IN WRITING". CHANGES TO THE PLANS AND SPECIFICATIONS BY MEANS OF SHOP DRAWINGS BECOME THE RESPONSIBILITY OF THE PERSON INITIATING SUCH CHANGES.
2.8. THE HERS RATER AND THE CONTRACTOR SHALL SUBMIT ALL THE REQUIRED AND CURRENTLY APPROVED FORMS TO THE REQUIRED PARTIES AFTER TESTING OR INSTALLATION. A REGISTERED COPY OF REQUIRED FORMS SHALL BE SUBMITTED PRIOR TO THE FINAL INSPECTION, SIGNED BY THE CERTIFIED INSTALLER AND THE HERS RATER FOR FIELD VERIFICATION AND DIAGNOSTIC TESTING AS REQUIRED.
2.9. ALL HIGH VOLTAGE POWER WIRING, DISCONNECTS, AND CONDUIT TO BE INSTALLED BY ELECTRICAL CONTRACTOR. ALL LOW VOLTAGE CONTROL WIRING FOR HVAC EQUIPMENT TO BE PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR.
2.10. MECHANICAL INSTALLERS MUST BE TRAINED AND CERTIFIED IN THE PROPER INSTALLATION OF HVAC SYSTEMS INCLUDING DUCTS AND EQUIPMENT BY A NATIONALLY OR REGIONALLY RECOGNIZED PROGRAM OR UNDER THE DIRECT SUPERVISION AND RESPONSIBILITY OF A PERSON TRAINED AND CERTIFIED TO INSTALL HVAC SYSTEMS OR CONTRACTOR LICENSED TO INSTALL HVAC SYSTEMS. SEE CALGREEN 702.1 FOR ACCEPTABLE TRAINING PROGRAMS.

1.3 TYPICAL ABBREVIATIONS

A/A	ATTIC ACCESS
ABV	ABOVE
ACCA	AIR CONDITIONING CONTRACTORS OF AMERICA
AFF	ABOVE FINISHED FLOOR
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
AHRI	AIR CONDITIONING, HEATING, AND REFRIGERATION INSTITUTE
AIRFLOW	AIR FLOW
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BLKG	BLOCKING
BLW	BELOW
BTU	BRITISH THERMAL UNIT
BTU/H	BTU PER HOUR
CALGREEN	CALIFORNIA GREEN BUILDING STANDARDS
CBC	CALIFORNIA BUILDING CODE
CEC	CALIFORNIA ELECTRICAL CODE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CL	CENTERLINE
CLR	CLEAR
CMC	CALIFORNIA MECHANICAL CODE
CONT	CONTINUOUS
CPC	CALIFORNIA PLUMBING CODE
CRC	CALIFORNIA RESIDENTIAL CODE

CU	CONDENSING UNIT
DIA	DIAMETER
DBL	DOUBLE
DN	DOWN
(E)	EXISTING
EA	EACH
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
ELEV	ELEVATION
ERV	ENERGY RECOVERY VENTILATOR
EQ	EQUAL
f	CFM's
F	FAHRENHEIT
FAU	FORCED AIR UNIT
F/L	FAN/LIGHT COMBINATION
GA	GAUGE
GALV	GALVANIZED
HOOD	KITCHEN HOOD VENT
HORIZ	HORIZONTAL
HRV	HEAT RECOVERY VENTILATOR
HSPF	HEATING SEASONAL PERFORMANCE FACTOR
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
IAQ	INDOOR AIR QUALITY
IBC	INTERNATIONAL BUILDING CODE
ICC	INTERNATIONAL CODE COUNCIL
MFR	MANUFACTURER
MAX	MAXIMUM
MIN	MINIMUM
MSD	MULTI-SHUTTER DAMPER

(N)	NEW
NFTA	NATIONAL FIRE PROTECTION ASSOCIATION
NTS	NOT TO SCALE
OC	ON CENTER
OSA	OUTSIDE AIR
PBD	PARALLEL BLADE DAMPER
PERP	PERPENDICULAR
PL	PLATE
POC	POINT OF CONNECTION
PSI	POUNDS PER SQUARE INCH
REQ'D	REQUIRED
SAD	SEE ARCHITECTURAL DRAWINGS
SEER	SEASONAL ENERGY EFFICIENCY RATING
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SOV	SHUT OFF VALVE
SQ FT	SQUARE FEET
STD	STANDARD
T&B	TOP & BOTTOM
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VENT
VERT	VERTICAL
V(R)	VENT RISER
VTR	VENT TO ROOF
VTW	VENT TO WALL
WBV	WHOLE BUILDING VENTILATION
WH	WATER HEATER
#	POUND

2.2 HEAT PUMP UNITS

1. OUTDOOR UNIT GENERAL REQUIREMENTS:
1.1. WATERPROOF GFI EQUIPMENT OUTLET REQUIRED WITHIN 25'-0" MAX DISTANCE FROM UNIT.
1.2. PROVIDE EQUIPMENT DISCONNECT PER CEC SECTION 440.11 . MOUNT TO WALL OR FREESTANDING MOUNTING SUPPORT, (UNISTRUT P1000 OR EQUAL). MOUNTING HEIGHT TO BE BETWEEN 1'-6" AND 4'-0" ABOVE FINISH FLOOR.
2. OUTDOOR UNIT CONSTRUCTION REQUIREMENTS:
2.1. REFRIGERANT PIPING LOCATED OUTDOORS SHALL BE FITTED WITH LOCKING-TYPE TAMPER-RESISTANT CAPS OR SHALL BE PROTECTED FROM UNAUTHORIZED ACCESS BY A MEANS ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION PER CMC SECTION 1105.11.
2.2. THE SUCTION REFRIGERANT LINE FROM THE INDOOR COIL TO THE OUTDOOR UNIT SHALL BE INSULATED WITH MIN R6 INSULATION. INSULATION USED FOR REFRIGERANT SUCTION LINES SHALL BE WATER RETARDANT AND PROTECTED FROM PHYSICAL DAMAGE AND UV DETERIORATION.
2.3. PROVIDE PIPING SLEEVE FOR REFRIGERANT PIPING THAT RUNS BELOW GRADE OR THROUGH CONCRETE FLOOR. SLEEVE TO HAVE MIN 1/2" CLEARANCE AROUND PIPE INSULATION.
2.4. AN EQUIPMENT PAD SHALL BE PROVIDED FOR GRADE MOUNTED EQUIPMENT MIN 6" WIDER THAN THE OUTDOOR UNIT IN ALL DIRECTIONS, 4" THICK AND MIN 3" ABOVE ADJACENT GRADE. REFER TO MANUFACTURER'S REQUIREMENTS FOR CLEARANCES.
2.5. WHERE PIPING RUNS VERTICALLY THROUGH WALL, BORE/NOTCH TOP PLATES PER STRUCTURAL PLANS.
2.6. REFRIGERANT PIPING TO BE SECURLY FASTENED TO FRAMING WITHIN 6'-0" OF FIRST BEND FROM OUTDOOR UNIT, WITHIN 2'-0" OF EACH SUBSEQUENT BEND, AND AT POINTS NO MORE THAN 15'-0" APART. SEE DETAIL H/MN.2.
3. OUTDOOR UNIT ALTERNATES & MODIFICATIONS:
3.1. ALTERNATE LOCATIONS
3.1.1. LOCATION OF EQUIPMENT ON PLAN IS DIAGRAMMATIC IN NATURE, VERIFY EXACT LOCATION WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL VERIFY THAT ADJUSTED EQUIPMENT LOCATION DOES NOT NEGATIVELY IMPACT THE PERFORMANCE OF THE OVERALL SYSTEM.
3.1.2. CONTRACTOR SHALL FIELD VERIFY EQUIPMENT CLEARANCE, MAINTENANCE AREA, & LOT LINE SETBACKS PRIOR TO RELOCATING.
4. INDOOR HEAT PUMP UNIT GENERAL REQUIREMENTS:
4.1. PROVIDE MIN 22"X30" ACCESS LARGE ENOUGH TO ACCOMMODATE THE REMOVAL OF THE LARGEST COMPONENT OF HEAT PUMP. LOCATE ACCESS MAX 20'-0" FROM FAU UNLESS PASSAGEWAY HEIGHT IS OVER 6'-0". PROVIDE CONTINUOUS SOLID FLOORING NOT LESS THAN 24" WIDE FROM ACCESS TO UNIT.
4.2. PROVIDE A LEVEL WORKING PLATFORM MIN 30" IN DEPTH, WIDTH, AND HEIGHT ALONG SERVICE SIDE OF UNIT FOR MAINTENANCE.
4.3. DUCTS AND PLENUMS SHALL BE CONSTRUCTED, INSTALLED, SEALED, AND INSULATED IN ACCORDANCE WITH: T24, CMC, AND SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
4.4. PROVIDE A PERMANENT 110V ELECTRICAL OUTLET AND LIGHTING FIXTURE AT OR NEAR UNIT. LIGHTING FIXTURE SHALL BE CONTROLLED BY SWITCH. SWITCH TO BE LOCATED AT ACCESS POINT WHEN UNIT IS INSTALLED IN ATTIC.
4.5. DESIGN AND UNIT SELECTION EXTERNAL STATIC PRESSURE MUST INCLUDE FILTER PRESSURE DROP
5. CONSTRUCTION REQUIREMENTS:
5.1. PROVIDE 3/4" PVC CONDENSATE DRAIN TO NEAREST DRAIN OR DRAIN TAIL PIECE.
5.2. PROVIDE WATER TIGHT CORROSION-RESISTANT PAN BELOW COOLING COIL W/ 3/4" PVC DRAIN OR AS REQUIRED BY MANUFACTURE. LINE W/ MIN 1/8" PER 1'-0" SLOPE TOWARDS DRAIN TO EXTERIOR POINT THAT IS READILY OBSERVED OR PROVIDE WATER DETECTING DEVICE THAT WILL SHUT OFF EQUIPMENT WHEN WATER IS DETECTED.
5.3. PROVIDE CONDENSATE LIFT PUMP WHEN REQUIRED BY INDOOR UNIT OR IF SLOPED CONDENSATE PIPING WILL NOT ROUTE PROPERLY TO DRAIN CONNECTION.
6. ALTERNATES & MODIFICATIONS:
6.1. ALTERNATE LOCATIONS
6.1.1. LOCATION OF EQUIPMENT ON PLAN IS DIAGRAMMATIC IN NATURE AND MAY BE ADJUSTED FOR OPTIMAL FIT. CONTRACTOR SHALL VERIFY THAT ADJUSTED EQUIPMENT LOCATION DOES NOT NEGATIVELY IMPACT THE PERFORMANCE OF THE OVERALL SYSTEM.
6.1.2. CONTRACTOR SHALL FIELD VERIFY EQUIPMENT CLEARANCE, MAINTENANCE AREA, & ACCESS TO EQUIPMENT PRIOR TO RELOCATING.
6.2. ALTERNATE EQUIPMENT
6.2.1. EQUIPMENT SUBSTITUTIONS SHALL MEET OR EXCEED THE DESIGN SPECIFICATIONS FOR SEER/EER/HSPF, SHALL MATCH NOMINAL TONNAGE OF EQUIPMENT SPECIFIED, AND SHALL PROVIDE EQUIVALENT SYSTEM PERFORMANCE.

2.3 DUCTLESS SYSTEM COMPONENTS

1. GENERAL REQUIREMENTS:
1.1. PROVIDE ACCESS PER MANUFACTURER REQUIREMENTS, INCLUDING, BUT NOT LIMITED TO CLEARANCES & ACCESS PANEL ACCESSORIES.
2. ALTERNATES & MODIFICATIONS:
2.1. ALTERNATE LOCATIONS
2.1.1. LOCATION OF EQUIPMENT ON PLAN IS DIAGRAMMATIC IN NATURE AND MAY BE ADJUSTED FOR OPTIMAL FIT. CONTRACTOR SHALL VERIFY THAT ADJUSTED EQUIPMENT LOCATION DOES NOT NEGATIVELY IMPACT THE PERFORMANCE OF THE OVERALL SYSTEM.
2.1.2. CONTRACTOR SHALL FIELD VERIFY EQUIPMENT CLEARANCE & ACCESS TO EQUIPMENT PRIOR TO RELOCATING.
2.2. ALTERNATE EQUIPMENT
2.2.1. EQUIPMENT SUBSTITUTIONS SHALL MEET OR EXCEED THE DESIGN SPECIFICATIONS FOR SEER2/EER2 & AFUE/HSPF2, SHALL MATCH NOMINAL TONNAGE OF EQUIPMENT SPECIFIED, AND SHALL PROVIDE EQUIVALENT SYSTEM PERFORMANCE PER THE REQUIREMENTS OF SECTIONS 1.4 & 1.5.
2.2.2. ALL EQUIPMENT MUST HAVE VALID AHRI CERTIFICATION AT TIME OF INSTALLATION.

2.4 DAMPERS

1. GENERAL REQUIREMENTS:
1.1. DAMPERS TO BE ACCESSIBLE FOR ADJUSTMENT AND MAINTENANCE, WHERE NOT ACCESSIBLE THROUGH ATTIC BEHIND CEILING MOUNTED FAN/GRILLE, PROVIDE 14X14 WALL/CEILING ACCESS PANEL. PANEL TO HAVE SAME FIRE RATING AS WALL/CEILING, WHERE REQUIRED, SEE ARCHTIECTURAL PLANS FOR FIRE RATING SPECIFICATIONS.
1.2. MANUAL VOLUME DAMPERS:
1.2.1. MANUAL VOLUME DAMPERS SHALL BE PROVIDED IN ALL DUCT BRANCHES TO INDIVIDUAL BOXES, DIFFUSERS, GRILLES AND REGISTERS AND SHALL BE LOCKED IN THE FINAL POSITION AFTER COMPLETION OF AIR BALANCE. SEE ARCHITECTURAL PLANS AND ACOUSTICAL REPORT (WHERE OCCURS) FOR ACOUSTICAL REQUIREMENTS.
1.2.2. MANUAL DAMPERS MAY BE OMITTED WHERE INSTALLER IS ABLE TO BALANCE SYSTEM WITHOUT USE OF DAMPER.
1.3. MOTORIZED DAMPERS:
1.3.1. INSTALL A MOTORIZED DAMPER AT THE TRUNK OF EACH ZONE OF MULTI-ZONE SYSTEMS.
1.3.2. DAMPER TO HAVE EXTERNAL MOUNTED POWER ACTUATOR, INSTALLED IN FLOATING POSITION WITH DAMPER STOP INSTALLED AS SPECIFIED IN SECTION 1.1.
1.4. BAROMETRIC DAMPERS:
1.4.1. ADJUST COUNTERWEIGHT AS NEEDED TO ACHIEVE THE AIRFLOW SPECIFIED ON PLANS WHEN SMALLEST ZONE IS CALLING FOR SUPPLY AIR.
1.5. FIRE DAMPERS:
1.5.1. PROVIDE FIRE DAMPER AND/OR FIRE SMOKE (CALIFORNIA STATE FIRE MARSHALL APPROVED) AT EVERY PENETRATION OF A FIRE/SMOKE RATED PARTITION. DAMPER TO HAVE SAME FIRE RATING AS PARTITION, SEE ARCHITECURAL PLANS FOR SPECIFICATIONS.
1.5.2. FIRE DAMPERS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 90A & MANUFACTURER'S INSTRUCTIONS, BE UL-555 LISTED, AND BE RATED FOR THE SAME DURATION AS THE FIRE ASSEMBLY BEING PENETRATED.
1.5.3. FIRE RATED ACCESS IS REQUIRED AT EACH DAMPER. ACCESS MAY BE PROVIDED THROUGH ATTIC ACCESS, REMOVABLE GRILLE, OR CEILING ACCESS PANEL.
1.5.4. AT ATTIC APPLICATIONS WHERE DUCT DOES NOT PASS THROUGH CEILING, A RADIATION DAMPER MAY BE USED AS AN ALTERNATE TO THE FIRE DAMPER.
1.6. RADIATION DAMPERS:
1.6.1. RADIATION DAMPERS SHALL UL-555C RATED HINGE DOOR TYPE DAMPERS. DAMPER TO HAVE SAME FIRE RATING AS PARTITION, SEE ARCHITECURAL PLANS FOR SPECIFICATIONS.

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CARLSBAD, CA
92008

PROJECT MANAGER:	MW
DESIGNER:	CB
DRAWN BY:	QES
CHECKED BY:	MW
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:
REGISTERED PROFESSIONAL ENGINEER
ROBERT D. PENROD
EXPIRES 09/30/24
#M18824
MECHANICAL
STATE OF CALIFORNIA

PLAN NUMBER:

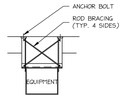
SHEET TITLE:
STANDARD NOTES

SCALE:

SHEET NUMBER:
MN.1

JOB NUMBER: HS22244

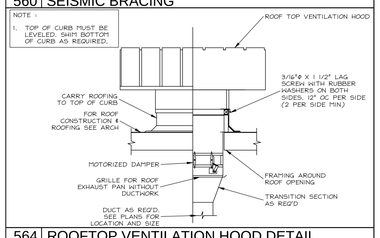
STANDARD DETAILS



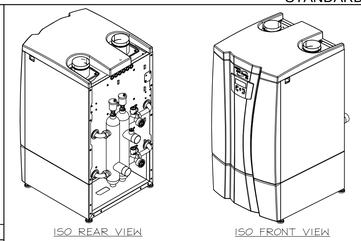
NOTES:
1. SEE SPECIFICATION SECTION 23-05-48 FOR SEISMIC BRACING REQUIREMENTS

HS22244_MN SHEETS

560 | SEISMIC BRACING



564 | ROOFTOP VENTILATION HOOD DETAIL



MATERIALS OF CONSTRUCTION
HEAT EXCHANGER: 316 (T1) AND 316 SS
HEAT EXCHANGER DESIGN STANDARDS
MAX. WORKING PRESS. (PSIG): 160 MAXIMUM TEMP. (F): 200 TEST PRESS. (PSIG): 240
BOILER / WATER HEATER UNITS- ASME B & PV CODE SECTION IV STAMP H
OPTIONAL: ASME B & PV CODE SECTION IV STAMP HLW (ONLY BY REQUEST FOR WATER HEATER UNITS.)

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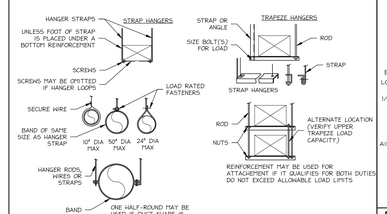
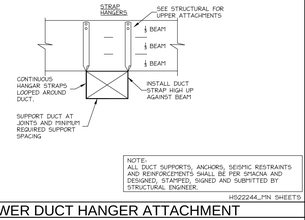
550 | GAS FIRED BOILER / WATER HEATER





NOTE:
ALL DUCT SUPPORTS, ANCHORS, SEISMIC RESTRAINTS AND REINFORCEMENTS SHALL BE PER SMACNA AND DESIGNED, STAMPED, SIGNED AND SUBMITTED BY STRUCTURAL ENGINEER.

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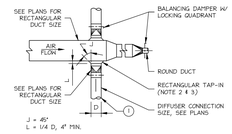
551 | LOWER DUCT HANGER ATTACHMENT



NOTES:
1. TAKEOFF BOTH SIDES OR SINGLE SIDE AS REQUIRED BY PLANS. STAGGER TAKE-OFFS ON EITHER SIDE OF DUCT WHERE POSSIBLE
2. CLINCH LOCK CONNECTION TO DUCK SHALL HAVE CORNER SEALS (SEE SMACNA MANUAL)
3. EXTRACTORS, SCOOPS, DEFLECTORS OR DAMPERS THAT PROTRUDE INTO THE MAIN DUCT SHALL NOT BE USED. BALANCING DAMPERS SHALL BE LOCATED TO PREVENT PROTRUSION INTO THE MAIN DUCT AND TO PROVIDE STABLE AIR FLOW AND MINIMAL NOISE WHEN ADJUSTED.

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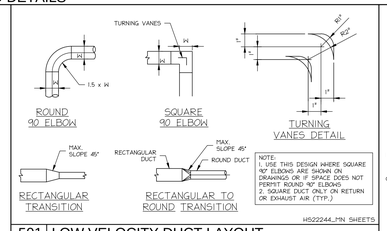
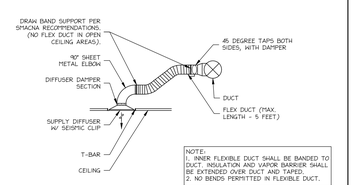
552 | TYPICAL DIFFUSER TAKE OFF DETAIL



NOTE:
1. USE THIS DESIGN WHERE SQUARE 90° ELBOWS ARE SHOWN ON DRAWINGS OR IF SPACE DOES NOT PERMIT ROUND 90° ELBOWS
2. SQUARE DUCT ONLY ON RETURN OR EXHAUST AIR (TYP.)

HS22244_MN SHEETS

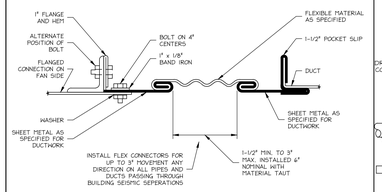
501 | LOW VELOCITY DUCT LAYOUT



NOTE:
1. INNER FLEXIBLE DUCT SHALL BE BANDED TO DUCT INSULATION AND VAPOR BARRIER SHALL BE EXTENDED OVER DUCT AND TAPED.
2. NO BENDS PERMITTED IN FLEXIBLE DUCT.

HS22244_MN SHEETS

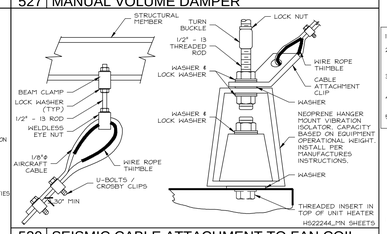
503 | FLEX DUCT



HS22244_MN SHEETS

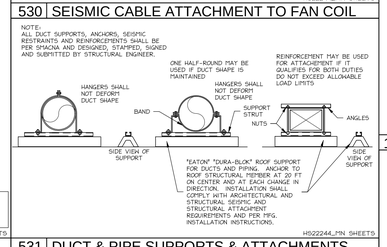
505 | RECTANGULAR DUCT FLEX CONNECTION

527 | MANUAL VOLUME DAMPER



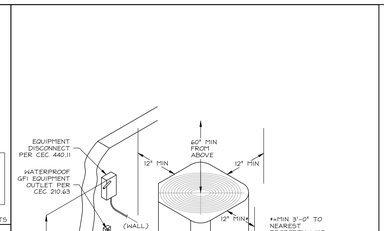
HS22244_MN SHEETS

530 | SEISMIC CABLE ATTACHMENT TO FAN COIL



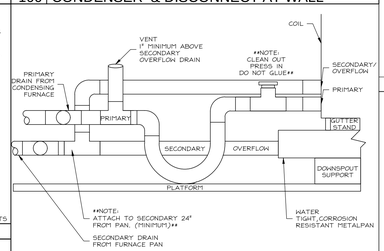
HS22244_MN SHEETS

531 | DUCT & PIPE SUPPORTS & ATTACHMENTS

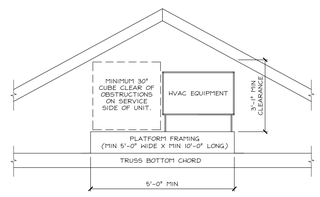


HS22244_MN SHEETS

100 | CONDENSER & DISCONNECT AT WALL

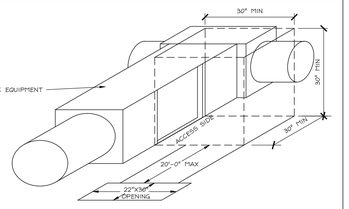


CONDENSATE CONNECTION FOR HORIZONTAL APPLICATIONS



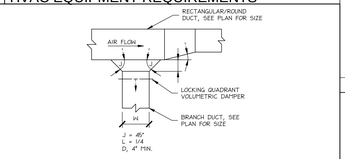
EQUIPMENT CLEARANCE REQUIREMENTS

1. PROVIDE ATTIC OPENING AND PASSAGEWAY, WITH A MINIMUM SIZE OF 22"X 30" PER CPC 304.4
2. WHERE HEIGHT OF PASSAGEWAY IS LESS THAN SIX (6) FEET, THE DISTANCE FROM THE PASSAGEWAY ACCESS TO THE APPLIANCE SHALL NOT EXCEED 20 FEET, MEASURED ALONG THE CENTERLINE OF THE PASSAGEWAY. CPC 304.4.1
3. THE WIDTH OF THE PASSAGEWAY SHALL BE UNOBSTRUCTED AND SHALL HAVE SOLID FLOORING NOT LESS THAN 24" WIDE FROM THE ENTRANCE OPENING TO THE APPLIANCE. CPC 304.4.2
4. A LEVEL WORKING PLATFORM NOT LESS THAN 30"X 30" SHALL BE PROVIDED IN FRONT OF THE SERVICE SIDE OF THE APPLIANCE. CPC 304.4.3
5. A PERMANENT 120-VOLT RECEPTACLE OUTLET AND LIGHTING FIXTURE SHALL BE INSTALLED NEAR THE APPLIANCE. CPC 304.4.4



MINIMUM WORK AREA FOR HVAC EQUIPMENT

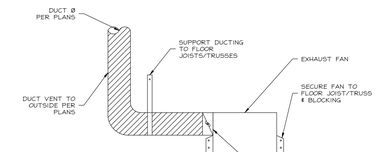
110 | HVAC EQUIPMENT REQUIREMENTS



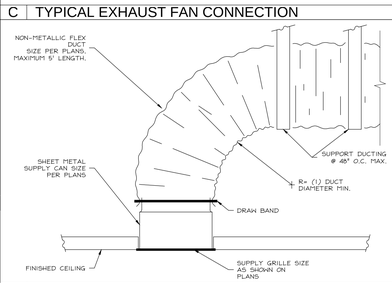
NOTES:
1. TAKEOFF BOTH SIDES OR SINGLE SIDE AS REQUIRED BY PLANS. STAGGER TAKE-OFFS ON EITHER SIDE OF DUCT WHERE POSSIBLE
2. SEE SMACNA MANUAL FOR TAP-IN DETAILS.
3. WHEN FITTING HAS ONLY ONE SIDE SLOPED FOR A SINGLE SIDE TAKE-OFF, THE TAP-IN SHALL BE INSTALLED IN SLOPED SIDE.
4. CLINCH LOCK CONNECTION TO DUCT SHALL HAVE CORNERS SEALS (SEE SMACNA MANUAL)

HS22244_MN SHEETS

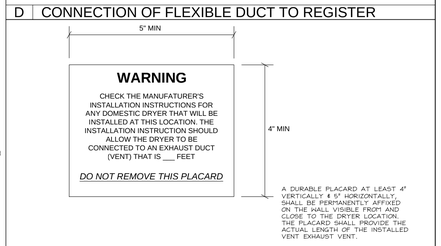
500 | TYPICAL BRANCH DUCT TAKE-OFF



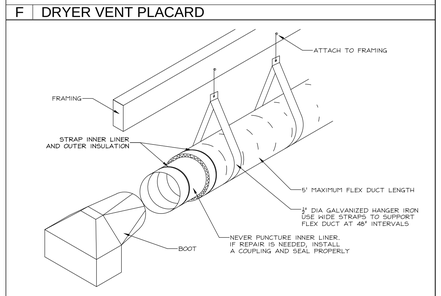
C | TYPICAL EXHAUST FAN CONNECTION

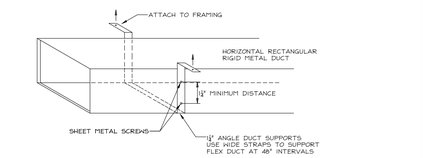


D | CONNECTION OF FLEXIBLE DUCT TO REGISTER

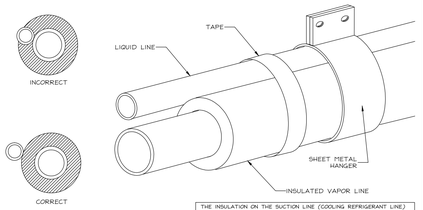


F | DRYER VENT PLACARD





G | DUCT HANGERS



THE INSULATION ON THE SUCTION LINE (COOLING REFRIGERANT LINE) OF THE AC CONDENSER SHALL BE PROTECTED FROM PHYSICAL DAMAGE OR ULTRAVIOLET DETERIORATION BY AN ALUMINUM OR METAL SHROUD, PAINT, PLASTIC COVER, OR ULTRAVIOLET RESISTANT TAPE. (CENC 150.0(M))

H | LINESET SUPPORT

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PROJECT MANAGER:	MW
DESIGNER:	CB
DRAWN BY:	QES
CHECKED BY:	MW
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:

REGISTERED PROFESSIONAL ENGINEER ROBERT D. PEDRICO EXPIRES 09/30/24 #M19824 MECHANICAL STATE OF CALIFORNIA

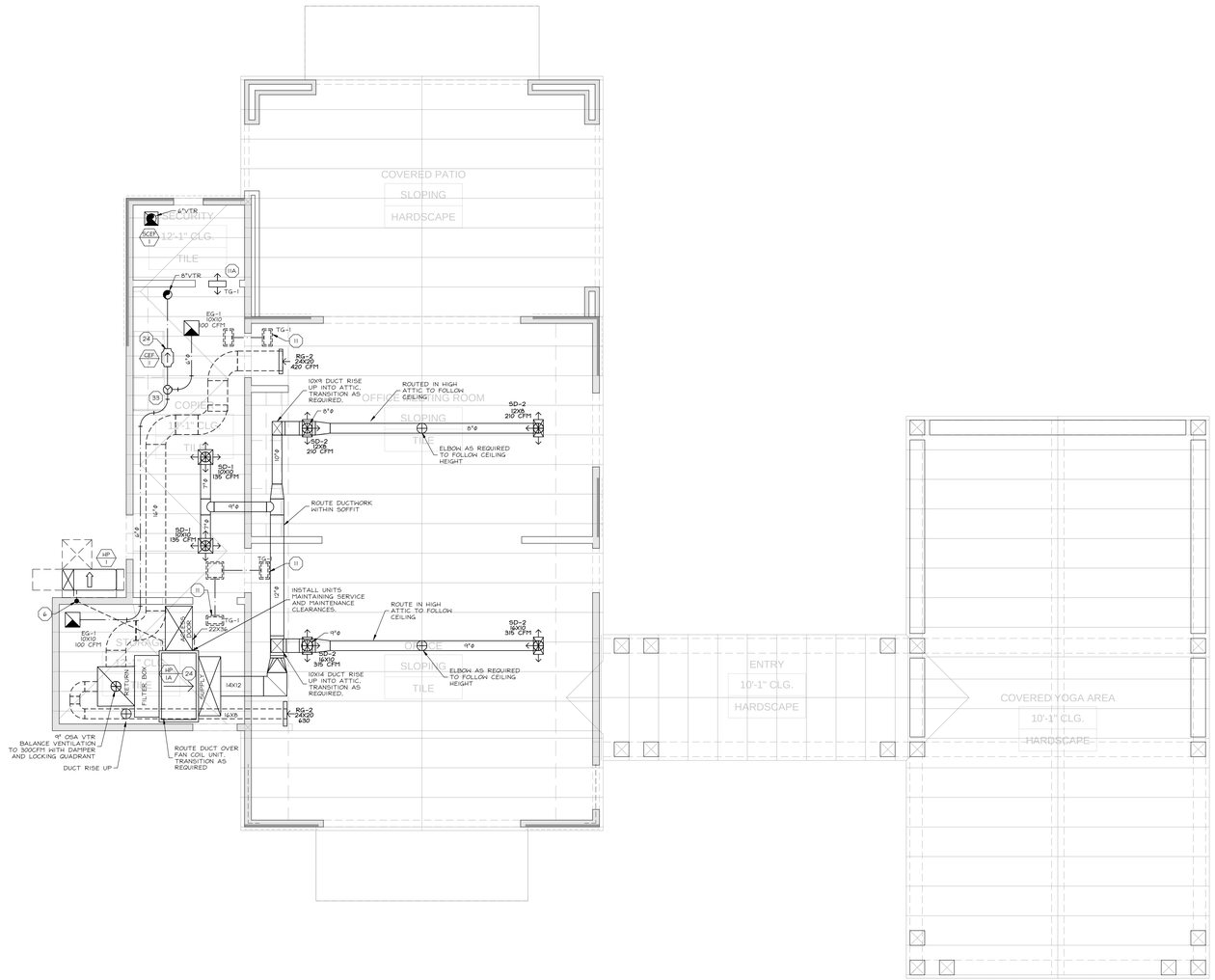
PLAN NUMBER:

SHEET TITLE:
STANDARD DETAILS

SCALE:

SHEET NUMBER:
MN.2

JOB NUMBER: HS22244



KEYNOTES

- 6A ROUTE LINESET TO FAN COIL UNITS. COORDINATE ROOTING WITH STRUCTURAL FOR ALLOWABLE PENETRATIONS AS REQUIRED.
- 11 DUCTED AIR TRANSFER SYSTEM. CEILING GRILLES SIZED TO MATCH AIR SUPPLY, RETURN, OR EXHAUST TO SPACE WITH MAXIMUM 400FPM AIR VELOCITY FOR BOTH DUCTWORK AND GRILLES. TYPICAL SIZES: 10X10 MAX 240CFM / 14X14 MAX 470CFM / 24X14 MAX 820CFM
- 11A THROUGH-WALL AIR TRANSFER GRILLE.
- 11B 16X16 DOOR LOUVERS AT +12"
- 11B PROVIDE FLEXIBLE CONNECTION FOR VIBRATION ISOLATION ON ALL DUCTWORK CONNECTIONS TO FANS OR UNITS. TRANSITION DUCTWORK TO FAN INLET AS REQUIRED.
- 24 PROVIDE CEILING ACCESS PANEL WHERE FAN/DAMPER OR VAV BOX IS NOT ACCESSIBLE THROUGH ATTIC. PANEL TO HAVE SAME FIRE RATING AS CEILING, WHERE REQUIRED. SEE ARCHITECTURAL PLANS FOR FIRE RATING SPECIFICATIONS
- 33 EXHAUST VENT WYE. SIZE AS NOTED ON PLANS. ROUTE SINGLE VENT RISER TO ROOF OR WALL. UNO, VENT BRANCH DUCTS SHALL CONNECT TO MAIN VENT RISER SEPARATELY WITH INDIVIDUAL FITTINGS TO PREVENT ANY POSSIBLE BACK-FLOW. THE LARGEST DUCT SHALL ALWAYS ELBOW TO THE BEGINNING OF THE RISER VENT. SMALLER VENTS WILL CONNECT WITH INDIVIDUAL FITTINGS DOWNSTREAM OF MAIN RISER ELBOW.
- 58A ROUTE SHEET METAL DUCT THROUGH CEILING FRAMING AS REQUIRED. RECTANGULAR DUCTS MAY BE ROTATED, SPLIT UP, OFFSET, OR TRANSITIONED TO ROUND DUCT AS NEEDED TO FIT THROUGH ANGLED FRAMING FREE AREAS. ANY DUCT MAY BE SPLIT UP, OR OFFSET AS NEEDED TO FIT THROUGH ANGLED FRAMING FREE AREAS. ANY DUCT ALTERATIONS SHALL COMPLY WITH SMACNA DUCT DESIGN REQUIREMENTS.
- 59A ROUTE DUCTWORK AS HIGH AS NEEDED TO PASS OVER AND AVOID LOW CONFLICTS. SUPPORT AS REQUIRED.
- 60 SEALED COMBUSTION WATER HEATER, BY OTHERS, MUST MEET REQUIREMENTS OF TITLE 24 DOCUMENTATION. PROVIDE CONCENTRIC VENT THROUGH WALL. UNO, SEE MN.1, SECTION 3.3 FOR SPECIFICATIONS AND ALTERNATES

GENERAL NOTES

1. IT IS THE CONTRACTORS/OWNERS/DEVELOPERS RESPONSIBILITY TO REVIEW ALL NOTES AND DETAILS ON THE MN SHEETS AND INCORPORATE IN THE CONSTRUCTION OF THE STRUCTURE.
2. PRIOR TO BUILDING DEPARTMENT APPROVAL, THESE CONSTRUCTION DOCUMENTS ARE SUBJECT TO CHANGE AND SHALL NOT BE USED FOR CONSTRUCTION. ANY CONSTRUCTION/ BIDS PERFORMED BEFORE PERMIT ISSUANCE IS THE RESPONSIBILITY OF THE CONTRACTOR/BIDDER.

NON-RESIDENTIAL NOTES

1. GENERAL HVAC INSTALLATION NOTE:
ALL EQUIPMENT AND DUCTWORK LOCATED AND INSTALLED WITHIN THE FLOOR, CEILING OR TRUSS SYSTEM SHALL BE COORDINATED AMONGST THE TRADES PRIOR TO INSTALLATION TO ENSURE ALL REQUIRED CLEARANCES ARE MAINTAINED FOR SERVICING. CONTRACTOR TO ADJUST EQUIPMENT LAYOUTS AND DUCTWORK ROUTES AS NEEDED. COORDINATE ANY CHANGES WITH STRUCTURAL. HVAC INSTALLATION MAY BE REQUIRED TO OCCUR BEFORE OR CONCURRENTLY WITH THE INSTALLATION OF THE FRAMING SYSTEMS TO ENSURE PROPER EQUIPMENT AND DUCTWORK FIT. CONTRACTOR SHALL CHANGE DUCTWORK ELEVATIONS OR STACK DUCTWORK AS NEEDED TO PROPERLY ROUTE DUCTWORK. COORDINATE WITH STRUCTURAL ELEMENTS AND EQUIPMENT CLEARANCES.

2. PROVIDE MERV 13 FILTERS FOR ALL NON-RESIDENTIAL HVAC SYSTEMS

3. ALL NON-RESIDENTIAL HVAC DUCTWORK SYSTEMS SHALL BE CONSTRUCTED OF SHEET METAL UNLESS OTHERWISE NOTED. ALL DUCTWORK CONSTRUCTION AND INSTALLATION SHALL BE DONE IN ACCORDANCE WITH SMACNA AND CMC. FLEX DUCT SHALL BE LIMITED TO 5' MAXIMUM LENGTH. DUCTWORK INSULATION SHALL BE R8 MINIMUM

4. PROVIDE FULL SIZE MANUAL VOLUME DAMPERS (MVD) FOR EACH SUPPLY, RETURN, AND EXHAUST BRANCH DUCT TO ALLOW FOR SYSTEM AIR BALANCING WEATHER SHOWN OR NOT. LOCATE MVD TO BE ACCESSIBLE AND UPSTREAM JUST BEFORE TRUNK CONNECTION WHENEVER POSSIBLE TO REDUCE NOISE.

5. CONTROL REQUIREMENTS:
DEMAND CONTROL VENTILATION IS REQUIRED, PER THE ENERGY CODE COMPLIANCE FORM. CO2 SENSORS SHALL BE INSTALLED IN EACH ROOM SERVED BY THE MECHANICAL UNIT THAT HAS A DESIGN OCCUPANCY OF 40 SQUARE FEET PER PERSON OR LESS. THE CO2 SENSOR SHALL BE LOCATED BETWEEN 3 AND 6 ABOVE THE FLOOR. BUILDING PRESSURE EXHAUST FANS SHALL HAVE 2-SPEED CONTROL AND OPERATE MATCHING THE AHU SUPPLY FAN AIRFLOWS.

6. HVAC NOTES:
HVAC UNITS GREATER THAN 2000 CFM DUCT DETECTORS AND AUTO SHUT OFF ARE REQUIRED OR NOTE EXCEPTION USED. CMC 609 COORDINATE DUCT DETECTORS AND AUTO-SHUT WITH THE FIRE ALARM SYSTEM. ALL SMOKE DUCT DETECTORS SHALL HAVE REMOTE TEST SWITCHES.

FAN SCHEDULE

	TYPE	MAKE MODEL	FAN TYPE	CFM / 5ONES	ENERGY FAN CONTROL	WEIGHTS SIZE (LxWxH)	NOTES
COPY ROOM	(CEF 1)	GREENHECK CUB-80-VG	ROOF MOUNTED	400 @0.20 SP 7.7	1/10 HP A	50 LB 24X24X14	PROVIDE SPEED CONTROLLER
MEN'S RESTROOM	(REF 1)	GREENHECK SQ-90-VG	INLINE EXHAUST	550 @0.25 SP 7.2	1/10 HP A	45 LB 15X15X19	PROVIDE SPEED CONTROL
WOMEN'S RESTROOM	(REF 1)	GREENHECK SQ-80-VG	INLINE EXHAUST	350 @0.25 SP 7.5	1/10 HP A	45 LB 15X15X19	PROVIDE SPEED CONTROL
JANITOR CLOSET	(JEF 1)	GREENHECK SP-B10	CEILING MOUNTED EXHAUST	100 2.2	60 WATTS A	25 LB 12X14X8	--
SECURITY ROOM	(ACER 1)	GREENHECK SP-B10	CEILING MOUNTED EXHAUST	100 2.2	60 WATTS A	25 LB 12X14X8	--
STORAGE	(SEF 1)	GREENHECK SP-B10	CEILING MOUNTED EXHAUST	100 2.2	60 WATTS A	25 LB 12X14X8	--
SHOWERS	(SHER 1)	GREENHECK SQ-80-VG	INLET EXHAUST	250 @0.25 SP 7.2	1/10 HP A	45 LB 15X15X19	PROVIDE SPEED CONTROL
SHOWERS	(SHER 2)	GREENHECK SP-B10	CEILING MOUNTED EXHAUST	100 2.2	60 WATTS A	25 LB 12X14X8	--
POOL EQUIPMENT ROOM	(PEF 1)	PLASTEC P15-4	CHEMICAL RESISTANT FAN	170 @0.15 SP --	1/4 HP D	75 LB 16X16X24	PROVIDE SPEED CONTROL
POOL EQUIPMENT ROOM	(PEF 2)	PLASTEC S10-4	CHEMICAL RESISTANT FAN	80 @0.25 SP --	1/8 HP D	75 LB 12X12X12	PROVIDE SPEED CONTROL
POOL EQUIPMENT ROOM	(PEF 3)	PLASTEC S10-4	CHEMICAL RESISTANT FAN	80 @0.25 SP --	1/8 HP D	75 LB 12X12X12	PROVIDE SPEED CONTROL

1. SEE MN.1 SECTION 2.4 FOR SPECIFICATIONS, SEE DETAIL G/MN.2 FOR TYPICAL EXHAUST FAN CONNECTION.
2. PROVIDE VIBRATION ISOLATORS
3. PROVIDE DDC CONTROLLER TO INTERFACE WITH EXHAUST FANS AND TE-200 MASTER CONTROLLER. ADDRESS AND PROGRAM TO INTERACT WITH EXHAUST FANS
4. PROVIDE GREENHECK VARI-GREEN OPTIONAL SPACE PRESSURE CONTROLS, PRESSURE SENSORS, TUBING, AND COMPONENTS FOR PEF-1#2 AND PROGRAM FOR STANDALONE BUILDING STATIC PRESSURE CONTROL.

FAN CONTROL - OPERATION AS FOLLOWS:
- A - FAN OPERATES DURING OCCUPIED HOURS. CONTROLLED BY TIME CLOCK.
- B - FAN OPERATES DURING OCCUPIED HOURS. CONTROLLED BY THERMOSTAT WITH ADJUSTABLE SET POINT.
- C - FAN OPERATES DURING OCCUPIED HOURS. CONTROLLED BY ROOF PRESSURE CONTROL.
- D - RUNS CONTINUOUSLY FOR SAFETY

DUCT MATERIAL SCHEDULE

TYPE	MATERIAL	REMARKS
SUPPLY DUCTS	SHEET METAL UNO	
RETURN DUCTS	SHEET METAL UNO	
EXHAUST DUCTS	SHEET METAL UNO	

GRILLE REGISTER DIFFUSER SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	MODEL NUMBER	CEILING TYPE
SD-1 CEILING DIFFUSER	DUCTWORK CEILING DIFFUSER	PRICE OR EQUIVALENT	5PSCD-4 MAT THROW: NC24	SHEET ROCK, SUPPLY WITH MUD RING FOR INSTALL.
SD-2 WALL SUPPLY GRILL	SUPPLY WALL GRILL	PRICE OR EQUIVALENT	620D; NC24	SHEET ROCK, SUPPLY WITH MUD RING FOR INSTALL.
RG-1 WALL RETURN GRILLE	RETURN GRILLE	PRICE OR EQUIVALENT	630D	SHEET ROCK, SUPPLY WITH MUD RING FOR INSTALL.
RG-2 WALL RETURN GRILLE	RETURN WALL GRILLE	PRICE OR EQUIVALENT	630D	SHEET ROCK, SUPPLY WITH MUD RING FOR INSTALL.
EG-1 CEILING RETURN GRILLE	EXHAUST GRILLE	PRICE OR EQUIVALENT	510Z	SHEET ROCK, SUPPLY WITH MUD RING FOR INSTALL.
EG-2 WALL EXHAUST GRILLE	EXHAUST GRILLE	PRICE OR EQUIVALENT	630	SHEET ROCK, SUPPLY WITH MUD RING FOR INSTALL.
TG-1 CEILING TRANSFER GRILLE	TRANSFER GRILLE	PRICE OR EQUIVALENT	510Z	SHEET ROCK, SUPPLY WITH MUD RING FOR INSTALL.
TG-2 WALL TRANSFER GRILLE	TRANSFER GRILLE	PRICE OR EQUIVALENT	630	SHEET ROCK, SUPPLY WITH MUD RING FOR INSTALL.

HEAT PUMP SCHEDULE

TAG	MAKE	INDOOR MODEL	OUTDOOR MODEL	CLG CAP / CLG LOAD	HTG CAP / HTG LOAD	INDOOR UNIT CFM	SEER/EER ARI #	HSPF	VOLT/PH	MCA FUSE SIZE	WEIGHT ROUGH SIZE
(HP 1)	MITSUBISHI	--	MTZ-M5P14B-US 4 TON	32,400 28,300	49,300 29,400	--	--/-- --	--	208/230-1	29 40	300 481X940X54"
(HP 1A)	MITSUBISHI	TPEFYP048 -M444	--	32,400 --	49,300 --	1100	--/-- --	--	208/230-1	4.4 15	100 564X930X107

PROVIDE COMPLETE AND FUNCTIONAL SYSTEM CAPABLE OF INDIVIDUAL ZONE CONTROL. SYSTEM SHALL INCLUDE ALL COMPONENTS NECESSARY FOR PROPER OPERATION INCLUDING: CONTROL DAMPER (WHEN INDICATED) SHALL BE COORDINATED WITH MANUFACTURER PRIOR TO ORDERING AND SHALL BE ROUTED AND ARRANGED AS REQUIRED.

AHUS:
HEAT PUMP

PROVIDE AND INSTALL FOR EACH AHU:

1) FILTER BOX (50 LBS)
2) VIBRATION ISOLATORS FOR MOUNTED EQUIPMENT
3) ADJUST FAN COIL UNIT FAN SPEED AS NEED TO MATCH SCHEDULED AIRFLOW. PERFORMANCE
4) FLEXIBLE CONNECTORS FOR ALL DUCT CONNECTIONS
5) PROVIDE MINIMUM SERVICE AND OPERATION CLEARANCES AS REQUIRED BY MANUFACTURER
6) PROVIDE CONDENSATE LIFT PUMPS AS REQUIRED
7) MASTER CONTROLLER: TE-200A (100-240V, 1PH): COORDINATE LOCATION WITH OWNER.
8) TOUCH HA CONTROLLER: TAR-CT01P4U-SB. COORDINATE LOCATIONS WITH OWNER.
9) PROVIDE MULTI-PURPOSE CASEMENT DUCT CONNECTOR FOR CEILING CASSETE UNITS.
10) TRANE CONTACT: JEFF MARTIN (916)778-7842 JEFF.MARTIN@TRANETECHNOLOGIES.COM

SYMBOLS LEGEND

- DENOTES KEYNOTE SPECIFICATION. REFER TO KEYNOTE SCHEDULE ON THIS SHEET.
- DENOTES DETAIL REFERENCE. REFER TO DENOTED SHEET #.
- DENOTES EQUIPMENT SPECIFICATION. REFER TO SCHEDULES ON THIS SHEET.
- SUPPLY DUCT
- SUPPLY DUCT (DROPPED CEILING)
- RETURN DUCT
- RETURN DUCT (DROPPED CEILING)
- EXHAUST VENT/JUMP DUCT
- EXHAUST VENT/JUMP DUCT (DROPPED CEILING)
- LINESET
- FORCED AIR UNIT, HORIZONTAL
- FORCED AIR UNIT, VERTICAL
- CONDENSER
- CEILING XXXXX CFM (XXX CFM) / HALL XXXXX CFM (XXX CFM) — SUPPLY GRILLE, SEE MN.1, SECTION 2.3; → = DIRECTION OF AIRFLOW; XXXXX = GRILLE SIZE; XXX CFM = AIRFLOW (ALL ZONES OPERATING.); (XXX CFM) = AIRFLOW (ONE ZONE OPERATING, WHERE OCCURS.)
- CEILING XXX / HALL XXXXX — RETURN GRILLE, SEE MN.1, SECTION 2.3; → = DIRECTION OF AIRFLOW; XXXXX = GRILLE SIZE
- CEILING / HALL — AIR TRANSFER GRILLE, SAME SIZE AS SUPPLY GRILLE IN ROOM, SEE MN.1, SECTION 2.3
- EXHAUST FAN
- INLINE FAN; → = DIRECTION OF AIRFLOW
- MOTORIZED / BAROMETRIC / MANUAL / RD RADIATION / FD FIRE — DAMPERS, SEE MN.1, SECTION 2.5
- THERMOSTAT, SEE MN.1, SECTION 2.6
- SMOKE AND CARBON MONOXIDE DETECTORS, S=SMOKE DETECTOR, C=CARBON MONOXIDE DETECTOR S/C=COMBO DETECTOR
- ERV WALL MOUNTED CONTROL WITH FAULT INDICATOR DISPLAY
- WHOLE HOUSE FAN
- TO ABOVE / FROM BELOW / ABOVE/BELOW / HYE — SUPPLY/RETURN DUCT RISER
- HALL CAP / DRYER VENT / ROUND RISER / OVAL RISER / HYE — EXHAUST VENT RISERS & COMPONENTS
- TANKLESS / TANKED — WATER HEATER, SEE MN.1, SECTION 3.3
- ATTIC ACCESS PER ARCHITECT W/ MIN 30" HEADROOM
- BEAM/HEADER PER STRUCTURAL PLANS
- SHEARWALL PER STRUCTURAL PLANS
- FRAMING MEMBER PER STRUCTURAL PLANS
- RECESSED LIGHT FIXTURE. VERIFY EXACT LOCATION WITH UTILITY PLANS

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CARLSBAD, CA
92008

PROJECT MANAGER: MW
DESIGNER: CB
DRAWN BY: QES
CHECKED BY: MW
ISSUE DATE: 01-13-2023

REVISIONS:

STAMP:
REGISTERED PROFESSIONAL ENGINEER ROBERT D. PERRY JOINT OF CALIFORNIA
EXPIRES 09/30/24 #M18824 MECHANICAL

PLAN NUMBER: SEGMENT 1

SHEET TITLE:
LEVEL 1 MECHANICAL LAYOUT

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

SHEET NUMBER:
M1.1

JOB NUMBER: HS22244

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NON-RESIDENTIAL NOTES

1. GENERAL HVAC INSTALLATION NOTE:
ALL EQUIPMENT AND DUCTWORK LOCATED AND INSTALLED WITHIN THE FLOOR, CEILING OR TRUSS SYSTEM SHALL BE COORDINATED AMONGST THE TRADES PRIOR TO INSTALLATION TO ENSURE ALL REQUIRED CLEARANCES ARE MAINTAINED FOR SERVICING. CONTRACTOR TO ADJUST EQUIPMENT LAYOUTS AND DUCTWORK ROUTES AS NEEDED. COORDINATE ANY CHANGES WITH STRUCTURAL. HVAC INSTALLATION MAY BE REQUIRED TO OCCUR BEFORE OR CONCURRENTLY WITH THE INSTALLATION OF THE FRAMING SYSTEMS TO ENSURE PROPER EQUIPMENT AND DUCTWORK FIT. CONTRACTOR SHALL CHANGE DUCTWORK ELEVATIONS OR STACK DUCTWORK AS NEEDED TO PROPERLY ROUTE DUCTWORK. COORDINATE WITH STRUCTURAL ELEMENTS AND EQUIPMENT CLEARANCES.

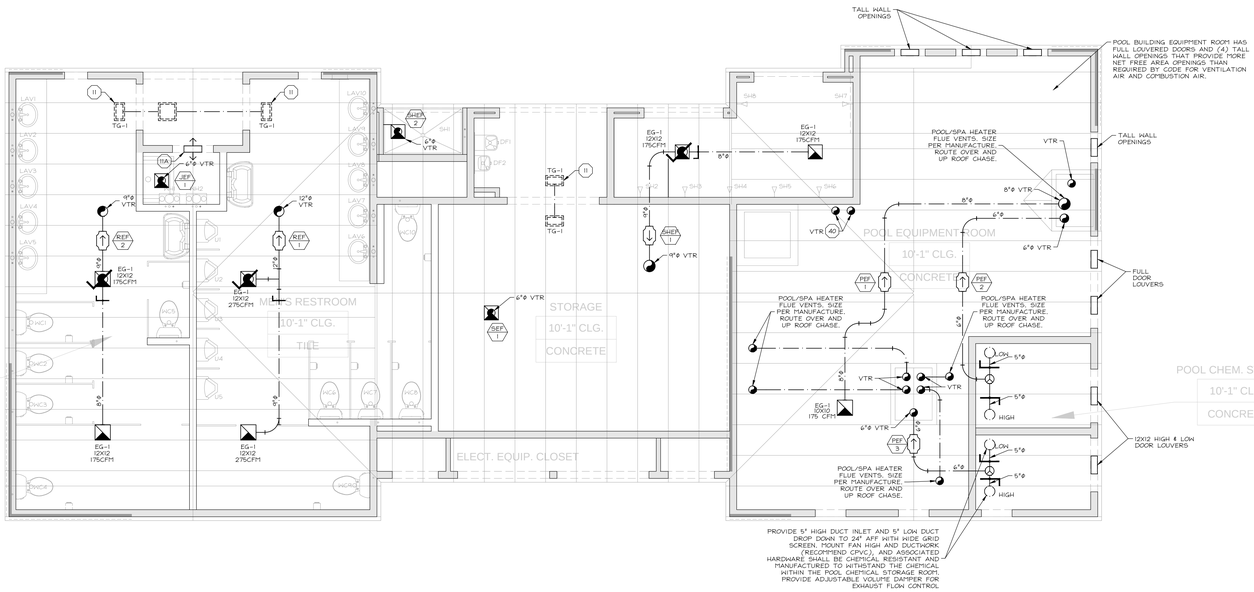
2. PROVIDE MERV 13 FILTERS FOR ALL NON-RESIDENTIAL HVAC SYSTEMS

3. ALL NON-RESIDENTIAL HVAC DUCTWORK SYSTEMS SHALL BE CONSTRUCTED OF SHEET METAL UNLESS OTHERWISE NOTED. ALL DUCTWORK CONSTRUCTION AND INSTALLATION SHALL BE DONE IN ACCORDANCE WITH SMACNA AND CMC. FLEX DUCT SHALL BE LIMITED TO 5' MAXIMUM LENGTH. DUCTWORK INSULATION SHALL BE R8 MINIMUM

4. PROVIDE FULL SIZE MANUAL VOLUME DAMPERS (MVD) FOR EACH SUPPLY, RETURN, AND EXHAUST BRANCH DUCT TO ALLOW FOR SYSTEM AIR BALANCING WEATHER SHOWN OR NOT. LOCATE MVD TO BE ACCESSIBLE AND UPSTREAM JUST BEFORE TRUNK CONNECTION WHENEVER POSSIBLE TO REDUCE NOISE.

5. CONTROL REQUIREMENTS:
DEMAND CONTROL VENTILATION IS REQUIRED, PER THE ENERGY CODE COMPLIANCE FORM. CO2 SENSORS SHALL BE INSTALLED IN EACH ROOM SERVED BY THE MECHANICAL UNIT THAT HAS A DESIGN OCCUPANCY OF 40 SQUARE FEET PER PERSON OR LESS. THE CO2 SENSOR SHALL BE LOCATED BETWEEN 3 AND 6 ABOVE THE FLOOR. BUILDING PRESSURE EXHAUST FANS SHALL HAVE 2-SPEED CONTROL AND OPERATE MATCHING THE AHU SUPPLY FAN AIRFLOWS.

6. HVAC NOTES:
HVAC UNITS GREATER THAN 2000 CFM DUCT DETECTORS AND AUTO SHUT OFF ARE REQUIRED OR NOTE EXCEPTION USED. CMC 609 COORDINATE DUCT DETECTORS AND AUTO-SHUT WITH THE FIRE ALARM SYSTEM. ALL SMOKE DUCT DETECTORS SHALL HAVE REMOTE TEST SWITCHES.



FAN SCHEDULE

	TYPE	MAKE MODEL	FAN TYPE	CFM	ENERGY	WEIGHTS	NOTES
				SONES	FAN CONTROL	SIZE (LxWxH)	
COPY ROOM	CEP 1	GREENHECK CUB-80-VG	ROOF MOUNTED	400 @0.20 SP	1/10 HP	50 LB	PROVIDE SPEED CONTROLLER
				7.7	A	24X24X14	
MEN'S RESTROOM	REP 1	GREENHECK SQ-90-VG	INLINE EXHAUST	550 @0.25 SP	1/10 HP	45 LB	PROVIDE SPEED CONTROL
				7.2	A	15X15X19	
WOMEN'S RESTROOM	REP 1	GREENHECK SQ-80-VG	INLINE EXHAUST	350 @0.25 SP	1/10 HP	45 LB	PROVIDE SPEED CONTROL
				7.5	A	15X15X19	
JANITOR CLOSET	JEP 1	GREENHECK SP-B10	CEILING MOUNTED EXHAUST	100	80 WATTS	25 LB	--
				2.2	A	12X14X8	
SECURITY ROOM	ACEP 1	GREENHECK SP-B10	CEILING MOUNTED EXHAUST	100	80 WATTS	25 LB	--
				2.2	A	12X14X8	
STORAGE	SEP 1	GREENHECK SP-B10	CEILING MOUNTED EXHAUST	100	80 WATTS	25 LB	--
				2.2	A	12X14X8	
SHOWERS	SHEP 1	GREENHECK SQ-80-VG	INLET EXHAUST	250 @0.25 SP	1/10 HP	45 LB	PROVIDE SPEED CONTROL
				7.2	A	15X15X19	
SHOWERS	SHEP 2	GREENHECK SP-B10	CEILING MOUNTED EXHAUST	100	80 WATTS	25 LB	--
				2.2	A	12X14X8	
POOL EQUIPMENT ROOM	PEP 1	PLASTEC PI5-6	CHEMICAL RESISTANT FAN	170 @0.15 SP	1/4 HP	75 LB	PROVIDE SPEED CONTROL
				--	D	16X16X24	
POOL EQUIPMENT ROOM	PEP 2	PLASTEC 510-4	CHEMICAL RESISTANT FAN	80 @0.25 SP	1/8 HP	75 LB	PROVIDE SPEED CONTROL
				--	D	12X12X12	
POOL EQUIPMENT ROOM	PEP 3	PLASTEC 510-4	CHEMICAL RESISTANT FAN	80 @0.25 SP	1/8 HP	75 LB	PROVIDE SPEED CONTROL
				--	D	12X12X12	

1. SEE MN.1 SECTION 2.4 FOR SPECIFICATIONS, SEE DETAIL C/MN.2 FOR TYPICAL EXHAUST FAN CONNECTION.
2. PROVIDE VIBRATION ISOLATORS
3. PROVIDE DIDO CONTROLLER TO INTERFACE WITH EXHAUST FANS AND TE-200 MASTER CONTROLLER. ADDRESS AND PROGRAM TO INTERACT WITH EXHAUST FANS
4. PROVIDE GREENECK VARI-GREEN OPTIONAL SPACE PRESSURE CONTROLS, PRESSURE SENSORS, TUBING, AND COMPONENTS FOR PEF-1,2 AND PROGRAM FOR STANDALONE BUILDING STATIC PRESSURE CONTROL.

FAN CONTROL - OPERATION AS FOLLOWS:
- A - FAN OPERATES DURING OCCUPIED HOURS. CONTROLLED BY TIME CLOCK.
- B - FAN OPERATES DURING OCCUPIED HOURS. CONTROLLED BY THERMOSTAT WITH ADJUSTABLE SET POINT.
- C - FAN OPERATES DURING OCCUPIED HOURS. CONTROLLED BY ROOF1 PRESSURE CONTROL.
- D - RUNS CONTINUOUSLY FOR SAFETY

DUCT MATERIAL SCHEDULE

TYPE	MATERIAL	REMARKS
SUPPLY DUCTS	SHEET METAL UNO	
RETURN DUCTS	SHEET METAL UNO	
EXHAUST DUCTS	SHEET METAL UNO	

GRILLE REGISTER DIFFUSER SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	MODEL NUMBER	CEILING TYPE
SD-1 CEILING DIFFUSER	DUCTWORK CEILING DIFFUSER	PRICE OR EQUIVALENT	5FICD-4 HAY THROW: NC<24	SHEET ROCK: SUPPLY WITH MUD RING FOR INSTALL.
SD-2 WALL SUPPLY GRILL	SUPPLY WALL GRILL	PRICE OR EQUIVALENT	620D; NC<24	SHEET ROCK: SUPPLY WITH MUD RING FOR INSTALL.
RG-1 WALL RETURN GRILLE	RETURN GRILLE	PRICE OR EQUIVALENT	630D	SHEET ROCK: SUPPLY WITH MUD RING FOR INSTALL.
RG-2 WALL RETURN GRILLE	RETURN WALL GRILLE	PRICE OR EQUIVALENT	630D	SHEET ROCK: SUPPLY WITH MUD RING FOR INSTALL.
EG-1 CEILING RETURN GRILLE	EXHAUST GRILLE	PRICE OR EQUIVALENT	510Z	SHEET ROCK: SUPPLY WITH MUD RING FOR INSTALL.
EG-2 WALL EXHAUST GRILLE	EXHAUST GRILLE	PRICE OR EQUIVALENT	630	SHEET ROCK: SUPPLY WITH MUD RING FOR INSTALL.
TG-1 CEILING TRANSFER GRILLE	TRANSFER GRILLE	PRICE OR EQUIVALENT	510Z	SHEET ROCK: SUPPLY WITH MUD RING FOR INSTALL.
TG-2 WALL TRANSFER GRILLE	TRANSFER GRILLE	PRICE OR EQUIVALENT	630	SHEET ROCK: SUPPLY WITH MUD RING FOR INSTALL.

HEAT PUMP SCHEDULE

TAG	MAKE	INDOOR MODEL	OUTDOOR MODEL	CLG CAP	HTG CAP	INDOOR UNIT CFM	SEER/EER	HSPF	VOLT/PH	MCA	WEIGHT
				CLG LOAD	HTG LOAD		ARI #			FUSE SIZE	ROUGH SIZE
HP 1	TITSUBI54	--	NTX*9S*48 4 TON	32,400	49,300	--	--/--	--	208/230-1	29	300
				28,300	29,400		--			40	46LX46X54
HP 1A	TITSUBI54	--	TPEFYP048 -7X044	32,400	49,300	1100	--/--	--	208/230-1	4.4	100
				--	--		--			15	16WX30LX07

PROVIDE COMPLETE AND FUNCTIONAL SYSTEM CAPABLE OF INDIVIDUAL ZONE CONTROL. SYSTEM SHALL INCLUDE ALL COMPONENTS NECESSARY FOR PROPER OPERATION INCLUDING CONTROL DAMPER (WHEN INDICATED) SHALL BE COORDINATED WITH MANUFACTURER PRIOR TO ORDERING AND SHALL BE ROUTED AND ARRANGED AS REQUIRED.

AHUS:
HEAT PUMP

PROVIDE AND INSTALL FOR EACH AHU:

1) FILTER BOX (50 LBS.)
2) VIBRATION ISOLATORS FOR MOUNTED EQUIPMENT
3) ADJUST FAN COIL UNIT FAN SPEED AS NEED TO MATCH SCHEDULED AIRFLOW PERFORMANCE
4) FLEXIBLE CONNECTORS FOR ALL DUCT CONNECTIONS
5) PROVIDE MINIMUM SERVICE AND OPERATION CLEARANCES AS REQUIRED BY MANUFACTURER
6) PROVIDE CONDENSATE LIFT PUMPS AS REQUIRED
7) MASTER CONTROLLER: TE-200A (100-240V, 1PH). COORDINATE LOCATION WITH OWNER.
8) TOUCH HA CONTROLLER: TAR-CT01PAU-SB. COORDINATE LOCATIONS WITH OWNER.
9) PROVIDE MULTI-FUNCTION CASSETTE DUCT CONNECTOR FOR CEILING CASSETTE UNITS.
10) TRANE CONTACT: JEFF MARTIN (916)778-1942 JEFF.MARTIN@TRANETECHNOLOGIES.COM

KEYNOTES

- 6A ROUTE LINESET TO FAN COIL UNITS. COORDINATE ROOTING WITH STRUCTURAL FOR ALLOWABLE PENETRATIONS AS REQUIRED.
- 11 DUCTED AIR TRANSFER SYSTEM. CEILING GRILLES SIZED TO MATCH AIR SUPPLY, RETURN, OR EXHAUST TO SPACE WITH MAXIMUM 400FPM AIR VELOCITY FOR BOTH DUCTWORK AND GRILLES. TYPICAL SIZES: 10X10 MAX 240CFM / 14X14 MAX 470CFM / 24X14 MAX 820CFM
- 11A THROUGH-WALL AIR TRANSFER GRILLE.
- 11B 16X16 DOOR LOUVERS AT +12"
- 11C PROVIDE FLEXIBLE CONNECTION FOR VIBRATION ISOLATION ON ALL DUCTWORK CONNECTIONS TO FANS OR UNITS. TRANSITION DUCTWORK TO FAN INLET AS REQUIRED.
- 24 PROVIDE CEILING ACCESS PANEL WHERE FAN/DAMPER OR VAV BOX IS NOT ACCESSIBLE THROUGH ATTIC. PANEL TO HAVE SAME FIRE RATING AS CEILING, WHERE REQUIRED, SEE ARCHITECTURAL PLANS FOR FIRE RATING SPECIFICATIONS
- 33 EXHAUST VENT WYE. SIZE AS NOTED ON PLANS. ROUTE SINGLE VENT RISER TO ROOF OR WALL. UNO, VENT BRANCH DUCTS SHALL CONNECT TO MAIN VENT RISER SEPARATELY WITH INDIVIDUAL FITTINGS TO PREVENT ANY POSSIBLE BACK-FLOW. THE LARGEST DUCT SHALL ALWAYS ELBOW TO THE BEGINNING OF THE RISER VENT. SMALLER VENTS WILL CONNECT WITH INDIVIDUAL FITTINGS DOWNSTREAM OF MAIN RISER ELBOW.
- 58A ROUTE SHEET METAL DUCT THROUGH CEILING FRAMING AS REQUIRED. RECTANGULAR DUCTS MAY BE ROTATED, SPLIT OR OFFSET AS TRANSITIONED TO ROUND DUCT AS NEEDED TO FIT THROUGH ANGLED FRAMING FREE AREAS. ROUND DUCT MAY BE SPLIT UP, OR OFFSET AS NEEDED TO FIT THROUGH ANGLED FRAMING FREE AREAS. ANY DUCT ALTERATIONS SHALL COMPLY WITH SMACNA DUCT DESIGN REQUIREMENTS.
- 59A ROUTE DUCTWORK AS HIGH AS NEEDED TO PASS OVER AND AVOID LOW CONFLICTS. SUPPORT AS REQUIRED.
- 60 SEALED COMBUSTION WATER HEATER. BY OTHERS. MUST MEET REQUIREMENTS OF TITLE 24 DOCUMENTATION. PROVIDE CONCENTRIC VENT THROUGH WALL, UNO. SEE MN.1, SECTION 3.3 FOR SPECIFICATIONS AND ALTERNATES

SYMBOLS LEGEND

- DENOTES KEYNOTE SPECIFICATION. REFER TO KEYNOTE SCHEDULE ON THIS SHEET.
- DENOTES DETAIL REFERENCE. REFER TO DENOTED SHEET #.
- DENOTES EQUIPMENT SPECIFICATION. REFER TO SCHEDULES ON THIS SHEET.
- SUPPLY DUCT
- SUPPLY DUCT (DROPPED CEILING)
- RETURN DUCT
- RETURN DUCT (DROPPED CEILING)
- EXHAUST VENT/JUMP DUCT
- EXHAUST VENT/JUMP DUCT (DROPPED CEILING)
- LINESET
- FORCED AIR UNIT, HORIZONTAL
- FORCED AIR UNIT, VERTICAL
- CONDENSER
- CEILING / XXXXX CFM (XXX CFM) / HALL — SUPPLY GRILLE, SEE MN.1, SECTION 2.3 → = DIRECTION OF AIRFLOW XXXXX = GRILLE SIZE XXX CFM = AIRFLOW (ALL ZONES OPERATING) (XXX CFM) = AIRFLOW (ONE ZONE OPERATING, WHERE OCCURS)
- CEILING / XXXXX / HALL — RETURN GRILLE, SEE MN.1, SECTION 2.3 → = DIRECTION OF AIRFLOW XXXXX = GRILLE SIZE
- CEILING / HALL — AIR TRANSFER GRILLE, SAME SIZE AS SUPPLY GRILLE IN ROOM, SEE MN.1, SECTION 2.3
- EXHAUST FAN
- INLINE FAN → = DIRECTION OF AIRFLOW
- MOTORIZED / BAROMETRIC / MANUAL / RD RADIATION / FD FIRE — DAMPERS, SEE MN.1, SECTION 2.5
- T — THERMOSTAT, SEE MN.1, SECTION 2.6
- S — SMOKE AND CARBON MONOXIDE DETECTORS, S=SMOKE DETECTOR C=CARBON MONOXIDE DETECTOR S/C=COMBO DETECTOR
- WC — ERV WALL MOUNTED CONTROL WITH FAULT INDICATOR DISPLAY
- WHOLE HOUSE FAN
- TO ABOVE / FROM BELOW / ABOVE/BELOW / WYE — SUPPLY/RETURN DUCT RISER
- HALL CAP / DRYER VENT / ROUND RISER / OVAL RISER / WYE — EXHAUST VENT RISERS & COMPONENTS
- TANKLESS / TANKED — WATER HEATER, SEE MN.1, SECTION 3.3
- ATTIC ACCESS PER ARCHITECT W/ MIN 30" HEADROOM.
- BEAM/HEADER PER STRUCTURAL PLANS
- SHEARWALL PER STRUCTURAL PLANS
- FRAMING MEMBER PER STRUCTURAL PLANS
- RECESSED LIGHT FIXTURE. VERIFY EXACT LOCATION WITH UTILITY PLANS

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CARLSBAD, CA
92008

PROJECT MANAGER: MW
DESIGNER: CB
DRAWN BY: QES
CHECKED BY: MW
ISSUE DATE: 01-13-2023
REVISIONS:

STAMP:
REGISTERED PROFESSIONAL ENGINEER ROBERT D. PEREYDA EXPIRES 09/30/24 #M18824 MECHANICAL STATE OF CALIFORNIA

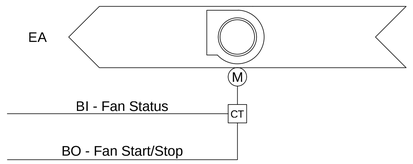
PLAN NUMBER: SEGMENT 2

SHEET TITLE:
LEVEL 1 MECHANICAL LAYOUT

SCALE: 1/4" = 1'-0"
SHEET NUMBER:
M1.1A

JOB NUMBER: HS22244

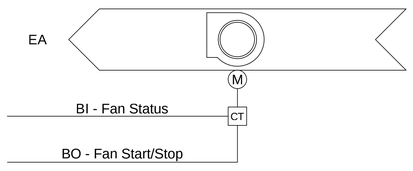
CONTROLS: SEQUENCE OF OPERATION



1.1 EXHAUST Fan - On/Off
Run Conditions - Interlocked:
The fan(s) shall be interlocked to run continuously unless manually turned off.

Fan Status:
The controller shall monitor the fan status.

EXHAUST FAN - REST ROOMS

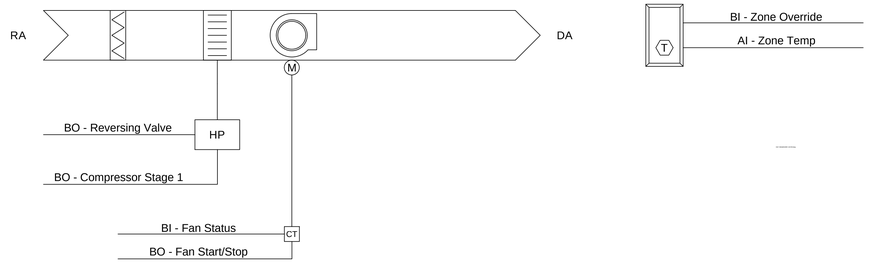


1.1 Exhaust Fan - On/Off
Run Conditions - Interlocked:
The Fan(s) shall run whenever temperatures exceed 85 deg. F

Fan Status:
The controller shall monitor the fan status.

EXHAUST FAN - GENERAL EXHAUST

EXHAUST FANS



CONTROLS: SEQUENCE OF OPERATION

1.1AIR SOURCE HEAT PUMP

RUN CONDITIONS - SCHEDULED:
THE UNIT SHALL RUN ACCORDING TO A USER DEFINABLE TIME SCHEDULE IN THE FOLLOWING MODES:

OCCUPIED MODE: THE UNIT SHALL MAINTAIN

A 74 F ADJ. COOLING SETPOINT

A 70 F ADJ. HEATING SETPOINT

UNOCCUPIED MODE (NIGHT SETBACK): THE UNIT SHALL MAINTAIN

A 8 F ADJ. COOLING SETPOINT.

A F (ADJ.) HEATING SETPOINT.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

HIGH ZONE TEMP: IF THE ZONE TEMPERATURE IS GREATER THAN THE COOLING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).

LOW ZONE TEMP: IF THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY A USER DEFINABLE AMOUNT (ADJ.).

FAN:
THE FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN, UNLESS SHUTDOWN ON SAFETIES.

HEATING AND COOLING - 1 COMPRESSOR STAGE:
THE CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND CYCLE THE COMPRESSOR TO MAINTAIN ITS SETPOINT. TO PREVENT SHORT CYCLING, THE STAGE SHALL HAVE A USER DEFINABLE (ADJ.) MINIMUM RUNTIME. THE COMPRESSOR SHALL RUN SUBJECT TO ITS OWN INTERNAL SAFETIES AND CONTROLS.

THE HEATING SHALL BE ENABLED WHENEVER:

OUTSIDE AIR TEMPERATURE IS LESS THAN F ADJ. .

AND THE FAN IS ON.

AND THE REVERSING VALVE IS IN HEAT MODE.

THE COOLING SHALL BE ENABLED WHENEVER:

OUTSIDE AIR TEMPERATURE IS GREATER THAN 0 F ADJ. .

AND THE FAN IS ON.

AND THE REVERSING VALVE IS IN COOL MODE.

ON MODE CHANGE, THE COMPRESSOR SHALL BE DISABLED AND REMAIN OFF UNTIL AFTER THE REVERSING VALVE HAS CHANGED POSITION..

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.

ALARMS SHALL BE PROVIDED AS FOLLOWS:

FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.

FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.

FAN RUNTIME EXCEEDED: FAN STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

AIR SOURCE HEAT PUMP CONTROLS DIAGRAM

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PROJECT MANAGER:	MW
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REVISIONS:	

STAMP:
REGISTERED PROFESSIONAL ENGINEER ROBERT D. PEDRICO EXPIRES 08/30/24 #M19824 MECHANICAL STATE OF CALIFORNIA

PLAN NUMBER:

SHEET TITLE:
MECHANICAL DETAILS

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

SHEET NUMBER:
MD.1

JOB NUMBER: H522244

CALCULATIONS & SCHEDULES

BUILDING LOAD/SERVICE FEEDER CALCS		
BUILDING/SITE		SWIM CLUB
BUILDING PANEL LOADS: FEEDER TYPE:		208Y/120V, 3Φ, 4W
LIGHTING ~SF * 2VA/SF PLUS SITE		7,200VA
RECEPTACLES ~SF * 3VA/SF		8,000VA
FUTURE ON-SITE EVCS* @ 125%	2	16,640VA
HVAC		15,000VA
WATER HEATER (TANKLESS)	2	360VA
POOL PANEL	-	54,000VA
LOW VOLTAGE (IT, FA, IRRIGATION, ETC)		500VA
TOTAL SERVICE DEMAND LOAD		**101,700VA**
TOTAL SERVICE DEMAND AMPS		283A
SERVICE FEEDER AMPS		**400A**

BUILDING LOAD/FEEDER CALCULATIONS

"BP"

☑ NEW ☐ EXISTING

VOLTAGE: 208Y/120V, 3Φ, 4W — AIC: 10KAIC (FIELD VERIFY) — MAIN: 150A MCB
BUS: 200A — MOUNTING: SURFACE (NEMA 3R) — LOCATION: EXTERIOR OFF BLDG

CKT NO	LOAD DESCRIPTION	ΦA	ΦB	ΦC	CB T	CB P	BUS A	BUS B	BUS C	CB T	CB P	ΦA	ΦB	ΦC	LOAD DESCRIPTION	CKT NO
1	OFF/KITCH/SEC/STOR LTG				20	1	●			20	1	720			SECURITY RECEPS	2
3	EXTERIOR LTG				20	1		●		20	1		360		KITCH/STOR CONV RECEP	4
5	OFF MEET W RECEPS			720	20	1			●	20	1			800	FRDIGE RECEP	6
7	OFF MEET E RECEPS	540			20	1	●			20	1	400			GARBAGE DISPOSAL RECEP	8
9	OFF W RECEPS		860		20	1		●		20	1		1,200		DISHWASHER RECEP	10
11	OFF E RECEPS			860	20	1			●	20	1			540	KITCH AC RECEP	12
13	FIREPIT RECEP	180			20	1	●			20	1	800			PRINTER/COPIER RECEP	14
15	SPARE				20	1		●		20	1				SPARE	16
17	EXTERIOR RECEPS			360	20	1			●	20	1				SPARE	18
	SPLIT BUS FOR AGGREGATION OF LOADS															
19	HP-1A	366			15	2	●			20	1				SPARE	20
21			366					●		20	1				SPARE	22
23	HP-1			2,412	40	2			●	15	1			200	EXHAUST FANS	24
25		2,412					●								SPACE	26
27	SPACE							●							SPACE	28
29	SPACE								●						SPACE	30
	SUBTOTAL:	3,498	1,226	4,352								1,920	1,560	1,540	SUBTOTAL	

TOTAL VOLT-AMPERES/PHASE: ΦA = 5,418 ΦB = 2,786 ΦC = 5,892
TOTAL PANEL VOLT-AMPERES: 14,096 CONNECTED AMPS: 39

"P"

☑ NEW ☐ EXISTING

VOLTAGE: 208Y/120V, 3Φ, 4W — AIC: 22KAIC (FIELD VERIFY) — MAIN: MLO
BUS: 200A — MOUNTING: SURFACE (NEMA 3R) — LOCATION: POOL EQUIPMENT ROOM

CKT NO	LOAD DESCRIPTION	ΦA	ΦB	ΦC	CB T	CB P	BUS A	BUS B	BUS C	CB T	CB P	ΦA	ΦB	ΦC	LOAD DESCRIPTION	CKT NO
1	SPACE						●								SPACE	2
3	SPACE							●							SPACE	4
5	SPACE								●						SPACE	6
7	SPACE						●								SPACE	8
9	SPACE							●							SPACE	10
11	SPACE								●						SPACE	12
13	SPACE						●								SPACE	14
15	SPACE							●							SPACE	16
17	SPACE								●						SPACE	18
19	SPACE						●								SPACE	20
21	SPACE							●							SPACE	22
23	SPACE								●						SPACE	24
25	SPACE						●								SPACE	26
27	SPACE							●							SPACE	28
29	SPACE								●						SPACE	30
31	SPACE						●								SPACE	32
33	SPACE							●							SPACE	34
35	SPACE								●						SPACE	36
37	SPACE						●								SPACE	38
39	SPACE							●							SPACE	40
41	SPACE								●						SPACE	42
	SUBTOTAL:	0	0	0								0	0	0	SUBTOTAL	

TOTAL VOLT-AMPERES/PHASE: ΦA = 0 ΦB = 0 ΦC = 0
TOTAL PANEL VOLT-AMPERES: 0 CONNECTED AMPS: 0

"M"

☑ NEW ☐ EXISTING

VOLTAGE: 208Y/120V, 3Φ, 4W — AIC: 42KAIC (FIELD VERIFY) — MAIN: MLO
BUS: 400A — MOUNTING: INTEGRAL TO MSB — LOCATION: ELEC RM

CKT NO	LOAD DESCRIPTION	ΦA	ΦB	ΦC	CB T	CB P	BUS A	BUS B	BUS C	CB T	CB P	ΦA	ΦB	ΦC	LOAD DESCRIPTION	CKT NO
1	SPARE				20	1	●			20	1	400			REST/JAN EFS	2
3	SPARE				20	1		●		20	1		400		STOR/ELEC EFS	4
5	SPARE				20	1			●	20	1			720	POOL EQUIP EF	6
7	SPACE						●			20	1	400			SHOWER EFS	8
9	SPACE							●		20	1				SPARE	10
11	SPACE								●	20	1				SPARE	12
13		1,440			60	3	●			100	3					14
15	PANEL "R"		1,680					●							PANEL "P"	16
17				1,940					●							18
19		6,656			100	3	●			60	3	1,250				20
21	PANEL "EV"		3,328					●					500		PANEL "L"	22
23				3,328					●					500		24
	SUBTOTAL:	8,096	5,008	5,268								2,050	900	1,220	SUBTOTAL	

TOTAL VOLT-AMPERES/PHASE: ΦA = 10,146 ΦB = 5,908 ΦC = 6,488
TOTAL PANEL VOLT-AMPERES: 22,542 CONNECTED AMPS: 63

"L"

☑ NEW ☐ EXISTING

VOLTAGE: 208Y/120V, 3Φ, 4W — AIC: 42KAIC (FIELD VERIFY) — MAIN: MLO
BUS: 100A — MOUNTING: SURFACE — LOCATION: ELEC RM

CKT NO	LOAD DESCRIPTION	ΦA	ΦB	ΦC	CB T	CB P	BUS A	BUS B	BUS C	CB T	CB P	ΦA	ΦB	ΦC	LOAD DESCRIPTION	CKT NO
1	EXT BLDG LTG	400			20	1	●			20	1	350			REST/POOL/STOR LTG	2
3	SPARE				20	1		●		20	1				SPARE	4
5	SPARE				20	1			●	20	1				SPARE	6
7	SPACE						●								SPACE	8
9	SPACE							●							SPACE	10
11	SPACE								●						SPACE	12
13	EXTERIOR SITE LTG	500			20	1	●			20	1				SPARE	14
15	EXTERIOR SITE LTG		500		20	1		●		20	1				SPARE	16
17	EXTERIOR SITE LTG			500	20	1			●	20	1				SPARE	18
	SUBTOTAL:	900	500	500								350	0	0	SUBTOTAL	

TOTAL VOLT-AMPERES/PHASE: ΦA = 1,250 ΦB = 500 ΦC = 500
TOTAL PANEL VOLT-AMPERES: 2,250 CONNECTED AMPS: 6

"EV"

☑ NEW ☐ EXISTING

VOLTAGE: 208Y/120V, 3Φ, 4W — AIC: 42KAIC (FIELD VERIFY) — MAIN: MLO
BUS: 100A — MOUNTING: SURFACE — LOCATION: ELEC RM

CKT NO	LOAD DESCRIPTION	ΦA	ΦB	ΦC	CB T	CB P	BUS A	BUS B	BUS C	CB T	CB P	ΦA	ΦB	ΦC	LOAD DESCRIPTION	CKT NO
1	EV CAPABLE, RESERVED FOR	3,328			40	2	●			40	2				SPARE	2
3	FUTURE ON-SITE EVCS		3,328					●								4
5	EV CAPABLE, RESERVED FOR			3,328	40	2			●	40	2				SPARE	6
7	FUTURE ON-SITE EVCS	3,328					●									8
9	SPACE							●							SPACE	10
11	SPACE								●						SPACE	12
13	SPACE						●								SPACE	14
15	SPACE							●							SPACE	16
17	SPACE								●						SPACE	18
	SUBTOTAL:	6,656	3,328	3,328								0	0	0	SUBTOTAL	

TOTAL VOLT-AMPERES/PHASE: ΦA = 6,656 ΦB = 3,328 ΦC = 3,328
TOTAL PANEL VOLT-AMPERES: 13,312 CONNECTED AMPS: 37

"R"

☑ NEW ☐ EXISTING

VOLTAGE: 208Y/120V, 3Φ, 4W — AIC: 42KAIC (FIELD VERIFY) — MAIN: MLO
BUS: 100A — MOUNTING: SURFACE — LOCATION: ELEC RM

CKT NO	LOAD DESCRIPTION	ΦA	ΦB	ΦC	CB T	CB P	BUS A	BUS B	BUS C	CB T	CB P	ΦA	ΦB	ΦC	LOAD DESCRIPTION	CKT NO
1	RESTROOM RECEPS	360			20	1	●			20	1	360			STORAGE RECEPS	2
3	EXT BATH RECEP		180		20	1		●		20	1		540		POOL RECEPS	4
5	WATER HEATER RECEP			180	20	1			●	20	1			180	EXT POOL RECEP	6
7	WATER HEATER RECEP	180			20	1	●			20	1				SPARE	8
9	DRINK FOUNTAIN RECEP		400		20	1		●		20	1				SPARE	10
11	SPARE				20	1			●	20	1				SPARE	12
13	SPARE				20	1	●			20	1				SPARE	14
15	SPARE				20	1		●		20	1				SPARE	16
17	SPARE				20	1			●	20	1				SPARE	18
19	SPACE						●								SPACE	20
21	SPACE							●							SPACE	22
23	SPACE								●						SPACE	24
25	PHONE BACK RECEP	360			20	1	●			20	1	180			LIGHTING CTRL	26
27	CABLE BACK RECEP		360		20	1		●		20	1		200		IRRIGATION CTRL	28
29	FIRE ALARM PANEL/BELL			500	20	1			●	20	1			1,080	SERVICE RECEP	30
	SUBTOTAL:	900	940	680								540	740	1,260	SUBTOTAL	

TOTAL VOLT-AMPERES/PHASE: ΦA = 1,440 ΦB = 1,680 ΦC = 1,940
TOTAL PANEL VOLT-AMPERES: 5,060 CONNECTED AMPS: 14

BUILDING PANEL SCHEDULES

**POOL EQUIPMENT AND DESIGN SELECTION IS A DEFERRED SUBMITTAL. PANEL SCHEDULE FOR POOL EQUIPMENT SHALL BE PROVIDED BY OTHERS.*

AVAILABLE FAULT CALCULATION - SWIM CLUB	L	R	EV	P	BP
APPROXIMATE DISTANCE FROM SOURCE TO EACH PANEL	5 ft.	5 ft.	5 ft.	40 ft.	152 ft.
STARTING AFC VALUE	42,000	42,000	42,000	42,000	42,000
VOLTAGE (V)	208	208	208	208	208
WIRE TYPE	AL	AL	AL	AL	CU
WIRE SIZE	2	2	1/0	3/0	1/0
WIRE CONSTANT	3713	3713	5777	8826	9317
APPROXIMATE AFC AT PANEL	28,553	28,553	32,241	16,248	6,263
EQUIPMENT AIC RATING	42KAIC	42KAIC	42KAIC	22KAIC	10KAIC

AFC/AIC CALCULATIONS

THE INTERRUPTING RATING OF ALL EQUIPMENT IS BASED ON WORST-CASE UTILITY FAULT CONTRIBUTION. CONTRACTOR TO COORDINATE WITH LOCAL UTILITY COMPANY FOR FINAL AFC VALUES. ANY DEVIATIONS FROM THE CONSTRUCTION DRAWINGS REQUIRES APPROVAL FROM THE ENGINEER OF RECORD PRIOR TO PURCHASING EQUIPMENT. CONTRACTOR SHALL PROVIDE UPDATED CALCULATIONS BASED ON FIELD CONDITIONS AND FINAL UTILITY CONTRIBUTION VALUES WHICH SHALL BE USED TO MARK THE EQUIPMENT IN THE FIELD PER CODE. ALL DEVICES SHALL HAVE AN INTERRUPTING CAPACITY NOT LESS THAN THAT GIVEN BY THE SERVING UTILITY.

LOAD	CIRCUIT TYPE	VOLTAGE (V)	PHASE	CURRENT (A)	PF	LENGTH IN FT (ONE-WAY)	WIRE SIZE	WIRE TYPE	WIRE SETS	CONDUIT TYPE	Ze/1000FT	VOLTAGE DROP (V)	% DROP
MSB/M TO PANEL L	FEEDER	208	3PH	42	0.85	5	2	AL	1	STEEL	0.3	0.11	0.05%
PANEL L TO FURTHEST INT LIGHT	BRANCH	120	1PH	5	0.85	60	12	CU	1	STEEL	1.7	1.02	0.85%
MSB/M TO PANEL R	FEEDER	208	3PH	42	0.85	5	2	AL	1	STEEL	0.3	0.11	0.05%
PANEL R TO FURTHEST OUTLET	BRANCH	120	1PH	3	0.85	55	12	CU	1	STEEL	1.7	0.56	0.47%
MSB/M TO PANEL EV	FEEDER	208	3PH	80	0.85	5	1/0	AL	1	STEEL	0.2	0.14	0.07%
PANEL R TO FURTHEST OUTLET	BRANCH	208	1PH	32	0.85	20	8	CU	1	PVC	0.69	0.88	0.42%
MSB/M TO PANEL P	FEEDER	208	3PH	120	0.85	40	3/0	AL	1	STEEL	0.14	1.16	0.56%
MSB/M TO PANEL BP (OFF BLDG)	FEEDER	208	3PH	120	0.85	152	1/0	CU	1	PVC	0.13	4.11	1.97%
PANEL BP TO FURTHEST INT LIGHT	BRANCH	120	1PH	5	0.85	65	12	CU	1	STEEL	1.7	1.11	0.92%
PANEL BP TO FURTHEST OUTLET	BRANCH	120	1PH	6	0.85	45	12	CU	1	STEEL	1.7	0.92	0.77%
PANEL BP TO FURTHEST MECH UNIT	BRANCH	208	3PH	42	0.85	45	4	CU	1	STEEL	0.3	0.98	0.47%

VOLTAGE DROP CALCULATIONS

[1] VOLTAGE DROP IS BASED ON FURTHEST CIRCUIT FOR EACH LOAD TYPE.
COMPLIANCE: ALL FEEDERS PLUS BRANCH CIRCUIT DO NOT EXCEED THE ALLOWED 5% TOTAL.

STANDARD NOTES & SPECIFICATIONS

1.1 DESIGN CRITERIA

1. GENERAL PROJECT INFORMATION:
   1.1. PROJECT SHALL CONFORM TO THE 2022 CEC,2022 CEnC,2022 CGBC REFERENCED STANDARDS, AND APPLICABLE LOCAL BUILDING DEPARTMENT STANDARDS.
   1.2. DESIGN CRITERIA ARE AS FOLLOWS:

DESIGN VALUES	
SITE POWER	3-PHASE 120/208V-3ϕ,4W
SERVING UTILITY	SDG&E
DRY UTILITY DESIGN	TBD

1.2 GENERAL NOTES

1. SCOPE:
   1.1. THE PROJECT DOCUMENTS MAY NOT BE USED IN A LOCATION OTHER THAN THAT DESIGNATED ON THE DRAWINGS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER.
   1.2. THIS IS A "BUILDER'S SET" PRODUCED SOLELY FOR USE BY A KNOWLEDGEABLE AND EXPERIENCED CONTRACTOR.
   1.3. THESE PLANS CONTAIN INFORMATION FOR GENERAL CONSTRUCTION AND BUILDING PERMIT PURPOSES ONLY. THEY ARE NOT EXTENSIVELY DETAILED NOR ARE COMPLETE SPECIFICATIONS PROVIDED. DETAILS OF CONSTRUCTION NOT FULLY SHOWN SHALL BE OF THE SAME NATURE AS SHOWN FOR SAME OR SIMILAR CONSTRUCTION SHOWN ELSEWHERE WITHIN THE PLAN SET. FOR ITEMS, METHODS AND/OR MATERIALS NOT SPECIFIED WITHIN THE SET, THE MIN REQUIREMENT OF THE APPLICABLE CODE SHALL GOVERN.
   1.4. THE ENGINEER PROVIDES NO WARRANTY OR GUARANTEE ON THE FINAL PROJECT, NOR DUTY TO ANY PERSON OR ENTITY BEYOND THE AFOREMENTIONED LIMITED INFORMATION OF THESE PLANS.
2. CONTRACTOR REQUIREMENTS:
   2.1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE QUALITY AND CONSTRUCTION STANDARDS FOR THIS PROJECT. CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND REGULATIONS.
   2.2. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ETC.
   2.3. ANY OR PART OF ALL SYSTEMS, MATERIALS, CONNECTIONS AND DETAILS NOT SPECIFICALLY PROVIDED IN THESE PLANS ARE THE SOLE AND COMPLETE RESPONSIBILITY OF THE CONTRACTOR TO PROPERLY VERIFY AND INSTALL.
   2.4. CONTRACTOR SHALL NOTIFY THE ENGINEER AND ARCHITECT WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DRAWINGS OR DOCUMENTS. CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE BUILDING THAT IS IN CONFLICT, UNTIL CONFLICT IS RESOLVED BY THE AFFECTED PARTIES.
   2.5. 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 ELECTRICAL ENGINEER.
   2.6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE ENGINEER OR ARCHITECT FOR ANY REQUIRED DIMENSIONS NOT SHOWN. DRAWINGS & DETAILS WITHIN THIS SET SHALL NOT BE SCALED FOR ANY PURPOSE.
   2.7. THE GENERAL CONTRACTOR AND ITS SUB-CONTRACTORS MUST SUBMIT IN WRITING ANY REQUESTS FOR MODIFICATIONS TO THE PLANS AND SPECIFICATIONS. SHOP DRAWINGS THAT ARE SUBMITTED TO THE ENGINEER OF RECORD FOR ITS REVIEW DO NOT CONSTITUTE "IN WRITING". CHANGES TO THE PLANS AND SPECIFICATIONS BY MEANS OF SHOP DRAWINGS BECOME THE RESPONSIBILITY OF THE PERSON INITIATING SUCH CHANGES.

1.3 TYPICAL ABBREVIATIONS

ADA	AMERICAN DISABILITIES ACT
AF	AMP FRAME
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CURRENT
AL	ALUMINUM
AP	ACCESS PANEL
AFCI	ARC FAULT INTERRUPTER
AS/AF	AMP SWITCH, AMP FUSE
AMP,A	AMPERE
ARCH	ARCHITECTURAL
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BATT	BATTERIES
BD	BUS DUCT
BKR	BREAKER
BLDG	BUILDING
BP	BUILDING PANEL
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
CCTV	CLOSED CIRCUIT TELEVISION
CEC	CALIFORNIA ELECTRIC CODE
CLG	CEILING
CP	CONTROL PANEL
CKT	CIRCUIT
CU	COPPER
Δ	DELTA CONNECTED
DC	DIRECT CURRENT
DEG	DEGREE
DIST	DISTRIBUTION
DPDT	DOUBLE POLE, DOUBLE THROW
DWG	DRAWING
D/W	DISH WASHER
(E)	EXISTING
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EG	EQUIPMENT GROUND
ELEC	ELECTRICAL
ELEV	ELEVATOR
EO	ELECTRICALLY OPERATED
EP	EXPLOSION PROOF
EPO	EMERGENCY POWER OFF
EQ	EQUIPMENT
F	FUSIBLE
(F)	FUTURE
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FDR	FEEDER
FLA	FULL LOAD AMPS
FSD	FIRE SMOKE DAMPER
FVNR	FULL VOLTAGE NON REVERSING
FVR	FULL VOLTAGE REVERSING
FWE	FURNISHED WITH EQUIPMENT
G/GRD	GROUND
GEN	GENERATOR
GFCI/GFI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
HACR	HEATING, AIR CONDITIONING & REFRIGERATION TYPE
HD	HEAVY DUTY
HH	HANDHOLE
HOA	HAND-OFF-AUTO
HP	HORSE POWER
HPS	HIGH PRESSURE SODIUM
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
HZ	HERTZ
IG	ISOLATED GROUND
JB/J-BOX	JUNCTION BOX
KCMIL	KIL-CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT-AMPERES (APPARENT POWER)
KVAR	KILOVOLT-AMPERES REACTANCE (REACTIVE POWER)
KW	KILOWATT (REAL POWER)
KWH	KILOWATT HOUR
LCP	LIGHTING CONTROL PANEL
LPS	LOW PRESSURE SODIUM
LSIG	LONG, SHORT, INSTANTANEOUS, GROUND
LTG	LIGHTING
LV	LOW VOLTAGE
M/DM	UTILITY METER OR DIGITIAL METER
MAX	MAXIMUM
MCA	MINUMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MECH	MECHANICAL
MH	MAN HOLE OR METAL HALIDE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MO	MANUALLY OPERATED
MOCP	MAXIMUM OVERCURRENT CIRCUIT PROTECTION
MS	MOTION SENSOR
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
MW	MICROWAVE
N	NEUTRAL
(N)	NEW
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NF	NON-FUSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OCPD	OVERCURRENT PROTECTION DEVICE
OS	OCCUPANCY SENSOR
P	POLE
PB	PULL BOX
PC	PHOTOCELL
PH/ϕ	PHASE
PNL	PANEL
PWR	POWER
REC	RECEPTACLE
RFF	REFRIGERATOR
REQD	REQUIRED
RPM	REVOLUTIONS PER MINUTE
SE	SERVICE ENTRANCE
SH	SHIELDED
SP	SUMP PUMP
SPEC	SPECIFICATION
SPD	SURGE PROTECTION DEVICE
ST	SHUNT TRIP
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL
SYS	SYSTEM
TELCOM	TELECOMMUNICATIONS
TP	TAMPER PROOF
TV	TELEVISION
TYP	TYPICAL
U/G	UNDERGROUND
UL	UNDERWRITER'S LABORATORY
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTIL	UTILITY
V	VOLT
VA	VOLT AMPERE
VD	VOLTAGE DROP
VFD	VARIABLE FREQUENCY DRIVE
VS	VACANCY SENSOR
V/ϕ/HZ	VOLTS/PHASE/HERTZ
W	WATT OR WIRE
WAP	WIRELESS ACCESS POINT
WP	WEATHER PROOF
XFMR	TRANSFORMER (DELTA/WYE)
XFR	TRANSFER
Y	WYE CONNECTED

1.4 GENERAL ELECTRICAL NOTES

A. LAYOUTS ARE A DIAGRAMMATIC REPRESENTATION OF FIXTURE, SWITCHING AND EQUIPMENT LOCATIONS IN COMPLIANCE WITH CODE REQUIREMENTS. ACTUAL INSTALLATION MAY VARY DUE TO AS-BUILT CONDITIONS AND FIELD COORDINATION BETWEEN ALL DISCIPLINE CONTRACTORS AS REQUIRED.
B. THIS PROJECT WILL BE SOLAR STANDARD AND IS ACCOUNTED FOR IN ELECTRICAL DESIGN. REFER TO SOLAR PLANS (BY OTHERS) AND COORDINATE TO VERIFY SOLAR REQUIREMENTS PRIOR TO INSTALLATION. REFERENCE ARCHITECTURAL PLANS FOR SOLAR PANEL LAYOUTS.
C. COORDINATE WITH LOCAL UTILITY COMPANY FOR AIC VALUES. LETTER FOR SHORT CIRCUIT CURRENT VALUE FROM UTILITY COMPANY SHALL BE AVAILABLE AT THE JOB SITE FOR INSPECTION.
D. REFER TO DRY UTILITY PLANS FOR ON-SITE CIRCUIT AND ROUTING/TRENCH INFORMATION TO SITE FEATURES.
E. ALL FIRE WALL PENETRATIONS SHALL BE FIRE SEALED WITH APPROVED FIRE SEALANT. CONTRACTOR SHALL MAINTAIN FIRE RATING OF WALL AFTER INSTALLATION
F. ALL ELECTRICAL CLOSETS/ROOMS WITH SERVICE ENTRANCE EQUIPMENT AND/OR METERS SHALL BE LOCKED WITH UTILITY APPROVED LOCKSET.
G. CONTRACTOR SHALL CUT & PATCH CONSTRUCTION WORK AS REQUIRED FOR PROPER INSTALLATION OF THE ELECTRICAL WORK. ALL PATCHING SHALL MATCH THE SURROUNDING WORK TO THE SATISFACTION OF THE ARCHITECT.
H. CONTRACTOR IS RESPONSIBLE FOR FINAL ELECTRICAL CLOSET/ROOM LAYOUTS. CONTRACTOR SHALL ENSURE ALL EQUIPMENT FITS IN THE ALLOCATED SPACE PRIOR TO ORDERING EQUIPMENT.
I. CONTRACTOR SHALL USE A TORQUE WRENCH TO TIGHTEN ALL LUGS/TERMINALS PER MANUFACTURERS SPECIFICATIONS. CONTRACTOR SHALL TIGHTEN STRANDED CONDUCTORS CAREFULLY TO ENSURE CONDUCTIVITY REMAINS BETWEEN THE LUG AND CONDUCTOR.
J. EXTERIOR ELECTRICAL EQUIPMENT AND METERING CABINETS NEAR DRIVEWAYS SHALL BE PROTECTED VIA BOLLARDS OR OTHER MEANS OF PROTECTION FROM VEHICULAR TRAFFIC.
K. EXTERIOR FLOOR STANDING EQUIPMENT SHALL HAVE A CONCRETE EQUIPMENT PAD TO PREVENT INGRESS OF WATER. COORDINATE PAD REQUIREMENTS WITH ARCHITECT.
L. EQUIPMENT DOORS SHALL NOT IMPEDE THE ENTRY TO OR EGRESS FROM THE WORKING SPACE.
M. ALL PRESSURE CONNECTORS AND DEVICES FOR SPLICES AND TAPS INSTALLED ON SERVICE CONDUCTORS ARE TO BE LISTED AND MARKED AS "SUITABLE FOR USE ON THE LINE SIDE OF THE SERVICE EQUIPMENT."
N. BARRIERS SHALL BE PROVIDED FOR ALL SERVICE EQUIPMENT SUCH THAT NO UNINSULATED, UNGROUNDED SERVICE BUSBAR OR SERVICE TERMINAL IS EXPOSED WHILE SERVICING.

1.5 ELECTRICAL EQUIPMENT NOTES

ELECTRICAL SWITCHGEAR/SWITCHBOARD/MCC:

A. MINIMUM AVAILABLE FAULT CURRENT (AFC) SHALL BE LEGIBLY MARKED IN THE FIELD ON ALL SERVICE EQUIPMENT (IN OTHER THAN DWELLING UNITS), AND SHALL INCLUDE DATE THE AFC CALCULATION WAS PERFORMED. PROVIDE ALL SERVICE EQUIPMENT RATED EQUAL OR GREATER THAN THE AVAILABLE FAULT CURRENT AT THE LINE TERMINALS OF THE EQUIPMENT.
B. ARC-FLASH WARNING LABEL SHALL BE FIELD MARKED ON ALL EQUIPMENT AND METER SOCKETS VISIBLY AND LEGIBLY, WARNING QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS, IN COMPLIANCE WITH CEC 110.16.
C. DEPTH OF WORKING SPACE FOR ELECTRICAL EQUIPMENT SHALL BE A MINIMUM OF 36", PER NEC 110.26(A)(1).
D. WIDTH OF WORKING SPACE FOR ELECTRICAL EQUIPMENT SHALL BE A MINIMUM OF 30", PER NEC 110.26(A)(2).
E. HEIGHT OF WORKING SPACE FOR ELECTRICAL EQUIPMENT SHALL BE A MINIMUM OF 6'-6" FROM FINISH FLOOR OR THE HEIGHT OF THE EQUIPMENT, WHICHEVER IS GREATER, PER NEC 110.26(A)(3).
F. DEDICATED ELECTRICAL SPACE FOR ELECTRICAL EQUIPMENT SHALL BE EQUAL TO THE WIDTH AND DEPTH OF THE EQUIPMENT AND EXTEND FROM FLOOR TO 6' ABOVE THE EQUIPMENT OR TO THE STRUCTURAL CEILING, WHICHEVER IS LOWER. THERE SHALL BE NO FOREIGN OBJECTS INSTALLED WITHIN THIS SPACE.
G. FOR SERVICE EQUIPMENT RATED 1200A OR MORE, PROVIDE ENERGY REDUCTION MAINTENANCE SWITCH FOR MAIN BREAKER TO COMPLY WITH ARC FLASH REDUCTION REQUIREMENT. OTHER MEANS OF ARC FLASH REDUCTION NOTED IN NEC/CEC SHALL BE ALLOWED WITH APPROVAL FROM ENGINEER OF RECORD.
H. ALL EQUIPMENT SHALL BE UL LISTED AND BEAR THE UL LABEL OR LISTED/CERTIFIED BY NRTL.
I. MAIN BREAKER SHALL BE PERMANENTLY MARKED AS MAIN (SERVICE DISCONNECT) FOR SERVICE SHUT-OFF. IF AN ADDITIONAL SERVICE IS AVAILABLE IN A BUILDING OR STRUCTURE, EQUIPMENT SHALL HAVE AN ADDITIONAL LABEL WITH LOCATION OF OTHER SERVICE.
J. EQUIPMENT INSTALLED OUTDOORS OR IN A DAMP ENVIRONMENT SHALL BE NEMA 3R.
K. ALL EQUIPMENT SHALL HAVE A LEVELED STANDING WORK SURFACE CONSTRUCTED OF CONCRETE, ASPHALT, ETC. SAND OR GRASS SHALL NOT BE CONSIDERED A LEVELED SURFACE UNLESS APPROVED BY AHJ. WORKING SURFACE SHALL COMPLY WITH CODE AND UTILITY REQUIREMENTS.
L. EQUIPMENT ENCLOSURES SHALL NOT BE USED AS A WIREWAY TO ROUTE CONDUCTORS. CONTRACTOR SHALL PROVIDE A SEPARATE WIRE GUTTER OR SPLICE BOX WHERE REQUIRED.
M. SERVICE EQUIPMENT SHALL MEET ALL EUSERC REQUIREMENTS AS DIRECTED BY THE LOCAL UTILITY.
N. LARGE STANDING EQUIPMENT SUCH AS SWITCHBOARDS SHALL BE SEISMICALLY SUPPORTED. CONTRACTOR SHALL PROVIDE ANCHORING TO FLOOR OR STRUCTURE PER MANUFACTURER AND BUILDING CODE GUIDELINES.
O. ALL ELECTRICAL EQUIPMENT COMPONENTS SHALL BE DUAL RATED FOR CU/AL CONDUCTORS.
P. ALL TERMINATIONS AND ENCLOSURES SHALL BE RATED FOR USE WITH 75 DEGREE CELSIUS CONDUCTORS.
Q. ALL BUSSING SHALL BE COPPER OR ALUMINUM IN CONSTRUCTION. HORIZONTAL AND VERTICAL BUSSING SHALL BE RATED FOR FULL CAPACITY UNLESS APPROVED OTHERWISE.
R. SERVICE EQUIPMENT SHALL BE SERVICE ENTRANCE RATED.

PANELS AND CIRCUITS:

S. PROVIDE NEW PRINTED DIRECTORIES INDICATING CIRCUIT DESCRIPTION AND BREAKER SIZING FOR ALL PANELBOARDS.
T. PROVIDE PHENOLIC PLASTIC NAMEPLATES FOR ALL EQUIPMENT. PLATES SHALL BE BLACK WITH WHITE LETTERING. PLATES SHALL INCLUDE:
   1. PANEL NAME
   2. VOLTAGE, PHASE, WIRES
   3. AMPERAGE (MCB OR MLO)
   4. FED BY DESIGNATION
U. AMPS INDICATED IN PANEL SCHEDULE REFLECT CONNECTED LOAD. REFER TO FEEDER CALCULATIONS FOR DEMAND LOAD RESULTS.
V. PANELBOARDS SHALL HAVE ARC FLASH AND AVAILABLE FAULT CURRENT LABEL WITH COMPLETION DATE.

FIXTURES:

P. INSTALL SWITCHES, RECEPTACLES, ETC. AT FOLLOWING HEIGHTS (UNLESS OTHERWISE NOTED) MEASURED TO BOTTOM ON SWITCH/RECEPTACLE:

OUTLETS, PHONE TELEVISION	+14" AFF
OUTLETS ABOVE BATH COUNTERTOP	+40" AFF
OUTLETS ABOVE FIXED CABINETRY	+44" AFF
OUTLETS ON FIXED CABINETRY	+32" AFF
SWITCHES	+48" AFF
THERMOSTAT/ALARM KEYPAD	+58" AFF
DOORBELL CHIME	+84" AFF

RECEPTACLE OUTLETS SHALL NOT BE INSTALLED IN FACE UP POSITION ON A WORK SURFACE.
Q. RECESSED LUMINAIRES NOT LISTED FOR USE IN FIRE RESISTANT RATED CONSTRUCTION SHALL NOT BE INSTALLED IN FIRE RESISTIVE RATED CONSTRUCTION UNLESS COMPLIANCE WITH CONDITIONS NOTED UNDER NEC 410.116.
R. LUMINAIRES SHALL NOT BE USED TO ACCESS OTHER COMPONENTS (JUNCTION BOXES, CONDUIT BODIES, PULL BOXES, ETC) THAT REQUIRE ACCESS UNLESS ITS INTEGRAL PART OF FIXTURE.
S. ALL RECESSED CAN LIGHTS IN AN INSULTED CEILING SHALL BE IC RATED.
T. ALL JUNCTION BOXES SUPPORTING PENDANTS AND FANS SHALL BE SUITABLE FOR INSTALL AND CLEARLY LABELED FOR WEIGHT CAPACITY.

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1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER:	AS
DESIGNER:	AS
DRAWN BY:	SAM
CHECKED BY:	AS
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:

PLAN NUMBER:

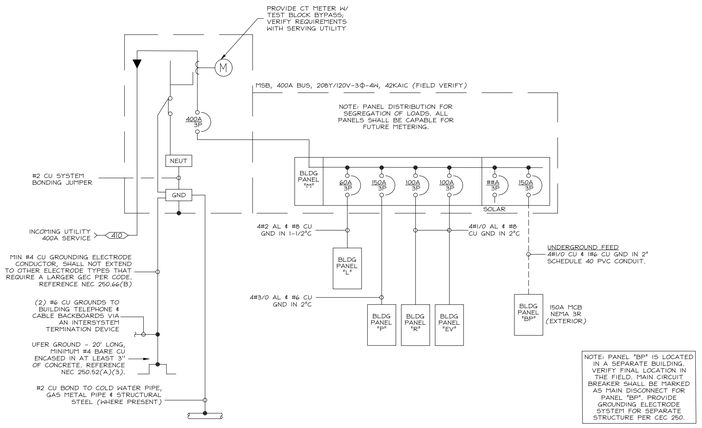
SHEET TITLE: STANDARD NOTES AND LOAD CALCULATIONS

SCALE:

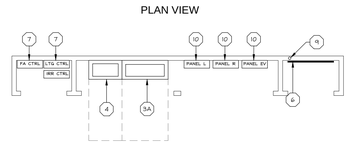
SHEET NUMBER: EN.1

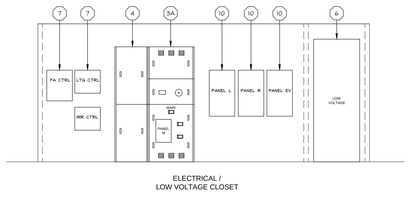
JOB NUMBER: HS22244

ONE-LINE'S AND CLOSET LAYOUTS



E1 | ONE-LINE DIAGRAM - SWIM CLUB





E2 | UTILITY CLOSET EQUIPMENT LAYOUT

SERVICE CONDUCTORS

TAG	CONDUIT & CONDUCTOR SIZES
<410>	(2) 2½"C. W/ (4) # 250 KCMIL AL IN EACH
<615>	(3) 2½"C. W/ (4) # 250 KCMIL AL IN EACH
<820>	(4) 2½"C. W/ (4) # 250 KCMIL AL IN EACH
<1020>	(3) 4"C. W/ (4) # 600 KCMIL AL IN EACH
<1240>	(4) 4"C. W/ (4) # 500 KCMIL AL IN EACH
<1600>	(6) 3"C. W/ (4) # 400 KCMIL AL IN EACH

BRANCH CIRCUIT CONDUCTORS

CIRCUIT AMPACITY	CONDUIT 2-WIRE	CONDUIT 3-WIRE	CONDUIT 4-WIRE	WIRE SIZE [1]	GROUND SIZE [2]
20A	3/4"	3/4"	3/4"	#12	#12
25A	3/4"	3/4"	3/4"	#10	#10
30A	3/4"	3/4"	3/4"	#10	#10
35A	3/4"	3/4"	3/4"	#10	#10
40A	3/4"	3/4"	3/4"	#8	#10
45A	3/4"	3/4"	1"	#6	#10
50A	3/4"	3/4"	1"	#6	#10
60A	3/4"	1"	1-1/4"	#4	#10
70A	1"	1"	1-1/4"	#4	#8
80A	1"	1-1/4"	1-1/4"	#3	#8
90A	1"	1-1/4"	1-1/4"	#2	#8
100A	1-1/4"	1-1/4"	1-1/2"	#1	#8
110A	1-1/4"	1-1/4"	1-1/2"	#1	#6
125A	1-1/4"	1-1/4"	1-1/2"	#1	#6

[1] WIRE SIZE IS BASED ON CEC TABLE 310.16. CONDUCTORS ARE ALL COPPER TYPE. ALL CIRCUITS 100A AND LOWER ARE SIZED FROM 60°C COLUMN AND CIRCUITS GREATER THAN 100A ARE SIZED FROM 75°C COLUMN.

[2] GROUND SIZE IS BASED ON THE EQUIPMENT GROUNDING CONDUCTOR USING CEC TABLE 250.122.

NOTES:

1. CIRCUITS DO NOT USE THE ALLOWANCES STATED UNDER CEC 240.4(B), ALL CONDUCTORS ARE FULLY RATED FOR THE BREAKER.
2. CONDUITS SHALL NOT EXCEED 40% FILL USING THE SELECTED CONDUIT TYPE INTERIOR DIAMETER FOR CONDUIT CHANGES BASED ON CONDUIT TYPE.
3. TABLE SHALL NOT BE USED FOR TAPS OR OTHER DE-RATING REQUIREMENTS.
4. VOLTAGE DROP IS NOT CONSIDERED PART OF THE TABLE.
5. WIRE AND CONDUIT SIZE ARE BASED ON A SINGLE SET.

ELECTRICAL EQUIPMENT KEYNOTES

3. BUILDING METER/MAIN WITH DISTRIBUTION (NOT TO EXCEED 24" DEPTH AND 36" WIDTH)
4. PULL BOX (MAX 24" SECTION)
6. LOW VOLTAGE BACKBOARD / CABINET(S)
7. IRRIGATION CONTROLLER / FIRE ALARM CONTROL PANEL (WHERE OCCUR)
10. PANELBOARD (20" SECTION)

SEE ARCHITECTURAL PLANS FOR SPECIFIC CLOSET DIMENSIONS AND LOCATION / ORIENTATION OF UTILITY CLOSET(S) PER THE SITE PLAN.

TYPICAL CLEARANCE REQUIREMENTS*:
EQUIPMENT INSIDE CLOSET - MIN 6" FROM SIDE WALL AND MIN 24" INTERIOR CLOSET DEPTH.
SERVICE CLEARANCE AT ALL EQUIPMENT - MIN 30"H X 36"D WITH A LEVEL WORKING SURFACE. AT CLOSET, CLEARANCE MEASURED WITH DOORS OPEN 90° OR MORE.
* VERIFY SERVING UTILITY REQUIREMENTS PRIOR TO INSTALLATION

ELECTRICAL SYMBOLS LEGEND

- GFI QUADPLEX RECEPTACLE, PROVIDE (2) FOR TELECOMMUNICATIONS BACKBOARD / BACKBOARD
- GFI DUPLEX RECEPTACLE, PROVIDE (2) FOR IRRIGATION CONTROLLER & FIRE ALARM CONTROL PANEL (WHERE OCCURS.)
- SWITCH
- SURFACE MOUNT LED LIGHT WITH 90 MINUTE BATTERY BACKUP
- 4'-0" LONG SURFACE MOUNT LED STRIP LIGHTS WITH 90 MINUTE BATTERY BACKUP

NOTE: ALL RECEPTACLES AND LIGHTING LOCATED IN UTILITY CLOSET TO BE WIRED TO THE BUILDING PANEL.

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CHULA VISTA, CA

CLIENT:
HOMEFED CORPORATION
1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER:	AS
DESIGNER:	AS
DRAWN BY:	SAM
CHECKED BY:	AS
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:
REGISTERED PROFESSIONAL ENGINEER ANNEESHEET SINGH KLEIN 33100 01-31-2024 ELECTRICAL STATE OF CALIFORNIA

PLAN NUMBER:

SHEET TITLE:
ONE-LINE AND CLOSET LAYOUTS

SCALE:

SHEET NUMBER:
EN.2

JOB NUMBER: H522244

SCHEDULES

FIXTURE TAG	DESCRIPTION	LUMEN OUTPUT	KELVIN TEMP	LAMP	CRI	VOLTAGE	WATTAGE	DIMMING	MOUNTING	MANUFACTURER	CATALOG #	EQUIVALENT	COMMENTS
D1	4" LED RECESSED DOWNLIGHT, SLOPED CEILING INSTALL, WHITE	900 LM	3000K	LED	90	120V	11	0-10V	RECESSED	COOPER LIGHTING	RLS4-09-9FS-1E-WH-DM-R-HL4RSMF	BUILDERS CHOICE	
D2	4" LED RECESSED DOWNLIGHT, SLOPED CEILING INSTALL, WHITE (DAMP LISTED)	900 LM	3000K	LED	90	120V	11	0-10V	RECESSED	COOPER LIGHTING	RLS4-09-9FS-1E-WH-DM-R-HL4RSMF	BUILDERS CHOICE	
D3	6" LED RECESSED DOWNLIGHT, WHITE	1400 LM	3000K	LED	90	MVOLT	16	0-10V	RECESSED	LITHONIA	EC22LED-G4-14LM-30K-90CRI-MVOLT ZT10	BUILDERS CHOICE	
D4	6" LED RECESSED DOWNLIGHT, WHITE (DAMP LISTED)	1400 LM	3000K	LED	90	MVOLT	16	0-10V	RECESSED	LITHONIA	EC22LED-G4-14LM-30K-90CRI-MVOLT ZT10	BUILDERS CHOICE	
D5	7" ROUND HIGH EFFICIENY SURFACE DOWNLIGHT (WET/DAMP LISTED)	1000 LM	3000K	LED	90	UNV	13	0-10V	SURFACE	JUNO LIGHTING	IC1JB-JSF-7IN-30K-90CRI-MVOLT-ZT-WH-JSFMTGPLT	BUILDERS CHOICE	
P1	8' LINEAR ARCHITECTURAL PENDANT	6000 LM	3000K	LED	80	120V	54	0-10V	PENDANT	FOCAL POINT	-	BUILDERS CHOICE	INTERIOR DESIGNER AND CLIENT TO MAKE SELECTION. FIELD COORDINATE FINAL LENGTH, FIXTURES SHALL NOT BE MOUNTED BELOW 8' AFF.
P2	ROUND ARCHITECTURAL PENDANT, DAMP LISTED	1000 LM	3000K	LED	80	120V	20	0-10V	PENDANT	-	-	BUILDERS CHOICE	INTERIOR DESIGNER AND CLIENT TO MAKE SELECTION. FIELD COORDINATE FINAL LENGTH, FIXTURES SHALL NOT BE MOUNTED BELOW 8' AFF.
S4	4' LED STRIP LIGHT (DAMP LISTED)	3000 LM	3500K	LED	80	UNV	30	0-10V	SURFACE	LITHONIA	ZL1D-L48-SMR-3000LM-FST-MVOLT-35K-80CRI-E10WLCP-WH	BUILDERS CHOICE	BATTERY BACKUP FOR EMERGENCY FIXTURES WITH CONSTANT HOT
EW1	LED WALL LIGHT, WET LISTED	700 LM	3000K	LED	80	120V	20	0-10V	WALL	-	-	BUILDERS CHOICE	
EW2	DIRECT/INDIRECT CYLINDER WALL SCONCE, WET LISTED	700 LM	3000K	LED	80	120V	20	0-10V	WALL	-	-	BUILDERS CHOICE	
EL1	ADJ TWIN HEAD EMER W/ 90 MIN BACKUP	-	-	LED	-	120V	10.6	-	WALL	LITHONIA	ELM6L-LTP-SDRT	BUILDERS CHOICE	PROVIDE UNSWITCHED CIRCUIT
EL2	EXTERIOR BEAM EMERGENCY EGRESS LIGHT WITH 90 MIN BACKUP	-	3000K	LED	-	120V	4	-	WALL	LITHONIA	AFF-OEL-UVOLT-LTP-SDRT-FCT	BUILDERS CHOICE	PROVIDE UNSWITCHED CIRCUIT
X1	LED EXIT SIGN W/ 90 MIN BATTERY BACKUP	-	-	LED	-	120V	5	-	S/W/P	LITHONIA	LQM-S-W-3-G-120V-ELN	BUILDERS CHOICE	PROVIDE UNSWITCHED CIRCUIT

BUILDING LUMINAIRE SCHEDULE

NOTES

LIGHTING CONTROL NARRATIVE

GENERAL CONTROL REQUIREMENTS

1. BUILDING TIMECLOCK SHALL BE SET PER OWNERS PREFERENCE.
2. ALL CONTROL DEVICES SHALL BE LOW VOLTAGE AND SHALL COMMUNICATE TO HEAD END LIGHTING CONTROL PANEL VIA GATEWAY,BRIDGE, OR POWER PACK DEVICES.
3. PROVIDE CONNECTION FROM HEAD END LIGHTING CONTROLLER TO BUILDING MANAGEMENT SYSTEM, WHERE APPLICABLE.
4. ALL EMERGENCY FIXTURES SHALL OPERATE AT THE SAME LEVEL AS THE NORMAL LIGHTING WHEN CONTROLLED BY ANY CONTROL DEVICE. DURING AN EMERGENCY SITUATION, ALL EMERGENCY LIGHTING SHALL TURN FULL ON FOR A MINIMUM OF A 90 MINUTE PERIOD. PROVIDE SEPARATE EMERGENCY POWER PACK FOR SPACES THAT REQUIRE EMERGENCY LIGHTING.
5. WHEN SPACE IS UNOCCUPIED, LIGHTS SHALL REMAIN ON FOR 15 MINUTES UNLESS NOTED OTHERWISE. WHEN ANOTHER EVENT IS TRIGGERED, LIGHTS SHALL TURN BACK ON TO THE PREVIOUS SET LIGHTING LEVEL. CONTRACTOR TO COORDINATE WITH OWNER FOR ADDITIONAL LIFTTS.
6. DUAL TECHNOLOGY AND ULTRASONIC OCCUPANCY SENSORS SHALL BE PLACED AT LEAST 6' AWAY FROM FANS AND AIR VENTS TO AVOID FALSE TRIGGERING. COORDINATE LIFTTATIONS WITH LIGHTING MANUFACTURER REP.
7. PHOTOCELLS SHALL BE PLACED 6' AWAY FROM WINDOW PROVIDING DAY LIGHTING.
8. LIGHT FIXTURES WITH LOWER CASE LETTER IN CIRCUIT TAG SHALL BE CONTROLLED SEPARATELY BY DESIGNATED WALL SWITCH AND SENSORS.
9. LIGHT FIXTURES IN ENCLOSED SPACES WITH NO LETTER INDICATION SHALL BE CONTROLLED VIA SWITCH AND SENSOR LOCATED WITHIN THE SPACE.

OFFICES/LOUNGE/KITCHEN/FITNESS

- EACH SPACE SHALL HAVE A MANUAL ON/OFF SWITCH, MULTI-LEVEL DIMMING AND OCCUPANCY SENSOR.
- OCCUPANCY SENSOR SHALL AUTOMATICALLY TURN ON/OFF THE LIGHTS WHEN SPACE IS OCCUPIED.

ELECTRICAL/MECHANICAL CLOSETS

- CLOSETS SHALL HAVE A MANUAL ON/OFF SWITCH WITH DIMMER AS INDICATED.
- LIGHTS SHALL NOT HAVE ANY AUTOMATIC ON/OFF TO AVOID ADDITIONAL HAZARDS.

RESTROOMS

- RESTROOMS SHALL HAVE MANUAL ON/OFF SWITCH, MULTI-LEVEL DIMMING AND OCCUPANCY SENSOR.
- COORDINATE WITH OWNER IF WALL SWITCH IS PREFERRED TO BE WITH RESTRICTED ACCESS.
- COORDINATE WITH OWNER IF DIMMING IS NEEDED AS ITS NOT REQUIRED.
- OCCUPANCY SENSOR SHALL AUTOMATICALLY TURN ON/OFF THE LIGHTS WHEN SPACE IS OCCUPIED.

STAIRS

- STAIRWELLS SHALL HAVE A MANUAL ON/OFF SWITCH AT EACH LEVEL, MULTI-LEVEL DIMMING AND OCCUPANCY SENSOR.
- LIGHTS SHALL BE CONTROLLED AS PARTIAL-OFF TO KEEP LIGHTS ON AT 50% AT ALL TIMES.
- DURING A TRIGGERED EVENT, LIGHTS SHALL TURN FULL ON FOR A SET PERIOD.

CORRIDORS

- CORRIDORS SHALL HAVE A MANUAL ON/OFF SWITCH AT EACH END, MULTI-LEVEL DIMMING AND OCCUPANCY SENSOR.
- OCCUPANCY SENSOR SHALL AUTOMATICALLY TURN ON/OFF THE LIGHTS WHEN SPACE IS OCCUPIED. PROVIDE PARTIAL-OFF CONTROL FOR EGRESS CORRIDORS. COORDINATE WITH ARCHITECTURAL EGRESS PLAN.

EXTERIOR

- ALL EXTERIOR LIGHTING SHALL BE CONTROLLED VIA PHOTOCELL OR ASTRONOMICAL TIMECLOCK WITH AUTOMATIC SCHEDULING.
- BUILDING WALL PACKS SHALL BE ON NIGHT CONTROL. LIGHTS SHALL TURN ON AFTER SUNSET AND REMAIN ON TILL 30 MINUTES BEFORE SUNRISE THE NEXT DAY.

CONDUIT & WIRE/CABLE NOTES

1. CONDUIT ROUTING IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
2. CONTRACTOR IS RESPONSIBLE FOR SUPPORTING AND SECURING ALL CONDUITS AND CABLES PER CODE.
3. ALL CONDUIT SHALL BE INSTALLED CONCEALED UNLESS SPECIFICALLY APPROVED BY THE ARCHITECT.
4. GALVANIZED EMT CONDUIT WITH COMPRESSION FITTINGS SHALL BE USED FOR ALL EXPOSED INTERIOR WORK. WHERE CONDUIT IS PRONE TO DAMAGE, USE IMC.
5. ALL ABOVE GROUND EXTERIOR CONDUITS SHALL BE IMC OR RMC.
6. PROVIDE WEATHERPROOF CAPS ON ALL ENDS OF CONDUITS TERMINATED OUTSIDE OF BUILDING. RECORD ALL CONDUIT LOCATIONS AND PLACE AN ELECTRONIC MARKER FOR ALL STUB OUTS.
7. CONTRACTOR SHALL INSTALL A #14 AWG OR 3/16" POLYPROPYLENE PULL LINE IN ALL EMPTY CONDUITS. CONDUITS SHALL BE CAPPED ON BOTH ENDS AND MARKED AS SPARE.
8. WHERE CONDUIT BENDS EXCEED 360 DEGREE OF BENDS OR LENGTH OF CONDUIT RUN IS MORE THAN A 100', CONTRACTOR SHALL PROVIDE PULL BOX SIZED PER NEC SECTION 314.28. PULL BOX SHALL REMAIN ACCESSIBLE IN ALL APPLICATIONS. INDOOR PULL BOXES SHALL BE GALVANIZED STEEL AND EXTERIOR BOXES SHALL BE CONCRETE.
9. TYPE SER CABLE SHALL BE ACCEPTABLE FOR FEEDERS SUPPLYING DWELLING UNITS ONLY. SER CABLE SHALL NOT BE USED UNDERGROUND.

   WIRE AND CABLE:

   a. CONDUCTORS #10 AWG & SMALLER SHALL BE SOLID, #8 AWG & LARGER SHALL BE STRANDED. INSULATION SHALL BE 600V DUAL RATED THHN/THWN.
   b. ALL BRANCH CIRCUITS SHALL BE SIZED PER BREAKER AMPACITY.
   c. MINIMUM WIRE SIZE SHALL BE #12 AWG CU AND MINIMUM CONDUIT SIZE SHALL BE 3/4". IF LENGTH OF RUN EXCEEDS 80' FOR A 20A CIRCUIT, PROVIDE #10 AWG CU. IF LENGTH OF RUN EXCEEDS 90' FOR A 15A CIRCUIT, PROVIDE #10 AWG CU.
   d. ROMEX OR NM CABLE SHALL BE INSTALLED PER USES PERMITTED IN THE LATEST ELECTRICAL CODE.

10. WHERE CONDUCTORS ARE UPSIZED DUE TO VOLTAGE DROP, CONTRACTOR SHALL PROVIDE ISLCO OR POLARIS INSULATED LUGS OR PIN ADAPTERS TO TERMINATE LARGER CONDUCTORS TO BREAKER/LUGS.
11. ALL SPLICES AND TAPS SHALL USE LISTED MATERIAL SUITABLE FOR THE INSTALLATION.
12. ALUMINUM AND COPPER-CLAD ALUMINUM CONDUCTORS SHALL NOT BE WITHIN 18" OF THE EARTH. THERE SHALL BE NO DIRECT CONTACT WITH MASONRY OR EARTH.
13. WHERE A PANEL IS RECESSED OR FLUSH MOUNTED, PROVIDE SPARE CONDUITS STUBBED UP INTO AN ACCESSIBLE CEILING. EACH CONDUIT SHALL BE CAPPED AND MARKED FOR FUTURE USE.

UNDERGROUND NOTES

1. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC, WHERE INSTALLED UNDER DRIVEWAYS/ROADS, PROVIDE SCHEDULE 80 PVC.
2. CONDUCTORS SHALL BE XHHW OR DUAL RATED THHN/THWN.
3. MINIMUM CONDUCTOR SIZE FOR UNDERGROUND INSTALLATION SHALL BE 10 AWG IN A 1" CONDUIT. NOT APPLICABLE TO SERVICES.
4. CONTRACTOR SHALL COMPLY WITH THE MINIMUM CONDUIT BURIAL DEPTH REQUIREMENTS PER NEC TABLE 300.5. PVC SHALL BE AT MINIMUM OF 24" DEEP WITH ROCK-FREE BACKFILL FOR ALL UNDERGROUND SERVICE CONDUIT. ALTERNATE TO ROCK-FREE BACKFILL FOR SERVICE TRENCH SHALL BE USE OF RIGID GALVANIZED METAL CONDUIT.
5. PVC CONDUIT SHALL NOT BE USED ABOVE GRADE WHEN TRANSITING FROM BELOW GRADE.
6. WHERE UNDERGROUND PULL BOXES ARE REQUIRED, PROVIDE OLDCASTLE CARDSITY NH CONCRETE PULLBOX OR EQUIVALENT WITH BOLTED COVER. BOXES SHALL BE INSTALLED FLUSH WITH GRADE FOR INTENDED USE.
7. CONTRACTOR TO CONFIRM WITH LOCAL AUTHORITIES IF RED WARNING TAPE IS REQUIRED OVER ANY UNDERGROUND DUCT BANK. FINAL INSPECTION AND APPROVAL SHALL BE THE CONTRACTORS RESPONSIBILITY.
8. ALL UNDERGROUND CONDUIT SHALL BE SEALED OR CAPPED TO PREVENT MOISTURE CONTACT WITH LIVE PARTS.

EV NOTES

1. ALL FUTURE EV CHARGERS SHALL HAVE THE PANEL DIRECTORY BREAKER SPACE AND RACEWAY TERMINATION POINT PERMANENTLY AND VISIBLY MARKED AS EV CAPABLE.
2. RACEWAY SHALL BE NOT LESS THAN TRADE SIZE 1 (NOMINAL 1-IN. INSIDE DIAMETER) TO ACCOMMODATE A DEDICATED 208/240-VOLT BRANCH CIRCUIT.
3. RACEWAY SHALL ORIGINATE AT THE MAIN SERVICE OR SUB-PANEL AND TERMINATE INTO A LISTED CABINET, BOX OR OTHER ENCLOSURE IN CLOSE PROXIMITY TO THE PROPOSED LOCATION OF THE EV SPACE.
4. RACEWAY SHALL BE CONTINUOUS AT ENCLOSED, INACCESSIBLE OR CONCEALED AREAS AND SPACES.
5. THE EVCS SERVICE PANEL OR SUB-PANEL SHALL PROVIDE CAPACITY TO INSTALL A 40-AMPERE MINIMUM DEDICATED BRANCH CIRCUIT AND SPACE(S) RESERVED TO PERMIT INSTALLATION OF A BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE.
6. PROVIDE 2" CONDUIT FOR ALL CHARGERS THAT ARE 50' OR MORE FROM MAIN SUPPLY. USE #8 CU TYPICAL FOR ALL CHARGERS. IF LENGTH OF RUN EXCEEDS 50', USE #6 CU. IF LENGTH OF RUN EXCEEDS 100', USE #4 CU. EACH CIRCUIT SHALL HAVE A EQUIPMENT GROUNDING CONDUCTOR THAT SHALL BE PROPORTIONALLY UPSIZED DUE TO VOLTAGE DROP.

LIGHTING NOTES

1. PROVIDE A WIRED N-LIGHT DISTRIBUTED LIGHTING CONTROL SYSTEM OR EQUIVALENT THAT SHALL COMPLY WITH TITLE 24. THE MAIN HEAD END CONTROLLER SHALL HAVE A BUILT-IN ASTRONOMICAL TIME CLOCK TO PROVIDE AUTOMATIC SHUTOFF FOR EXTERIOR LIGHT. CONTROLLER SHALL BE CAPABLE OF DEMAND RESPONSE, COORDINATE REQUIREMENT WITH AHJ.
2. ALL FIXTURE SUBSTITUTIONS SHALL BE APPROVED BY ENGINEER AND INTERIOR DESIGNER PRIOR TO ORDER.
3. ALL FIXTURES SHALL COMPLY WITH TITLE 24 REQUIREMENTS AND SHALL BE LISTED/APPROVED FOR INTENDED USE.
4. CONTRACTOR SHALL PROVIDE ALL MOUNTING ACCESSORIES TO COMPLETE THE INSTALLATION PER MANUFACTURERS INSTRUCTIONS.
5. CONTRACTOR SHALL VERIFY TYPES/QUANTITY/PLACEMENT OF LIGHTS AND DEVICES WITH MANUFACTURERS REPRESENTATIVE TO ENSURE BEST COVERAGE FOR LIGHTING CONTROLS.
6. CONTRACTOR SHALL INCLUDE FACTOR START-UP/PROGRAMMING AND END USER TRAINING.
7. DAYLIGHT CONTROLS SHALL BE PROVIDED FOR AREAS NOTED ON PLAN. DIAGONAL-UP HATCH INDICATES PRIMARY ZONE AND DIAGONAL-DOWN HATCH INDICATES SECONDARY ZONE. ALL FIXTURES IN EACH ZONE SHALL BE CONTROLLED VIA PHOTOCELL.
8. ALL EMERGENCY FIXTURE WITH BATTERY PACKS SHALL BE EQUIPPED WITH TEST BUTTON. EMERGENCY FIXTURES ARE HALF SHADED OR NOTED WITH EM.
9. CONTRACTOR SHALL COORDINATE CEILING TYPES WITH ARCHITECT PRIOR TO PURCHASING LIGHT FIXTURES TO AVOID INSTALLATION ISSUES IN THE FIELD.
10. ALL EXTERIOR LIGHT FIXTURES AND CONTROL DEVICES SHALL BE WEATHER PROOF.
11. ALL LIGHT FIXTURES SHALL BE LED UNLESS NOTED OTHERWISE. FIXTURES SPECIFIED BY THE ARCHITECT AND/OR INTERIOR DESIGNER TAKE PRECEDENCE OVER ELECTRICAL SPECIFICATIONS.
12. ALL EMERGENCY BATTERY PACKS SHALL PROVIDE A MINIMUM 90 MINUTE RUN-TIME. BATTERY PACKS SHALL BE TITLE 20 COMPLIANT.
13. ALL PHOTOCELLS SHALL BE PLACED AT A MINIMUM OF 6' AWAY FROM THE WINDOW PRODUCING DAYLIGHT.
14. ALL OCCUPANCY SENSORS SHALL BE PLACED AT A MINIMUM OF 6' AWAY FROM ANY AIR REGISTERS AND FANS THAT COULD CAUSE A FALSE TRIGGER. WHERE IR SENSORS ARE INSTALLED, DISTANCE MAY BE REDUCED FROM FANS NOT PRODUCING ANY HEAT.

MECHANICAL NOTES

1. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR AND APPLIANCE INSTALLER, PRIOR TO ROUGH-IN, TO VERIFY BREAKER AND WIRE SIZE FOR RESPECTIVE EQUIPMENT. ELECTRICAL CONTRACTOR SHALL MAKE NECESSARY ADJUSTMENTS TO SATISFY NEC REQUIREMENTS.
2. PROVIDE WEATHER PROOF GFCI SERVICE RECEPTACLE WITHIN 25' (CEC 210.63) OF ALL HVAC EQUIPMENT. FOR EQUIPMENT LOCATED IN AN ATTIC, PROVIDE A HIGH EFFICACY LIGHTING FIXTURE AT OR NEAR THE EQUIPMENT AND CONTROLLED BY VACANCY SENSOR SWITCH LOCATED AT THE REQUIRED PASSAGEWAY OPENING. COORDINATE LOCATIONS WITH HVAC CONTRACTOR PRIOR TO INSTALLATION.
3. PROVIDE ROOF JACKS FOR POWER AND 3/4" CONTROL CONDUIT TO ROOF MOUNTED HVAC EQUIPMENT. ALL CONDUIT PENETRATIONS SHALL BE LOCATED NEAR THE EQUIPMENT. POWER CONDUIT SHALL BE ROUTED TO THE DESIGNATED PANEL. CONTROL CONDUIT SHALL BE ROUTED TO THE MECHANICAL UNIT CONTROL MODULE/THERMOSTAT. COORDINATE POWER AND CONTROL WIRING AND EQUIPMENT LOCATIONS WITH MECHANICAL CONTRACTOR.
4. CONTRACTOR SHALL NOT RUN CONDUIT ALONG THE ROOF. CONDUIT WITH PIPE GUARDS SHALL BE USED AT CLIENTS DISCRETION.
5. ALL CONNECTIONS TO HVAC EQUIPMENT SHALL BE MADE WITH COPPER CONDUCTORS ONLY. SIZE CONDUCTORS PER UNIT NAMEPLATE SPECIFICATIONS, CONDUCTOR SIZE SHALL NOT BE BELOW CODE MINIMUM.
6. PROVIDE FUSED DISCONNECT WITH BUSSMAN CLASS RK5 DUAL ELEMENT CURRENT LIMITING FUSES FOR ALL MECHANICAL EQUIPMENT. SIZE AS REQUIRED PER NAMEPLATE SPECIFICATIONS. ALL DISCONNECTS LOCATED OUTDOORS SHALL BE NEMA 3R. CONTRACTOR SHALL PROVIDE UNISTRUT SUPPORT AS NEEDED TO MOUNT DISCONNECTS WITH SUFFICIENT WORKING CLEARANCE.
7. PROVIDE MOTOR RATED SWITCH WITH THERMAL OVERLOADS FOR ALL MECHANICAL EQUIPMENT RATED AT 120V ONLY. SIZE PER MANUFACTURERS NAMEPLATE.
8. DISCONNECTS SHALL BE PROVIDED WITH REJECTION TYPE FUSE HOLDERS, IN-LINE FUSES ARE NOT ACCEPTABLE.
9. LIQUID-TIGHT FLEXIBLE CONDUIT IS ACCEPTABLE FOR FINAL MOTOR TERMINATIONS IN LENGTHS NOT TO EXCEED 6'.
10. ALL AIR HANDLING UNITS SHALL HAVE DEDICATED BRANCH CIRCUITS.
11. BREAKERS SERVING MECHANICAL AND HEATING EQUIPMENT SHALL BE LABELED AS "HACR".

LOW VOLTAGE NOTES

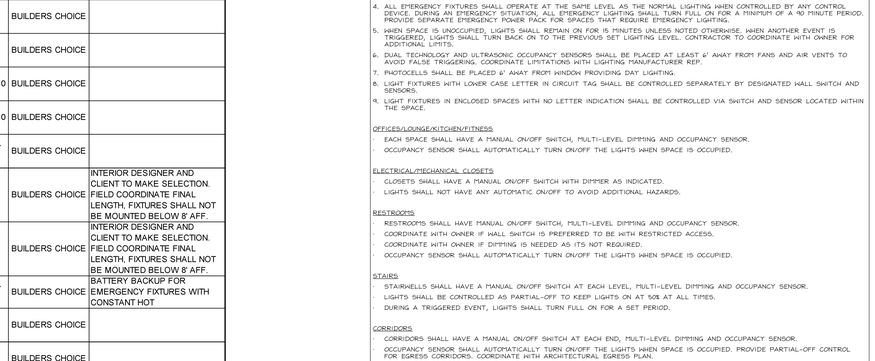
1. ALL LOW VOLTAGE SYSTEMS SHALL BE COORDINATED WITH THE APPROPRIATE CONTRACTOR. LOW VOLTAGE SYSTEMS INCLUDE DATA, VOICE, A/V, FIRE ALARM, SECURITY, IRRIGATION, ETC. ALL LOW VOLTAGE DESIGNS TO BE COMPLETED BY OTHERS.
2. TELECOMMUNICATION SERVICE EQUIPMENT SHALL BE LOCATED WITHIN THE UTILITY CLOSET OR A SEPARATE CLOSET DESIGNATED FOR LOW VOLTAGE. EC SHALL COORDINATE WITH LV CONTRACTOR TO CONFIRM POWER REQUIREMENTS.
3. TELECOM BACKBOARD SHALL BE CONSTRUCTED USING FIRE RESISTENT PLYWOOD.

ONE-LINE NOTES

1. VERIFY SERVICE LOCATIONS & CONFORM TO THE REQUIREMENTS OF THE POWER COMPANY. POWER COMPANY SHALL BE CONTACTED PRIOR TO BEGINNING CONSTRUCTION TO ARRANGE & VERIFY FOR THE INSTALLATION OF THE POWER COMPANY SERVICES & METERS.
2. GROUND ALL EQUIPMENT & SERVICES IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE, LOCAL APPLICABLE CODES, & AS INDICATED ON DRAWINGS.
3. E.C. SHALL VERIFY AIC CAPACITY FOR EACH SERVICE WITH LOCAL SERVING UTILITY PRIOR TO ORDERING SWITCHGEAR. ALL DEVICES SHALL HAVE AN INTERRUPTING CAPACITY NOT LESS THAN THAT GIVEN BY THE SERVING UTILITY.
4. THE INTERRUPTING RATING OF ALL EQUIPMENT IS BASED ON WORST-CASE UTILITY FAULT CONTRIBUTION. CONTRACTOR TO COORDINATE WITH LOCAL UTILITY COMPANY FOR FINAL AIC VALUES. ANY DEVIATIONS FROM THE CONSTRUCTION DRAWINGS REQUIRES APPROVAL FROM THE ENGINEER OF RECORD PRIOR TO PURCHASING EQUIPMENT. CONTRACTOR SHALL PROVIDE UPDATED CALCULATIONS BASED ON FIELD CONDITIONS AND FINAL UTILITY CONTRIBUTION VALUES WHICH SHALL BE USED TO MARK THE EQUIPMENT IN THE FIELD PER CODE. ALL DEVICES SHALL HAVE AN INTERRUPTING CAPACITY NOT LESS THAN THAT GIVEN BY THE SERVING UTILITY.
5. CONTRACTOR SHALL CONFIRM VOLTAGE DROP FOR ALL FEEDERS AND BRANCH CIRCUITS. THE TOTAL PERCENT VOLTAGE SHALL NOT EXCEED 5% BETWEEN THE FEEDER AND FURTHEST BRANCH CIRCUIT.
6. SERIES RATED EQUIPMENT SHALL BE ACCEPTABLE. CONTRACTOR IS RESPONSIBLE FOR PROVIDING BREAKERS/SWITCHES THAT HAVE BEEN FULLY TESTED IN SERIES TO PROVIDE THE REQUIRED PROTECTION BASED ON THE INDICATED AIC RATING. EQUIPMENT AND END USE EQUIPMENT SHALL BE CLEARLY MARKED AS SERIES RATED WITH THE CALCULATED FAULT AVAILABLE.
7. SOLAR DESIGN IS BY OTHERS. CONTRACTOR SHALL COORDINATE WITH SOLAR DRAWINGS FOR FINAL BREAKER SIZING REQUIRED TO MAKE FINAL CONNECTION. PROVIDE CONDUIT AS NOTED ON PLAN UNLESS NOTED OTHERWISE ON SOLAR DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR SOLAR PANEL LAYOUTS.
9. ALL NEW BRANCH CIRCUITS SHALL HAVE A DEDICATED GROUND WIRE AND A 100% RATED NEUTRAL. SHARED NEUTRAL SHALL NOT BE ALLOWED.

POWER NOTES

1. ALL 125V RECEPTACLES INSTALLED IN BATHROOMS, GARAGES, OUTDOORS, CRAWL SPACES, BASEMENTS, KITCHENS (SERVICING COUNTER SPACE), 6' WITHIN A SINK/SHOWER/TUB, BOATHOUSES, LAUNDRY AREAS AND INDOOR DAMP/WET LOCATIONS SHALL BE GFCI.
2. PROVIDE OCCUPANCY CONTROLLED RECEPTACLE IN ALL OFFICE SPACES, LOBBIES, CONFERENCE ROOMS, KITCHEN IN ALL OFFICE AREAS, COPY AREAS. RECEPTACLES IDENTIFIED WITH CR ON PLANS. THE HALF-HOT RECEPTACLES SHALL BE SPLIT-WIRE WITH ONE CONTROLLED OUTLET AND ONE NORMAL OUTLET. ALL CONTROLLED RECEPTACLES SHALL HAVE A PERMANENT DURABLE MARKING INDICATING OUTLET IS CONTROLLED.
3. ALL VENDING MACHINES AND DRINKING WATER FOUNTAIN RECEPTACLES SHALL BE GFCI. IF RECEPTACLES ARE NOT ACCESSIBLE IN THE LOCATION INSTALLED, PROVIDE GFCI BREAKER FOR THESE CIRCUITS.
4. ALL 125V AND 250V, 15 & 20 AMPERE NON-LOCKING RECEPTACLES INSTALLED IN THE AREAS DESCRIBED IN CEC SECTION 406.12(1) THROUGH (7) SHALL BE TAMPER-RESISTANT.

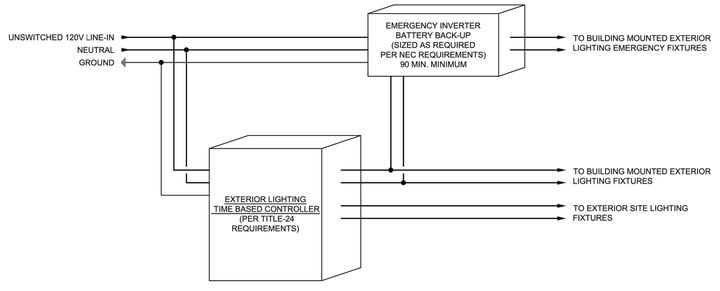


REFER TO PLANS FOR TYPES AND QUANTITIES

T24 COMPLIANT SEQUENCE OF OPERATION:

1. OCCUPANCY SENSORS PROVIDE AUTOMATIC ON TO 100% UPON OCCUPANCY/ AUTOMATIC DIM 50% 5 MINUTES AFTER VACANCY. SENSORS ARE NOT TO SHUT LIGHTS OFF.
2. nPODM 2P DX SWITCH, REMOTE LOCATED, PROVIDES MANUAL SHUT-OFF OF THE LIGHTS AS REQUIRED. ON/OFF/RAISE/LOWER.

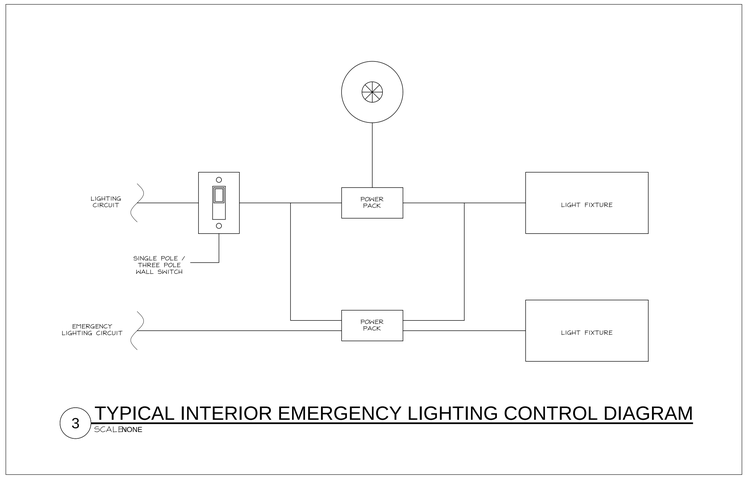
1 TYPICAL INTERIOR LIGHTING CONTROL DIAGRAM
SCALE: NONE



T24 COMPLIANT SEQUENCE OF OPERATION:

1. ALL OUTDOOR LIGHTING SHALL BE AUTOMATICALLY CONTROLLED SO THE LIGHTS ARE TURNED OFF WHEN DAYLIGHT IS AVAILABLE (130.2(i)1).
2. ALL OUTDOOR LIGHTING SHALL BE AUTOMATICALLY CONTROLLED BY A TIME BASED SCHEDULING CONTROL (130.2.(c).2).

2 TYPICAL EXTERIOR LIGHTING CONTROL DIAGRAM
SCALE: NONE



3 TYPICAL INTERIOR EMERGENCY LIGHTING CONTROL DIAGRAM
SCALE: NONE

FOR JURISDICTION USE:

Structural
Mechanical
Electrical
Plumbing
Energy

Sacramento
Aliso Viejo
San Ramon

harris & sloan
toll free 800.877.1430
www.harrisandsloan.com

PROJECT: COTA VERA SWIM CLUB
CHULA VISTA, CA

CLIENT: HOMEFED CORPORATION
1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER:	AS
DESIGNER:	AS
DRAWN BY:	SAM
CHECKED BY:	AS
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:

REGISTERED PROFESSIONAL ENGINEER ANDREW S. SINGH No. 21106 EXP. 12-31-2024 ELECTRICAL STATE OF CALIFORNIA

PLAN NUMBER:

SHEET TITLE: FIXTURE SCHEDULES, DETAILS, NOTES

SCALE:

SHEET NUMBER: EN.3

JOB NUMBER: HS22244

TITLE 24 COMPLIANCE

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 03/21) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: COTA VERA SWIM CLUB - POOL BLDG	Report Page:	Page 7 of 7
Project Address: CHULA VISTA, CALIFORNIA	Date Prepared:	12/04/2022

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	AVNEET SAMRA	Documentation Author Signature:	
Company:	HARRIS & SLOAN	Signature Date:	12/04/2022
Address:	2295 GATEWAY OAKS DRIVE, SUITE 200	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	SACRAMENTO/CA/95833	Phone:	559-916-0320

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. **The information provided on this Certificate of Compliance is true and correct.**
2. **I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)**
3. **The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.**
4. **The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.**
5. **I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.**

Responsible Designer Name:	AVNEET SAMRA	Responsible Designer Signature:	
Company :	HARRIS & SLOAN	Date Signed:	12/04/2022
Address:	2295 GATEWAY OAKS DRIVE, SUITE 200	License:	23100
City/State/Zip:	SACRAMENTO/CA/95833	Phone:	559-916-0320

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 03/21) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: COTA VERA SWIM CLUB - POOL BLDG	Report Page:	Page 4 of 7
Project Address: CHULA VISTA, CALIFORNIA	Date Prepared:	12/04/2022

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowances / Adjustment	
					Area Category	PAF
RESTROOM	Restroom	0.65	680	442	☐	☐
EQUIPMENT SPACE	Electrical, Mechanical, Telephone Rooms	0.4	605	242	☐	☐
STORAGE	All Other Space Types	0.4	340	136	☐	☐
		TOTAL:	**1,625**	**820**	See Tables J or P for detail	

J. ADDITIONAL LIGHTING ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM
This Section Does Not Apply

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE
This Section Does Not Apply

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY
This Section Does Not Apply

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING
This Section Does Not Apply

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/SPECIAL EFFECTS
This Section Does Not Apply

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE
This Section Does Not Apply

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))
This Section Does Not Apply

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 03/21) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: COTA VERA SWIM CLUB - POOL BLDG	Report Page:	Page 1 of 7
Project Address: CHULA VISTA, CALIFORNIA	Date Prepared:	12/04/2022

A. GENERAL INFORMATION

01	Project Location (city)	CHULA VISTA, CALIFORNIA	04	Total Conditioned Floor Area (ft²)	0
02	Climate Zone	7	05	Total Unconditioned Floor Area (ft²)	1,625
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1

☐ Office ☐ Retail ☐ Warehouse ☐ Hotel/Motel ☐ School ☑ Support Areas
☐ Parking Garage ☐ High-Rise Residential ☐ Relocatable ☐ Healthcare ☑ Other (write in): POOL BUILDING

B. PROJECT SCOPE

Table Instructions: Include any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.6 or §141.0(b)2 for alterations. WARNING: Changing the Calculation Method in this table will result in the deletion of data previously input. If you need to change the calculation method, please open a new form or use "Save As".

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☑ New Lighting System			Area Category	1,625
☐ Altered Lighting System				
Total Area of Work (ft²):				**1,625**

C. COMPLIANCE RESULTS

Table Instructions: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D_for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.6(b)1.	Allowed Lighting Power per §140.6(a) (Watts)						Adjusted Lighting Power per §140.6(a) (Watts)				Compliance Results
	01	02	03	04	05		06	07	08	09	
	Complete Building §140.6(c)1	Area Category §140.6(c)2	Area Category Additional §140.6(c)2G (+)	Tailored §140.6(c)3 (+)	**Total Allowed** (Watts)		Total Designed (Watts)	Adjustments PAF Control Credits §140.6(a)2 (-)	**Total Adjusted** (Watts) *Includes Adjustments	**05 Must be ≥ 08** §140.6	
	(See Table I)	(See Table I)	(See Table J)	(See Table K)			(See Table F)	(See Table P)			
Conditioned:					=	≥			=		
Unconditioned:		820			= **820**	≥	541		= **541**		**COMPLIES**

Table Continued

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 03/21) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: COTA VERA SWIM CLUB - POOL BLDG	Report Page:	Page 5 of 7
Project Address: CHULA VISTA, CALIFORNIA	Date Prepared:	12/04/2022

Q. RATED POWER REDUCTION COMPLIANCE FOR ALTERATIONS
This Section Does Not Apply

R. 80% LIGHTING POWER FOR ALTERATIONS - CONTROLS EXCEPTIONS
This Section Does Not Apply

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)
This Section Does Not Apply

T. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://ww2.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
◉	○	NRCI-LTI-01-E - Must be submitted for all buildings	☐	☐
○	◉	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	☐	☐

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 03/21) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: COTA VERA SWIM CLUB - POOL BLDG	Report Page:	Page 2 of 7
Project Address: CHULA VISTA, CALIFORNIA	Date Prepared:	12/04/2022

Controls Compliance (See Table H for Details)	**COMPLIES with Exceptional Conditions**
Rated Power Reduction Compliance (See Table Q for Details)	**Not Applicable**

D. EXCEPTIONAL CONDITIONS

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

Table H Indoor Lighting Controls Permit Applicant Notes:
RESTROOM: RESTROOMS WITH AUTH CONTROL
EQUIPMENT SPACE: AUTO OFF MAY BE HAZARD AND LESS THAN .5W/SQFT

E. ADDITIONAL REMARKS

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

SITE LIGHTING INCLUDING THE BUILDING FACADE LIGHTS WILL BE SUBMITTED SEPARATELY. ALL FIXTURES SHOWN IN FIXTURE SCHEDULE ARE NOT INCLUDED IN THIS FORM.

F. INDOOR LIGHTING FIXTURE SCHEDULE

Table Instructions: Include all permanent designed lighting and all portable lighting in offices.

Designed Wattage: Unconditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How Wattage is determined	Total number luminaires	Exempt per §140.6(a)3	Design Watts	Field Inspector Pass	Field Inspector Fail
D1	4" LED DOWNLIGHT	☐	☐	11	Mfr. Spec[2]	0	☐	0	☐	☐
D3	6" LED DOWNLIGHT	☐	☐	16	Mfr. Spec[2]	18	☐	288	☐	☐
P1	ARCH LED LINEAR PENDANT	☐	☐	54	Mfr. Spec[2]	0	☐	0	☐	☐
S4	LED STRIP LIGHT	☐	☐	30	Mfr. Spec[2]	8	☐	240	☐	☐
D5	7" LED PUCK LIGHT	☐	☐	13	Mfr. Spec[2]	1	☐	13	☐	☐
					Total Designed Watts UNCONDITIONED SPACES:			**541**		

[1] FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per §140.6(a)4B is adjusted to be 75% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.
[2] Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c) Wattage used must be the maximum rated for the luminaire, not the lamp.

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 03/21) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: COTA VERA SWIM CLUB - POOL BLDG	Report Page:	Page 6 of 7
Project Address: CHULA VISTA, CALIFORNIA	Date Prepared:	12/04/2022

U. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
◉	○	NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	☐	☐
○	◉	NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	☐	☐
○	◉	NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	☐	☐
○	◉	NRCA-LTI-05-A - Must be submitted for institutional tuning power adjustment factor (PAF).	☐	☐
○	◉	NRCA-ENV-03-F - Must be submitted for daylighting design power adjustment factors (PAF).	☐	☐

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 03/21) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: COTA VERA SWIM CLUB - POOL BLDG	Report Page:	Page 3 of 7
Project Address: CHULA VISTA, CALIFORNIA	Date Prepared:	12/04/2022

G. MODULAR LIGHTING SYSTEMS
This Section Does Not Apply

H. INDOOR LIGHTING CONTROLS (Not Including PAFs)

*Table Instructions: Please include lighting controls for conditioned and unconditioned spaces in this table. When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.*

Building Level Controls

01	02	03	
Mandatory Demand Response §110.12(c)	Shut-Off Controls §130.1(c)	Field Inspector Pass	Field Inspector Fail
Not Required ≤ 10,000 SF	See Area/Space Level Controls	☐	☐

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Area Controls §130.1(a)	Multi-Level Controls §130.1(b)	Shut-Off Controls §130.1(c)	Primary/Skylit Daylighting §130.1(d)	Secondary Daylighting §140.6(d)	Interlocked Systems §140.6(a)1	Field Inspector Pass	Field Inspector Fail
RESTROOM	Restroom (Low Vision)	Auth: Personel	Exempt*	Occ: Sensor	NA	NA	☐	☐	☐
EQUIPMENT SPACE	Electrical, Mechanical, Telephone Rooms	Manual ON/ OFF	Exempt*	Exempt*	NA	NA	☐	☐	☐
STORAGE	All Other Space Types	Manual ON/ OFF	Dimmer	Occ: Sensor	NA	NA	☐	☐	☐

*NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.
EX: Conference 1; Primary/Skylight Daylighting: Exempt because less than 120 watts of general lighting; EXCEPTION 1 to §130.1(d)2

	13
	Plan Sheet Showing Daylit Zones:
RESTROOM	*RESTROOMS WITH AUTH CONTROL*
EQUIPMENT SPACE	*AUTO OFF MAY BE HAZARD AND LESS THAN .5W/SQFT*

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Table Instructions: Complete the table for each area complying using the Complete Building or Area Category Methods per §140.6(b). Indicate if additional lighting power allowances per §140.6(c) or adjustments per §140.6(a) are being used.

Unconditioned Spaces

FOR JURISDICTION USE:

Structural
Mechanical
Electrical
Plumbing
Energy

Sacramento
Aliso Viejo
San Ramon

harris & sloan toll free 800.877.1430
www.harrisandsloan.com

PROJECT:
COTA VERA SWIM CLUB
CHULA VISTA, CA

CLIENT:
HOMEFED CORPORATION
1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER: AS
DESIGNER: AS
DRAWN BY: SAM
CHECKED BY: AS
ISSUE DATE: 01-13-2023

REVISIONS:

STAMP:
REGISTERED PROFESSIONAL ENGINEER AVNEET SINGH SAMRA 23100 12-31-2024 ELECTRICAL STATE OF CALIFORNIA

PLAN NUMBER: POOL BLDG

SHEET TITLE: TITLE 24 INDOOR LIGHTING FORMS

SCALE:

SHEET NUMBER: EN.4

JOB NUMBER: H522244

TITLE 24 COMPLIANCE

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 03/21) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: COTA VERA SWIM CLUB - OFFICE BLDG	Report Page:	Page 7 of 7
Project Address: CHULA VISTA, CALIFORNIA	Date Prepared:	12/04/2022

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	AVNEET SAMRA	Documentation Author Signature:	
Company:	HARRIS & SLOAN	Signature Date:	12/04/2022
Address:	2295 GATEWAY OAKS DRIVE, SUITE 200	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	SACRAMENTO/CA/95833	Phone:	559-916-0320

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

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2. **I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)**
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Responsible Designer Name:	AVNEET SAMRA	Responsible Designer Signature:	
Company :	HARRIS & SLOAN	Date Signed:	12/04/2022
Address:	2295 GATEWAY OAKS DRIVE, SUITE 200	License:	23100
City/State/Zip:	SACRAMENTO/CA/95833	Phone:	559-916-0320

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowances / Adjustment	
					Area Category	PAF
OFFICE	Office (open)	0.6	775	465	☐	☐
STORAGE	All Other Space Types	0.4	100	40	☐	☐
COPY/KITCH	Multipurpose Rm (Low Vision)	0.95	200	190	☐	☐
		TOTAL:	**1,075**	**695**	See Tables J or P for detail	

J. ADDITIONAL LIGHTING ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM
This Section Does Not Apply

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE
This Section Does Not Apply

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY
This Section Does Not Apply

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING
This Section Does Not Apply

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/SPECIAL EFFECTS
This Section Does Not Apply

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE
This Section Does Not Apply

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))
This Section Does Not Apply

Q. RATED POWER REDUCTION COMPLIANCE FOR ALTERATIONS
This Section Does Not Apply

R. 80% LIGHTING POWER FOR ALTERATIONS - CONTROLS EXCEPTIONS
This Section Does Not Apply

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)
This Section Does Not Apply

T. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://ww2.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
◉	○	NRCI-LTI-01-E - Must be submitted for all buildings	☐	☐
○	◉	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	☐	☐

U. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
◉	○	NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	☐	☐
○	◉	NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	☐	☐
○	◉	NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	☐	☐
○	◉	NRCA-LTI-05-A - Must be submitted for institutional tuning power adjustment factor (PAF).	☐	☐
○	◉	NRCA-ENV-03-F - Must be submitted for daylighting design power adjustment factors (PAF).	☐	☐

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §130.1, §140.6, and §141.0(b)2 for indoor lighting scopes using the prescriptive path.

A. GENERAL INFORMATION

01	Project Location (city)	CHULA VISTA, CALIFORNIA	04	Total Conditioned Floor Area (ft²)	1,075
02	Climate Zone	7	05	Total Unconditioned Floor Area (ft²)	0
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1

☑ Office ☐ Retail ☐ Warehouse ☐ Hotel/Motel ☐ School ☑ Support Areas
☐ Parking Garage ☐ High-Rise Residential ☐ Relocatable ☐ Healthcare ☐ Other (write in):

B. PROJECT SCOPE

Table Instructions: Include any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.6 or §141.0(b)2 for alterations. WARNING: Changing the Calculation Method in this table will result in the deletion of data previously input. If you need to change the calculation method, please open a new form or use "Save As".

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☑ New Lighting System	Area Category	1,075	Area Category	0
☐ Altered Lighting System				
Total Area of Work (ft²):	**1,075**		**0**	

C. COMPLIANCE RESULTS

Table Instructions: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.6(b)1.	Allowed Lighting Power per §140.6(a) (Watts)						Adjusted Lighting Power per §140.6(a) (Watts)				Compliance Results
	01	02	03	04	05		06	07	08	09	
	Complete Building §140.6(c)1	Area Category §140.6(c)2	Area Category Additional §140.6(c)2G (+)	Tailored §140.6(c)3 (+)	**Total Allowed** (Watts)	≥	Total Designed (Watts)	Adjustments PAF Control Credits §140.6(a)2 (-)	**Total Adjusted** (Watts) *Includes Adjustments	**05 Must be ≥ 08** §140.6	
	(See Table I)	(See Table I)	(See Table J)	(See Table K)			(See Table F)	(See Table P)			
Conditioned:		695			**695**	≥	546		**546**		**COMPLIES**
Unconditioned:						≥					

Table Continued

Controls Compliance (See Table H for Details)	**COMPLIES with Exceptional Conditions**
Rated Power Reduction Compliance (See Table Q for Details)	**Not Applicable**

D. EXCEPTIONAL CONDITIONS

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

Table H Indoor Lighting Controls Permit Applicant Notes:
OFFICE: LESS THAN 120W IN PDZ

E. ADDITIONAL REMARKS

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

SITE LIGHTING INCLUDING THE BUILDING FACADE LIGHTS WILL BE SUBMITTED SEPARATELY. ALL FIXTURES SHOWN IN FIXTURE SCHEDULE ARE NOT INCLUDED IN THIS FORM.

F. INDOOR LIGHTING FIXTURE SCHEDULE

Table Instructions: Include all permanent designed lighting and all portable lighting in offices.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How Wattage is determined	Total number luminaires	Exempt per §140.6(a)3	Design Watts	Field Inspector Pass	Field Inspector Fail
D1	4" LED DOWNLIGHT	☐	☐	11	Mfr. Spec[2]	36	☐	396	☐	☐
D3	6" LED DOWNLIGHT	☐	☐	16	Mfr. Spec[2]	6	☐	96	☐	☐
P1	ARCH LED LINEAR PENDANT	☐	☐	54	Mfr. Spec[2]	1	☐	54	☐	☐
S4	LED STRIP LIGHT	☐	☐	30	Mfr. Spec[2]	0	☐	0	☐	☐
D5	7" LED PUCK LIGHT	☐	☐	13	Mfr. Spec[2]	0	☐	0	☐	☐
					Total Designed Watts CONDITIONED SPACES:			**546**		

[1] *FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per §140.6(a)4B is adjusted to be 75% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*
[2] *Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c) Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. MODULAR LIGHTING SYSTEMS
This Section Does Not Apply

H. INDOOR LIGHTING CONTROLS (Not Including PAFs)

*Table Instructions: Please include lighting controls for conditioned and unconditioned spaces in this table. When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.*

Building Level Controls

01	02	03	
Mandatory Demand Response §110.12(c)	Shut-Off Controls §130.1(c)	Field Inspector Pass	Field Inspector Fail
Not Required ≤ 10,000 SF	See Area/Space Level Controls	☐	☐

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Area Controls §130.1(a)	Multi-Level Controls §130.1(b)	Shut-Off Controls §130.1(c)	Primary/Skylit Daylighting §130.1(d)	Secondary Daylighting §140.6(d)	Interlocked Systems §140.6(a)1	Field Inspector Pass	Field Inspector Fail
OFFICE	Office (open)	Manual ON/ OFF	Dimmer	Occ. Sensor	Exempt*	Exempt*	☐	☐	☐
COPIER/KITCH	Multipurpose Rm (Low Vision)	Manual ON/ OFF	Dimmer	Occ. Sensor	NA	NA	☐	☐	☐
STORAGE	All Other Space Types	Manual ON/ OFF	Dimmer	Occ. Sensor	NA	NA	☐	☐	☐

*NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.
EX: Conference 1: Primary/Skylight Daylighting: Exempt because less than 120 watts of general lighting; EXCEPTION 1 to §130.1(d)2

13
Plan Sheet Showing Daylit Zones:

OFFICE	*LESS THAN 120W IN PDZ*

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Table Instructions: Complete the table for each area complying using the Complete Building or Area Category Methods per §140.6(b). Indicate if additional lighting power allowances per §140.6(c) or adjustments per §140.6(a) are being used.

Conditioned Spaces

FOR JURISDICTION USE:

Structural
Mechanical
Electrical
Plumbing
Energy

Sacramento
Aliso Viejo
San Ramon

harris & sloan
toll free 800.877.1430
www.harrisandsloan.com

PROJECT:
COTA VERA SWIM CLUB
CHULA VISTA, CA

CLIENT:
HOMEFED CORPORATION
1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER: AS
DESIGNER: AS
DRAWN BY: SAM
CHECKED BY: AS
ISSUE DATE: 01-13-2023
REVISIONS:

STAMP:
REGISTERED PROFESSIONAL ENGINEER AVNEET SINGH SAMRA No. 23100 12-31-2024 STATE OF CALIFORNIA

PLAN NUMBER:
OFFICE BLDG

SHEET TITLE:
TITLE 24 INDOOR LIGHTING FORMS

SCALE:

SHEET NUMBER:
EN.5

JOB NUMBER: H522244

TITLE 24 COMPLIANCE

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 03/21) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: COTA VERA SWIM CLUB - POOL BLDG	Report Page:	Page 7 of 7
Project Address: CHULA VISTA, CALIFORNIA	Date Prepared:	12/04/2022

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	AVNEET SAMRA	Documentation Author Signature:	
Company:	HARRIS & SLOAN	Signature Date:	12/04/2022
Address:	2295 GATEWAY OAKS DRIVE, SUITE 200	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	SACRAMENTO/CA/95833	Phone:	559-916-0320

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. **The information provided on this Certificate of Compliance is true and correct.**
2. **I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)**
3. **The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.**
4. **The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.**
5. **I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.**

Responsible Designer Name:	AVNEET SAMRA	Responsible Designer Signature:	
Company :	HARRIS & SLOAN	Date Signed:	12/04/2022
Address:	2295 GATEWAY OAKS DRIVE, SUITE 200	License:	23100
City/State/Zip:	SACRAMENTO/CA/95833	Phone:	559-916-0320

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 03/21) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: COTA VERA SWIM CLUB - POOL BLDG	Report Page:	Page 4 of 7
Project Address: CHULA VISTA, CALIFORNIA	Date Prepared:	12/04/2022

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowances / Adjustment	
					Area Category	PAF
RESTROOM	Restroom	0.65	680	442	☐	☐
EQUIPMENT SPACE	Electrical, Mechanical, Telephone Rooms	0.4	605	242	☐	☐
STORAGE	All Other Space Types	0.4	340	136	☐	☐
		TOTAL:	**1,625**	**820**	See Tables J or P for detail	

J. ADDITIONAL LIGHTING ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM
This Section Does Not Apply

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE
This Section Does Not Apply

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY
This Section Does Not Apply

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING
This Section Does Not Apply

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/SPECIAL EFFECTS
This Section Does Not Apply

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE
This Section Does Not Apply

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))
This Section Does Not Apply

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 03/21) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: COTA VERA SWIM CLUB - POOL BLDG	Report Page:	Page 1 of 7
Project Address: CHULA VISTA, CALIFORNIA	Date Prepared:	12/04/2022

A. GENERAL INFORMATION

01	Project Location (city)	CHULA VISTA, CALIFORNIA	04	Total Conditioned Floor Area (ft²)	0
02	Climate Zone	7	05	Total Unconditioned Floor Area (ft²)	1,625
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1

☐ Office ☐ Retail ☐ Warehouse ☐ Hotel/Motel ☐ School ☑ Support Areas
☐ Parking Garage ☐ High-Rise Residential ☐ Relocatable ☐ Healthcare ☑ Other (write in): POOL BUILDING

B. PROJECT SCOPE

Table Instructions: Include any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.6 or §141.0(b)2 for alterations. WARNING: Changing the Calculation Method in this table will result in the deletion of data previously input. If you need to change the calculation method, please open a new form or use "Save As".

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☑ New Lighting System			Area Category	1,625
☐ Altered Lighting System				
Total Area of Work (ft²):				**1,625**

C. COMPLIANCE RESULTS

Table Instructions: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.6(b)1.	Allowed Lighting Power per §140.6(a) (Watts)						Adjusted Lighting Power per §140.6(a) (Watts)				Compliance Results
	01	02	03	04	05		06	07	08	09	
	Complete Building §140.6(c)1	Area Category §140.6(c)2	Area Category Additional §140.6(c)2G (+)	Tailored §140.6(c)3 (+)	**Total Allowed** (Watts)	≥	Total Designed (Watts)	Adjustments PAF Control Credits §140.6(a)2 (-)	**Total Adjusted** (Watts) *Includes Adjustments	**05 Must be ≥ 08** §140.6	
	(See Table I)	(See Table I)	(See Table J)	(See Table K)			(See Table F)	(See Table P)			
Conditioned:					=		≥		=		
Unconditioned:		820			=	**820**	≥	541	=	**541**	**COMPLIES**

Table Continued

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 03/21) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: COTA VERA SWIM CLUB - POOL BLDG	Report Page:	Page 5 of 7
Project Address: CHULA VISTA, CALIFORNIA	Date Prepared:	12/04/2022

Q. RATED POWER REDUCTION COMPLIANCE FOR ALTERATIONS
This Section Does Not Apply

R. 80% LIGHTING POWER FOR ALTERATIONS - CONTROLS EXCEPTIONS
This Section Does Not Apply

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)
This Section Does Not Apply

T. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://ww2.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
◉	○	NRCI-LTI-01-E - Must be submitted for all buildings	☐	☐
○	◉	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	☐	☐

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 03/21) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: COTA VERA SWIM CLUB - POOL BLDG	Report Page:	Page 2 of 7
Project Address: CHULA VISTA, CALIFORNIA	Date Prepared:	12/04/2022

Controls Compliance (See Table H for Details)	**COMPLIES with Exceptional Conditions**
Rated Power Reduction Compliance (See Table Q for Details)	**Not Applicable**

D. EXCEPTIONAL CONDITIONS

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

Table H Indoor Lighting Controls Permit Applicant Notes:
RESTROOM: RESTROOMS WITH AUTH CONTROL
EQUIPMENT SPACE: AUTO OFF MAY BE HAZARD AND LESS THAN .5W/SQFT

E. ADDITIONAL REMARKS

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

SITE LIGHTING INCLUDING THE BUILDING FACADE LIGHTS WILL BE SUBMITTED SEPARATELY. ALL FIXTURES SHOWN IN FIXTURE SCHEDULE ARE NOT INCLUDED IN THIS FORM.

F. INDOOR LIGHTING FIXTURE SCHEDULE

Table Instructions: Include all permanent designed lighting and all portable lighting in offices.

Designed Wattage: Unconditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How Wattage is determined	Total number luminaires	Exempt per §140.6(a)3	Design Watts	Field Inspector Pass	Field Inspector Fail
D1	4" LED DOWNLIGHT	☐	☐	11	Mfr. Spec[2]	0	☐	0	☐	☐
D3	6" LED DOWNLIGHT	☐	☐	16	Mfr. Spec[2]	18	☐	288	☐	☐
P1	ARCH LED LINEAR PENDANT	☐	☐	54	Mfr. Spec[2]	0	☐	0	☐	☐
S4	LED STRIP LIGHT	☐	☐	30	Mfr. Spec[2]	8	☐	240	☐	☐
D5	7" LED PUCK LIGHT	☐	☐	13	Mfr. Spec[2]	1	☐	13	☐	☐
						Total Designed Watts UNCONDITIONED SPACES:		**541**		

[1] FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per §140.6(a)4B is adjusted to be 75% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.
[2] Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c) Wattage used must be the maximum rated for the luminaire, not the lamp.

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 03/21) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: COTA VERA SWIM CLUB - POOL BLDG	Report Page:	Page 6 of 7
Project Address: CHULA VISTA, CALIFORNIA	Date Prepared:	12/04/2022

U. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
◉	○	NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	☐	☐
○	◉	NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	☐	☐
○	◉	NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	☐	☐
○	◉	NRCA-LTI-05-A - Must be submitted for institutional tuning power adjustment factor (PAF).	☐	☐
○	◉	NRCA-ENV-03-F - Must be submitted for daylighting design power adjustment factors (PAF).	☐	☐

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 03/21) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: COTA VERA SWIM CLUB - POOL BLDG	Report Page:	Page 3 of 7
Project Address: CHULA VISTA, CALIFORNIA	Date Prepared:	12/04/2022

G. MODULAR LIGHTING SYSTEMS
This Section Does Not Apply

H. INDOOR LIGHTING CONTROLS (Not Including PAFs)

*Table Instructions: Please include lighting controls for conditioned and unconditioned spaces in this table. When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.*

Building Level Controls

01	02	03	
Mandatory Demand Response §110.12(c)	Shut-Off Controls §130.1(c)	Field Inspector Pass	Field Inspector Fail
Not Required ≤ 10,000 SF	See Area/Space Level Controls	☐	☐

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Area Controls §130.1(a)	Multi-Level Controls §130.1(b)	Shut-Off Controls §130.1(c)	Primary/Skylit Daylighting §130.1(d)	Secondary Daylighting §140.6(d)	Interlocked Systems §140.6(a)1	Field Inspector Pass	Field Inspector Fail
RESTROOM	Restroom (Low Vision)	Auth: Personel	Exempt*	Occ: Sensor	NA	NA	☐	☐	☐
EQUIPMENT SPACE	Electrical, Mechanical, Telephone Rooms	Manual ON/ OFF	Exempt*	Exempt*	NA	NA	☐	☐	☐
STORAGE	All Other Space Types	Manual ON/ OFF	Dimmer	Occ: Sensor	NA	NA	☐	☐	☐

*NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.
EX: Conference 1: Primary/Skylight Daylighting: Exempt because less than 120 watts of general lighting; EXCEPTION 1 to §130.1(d)2

	13
	Plan Sheet Showing Daylit Zones:
RESTROOM	*RESTROOMS WITH AUTH CONTROL*
EQUIPMENT SPACE	*AUTO OFF MAY BE HAZARD AND LESS THAN .5W/SQFT*

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Table Instructions: Complete the table for each area complying using the Complete Building or Area Category Methods per §140.6(b). Indicate if additional lighting power allowances per §140.6(c) or adjustments per §140.6(a) are being used.

Unconditioned Spaces

FOR JURISDICTION USE:

Structural
Mechanical
Electrical
Plumbing
Energy

Sacramento
Aliso Viejo
San Ramon

harris & sloan toll free 800.877.1430
www.harrisandsloan.com

PROJECT:
COTA VERA SWIM CLUB
CHULA VISTA, CA

CLIENT:
HOMEFED CORPORATION
1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER: AS
DESIGNER: AS
DRAWN BY: SAM
CHECKED BY: AS
ISSUE DATE: 01-13-2023

REVISIONS:

STAMP:
REGISTERED PROFESSIONAL ENGINEER AVNEET SINGH SAMRA 23100 12/31/2024 ELECTRICAL STATE OF CALIFORNIA

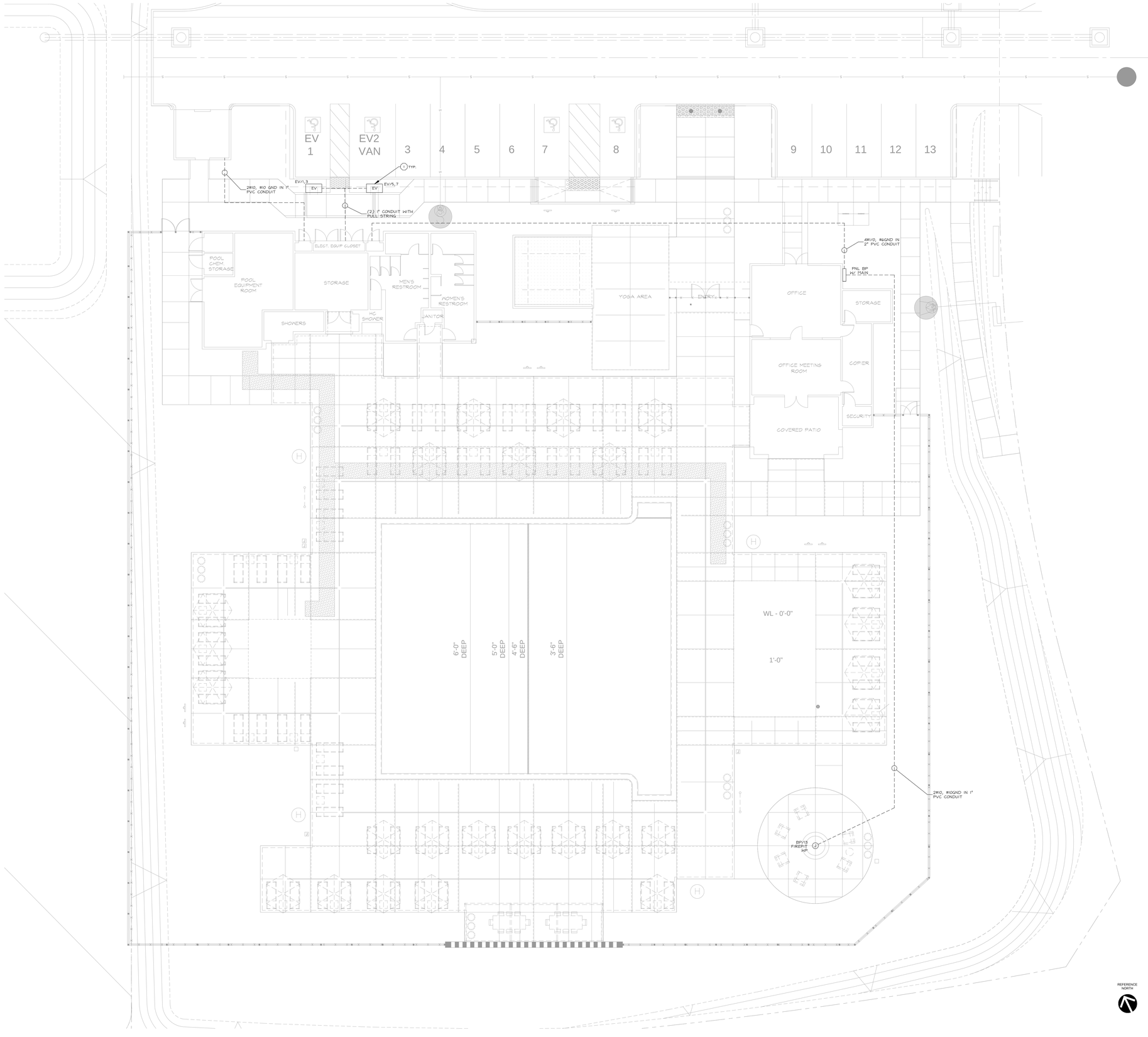
PLAN NUMBER: POOL BLDG

SHEET TITLE: TITLE 24 INDOOR LIGHTING FORMS

SCALE:

SHEET NUMBER: EN.6

JOB NUMBER: H522244



GENERAL NOTES

1. IT IS THE CONTRACTORS/OWNERS/DEVELOPERS RESPONSIBILITY TO REVIEW ALL NOTES AND DETAILS ON THE EN SHEETS AND INCORPORATE IN THE CONSTRUCTION OF THE STRUCTURE.
2. PRIOR TO BUILDING DEPARTMENT APPROVAL, THESE CONSTRUCTION DOCUMENTS ARE SUBJECT TO CHANGE AND SHALL NOT BE USED FOR CONSTRUCTION. ANY CONSTRUCTION/ BIDS PERFORMED BEFORE PERMIT ISSUANCE IS THE RESPONSIBILITY OF THE CONTRACTOR/BIDDER.

PROJECT SPECIFICATIONS

COMPONENTS SHOWN IN PLANS SHALL BE CIRCUITED TO DESIGNATED PANEL. ANY DEVIATION FROM ASSIGNED CIRCUITS SHALL BE APPROVED BY ENGINEER AND AS-BUILTED FOR FINAL RECORD SET.

ELECTRICAL EQUIPMENT:
ELECTRIC SERVICE / EQUIPMENT ARE LOCATED IN A UTILITY CLOSETOR EXTERIOR OF BUILDING.

EXTERIOR LIGHTING:
WHERE SITE LIGHTING IS PROVIDED BY FIXTURE(S) ATTACHED TO THE BUILDING, SEE LIGHTING / PHOTOMETRIC PLAN (BY OTHERS) FOR FIXTURE SPECIFICATIONS AND LOCATIONS AT EACH BUILDING.

KEYNOTES

(1) PROVIDE UNDERGROUND JUNCTION BOX PER CEC 314. COORDINATE FINAL LOCATION WITH LANDSCAPE.

SYMBOLS LEGEND

NOTATION DEFINITIONS:

AFF	ABOVE FINISH FLOOR
BP	BUILDING PANEL
CCT	CIRCUIT
EV	ELECTRICAL VEHICLE
MS	MOTION SENSOR
PC	PHOTOCELL
WP	WEATHER PROOF

SYMBOLS:

- JUNCTION BOX
- DUPLEX WALL RECEPTACLE, GFI PROTECTED
- SINGLE WALL SWITCH
- WALL-MOUNT LIGHT FIXTURE
- CEILING-MOUNT LIGHT FIXTURE
- CEILING-MOUNT UTILITY FIXTURE
- POLE LIGHT WITH ARM
- LUMINOUS POLE LIGHT
- POST-TOP LIGHT
- BOLLARD

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COTA VERA SWIM CLUB
CHULA VISTA, CA
PROJECT:

HOMEFED CORPORATION
1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008
CLIENT:

PROJECT MANAGER:	AS
DESIGNER:	AS
DRAWN BY:	SAM
CHECKED BY:	AS
ISSUE DATE:	01-13-2023

REVISIONS:

STAMP:

REGISTERED PROFESSIONAL ENGINEER — ANDREW STRONG SCHEIB — No. E-21420 — 08-31-2024 — ELECTRICAL — STATE OF CALIFORNIA

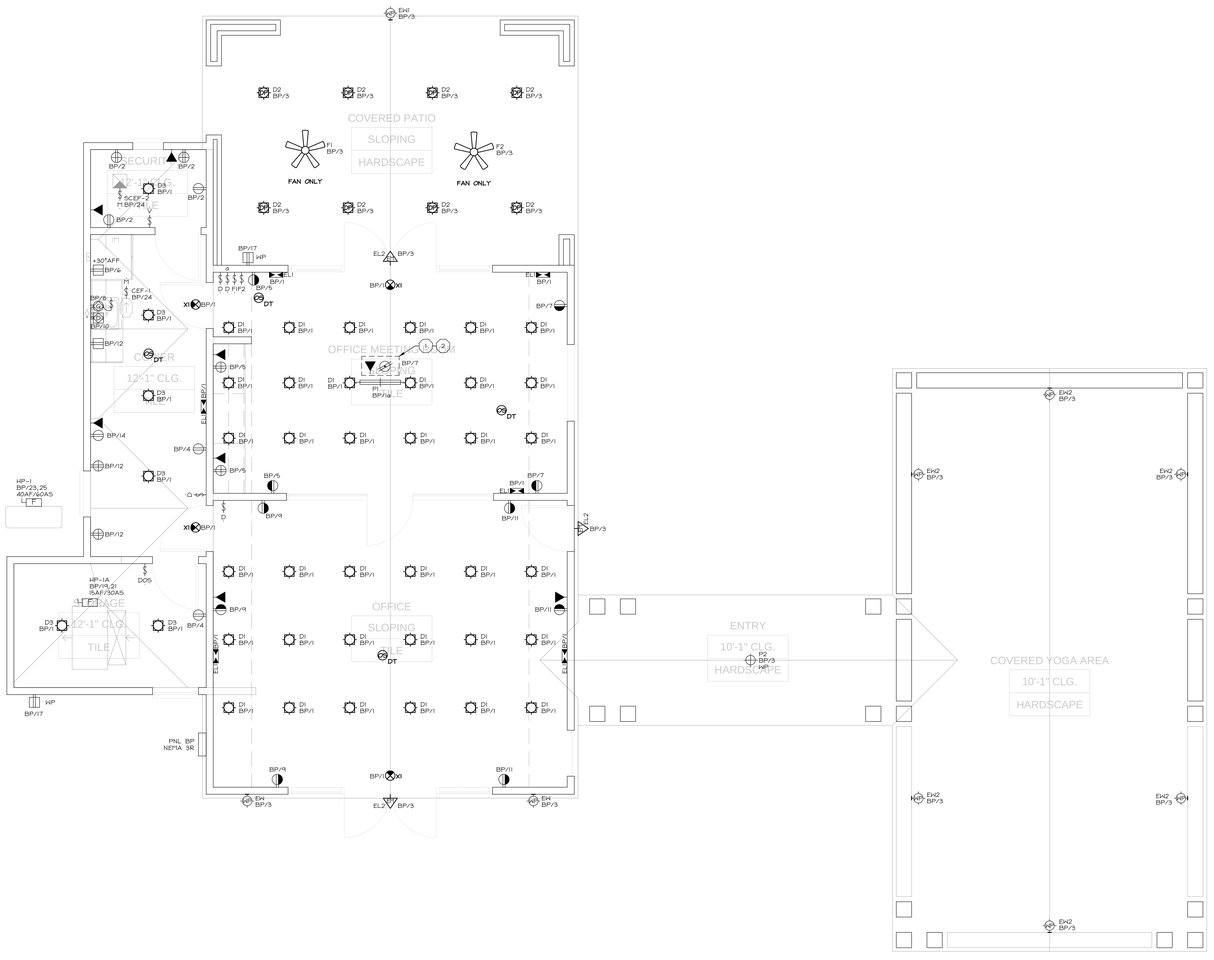
PLAN NUMBER:

SHEET TITLE:
ELECTRICAL SITE LAYOUT

SCALE: 1" = 10'-0"

SHEET NUMBER:
ES.1

JOB NUMBER: H522244



GENERAL NOTES

1. IT IS THE CONTRACTORS/OWNERS/DEVELOPERS RESPONSIBILITY TO REVIEW ALL NOTES AND DETAILS ON THE EN SHEETS AND INCORPORATE IN THE CONSTRUCTION OF THE STRUCTURE.
2. PRIOR TO BUILDING DEPARTMENT APPROVAL, THESE CONSTRUCTION DOCUMENTS ARE SUBJECT TO CHANGE AND SHALL NOT BE USED FOR CONSTRUCTION. ANY CONSTRUCTION/ BIDS PERFORMED BEFORE PERMIT ISSUANCE IS THE RESPONSIBILITY OF THE CONTRACTOR/BIDDER.

PROJECT SPECIFICATIONS

ELECTRICAL EQUIPMENT:
ELECTRIC AND COMMUNICATION SERVICES / EQUIPMENT ARE LOCATED IN A UTILITY CLOSET OR ON EXTERIOR WALL AT THE END OF THE BUILDING, SEE BUILDING PLANS FOR LOCATION(S) AND COORDINATE WITH ARCHITECTURAL SITE PLAN

MECHANICAL EQUIPMENT:
CONDENSING UNITS ARE LOCATED ON THE GROUND AT THE END OF THE BUILDING / ON THE ROOF, COORDINATE WITH ARCHITECTURAL SITE PLAN FOR LOCATION(S). PROVIDE DISCONNECT AND SERVICE OUTLET, SEE SHEET EN.1 SECTION 1.5 FOR GENERAL REQUIREMENTS.

EXTERIOR LIGHTING:
WHERE SITE LIGHTING IS PROVIDED BY FIXTURE(S) ATTACHED TO THE BUILDING, SEE LIGHTING / PHOTOMETRIC PLAN (BY OTHERS) FOR FIXTURE SPECIFICATIONS AND LOCATIONS AT EACH BUILDING.

SOLAR:
SOLAR PANELS PROVIDED ON ROOF, LOCATION VARIES BASED ON ORIENTATION OF STRUCTURE, SEE SOLAR PLANS PROVIDED BY OTHERS FOR LOCATION AND COORDINATE SOLAR SYSTEM INTERFACE REQUIREMENTS.

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3. ILLUMINATED ADDRESS LIGHTS SHALL COMPLY WITH ADDRESS IDENTIFICATION REQUIREMENTS PER ARCHITECTURAL PLANS.

KEYNOTES

1. PROVIDE COMBINATION POWER/DATA FLOOR BOX. ARCHITECT TO PROVIDE FINAL LOCATION.
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16. REFER TO EN SHEETS FOR POWER AND LIGHTING LAYOUT(S) AT UTILITY CLOSET(S).

SYMBOLS LEGEND

NOTATION DEFINITIONS-

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AFF	ABOVE FINISH FLOOR
D/OOS	DIMMER/DIMMER W/ OCCUPANCY SENSOR
DP/WP	DAMP PROOF OR WEATHER PROOF
DT	DUAL TECHNOLOGY
IR	INFRARED
M	MOTOR RATED SWITCH
OS	OCCUPANCY SENSOR
PC	PHOTOCELL
US	ULTRASONIC
V	VACANCY SENSOR
WP	WEATHER PROOF
KEY	AUTHORIZED KEY LIGHT SWITCH
TC	TIMECLOCK
EM	EMERGENCY
NL	NIGHT LIGHT
LV	LOW VOLTAGE

SYMBOLS-

- DUPLEX WALL RECEPTACLE AFCI LOCATIONS, SEE SHEET EN.1 SECTION 1.5
- HALF-SWITCHED DUPLEX WALL RECEPTACLE AFCI LOCATIONS, SEE SHEET EN.1 SECTION 1.5
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- 220V WALL RECEPTACLE (+30" AFF, UNO)
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- DUPLEX FLOOR RECEPTACLE (FLUSH FLOOR BOX OR POKE-THRU)
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- WALL-MOUNT LIGHT FIXTURE
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- RECESSED / PIVOT CEILING LIGHT FIXTURE
- HANGING CEILING-MOUNT LIGHT FIXTURE WITH RE-INFORCED JUNCTION BOX
- JUNCTION BOX
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- GARAGE DOOR OPENER SENSOR/RECEIVER
- SMOKE ALARM & CARBON MONOXIDE ALARM
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- DATA JACK (AS NOTED)
- DATA/VOICE JACK (AS NOTED)
- TELEVISION / CABLE JACK
- FURNITURE FEED (2 DUPLEX RECEPTACLES)
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92008

PROJECT MANAGER:	AS
DESIGNER:	AS
DRAWN BY:	SAM
CHECKED BY:	AS
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:

REGISTERED PROFESSIONAL ENGINEER — STANLEY J. NOWICKI — No. E-21274 — ELECTRICAL — STATE OF CALIFORNIA

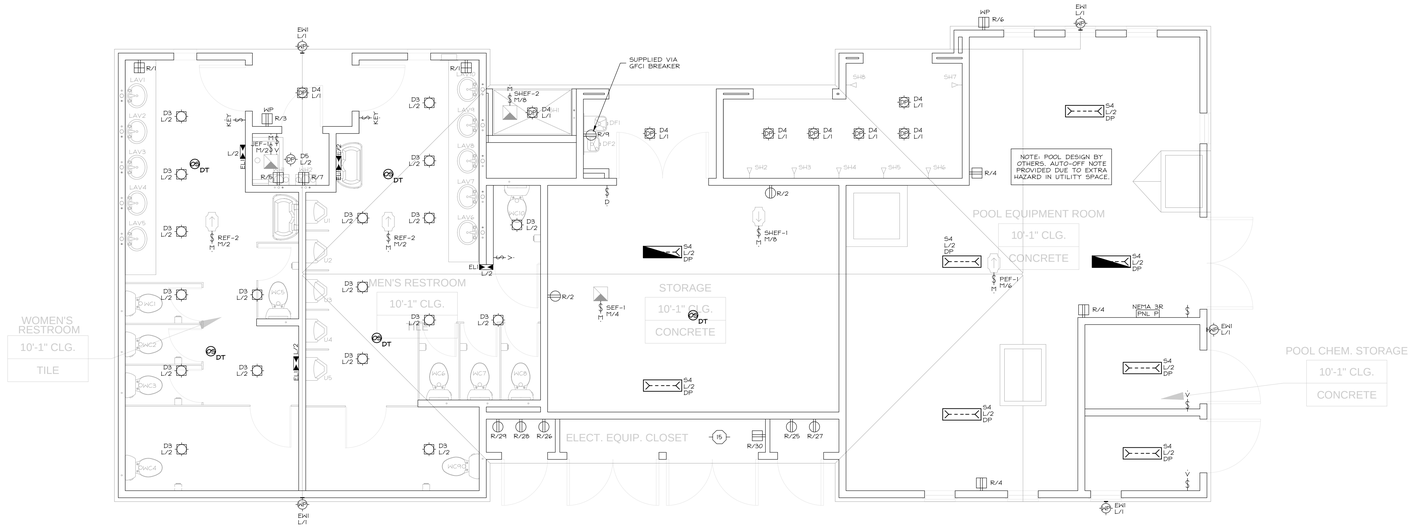
PLAN NUMBER: COMMUNITY BLDG

SHEET TITLE:
LEVEL 1 ELECTRICAL LAYOUT

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

SHEET NUMBER:
E1.1

JOB NUMBER: HS22244



GENERAL NOTES

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PROJECT SPECIFICATIONS

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92008

PROJECT MANAGER:	AS
DESIGNER:	AS
DRAWN BY:	SAM
CHECKED BY:	AS
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:

REGISTERED PROFESSIONAL ENGINEER — ANDREW STANDRIDGE — No. E-21924 — ELECTRICAL — STATE OF CALIFORNIA

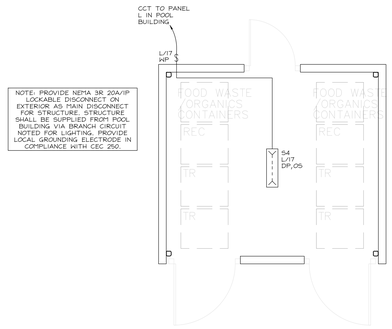
PLAN NUMBER: COMMUNITY BLDG

SHEET TITLE:
LEVEL 1 ELECTRICAL LAYOUT (2)

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

SHEET NUMBER:
E1.1A

JOB NUMBER: H522244



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PROJECT SPECIFICATIONS

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KEYNOTES

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(15) REFER TO EN SHEETS FOR POWER AND LIGHTING LAYOUT(S) AT UTILITY CLOSET(S).

SYMBOLS LEGEND

NOTATION DEFINITIONS:

3	3-WAY
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D/OOS	DIMMER/DIMMER W/ OCCUPANCY SENSOR
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1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER:	AS
DESIGNER:	AS
DRAWN BY:	SAM
CHECKED BY:	AS
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:

REGISTERED PROFESSIONAL ENGINEER — JAMES A. SLOAN — No. E-12924 — ELECTRICAL — STATE OF CALIFORNIA — 01-13-2023

PLAN NUMBER: TRASH ENCLOSURE

SHEET TITLE: LEVEL 1 ELECTRICAL LAYOUT

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

SHEET NUMBER: E2.1

JOB NUMBER: HS22244

STANDARD NOTES AND SPECIFICATIONS

2.3 WASTE SYSTEMS

1. GENERAL REQUIREMENTS:
 1.1. WASTE PIPING SIZED IN ACCORDANCE WITH TABLE BELOW, SEE CPC TABLE 703.2 FOR ADDITIONAL LENGTHS/SIZES.

	NOMINAL PIPE SIZES:	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"
DRAIN	MAX FIXTURE UNITS	1	1	8	14	35	216	720
DRAIN	MAX LENGTH	45'-0"	65'-0"	85'-0"	148'-0"	212'-0"	300'-0"	510'-0"
VENT	MAX FIXTURE UNITS	1	8	24	48	84	256	750
VENT	MAX LENGTH[1,2]	45'-0"	60'-0"	120'-0"	180'-0"	212'-0"	300'-0"	510'-0"

1. ONE-THIRD OF ALLOWABLE LENGTH MAY BE INSTALLED HORIZONTALLY, INCREASE ONE NOMINAL SIZE WHERE EXCEEDED
2. MAX LENGTH OF VENT NOT APPLICABLE WHERE SIZE INCREASED ONE NOMINAL SIZE FOR ENTIRE LENGTH OF VENT

 1.2. ALL SANITARY SEWER VENT PIPE PENETRATIONS SHALL TERMINATE AT A MINIMUM DISTANCE OF 10'-0" FROM ANY OUTSIDE AIR INTAKE AND MINIMUM 3'-0" FROM ANY OPENING INTO CONDITIONED SPACES WITHIN THE BUILDING.
 1.3. VERIFY LOCATION OF SOLAR PANELS (OR FUTURE SOLAR ZONE, WHERE OCCUR) PRIOR TO CONSTRUCTION. DO NOT PENETRATE ROOF WITHIN 3'-0" OF PANEL, ADJUST ROOF PENETRATIONS AS NEEDED. WHERE PENETRATIONS CANNOT BE ADJUSTED OR CONFLICT OCCURS, CONTACT HARRIS & SLOAN PRIOR TO INSTALLATION. NOTE THAT SOLAR PANEL LOCATION VARIES BASED ON ORIENTATION OF STRUCTURE. SEE SOLAR PLANS, PROVIDED BY OTHERS.
 1.4. ROOF PENETRATIONS TO BE LOCATED OUTSIDE ANY FIRE RATED ROOF AREAS, REFER TO ARCHITECTURAL PLANS.
 1.5. GROUP AND ROUTE VENT PENETRATIONS TO THE REAR ELEVATION OF PITCHED ROOF AREAS WHEREVER POSSIBLE TO MINIMIZE VISIBILITY FROM THE FRONT ELEVATION.
 1.6. TOTAL CROSS-SECTIONAL AREA OF VENTS EXITING BUILDING MUST MEET/EXCEED CROSS SECTIONAL AREA OF SEWER LATERAL.
2. MATERIALS: ALL MATERIALS SHALL COMPLY WITH CPC SECTION 701 & 903 AND SHALL BE LISTED WITH AN APPROVED LISTING AGENCY (EX. ASTM).
 2.1. BELOW GRADE WASTE AND VENT:
  2.1.1. BELOW GRADE PIPING SHALL BE SERVICE WEIGHT NO-HUB CAST IRON PIPE AND FITTINGS, ASPHALTIC COATED. JOINTS SHALL BE MADE WITH NEOPRENE SLEEVES AND STAINLESS STEEL BANDS.
  2.1.2. MINIMUM SIZE OF ALL WASTE PIPING BELOW GRADE SHALL BE 2".
 2.2. ABOVE GRADE VENT PIPING:
  2.2.1. VENT PIPE 3" AND LARGER TO BE SERVICE CAST IRON PIPE AND FITTINGS OR SCHEDULE 40 GALVANIZED STEEL PIPE WITH BLACK IRON FITTINGS.
 2.3. ABS-DWV WASTE PIPE:
  2.3.1. ABS-DWV PIPE AND FITTINGS MAY BE USED WHEN APPROVED BY LOCAL JURISDICTION.
  2.3.2. PIPE AND COUPLINGS SHALL BE MANUFACTURED OF MATERIALS CONFORMING TO ASTM D2661.
  2.3.3. PLASTIC SOLVENT CEMENT FOR PLASTIC PIPE SHALL CONFORM TO ASTM D2235
 2.4. STORMWATER AND ABOVE GRADE WASTE:
  2.4.1. SERVICE WEIGHT CAST IRON PIPE AND FITTINGS, NO-HUB (OR EQUAL), OR ABS-DWV PIPE, EXCEPT WASTE FROM URINALS TO BE CAST IRON
 2.5. CONDENSATE DRAIN PIPING:
  2.5.1. TYPE M COPPER TUBING AND FITTINGS OR SCHEDULE 40 GALVANIZED STEEL PIPE AND MALLEABLE IRON FITTINGS. PVC PIPE IF APPROVED BY LOCAL JURISDICTION.
3. CONSTRUCTION REQUIREMENTS:
 3.1. GENERAL REQUIREMENTS:
 3.2. BELOW GRADE WASTE AND VENT:
  3.2.1. ALL HORIZONTAL DRAINAGE PIPING SHALL BE INSTALLED WITH A UNIFORM 2% SLOPE UNLESS NOTED OTHERWISE. MINIMUM SIZE OF ALL WASTE PIPING BELOW GRADE SHALL BE 2".
 3.3. ABOVE GRADE VENT:
  3.3.1. EACH VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN 6" ABOVE THE FLOOD-LEVEL RIM OF THE FIXTURE SERVED BEFORE OFFSETTING HORIZONTALLY OR BEFORE BEING CONNECTED TO ANY OTHER VENT.
  3.3.2. EACH VENT TO EXTEND THROUGH FLASHING AND TERMINATE VERTICALLY MIN 6" ABOVE ROOF, MIN 1'-0" FROM A VERTICAL SURFACE.
  3.3.3. PLASTIC PIPING EXPOSED TO SUNLIGHT TO BE PROTECTED WITH A WATER BASED SYNTHETIC LATEX PAINT.
 3.4. ABS-DWV WASTE PIPE:
  3.4.1. INSTALL IN ACCORDANCE W/ MANUFACTURERS INSTALLATION INSTRUCTIONS, PIPES SHALL BE DEBURRED AND FREE OF FOREIGN MATERIALS PRIOR TO MAKING SOLVENT CEMENT JOINTS.
 3.5. STORMWATER AND ABOVE GRADE WASTE:
  3.5.1. ALL HORIZONTAL DRAINAGE PIPING SHALL BE INSTALLED WITH A UNIFORM 2% SLOPE UNLESS NOTED OTHERWISE.
 3.6. CONDENSATE DRAIN PIPING:
  3.6.1. ROUTE CONDENSATE PIPING FROM EQUIPMENT TO NEAREST APPROVED RECEPTOR. ALL CONDENSATE SYSTEMS SHALL TERMINATE TO GRADE OR INTO THE STORM DRAINAGE SYSTEM, UNLESS NOTED OTHERWISE, AND SHALL OTHERWISE BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODES. CONNECT ALL PIPING TO EQUIPMENT PER EQUIPMENT MANUFACTURERS INSTALLATION INSTRUCTIONS.
 3.7. CLEANOUTS:
  3.7.1. CLEANOUTS SHALL BE PROVIDED ON HORIZONTAL DRAINAGE PIPING AT THE LOWEST FLOOR LEVEL OF THE BUILDING AND SHALL BE LOCATED AT THE UPPER TERMINAL OF EACH RUN OF DRAINAGE PIPING EXCEEDING 5 FEET HORIZONTAL DISTANCE. ADDITIONALLY, CLEANOUTS SHALL BE PROVIDED AT EACH LAV & FOR EVERY 100 FEET OF HORIZONTAL PIPING OR FRACTION THEREOF AND ANY HORIZONTAL PIPE EXCEEDING 135 DEGREES OF AGGREGATE BENDS.
  3.7.2. CLEANOUTS SHALL BE PLACED ABOVE THE FIXTURE CONNECTION FITTING, IN THE WALL NEAR THE CONNECTION BETWEEN THE BUILDING DRAIN AND THE BUILDING SEWER, OR INSTALLED OUTSIDE THE BUILDING IN GRADE WITH THE CLEANOUT EXTENDED TO GRADE.
  3.7.3. CLEANOUTS SHALL BE SIZED PER THE FOLLOWING TABLE:

SIZE OF PIPE	SIZE OF CLEANOUT	THREADS (PER IN)
1 1/2"	1 1/2"	11 1/2
2"	1 1/2"	11 1/2
2 1/2"	2 1/2"	8
3"	2 1/2"	8
4"	3 1/2"	8

 3.8. SYSTEM TESTING:
  3.8.1. COMPLETE SYSTEMS WITHIN THE BUILDING SHALL BE TESTED WITH AIR OR WATER IN ACCORDANCE WITH CPC SECTION 712 TO THE SATISFACTION OF THE INSPECTOR.
  3.8.2. TEST ALL WASTE AND VENT PIPING EITHER IN ITS ENTIRETY OR IN SECTIONS. IF THE TEST IS APPLIED TO THE ENTIRE SYSTEM, ALL OPENINGS IN THE PIPING SHALL BE TIGHTLY CLOSED, EXCEPT THE HIGHEST POINT OF OVERFLOW. IF THE SYSTEM IS TESTED IN SECTIONS, EACH OPENING SHALL BE TIGHTLY PLUGGED, EXCEPT THE HIGHEST OPENING OF THE SECTION UNDER TEST, AND EACH SECTION SHALL BE FILLED WITH WATER, BUT NO SECTION SHALL BE TESTED WITH LESS THAN 10 FT HEAD OF WATER. THE WATER SHALL BE KEPT IN THE SYSTEM, OR IN THE PORTION UNDER TEST, FOR AT LEAST 15 MINUTES BEFORE THE INSPECTION STARTS.
  3.8.3. AN AIR TEST CAN BE USED IN LIEU OF THE WATER TEST, EXCEPT THAT PLASTIC PIPE SHALL NOT BE TESTED WITH AIR. THE TEST SHALL BE MADE BY ATTACHING AN AIR COMPRESSOR TESTING APPARATUS TO ANY SUITABLE OPENING AND AFTER CLOSING ALL OTHER INLETS AND OUTLETS TO THE SYSTEM, FORCING AIR INTO THE SYSTEM UNTIL THERE IS A UNIFORM GAUGE PRESSURE OF 5 PSI OR SUFFICIENT TO BALANCE A COLUMN OF MERCURY TEN 10 INCHES IN HEIGHT. THE PRESSURE SHALL BE HELD WITHOUT INTRODUCTION OF ADDITIONAL AIR FOR A PERIOD OF AT LEAST 15 MINUTES.

3.1 FIXTURES

1. GENERAL REQUIREMENTS:
 1.1. FIXTURE CONNECTION SIZES AND FIXTURE UNIT COUNTS SIZED IN ACCORDANCE WITH TABLE BELOW, UNO ON PLANS. FLOW RATES USED FOR PIPE SIZING ONLY, FIXTURE FLOW RATES TO BE AS SPECIFIED IN NOTES 2-4 OF THIS SECTION.

FIXTURE	PROB OF USE	FLOW RATE (GPM)			FIXTURE	PROB OF USE	FLOW RATE (GPM)		
		WS	CW	HW[1]			WS	CW	HW[1]
WATER CLOSET (WC)	1.0%	3.0	3.0	0.0	CLOTHES WASHER (CW)	5.5%	3.5	3.5	3.5
LAVATORY (LAV)	2.0%	1.2	1.2	1.0	SINK (SINK)	2.0%	2.2	2.2	1.8
BATHTUB (BT)	1.0%	5.5	5.5	4.0	DISHWASHER (DW)	0.5%	1.3	0.0	1.3
SHOWER (SH)	4.5%	2.0	2.0	1.5	REFRIGERATOR (IM)	1.0%	1.0	1.0	0.0
TUB/SHOWER (TS)[2]	1.0%	5.5	5.5	4.0	HOSE BIBB (HB)	N/A[3]	2.0[4]	2.0	0.0

1. HW DEMAND REDUCTIONS, WHERE THEY OCCUR, ARE BASED ON FIXTURE WATER MIXING REQUIREMENTS.
2. TUB/SHOWER FLOWS AND PROBABILITIES ARE CONSERVATIVELY BASED ON TUB FIXTURE RUNNING.
3. HOSE BIBB DEMANDS ARE CONSIDERED SEPARATE FROM BUILDING DEMAND AND ADDED TO THE TOTAL FLOWS.
4. 1.0 GPM DEMAND IS ADDED FOR EVERY HOSE BIBB AFTER THE FIRST

 1.2. ALL PLUMBING FIXTURES SHALL BE SELECTED AND APPROVED BY BUILDER.
 1.3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF FIXTURES AND MOUNTING HEIGHTS.
 1.4. ALL FIXTURES SHALL BE FURNISHED WITH ANGLE-STOP OR OTHER APPROVED SHUT-OFF VALVES. VALVES MAY BE IN SUPPLY PIPES OR INTEGRAL WITH SUPPLY FITTINGS.
 1.5. WHERE FIXTURE COMES IN CONTACT WITH WALL OR FLOOR, JOINT SHALL BE MADE WATERTIGHT.
 1.6. FIXTURES W/ SLIP JOINT CONNECTIONS TO HAVE MIN 12"X12" WORKING SPACE WITHOUT OBSTRUCTIONS FOR INSPECTION AND REPAIR. WHERE CONCEALED, PROVIDE MIN 12"X12" ACCESS PANEL.
 1.7. AT ADA ACCESSIBLE PLUMBING FIXTURES, PROVIDE WRAP ON WASTE & WATER PIPING UNDER FIXTURE. USE PLUMBEREX "PRO-EXTREME" ONE-PIECE PROTECTORS WITH FULL ROTATION OPTION AND 3-M DUAL LOCK FASTENERS SECURED WITH SELF-LOCKING NYLON STRIPS.
2. LAVATORIES AND SINKS:
 2.1. THE MAXIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT EXCEED 1.2 GALLONS PER MINUTE AT 60 PSI. THE MINIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT BE LESS THAN 0.8 GALLONS PER MINUTE AT 20 PSI.
 2.2. THE MAXIMUM FLOW RATE OF KITCHEN FAUCETS SHALL NOT EXCEED 1.8 GALLONS PER MINUTE AT 60 PSI. KITCHEN FAUCETS MAY TEMPORARILY INCREASE THE FLOW ABOVE THE MAXIMUM RATE, BUT NOT 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. WHERE COMPLYING FAUCETS ARE UNAVAILABLE, AERATORS OR OTHER MEANS MAY BE USED TO ACHIEVE REDUCTION
 2.3. METERING FAUCETS IN RESIDENTIAL BUILDINGS SHALL NOT DELIVER MORE THAN 0.2 GALLONS PER CYCLE.
3. SHOWERS & TUBS:
 3.2. SINGLE 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. WHEN SINGLE SHOWER FIXTURES ARE 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. A HAND-HELD SHOWER SHALL BE CONSIDERED A SHOWERHEAD.
 3.3. SHOWER & TUB-SHOWER COMBOS SHALL HAVE INDIVIDUAL CONTROL VALVES THAT PROVIDE SCALD AND THERMAL SHOCK PROTECTION AND SHALL DELIVER MIXED WATER AT 120°F MAX
4. WATER CLOSETS:
 4.1. 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. THE EFFECTIVE FLUSH VOLUME OF DUAL FLUSH TOILETS IS DEFINED AS THE COMPOSITE, AVERAGE FLUSH VOLUME OF TWO REDUCED FLUSHED AND ONE FULL FLUSH.
 4.2. THE EFFECTIVE FLUSH VOLUME OF URINALS SHALL NOT EXCEED 0.125 GALLONS PER FLUSH.
5. HOSE BIBB:
 5.1. ALL HOSE BIBBS SHALL BE 3/4" AND MOUNTED AT 18" ABOVE FINISHED GRADE, UNLESS OTHERWISE NOTED.
 5.2. ALL HOSE BIBBS TO HAVE A NON-REMOVABLE ANTI-SIPHON DEVICE (BACKFLOW PREVENTOR OR VACUUM BREAKER).
 5.3. HOSE BIBBS SHALL NOT BE SUPPORTED BY PEX TUBING. HOSE BIBBS SHALL BE ANCHORED TO PREVENT STRAIN ON PEX TUBING.
6. FLOOR DRAIN:
 6.1. FLOOR DRAIN TO BE APPROVED-TYPE W/ WATERTIGHT JOINT IN FLOOR, MIN 1" AIR GAP, AND APPROVED-TYPE STRAINER W/ WATERWAY EQUIVALENT TO CROSS-SECTIONAL AREA OF TAILPIECE.
 6.2. INSTALL 1/2" TRAP PRIMER AT ALL FLOOR DRAINS. AT BUILDER OPTION, WITH APPROVAL FROM AUTHORITY HAVING JURISDICTION, PROSET TRAP GUARD OR ICC APPROVED EQUIVALENT MAY BE USED AS ALTERNATE TO TRAP PRIMER

2.1 GAS SYSTEMS

1. GENERAL REQUIREMENTS:
 1.1. GAS SYSTEM DESIGNED PER CPC SECTION 1215, BRANCH LENGTH METHOD. TRUNK SIZED FROM METER TO FURTHEST FIXTURE IN SYSTEM, BRANCHES SIZED FROM METER TO FURTHEST FIXTURE ON BRANCH. ALL LOADS LISTED ARE BASED ON CUBIC FEET PER HOUR (CFH). WHERE CONVERSION TO BRITISH THERMAL UNITS PER HOUR (BTUH) IS REQUIRED 1,000 BTUH SHALL BE CONSIDERED EQUIVELENT TO 1 CFH.
 1.2. GAS PIPING SIZED IN ACCORDANCE WITH TABLE BELOW FOR DELIVERY PRESSURE BASED ON CPC TABLES. SEE APPLICABLE TABLES IN CPC SECTION 1215 FOR ADDITIONAL LENGTHS/SIZES AND ALTERNATE MATERIAL/DELIVERY PRESSURE.

NATURAL GAS TABLE 1215.2(1), 7.0 W.C.

LENGTH \ NOMINAL PIPE SIZE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"
250'-0"	30	63	119	244	366	704	1120	1980	4050	7320	11900

 1.3. UNDERGROUND GAS PIPING SIZED IN ACCORDANCE WITH TABLE BELOW FOR DELIVERY PRESSURE BASED ON CPC TABLES. SEE APPLICABLE TABLES.

NATURAL GAS TABLE 1215.2(20), 7.0 W.C.

LENGTH \ NOMINAL PIPE SIZE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"
DESIGNATION	SDR 9.3	SDR 11	SDR 11	SDR 10	SDR 11	SDR 11	SDR 11	SDR 11
250'-0"	35	71	127	221	333	598	1660	3200

2. MATERIALS:
 2.1. BELOW GRADE GAS PIPING SHALL BE HIGH-DENSITY POLYETHYLENE (HDPE) PER ASTM D2513 OR SCHEDULE 40 FUSION BONDED EPOXY STEEL PER ASTM A53. HDPE PIPE TO BE LABELED "GAS" AND "ASTM D2513"
 2.2. ABOVE GRADE GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL, ASTM A53, WITH MALLEABLE STEEL FITTINGS.
 2.3. JOINTS:
  2.3.1. PIPE SIZES 2 1/2" DIA AND LARGER SHALL HAVE WELDED JOINTS
  2.3.2. PIPE SIZES 2" AND SMALLER MAY BE THREADED OR WELDED AT CONTRACTOR'S OPTION.
  2.3.3. ALL UNDERGROUND GAS PIPING SHALL BE WELDED REGARDLESS OF SIZE OR MATERIAL.
3. CONSTRUCTION REQUIREMENTS:
 3.1. BELOW GRADE PIPING REQUIREMENTS:
  3.1.1. GAS PIPING SHALL BE INSTALLED WITH A COVER NOT LESS THAN 18". WHERE 18" COVER CANNOT BE PROVIDED, GAS PIPING TO BE INSTALLED IN CONDUIT OR BRIDGED (SHIELDED).
  3.1.2. GAS PIPING SHALL BE INSTALLED WITH SUFFICIENT CLEARANCE FROM ANY OTHER UNDERGROUND STRUCTURE TO AVOID CONTACT, ALLOW MAINTENANCE, AND PROTECT AGAINST DAMAGE FROM PROXIMITY TO OTHER STRUCTURES. IN ADDITION, PROVIDE SUFFICIENT CLEARANCE FROM ANY SOURCE OF HEAT.
  3.1.3. TRENCHES SHALL BE GRADED SO PIPING HAS FIRM, SUBSTANTIALLY CONTINUOUS BEARING ON BOTTOM OF TRENCH, FREE OF ROCKS AND DEBRIS THAT WOULD ABRADE THE PIPING. ADDITIONAL MATERIAL SUCH AS LOAM, SAND, OR TOPSOIL MAY BE USED TO CREATE A LEVEL SURFACE.
  3.1.4. AN ELECTRONICALLY CONTINUOUS, CORROSION-RESISTANT, TRACER WIRE (MIN AWG 14) OR TAPE SHALL BE BURIED WITH THE PIPING TO FACILITATE LOCATING, ONE END SHALL BE BROUGHT ABOVE GRADE.
  3.1.5. WHERE TRENCH IS FLOODED TO CONSOLIDATE BACKFILL, EXERCISE CARE TO ENSURE PIPING IS NOT FLOATED FROM ITS FIRM BEARING ON BOTTOM OF TRENCH.
 3.2. TEST GAS PIPING PER CPC SECTION 1213.3
  3.2.1. TEST AT NO LESS THAN 10 PSI GAUGE PRESSURE FOR NO LESS THAN 15 MINUTES.
  3.2.2. FOR WELDED PIPING AND FOR PIPING CARRYING GAS AT PRESSURE IN EXCESS OF 14 INCHES WATER COLUMN PRESSURE, THE TEST PRESSURE SHALL BE NOT LESS THAN 60 PSI AND SHALL BE CONTINUED FOR NO LESS THAN 30 MINUTES.
  3.2.3. VERIFY NO PERCEPTIBLE DROP OF PRESSURE.
 3.3. PROVIDE AN EARTHQUAKE-ACTUATED GAS SHUT-OFF VALVE CERTIFIED BY THE CALIFORNIA STATE ARCHITECT PER CPC 1210.9
 3.4. PROVIDE A SEDIMENT TRAP AT THE LOCATION OF WATER HEATER AND THE FAU. A SEDIMENT TRAP MUST BE INSTALLED AS CLOSE AS POSSIBLE TO THE GAS INLET OF THE APPLIANCE IF IT IS NOT PART OF THE APPLIANCE. SEDIMENT TRAPS ARE NOT REQUIRED AT RANGES, CLOTHES DRYERS, DECORATIVE VENTED APPLIANCES OR GAS FIREPLACES.

2.2 WATER SYSTEMS

1. GENERAL REQUIREMENTS:
 1.1. ALL WATER SIZED IN ACCORDANCE WITH CPC APPENDIX A WITH PEAK DEMAND LOADS DETERMINED USING THE MODIFIED WISORT METHOD. FIXTURE FLOW RATES AND PROBABILITIES ARE BASED ON APPENDIX M AND MANUFACTURER DATA. FIXTURE USAGE AND FLOW REQUIREMENTS ARE PRESENTED IN SECTION 3.1.
 1.2. HOT WATER TEMPERATURE NOT TO EXCEED 110° F AT ANY FIXTURE.
  1.2.1. PROVIDE CODE APPROVED THERMOSTATIC MIXING VALVE, SET AT 110°F, FOR ALL TUBS, SHOWERS AND ANY LAVATORIES DESIGNATED FOR PUBLIC USE.
  1.2.2. WATER HEATER THERMOSTAT IS NOT TO BE USED AS THE INDIVIDUAL FIXTURE TEMPERATURE LIMITER.
 1.3. EACH RESIDENTIAL DWELLING UNIT IS REQUIRED TO BE METERED. METERS ARE DISPLACEMENT TYPE, SIZED FOR MAX CONTINUOUS FLOW EXPECTED THROUGH THE DOMESTIC WATER SYSTEM.
 1.4. MIN PRESSURE SUPPLIED TO THE MOST REMOTE FIXTURE SHALL BE GREATER OF FIXTURES REQUIRED WORKING PRESSURE OR 8 PSI.
2. MATERIALS:
 2.1. PLASTIC PIPING SYSTEMS (HOT & COLD):
  2.1.1. BELOW GRADE PIPE FOR POTABLE WATER MAY BE PEX TUBING PER ASTM F876 WITH NON-METALLIC FITTINGS, PVC PER ASTM D1785, OR CPVC PER ASTM D2846.
  2.1.2. ABOVE GRADE PIPE FOR POTABLE WATER MAY BE PEX TUBING PER ASTM F876 WITH NON-METALLIC FITTINGS OR CPVC PER ASTM D2846.
  2.1.3. CPVC PIPE MUST MEET REQUIREMENTS OF CPC 604.1.1 AND BE APPROVED BY AUTHORITY HAVING JURISDICTION PRIOR TO CONSTRUCTION
 2.2. COPPER PIPING SYSTEMS (HOT & COLD):
  2.2.1. BELOW GRADE POTABLE WATER PIPING SHALL BE TYPE 'L' ASTM B88 ANNEALED COPPER TUBING AND ANSI B16.22 WROUGHT COPPER FITTINGS USING SILVER SOLDER AND NON-CORROSIVE FLUX.
  2.2.2. ABOVE GRADE POTABLE WATER PIPING SHALL BE COPPER TYPE 'L' ASTM B88 HARD DRAWN COPPER TUBING AND ANSI B16.22 WROUGHT COPPER FITTINGS USING SILVER SOLDER AND NON-CORROSIVE FLUX. AT CONTRACTOR'S OPTION, TIN-ANTIMONY (95-5) SOLDER MAY BE USED FOR SIZES LESS THAN 3".
3. CONSTRUCTION REQUIREMENTS:
 3.1. TEST HOT & COLD WATER PIPING IN ACCORDANCE WITH CPC 609.4
  3.1.1. TEST PRESSURE SHALL NOT BE LESS THAN THE WORKING PRESSURE UNDER WHICH IT IS TO BE USED. THE WATER FOR THE TESTS SHALL BE OBTAINED FROM A POTABLE WATER SOURCE OF SUPPLY.
  3.1.2. EXCEPT FOR PLASTIC PIPING, A 50 PSI AIR PRESSURE TEST MAY BE SUBSTITUTED FOR THE WATER TEST.
  3.1.3. THE TEST SHALL BE RUN FOR A MIN OF 15 MINUTES WITHOUT SHOWING EVIDENCE OF LEAKAGE.
 3.2. JOINTS AND FITTINGS:
  3.2.1. JOINTS, FITTINGS, AND MULTI-PORT MANIFOLDS SHALL BE INSTALLED IN CEILING, MIN 2'-0" CLEAR OF ANY INTERIOR PARTITION WALL. DO NOT INSTALL IN WALLS.
  3.2.2. WHENEVER POSSIBLE LOCATE MULTI-PORT MANIFOLDS OVER WET AREA.
 3.3. PLASTIC PIPING SYSTEMS:
  3.3.1. INSTALLATION SHALL BE DONE BY CERTIFIED INSTALLERS PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
  3.3.2. SUPPORT HORIZONTAL PEX TUBING UP TO 1" NOMINAL SIZE AT 32" OC, OVER 1" NOMINAL SIZE AT 48" OC. SUPPORT VERTICAL PEX TUBING AT EVERY FLOOR AND MID POINT OF EACH FLOOR. ALLOW 1/8" SLACK PER 1'-0" OF INSTALLED TUBING. BEND TUBING IN DIRECTION OF COIL, MAINTAIN MIN BEND RADIUS OF 8 TIMES NOMINAL PIPE SIZE. WHERE TUBING IS BENT AGAINST COIL DIRECTION INCREASE BEND RADIUS BY 3 TIMES.
  3.3.3. PVC ABOVE GRADE MAY NOT EXCEED 24", WRAP ALL ABOVE GROUND PVC PIPE WITH MIN 0.04" THICK TAPE OR OTHER PROTECTION FROM UV DEGRADATION.
  3.3.4. MAINTAIN MIN 12" VERTICAL, 6" HORIZONTAL FROM SOURCES OF HEAT INCLUDING RECESS LIGHT FIXTURES, GAS VENTS, AND HEATING APPLIANCES.
  3.3.5. ALL INSTALLATIONS OF THE INITIAL PLUMBING PIPING SHALL BE FLUSHED TWICE OVER A PERIOD OF AT LEAST ONE WEEK. THE PIPE SYSTEM SHALL BE FIRST FLUSHED FOR AT LEAST 10 MINUTES AND THEN FILLED AND ALLOWED TO STAND FOR NO LESS THAN 1 WEEK, AFTER WHICH ALL THE BRANCHES OF THE PIPE SYSTEM MUST BE FLUSHED LONG ENOUGH TO FULLY EMPTY THE CONTAINED VOLUME. THIS PROVISION SHALL NOT APPLY TO THE INSTALLATION OF PEX PIPE WHERE IT REPLACES AN EXISTING PIPE SYSTEM OF ANY MATERIAL.
  3.3.6. AT THE TIME OF FILL, EACH FIXTURE SHALL HAVE A REMOVABLE TAG APPLIED STATING:
   THIS NEW PLUMBING SYSTEM WAS FIRST FILLED AND FLUSHED ON ______ (DATE) BY ___________ (NAME). THE STATE OF CALIFORNIA REQUIRES THAT THE SYSTEM BE FLUSHED AFTER STANDING AT LEAST ONE WEEK AFTER THE FILL DATE SPECIFIED ABOVE. IF THIS SYSTEM IS USED EARLIER THAN ONE WEEK AFTER THE FILL DATE, THE WATER MUST BE ALLOWED TO RUN FOR AT LEAST TWO MINUTES PRIOR TO USE FOR HUMAN CONSUMPTION. THIS TAG MAY NOT BE REMOVED PRIOR TO THE COMPLETION OF THE REQUIRED SECOND FLUSHING, EXCEPT BY THE BUILDING OWNER OR OCCUPANT.
  3.3.7. PRIOR TO ISSUING A BUILDING PERMIT TO INSTALL PLASTIC PIPE, THE BUILDING OFFICIAL SHALL REQUIRE AS PART OF THE PERMITTING PROCESS THAT THE CONTRACTOR, OR THE APPROPRIATE PLUMBING SUBCONTRACTORS, PROVIDE WRITTEN CERTIFICATION THAT HE OR SHE WILL COMPLY WITH THE FLUSHING PROCEDURES SET FORTH IN THE CODE.
  3.3.8. THE BUILDING OFFICIAL SHALL NOT GIVE FINAL PERMIT APPROVAL OF ANY PLASTIC PLUMBING INSTALLATION UNLESS HE OR SHE FINDS THAT THE MATERIAL HAS BEEN INSTALLED IN COMPLIANCE WITH THE REQUIREMENTS OF THE CODE, INCLUDING THE REQUIREMENTS TO FLUSH AND TAG THE SYSTEMS.
  3.3.9. ANY CONTRACTOR OR SUBCONTRACTOR FOUND TO HAVE FAILED TO COMPLY WITH THE FLUSHING REQUIREMENTS SHALL BE SUBJECT TO THE PENALTIES OF THE HEALTH AND SAFETY CODE.
 3.4. NON-METALLIC PIPING USED BELOW GRADE, OUTSIDE OF BUILDING FOOTPRINT SHALL HAVE AN ELECTRICALLY CONTINUOUS CORROSION-RESISTANT BLUE INSULATED COPPER TRACER WIRE, OR OTHER APPROVED CONDUCTOR. CONDUCTOR SHALL NOT BE LESS THAN 14 AWG AND SUITABLE FOR DIRECT BURIAL
 3.5. GENERAL REQUIREMENTS:
  3.5.1. PIPE INSULATION:
   3.5.1.1. INSULATE ALL HOT WATER PIPING FROM HEAT SOURCE TO FIXTURE AS NOTED BELOW:

PIPE DIAMETER	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
INSULATION WALL THICKNESS[1]	1/2" OR 1"	1"	1"	1 1/4"	1 1/2"	2"

1. 1" WALL THICKNESS REQUIRED AT ALL RECIRCULATION PIPES AND ALL PIPES TO KITCHEN FIXTURES

   3.5.1.2. INSULATE THE FIRST 5'-0" OF COLD WATER PIPES FROM TANKED WATER HEATER, INSULATION WALL THICKNESS TO BE 1" MIN.
   3.5.1.3. PIPE INSULATION MAY BE OMITTED AT THE FOLLOWING LOCATIONS:
    3.5.1.3.1. PIPING THAT PENETRATES FRAMING MEMBERS, FOR THE DISTANCE OF THE FRAMING PENETRATION. INSULATION SHALL BUTT SECURELY AGAINST FRAMING MEMBERS.
    3.5.1.3.2. PIPING INSTALLED IN WALLS, WHERE ALL REQUIREMENTS ARE MET FOR COMPLIANCE WITH QUALITY INSULATION INSPECTION (QII)
    3.5.1.3.3. PIPING INSTALLED IN ATTIC WITH MINIMUM 4" THICKNESS OF ATTIC INSULATION ON TOP OF PIPING.
    3.5.1.3.4. PIPING BETWEEN FIXTURE CONTROL VALVE OR SUPPLY STOP AND THE FIXTURE.
  3.5.2. INLINE SHUTOFF VALVES BELOW GRADE SHALL BE INSTALLED IN A CONCRETE BOX WITH A CAST IRON HINGED TOP LABELED "SOV". ALL ABOVE GRADE SHUTOFF VALVES 2" AND LARGER SHALL BE FULL PORT BALL VALVES.
  3.5.3. PROVIDE MECHANICAL WATER HAMMER ARRESTER AT HOT AND COLD WATER AT ALL FIXTURES TO ABSORB HIGH PRESSURE RESULTING FROM THE QUICK CLOSURE OF THESE VALVES. WATER HAMMER ARRESTERS SHALL BE APPROVED MECHANICAL DEVICE IN ACCORDANCE WITH THE APPLICABLE STANDARDS REFERENCED IN CPC TABLE 1701.1 AND SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO QUICK-ACTING VALVES.

1.1 DESIGN CRITERIA

1. GENERAL PROJECT INFORMATION:
 1.1. PROJECT SHALL CONFORM TO THE 2022 CPC, ITS REFERENCED STANDARDS, AND APPLICABLE LOCAL BUILDING DEPARTMENT STANDARDS.
 1.2. DESIGN CRITERIA ARE AS FOLLOWS:

GAS	
GAS TYPE	NATURAL
DELIVERY PRESSURE	LESS THAN 2 PSI
PRESSURE DROP	0.5 IN. W.C.
SPECIFIC GRAVITY	0.6

WATER	
DESIGN PRESSURE	45 PSI
MIN WORKING PRESSURE	20 PSI
MAX VELOCITY	8 FT/SEC

1.2 GENERAL NOTES

1. SCOPE:
 1.1. THE PROJECT DOCUMENTS MAY NOT BE USED IN A LOCATION OTHER THAN THAT DESIGNATED ON THE DRAWINGS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER.
 1.2. THIS IS A "BUILDER'S SET" PRODUCED SOLELY FOR USE BY A KNOWLEDGEABLE AND EXPERIENCED CONTRACTOR.
 1.3. THESE PLANS CONTAIN INFORMATION FOR GENERAL CONSTRUCTION AND BUILDING PERMIT PURPOSES ONLY. THEY ARE NOT EXTENSIVELY DETAILED NOR ARE COMPLETE SPECIFICATIONS PROVIDED. DETAILS OF CONSTRUCTION NOT FULLY SHOWN SHALL BE OF THE SAME NATURE AS SHOWN FOR SAME OR SIMILAR CONSTRUCTION SHOWN ELSEWHERE WITHIN THE PLAN SET. FOR ITEMS, METHODS AND/OR MATERIALS NOT SPECIFIED WITHIN THE SET, THE MIN REQUIREMENT OF THE APPLICABLE CODE SHALL GOVERN.
 1.4. THE ENGINEER PROVIDES NO WARRANTY OR GUARANTEE ON THE FINAL PROJECT, NOR DUTY TO ANY PERSON OR ENTITY BEYOND THE AFOREMENTIONED LIMITED INFORMATION OF THESE PLANS.
 1.5. FIRE SPRINKLER SYSTEMS ARE DESIGNED SEPARATELY AND ARE TO BE INSTALLED UNDER A SEPARATE PERMIT
2. CONTRACTOR REQUIREMENTS:
 2.1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE QUALITY AND CONSTRUCTION STANDARDS FOR THIS PROJECT. CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND REGULATIONS.
 2.2. CONTRACTOR SHALL FIELD VERIFY ALL WORK CONDITIONS PRIOR TO COMMENCING WORK, INCLUDING, BUT NOT LIMITED TO DIMENSIONS, ELEVATIONS, PIPE SIZES, INVERT ELEVATIONS, POINTS OF CONNECTION, FIXTURES, EQUIPMENT, STRUCTURAL ELEMENTS & MATERIALS.
 2.7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE ENGINEER OR ARCHITECT FOR ANY REQUIRED DIMENSIONS NOT SHOWN. DRAWINGS & DETAILS WITHIN THIS SET SHALL NOT BE SCALED FOR ANY PURPOSE.
 2.8. CONTRACTOR SHALL COORDINATE THE CONSTRUCTION OF ALL TRENCHES AND VERIFY THE LOCATION & ADEQUACY OF SIZE & DEPTH OF EXISTING PLUMBING UTILITIES PRIOR TO COMMENCEMENT OF ANY WORK OR ORDERING ANY MATERIALS.
 2.9. ANY OR PART OF ALL SYSTEMS, MATERIALS, CONNECTIONS AND DETAILS NOT SPECIFICALLY PROVIDED IN THESE PLANS ARE THE SOLE AND COMPLETE RESPONSIBILITY OF THE CONTRACTOR TO PROPERLY VERIFY AND INSTALL.
 2.10. CONTRACTOR SHALL NOTIFY THE ENGINEER AND ARCHITECT WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DRAWINGS OR DOCUMENTS. CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE BUILDING THAT IS IN CONFLICT, UNTIL CONFLICT IS RESOLVED BY THE AFFECTED PARTIES.
 2.11. 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 ENGINEER.
 2.12. THE GENERAL CONTRACTOR AND ITS SUB-CONTRACTORS MUST SUBMIT IN WRITING ANY REQUESTS FOR MODIFICATIONS TO THE PLANS AND SPECIFICATIONS. SHOP DRAWINGS THAT ARE SUBMITTED TO THE ENGINEER OF RECORD FOR ITS REVIEW DO NOT CONSTITUTE "IN WRITING". CHANGES TO THE PLANS AND SPECIFICATIONS BY MEANS OF SHOP DRAWINGS BECOME THE RESPONSIBILITY OF THE PERSON INITIATING SUCH CHANGES.
 2.13. THE HERS RATER AND THE CONTRACTOR SHALL SUBMIT ALL THE REQUIRED AND CURRENTLY APPROVED FORMS TO THE REQUIRED PARTIES AFTER TESTING OR INSTALLATION. A REGISTERED COPY OF REQUIRED FORMS SHALL BE SUBMITTED PRIOR TO THE FINAL INSPECTION, SIGNED BY THE CERTIFIED INSTALLER AND THE HERS RATER FOR FIELD VERIFICATION AND DIAGNOSTIC TESTING AS REQUIRED.
 2.14. ALL HIGH VOLTAGE POWER WIRING, DISCONNECTS, AND CONDUIT TO BE INSTALLED BY ELECTRICAL CONTRACTOR. ALL LOW VOLTAGE CONTROL WIRING FOR PLUMBING EQUIPMENT TO BE PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR.
 2.15. CONTRACTOR SHALL RESTORE ALL DAMAGE RESULTING FROM THEIR WORK AND ADJUST, CLEAN, REPAIR, OR REPLACE PRODUCTS WHICH HAVE BEEN DAMAGED. LEAVE PREMISES IN CLEAN CONDITION WHEN FINISHED WITH WORK.

1.3 TYPICAL ABBREVIATIONS

A/A	ATTIC ACCESS
ABV	ABOVE
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BBQ	BARBECUE
BLKG	BLOCKING
BLW	BELOW
BTU	BRITISH THERMAL UNIT
BTU/H	BTU PER HOUR
C-PRE	COLD WATER PRE LOOP
CALGREEN	CALIFORNIA GREEN BUILDING STANDARDS
CBC	CALIFORNIA BUILDING CODE
CEC	CALIFORNIA ELECTRICAL CODE
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CL	CENTERLINE
CLR	CLEAR
CMC	CALIFORNIA MECHANICAL CODE
CONT	CONTINUOUS
COTG	CLEAN OUT TO GRADE
CPC	CALIFORNIA PLUMBING CODE
CRC	CALIFORNIA RESIDENTIAL CODE
CW	COLD WATER (LINE)
CW	CLOTHES WASHER (FIXTURE)
(D)	DOWN
DIA	DIAMETER
DBL	DOUBLE
DFU	DRAINAGE FIXTURE UNIT
DW	DISHWASHER
(A)	EXISTING
EA	EACH
ELEV	ELEVATION
EQ	EQUAL
f	CFM's
F	FAHRENHEIT
FAU	FORCED AIR UNIT
FCO	FLOOR CLEAN OUT
F/L	FAN/LIGHT COMBINATION
FU	FIXTURE UNIT(S)
GA	GAUGE
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
HB	HOSE BIB
HOOD	KITCHEN HOOD VENT
HORIZ	HORIZONTAL
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
HW	HOT WATER
HWR	HOT WATER RETURN
IBC	INTERNATIONAL BUILDING CODE
ICC	INTERNATIONAL CODE COUNCIL
IM	ICE MACHINE
LAV	LAVATORY
LPG	LIQUEFIED PETROLEUM GAS
MFR	MANUFACTURER
MAX	MAXIMUM
MIN	MINIMUM
(N)	NEW
NFTA	NATIONAL FIRE PROTECTION ASSOCIATION
NTS	NOT TO SCALE
OC	ON CENTER
PED	PEDESTAL SINK
PERP	PERPENDICULAR
PL	PLATE
POC	POINT OF CONNECTION
PSI	POUNDS PER SQUARE INCH
REQ'D	REQUIRED
SAD	SEE ARCHITECTURAL DRAWINGS
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SOV	SHUT OFF VALVE
SQ FT	SQUARE FEET
STD	STANDARD
T&B	TOP & BOTTOM
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VENT
VERT	VERTICAL
V(R)	VENT RISER
VTR	VENT TO ROOF
VTW	VENT TO WALL
WC	WATER CLOSET
WCO	WASTE CLEAN OUT
WH	WATER HEATER
WSFU	WATER SUPPLY FIXTURE UNIT(S)
#	POUND

1.4 GENERAL PLUMBING SYSTEM REQUIREMENTS

1. SYSTEM DESIGN & GENERAL PROJECT REQUIREMENTS:
 1.1. DESIGN IS BASED ON THE SITE AND CODE CRITERIA LISTED IN SECTION 1.1.
 1.2. DRAWINGS SHOWING LOCATIONS OF NEW EQUIPMENT AND PIPING ARE DIAGRAMMATIC AND JOB CONDITIONS WILL NOT ALWAYS PERMIT THEIR INSTALLATION EXACTLY AS SHOWN. HOWEVER, DESIGN SHALL BE FOLLOWED AS CLOSELY AS EXISTING CONDITIONS AND BUILDING CONSTRUCTION PERMITS. THE CONTRACTOR SHALL INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING THE WORK AND SHALL PROVIDE FITTINGS AND ACCESSORIES REQUIRED TO MEET ACTUAL CONDITIONS WHETHER SHOWN OR NOT.
2. MATERIALS, EQUIPMENT & LABELING REQUIREMENTS:
 2.1. DESIGN SPECIFICATIONS FOR EQUIPMENT ARE BASED ON THE MANUFACTURER'S SPECIFICATIONS (WHERE APPLICABLE) AT TIME OF DESIGN. MANUFACTURER RESERVES THE RIGHT TO MODIFY/DELETE EQUIPMENT OR THE PRINTED EFFICIENCY RATINGS. PRIOR TO CONSTRUCTION CONTRACTOR SHALL VERIFY EQUIPMENT RATINGS MEET RATINGS SPECIFIED ON PLANS AND HAVE CURRENT AHRI CERTIFICATE.
 2.2. ANY APPLIANCE TYPE FOR WHICH THERE IS A STATEWIDE OR FEDERAL STANDARD ESTABLISHED IN THE APPLIANCE EFFICIENCY REGULATIONS MAY BE INSTALLED ONLY IF THE APPLIANCE IS LISTED WITHIN THE APPLIANCE EFFICIENCY DATABASE.
 2.3. ALL PIPES, FITTINGS, FIXTURES, SOLDER FLUX SHALL BE CERTIFIED BY AN ANSI ACCREDITED THIRD PARTY AS BEING IN COMPLIANCE WITH STATE & FEDERAL LEAD CONTENT REGULATIONS.
  2.3.1. PIPING AND MATERIALS SHALL NOT EXCEED A WEIGHTED AVERAGE LEAD COUNT OF MORE THAN 0.25%
  2.3.2. IT IS THE INTENT THAT ALL FIXTURES SPECIFIED ARE LEAD FREE PRODUCTS. LEAD FREE FIXTURES SHALL BE PROVIDED REGARDLESS OF THE SPECIFIED MODEL NUMBER.
 2.4. A MAINTENANCE LABEL SHALL BE AFFIXED TO ALL EQUIPMENT AND OPERATION AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE OWNER.
3. GENERAL INSTALLATION REQUIREMENTS:
 3.1. INSTALL ALL EQUIPMENT, MATERIALS, APPLIANCES, AND MANUFACTURED COMPONENTS IN ACCORDANCE WITH CODE CRITERIA SPECIFIED IN SECTION 1.1 AND MANUFACTURER'S INSTALLATION INSTRUCTIONS. A COPY OF THE INSTALLATION INSTRUCTIONS SHALL BE AVAILABLE TO THE INSPECTOR AT THE TIME OF INSPECTION. WHERE A CONFLICT OCCURS BETWEEN PLANS AND MANUFACTURER'S INSTRUCTIONS, THE MOST STRINGENT REQUIREMENTS APPLY.
 3.2. COORDINATE ALL WORK WITH OTHER TRADES TO PROVIDE A COMPLETE INSTALLATION & AVOID UNNECESSARY DELAYS OR INTERFERENCE WITH OTHER TRADES. VERIFY EQUIPMENT REQUIREMENTS & LOCATIONS PRIOR TO INSTALL AND CONNECT ALL EQUIPMENT FURNISHED BY OTHERS AS REQUIRED.
 3.3. ALL PIPING PASSING UNDER OR THROUGH THE BUILDING FOUNDATION MUST MEET THE REQUIREMENTS OF THE STRUCTURAL CONSTRUCTION DOCUMENTS AND SHALL BE INSTALLED AS FOLLOWS:
  3.3.1. PIPES PASSING BELOW FOOTINGS SHALL BE MIN OF 12" CLEAR BOTTOM OF FOOTING TO TOP OF PIPE.
  3.3.2. PIPES PASSING THROUGH FOUNDATION SHALL BE SLEEVED, SLEEVE SHALL BE PVC 2" LARGER THAN OUTER DIAMETER OF PIPE. ANNULAR SPACE SHALL BE PACKED WITH OAKUM AND CAULKED AT BOTH ENDS.
  3.3.3. DO NOT INSTALL PIPES PARALLEL IN FOOTING OR WITHIN SLAB.
  3.3.4. WRAP ALL COPPER WATER PIPE UNDER FLOOR OR BELOW GRADE WITH TWO LAYERS OF PABCO-WRAP (OR EQUAL). WRAP WATER, WASTE, AND GAS PIPING THROUGH THE SLAB WITH 1/2" THICK FIBERGLASS, MIN 2" ABOVE & BELOW SLAB SURFACE.
 3.4. ALL PIPING PASSING THROUGH THE SUPERSTRUCTURE TO CLEAR ARCHITECTURAL AND STRUCTURAL MEMBERS.
  3.4.1. PENETRATIONS IN FRAMING TO BE ONE NOMINAL SIZE LARGER THAN OUTSIDE DIAMETER OF PIPE, UNO. ALL CUTTING, NOTCHING, BORING OF FRAMING MUST MEET REQUIREMENTS OF STRUCTURAL CONSTRUCTION DOCUMENTS OR BE OTHERWISE APPROVED BY STRUCTURAL ENGINEER OF RECORD PRIOR TO CONSTRUCTION. COORDINATE ALL CUTTING AND PATCHING WITH THE GENERAL CONTRACTOR AND/OR PROJECT SUPERINTENDENT.
  3.4.2. ALL PIPE PENETRATIONS THROUGH ROOF SHALL BE FLASHED AND COUNTER-FLASHED WATER-TIGHT.
  3.4.3. AT PIPE PENETRATIONS THROUGH FINISHED WALLS, PROVIDE AN ESCUTCHEON INSTALLED ON FINISHED FACE OF WALL.
  3.4.4. INSTALL CLEVIS OR RING TYPE HANGERS FOR ALL PIPING. WRAP PIPE WHERE DISSIMILAR METALS OCCUR. HANGERS AND ANCHORS SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT THE WEIGHT OF THE PIPE AND ITS CONTENTS. HANGER RODS SHALL BE NO SMALLER THAN 3/8" DIAMETER.
  3.4.5. PROVIDE HOLDRITE SILENCERS OR EQUAL RISER CLAMPS AT ALL PLUMBING LINES WITHIN SEPARATION WALLS, FLOOR/CEILING ASSEMBLIES BETWEEN DWELLING UNITS AND AS REQUIRED BY ARCHITECT & ACOUSTICAL ENGINEER, SEE ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.
  3.4.6. WHERE VENTS PENETRATE OUTSIDE WALLS OF BUILDINGS, THE ANNULAR SPACES AROUND PENETRATIONS SHALL BE PERMANENTLY SEALED USING APPROVED MATERIALS TO PREVENT ENTRY OF COMBUSTION PRODUCTS INTO THE BUILDING.
 3.5. INSTALL ALL ABOVE GRADE PIPING AS HIGH AS POSSIBLE.
 3.6. INSTALL PIPING TO ALLOW FOR THERMAL AND SEISMIC EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT. ACCEPTABLE MEANS AND METHODS INCLUDE EXPANSION JOINTS, LOOPS AND OFFSETS AND EXPANSION CONSTRAINTS, GUIDES AND ANCHORS.

1.5 SYSTEM ALTERNATES & MODIFICATIONS

1. GENERAL REQUIREMENTS:
 1.1. EQUIPMENT SUBSTITUTIONS, LAYOUT MODIFICATIONS, AND ALTERNATE INSTALLATIONS MUST PROVIDE SYSTEM-WIDE EQUIVALENT CAPACITY AND FLOW PERFORMANCE AS COMPARED TO THE DESIGNED CONDITION AND SHALL MEET OR EXCEED ALL PLAN-SPECIFIED CRITERIA.

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PROJECT: **COTA VERA SWIM CLUB**
CHULA VISTA, CA

CLIENT: **HOMEFED CORPORATION**
1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER:	MW
DESIGNER:	VMC
DRAWN BY:	QES
CHECKED BY:	MW
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP: REGISTERED PROFESSIONAL ENGINEER ROBERT D. PENROD EXPIRES 09/30/24 #M18824 MECHANICAL STATE OF CALIFORNIA

PLAN NUMBER:

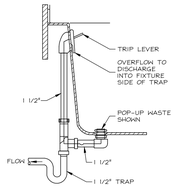
SHEET TITLE: STANDARD NOTES

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

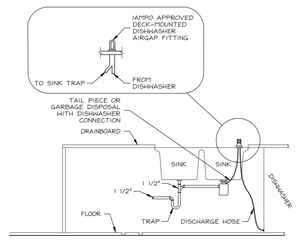
SHEET NUMBER: PN.1

JOB NUMBER: HS22244

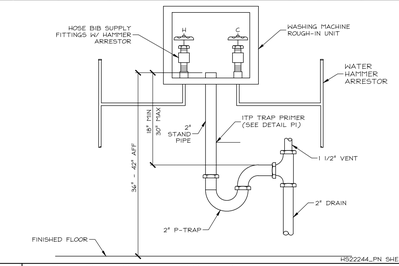
STANDARD DETAILS



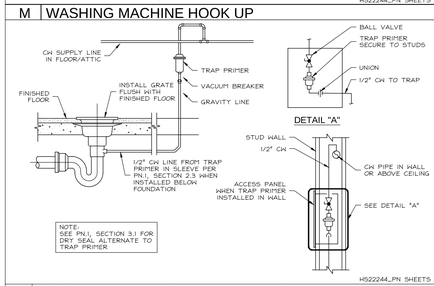
K | TYPICAL BATHTUB WASTE & OVERFLOW



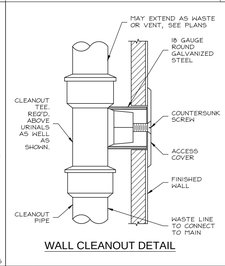
L | TYPICAL RESIDENTIAL KITCHEN SINK & DISHWASHER



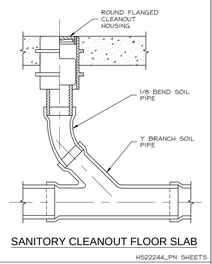
M | WASHING MACHINE HOOK UP



N | FLOOR DRAIN WITH TRAP PRIMER CONNECTION



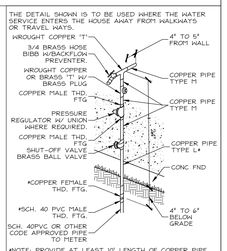
WALL CLEANOUT DETAIL



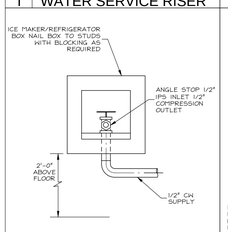
SANITORY CLEANOUT FLOOR SLAB

H522244_PN SHEETS

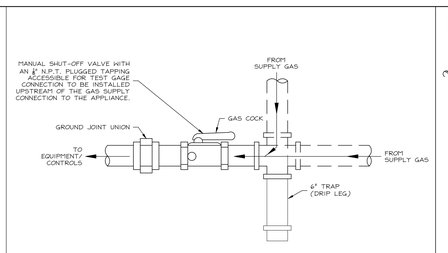
H | CLEANOUT DETAILS



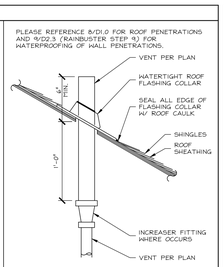
I | WATER SERVICE RISER



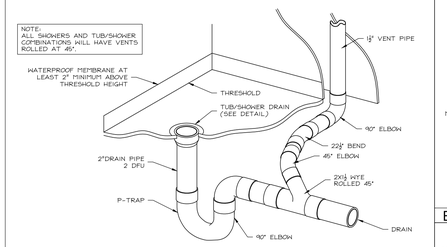
J | REFRIGERATOR BOX



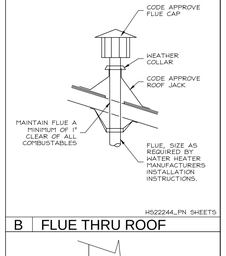
F | TYPICAL GAS CONNECTION TO EQUIPMENT



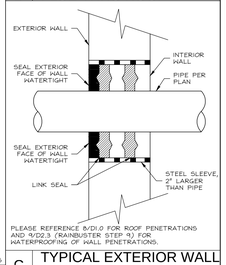
A | TYPICAL VENT THROUGH PITCHED ROOF



G | SHOWER VENTING



B | FLUE THRU ROOF



C | TYPICAL EXTERIOR WALL SLEEVE

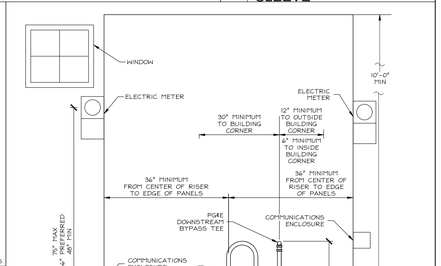
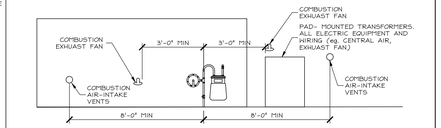


FIGURE 3
GAS METER SET SEPARATIONS



D | GAS METER CLEARANCES

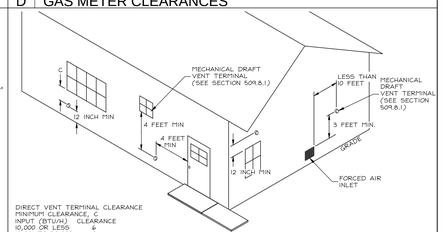


FIGURE 509.8
EXIT TERMINALS OF MECHANICAL DRAFT AND DIRECT-VENT VENTING SYSTEMS (NFPA 54: FIGURE A.12.9)

E | VENTING SYSTEMS

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CHULA VISTA, CA

CLIENT:
HOMEFED CORPORATION
1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER:	MW
DESIGNER:	VMC
DRAWN BY:	QES
CHECKED BY:	MW
ISSUE DATE:	01-13-2023

REVISIONS:

STAMP:
REGISTERED PROFESSIONAL ENGINEER
ROBERT D. PEDRICO
EXPIRES 09/30/24
#M18824
MECHANICAL
STATE OF CALIFORNIA

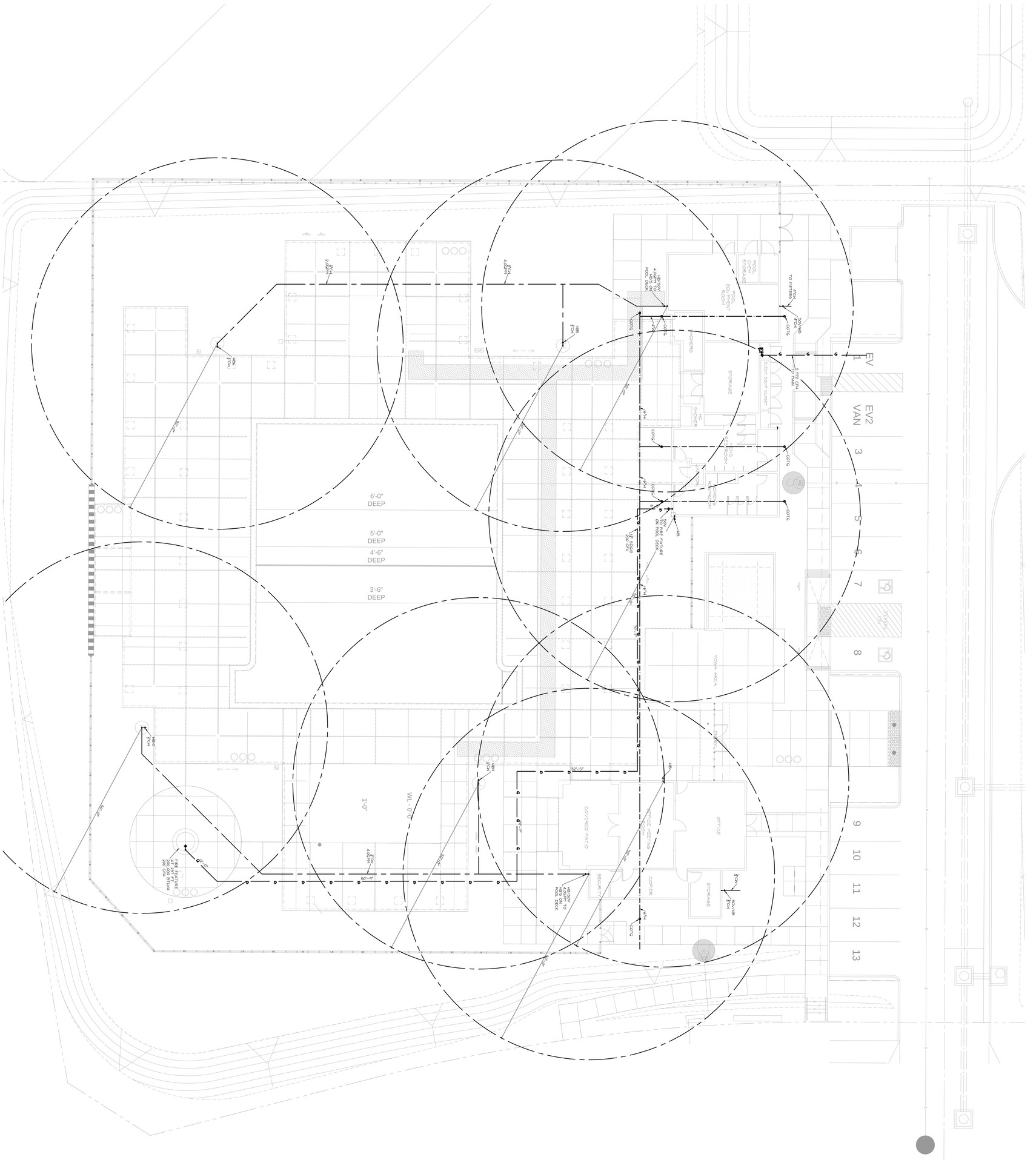
PLAN NUMBER:

SHEET TITLE:
STANDARD DETAILS

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

SHEET NUMBER:
PN.2

JOB NUMBER: H522244



REFERENCE NORTH

GENERAL NOTES

1. THESE PLANS ARE DIAGRAMMATIC AND ARE INTENDED TO REVISE, CLARIFY AND DETAIL ITEMS ON THE PM SUBMITTAL. ALL ITEMS SHOWN ON THE PM SUBMITTAL SHALL BE INCORPORATE IN THE CONSTRUCTION OF THE STRUCTURE.
2. THESE PLANS AND SPECIFICATIONS AND OTHER CONSTRUCTION DOCUMENTS ARE SUBJECT TO CHANGE AND REVISION AS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION BIDS PERFORMED BEFORE PERMIT ISSUANCE IS THE RESPONSIBILITY OF THE CONTRACTOR/BIDDER.

PROJECT SPECIFICATIONS

GENERAL
SEE SCHEDULES ON PLAN FOR LINE SIZES SERVING SINGLE PUMP/MOTOR.

GAS
GAS SERVICE METER LOCATED AT BACK SIDE STORAGE ROOM OF POOL BUILDING.

WATER
THE BACK SIDE OF THE POOL EQUIPMENT ROOM, THE OFFICE, STORAGE ROOM, BACK SIDE OF THE STORAGE ROOM, AND BACK SIDE OF THE SHOWER ROOM. REFER TO GARAGE WATER PIPE TO BE PVC OR EQUAL. REFER TO ARCHITECTURAL DRAWINGS SHEET A2.2 FOR GENERAL REQUIREMENTS AND ALTERNATES. VERIFY LOCATION OF WATER LINE AND METER W/ CIVIL PLANS PRIOR TO CONSTRUCTION.

SEWER, WASTE, AND VENT
BELOW GRADE: CAST IRON, ABOVE GRADE TO BE ABS. REFER TO GARAGE ARCHITECTURAL DRAWINGS SHEET A2.2 FOR GENERAL REQUIREMENTS AND ALTERNATES. VERIFY LOCATION OF SEWER LATERAL W/ CIVIL PLANS PRIOR TO CONSTRUCTION.

PROJECT:	**COTA VERA SWIM CLUB** CHULA VISTA, CA		
CLIENT:	**HOMEFED CORPORATION** 1903 WRIGHT PLACE, SUITE 200 CARLSBAD, CA 92008		
PROJECT MANAGER:	MK		
DESIGNER:	VHC		
DRAWN BY:	GES		
CHECKED BY:	MK		
ISSUE DATE:	01-13-2023		
REVISIONS:			
STAMP:	REGISTERED PROFESSIONAL ENGINEER — MICHAEL KEMPSTER — 09/30/24 — CIVIL — STATE OF CALIFORNIA		

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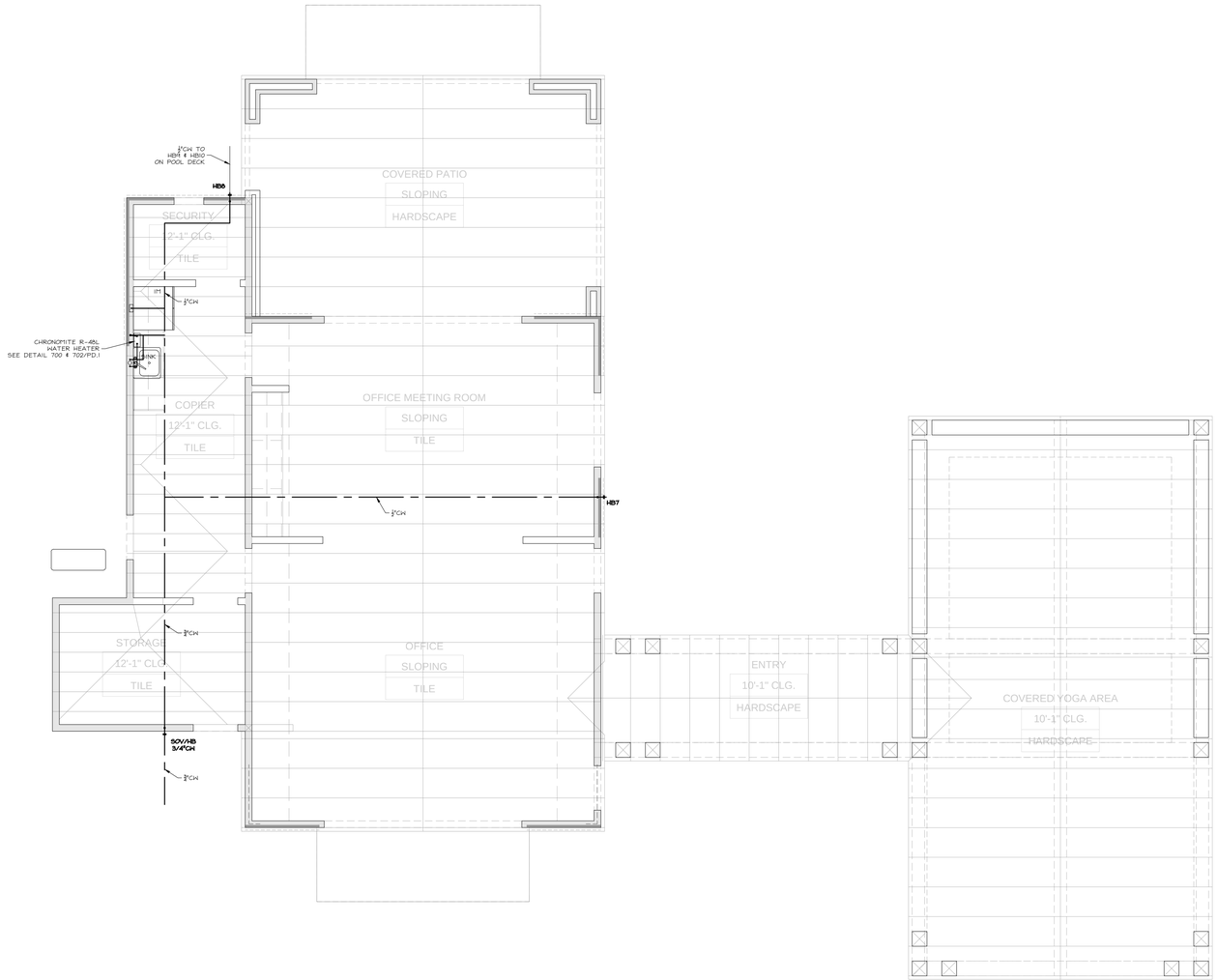
SHEET TITLE: POOL SITE GAS & WATER LAYOUT PLAN
SCALE: 1" = 10'-0"
SHEET NUMBER: PS.1
JOB NUMBER: H522244



CLUB WATER					
LINE SIZE					
FIXTURE	CW	GPM	HW	GPM	
KS	1/2 "	1.1	1/2 "	1.1	
DW	1/2 "	0	1/2 "	1.5	
IM	1/2 "	14	--		
HB7	1/2 "	12	--		
HB8	1/2 "	8	--		
HB9	1/2 "	8	--		
HB10	1/2 "	14	--		
TOTAL		0			

CLUB WATER TOTALS		
Water Service	9.1	GPM
Cold Water	9.1	GPM
Hot Water	2.6	GPM

CLUB GAS		
FIXTURE	FLOW (CFH)	SIZE
TOTAL	0	

GENERAL NOTES

1. IT IS THE CONTRACTORS/OWNERS/DEVELOPERS RESPONSIBILITY TO REVIEW ALL NOTES AND DETAILS ON THE PN SHEETS AND INCORPORATE IN THE CONSTRUCTION OF THE STRUCTURE.
2. PRIOR TO BUILDING DEPARTMENT APPROVAL, THESE CONSTRUCTION DOCUMENTS ARE SUBJECT TO CHANGE AND SHALL NOT BE USED FOR CONSTRUCTION. ANY CONSTRUCTION/ BIDS PERFORMED BEFORE PERMIT ISSUANCE IS THE RESPONSIBILITY OF THE CONTRACTOR/BIDDER.

PROJECT SPECIFICATIONS

GENERAL:
SEE SCHEDULES ON PLAN FOR LINE SIZES SERVING SINGLE FIXTURE.

GAS:
GAS SERVICE METER LOCATED AT BACK SIDE STORAGE ROOM OF THE POOL BUILDING.

WATER:
THE POOL BUILDING'S 3" WATER SERVICE LINE IS LOCATED ON THE BACK SIDE OF THE POOL EQUIPMENT ROOM. THE OFFICE BUILDING'S 3/4" SERVICE METER THE BACK SIDE OF THE STORAGE ROOM. BELOW GRADE WATER PIPE TO BE PVC OR CPVC, ABOVE GRADE TO BE PEX TUBING, UNO. SEE PN.1 SECTION 2.2 FOR GENERAL REQUIREMENTS AND ALTERNATES. VERIFY LOCATION OF SERVICE LINE AND METER W/ CIVIL PLANS PRIOR TO CONSTRUCTION.

DRAIN, WASTE, AND VENT:
BELOW GRADE WASTE/VENT PIPE TO BE ABS, ABOVE GRADE TO BE ABS, SEE PN.1 SECTION 2.3 FOR GENERAL REQUIREMENTS AND ALTERNATES. VERIFY LOCATION OF SEWER LATERAL W/ CIVIL PLANS PRIOR TO CONSTRUCTION.

KEYNOTES

(3) THERMOSTATIC MIXING VALVE. BRADLEY-959-2007. SEE DETAIL 10/PD.1 THERMOSTATIC MIXING VALVE FOR SINKS,OR EQUIVALENT..INSTALL PER MANUFACTURERS INSTRUCTIONS.

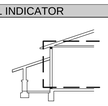
(11) 3" TRAP PRIMER FOR FLOOR DRAIN.

(13) TWO-WAY COTG SAME SIZE AS WASTE LATERAL, WHERE IS IN EXCESS OF 30" USE TERMINAL CLEAN OUTS. SEE DETAIL 2D/PD.1

(13A) ONE-WAY COTG SAME SIZE AS WASTE LATERAL, WHERE IS IN EXCESS OF 30" USE TERMINAL CLEAN OUTS. SEE DETAIL 2D/PD.1

LEVEL INDICATOR

LEVEL 1



SYMBOLS LEGEND

- DENOTES KEYNOTE SPECIFICATION. REFER TO KEYNOTE SCHEDULE ON THIS SHEET.
- DENOTES DETAIL REFERENCE.
- REFER TO DENOTED SHEET #.
- WASTE LINE
- WASTE VENT LINE
- CONDENSATE
- GAS LINE
- COLD WATER LINE
- HOT WATER LINE
- RE-CIRCULATION LOOP
- GAS VALVE/STUB OUT, SEE PN.1, SECTION 2.1
- WASHER MATER/DRAIN BOX, SEE PN.1, SECTION 2.2
- WASTE CLEAN OUT, SEE PN.1, SECTION 2.3
- HOSE BIBB, SEE PN.1, SECTION 3.1
- WATER METER/SUB-METER
- TANKLESS / TANKED — WATER HEATER, SEE PN.1, SECTION 3.2
- DENOTES PLUMBING FIXTURE @ CURRENT LEVEL (VERIFY EXACT LOCATION W/ ARCHITECTURAL PLANS.).
- DENOTES PLUMBING FIXTURE ABOVE (VERIFY EXACT LOCATION W/ ARCHITECTURAL PLANS.).
- ATTIC ACCESS PER ARCHITECT W/ MIN 30" HEADROOM.
- BEAM/HEADER PER STRUCTURAL PLANS
- SHEARWALL PER STRUCTURAL PLANS
- FRAMING MEMBER PER STRUCTURAL PLANS
- RECESSED LIGHT FIXTURE. VERIFY EXACT LOCATION WITH UTILITY PLANS
- DENOTES CONTINUOUS EXTERIOR FOOTING. (AS SPECIFIED ON STRUCTURAL PLANS.)
- DENOTES CONTINUOUS FOOTING WITH STEPWALL (AS SPECIFIED ON STRUCTURAL PLANS.)
- DENOTES CONTINUOUS INTERIOR FOOTING (AS SPECIFIED ON STRUCTURAL PLANS.)

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CLIENT:
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92008

PROJECT MANAGER:	MW
DESIGNER:	VMC
DRAWN BY:	QES
CHECKED BY:	MW
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:
REGISTERED PROFESSIONAL ENGINEER ROBERT D. PEDRO EXPIRES 09/30/24 #M18824 MECHANICAL STATE OF CALIFORNIA

PLAN NUMBER:
SEGMENT 1

SHEET TITLE:
LEVEL 1 WATER & GAS LAYOUT

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

SHEET NUMBER:
P1.1

JOB NUMBER: H522244

POOL / RESTROOM WATER				
	LINE SIZE			
FIXTURE	CW	GPM	HW	GPM
WC1	3/4"	12	--	--
WC2	3/4"	14	--	--
WC3	1 "	20	--	--
WC4	1 "	25	--	--
WC5	1 "	25	--	--
WC6	3/4"	12	--	--
WC7	1 "	20	--	--
WC8	1 "	25	--	--
WC9	3/4"	14	--	--
WC10	1/2"	8	--	--
U1	1/2"	3	--	--
U2	1/2"	6	--	--
U3	1/2"	8	--	--
U4	3/4"	12	--	--
U5	3/4"	14	--	--
LAV1	1/2"	0.8	--	--
LAV2	1/2"	0.8	--	--
LAV3	1/2"	0.8	--	--
LAV4	1/2"	0.8	--	--
LAV5	1/2"	0.8	--	--
LAV6	1/2"	0.8	1/2"	0.8
LAV7	1/2"	0.8	1/2"	0.8
LAV8	1/2"	0.8	1/2"	0.8
LAV9	1/2"	0.8	1/2"	0.8
LAV10	1/2"	0.8	1/2"	0.8
SH1	1/2"	1.5	1/2"	1.4
SH2	1/2"	1.5	1/2"	1.4
SH3	1/2"	1.5	1/2"	1.4
SH4	1/2"	1.5	1/2"	1.4
SH5	1/2"	1.5	1/2"	1.4
SH6	1/2"	1.5	1/2"	1.4
SH7	1/2"	1.5	1/2"	1.4
SH8	1/2"	1.5	1/2"	1.4
MOP	1/2"	2	1/2"	2.0
PE1	3/4"	14		
PE2	3/4"	14		
DF1	1/2"	0		
DF2	1/2"	0		
HB1	1/2"	2		
HB2	1/2"	2		
HB3	1/2"	2		
HB4	1/2"	2		
HB5	1/2"	2		
HB6	1/2"	2		

POOL WATER TOTALS		
Water Service	282.4	GPM
Cold Water	289.4	GPM
Hot Water	14.6	GPM

POOL GAS		
	FLOW	
FIXTURE	(CFH)	SIZE
WH1	200	1 1/4"
WH2	200	1 1/4"
PH1	407	1 1/2"
PH2	337	1 1/2"
PH3	407	1 1/2"
PH4	407	1 1/2"
PH5	407	1 1/2"
PH6	407	1 1/2"
FPT1	200	1 1/4"
TOTAL	2972	

GENERAL NOTES

1. IT IS THE CONTRACTORS/OWNERS/DEVELOPERS RESPONSIBILITY TO REVIEW ALL NOTES AND DETAILS ON THE PN SHEETS AND INCORPORATE IN THE CONSTRUCTION OF THE STRUCTURE.
2. PRIOR TO BUILDING DEPARTMENT APPROVAL, THESE CONSTRUCTION DOCUMENTS ARE SUBJECT TO CHANGE AND SHALL NOT BE USED FOR CONSTRUCTION. ANY CONSTRUCTION/ BIDS PERFORMED BEFORE PERMIT ISSUANCE IS THE RESPONSIBILITY OF THE CONTRACTOR/BIDDER.

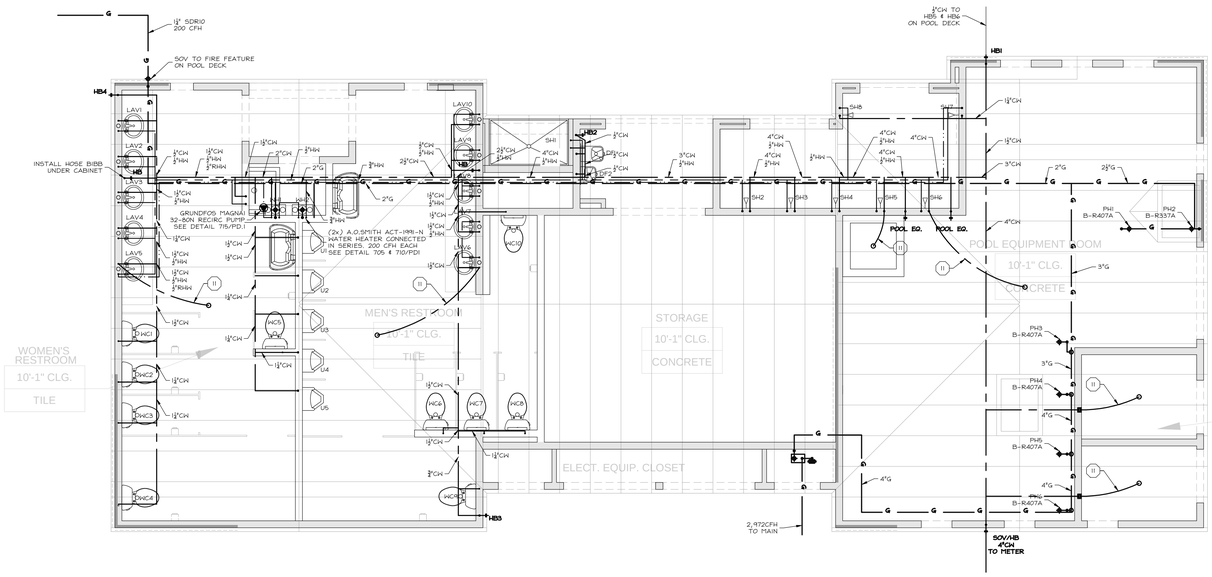
PROJECT SPECIFICATIONS

GENERAL:
SEE SCHEDULES ON PLAN FOR LINE SIZES SERVING SINGLE FIXTURE.

GAS:
GAS SERVICE METER LOCATED AT BACK SIDE STORAGE ROOM OF THE POOL BUILDING.

WATER:
THE POOL BUILDING'S 3" WATER SERVICE LINE IS LOCATED ON THE BACK SIDE OF THE POOL EQUIPMENT ROOM. THE OFFICE BUILDING'S 3/4" SERVICE METER THE BACK SIDE OF THE STORAGE ROOM. BELOW GRADE WATER PIPE TO BE PVC OR CPVC, ABOVE GRADE TO BE PEX TUBING, UNO. SEE PN.1 SECTION 2.2 FOR GENERAL REQUIREMENTS AND ALTERNATES. VERIFY LOCATION OF SERVICE LINE AND METER W/ CIVIL PLANS PRIOR TO CONSTRUCTION.

DRAIN, WASTE, AND VENT:
BELOW GRADE WASTE/VENT PIPE TO BE ABS, ABOVE GRADE TO BE ABS, SEE PN.1 SECTION 2.3 FOR GENERAL REQUIREMENTS AND ALTERNATES. VERIFY LOCATION OF SEWER LATERAL W/ CIVIL PLANS PRIOR TO CONSTRUCTION.



KEYNOTES

(5) THERMOSTATIC MIXING VALVE, BRADLEY-959-2007. SEE DETAIL 110/PD1 THERMOSTATIC MIXING VALVE FOR SINKS,OR EQUIVALENT..INSTALL PER MANUFACTURERS INSTRUCTIONS.

(11) 3" TRAP PRIMER FOR FLOOR DRAIN.

(13) TWO-WAY COTG SAME SIZE AS WASTE LATERAL, WHERE IS IN EXCESS OF 30" USE TERMINAL CLEAN OUTS. SEE DETAIL 212/PD1.

(13A) ONE-WAY COTG SAME SIZE AS WASTE LATERAL, WHERE IS IN EXCESS OF 30" USE TERMINAL CLEAN OUTS. SEE DETAIL 213/PD1.

LEVEL INDICATOR

SYMBOLS LEGEND

- DENOTES KEYNOTE SPECIFICATION. REFER TO KEYNOTE SCHEDULE ON THIS SHEET.
- DENOTES DETAIL REFERENCE.
- REFER TO DENOTED SHEET #.
- WASTE LINE
- WASTE VENT LINE
- CONDENSATE
- GAS LINE
- COLD WATER LINE
- HOT WATER LINE
- RE-CIRCULATION LOOP
- GAS VALVE/STUB OUT, SEE PN.1, SECTION 2.1
- WASHER WATER/DRAIN BOX, SEE PN.1, SECTION 2.2
- WASTE CLEAN OUT, SEE PN.1, SECTION 2.3
- HOSE BIBB, SEE PN.1, SECTION 3.1
- WATER METER/SUB-METER
- TANKLESS / TANKED — WATER HEATER, SEE PN.1, SECTION 3.2
- DENOTES PLUMBING FIXTURE @ CURRENT LEVEL (VERIFY EXACT LOCATION W/ ARCHITECTURAL PLANS).
- DENOTES PLUMBING FIXTURE ABOVE (VERIFY EXACT LOCATION W/ ARCHITECTURAL PLANS).
- ATTIC ACCESS PER ARCHITECT W/ MIN 30" HEADROOM.
- BEAM/HEADER PER STRUCTURAL PLANS
- SHEARWALL PER STRUCTURAL PLANS
- FRAMING MEMBER PER STRUCTURAL PLANS
- RECESSED LIGHT FIXTURE. VERIFY EXACT LOCATION WITH UTILITY PLANS
- DENOTES CONTINUOUS EXTERIOR FOOTING. (AS SPECIFIED ON STRUCTURAL PLANS.)
- DENOTES CONTINUOUS FOOTING WITH STEMWALL (AS SPECIFIED ON STRUCTURAL PLANS.)
- DENOTES CONTINUOUS INTERIOR FOOTING (AS SPECIFIED ON STRUCTURAL PLANS)

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DESIGNER:	VMC
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ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:
REGISTERED PROFESSIONAL ENGINEER ROBERT D. PEDROZO EXPIRES 09/30/24 #M18624 MECHANICAL STATE OF CALIFORNIA

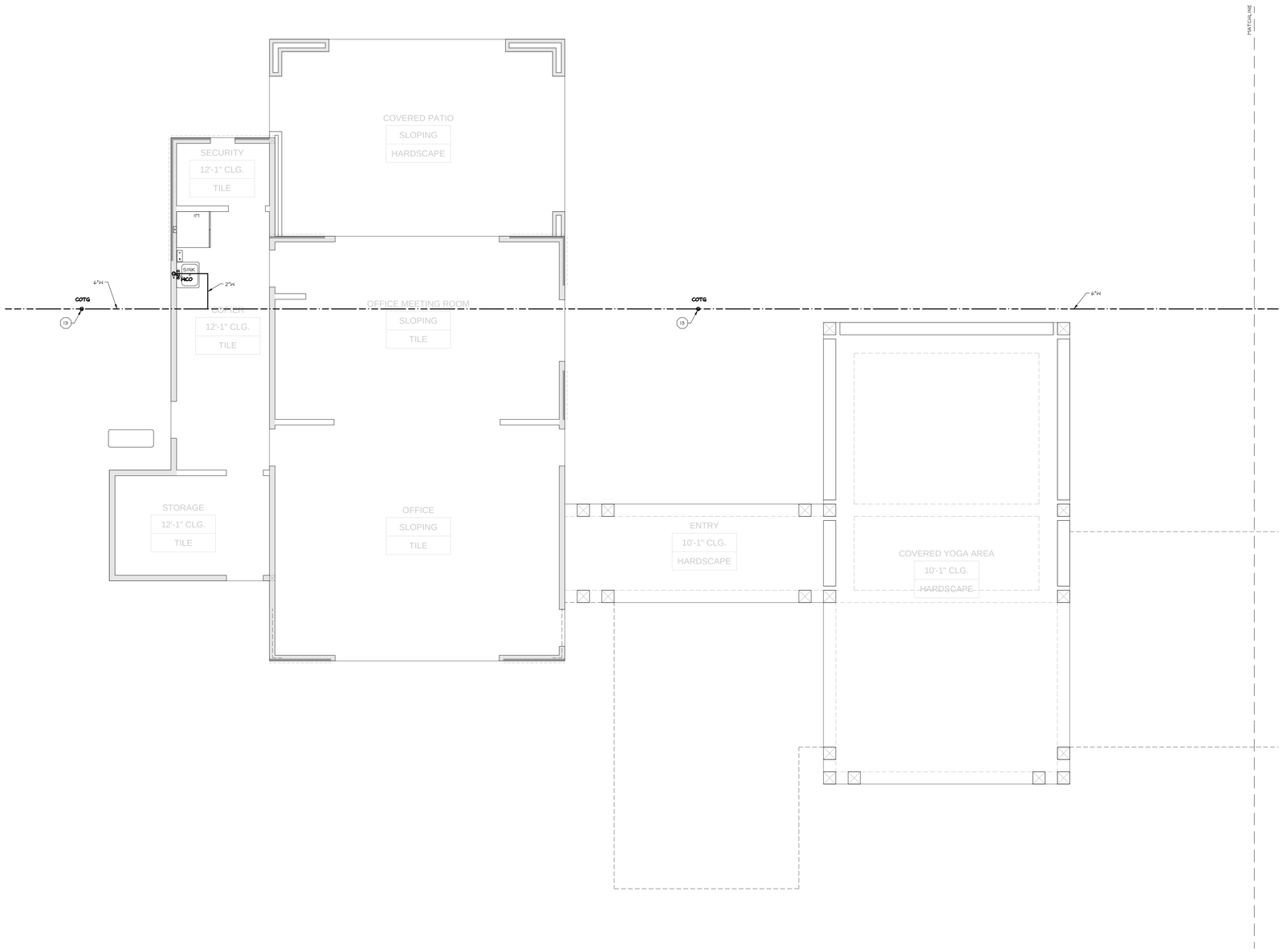
PLAN NUMBER: SEGMENT 2

SHEET TITLE:
LEVEL 1 WATER & GAS LAYOUT

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

SHEET NUMBER:
P1.1A

JOB NUMBER: H522244



CLUB DRAIN-WASTE-VENT					
		LINE SIZE			
FIXTURE	DFU	TRAP	DRAIN	VENT	QTY
KS	2.0	1 1/2"	2"	1 1/2"	1
DW	2.0	1 1/2"	0	0	1
IM		0	0	0	1
TOTAL	4.0				3

GENERAL NOTES

1. IT IS THE CONTRACTORS/OWNERS/DEVELOPERS RESPONSIBILITY TO REVIEW ALL NOTES AND DETAILS ON THE PN SHEETS AND INCORPORATE IN THE CONSTRUCTION OF THE STRUCTURE.
2. PRIOR TO BUILDING DEPARTMENT APPROVAL, THESE CONSTRUCTION DOCUMENTS ARE SUBJECT TO CHANGE AND SHALL NOT BE USED FOR CONSTRUCTION. ANY CONSTRUCTION/ BIDS PERFORMED BEFORE PERMIT ISSUANCE IS THE RESPONSIBILITY OF THE CONTRACTOR/BIDDER.

PROJECT SPECIFICATIONS

GENERAL:
SEE SCHEDULES ON PLAN FOR LINE SIZES SERVING SINGLE FIXTURE.

GAS:
GAS SERVICE METER LOCATED AT BACK SIDE STORAGE ROOM OF THE POOL BUILDING.

WATER:
THE POOL BUILDING'S 3" WATER SERVICE LINE IS LOCATED ON THE BACK SIDE OF THE POOL EQUIPMENT ROOM. THE OFFICE BUILDING'S 3/4" SERVICE METER THE BACK SIDE OF THE STORAGE ROOM. BELOW GRADE WATER PIPE TO BE PVC OR CPVC, ABOVE GRADE TO BE PEX TUBING, UNO. SEE PN.1 SECTION 2.2 FOR GENERAL REQUIREMENTS AND ALTERNATES. VERIFY LOCATION OF SERVICE LINE AND METER W/ CIVIL PLANS PRIOR TO CONSTRUCTION.

DRAIN, WASTE, AND VENT:
BELOW GRADE WASTE/VENT PIPE TO BE ABS, ABOVE GRADE TO BE ABS, SEE PN.1 SECTION 2.3 FOR GENERAL REQUIREMENTS AND ALTERNATES. VERIFY LOCATION OF SEWER LATERAL W/ CIVIL PLANS PRIOR TO CONSTRUCTION.

KEYNOTES

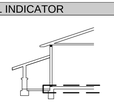
(3) THERMOSTATIC MIXING VALVE. BRADLEY-S9A-2007. SEE DETAIL 10/PD.1 THERMOSTATIC MIXING VALVE FOR SINKS,OR EQUIVALENT..INSTALL PER MANUFACTURERS INSTRUCTIONS.

(11) 3" TRAP PRIMER FOR FLOOR DRAIN.

(13) TWO-WAY COTG SAME SIZE AS WASTE LATERAL, WHERE IS IN EXCESS OF 30" USE TERMINAL CLEAN OUTS. SEE DETAIL 2D/PD.1

(13A) ONE-WAY COTG SAME SIZE AS WASTE LATERAL, WHERE IS IN EXCESS OF 30" USE TERMINAL CLEAN OUTS. SEE DETAIL 2D/PD.1

LEVEL INDICATOR



SYMBOLS LEGEND

- DENOTES KEYNOTE SPECIFICATION. REFER TO KEYNOTE SCHEDULE ON THIS SHEET.
- DENOTES DETAIL REFERENCE.
- REFER TO DENOTED SHEET #.
- WASTE LINE
- WASTE VENT LINE
- CONDENSATE
- GAS LINE
- COLD WATER LINE
- HOT WATER LINE
- RE-CIRCULATION LOOP
- GAS VALVE/STUB OUT, SEE PN.1, SECTION 2.1
- WASHER HATER/DRAIN BOX, SEE PN.1, SECTION 2.2
- WASTE CLEAN OUT, SEE PN.1, SECTION 2.3
- HOSE BIBB, SEE PN.1, SECTION 3.1
- WATER METER/SUB-METER
- WATER HEATER, SEE PN.1, SECTION 3.2 (TANKLESS / TANKED)
- DENOTES PLUMBING FIXTURE @ CURRENT LEVEL (VERIFY EXACT LOCATION W/ ARCHITECTURAL PLANS.).
- DENOTES PLUMBING FIXTURE ABOVE (VERIFY EXACT LOCATION W/ ARCHITECTURAL PLANS.).
- ATTIC ACCESS PER ARCHITECT W/ MIN 30" HEADROOM.
- BEAM/HEADER PER STRUCTURAL PLANS
- SHEARWALL PER STRUCTURAL PLANS
- FRAMING MEMBER PER STRUCTURAL PLANS
- RECESSED LIGHT FIXTURE. VERIFY EXACT LOCATION WITH UTILITY PLANS
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DESIGNER:	VMC
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ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:
REGISTERED PROFESSIONAL ENGINEER
ROBERT D. PEDRO
EXPIRES 09/30/24
PM18824
MECHANICAL
STATE OF CALIFORNIA

PLAN NUMBER:
SEGMENT 1

SHEET TITLE:
FOUNDATION DRAIN, WASTE & VENT LAYOUT

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

SHEET NUMBER:
P1.2

JOB NUMBER: H522244

POOL DRAIN-WASTE-VENT					
		LINE SIZE			
FIXTURE	DFU	TRAP	DRAIN	VENT	QTY
WC1	4.0	3"	4"	2"	10
U	2.0	1 1/2"	2"	1 1/2"	5
LAV	1.0	1 1/2"	1 1/2"	1 1/2"	10
SH	2.0	2"	2"	1 1/2"	8
MOP	3.0	3"	3"	2"	1
DF	1.0	1 1/2"	1 1/2"	1 1/2"	2
TOTAL	81.0				36

GENERAL NOTES

1. IT IS THE CONTRACTORS/OWNERS/DEVELOPERS RESPONSIBILITY TO REVIEW ALL NOTES AND DETAILS ON THE PN SHEETS AND INCORPORATE IN THE CONSTRUCTION OF THE STRUCTURE.
2. PRIOR TO BUILDING DEPARTMENT APPROVAL, THESE CONSTRUCTION DOCUMENTS ARE SUBJECT TO CHANGE AND SHALL NOT BE USED FOR CONSTRUCTION. ANY CONSTRUCTION/ BIDS PERFORMED BEFORE PERMIT ISSUANCE IS THE RESPONSIBILITY OF THE CONTRACTOR/BIDDER.

PROJECT SPECIFICATIONS

GENERAL:
SEE SCHEDULES ON PLAN FOR LINE SIZES SERVING SINGLE FIXTURE.

GAS:
GAS SERVICE METER LOCATED AT BACK SIDE STORAGE ROOM OF THE POOL BUILDING.

WATER:
THE POOL BUILDING'S 3" WATER SERVICE LINE IS LOCATED ON THE BACK SIDE OF THE POOL EQUIPMENT ROOM, THE OFFICE BUILDING'S 3/4" SERVICE METER THE BACK SIDE OF THE STORAGE ROOM. BELOW GRADE WATER PIPE TO BE PVC OR CPVC, ABOVE GRADE TO BE PEX TUBING, UNO. SEE PN.1 SECTION 2.2 FOR GENERAL REQUIREMENTS AND ALTERNATES. VERIFY LOCATION OF SERVICE LINE AND METER W/ CIVIL PLANS PRIOR TO CONSTRUCTION.

DRAIN, WASTE, AND VENT:
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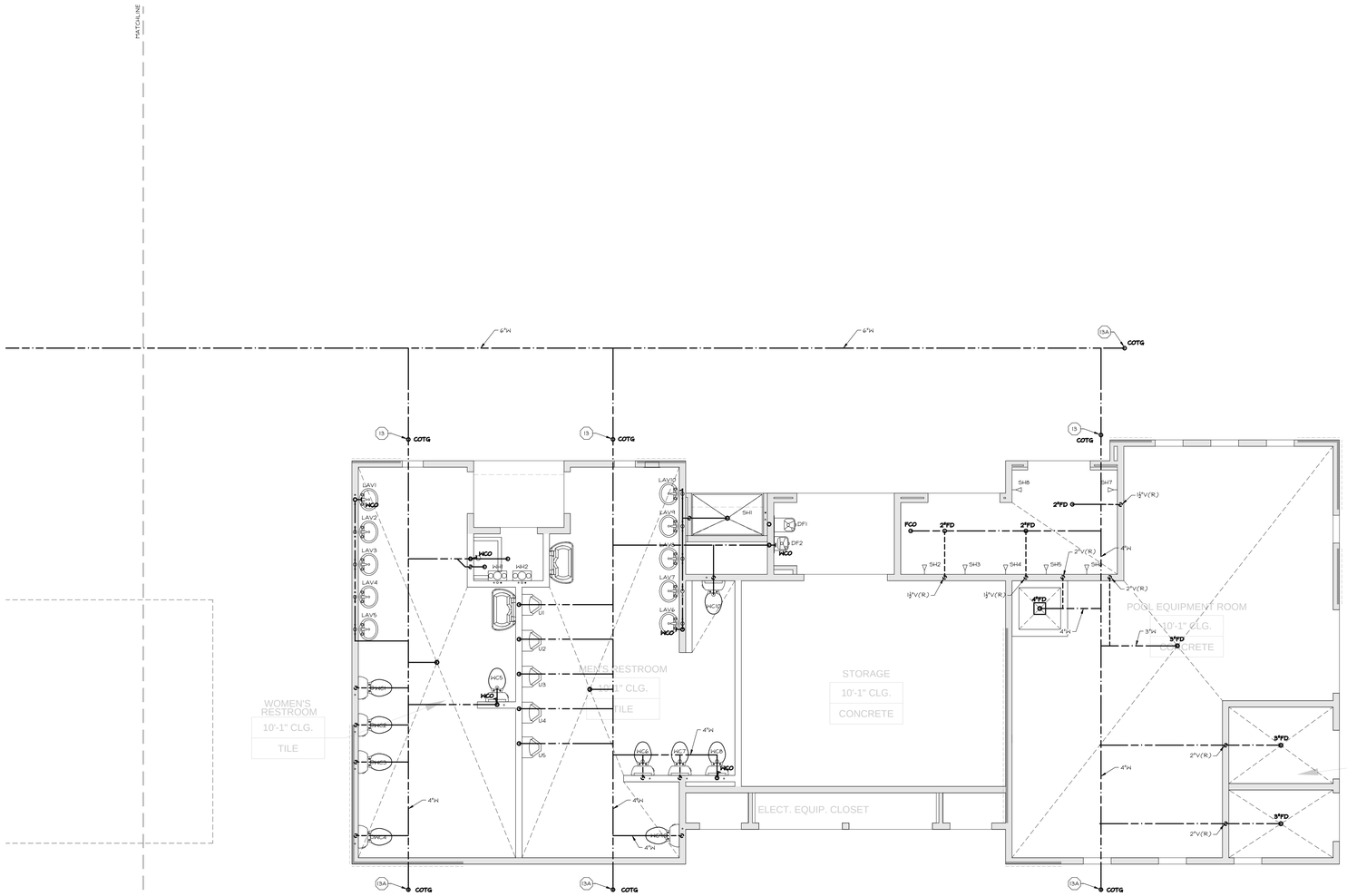

KEYNOTES

3. THERMOSTATIC MIXING VALVE, BRADLEY-959-2007. SEE DETAIL 10/PD.1 THERMOSTATIC MIXING VALVE FOR SINKS,OR EQUIVALENT..INSTALL PER MANUFACTURERS INSTRUCTIONS.
11. 3" TRAP PRIMER FOR FLOOR DRAIN.
13. TWO-WAY COTG SAME SIZE AS WASTE LATERAL, WHERE IS IN EXCESS OF 30" USE TERMINAL CLEAN OUTS. SEE DETAIL 2D/PD.1
13A. ONE-WAY COTG SAME SIZE AS WASTE LATERAL, WHERE IS IN EXCESS OF 30" USE TERMINAL CLEAN OUTS. SEE DETAIL 2D/PD.1

LEVEL INDICATOR

LEVEL 0

SYMBOLS LEGEND

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- REFER TO DENOTED SHEET #.
- WASTE LINE
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- COLD WATER LINE
- HOT WATER LINE
- RE-CIRCULATION LOOP
- GAS VALVE/STUB OUT, SEE PN.1, SECTION 2.1
- WASHER HATER/DRAIN BOX, SEE PN.1, SECTION 2.2
- WASTE CLEAN OUT, SEE PN.1, SECTION 2.3
- HOSE BIBB, SEE PN.1, SECTION 3.1
- WATER METER/SUB-METER
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- DENOTES PLUMBING FIXTURE ABOVE (VERIFY EXACT LOCATION W/ ARCHITECTURAL PLANS.).
- ATTIC ACCESS PER ARCHITECT W/ MIN 30" HEADROOM.
- BEAM/HEADER PER STRUCTURAL PLANS
- SHEARWALL PER STRUCTURAL PLANS
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ROBERT D. PEDRO
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PM18824
MECHANICAL
STATE OF CALIFORNIA

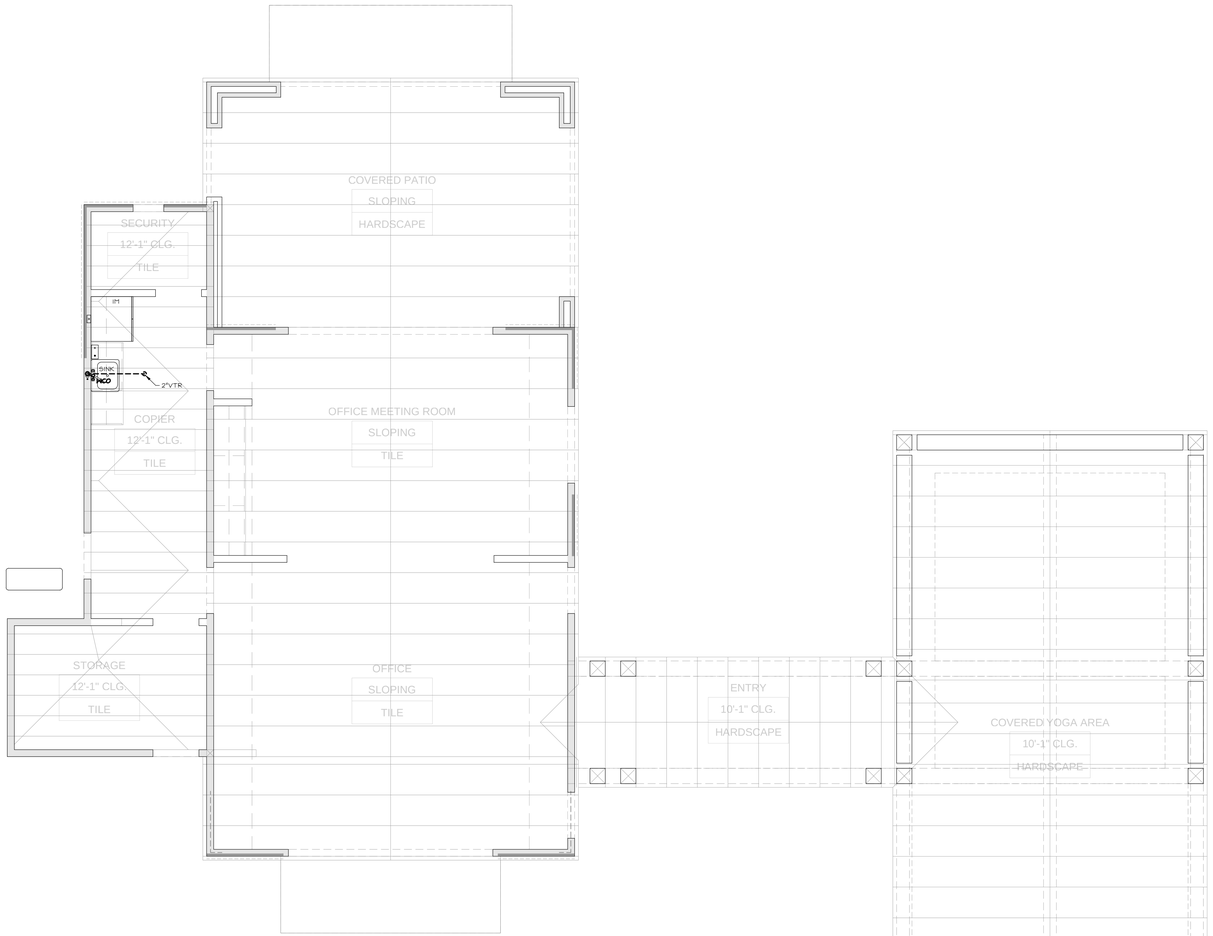
PLAN NUMBER:
SEGMENT 2

SHEET TITLE:
FOUNDATION DRAIN, WASTE & VENT LAYOUT

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

SHEET NUMBER:
P1.2A

JOB NUMBER: H522244



CLUB DRAIN-WASTE-VENT					
		LINE SIZE			
FIXTURE	DFU	TRAP	DRAIN	VENT	QTY
KS	2.0	1 1/2"	2"	1 1/2"	1
DW	2.0	1 1/2"	0	0	1
IM		0	0	0	1
TOTAL	4.0				3

GENERAL NOTES

1. IT IS THE CONTRACTORS/OWNERS/DEVELOPERS RESPONSIBILITY TO REVIEW ALL NOTES AND DETAILS ON THE PN SHEETS AND INCORPORATE IN THE CONSTRUCTION OF THE STRUCTURE.
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PROJECT SPECIFICATIONS

GENERAL:
SEE SCHEDULES ON PLAN FOR LINE SIZES SERVING SINGLE FIXTURE.

GAS:
GAS SERVICE METER LOCATED AT BACK SIDE STORAGE ROOM OF THE POOL BUILDING.

WATER:
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DRAIN, WASTE, AND VENT:
BELOW GRADE WASTE/VENT PIPE TO BE ABS, ABOVE GRADE TO BE ABS, SEE PN.1 SECTION 2.3 FOR GENERAL REQUIREMENTS AND ALTERNATES. VERIFY LOCATION OF SEWER LATERAL W/ CIVIL PLANS PRIOR TO CONSTRUCTION.

KEYNOTES

3. THERMOSTATIC MIXING VALVE. BRADLEY-S9A-2007. SEE DETAIL 10/PD.1 THERMOSTATIC MIXING VALVE FOR SINKS,OR EQUIVALENT..INSTALL PER MANUFACTURERS INSTRUCTIONS.
11. 3" TRAP PRIMER FOR FLOOR DRAIN.
13. TWO-WAY CO/TG SAME SIZE AS WASTE LATERAL, WHERE IS IN EXCESS OF 30' USE TERMINAL CLEAN OUTS. SEE DETAIL 22/PD.1
13A. ONE-WAY CO/TG SAME SIZE AS WASTE LATERAL, WHERE IS IN EXCESS OF 30' USE TERMINAL CLEAN OUTS. SEE DETAIL 23/PD.1

LEVEL INDICATOR

LEVEL 1

SYMBOLS LEGEND

- DENOTES KEYNOTE SPECIFICATION. REFER TO KEYNOTE SCHEDULE ON THIS SHEET.
- DENOTES DETAIL REFERENCE.
- REFER TO DENOTED SHEET #.
- WASTE LINE
- WASTE VENT LINE
- CONDENSATE
- GAS LINE
- COLD WATER LINE
- HOT WATER LINE
- RE-CIRCULATION LOOP
- GAS VALVE/STUB OUT, SEE PN.1, SECTION 2.1
- WASHER HATER/DRAIN BOX, SEE PN.1, SECTION 2.2
- WASTE CLEAN OUT, SEE PN.1, SECTION 2.3
- HOSE BIBB, SEE PN.1, SECTION 3.1
- WATER METER/SUB-METER
- WATER HEATER, SEE PN.1, SECTION 3.2 (TANKLESS / TANKED)
- DENOTES PLUMBING FIXTURE @ CURRENT LEVEL (VERIFY EXACT LOCATION W/ ARCHITECTURAL PLANS.).
- DENOTES PLUMBING FIXTURE ABOVE (VERIFY EXACT LOCATION W/ ARCHITECTURAL PLANS.).
- ATTIC ACCESS PER ARCHITECT W/ MIN 30" HEADROOM.
- BEAM/HEADER PER STRUCTURAL PLANS
- SHEARWALL PER STRUCTURAL PLANS
- FRAMING MEMBER PER STRUCTURAL PLANS
- RECESSED LIGHT FIXTURE. VERIFY EXACT LOCATION WITH UTILITY PLANS
- DENOTES CONTINUOUS EXTERIOR FOOTING. (AS SPECIFIED ON STRUCTURAL PLANS.)
- DENOTES CONTINUOUS FOOTING WITH STEMWALL (AS SPECIFIED ON STRUCTURAL PLANS.)
- DENOTES CONTINUOUS INTERIOR FOOTING (AS SPECIFIED ON STRUCTURAL PLANS.)

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PROJECT:
COTA VERA SWIM CLUB
CHULA VISTA, CA

CLIENT:
HOMEFED CORPORATION
1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER:	MW
DESIGNER:	VMC
DRAWN BY:	QES
CHECKED BY:	MW
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:
REGISTERED PROFESSIONAL ENGINEER
ROBERT D. PEDRO
EXPIRES 09/30/24
#M18624
MECHANICAL
STATE OF CALIFORNIA

PLAN NUMBER:
SEGMENT 1

SHEET TITLE:
LEVEL 1 DRAIN, WASTE & VENT LAYOUT

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

SHEET NUMBER:
P1.3

JOB NUMBER: H522244

POOL DRAIN-WASTE-VENT					
		LINE SIZE			
FIXTURE	DFU	TRAP	DRAIN	VENT	QTY
WC1	4.0	3"	4"	2"	10
U	2.0	1 1/2"	2"	1 1/2"	5
LAV	1.0	1 1/2"	1 1/2"	1 1/2"	10
SH	2.0	2"	2"	1 1/2"	8
MOP	3.0	3"	3"	2"	1
DF	1.0	1 1/2"	1 1/2"	1 1/2"	2
TOTAL	81.0				36

GENERAL NOTES

1. IT IS THE CONTRACTORS/OWNERS/DEVELOPERS RESPONSIBILITY TO REVIEW ALL NOTES AND DETAILS ON THE PN SHEETS AND INCORPORATE IN THE CONSTRUCTION OF THE STRUCTURE.
2. PRIOR TO BUILDING DEPARTMENT APPROVAL, THESE CONSTRUCTION DOCUMENTS ARE SUBJECT TO CHANGE AND SHALL NOT BE USED FOR CONSTRUCTION. ANY CONSTRUCTION/ BIDS PERFORMED BEFORE PERMIT ISSUANCE IS THE RESPONSIBILITY OF THE CONTRACTOR/BIDDER.

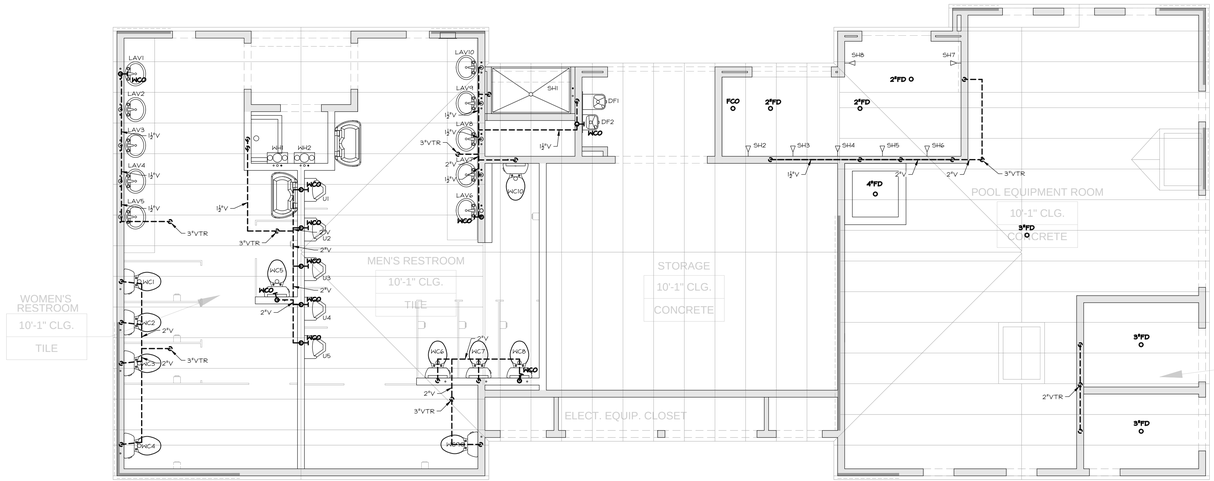
PROJECT SPECIFICATIONS

GENERAL:
SEE SCHEDULES ON PLAN FOR LINE SIZES SERVING SINGLE FIXTURE.

GAS:
GAS SERVICE METER LOCATED AT BACK SIDE STORAGE ROOM OF THE POOL BUILDING.

WATER:
THE POOL BUILDING'S 3" WATER SERVICE LINE IS LOCATED ON THE BACK SIDE OF THE POOL EQUIPMENT ROOM. THE OFFICE BUILDING'S 3/4" SERVICE METER THE BACK SIDE OF THE STORAGE ROOM. BELOW GRADE WATER PIPE TO BE PVC OR CPVC, ABOVE GRADE TO BE PEX TUBING, UNO. SEE PN.1 SECTION 2.2 FOR GENERAL REQUIREMENTS AND ALTERNATES. VERIFY LOCATION OF SERVICE LINE AND METER W/ CIVIL PLANS PRIOR TO CONSTRUCTION.

DRAIN, WASTE, AND VENT:
BELOW GRADE WASTE/VENT PIPE TO BE ABS, ABOVE GRADE TO BE ABS, SEE PN.1 SECTION 2.3 FOR GENERAL REQUIREMENTS AND ALTERNATES. VERIFY LOCATION OF SEWER LATERAL W/ CIVIL PLANS PRIOR TO CONSTRUCTION.



KEYNOTES

3 THERMOSTATIC MIXING VALVE, BRADLEY-959-2007. SEE DETAIL 10/PD.1 THERMOSTATIC MIXING VALVE FOR SINKS,OR EQUIVALENT..INSTALL PER MANUFACTURERS INSTRUCTIONS.

11 3" TRAP PRIMER FOR FLOOR DRAIN.

13 TWO-WAY COTG SAME SIZE AS WASTE LATERAL, WHERE IS IN EXCESS OF 30" USE TERMINAL CLEAN OUTS. SEE DETAIL 2D/PD.1

13A ONE-WAY COTG SAME SIZE AS WASTE LATERAL, WHERE IS IN EXCESS OF 30" USE TERMINAL CLEAN OUTS. SEE DETAIL 2D/PD.1

LEVEL INDICATOR

LEVEL 1

SYMBOLS LEGEND

- DENOTES KEYNOTE SPECIFICATION. REFER TO KEYNOTE SCHEDULE ON THIS SHEET.
- DENOTES DETAIL REFERENCE.
- REFER TO DENOTED SHEET #.
- WASTE LINE
- WASTE VENT LINE
- CONDENSATE
- GAS LINE
- COLD WATER LINE
- HOT WATER LINE
- RE-CIRCULATION LOOP
- GAS VALVE/STUB OUT, SEE PN.1, SECTION 2.1
- WASHER HATER/DRAIN BOX, SEE PN.1, SECTION 2.2
- WASTE CLEAN OUT, SEE PN.1, SECTION 2.3
- HOSE BIBB, SEE PN.1, SECTION 3.1
- M1 WATER METER/SUB-METER
- TANKLESS / TANKED WATER HEATER, SEE PN.1, SECTION 3.2
- DENOTES PLUMBING FIXTURE @ CURRENT LEVEL (VERIFY EXACT LOCATION W/ ARCHITECTURAL PLANS.).
- DENOTES PLUMBING FIXTURE ABOVE (VERIFY EXACT LOCATION W/ ARCHITECTURAL PLANS.).
- ATTIC ACCESS PER ARCHITECT W/ MIN 30" HEADROOM.
- BEAM/HEADER PER STRUCTURAL PLANS
- SHEARWALL PER STRUCTURAL PLANS
- FRAMING MEMBER PER STRUCTURAL PLANS
- RECESSED LIGHT FIXTURE. VERIFY EXACT LOCATION WITH UTILITY PLANS
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- DENOTES CONTINUOUS INTERIOR FOOTING (AS SPECIFIED ON STRUCTURAL PLANS.)

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PROJECT:
COTA VERA SWIM CLUB
CHULA VISTA, CA

CLIENT:
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CARLSBAD, CA
92008

PROJECT MANAGER:	MW
DESIGNER:	VMC
DRAWN BY:	QES
CHECKED BY:	MW
ISSUE DATE:	01-13-2023
REVISIONS:	

STAMP:
REGISTERED PROFESSIONAL ENGINEER
ROBERT D. PEDRO
EXPIRES 09/30/24
#M16824
MECHANICAL
STATE OF CALIFORNIA

PLAN NUMBER:
SEGMENT 2

SHEET TITLE:
LEVEL 1 DRAIN, WASTE & VENT LAYOUT

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

SHEET NUMBER:
P1.3A

JOB NUMBER: H522244

A.O. Smith | Commercial Gas Tankless Water Heater

TANKLESS CONDENSING HIGH EFFICIENCY COMMERCIAL GAS

Ultra-Low NOx gas tankless water heaters with condensing technology featuring up to 0.95 Uniform Energy Factor (UEF) which lowers operating costs and is environmentally friendly.

FEATURES:

ULTRA-LOW NOX CONDENSING TECHNOLOGY PROVIDES UP TO 0.95 UNIFORM ENERGY FACTOR

DURABLE HEAT EXCHANGER

- Primary Heat Exchanger is constructed of Commercial-Grade Copper that is more resilient to erosion and is 2'X better at heat transfer than stainless steel for maximizing outgoing water temperature quicker!
- Secondary Heat Exchanger is made of Type 316L Stainless Steel to protect against corrosion

CONTINUOUS MAXIMUM FLOW RATES UP TO 10.0 GPM

ENERGY STAR® QUALIFIED

AVAILABLE IN NATURAL GAS OR PROPANE (LP)

INDOOR MODEL - INCLUDES INTEGRAL TEMPERATURE CONTROLLER AND ADVANCED DIAGNOSTICS TO SIMPLIFY TROUBLESHOOTING

OUTDOOR MODEL - INCLUDES A WALL MOUNT TEMPERATURE REMOTE CONTROLLER AND ADVANCED DIAGNOSTICS TO SIMPLIFY TROUBLESHOOTING

FACTORY-INSTALLED POWER CORD INCLUDED FOR INDOOR MODELS

EASY-LINK UP TO 4 UNITS (CT-199 MODELS ONLY)

- With no additional parts or accessories needed

MULTI-LINK UP TO 20 UNITS

COMMON VENT UP TO 8 UNITS

COMPLIES WITH LEAD FREE STANDARDS

- Safety Features:
- Air-Fuel Ratio (AFR) Sensor
- Exhaust & Water Temperature Safety Control
- Overheat Cut-Off Fuse

INTERNAL FREEZE PROTECTION SYSTEM

POWER DIRECT VENT DESIGN

- Exhaust, 3" PVC Venting up to 70 feet or 4" PVC Venting up to 150 feet
- Provides flexible venting with PVC, CPVC, or ABS Pipe for Intake and Exhaust (solid core only). Canadian Installations Require ULC/S636 Listed PVC or CPVC Pipe for Venting.
- Category III or IV venting can be used

ACCESSORIES

- Pipe Cover
- Neutralizer Kit
- Isolation Valve Kits
- Concentric Termination

WARRANTY

- 6-year limited warranty on heat exchanger in commercial applications
- 5-year limited warranty on all parts

INDOOR MODEL CT-199

Rheem SCA199 199,700 BTU/H NG, LP

ANSI Z21.10.3 CSA 4.3

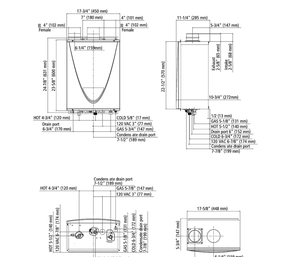
700 WATER HEATER SPECS

700 | WATER HEATER SPECIFICATIONS

A.O. Smith | Commercial Gas Tankless Water Heater

Model Number	Type	Gas Consumption Input		Inlet Gas Pressure		UEF	Maximum GPM*	Hot/Cold Connections	Gas Connection	Dimensions in Inches			Approx Shipping Weight (lbs)
		Minimum BTU/H	Maximum BTU/H	Minimum in. W.C.	Maximum in. W.C.					Height	Width	Depth	
Indoor Models													
ACT-199-N	Natural	15,000	199,000	4.0	10.5	0.93	10	3/4" NPT	3/4" NPT	23-5/8	17-3/4	11-1/4	71

All dimensions are in inches.
13-150 psi Water Pressure. 40 psi or above is recommended for maximum flow.
*Current numbers based on factory testing. 5.4 GPM required for continuous flow after initial ignition.
Specifications subject to change without notice or liability.
Outdoor models are certified from sea level to 6,000 ft. elevation.
The manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligation.



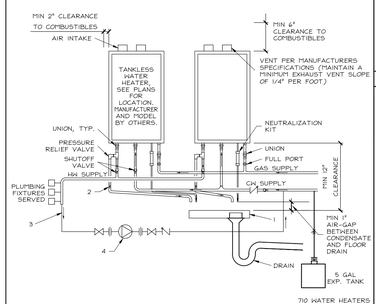
700 WATER HEATER SPECS

700 | WATER HEATER SPECIFICATIONS

NOTE: INSTALL WATER HEATER PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SEE PLANS FOR LINE SIZES.

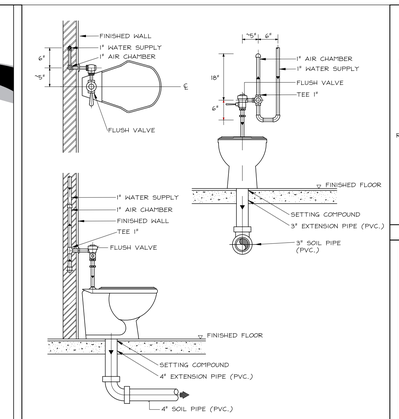
KEYNOTES:

1. OPTIONAL DRAIN TO DRAIN PAN, DRAIN, INDIRECT RECEPTOR OR AS APPROVED BY LOCAL ADMIN. AUTHORITY. INSTALL IN-LINE ACID NEUTRALIZER KIT OPTION.
2. TEMPERATURE & PRESSURE DRAIN TO OUTSIDE PER CPC §08.5
3. INSTALL ¾" HW RETURN LINE FROM MOST REMOTE HOT WATER SUPPLY BACK TO WATER HEATER. CONNECT PER MANUFACTURER'S INSTALLATION AND OPERATING INSTRUCTIONS.
4. HW-RECIRC PUMP: 115V, 1PH, 1/40 HP MOTOR WITH 7-DAY DIGITAL TIMER, LINE CHORD, AND AQUASTAT. MANUFACTURER AND MODEL BY OTHERS.



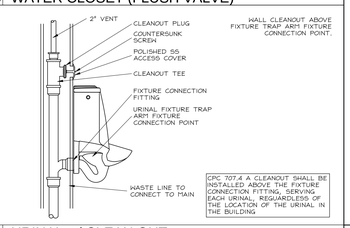
710 WATER HEATERS

710 | TANKLESS WATER HEATER WITH RECIRC



NOTE
1. ALL EXPOSED PIPES AND FITTINGS SHALL BE CHROME-PLATED.
2. CHROME-PLATED ESCUTCHEON SHALL BE INSTALLED AT EVERY PIPES THAT PASS THROUGH WALL.

605 | WATER CLOSET (FLUSH VALVE)



CPC 707.4 A CLEANOUT SHALL BE INSTALLED ABOVE THE FIXTURE CONNECTION FITTING, SERVING EACH URINAL, REGUARDLESS OF THE LOCATION OF THE URINAL IN THE BUILDING

610 | URINAL w/ CLEAN OUT

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CHRONOMITE Electric Tankless Water Heaters — ELECTRIC TANKLESS WATER HEATER - LARGE CAPACITY

R SERIES Mighty-mite® - LOW ACTIVATION

IDEAL APPLICATION: *kitchen sink with dish washer, multiple lavatories, showers, mop sink, scrub sink*

PRODUCT FEATURES

- *Uses a digital microprocessor for temperature control Ultra quick response times for temperature variations - Low activation flow rate means hot water use is the most energy efficient means of heating water*
- *Unlimited hot water*
- *Ideal for sensor /hands-free faucets with the 104°F (40°C) factory preset setting; no mixing valve needed*
- *Saves water and energy - 99% energy efficient*
- *Low lead content*
- *Rugged steel housing*
- *Space saving compact size; 9-7/8" (H) x 10-5/8" x 4-1/4" (251 x 270 x 108mm)*
- *Complies with plumbing codes including ADA, UL, IAPMO, UPC and CSA.*
- *Environmentally friendly*
- *Made in the U.S.A.*
- *User adjustable temperature 70°F-125°F (21°C-52°C) (Standard)*
- *Optional factory preset temperature available, select single temperature between 80°F-100°F (27°C-38°C)*
- *3/4" NPT Male connections*

Chronomite R Series Mighty-Mite®- Low Activation models are manufactured to provide instant point of use hot water with a flow rate from 0.35 GPM to 5.0 GPM (1.3 LPM to 18.9 LPM). There is no pressure and temperature relief valve needed (unless required by code), saving time and money on installation.

Housing is fabricated from rugged steel.
Element assembly is fabricated from Celcon/Ryton plastic.
Heating coils are nichrome.

GUIDE SPECIFICATION

R SERIES MIGHTY-MITE® - LOW ACTIVATION

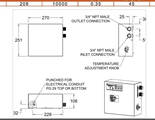
Dimensions:	9-7/8" (H) x 10-5/8" x 4-1/4"
Weight:	10 lbs.
Materials:	Rugged steel housing Celcon plastic element assembly with nichrome coils
Housing Color:	White
Minimum Operating Flow Rate:	0.35 GPM
Minimum Operating Pressure:	25 PSI
Maximum Operating Pressure	80 PSI
Maximum Pressure	150 PSI
Maximum Water Temperature:	160°F
Maximum Ambient Operating Temperature:	140°F
Listing:	UL, IAPMO, UPC, ETL

GENERAL NOTES:

- *The microprocessor adjusts the heater's power for variations in flow rate, inlet water temperature and pressure to assure the selected factory pre set water temperature.*
- *240V models when operated at 220V will have approximately a 15% wattage decrease.*

For the model being selected, please place the corresponding amps and volts values in the Guide Specifications to the right.

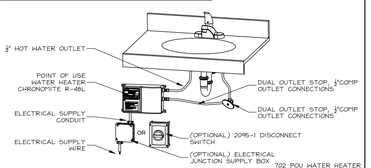
MODEL	AMPS	VOLTS	WATTS	TEMPERATURE RISE	TEMP RISE @ 2 GPM	TEMP RISE @ 3 GPM	TEMP RISE @ 4 GPM
R-MM-208	48	208	10000	9.6	48	32	24



700 WATER HEATER SPECS

700 | WATER HEATER SPECIFICATIONS

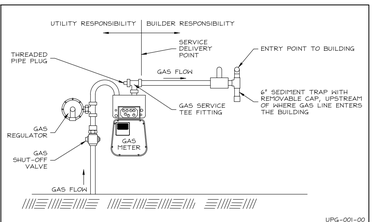
NOTES:
1. HEATER TO BE INSTALLED BELOW THE LEVEL OF ALL HOT WATER OUTLETS SERVICED BY THE HEATER
2. DIAGRAM SHOWN WITH ¾" MALE NPT HEATER CONNECTIONS.



702 POU WATER HEATER

702 | POINT OF USE WATER HEATER

UTILITY RESPONSIBILITY | BUILDER RESPONSIBILITY



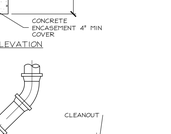
UPG-001-00

1 | GAS SERVICE SEDIMENT TRAP & SEISMIC SOV

Bradley

S59-3007
Thermostatic Mixing Valve

- Notable Max-If-Not Thermostat
- Slow Checkstops at Inlets
- Adjustable Set Point within Temperature Range
- Positive Shutoff of Hot Supply When Cold Supply is Lost
- Easy Installation and Serviceability
- Fill and Lime Resistant
- Factory Assembled and Tested
- Universal Mounting Capability



Valve Specifications

Maximum Operating Pressure
125 PSI (860 kPA)

Maximum Inlet Temperature
200° F (93° C)

Temperature Range	Set Point
Std.	90° F (32° C) to 115° F (46° C)	105° F (41° C)

Flow Capacities – GPM (L/Min)

Model	Min Flow	Pressure Drop – PSI (Bar)					
		5 (0.3)	10 (0.7)	15 (1.0)	20 (1.4)	25 (1.7)	30 (2.1)	40 (2.8)	60 (4.1)
S59-3007	0.5 (1.9)	1.0 (3.8)	1.5 (5.7)	1.8 (6.8)	2.0 (7.5)	2.2 (8.3)	2.5 (9.5)	2.8 (10.6)

Code Compliance and Certifications
ASSE 1017 & CSA certified

Optional Selections

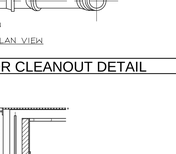
Finish
☐ C Chrome Plated

Thermometer
☐ T Dial Thermometer

Escutcheons
☐ SS Surface Mount Stainless Steel
☐ RS Recessed Stainless Steel
☐ SE Surface Mount White Enamel
☐ RE Recessed White Enamel
☐ W Pear-glass Window in Door

☑ *Standard product selections contained within this document are third party certified to ASSE 1017 performance requirements. Selection of any product configured with custom options will be CEMRI (MIT with NSF-MIRO 372 meeting the Lead-Free content requirement.*

Dimensions (mm)

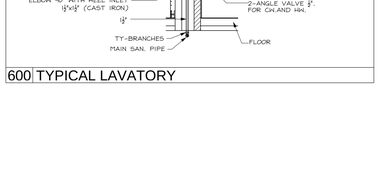


Engineer's Approval _____ 8/19/2014

Page 7 of 7
Bradley's information is subject to change without notice.
Bradley_TMV_PrintWCrop_S59-3007

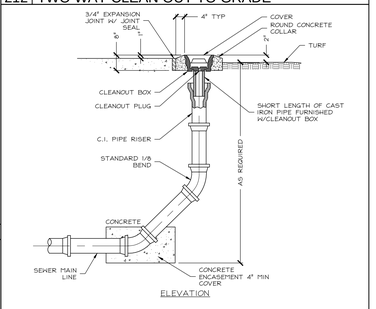
UPH-110 THERMOSTATIC MIXING VALVE

110 | THERMOSTATIC MIXING VALVE



UPHV-212-00

212 | TWO WAY CLEAN OUT TO GRADE

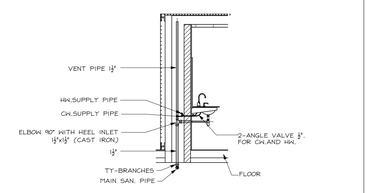


ELEVATION

PLAN VIEW

213

213 | TYPICAL EXTERIOR CLEANOUT DETAIL



600 | TYPICAL LAVATORY

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PROJECT:
COTA VERA SWIM CLUB
CHULA VISTA, CA

CLIENT:
HOMEFED CORPORATION
1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER:	MW
DESIGNER:	VMC
DRAWN BY:	QES
CHECKED BY:	MW
ISSUE DATE:	01-13-2023

REVISIONS:

STAMP:

REGISTERED PROFESSIONAL ENGINEER — ROBERT D. FERRARO — EXPIRES 09/30/24 — #M18824 — MECHANICAL — STATE OF CALIFORNIA

PLAN NUMBER:

SHEET TITLE:
PLUMBING DETAILS

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

SHEET NUMBER:
PD.1

JOB NUMBER: H522244

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	**(Page 7 of 15)**

C5. SOURCE ENERGY RESULTS FOR NON-REGULATED COMPONENTS[1]

Non-Regulated Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE)[1]
Receptacle	7.69	7.69	---
Process	---	---	---
Other Ltg	---	---	---
Process Motors	---	---	---
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	**26.99**	**23.14**	**3.85 (14.3%)**

[1] Notes: This table is not used for Energy Code Compliance.

C6. 'ABOVE CODE' QUALIFICATIONS

☐ This project is pursuing CalGreen Tier 1 ☐ This project is pursuing CalGreen Tier 2

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	**(Page 8 of 15)**

C7. ENERGY USE SUMMARY

Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	0.6	0.8	-0.2	---	---	---
Space Cooling	1.2	2.1	-0.9	---	---	---
Indoor Fans	5	2.6	2.4	---	---	---
Heat Rejection	---	---	---	---	---	---
Pumps & Misc.	---	---	---	---	---	---
Domestic Hot Water	0.5	0.5	0	---	---	---
Indoor Lighting	1.6	1.6	0	---	---	---
Flexibility	---	---	---	---	---	---
EFFICIENCY TOTAL	**8.9**	**7.6**	**1.3**	**0**	**0**	**0**
Photovoltaics	---	---	---	---	---	---
Batteries	---	---	---	---	---	---
ENERGY USE SUBTOTAL	**8.9**	**7.6**	**1.3**	**0**	**0**	**0**
Receptacle	5	5	0	---	---	---
Process	---	---	---	---	---	---
Other Ltg	---	---	---	---	---	---
Process Motors	---	---	---	---	---	---
ENERGY USE TOTAL	**13.9**	**12.6**	**1.3**	**0**	**0**	**0**

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C8. ENERGY USE INTENSITY (EUI)

	Standard Design (kBtu/ft² / yr)	Proposed Design (kBtu/ft² / yr)	Margin (kBtu/ft² / yr)	Margin Percentage
GROSS EUI[1]	40.74	36.93	3.81	9.35
NET EUI[1]	40.74	36.93	3.81	9.35

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

D1. EXCEPTIONAL CONDITIONS

- PrescriptiveDayLightCtrl
- NoServiceWaterHeating

G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

1	2	3	4
Opaque Surfaces & Orientation	**Total Gross Surface Area (ft²)**	**Total Fenestration Area (ft²)**	**Window to Wall Ratio (%)**
North-Facing[1]	438	158	36.07
East-Facing[2]	510	15	2.94
South-Facing[3]	444	122	27.48
West-Facing[4]	510	74	14.51
Total	**1902**	**369**	**19.4**
Roof	1164	0	0

Notes
[1]North-Facing is oriented to within 45 degrees of true north, including 45 00'00" east of north (NE), but excluding 45 00'00" west of north (NW),
[2]East-Facing is oriented to within 45 degrees of true east, including 45 00'00" south of east (SE), but excluding 45 00'00" north of east (NE),
[3]South-Facing is oriented to within 45 degrees of true south, including 45 00'00" west of south (SW), but excluding 45 00'00" east of south (SE),
[4]West-Facing is oriented to within 45 degrees of true west, including 45 00'00" north of west (NW), but excluding 45 00'00" south of west (SW),

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C2. TDV ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft² - yr)

COMPLIES[2]

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	17.8	22.42	-4.62
Space Cooling	32.83	51.91	-19.08
Indoor Fans	121.52	63.12	58.4
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	11.84	11.84	0
Indoor Lighting	34.22	34.22	0
Flexibility	---	---	---
EFFICIENCY COMPLIANCE TOTAL	**218.21**	**183.51**	**34.7 (15.9%)**
Photovoltaics	---	---	---
Batteries	---	---	---
TOTAL COMPLIANCE	**218.21**	**183.51**	**34.7 (15.9%)**

[1] Notes: This number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.

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C3. TDV ENERGY RESULTS FOR NON-REGULATED COMPONENTS[1]

Non-Regulated Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Receptacle	105.34	105.34	---
Process	---	---	---
Other Ltg	---	---	---
Process Motors	---	---	---
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	**323.55**	**288.85**	**34.7 (10.7%)**

[1] Notes: This table is not used for Energy Code Compliance.

C4. SOURCE ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual SOURCE Energy Use, kBtu/ft² /yr)

COMPLIES[2]

Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE)[1]
Space Heating	2.56	3.25	-0.69
Space Cooling	1.56	2.56	-1
Indoor Fans	11.43	5.89	5.54
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	1.11	1.11	0
Indoor Lighting	2.64	2.64	0
Flexibility	---	---	---
EFFICIENCY COMPLIANCE TOTAL	**19.3**	**15.45**	**3.85 (19.9%)**
Photovoltaics	---	---	---
Batteries	---	---	---
TOTAL COMPLIANCE	**19.3**	**15.45**	**3.85 (19.9%)**

[1] Notes: This number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
Nonresidential Performance Compliance Method	**(Page 1 of 15)**
Project Name: COTA VERA OFFICE	**Date Prepared:** 2023-01-09

A. General Information

1	Project Name	COTA VERA OFFICE		
2	Run Title	Title 24 Analysis		
3	Project Location	COTA VERA		
4	City	CHULA VISTA	5 Standards Version	
6	Zip code	91913	7 Compliance Software (version)	CBECC 2022.2.0 (1273)
8	Climate Zone	7	9 Building Orientation (deg)	0
10	Building Type(s)	• Nonresidential	11 Weather File	IMPERIAL-BEACH-NOLF_STYP20.epw
12	Project Scope	• New envelope and mechanical	13 Number of Dwelling Units	0
14	Total Conditioned Floor Area in Scope (ft²)	1164	15 Total # of hotel/motel rooms	0
16	Total Unconditioned Floor Area (ft²)	0	17 Fuel Type	Natural gas
18	Nonresidential Conditioned Floor Area	1164	19 Total # of Stories (Habitable Above Grade)	1
20	Residential Conditioned Floor Area	0		

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD	NRCC-PRF-E
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B1. PROJECT SUMMARY

Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within the permit application.

Building Components Complying via Performance					Building Components Complying Prescriptively	
Envelope (See Table G) Nonres	☒	Performance	Covered Process: Commercial Kitchens (see Table J)	☐ Performance	The following building components are ONLY eligible for prescriptive compliance and should be documented on the NRCC form listed if within the scope of the permit application (i.e. compliance will not be shown on the NRCC-PRF-E).	
	☐	Not Included		☒ Not Included		
Mechanical (See Table H) Nonres	☒	Performance		☐ Performance	Indoor Lighting (Unconditioned) 140.6 & 170.2(e)	NRCC-LTI-E is required
	☐	Not Included		☒ Not Included	Outdoor Lighting 140.7 & 170.2(e)	NRCC-LTO-E is required
Domestic Hot Water (See Table I) Nonres	☐	Performance	Covered Process: Laboratory Exhaust (see Table J)	☐ Performance	Sign Lighting 140.8 & 170.2(e)	NRCC-LTS-E is required
	☒	Not Included		☒ Not Included		
Lighting (Indoor Conditioned, see Table K) Nonres	☐	Performance	*Electrical power systems, commissioning, solar ready, elevator and escalator requirements are mandatory and should be documented on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)*		**Building Components Complying with Mandatory Measures**	
	☒	Not Included			Electrical Power Distribution 110.11	NRCC-ELC-E is required
Solar Thermal Water Heating (See Table I3)	☐	Performance			Commissioning 120.8	NRCC-CXR-E is required
	☒	Not Included			Solarand Battery 110.10	NRCC-SAB-E is required

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C1. COMPLIANCE SUMMARY

COMPLIES[3]

	Time Dependent Valuaton (TDV)		Source Energy Use
	Efficiency[1] (kBtu/ft² - yr)	**Total[2] (kBtu/ft² - yr)**	**Total[2] (kBtu/ft² - yr)**
Standard Design	218.21	218.21	19.3
Proposed Design	183.51	183.51	15.45
Compliance Margins	**34.7**	**34.7**	**3.85**
	Pass	**Pass**	**Pass**

[1] Efficiency measures include improvements like a better building envelope and more efficient equipment
[2] Compliance Totals include efficiency, photovoltaics and batteries
[3] Building complies when efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

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COTA VERA SWIM CLUB
CHULA VISTA, CA

CLIENT:
HOMEFED CORPORATION
1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER: MW
DESIGNER: KN
DRAWN BY: KN
CHECKED BY:
ISSUE DATE: 01-13-2023
REVISIONS:

STAMP:

PLAN NUMBER:
SWIM CLUB

SHEET TITLE:
SWIM CLUB
TITLE 24
COMPLIANCE

SCALE:

SHEET NUMBER:
T1.1

JOB NUMBER: H522244

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — **NRCC-PRF-E**

Nonresidential Performance Compliance Method — **(Page 13 of 15)**

H9. NONRESIDENTIAL / COMMON USE AREA & HOTEL/MOTEL VENTILATION

1	2	3	4	5	6	7
Zone Name	Mechanical Ventilation				Conditioned Area (sf)	DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# of People# of People	Supply OA CFM	Exhaust CFM		
1-Office	Office - Office space	5.82	174.6	500	1164	N/A

H11. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12
System ID	System Type	Qty	Rated Capacity (kBtuh)		Airflow (cfm)			Fan			VSD
			Heating	Cooling	Design	Min.	Min. Ratio	Power	Power Units	Cycles	
2-Office-VRF	Variable Refrigerant Flow	1	45.3	32.4	1,100	N/A	N/A	0.34	BHP	Continuous	Constant Speed

L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections made by Documentation Author indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online

Building Component	Form/Title
Envelope	NRCI-ENV-01-E - Must be submitted for all buildings
Envelope	NRCI-ENV-E - Envelope (for all buildings)
Mechanical	NRCI-MCH-01-E - Must be submitted for all buildings
Mechanical	NRCI-MCH-E - For all buildings with Mechanical Systems

M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections made by Documentation Author indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certificaiton Provider (ATTCP). For more information visit: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Building Component	Form/Title
Envelope	NRCA-ENV-02-F - NRFC label verification for fenestration

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — **NRCC-PRF-E**

Nonresidential Performance Compliance Method — **(Page 14 of 15)**

M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections made by Documentation Author indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certificaiton Provider (ATTCP). For more information visit: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Building Component	Form/Title
Mechanical	NRCA-MCH-20-H Multifamily Ventilation

N. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Selections made by Documentation Author indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online

Building Component	Form/Title

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — **NRCC-PRF-E**

Nonresidential Performance Compliance Method — **(Page 15 of 15)**

Documentation Author's Declaration Statement

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

Documentation Author Name: KWEKU NGISSAH	Documentation Author Signature: Kweku Ngissah
Company: HARRIS & SLOAN	Signature Date:
Address: 2295 GATEWAY OAKS DR	CEA/HERS Certification Identification (if applicable):
City/State/Zip: ,	Phone: 916.921.2441

Responsible Person's Declaration statement

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

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I understand that a registered copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections, and I will take the necessary steps to accomplish this requirement.
6. I understand that a registered copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy, and I will take the necessary steps to accomplish these requirements.

Responsible Designer Name: DAN MULLEN	Responsible Designer Signature:	
Company: STARCK ARCHITECTURE + PLANNING		
Address: 2045 KETTNER BLVD STE 100	Date Signed: 1/9/23	
City/State/Zip: SAN DIEGO, CA 92101	License #: C10560	
Phone: 619-299-7070	Title: Architect	Scope: Envelope
Responsible Designer Name: ROB PENDROD	Responsible Designer Signature:	
Company: HARRIS & SLOAN		
Address: 2295 GATEWAY OAKS DR	Date Signed: 1/9/23	
City/State/Zip: SACRAMENTO, CA 95833	License #: M18824	
Phone: 916.921.2441	Title: Engineer	Scope: Mechanical

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — **NRCC-PRF-E**

Nonresidential Performance Compliance Method — **(Page 10 of 15)**

G4. NONRESIDENTIAL AIR BARRIER

01	02
Building Story Name	Air Barrier
Office Floor 1	No air barrier

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — **NRCC-PRF-E**

Nonresidential Performance Compliance Method — **(Page 11 of 15)**

G5. OPAQUE SURFACE ASSEMBLY SUMMARY

01	02	03	04	05	06		07	08	09	10
Surface Name		Area (ft²)	Framing Type	Cavity R-Value	Continuous R-Value		Units	Value	Description of Assembly Layers	Status[1]
					Interior	Exterior				
Slab On Grade7	Underground Floor	1,164	N/A	0	N/A	N/A	F-factor	0.73	Slab Type =Unheated slab on grade Insulation Orientation =None Insulation R-Value =none	N
R-19 Wall9	Exterior Wall	1,902	Wood	19	N/A	N/A	U-factor	0.0723	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Composite-1 Gypsum Board - 1/2 in.	N
R-30 Roof Attic21	Roof	830	Wood	30	N/A	N/A	U-factor	0.0383	AsphaltShingles0_25In Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Composite-2 Gypsum Board - 1/2 in.	N
R-0 Interior Wall23	Interior Wall	540	Wood	0	N/A	N/A	U-factor	0.3643	Gypsum Board - 1/2 in. Composite-3 Gypsum Board - 1/2 in.	N
Flat TPO Roof R-3030	Roof	334	Wood	30	N/A	N/A	U-factor	0.0394	Single Ply Roofing - 1/4 in. Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Composite-4 Gypsum Board - 1/2 in.	N

[1] *Status: N - New, A - Altered, E - Existing*

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — **NRCC-PRF-E**

Nonresidential Performance Compliance Method — **(Page 12 of 15)**

G7A. FENESTRATION ASSEMBLY SUMMARY (NONRESIDENTIAL)

01	02	03	04	05	06	07	08	09
Fenestration Assembly Name	Fenestration Type/ Product Type / Frame Type	Certification Method[1]	Assembly Method	Area (ft²)	Overall U-factor	Overall SHGC	Overall VT	Status[2]
Residential FX	Vertical fenestration Fixed window N/A	NFRC	Manufactured	273	0.3	0.23	0.5	New
Residential FD	Vertical fenestration Fixed window N/A	NFRC	Manufactured	96	0.34	0.23	0.5	New

H1. DRY SYSTEM EQUIPMENT (FURNACES, AIR HANDLING UNITS, HEAT PUMPS, VRF, ECONOMIZERS ETC.)

01	02	03	04	05	06	07	08	09	10	11	12
Equipment Name	Equipment Type	Qty	Heating				Cooling			Economizer Type (if present)	Status[1]
			Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency		
HP1	Variable Refrigerant Flow	1	45.3	N/A	HSPF	11	45.3	N/A	NA	N/A	N

[1] *Status: N - New, A - Altered, E - Existing*

H5. GENERAL EXHAUST FAN SUMMARY

1	2	3	4	5	6	7	8
System ID	Zone Name	Qty	CFM	PowerPowerPower	Power Units	Continuous Operation?	Status[1]
Office1	1-Office	1	500	0.19	0.33	1.58	New

[1] *Status: N - New, A - Altered, E - Existing*

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CLIENT:
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1903 WRIGHT PLACE, SUITE 200
CARLSBAD, CA
92008

PROJECT MANAGER: MW
DESIGNER: KN
DRAWN BY: KN
CHECKED BY:
ISSUE DATE: 01-13-2023
REVISIONS:

STAMP:

PLAN NUMBER:
SWIM CLUB

SHEET TITLE:
SWIM CLUB
TITLE 24
COMPLIANCE

SCALE:

SHEET NUMBER:
T1.2

JOB NUMBER: H522244