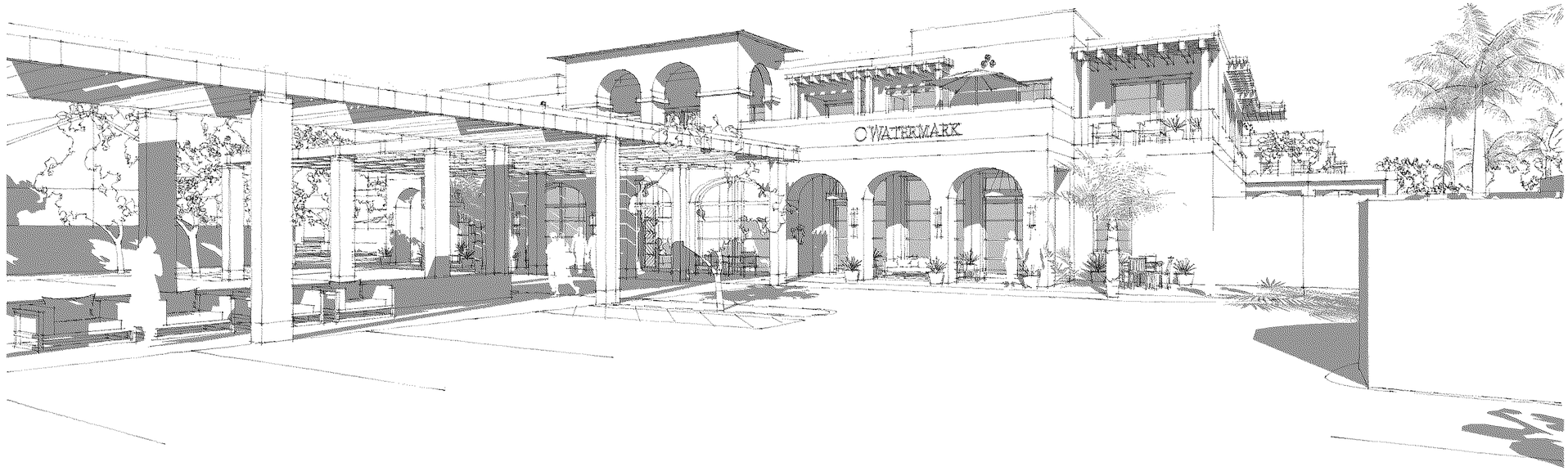


The Watermark at Santa Cruz

LAND USE APPLICATION SUBMITTAL

RESUBMITTED 10/15/21

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CITY OF SANTA CRUZ GENERAL NOTE:
NATURAL GAS-FREE DESIGN AS REQUIRED BY SCMC6.100.

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Issue Drawing Log

REV #	DATE (MM.DD.YY)	ISSUE NAME
	8/7/20	LAND USE APPLICATION SUBMITTAL
	8/21/20	SCHEMATIC DESIGN SUBMITTAL
	8/6/21	LAND USE APPLICATION RESUBMITTAL
	10/15/21	LAND USE APPLICATION RESUBMITTAL

Seal

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Sheet Identification

COVER SHEET

G-000

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ARCHITECTURAL

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CIVIL

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SHEET INDEX

G-000A

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ABBREVIATIONS & NOTATIONS

A	AB	ANCHOR BOLT
	AC	ACOUSTICAL TILE
	AD	AREA DRAIN
	AFF	ABOVE FINISH
	ALT	FLOOR ALTERNATE
	ALU	ALUMINUM
	M	ARCHITECTURAL
	ARC	ASH URN
	H AU	AUDIO VISUAL
	AV	
B	BD	BOARD
	BLDG	BUILDING
	BLKG	BLOCKING
	BM	BEAM OR BENCHMARK
	BNG	BEARING
	BO	BOTTOM OF
	BOD	BOTTOM OF DECK
	BOT	BOTTOM
	BR	BACKER ROD
	BRG	BRIDGING
	BUR	BUILT-UP ROOFING
	BW	BOTH WAYS
C	C	COURSE
	CAB	CABINET
	CEM	CEMENT OR CEMENTITIOUS
	CG	CORNER GUARD
	CIP	CAST-IN-PLACE
	CIR	CIRCLE
	CJ	CONTROL JOINT
	CLG	CEILING
	cm	CENTIMETER
	CMU	CONCRETE MASONRY UNIT
	CN	COLUMN
	CONC	CONCRETE
	CONST	CONSTRUCTION
	CONT	CONTINUOUS
	CORR	CORRIDOR
	CPT	CARPET
	CSK	COUNTERSINK OR COUNTERSUNK
	CT	CERAMIC TILE
D	D	DEPTH OR DEEP
	DBL	DOUBLE
	DEG	DEGREE
	DEM	DEMOLITION
	O DTL	DETAIL
	DF	DRINKING
	DIA	FOUNTAIN
	DIM	DIAMETER
	DN	DIMENSION
	DP	DOWN
	DR	DAMPPROOFING
	DS	DOOR
	DTL	DOWNSPOUT
	DW	DETAIL
	DWG	DISHWASHER
	DWR	DRAWING
		DRAWER
E	E	EAST
	EA	EACH
	EHB	ELECTRIC HAIR BLOWER
	EHD	ELECTRIC HAND DRYER
	EIFS	EXTERIOR INSULATING FINISH
	EJ	SYSTEM EXPANSION JOINT
	EL	ELEVATION (GRADE)
	ELEC	ELECTRICAL
	EQ	EQUAL
	EQUI	EQUIPMENT
	P ETS	EXPOSED TO STRUCTURE
	EW	EACH WAY
	EWC	ELECTRIC WATER COOLER
	EXP	EXPANSION OR EXPOSED
	EXIST	EXISTING
	EXT	EXTERIOR
	EXTD	EXTRUDED
F	FD	FLOOR DRAIN
	FE	FIRE EXTINGUISHER
	FEC	FIRE EXTINGUISHER CABINET
	FEX	FIRE EXTINGUISHER (NO CABINET)
	FFA	FURNITURE, FIXTURES & ACCESSORIES
	FFE	FURNITURE, FIXTURES & EQUIPMENT
	FF	FINISHED FLOOR
	FHC	FIRE HOSE CABINET
	FIN	FINISH
	FLR	FLOOR
	FLUO	FLUORESCENT
	R FP	FIREPROOFING
	FR	FIRE RETARDANT/ FIRE RESISTIVE
	FRP	FIBERGLASS REINFORCED POLYMER
	FT	FOOT/ FEET
	FTC	FULL TILE COURSE
	FTG	FOOTING
	FURN	FURNITURE
	FV	FIELD VERIFY
	FWC	FABRIC WALL COVERING
	FPHB	FREEZE-PROOF HOSE BIBB
G	GA	GAUGE
	GALV	GALVANIZED
	GB	GRAB BAR
	GFRC	GLASS FIBER REINFORCED
	GFRG	CONCRETE GLASS FIBER
	GL	REINFORCED GYPSUM GLASS
	GND	GROUND
	GR	GRADE
	GYP	GYPSUM
	GYP	GYPSUM BOARD
	BD	
H	H	HIGH
	HB	HOSE BIBB
	HC	HOLLOW CORE
	HD	HOLD
	HBD	HARDBOARD
	HCTLT	HANDICAPPED ACCESSIBLE TOILET
	HDR	HEADER
	HDW	HARDWARE
	HDWD	HARDWOOD
	HM	HOLLOW METAL
	HOR	HORIZONTAL
	HPL	HIGH PRESSURE LAMINATE
	HR	HOUR
	HT	HEIGHT
	HVAC	HEATING, VENTILATION & AIR CONDITIONING
I	ID	INSIDE DIAMETER
	IN	INCH
	INCAN	INCANDESCENT
	INSUL	INSULATION
	INT	INTERIOR
J	JB	JUNCTION BOX
	JT	JOINT
K	KD	KNOCK DOWN
	KO	KNOCKOUT
L	L	LONG
	LAM	LAMINATED
	LAV	LAVATORY
	LB	LAG BOLT
	LF	LINEAR BOLT OR LINEAR FEET
	LLH	LONG LEG HORIZONTAL
	LLV	LONG LEG VERTICAL
	LT	LIGHT OR LIGHTING
M	M	METER
	MACH	MACHINE
	MAS	MASONRY
	MATL	MATERIAL
	MAX	MAXIMUM
	MBH	MOP AND BROOM HOLDER
	MBR	MODIFIED BITUMEN ROOFING
	MC	MEDICINE CABINET
	MECH	MECHANICAL
	MEMB	MEMBRANE
	MFR	MANUFACTURER
	MH	MANHOLE
	MIN	MINIMUM
	MIR-F	MIRROR-FRAMED EDGE
	MIR-G	MIRROR-GLASS EDGE
	MLD	MOULDING
	MM	MILLIMETER
	MO	MASONRY OPENING
	MS	MOP SINK
	MTD	MOUNTED
	MTG	MOUNTING
	MTL	METAL
N	N	NORTH
	NCO	NONCOMBUSTIBLE
	M NIC	NOT IN CONTRACT
	NOM	NOMINAL
	NPS	NOMINAL PIPE
	NTS	SIZE NOT TO SCALE
O	OC	ON CENTER
	OD	OUTSIDE DIAMETER
	OFCI	OWNER FURNISHED/ CONTRACTOR INSTALLED
	OFD	OVERFLOW DRAIN
	OFOI	OWNER FURNISHED/ OWNER INSTALLED
	OH	OPPOSITE HAND OR OVERHEAD
	OPG	OPENING
	OPP	OPPOSITE
	OPT	OPTION OR OPTIONAL
P	PC	PRECAST
	PCEM	PORTLAND CEMENT
	PA	PUBLIC ADDRESS SYSTEM
	PCF	POUNDS PER CUBIC FOOT
	PL P.	PLATE PLASTIC
	LAM	LAMINATE
	PLTR	PLASTER
	PLBG	PLUMBING
	PLF	POUNDS PER LINEAR FOOT
	PMR	PROTECTED MEMBRANE ROOFING
	PNL	PANEL
	PNT	PAINT OR PAINTED
	POL	POLISHED
	PR	PAIR
	PSF	POUNDS PER SQUARE FOOT
	PSI	POUNDS PER SQUARE INCH
	PT	POINT
	PTD	PAPER TOWEL DISPENSER
	PTDWR	PAPER TOWEL DISPENSER/ WASTE
	PTM	RECEPTACLE PATCH TO MATCH
	PTN	PARTITION
	PVC	POLYVINYL CHLORIDE
	PVMT	PAVEMENT
	PWD	PLYWOOD
Q	QT	QUARRY TILE
	QTR	QUARTER
	QTY	QUANTITY
R	R	RADIUS OR RISER
	RA	RETURN AIR
	RCP	REFLECTED CEILING PLAN
	RD	ROOF DRAIN
	RE	REFER OR REFERENCE
	REFL	REFLECTED
	REG	REGISTER
	REINF	REINFORCEMENT
	REQ	REQUIRED
	RES	RESILIENT
	REV	REVERSE
	RH	ROBE HOOK
	RM	ROOM
	RO	ROUGH OPENING
	ROW	RIGHT-OF-WAY
	RSF	RESILIENT SHEET FLOORING
S	S	SOUTH
	SA	SUPPLY AIR
	SAB	SOUND ATTENUATION BATTS
	SAN	SANITARY
	SB	SPLASH BLOCK
	SC	SOLID CORE OR SHOWER CURTAIN
	SCHED	SCHEDULE OR SCHEDULED
	SD	SOAP DISPENSER
	SECT	SECTION
	SF	SQUARE FOOT OR SQUARE FEET
	SFP	SPRAYED FIREPROOFING
	SH	SPRINKLER HEAD
	SHT	SHEET
	SHTG	SHEATHING
	SIM	SIMILAR
	SKLT	SKYLIGHT
	SND	SANITARY NAPKIN DISPOSAL
	SNV	SANITARY NAPKIN VENDOR
	SP	STANDPIPE
	SPEC	SPECIFIED OR SPECIFICATIONS
	SPR	SINGLE PLY ROOFING
	SQ	SQUARE
	SR	SHOWER ROD
	SR/SC	SHOWER ROD/ SHOWER CURTAIN
	SS	STAINLESS STEEL
	ST	SOAP TRAY
	STA	STATION
	STC	SOUND TRANSMISSION CLASS
	STD	STANDARD
	STL	STEEL
	STOR	STORAGE
	STRU	STRUCTURE OR STRUCTURAL
	SUSP	SUSPENDED OR SUSPENSION
	SYM	SYMBOL
	SYN	SYNTHETIC
	SYS	SYSTEM
T	T	TREAD OR TOP
	TB	TOWEL BAR
	TBL	TOP OF BRICK LEDGE
	T&B	TOP AND BOTTOM
	TC	TOP OF CURB
	TD	TRENCH DRAIN
	TEL	TELEPHONE
	TERR	TERRAZZO
	T&G	TONGUE & GROOVE
	THK	THICK OR THICKNESS
	THRU	THROUGH
	TLT	TOILET
	TO	TOP OF
	TOC	TOP OF CONCRETE
	TOD	TOP OF DECK
	TOF	TOP OF FOOTING
	TOI	TOP OF INSULATION
	TOJ	TOP OF JOIST
	TOL	TOLERANCE
	TOP	TOP OF PARAPET
	TOS	TOP OF STEEL
	TOW	TOP OF WALL
	TPH	TOILET PAPER HOLDER
	TR	TELEPHONE RECEPTACLE
	TS	TOP OF SLAB
	TTB	TELEPHONE TERMINAL BOARD
	TV	TELEVISION
	TYP	TYPICAL
U	UCL	UNDER CABINET LIGHT
	ULAY	UNDERLAYMENT
	UNO	UNLESS NOTED OTHERWISE
	UR	URINAL
V	VB	VAPOR BARRIER
	VCT	VINYL COMPOSITION TILE
	VERT	VERTICAL
	VP	VENT PIPE
	VS	VENT SHAFT
	VT	VINYL TILE
	VWC	VINYL WALLCOVERING
W	W	WEST OR WIDE OR WIDTH
	W/	WITH
	WB	WIND BRACE OR BRACING
	WC	WATER CLOSET
	WCOT	WAINSCOT
	WD	WOOD
	WDO	WINDOW
	WH	WEEPHOLE
	WO	WINDOW OPENING
	W/O	WITHOUT
	WP	WATERPROOFING
	WR	WASTE RECEPTACLE
	W/R	WATER RESISTIVE OR RESISTANT
	WS WT	WEATHERSTRIPPING
	WWF	WEIGHT
		WELDED WIRE FABRIC
Y	YD	YARD

&	AND	=	EQUAL
L	ANGLE (RIGHT)	±	PLUS OR MINUS
∠	ANGLE (ACUTE)	#	POUND OR NUMBER
@	AT	x	TIMES
CL	CENTERLINE		DEGREES

'	FOOT OR FEET		
"	INCH		
-	MINUS		
+	PLUS		

GROSS FLOOR AREA (GFA)

FLOOR AREA

COMPONENT	AREA
LEVEL B1 *	
BUILDING A	3,108 SF
	3,108 SF
LEVEL 01	
BUILDING A	27,547 SF
BUILDING B	9,611 SF
	37,159 SF
LEVEL 02	
BUILDING A	26,895 SF
BUILDING B	9,741 SF
	36,636 SF
ROOF LEVEL	
BUILDING A	423 SF
	423 SF
TOTAL FLOOR AREA (MC 24.22.366)	74,218 SF

*PER MC 24.22.366 "FLOOR AREA" DEFINITION NON-HABITABLE BASEMENTS THAT ARE FULLY SUBTERRANEAN BELOW FINISHED GRADE DO NOT COUNT AS FLOOR AREA.

FLOOR AREA RATIO (FAR) CALCULATION

TOTAL SITE AREA INCLUSIVE OF PROPOSED LOT 1 AND LOT 2 = 6.97 AC (303,613 SF)
LOT 1 AREA = 3.97 AC (172,933 SF)
LOT 2 AREA = 3 AC (130,680 SF)

ALLOWABLE FLOOR AREA RATIO (FAR) = .35
MAXIMUM FLOOR AREA ALLOWED PER FAR: 303,613 SF x .35 = 106,264 SF

EXISTING IMPROVEMENTS ON LOT 1 = APPROX. 26,838 SF
FLOOR AREA PROPOSED FOR PROJECT ON LOT 2 = 74,218 SF
LOT 1 & LOT 2 TOTAL FLOOR AREA = 101,056 SF (26,838 SF + 74,218 SF)

TOTAL SITE FAR = .33 (101,056 SF / 303,613 SF)

LOT 2 FAR CALCULATION:

ALLOWABLE FLOOR AREA RATIO (FAR) = .35
FLOOR AREA ALLOWED PER FAR: 130,680 SF x .35 = 45,738 SF

TRANSFERRED FLOOR AREA*: 28,500 SF
TOTAL FLOOR AREA ALLOWED: 45,738 SF + 28,500 SF = 74,238 SF

TOTAL FLOOR AREA PROPOSED: 74,218 SF (<74,238 SF TOTAL FLOOR AREA ALLOWED)

*THE CHURCH WILL PERMANENTLY TRANSFER UP TO 28,500 SF OF DEVELOPMENT RIGHTS (FAR) FROM LOT 1 TO LOT 2 PURSUANT TO A DEED RESTRICTION; BOTH LOT 1 AND LOT 2 WILL BE HELD IN COMMON OWNERSHIP.

UNIT MATRIX

UNIT MATRIX - TYPES

UNIT TYPE	AREA (SF)	COUNT
AL STUDIO TYPE A	386 SF	4
IU STUDIO TYPE A	386 SF	1
MC TYPE A	382 SF	10
MC TYPE A1	375 SF	1
MC TYPE B	474 SF	4
AL 1BR TYPE A	637 SF	32
AL 1BR TYPE A1	678 SF	1
AL 1BR TYPE A2	691 SF	3
AL 1BR TYPE A3	703 SF	1
IU 1BR TYPE A	637 SF	1
AL 2BR TYPE A	926 SF	2
AL 2BR TYPE B	931 SF	1
AL 2BR TYPE C	959 SF	1
AL 2BR TYPE D	951 SF	4
AL 2BR TYPE E	991 SF	1
AL 2BR TYPE F	1,004 SF	3
AL 2BR TYPE G	1,008 SF	1
AL 2BR TYPE H	1,016 SF	3
AL 2BR TYPE J	1,070 SF	1
AL 2BR TYPE K	1,149 SF	1
		76

NOTE: 20 TYPES

UNIT MATRIX - LEVELS

UNIT TYPE	AREA (SF)	COUNT
LEVEL 01		
IU STUDIO TYPE A	386 SF	1
MC TYPE A	382 SF	10
MC TYPE A1	375 SF	1
MC TYPE B	474 SF	4
AL 1BR TYPE A	637 SF	11
AL 1BR TYPE A1	678 SF	1
AL 1BR TYPE A2	691 SF	1
IU 1BR TYPE A	637 SF	1
AL 2BR TYPE A	926 SF	1
AL 2BR TYPE D	951 SF	2
AL 2BR TYPE F	1,004 SF	1
AL 2BR TYPE H	1,016 SF	1
LEVEL 01: 35		35
LEVEL 02		
AL STUDIO TYPE A	386 SF	4
AL 1BR TYPE A	637 SF	21
AL 1BR TYPE A2	691 SF	2
AL 1BR TYPE A3	703 SF	1
AL 2BR TYPE A	926 SF	1
AL 2BR TYPE B	931 SF	1
AL 2BR TYPE C	959 SF	1
AL 2BR TYPE D	951 SF	2
AL 2BR TYPE E	991 SF	1
AL 2BR TYPE F	1,004 SF	2
AL 2BR TYPE G	1,008 SF	1
AL 2BR TYPE H	1,016 SF	2
AL 2BR TYPE J	1,070 SF	1
AL 2BR TYPE K	1,149 SF	1
LEVEL 02: 41		41
GRAND TOTAL: 76		76

NOTE: UNIT AREAS CALCULATED USING BOMA METHOD A (GROSS AREA) - CL DEMISING WALL TO OUTSIDE FACE OF EXTERIOR WALL AND CORRIDOR WALL. (SUBJECT TO CHANGE)

UNIT AREAS SHOWN ON CRTKL'S DRAWINGS HAVE BEEN CALCULATED ELECTRONICALLY BASED ON CRTKL'S DESIGN DOCUMENTS, USING THE APPROPRIATE SECTIONS OF APPLICABLE BOMA STANDARDS ACCORDING TO THIS PROJECT'S USE, UNLESS DIRECTED OTHERWISE BY THE CLIENT, AND ARE PROVIDED SOLELY AS AN ACCOMMODATION TO THE CLIENT. AS SUCH, THEY SHOULD BE CONSIDERED TO BE APPROXIMATE CALCULATIONS. ACTUAL MEASUREMENTS OF BUILT SPACES MAY VARY DUE TO A NUMBER OF FACTORS INCLUDING, BUT NOT LIMITED TO, CHANGES DURING CONSTRUCTION, CONSTRUCTION TOLERANCES, AND VARIATIONS IN THE METHODOLOGY USED TO CALCULATE AREA. CRTKL ADVISES THE CLIENT TO VERIFY ALL AREAS AND METHODS OF CALCULATION PRIOR TO PUBLICATION FOR ANY REASON.

UNIT DISTRIBUTION/CLASSIFICATION

UNIT MATRIX

CLASS	NUMBER	UNIT TYPE	PATIO/DECK	KITCHEN
LEVEL 01				
MC	100	MC TYPE A1		
MC	101	MC TYPE A		
MC	102	MC TYPE B		
MC	103	MC TYPE A		
MC	104	MC TYPE B		
MC	105	MC TYPE A		
MC	106	MC TYPE B		
MC	107	MC TYPE A		
MC	108	MC TYPE B		
MC	109	MC TYPE A		
MC	110	MC TYPE A		
MC	111	MC TYPE A		
MC	112	MC TYPE A		
MC	113	MC TYPE A		
MC	114	MC TYPE A		
AL	115	AL 1BR TYPE A	*	
AL	116	AL 2BR TYPE H	*	*
AL	117	AL 2BR TYPE A	*	*
AL	118	AL 1BR TYPE A	*	
AL	119	AL 1BR TYPE A	*	
AL	120	AL 1BR TYPE A	*	
AL	121	AL 1BR TYPE A	*	
AL	122	AL 1BR TYPE A	*	
AL	123	AL 1BR TYPE A	*	
AL	124	AL 2BR TYPE D	*	
AL	125	AL 1BR TYPE A	*	
AL	126	AL 2BR TYPE F	*	*
AL	127	AL 1BR TYPE A2	*	
IU	128	IU STUDIO TYPE A	*	*
AL	129	AL 1BR TYPE A1	*	
AL	130	AL 1BR TYPE A	*	
AL	131	AL 1BR TYPE A	*	
IU	132	IU 1BR TYPE A	*	*
AL	133	AL 1BR TYPE A	*	
AL	134	AL 2BR TYPE D	*	*
LEVEL 01: 35				
LEVEL 02				
AL	200	AL 1BR TYPE A	*	
AL	201	AL 1BR TYPE A	*	
AL	202	AL STUDIO TYPE A	*	
AL	203	AL STUDIO TYPE A	*	
AL	204	AL 1BR TYPE A	*	
AL	205	AL 1BR TYPE A	*	
AL	206	AL 1BR TYPE A	*	
AL	207	AL 1BR TYPE A	*	
AL	208	AL 2BR TYPE B	*	
AL	209	AL 1BR TYPE A	*	
AL	210	AL 2BR TYPE H	*	*
AL	211	AL 1BR TYPE A	*	
AL	212	AL 1BR TYPE A	*	
AL	213	AL 1BR TYPE A	*	
AL	214	AL 2BR TYPE H	*	*
AL	215	AL 2BR TYPE A	*	*
AL	216	AL 1BR TYPE A	*	
AL	217	AL 1BR TYPE A	*	
AL	218	AL 1BR TYPE A	*	
AL	219	AL 1BR TYPE A	*	
AL	220	AL 1BR TYPE A	*	
AL	221	AL 1BR TYPE A	*	
AL	222	AL 2BR TYPE D	*	
AL	223	AL 1BR TYPE A	*	
AL	224	AL 2BR TYPE F	*	*
AL	225	AL 1BR TYPE A2	*	
AL	226	AL STUDIO TYPE A	*	
AL	227	AL STUDIO TYPE A	*	
AL	228	AL 1BR TYPE A	*	
AL	229	AL 2BR TYPE F	*	*
AL	230	AL 1BR TYPE A2	*	
AL	231	AL 2BR TYPE E	*	
AL	232	AL 1BR TYPE A	*	
AL	233	AL 1BR TYPE A	*	
AL	234	AL 1BR TYPE A	*	
AL	235	AL 2BR TYPE D	*	
AL	236	AL 1BR TYPE A3	*	
AL	237	AL 2BR TYPE G	*	
AL	238	AL 2BR TYPE J	*	*
AL	239	AL 2BR TYPE K	*	*
AL	240	AL 2BR TYPE C	*	
LEVEL 02: 41				
GRAND TOTAL: 76				

UNIT MIX:

ASSISTED LIVING (AL) — **59** UNITS (76 BEDS)
4 STUDIO
38 1BD
17 2BD

MEMORY CARE (MC) — **15** UNITS (19 BEDS)
11 SINGLES
4 DOUBLES

INCLUSIONARY UNIT (IU) — **2** UNITS (2 BEDS)
1 STUDIO
1 1BD

GENERAL PROJECT DATA

PROJECT LOCATION:

126 EUCALYPTUS AVE, SANTA CRUZ, CA 95060

PROJECT DESCRIPTION:

THE PROPOSED PROJECT INVOLVES DEMOLITION OF THE EXISTING GATEWAY SCHOOL AND CONSTRUCTION OF A COMMUNITY CARE RESIDENTIAL FACILITY CONSISTING OF A NEW BUILD TWO STORY STRUCTURE OF MEMORY CARE, ASSISTED LIVING, INCLUSIONARY UNITS, SUPPORT SPACES AND AMENITIES.

IN ADDITION, THE PROPOSED PROJECT WOULD SUBDIVIDE THE SITE INTO TWO NEW PARCELS INCLUDING THE 3-ACRE PARCEL ON WHICH THE COMMUNITY CARE RESIDENTIAL FACILITY WOULD BE CONSTRUCTED (LOT 2), AND AN APPROXIMATELY 3.97-ACRE PARCEL WHICH WOULD RETAIN THE EXISTING BUILDINGS (LOT 1). IMPROVEMENTS ON LOT 1, INCLUDING THE ADDITION OF APPROXIMATELY EIGHT PARKING STALLS, RELOCATION OF AN EXISTING MEDITATION GARDEN, AND OTHER MINOR IMPROVEMENTS ALSO INCLUDED AS PART OF THE PROPOSED PROJECT.

100% PRIVATELY FUNDED, NO TAX CREDIT, NOT PUBLIC HOUSING

APN: 004-571-02 & 04

GENERAL ZONING INFORMATION:

ZONING DESIGNATION: R-1-5 - SINGLE FAMILY RESIDENTIAL
CZ - COASTAL ZONE OVERLAY
WCD-O - WEST CLIFF DRIVE OVERLAY

TOTAL LAND AREA: INCLUSIVE OF LOT 1 AND LOT 2 = 6.97 AC (303,613 SF)
LOT 1 AREA = 3.97 AC (172,933 SF)
LOT 2 AREA (PROPOSED PROJECT) = 3 AC (130,680 SF)

BUILDING HEIGHT: 30'-0"

NUMBER OF STORIES: 2

CONSTRUCTION TYPE: TYPE VA, AUTOMATIC SPRINKLER SYSTEM (NFPA 13)

OCCUPANCY: R-2.1

APPLICABLE CODES AND STANDARDS:

2019 CALIFORNIA BUILDING CODE WITH CITY OF SANTA CRUZ AMENDMENTS
2019 CALIFORNIA FIRE CODE WITH CITY OF SANTA CRUZ AMENDMENTS
2019 CALIFORNIA MECHANICAL CODE
2019 CALIFORNIA PLUMBING CODE
2019 CALIFORNIA ELECTRICAL CODE

APPLICATION/PERMITS:

1. NON-RESIDENTIAL DEMOLITION AUTHORIZATION PERMIT
2. SPECIAL USE PERMIT
3. COASTAL PERMIT
4. DESIGN PERMIT
5. HISTORIC ALTERATION PERMIT
6. HERITAGE TREE REMOVAL PERMIT

CITY OF SANTA CRUZ GENERAL NOTES:

DEMOLITION – PRIOR TO DEMOLITION, ASBESTOS AND LEAD BASED PAINT TESTING SHALL BE PERFORMED BY EITHER EPA OR CA STATE HEALTH CERTIFIED INDIVIDUALS TO DETERMINE THE EXTENT OF THE ONSITE HAZARDOUS MATERIALS PRIOR TO ANY DEMOLITION OF EXISTING STRUCTURES. APPROVAL SHALL THEN BE OBTAINED FROM MONTEREY BAY AIR RESOURCES DISTRICT (MBARD) FOR THE HAZARDOUS OR OTHER REGULATED MATERIAL REMOVAL. APPLICANT SHALL PROVIDE THE CITY WITH A COPY OF THE ASB APPLICATION OR A COPY OF AN EMAIL FROM MBARD STATING NO APPLICATION IS REQUIRED. A SEPARATE BUILDING PERMIT APPLICATION AND PLANS ARE REQUIRED FOR THE PROPOSED DEMOLITION FROM THE CITY OF SANTA CRUZ BUILDING DIVISIONIF PRIOR TO ISSUANCE OF THE BUILDING PERMIT APPLICATION.

PROPOSED OCCUPANCY WILL NOT STORE OR USE HAZARDOUS MATERIALS IN EXCESS OF THOSE ALLOWED IN CBC 307 UNLESS STORED OR UTILIZED IN CONTROL AREAS OR RECLASSIFIED AS A HIGH-HAZARDOUS OCCUPANCY (GROUP H) PER CBC AND CFC.

REFERENCE SYMBOLS

ROOM NAME / XXXX — ROOM NAME/NUMBER
ROOM N — DOOR TYPE
XXX — STRUCTURAL GRID - NEW
XXX — STRUCTURAL GRID - EXISTING
XX — PARTITION TYPE
FIXTURE TAG
1i — WINDOW FRAME MARK
1i — LOUVER MARK
1 — REVISION MARK
xx — LEADER
NAME / ELEVATION — DATUM ELEVATION
SIM / 1 / A101 — WALL SECTION MARK
SIM / 1 / A101 — SIM / 1 / A101 — BUILDING SECTION MARK
SIM / 1 / A101 — DETAIL MARK
1 / A101 — ELEVATION MARK
SPOT ELEVATION
N — NORTH ARROW

LOCATION MAP



GENERAL NOTES

1. DO NOT SCALE THESE DRAWINGS FOR CONSTRUCTION PURPOSES. IN THE EVENT OF OMISSION OF NECESSARY DIMENSION(S), THE CONSTRUCTION MANAGER SHALL NOTIFY THE ARCHITECT.
2. ALL DIMENSIONS ON 1/16", 1/8" & 1/4" SCALE PLANS ARE TO THE FACE OF MASONRY OR CONCRETE OR THE OUTSIDE FACE OF GYPSUM BOARD, UNLESS NOTED OTHERWISE.
3. ALL MASONRY DIMENSIONS ARE ACTUAL UNLESS NOTED OTHERWISE. VERIFY ALL DIMENSIONS, CONDITIONS, EXISTING CONSTRUCTION AND GRADES AT JOB SITE. NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES OR CONFLICTS.
4. VERIFY SIZE, LOCATION AND CHARACTERISTICS OF ALL WORK AND EQUIPMENT TO BE INSTALLED OR RELOCATED (WHETHER FURNISHED BY OWNER OR BY CONTRACTOR(S)) BEFORE ANY CONSTRUCTION PERTAINING TO SAME IS BEGUN. ERRORS AND OMISSIONS IN THE ROOM, DOOR, WINDOW OR EQUIPMENT SCHEDULES DO NOT RELIEVE THE CONTRACTORS FROM EXECUTING WORK SHOWN ON DRAWINGS OR DESCRIBED IN THE SPECIFICATIONS.
5. VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS FOR STRUCTURAL, MECHANICAL AND ELECTRICAL WORK AND EQUIPMENT WITH ALL TRADES INVOLVED.
6. CEILING HEIGHTS INDICATED ON THE ROOM FINISH SCHEDULE ARE TAKEN FROM THE FINISH FLOOR ELEVATION. THE SIZE, LOCATION AND CHARACTERISTICS OF ALL MECHANICAL, ELECTRICAL AND STRUCTURAL ITEMS SHALL BE VERIFIED BEFORE CEILING CONSTRUCTION IS BEGUN.
7. COORDINATE WITH ALL TRADES IN ORDER TO MAINTAIN SCHEDULED CEILING HEIGHTS. VERIFY THAT REQUIRED OPERATION AND MAINTENANCE CLEARANCES ARE PROVIDED FOR ALL EQUIPMENT ITEMS.
8. INSTALL ALL ITEMS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS, EXCEPT THAT THE SPECIFICATIONS HEREIN, WHERE THE MORE STRINGENT, SHALL BE COMPLIED WITH. NOTIFY THE ARCHITECT IN WRITING OF ANY CONFLICTS.
9. COORDINATE DELIVERY AND INSTALLATION OF ALL EQUIPMENT WITH OWNER. VERIFY THAT ALL INSTALLATION REQUIREMENTS AS DESCRIBED ARE MET, INCLUDING ADEQUATE TRAVEL ACCESS FOR EQUIPMENT ITEMS THROUGH THE BUILDING.

PROJECT INFORMATION

PROJECT TITLE:
THE WATERMARK AT SANTA CRUZ

OWNER ADDRESS:
OPPIDAN INVESTMENT COMPANY
1100 LINCOLN AVENUE, SUITE 3382
SAN JOSE, CA 95125

OPERATOR ADDRESS:
THE FRESHWATER GROUP
2020 WEST RUDASILL ROAD
TUCSON, AZ 85704

PROJECT LOCATION:
126 EUCALYPTUS AVENUE
SANTA CRUZ, CA 95060

PROJECT CONTACT:
OWNER
ROGER BERNSTEIN: 760.419.8032

PROJECT CONTACT:
ARCHITECT
CRTKL

BUILDING AREAS: (APPROXIMATION) - SEE GROSS FLOOR AREA

PROJECT NARRATIVE: LAND USE APPLICATION PACKAGE - SEE ARCHITECTURAL SITE PLAN FOR ADDITIONAL PROJECT INFORMATION

CALLISONRTKL

CallisonRTKL Inc.
333 SOUTH HOPE STREET, SUITE C-200
LOS ANGELES, CA 90071
Tel: 213.633.6000

CallisonRTKL Project No: 040-190064
Consultant

THE WATERMARK AT SANTA CRUZ

126 EUCALYPTUS AVENUE
SANTA CRUZ, CA 95060

Client/Owner/Operator

OPPIDAN INVESTMENT COMPANY
1100 LINCOLN AVENUE, SUITE 3382
SAN JOSE, CA 95125

THE FRESHWATER GROUP
2020 WEST RUDASILL ROAD
TUCSON, AZ 85704

Issue Drawing Log

REV #	DATE (MM.DD.YY)	ISSUE NAME
	8/7/20	LAND USE APPLICATION SUBMITTAL
	8/21/20	SCHEMATIC DESIGN SUBMITTAL
	8/6/21	LAND USE APPLICATION RESUBMITTAL
	10/15/21	LAND USE APPLICATION RESUBMITTAL

Seal

NOT FOR CONSTRUCTION

Sheet Identification

PROJECT INFORMATION

G-001

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3 ROOF LEVEL
1/32" = 1'-0"



1 LEVEL 01
1/32" = 1'-0"

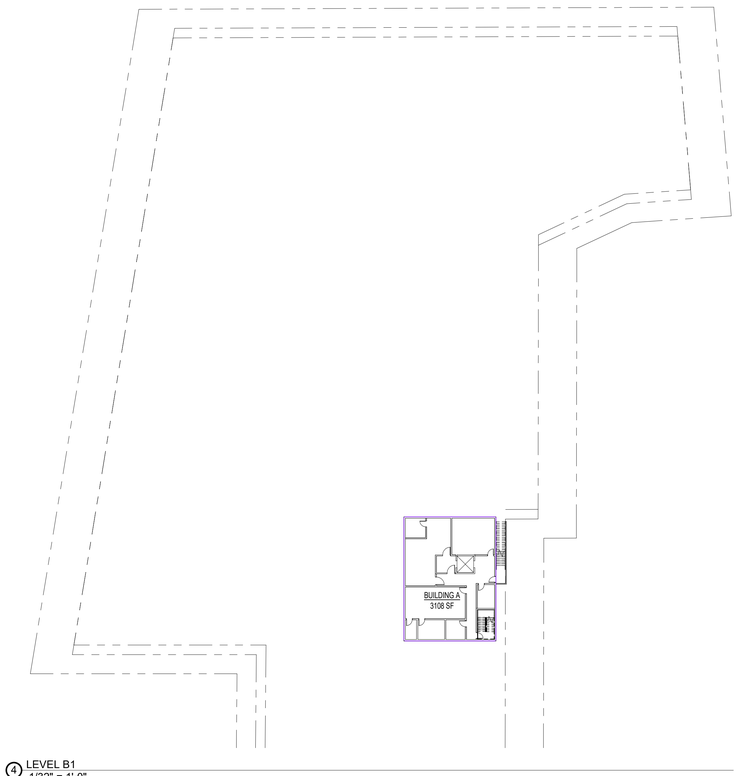
FLOOR AREA*

COMPONENT	AREA
LEVEL B1 *	
BUILDING A	3,108 SF
	3,108 SF
LEVEL 01	
BUILDING A	27,547 SF
BUILDING B	9,611 SF
	37,159 SF
LEVEL 02	
BUILDING A	26,895 SF
BUILDING B	9,741 SF
	36,636 SF
ROOF LEVEL	
BUILDING A	423 SF
	423 SF
TOTAL FLOOR AREA (MC 24.22.366)	74,218 SF

*PER MC 24.22.366 "FLOOR AREA" DEFINITION NON-HABITABLE BASEMENTS THAT ARE FULLY SUBTERRANEAN BELOW FINISHED GRADE DO NOT COUNT AS FLOOR AREA.



2 LEVEL 02
1/32" = 1'-0"



4 LEVEL B1
1/32" = 1'-0"

CallisonRTKL Inc.
333 SOUTH HOPE STREET, SUITE C-200
LOS ANGELES, CA 90071
Tel: 213.633.6000

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Consultant

THE WATERMARK AT SANTA CRUZ

126 EUCALYPTUS AVENUE
SANTA CRUZ, CA 95060

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1100 LINCOLN AVENUE, SUITE 3382
SAN JOSE, CA 95125

THE FRESHWATER GROUP
2020 WEST RUDASILL ROAD
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	8/7/20	LAND USE APPLICATION SUBMITTAL
	8/21/20	SCHEMATIC DESIGN SUBMITTAL
	8/6/21	LAND USE APPLICATION RESUBMITTAL
	10/15/21	LAND USE APPLICATION RESUBMITTAL

Seal

NOT FOR CONSTRUCTION

Sheet Identification

AREA PLANS

G-002

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CHAPTER 3: BUILDING BLOCKS

301 General

301.1 Scope. The provisions of Chapter 3 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

302 Floor or Ground Surfaces

302.1 General. *Floor* and *ground* surfaces shall be stable, firm, and slip resistant and shall comply with 302.

EXCEPTIONS: 1. Within *animal containment areas*, floor and ground surfaces shall not be required to be stable, firm, and slip resistant.

2. *Areas of sport activity* shall not be required to comply with 302.

> **Advisory 302.1 General.** A stable surface is one that remains unchanged by contaminants or applied force, so that when the contaminant or force is removed, the surface returns to its original condition. A firm surface resists deformation by either indentations or particles moving on its surface. A slip-resistant surface provides sufficient frictional counterforce to the forces exerted in walking to permit safe ambulation.

302.2 Carpet. Carpet or carpet tile shall be securely attached and shall have a firm cushion, pad, or backing or no cushion or pad. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. *Pile height* shall be ½ inch (13 mm) maximum. Exposed edges of carpet shall be fastened to floor surfaces and shall have trim on the entire length of the exposed edge. Carpet edge trim shall comply with 303.

> **Advisory 302.2 Carpet.** Carpets and permanently affixed mats can significantly increase the amount of force (roll resistance) needed to propel a wheelchair over a surface. The firmer the carpeting and backing, the lower the roll resistance. A pile thickness up to ½ inch (13 mm) (measured to the backing, cushion, or pad) is allowed, although a lower pile provides easier wheelchair maneuvering. If a backing, cushion or pad is used, it must be firm. Preferably, carpet pad should not be used because the soft padding increases roll resistance.

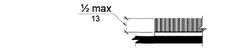


Figure 302.2
Carpet Pile Height

302.3 Openings. Openings in floor or ground surfaces shall not allow passage of a sphere more than ½ inch (13 mm) diameter except as allowed in 407.4.3, 409.4.3, 410.4, 810.5.3 and 810.10. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

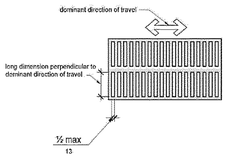


Figure 302.3
Elongated Openings in Floor or Ground Surfaces

303 Changes in Level

303.1 General. Where changes in level are permitted in *floor* or *ground* surfaces, they shall comply with 303.

EXCEPTIONS: 1. *Animal containment areas* shall not be required to comply with 303.

2. *Areas of sport activity* shall not be required to comply with 303.

303.2 Vertical. Changes in level of ¼ inch (6.4 mm) high maximum shall be permitted to be vertical.



Figure 303.2
Vertical Change in Level

303.3 Beveled. Changes in level between ¼ inch (6.4 mm) high minimum and ½ inch (13 mm) high maximum shall be beveled with a slope not steeper than 1:2.

> **Advisory 303.3 Beveled.** A change in level of ¼ inch (13 mm) is permitted to be ¼ inch (6.4 mm) vertical plus ¼ inch (6.4 mm) beveled. However, in no case may the combined change in level exceed ½ inch (13 mm). Changes in level exceeding ½ inch (13 mm) must comply with 405 (Ramps) or 406 (Curb Ramps).

Figure 303.3
Beveled Change in Level

303.4 Ramps. Changes in level greater than ½ inch (13 mm) high shall be *ramped*, and shall comply with 405 or 406.

304 Turning Space

304.1 General. *Turning space* shall comply with 304.

304.2 Floor or Ground Surfaces. Floor or ground surfaces of a *turning space* shall comply with 302. Changes in level are not permitted.

EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

> **Advisory 304.2 Floor or Ground Surface Exception.** As used in this section, the phrase "changes in level" refers to surfaces with slopes and to surfaces with abrupt rise exceeding that permitted in Section 303.3. Such changes in level are prohibited in required clear floor and ground spaces, turning spaces, and in similar spaces where people using wheelchairs and other mobility devices must park their mobility aids such as in wheelchair spaces, or maneuver to use elements such as at doors, fixtures, and telephones. The exception permits slopes not steeper than 1:48.

304.3 Size. *Turning space* shall comply with 304.3.1 or 304.3.2.

304.3.1 Circular Space. The *turning space* shall be a *space* of 60 inches (1525 mm) diameter minimum. The *space* shall be permitted to include knee and toe clearance complying with 306.

304.3.2 T-Shaped Space. The *turning space* shall be a T-shaped space within a 60 inch (1525 mm) square minimum with arms and base 36 inches (915 mm) wide minimum. Each arm of the T shall be clear of obstructions 12 inches (305 mm) minimum in each direction and the base shall be clear of obstructions 24 inches (610 mm) minimum. The space shall be permitted to include knee and toe clearance complying with 306 only at the end of either the base or one arm.

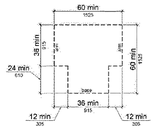


Figure 304.3.2
T-Shaped Turning Space

304.4 Door Swing. Doors shall be permitted to swing into *turning spaces*.

305 Clear Floor or Ground Space

305.1 General. Clear floor or ground space shall comply with 305.

305.2 Floor or Ground Surfaces. Floor or ground surfaces of a clear floor or ground space shall comply with 302. *Changes in level* are not permitted.

EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

305.3 Size. The clear floor or ground *space* shall be 30 inches (760 mm) minimum by 48 inches (1220 mm) minimum.

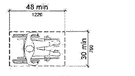


Figure 305.3
Clear Floor or Ground Space

305.4 Knee and Toe Clearance. Unless otherwise specified, clear floor or ground *space* shall be permitted to include knee and toe clearance complying with 306.

305.5 Position. Unless otherwise specified, clear floor or ground *space* shall be positioned for either forward or parallel approach to an *element*.

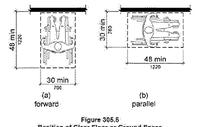


Figure 305.5
Position of Clear Floor or Ground Space

305.6 Approach. One full unobstructed side of the clear floor or ground *space* shall adjoin an *accessible route* or adjoin another clear floor or ground *space*.

305.7 Maneuvering Clearance. Where a clear floor or ground *space* is located in an *alcove* or otherwise confined on all or part of three sides, additional maneuvering clearance shall be provided in accordance with 305.7.1 and 305.7.2.

305.7.1 Forward Approach. Alcoves shall be 36 inches (915 mm) wide minimum where the depth exceeds 24 inches (610 mm).



Figure 305.7.1
Maneuvering Clearance in an Alcove, Forward Approach

305.7.2 Parallel Approach. Alcoves shall be 60 inches (1525 mm) wide minimum where the depth exceeds 15 inches (380 mm).

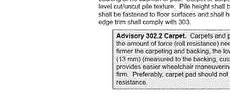


Figure 305.7.2
Maneuvering Clearance in an Alcove, Parallel Approach

306 Knee and Toe Clearance

306.1 General. Where *space* beneath an *element* is included as part of clear floor or ground *space* or *turning space*, the *space* shall comply with 306. *Additional space* shall not be prohibited beneath an *element* but shall not be considered as part of the clear floor or ground *space* or *turning space*.

> **Advisory 306.1 General.** Clearances are measured in relation to the usable clear floor space, not necessarily to the vertical support for an *element*. When determining clearance under an object for required turning or maneuvering space, care should be taken to ensure the space is clear of any obstructions.

306.2 Toe Clearance.

306.2.1 General. *Space* under an *element* between the finish floor or ground and 9 inches (230 mm) above the finish floor or ground shall be considered toe clearance and shall comply with 306.2.

306.2.2 Maximum Depth. Toe clearance shall extend 25 inches (635 mm) maximum under an *element*.

306.2.3 Minimum Required Depth. Where toe clearance is required at an *element* as part of a clear floor *space*, the toe clearance shall extend 17 inches (430 mm) minimum under the *element*.

306.2.4 Additional Clearance. *Space* extending greater than 6 inches (150 mm) beyond the available knee clearance at 9 inches (230 mm) above the finish floor or ground shall not be considered toe clearance.

306.2.5 Width. Toe clearance shall be 30 inches (760 mm) wide minimum.

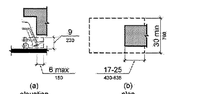


Figure 306.2
Toe Clearance

306.3 Knee Clearance.

306.3.1 General. *Space* under an *element* between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground shall be considered knee clearance and shall comply with 306.3.

306.3.2 Maximum Depth. Knee *clearance* shall extend 25 inches (635 mm) maximum under an *element* at 9 inches (230 mm) above the finish floor or ground.

306.3.3 Minimum Required Depth. Where knee clearance is required under an *element* as part of a clear floor *space*, the knee clearance shall be 11 inches (280 mm) deep minimum at 9 inches (230 mm) above the finish floor or ground, and 8 inches (205 mm) deep minimum at 27 inches (685 mm) above the finish floor or ground.

306.3.4 Clearance Reduction. Between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground, the knee clearance shall be permitted to reduce at a rate of 1 inch (25 mm) in depth for each 6 inches (150 mm) in height.

306.3.5 Width. Knee clearance shall be 30 inches (760 mm) wide minimum.

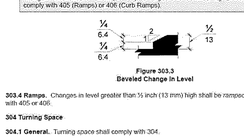


Figure 306.3
Knee Clearance

307 Protruding Objects

307.1 General. Protruding objects shall comply with 307.

307.2 Protrusion Limits. Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finish floor or ground shall protrude 4 inches (100 mm) maximum horizontally into the *circulation path*.

EXCEPTION: Handrails shall be permitted to protrude 4½ inches (115 mm) maximum.

> **Advisory 307.2 Protrusion Limits.** When a cane is used and the *element* is in the detectable range, it gives a person sufficient time to detect the *element* with the cane before there is body contact. Elements located on *circulation paths*, including operable elements, must comply with requirements for protruding objects. For example, awnings and their supporting structures cannot reduce the minimum required vertical clearance. Similarly, casement windows, when open, cannot encroach more than 4 inches (100 mm) into *circulation paths* above 27 inches (685 mm).

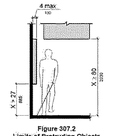


Figure 307.2
Limits of Protruding Objects

307.3 Post-Mounted Objects. Free-standing objects mounted on posts or pylons shall overhang *circulation paths* 12 inches (305 mm) maximum when located 27 inches (685 mm) minimum and 80 inches (2030 mm) maximum above the finish floor or ground. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (685 mm) maximum or 80 inches (2030 mm) minimum above the finish floor or ground.

EXCEPTION: The sloping portions of headrails serving stairs and *ramps* shall not be required to comply with 307.3.

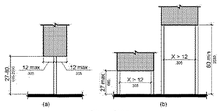


Figure 307.3
Post-Mounted Protruding Objects

307.4 Vertical Clearance. Vertical clearance shall be 80 inches (2030 mm) high minimum. *Guardrails* or other barriers shall be provided where the vertical clearance is less than 80 inches (2030 mm) high. The leading edge of such guardrail or barrier shall be located 27 inches (685 mm) maximum above the finish floor or ground.

EXCEPTION: Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.

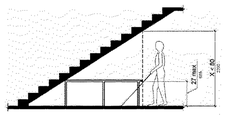


Figure 307.4
Vertical Clearance

307.5 Required Clear Width. *Protruding objects* shall not reduce the clear width required for *accessible routes*.

308 Reach Ranges

308.1 General. Reach ranges shall comply with 308.

> **Advisory 308.1 General.** The following table provides guidance on reach ranges for children according to age where building elements such as coat hooks, lockers, or operable parts are designed for use primarily by children. These dimensions apply to either forward or side reaches. Accessible elements and operable parts designed for adult use or children over age 12 can be located outside these ranges but must be within the adult reach ranges required by 308.

Children's Reach Ranges

Forward or Side Reach	Ages 3 and 4	Ages 5 through 8	Ages 9 through 12
High (maximum)	36 in (915 mm)	40 in (1015 mm)	44 in (1120 mm)
Low (minimum)	20 in (510 mm)	18 in (455 mm)	16 in (405 mm)

308.2 Forward Reach.

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

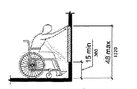


Figure 308.2.1
Unobstructed Forward Reach

308.2.2 Obstructed High Reach. Where a high forward reach is over an *obstruction*, the clear floor *space* shall extend beneath the *element* for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

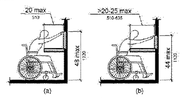


Figure 308.2.2
Obstructed High Forward Reach

308.3 Side Reach.

308.3.1 Unobstructed. Where a clear floor or ground *space* allows a parallel approach to an *element* and the side reach is unobstructed, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

EXCEPTIONS: 1. An *obstruction* shall be permitted between the clear floor or ground *space* and the *element* where the depth of the obstruction is 10 inches (255 mm) maximum.

2. *Operable parts* of fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.



Figure 308.3.1
Unobstructed Side Reach

308.3.2 Obstructed High Reach. Where a clear floor or ground *space* allows a parallel approach to an *element* and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum for a reach depth of 24 inches (610 mm) maximum.

EXCEPTIONS: 1. The top of washing machines and clothes dryers shall be permitted to be 36 inches (915 mm) maximum above the finish floor.

2. *Operable parts* of fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

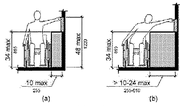


Figure 308.3.2
Obstructed High Side Reach

309 Operable Parts

309.1 General. *Operable parts* shall comply with 309.

309.2 Clear Floor Space. A clear floor or ground *space* complying with 305 shall be provided.

309.3 Height. *Operable parts* shall be placed within one or more of the reach ranges specified in 308.

309.4 Operation. *Operable parts* shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate *operable parts* shall be 5 pounds (22.2 N) maximum.

EXCEPTION: Gas pump nozzles shall not be required to provide *operable parts* that have an activating force of 5 pounds (22.2 N) maximum.

CHAPTER 4: ACCESSIBLE ROUTES

401 General

401.1 Scope. The provisions of Chapter 4 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

402 Accessible Routes

402.1 General. *Accessible routes* shall comply with 402.

402.2 Components. *Accessible routes* shall consist of one or more of the following components: walking surfaces with a *running slope* not steeper than 1:20, doorways, *ramps*, *curb ramps* excluding the flared sides, *elevators*, and platform lifts. All components of an accessible route shall comply with the applicable requirements of Chapter 4.

> **Advisory 402.2 Components.** Walking surfaces must have *running slopes* not steeper than 1:20; see 403.3. Other components of accessible routes, such as *ramps* (405) and curb ramps (406), are permitted to be more steeply sloped.

403 Walking Surfaces

403.1 General. Walking surfaces that are a part of an *accessible route* shall comply with 403.

403.2 Floor or Ground Surface. Floor or ground surfaces shall comply with 302.

403.3 Slope. The *running slope* of walking surfaces shall not be steeper than 1:20. The *cross slope* of walking surfaces shall not be steeper than 1:48.

403.4 Changes in Level. Changes in level shall comply with 303.

403.5 Clearances. Walking surfaces shall provide clearances complying with 403.5.

EXCEPTION: Within employee work areas, clearances on *common use circulation paths* shall be permitted to be decreased by *work area equipment* provided that the decrease is essential to the function of the work being performed.

403.5.1 Clear Width. Except as provided in 403.5.2 and 403.5.3, the clear width of walking surfaces shall be 36 inches (915 mm) minimum.

EXCEPTION: The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are 48 inches (1220 mm) long minimum and 36 inches (915 mm) wide minimum.

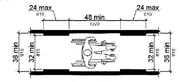
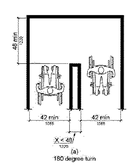


Figure 403.5.1
Clear Width of an Accessible Route

403.5.2 Clear Width at Turn. Where the *accessible route* makes a 180 degree turn around an *element* which is less than 48 inches (1220 mm) wide, clear width shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn and 42 inches (1065 mm) minimum leaving the turn.

EXCEPTION: Where the clear width at the turn is 60 inches (1525 mm) minimum compliance with 403.5.2 shall not be required.



403.5.3 Passing Spaces. An *accessible route* with a clear width less than 60 inches (1525 mm) shall provide passing *spaces* at intervals of 200 feet (61 m) maximum. Passing *spaces* shall be either: a *space* 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum; or, an intersection of two walking surfaces providing a T-shaped *space* complying with 304.3.2 where the base and arms of the T-shaped *space* extend 48 inches (1220 mm) minimum beyond the intersection.

403.6 Handrails. Where handrails are provided along walking surfaces with *running slopes* not steeper than 1:20 they shall comply with 505.

> **Advisory 403.6 Handrails.** Handrails provided in elevator cabs and platform lifts are not required to comply with the requirements for handrails on walking surfaces.

404 Doors, Doorways, and Gates

404.1 General. Doors, doorways, and gates that are part of an *accessible route* shall comply with 404.

EXCEPTION: Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with 404.2.7, 404.2.8, 404.2.9, 404.3.2 and 404.3.4 through 404.3.7.

> **Advisory 404.1 General Exception.** Security personnel must have sole control of doors that are eligible for the Exception at 404.1. It would not be acceptable for security personnel to operate the doors for people with disabilities while allowing others to have independent access.

404.2 Manual Doors, Doorways, and Manual Gates. Manual doors and doorways and manual *gates* intended for use in an *accessible route* shall comply with 404.2.

404.2.1 Revolving Doors, Gates, and Turnstiles. Revolving doors, revolving gates, and turnstiles shall not be part of an *accessible route*.

404.2.2 Double-Leaf Doors and Gates. At least one of the active leaves of doorways with two leaves shall comply with 404.2.3 and 404.2.4.

404.2.3 Clear Width. Door openings shall provide a clear width of 32 inches (815 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening width lower than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening width between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).

EXCEPTIONS: 1. In alterations, a projection of 5/8 inch (16 mm) maximum into the required clear width shall be permitted for the latch side stop.

2. *Door* closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.

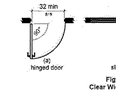


Figure 404.2.3
Clear Width of Doorways

404.2.4 Maneuvering Clearances. Minimum maneuvering clearances at doors and gates shall comply with 404.2.4. Maneuvering clearances shall extend the full width of the doorway and the required latch side or hinge side clearance.

EXCEPTION: Entry doors to hospital patient rooms shall not be required to provide the clearance beyond the latch side of the door.

404.2.4.1 Swinging Doors and Gates. Swinging doors and gates shall have maneuvering clearances complying with Table 404.2.4.1.

Table 404.2.4.1 Maneuvering Clearances at Manual Swinging Doors and Gates

Type of Use		Minimum Maneuvering Clearance	
Approach Direction	Door or Gate Side	Perpendicular to Doorway	Parallel to Doorway (beyond latch side unless noted)
From front	Pull	60 inches (1525 mm)	18 inches (455 mm)
From front	Push	48 inches (1220 mm)	0 inches (0 mm)[1]
From hinge side	Pull	60 inches (1525 mm)	36 inches (915 mm)
From hinge side	Pull	54 inches (1370 mm)	42 inches (1065 mm)
From hinge side	Push	42 inches (1065 mm)[2]	22 inches (560 mm)[3]
From latch side	Pull	48 inches (1220 mm)[4]	24 inches (610 mm)
From latch side	Push	42 inches (1065 mm)[4]	24 inches (610 mm)

1. Add 12 inches (305 mm) if closer and latch are provided.
2. Add 6 inches (150 mm) if closer and latch are provided.
3. Beyond hinge side.
4. Add 6 inches (150 mm) if closer is provided.

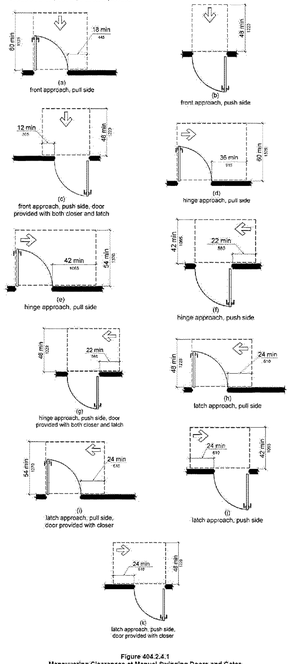


Figure 404.2.4.1
Maneuvering Clearances at Manual Swinging Doors and Gates

404.2.4.2 Doorways without Doors or Gates, Sliding Doors, and Folding Doors. Doorways less than 36 inches (915 mm) wide without doors or gates, sliding doors, or folding doors shall have maneuvering clearances complying with Table 404.2.4.2.

Table 404.2.4.2 Maneuvering Clearances at Doorways without Doors or Gates, Manual Sliding Doors, and Manual Folding Doors

Approach Direction	Minimum Maneuvering Clearance	
	Perpendicular to Doorway	Parallel to Doorway (beyond stop/latch side unless noted)
From Front	48 inches (1220 mm)	0 inches (0 mm)
From side[1]	42 inches (1065 mm)	0 inches (0 mm)
From pocket/hinge side	42 inches (1065 mm)	22 inches (560 mm)[2]
From stop/latch side	42 inches (1065 mm)	24 inches (610 mm)

1. Doorway with no door only.
2. Beyond pocket/hinge side.

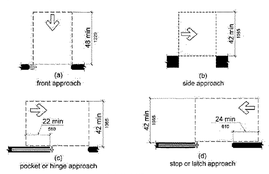


Figure 404.2.4.2
Maneuvering Clearances at Doorways without Doors, Sliding Doors, Gates, and Folding Doors

404.2.4.3 Recessed Doors and Gates. Maneuvering clearances for forward approach shall be provided when any obstruction within 18 inches (455 mm) of the latch side of a doorway projects more than 8 inches (205 mm) beyond the face of the door, measured perpendicular to the face of the door or gate.

> **Advisory 404.2.4.3 Recessed Doors and Gates.** A door can be recessed due to wall thickness or because of the placement of casework and other fixed elements adjacent to the doorway. This provision must be applied wherever doors are recessed.

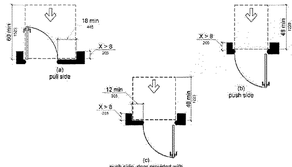


Figure 404.2.4.3
Maneuvering Clearances at Recessed Doors and Gates

404.2.4.4 Floor or Ground Surface. Floor or ground surface within required maneuvering clearances shall comply with 302. Changes in level are not permitted.

EXCEPTIONS: 1. Slopes not steeper than 1:48 shall be permitted.

2. Changes in level at thresholds complying with 404.2.5 shall be permitted.

404.2.5 Thresholds. Thresholds, if provided at doorways, shall be ½ inch (13 mm) high maximum. Raised thresholds and changes in level at doorways shall comply with 302 and 303.

EXCEPTION: Existing or altered thresholds ¾ inch (19 mm) high maximum that have a beveled edge on each side with a slope not steeper than 1:2 shall not be required to comply with 404.2.5.

404.2.6 Doors in Series and Gates in Series. The distance between two hinged or pivoted doors in series and gates in series shall be 48 inches (1220 mm) minimum plus the width of doors or gates swinging into the space.

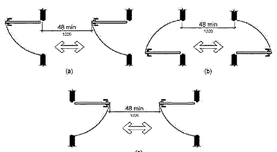


Figure 404.2.6
Doors in Series and Gates in Series

404.2.7 Door and Gate Hardware. Handles, pulls, latches, locks, and other operable parts on doors and gates shall comply with 309.4. *Operable parts* of such hardware shall be 34 inches (865 mm) minimum and 48 inches (1220 mm) maximum above the finish floor or ground. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides.

EXCEPTIONS: 1. Existing locks shall be permitted in any location at existing glazed doors without stiles, existing overhead rolling doors or grilles, and similar existing doors or grilles that are designed with locks that are activated only at the top or bottom rail.

2. Access gates in barrier walls and fences protecting pools, spas, and hot tubs shall be permitted to have *operable parts* of the release of latch on self-latching devices at 54 inches (1370 mm) maximum above the finish floor or ground provided the self-latching devices are not also self-locking devices and operated by means of a key, electronic opener, or integral combination lock.

> **Advisory 404.2.7 Door and Gate Hardware.** Door hardware that can be operated with a loose fist or a loose grip accommodates the greatest range of users. Hardware that requires simultaneous hand and finger movements require greater dexterity and coordination, and is not recommended.

404.2.8 Closing Speed. Door and gate closing speed shall comply with 404.2.8.

404.2.8.1 Door Closers and Gate Closers. Door closers and gate closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds minimum.

404.2.8.2 Spring Hinges. Door and gate spring hinges shall be adjusted so that from the open position of 70 degrees, the door or gate shall move to the closed position in 1.5 seconds minimum.

404.2.9 Door and Gate Opening Force. Fire doors shall have a minimum opening force allowable by the appropriate administrative authority. The force for pushing or pulling open a door or gate other than fire doors shall be as follows:

1. Interior hinged doors and gates: 5 pounds (22.2 N) maximum.
2. Sliding or folding doors: 5 pounds (22.2 N) maximum.

These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door or gate in a closed position.

> **Advisory 404.2.9 Door and Gate Opening Force.** The maximum force pertains to the continuous application of force necessary to fully open a door, not the initial force needed to overcome the inertia of the door. It does not apply to the force required to retract bolts or to disengage other devices used to keep the door in a closed position.

404.2.10 Door and Gate Surfaces. Swinging door and gate surfaces within 10 inches (255 mm) of the finish floor or ground measured vertically shall have a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in these surfaces shall be within 1/16 inch (1.6 mm) of the same plane as the other. Cavities created by added kick plates shall be capped.

EXCEPTIONS: 1. Sliding doors shall not be required to comply with 404.2.10.

2. Tempered glass doors without stiles and having a bottom rail or shoe with the top leading edge tapered at 60 degrees minimum from the horizontal shall not be required to meet the 10 inch (255 mm) bottom smooth surface height requirement.

3. Doors and gates that do not extend to within 10 inches (255 mm) of the finish floor or ground shall not be required to comply with 404.2.10.

4. Existing doors and gates without smooth surfaces within 10 inches (255 mm) of the finish floor or ground shall not be required to provide smooth surfaces complying with 404.2.10 provided that if added kick plates are installed, cavities created by such kick plates are capped.

404.2.11 Vision Lights. Doors, gates, and side lights adjacent to doors or gates, containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one glazed panel located 43 inches (1090 mm) maximum above the finish floor.

EXCEPTION: Vision lights with the lowest part more than 66 inches (1675 mm) from the finish floor or ground shall not be required to comply with 404.2.11.

404.3 Automatic and Power-Assisted Doors and Gates. Automatic doors and automatic gates shall comply with 404.3. Full-powered automatic doors shall comply with ANSI/BHMA A156.10 (incorporated by reference, see "Referenced Standards" in Chapter 1). Low-energy and power-assisted doors shall comply with ANSI/BHMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1).

404.3.1 Clear Width. Doorways shall provide a clear opening of 32 inches (815 mm) minimum in power-on and power-off mode. The minimum clear width for automatic door systems in a doorway shall be based on the clear opening provided by all leaves in the open position.

404.3.2 Maneuvering Clearance. Clearances at power-assisted doors and gates shall comply with 404.2.4. Clearances at automatic doors and gates without standby power and serving an *accessible means of egress* shall comply with 404.2.4.

EXCEPTION: Where automatic doors and gates remain open in the power-off condition, compliance with 404.2.4 shall not be required.

404.3.3 Thresholds. Thresholds and changes in level at doorways shall comply with 404.2.5.

404.3.4 Doors in Series and Gates in Series. Doors in series and gates in series shall comply with 404.2.6.

404.3.5 Controls. Manually operated controls shall comply with 309. The clear floor *space* adjacent to the control shall be located beyond the arc of the door swing.

404.3.6 Break Out Opening. Where doors and gates without standby power are a part of a means of egress, the clear break out opening at swinging or sliding doors and gates shall be 32 inches (815 mm) minimum when operated in emergency mode.

EXCEPTION: Where manual swinging doors and gates comply with 404.2 and serve the same means of egress compliance with 404.3.6 shall not be required.

404.3.7 Revolving Doors, Revolving Gates, and Turnstiles. Revolving doors, revolving gates, and turnstiles shall not be part of an *accessible route*.

405 Ramps

405.1 General. *Ramps* on *accessible routes* shall comply with 405.

EXCEPTION: In assembly areas, aisle *ramps* adjacent to seating and not serving *elements* required to be on an *accessible route* shall not be required to comply with 405.

405.2 Slope. *Ramp runs* shall have a *running slope* not steeper than 1:12.

EXCEPTION: In existing *sites*, *buildings*, and *facilities*, *ramps* shall be permitted to have *running slopes* steeper than 1:12 complying with Table 405.2 where such slopes are necessary due to *space* limitations.

Table 405.2 Maximum Ramp Slope and Rise for Existing Sites, Buildings, and Facilities

Slope[1]	Maximum Rise
Steeper than 1:10 but not steeper than 1:8	3 inches (75 mm)
Steeper than 1:12 but not steeper than 1:10	6 inches (150 mm)

1. A slope steeper than 1:8 is prohibited.

> **Advisory 405.2 Slope.** To accommodate the widest range of users, provide ramps with the least possible running slope and, wherever possible, accompany ramps with stairs for use by those individuals for whom distance presents a greater barrier than steps, e.g., people with heart disease or limited stamina.

405.3 Cross Slope. *Cross slope* of *ramp runs* shall not be steeper than 1:48.

> **Advisory 405.3 Cross Slope.** Cross slope is the slope of the surface perpendicular to the direction of travel. Cross slope is measured the same way as slope is measured (i.e., the rise over the run).

405.4 Floor or Ground Surfaces. Floor or ground surfaces of *ramp runs* shall comply with 302. Changes in level other than the *running slope* and *cross slope* are not permitted on *ramp runs*.

405.5 Clear Width. The clear width of a ramp run and, where handrails are provided, the clear width between handrails shall be 36 inches (915 mm) minimum.

EXCEPTION: Within employee work areas, the required clear width of *ramps* that are a part of *common use circulation paths* shall be permitted to be decreased by *work area equipment* provided that the decrease is essential to the function of the work being performed.

405.6 Rise. The rise for any *ramp run* shall be 30 inches (760 mm) maximum.

405.7 Landings. *Ramps* shall have landings at the top and the bottom of each *ramp run*. Landings shall comply with 405.7.

> **Advisory 405.7 Landings.** Ramps that do not have level landings at changes in direction can create a compound slope that will not meet the requirements of this document. Circular or curved ramps continually change direction.

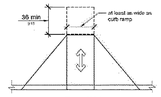


Figure 406.4
Landings at the Top of Curb Ramps

406.5 Location. *Curb ramps* and the flared sides of *curb ramps* shall be located so that they do not project into vehicular traffic lanes, *parking spaces*, or parking access aisles. *Curb ramps at marked crossings* shall be wholly contained within the markings, excluding any flared sides.

406.6 Diagonal Curb Ramps. Diagonal or corner type *curb ramps* with returned curbs or other well-defined edges shall have the edges parallel to the direction of pedestrian flow. The bottom of diagonal *curb ramps* shall have a clear space 48 inches (1220 mm) minimum outside active traffic lanes of the roadway. *Diagonal curb ramps provided at marked crossings* shall provide the 48 inches (1220 mm) minimum clear space within the markings. *Diagonal curb ramps* with flared sides shall have a segment of curb 24 inches (610 mm) long minimum located on each side of the *curb ramp* and within the *marked crossing*.

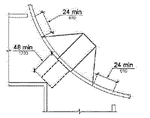


Figure 406.5
Diagonal or Corner Type Curb Ramps

406.7 Islands. Raised islands in crossings shall be cut through level with the street or have *curb ramps* at both sides. Each *curb ramp* shall have a level area 48 inches (1220 mm) long minimum by 36 inches (915 mm) wide minimum at the top of the *curb ramp* in the part of the island intersected by the crossings. Each 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum area shall be oriented so that the 48 inch (1220 mm) minimum length is in the direction of the *running slope* of the *curb ramp* it serves. The 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum areas and the accessible route shall be permitted to overlap.

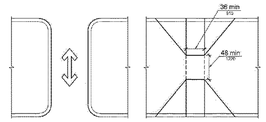


Figure 406.7
Islands in Crossings

407 Elevators

407.1 General. Elevators shall comply with 407 and with ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be *passenger elevators* as classified by ASME A17.1. *Elevator* operation shall be automatic.

> **Advisory 407.1 General.** The ADA and other Federal civil rights laws require that accessible features be maintained in working order so that they are accessible to and usable by those people they are intended to benefit. Building owners should note that the ASME Safety Code for Elevators and Escalators requires routine maintenance and inspections. Isolated or temporary interruptions in service due to maintenance or repairs may be unavoidable; however, failure to take prompt action to effect repairs could constitute a violation of Federal laws and these requirements.

407.2 Elevator Landing Requirements. Elevator landings shall comply with 407.2.

407.2.1 Call Controls. Where elevator call buttons or keypads are provided, they shall comply with 407.2.1 and 309.4. Call buttons shall be raised or flush.
EXCEPTION: Existing elevators shall be permitted to have recessed call buttons.

407.2.1.1 Height. Call buttons and keypads shall be located within one of the reach ranges specified in 308, measured to the centerline of the highest *operable part*.
EXCEPTION: Existing call buttons and existing keypads shall be permitted to be located at 54 inches (1370 mm) maximum above the finish floor, measured to the centerline of the highest *operable part*.

407.2.1.2 Size. Call buttons shall be ¾ inch (19 mm) minimum in the smallest dimension.
EXCEPTION: Existing elevator call buttons shall not be required to comply with 407.2.1.2.

407.2.1.3 Clear Floor or Ground Space. A clear floor or ground *space* complying with 305 shall be provided at call controls.

> **Advisory 407.2.1.3 Clear Floor or Ground Space.** The clear floor or ground space required at elevator call buttons must remain free of obstructions including ashtrays, plants, and other decorative elements that prevent wheelchair users and others from reaching the call buttons. The height of the clear floor or ground space is considered to be a volume from the floor to 80 inches (2030 mm) above the floor. Recessed ashtrays should not be placed near elevator call buttons so that persons who are blind or visually impaired do not inadvertently contact them or their contents as they reach for the call buttons.

407.2.1.4 Location. The call button that designates the up direction shall be located above the call button that designates the down direction.
EXCEPTION: Destination-oriented elevators shall not be required to comply with 407.2.1.4.

> **Advisory 407.2.1.4 Location Exception.** A destination-oriented elevator system provides lobby controls enabling passengers to select floor stops, lobby indicators designating which elevator to use, and a car indicator designating the floors at which the car will stop. Responding cars are programmed for maximum efficiency by reducing the number of stops any passenger experiences.

407.2.1.5 Signals. Call buttons shall have visible signals to indicate when each call is registered and when each call is answered.
EXCEPTIONS: 1. Destination-oriented elevators shall not be required to comply with 407.2.1.5 provided that visible and audible signals complying with 407.2.2 indicating which elevator car to enter are provided.
2. Existing elevators shall not be required to comply with 407.2.1.5.

407.2.1.6 Keypads. Where keypads are provided, keypads shall be in a standard telephone keypad arrangement and shall comply with 407.4.7.2.

407.2.2 Hall Signals. Hall signals, including in-car signals, shall comply with 407.2.2.

407.2.2.1 Visible and Audible Signals. A visible and audible signal shall be provided at each hoistway entrance to indicate which car is answering a call and the car's direction of travel. Where in-car signals are provided, they shall be visible from the floor area adjacent to the hall call buttons.
EXCEPTIONS: 1. Visible and audible signals shall not be required at each destination-oriented elevator where a visible and audible signal complying with 407.2.2 is provided indicating the elevator car designation information.
2. In existing elevators, a signal indicating the direction of car travel shall not be required.

407.2.2.2 Visible Signals. Visible signal fixtures shall be centered at 72 inches (1830 mm) minimum above the finish floor or ground. The visible signal *elements* shall be 2-½ inches (64 mm) minimum measured along the vertical centerline of the *element*. Signals shall be visible from the floor area adjacent to the hall call button.
EXCEPTIONS: 1. Destination-oriented elevators shall be permitted to have signals visible from the floor area adjacent to the hoistway entrance.
2. Existing elevators shall not be required to comply with 407.2.2.2.

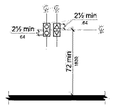


Figure 407.2.2.2
Visible Hall Signals

407.2.3 Audible Signals. Audible signals shall sound once for the up direction and twice for the down direction, or shall have verbal announcators that indicate the direction of elevator car travel. Audible signals shall have a frequency of 1500 Hz maximum. Verbal announcators shall have a frequency of 300 Hz minimum and 3000 Hz maximum. The audible signal and verbal announciator shall be 10 dB minimum above ambient, but shall not exceed 80 dB, measured at the hall call button.
EXCEPTIONS: 1. Destination-oriented elevators shall not be required to comply with 407.2.2.3 provided that the audible tone and verbal announcement is the same as those given at the call button or call button keypad.
2. Existing elevators shall not be required to comply with the requirements for frequency and dB range of audible signals.

407.2.4 Differentiation. Each destination-oriented elevator in a bank of elevators shall have audible and visible means for differentiation.

407.2.5 Hoistway Signs. *Signs* at elevator hoistways shall comply with 407.2.3.

407.2.3.1 Floor Designation. *Floor designations* complying with 703.2 and 703.4.1 shall be provided on both jambs of elevator hoistway entrances. Floor designations shall be provided in both *tactile characters* and braille. *Tactile characters* shall be 2 inches (51 mm) high minimum. A *tactile star* shall be provided on both jambs at the main entry level.

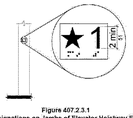


Figure 407.2.3.1
Floor Designations on Jambs of Elevator Hoistway Entrances

407.2.3.2 Car Designations. Destination-oriented elevators shall provide *tactile car identification* complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both *tactile characters* and braille. *Tactile characters* shall be 2 inches (51 mm) high minimum.

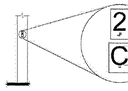


Figure 407.2.3.2
Car Designations on Jambs of Destination-Oriented Elevator Hoistway Entrances

407.3 Elevator Door Requirements. Hoistway and car doors shall comply with 407.3.

407.3.1 Type. Elevator doors shall be the horizontal sliding type. Car gates shall be prohibited.

407.3.2 Operation. Elevator hoistway and car doors shall open and close automatically.
EXCEPTION: Existing manually operated hoistway swing doors shall be permitted provided that they comply with 404.2.3 and 404.2.9. Car door *closing* shall not be initiated until the hoistway door is closed.

407.3.3 Reopening Device. Elevator doors shall be provided with a reopening device complying with 407.3.3 that shall stop and reopen a car door and hoistway door automatically if the door becomes obstructed by an object or person.
EXCEPTION: Existing elevators with manually operated doors shall not be required to comply with 407.3.3.

407.3.3.1 Height. The device shall be activated by sensing an obstruction passing through the opening at 5 inches (125 mm) *nominal* and 29 inches (735 mm) nominal above the finish floor.

407.3.3.2 Contact. The device shall not require physical contact to be activated, although contact is permitted to occur before the door reverses.

407.3.3.3 Duration. Door reopening devices shall remain effective for 20 seconds minimum.

407.3.4 Door and Signal Timing. The minimum acceptable time from notification that a car is answering a call or notification of the car assigned at the means for the entry of destination information until the doors of that car start to close shall be calculated from the following equation:

T = D/(1.5 ft/s) or T = D/(455 mm/s) + 5 seconds minimum where T equals the total time in seconds and D equals the distance (in feet or millimeters) from the point in the lobby or corridor 60 inches (1525 mm) directly in front of the farthest call button controlling that car to the centerline of its hoistway door.
EXCEPTIONS: 1. For cars with in-car lanterns, T shall be permitted to begin when the signal is visible from the point 60 inches (1525 mm) directly in front of the farthest hall call button and the audible signal is sounded.
2. Destination-oriented elevators shall not be required to comply with 407.3.4.

407.3.5 Door Delay. Elevator doors shall remain fully open in response to a car call for 3 seconds minimum.

407.3.6 Width. The width of elevator doors shall comply with Table 407.4.1.
EXCEPTION: In existing elevators, a power-operated car door complying with 404.2.3 shall be permitted.

407.4 Elevator Car Requirements. *Elevator cars* shall comply with 407.4.

407.4.1 Car Dimensions. Inside dimensions of *elevator cars* and clear width of elevator doors shall comply with Table 407.4.1.

EXCEPTION: *Existing elevator car* configurations that provide a clear floor area of 16 *square* feet (1.5 m^2) minimum and also provide an inside clear depth 54 inches (1370 mm) minimum and a clear width 36 inches (915 mm) minimum shall be permitted.

Table 407.4.1 Elevator Car Dimensions

Door Location	Minimum Dimensions			
	Door Clear Width	Inside Car, Side to Side	Inside Car, Back Wall to Front Return	Inside Car, Back Wall to Inside Face of Door
Centered	42 inches (1065 mm)	80 inches (2030 mm)	51 inches (1295 mm)	54 inches (1370 mm)
Side (off-centered)	36 inches (915 mm)[1]	68 inches (1725 mm)	51 inches (1295 mm)	54 inches (1370 mm)
Any	36 inches (915 mm)[1]	54 inches (1370 mm)	80 inches (2030 mm)	80 inches (2030 mm)
Any	36 inches (915 mm)[1]	60 inches (1525 mm)[2]	60 inches (1525 mm)[2]	60 inches (1525 mm)[2]

1. A tolerance of minus 5/8 inch (16 mm) is permitted.
2. Other car configurations that provide a turning *space* complying with 304 with the door closed shall be permitted.

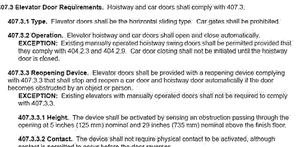


Figure 407.4.1
Elevator Car Dimensions

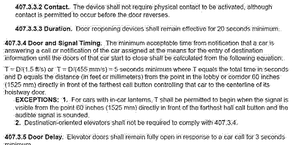


Figure 407.4.1
Elevator Car Dimensions

407.4.2 Floor Surfaces. *Floor surfaces* in *elevator cars* shall comply with 302 and 303.

407.4.3 Platform to Hoistway Clearance. The clearance between the car platform sill and the edge of any hoistway landing shall be 1¼ inch (32 mm) maximum.

407.4.4 Leveling. Each car shall be equipped with a self-leveling feature that will automatically bring and maintain the car at floor landings within a tolerance of ½ inch (13 mm) under rated loading to zero loading conditions.

407.4.5 Illumination. The level of illumination at the car controls, platform, car threshold and car landing sill shall be 5 foot candles (54 lux) minimum.

407.4.6 Elevator Car Controls. Where provided, *elevator car controls* shall comply with 407.4.6 and 309.4.
EXCEPTION: In existing elevators, where a new car operating panel complying with 407.4.6 is provided, existing car operating panels shall not be required to comply with 407.4.6.

407.4.6.1 Location. Controls shall be located within one of the reach ranges specified in 308.
EXCEPTIONS: 1. Where the elevator panel serves more than 16 openings and a parallel approach is provided, buttons with floor designations shall be permitted to be 54 inches (1370 mm) maximum above the finish floor.
2. In existing elevators, car control buttons with floor designations shall be permitted to be located 54 inches (1370 mm) maximum above the finish floor where a parallel approach is provided.

407.4.6.2 Buttons. Car control buttons with floor designations shall comply with 407.4.6.2 and shall be raised or flush.
EXCEPTION: In existing elevators, buttons shall be permitted to be recessed.

407.4.6.2.1 Size. Buttons shall be 3/4 inch (19 mm) minimum in their smallest dimension.

407.4.6.2.2 Arrangement. Buttons shall be arranged with numbers in ascending order. When two or more columns of buttons are provided they shall read from left to right.

407.4.6.3 Keypads. Car control keypads shall be in a standard telephone keypad arrangement and shall comply with 407.4.7.2.

407.4.6.4 Emergency Controls. Emergency controls shall comply with 407.4.6.4.

407.4.6.4.1 Height. Emergency control buttons shall have their centerlines 35 inches (890 mm) minimum above the finish floor.

407.4.6.4.2 Location. Emergency controls, including the emergency alarm, shall be grouped at the bottom of the panel.

407.4.7 Designations and Indicators of Car Controls. Designations and indicators of car controls shall comply with 407.4.7.

EXCEPTION: In existing elevators, where a new car operating panel complying with 407.4.7 is provided, existing car operating panels shall not be required to comply with 407.4.7.

407.4.7.1 Buttons. Car control buttons shall comply with 407.4.7.1.

407.4.7.1.1 Type. Control buttons shall be identified by *tactile characters* complying with 703.2.

407.4.7.1.2 Location. Raised *character* and braille *designations* shall be placed immediately to the left of the control button to which the designations apply.
EXCEPTION: Where *space* on an existing car operating panel precludes *tactile markings* to the left of the controls, *markings* shall be placed as near to the control as possible.

407.4.7.1.3 Symbols. The control button for the emergency stop, alarm, door open, door close, main entry floor, and phone, shall be identified with *tactile* symbols as shown in Table 407.4.7.1.3.

Table 407.4.7.1.3 Elevator Control Button Identification

Control Button	Tactile Symbol	Braille Message
Emergency Stop	⊗	"ST OP" Three cells
Alarm	🔔	"AL'AR'M For cells
Door Open	◖◗	"OP'EN" Three cells
Door Close	◗◖	"CLOSE Five cells
Main Entry Floor	★	"MA'IN" Three cells
Phone	📞	"PH'ONE" Four cells

407.4.7.1.4 Visible Indicators. Buttons with floor designations shall be provided with visible indicators to show that a call has been registered. The visible indication shall extinguish when the car arrives at the designated floor.

407.4.7.2 Keypads. Keypads shall be identified by *characters* complying with 703.5 and shall be centered on the corresponding keypad button. The number five key shall have a single raised dot. The dot shall be 0.118 inch (3 mm) to 0.120 inch (3.05 mm) base diameter and in other aspects comply with Table 703.3.1.

407.4.8 Car Position Indicators. Audible and visible car position indicators shall be provided in *elevator cars*.

407.4.8.1 Visible Indicators. Visible indicators shall comply with 407.4.8.1.

407.4.8.1.1 Size. *Characters* shall be ½ inch (13 mm) high minimum.

407.4.8.1.2 Location. Indicators shall be located above the car control panel or above the door.

407.4.8.1.3 Floor Arrival. As the car passes a floor and when a car stops at a floor served by the elevator, the corresponding *character* shall illuminate.
EXCEPTION: Destination-oriented elevators shall not be required to comply with 407.4.8.1.3 provided that the visible indicators extinguish when the call has been answered.

407.4.8.1.4 Destination Indicator. In destination-oriented elevators, a display shall be provided in the car with visible indicators to show car destinations.

407.4.8.2 Audible Indicators. Audible indicators shall comply with 407.4.8.2.

407.4.8.2.1 Signal Type. The signal shall be an automatic verbal announciator which announces the floor at which the car is about to stop.
EXCEPTION: For elevators other than destination-oriented elevators that have a rated speed of 200 feet per minute (1 m/s) or less, a non-verbal audible signal with a frequency of 1500 Hz maximum which counts as the car passes or is about to stop at a floor served by the elevator shall be permitted.

407.4.8.2.2 Signal Level. The verbal announciator shall be 10 dB minimum above ambient, but shall not exceed 80 dB, measured at the announciator.

407.4.8.2.3 Frequency. The verbal announciator shall have a frequency of 300 Hz minimum to 3000 Hz maximum.

407.4.9 Emergency Communication. Emergency two-way communication systems shall comply with 308. *Tactile symbols* and *characters* shall be provided adjacent to the device and shall comply with 703.2.

408 Limited-Use/Limited-Application Elevators

408.1 General. Limited-use/limited-application elevators shall comply with 408 and with ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be *passenger elevators* as classified by ASME A17.1. *Elevator* operation shall be automatic.

408.2 Elevator Landings. Landings serving limited-use/limited-application *elevators* shall comply with 408.2.

408.2.1 Call Buttons. *Elevator* call buttons and keypads shall comply with 407.2.1.

408.2.2 Hall Signals. Hall signals shall comply with 407.2.2.

408.2.3 Hoistway Signs. Signs at elevator hoistways shall comply with 407.2.3.1.

408.3 Elevator Doors. Elevator hoistway doors shall comply with 408.3.

408.3.1 Sliding Doors. Sliding hoistway and car doors shall comply with 407.3.1 through 407.3.3 and 408.4.1.

408.3.2 Swinging Doors. Swinging hoistway doors shall open and close automatically and shall comply with 404, 407.3.2 and 408.3.2.

408.3.2.1 Power Operation. Swinging doors shall be power-operated and shall comply with ANSI/BHMA A156.10 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1).

408.3.2.2 Duration. Power-operated swinging doors shall remain open for 20 seconds minimum when activated.

408.4 Elevator Cars. *Elevator cars* shall comply with 408.4.

408.4.1 Car Dimensions and Doors. *Elevator cars* shall provide a clear width 42 inches (1065 mm) minimum and a clear depth 54 inches (1370 mm) minimum. Car doors shall be positioned at the narrow ends of cars and shall provide 32 inches (815 mm) minimum clear width.
EXCEPTIONS: 1. Cars that provide a clear width 51 inches (1295 mm) minimum shall be permitted to provide a clear depth 51 inches (1295 mm) minimum provided that car doors provide a clear opening 36 inches (915 mm) wide minimum.
2. Existing elevator cars shall be permitted to provide a clear width 36 inches (915 mm) minimum, clear depth 54 inches (1370 mm) minimum, and a net clear platform area 15 square feet (1.4 m^2) minimum.

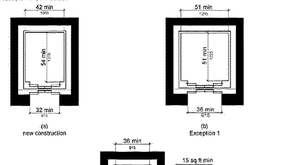


Figure 408.4.1
Limited-Use/Limited-Application (LULA) Elevator Car Dimensions

408.4.2 Floor Surfaces. Floor surfaces in elevator cars shall comply with 302 and 303.

408.4.3 Platform to Hoistway Clearance. The platform to hoistway clearance shall comply with 407.4.3.

408.4.4 Leveling. *Elevator car leveling* shall comply with 407.4.4.

408.4.5 Illumination. *Elevator car illumination* shall comply with 407.4.5.

408.4.6 Car Controls. Elevator car controls shall comply with 407.4.6. Control panels shall be centered on a side wall.

408.4.7 Designations and Indicators of Car Controls. Designations and indicators of car controls shall comply with 407.4.7.

408.4.8 Emergency Communications. Car emergency signaling devices complying with 407.4.9 shall be provided.

409 Private Residence Elevators

409.1 General. Private residence elevators that are provided within a *residential dwelling unit* required to provide mobility features complying with 809.2 through 809.4 shall comply with 409 and with ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be *passenger elevators* as classified by ASME A17.1. *Elevator* operation shall be automatic.

409.2 Call Buttons. Call buttons shall be ¾ inch (19 mm) minimum in the smallest dimension and shall comply with 309.

409.3 Elevator Doors. Hoistway doors, car doors, and car gates shall comply with 409.3 and 404.
EXCEPTION: Doors shall not be required to comply with the maneuvering clearance requirements in 404.2.4.1 for approaches to the push side of swinging doors.

409.3.1 Power Operation. Elevator car and hoistway doors and gates shall be power operated and shall comply with ANSI/BHMA A156.10 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1). Power operated doors and gates shall remain open for 20 seconds minimum when activated.
EXCEPTION: In elevator cars with more than one opening, hoistway doors and gates shall be permitted to be of the manual-open, self-close type.

409.3.2 Location. *Elevator car doors* or gates shall be positioned at the narrow end of the *clear floor spaces* required by 409.4.1.

409.4 Elevator Cars. Private residence *elevator cars* shall comply with 409.4.

409.4.1 Inside Dimensions of Elevator Cars. *Elevator cars* shall provide a *clear floor space* of 36 inches (915 mm) minimum by 48 inches (1220 mm) minimum and shall comply with 305.

409.4.2 Floor Surfaces. Floor surfaces in *elevator cars* shall comply with 302 and 303.

409.4.3 Platform to Hoistway Clearance. The clearance between the car platform and the edge of any landing sill shall be 1½ inch (38 mm) maximum.

409.4.4 Leveling. Each car shall automatically stop at a floor landing within a tolerance of ½ inch (13 mm) under rated loading to zero loading conditions.

409.4.5 Illumination Levels. *Elevator car illumination* shall comply with 407.4.5.

409.4.6 Car Controls. Elevator car control buttons shall comply with 409.4.6, 309.3, 309.4, and shall be raised or flush.

409.4.6.1 Size. Control buttons shall be 3/4 inch (19 mm) minimum in their smallest dimension.

409.4.6.2 Location. Control panels shall be on a side wall, 12 inches (305 mm) minimum from any adjacent wall.



Figure 409.4.6.2
Location of Private Residence Elevator Control Panel

409.4.7 Emergency Communications. Emergency two-way communication systems shall comply with 409.4.7.

409.4.7.1 Type. A telephone and emergency signal device shall be provided in the car.

409.4.7.2 Operable Parts. The telephone and emergency signaling device shall comply with 309.3 and 309.4.

409.4.7.3 Compartment. If the telephone or device is in a closed compartment, the compartment door hardware shall comply with 309.

409.4.7.4 Cord. The telephone cord shall be 29 inches (735 mm) long minimum.

410 Platform Lifts

410.1 General. Platform lifts shall comply with ASME A18.1 (1999 edition or 2003 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1). Platform lifts shall not be attendant-operated and shall provide unassisted entry and exit from the lift.

> **Advisory 410.1 General.** Inclined stairway chairlifts and inclined and vertical platform lifts are available for short-distance vertical transportation. Because an accessible route requires an 80 inch (2030 mm) vertical clearance, care should be taken in selecting lifts as they may not be equally suitable for use by people using wheelchairs and people standing. If a lift does not provide 80 inch (2030 mm) vertical clearance, it cannot be considered part of an accessible route in new construction.
>
> The ADA and other Federal civil rights laws require that accessible features be maintained in working order so that they are accessible to and usable by those people they are intended to benefit. Building owners are reminded that the ASME A18 Safety Standard for Platform Lifts and Stairway Chairlifts requires routine maintenance and inspections. Isolated or temporary interruptions in service due to maintenance or repairs may be unavoidable; however, failure to take prompt action to effect repairs could constitute a violation of Federal laws and these requirements.

410.2 Floor Surfaces. Floor surfaces in platform lifts shall comply with 302 and 303.

410.3 Clear Floor Space. Clear floor *space* in platform lifts shall comply with 305.

410.4 Platforms to Runway Clearance. The clearance between the platform sill and the edge of any runway landing shall be 1¼ inch (32 mm) maximum.

410.5 Operable Parts. Controls for platform lifts shall comply with 309.

410.6 Doors and Gates. Platform lifts shall have low-energy power-operated doors or gates complying with 404.3. Doors shall remain open for 20 seconds minimum. *End doors* and *gates* shall provide a clear width 32 inches (815 mm) minimum. *Side doors* and *gates* shall provide a clear width 42 inches (1065 mm) minimum.
EXCEPTION: Platform lifts serving two landings maximum and having doors or gates on opposite sides shall be permitted to have self-closing manual doors or gates.

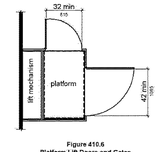


Figure 410.6
Platform Lift Doors and Gates

CHAPTER 5: GENERAL SITE AND BUILDING ELEMENTS

501 General

501.1 Scope. The provisions of Chapter 5 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

502 Parking Spaces

502.1 General. Car and van parking *spaces* shall comply with 502. Where parking *spaces* are marked with lines, width measurements of parking *spaces* and access aisles shall be made from the centerline of the markings.
EXCEPTION: Where parking *spaces* or access aisles are not adjacent to another parking *space* or access aisle, measurements shall be permitted to include the full width of the line defining the parking *space* or access aisle.

502.2 Vehicle Spaces. Car parking *spaces* shall be 96 inches (2440 mm) wide minimum and van parking *spaces* shall be 132 inches (3350 mm) wide minimum, shall be marked to define the width, and shall have an adjacent access aisle complying with 502.3.
EXCEPTION: Van parking *spaces* shall be permitted to be 96 inches (2440 mm) wide minimum where the access aisle is 96 inches (2440 mm) wide minimum.

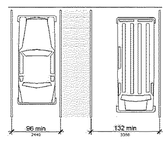


Figure 502.2
Vehicle Parking Spaces

502.3 Access Aisle. Access aisles serving parking *spaces* shall comply with 502.3. Access aisles shall adjoin an accessible route. Two parking *spaces* shall be permitted to share a common access aisle.

> **Advisory 502.3 Access Aisle.** Accessible routes must connect parking spaces to accessible entrances. In parking facilities where the accessible route must cross vehicular traffic lanes, marked crossings enhance pedestrian safety, particularly for people using wheelchairs and other mobility aids. Where possible, it is preferable that the accessible route not pass behind parked vehicles.

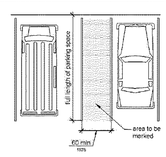


Figure 502.3
Parking Space Access Aisle

502.3.1 Width. Access aisles serving car and van parking *spaces* shall be 60 inches (1525 mm) wide minimum.

502.3.2 Length. Access aisles shall extend the full length of the parking *spaces* they serve.

502.3.3 Marking. Access aisles shall be marked so as to discourage parking in them.

> **Advisory 502.3.3 Marking.** The method and color of marking are not specified by these requirements but may be addressed by State or local laws or regulations. Because these requirements permit the van access aisle to be as wide as a parking space, it is important that the aisle be clearly marked.

502.3.4 Location. Access aisles shall not overlap the *vehicular way*. Access aisles shall be permitted to be placed on either side of the parking *space* except for angled van parking *spaces* which shall have access aisles located on the passenger side of the parking *spaces*.

> **Advisory 502.3.4 Location.** Wheelchair lifts typically are installed on the passenger side of vans. Many drivers, especially those who operate vans, find it more difficult to back into parking spaces than to back out into comparatively unrestricted vehicular lanes. For this reason, where a van and car share an access aisle, consider locating the van space so that the access aisle is on the passenger side of the van space.

502.4 Floor or Ground Surfaces. Parking *spaces* and access aisles serving them shall comply with 302. Access aisles shall be at the same level as the parking *spaces* they serve. Changes in level are not permitted.
EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

> **Advisory 502.4 Floor or Ground Surfaces.** Access aisles are required to be nearly level in all directions to provide a surface for wheelchair transfer to and from vehicles. The exception allows sufficient slope for drainage. Built-up curb ramps are not permitted to project into access aisles and parking spaces because they would create slopes greater than 1:48.

502.5 Vertical Clearance. Parking *spaces* for vans and access aisles and vehicular routes serving them shall provide a vertical clearance of 98 inches (2490 mm) minimum.

> **Advisory 502.5 Vertical Clearance.** Signs provided at entrances to parking facilities informing drivers of clearances and the location of van accessible parking spaces can provide useful customer assistance.

502.6 Identification. Parking *space* identification signs shall include the International Symbol of Accessibility complying with 703.7.2.1. Signs identifying van parking *spaces* shall contain the designation "van accessible." Signs shall be 60 inches (1525 mm) minimum above the finish floor or ground surface measured to the bottom of the sign.

> **Advisory 502.6 Identification.** The required "van accessible" designation is intended to be informative, not restrictive, in identifying those spaces that are better suited for van use. Enforcement of motor vehicle laws, including parking privileges, is a local matter.

502.7 Relationship to Accessible Routes. Parking *spaces* and access aisles shall be designed so that cars and vans, when parked, cannot obstruct the required clear width of adjacent accessible routes.

> **Advisory 502.7 Relationship to Accessible Routes.** Wheel stops are an effective way to prevent vehicle overhangs from reducing the clear width of accessible routes.

503 Passenger Loading Zones

503.1 General. Passenger loading zones shall comply with 503.

503.2 Vehicle Pull-Up Space. Passenger loading zones shall provide a vehicular pull-up *space* 96 inches (2440 mm) wide minimum and 20 feet (6100 mm) long minimum.

503.3 Access Aisle. Passenger loading zones shall provide access aisles complying with 503 adjacent to the vehicle pull-up space. Access aisles shall adjoin an accessible route and shall not overlap the *vehicular way*.

503.3.1 Width. Access aisles serving vehicle pull-up *spaces* shall be 60 inches (1525 mm) wide minimum.

503.3.2 Length. Access aisles shall extend the full length of the vehicle pull-up spaces they serve.

503.3.3 Marking. Access aisles shall be marked so as to discourage parking in them.

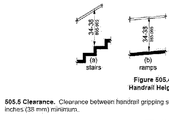


Figure 503.3
Passenger Loading Zone Access Aisle

503.4 Floor and Ground Surfaces. Vehicle pull-up *spaces* and access aisles serving them shall comply with 302. Access aisles shall be at the same level as the vehicle pull-up *space* they serve. Changes in level are not permitted.
EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

503.5 Vertical Clearance. Vehicle pull-up *spaces*, access aisles serving them, and a vehicular route from an entrance to the passenger loading zone, and from the passenger loading zone to a vehicular exit shall provide a vertical clearance of 114 inches (2895 mm) minimum.

504 Stairways

504.1 General. Stairs shall comply with 504.

504.2 Treads and Risers. All steps on a flight of stairs shall have uniform riser heights and uniform tread depths. Risers shall be 4 inches (100 mm) high minimum and 7 inches (180 mm) high maximum. Treads shall be 11 inches (280 mm) deep minimum.

504.3 Open Risers. Open risers are not permitted.

504.4 Tread Surface. Stair treads shall comply with 302. Changes in level are not permitted.
EXCEPTION: Treads shall be permitted to have a slope not steeper than 1:48.

> **Advisory 504.4 Tread Surface.** Consider providing visual contrast on tread nosings, or at the leading edges of treads without nosings, so that stair treads are more visible for people with low vision.

504.5 Nosings. The *radius* of curvature at the leading edge of the tread shall be ½ inch (13 mm) maximum. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall extend 1½ inches (38 mm) maximum over the tread below.

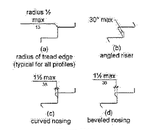


Figure 504.5
Stair Nosings

504.6 Handrails. Stairs shall have handrails complying with 505.

504.7 Wet Conditions. Stair treads and landings subject to wet conditions shall be designed to prevent the accumulation of water.

505 Handrails

505.1 General. Handrails provided along walking surfaces complying with 403, required at *ramps* complying with 405, and required at stairs complying with 504 shall comply with 505.

> **Advisory 505.1 General.** Handrails are required on ramp runs with a rise greater than 6 inches (150 mm) (see 405.8) and on certain stairways (see 504). Handrails are not required on walking surfaces with running slopes less than 1:20. However, handrails are required to comply with 505 when they are provided on walking surfaces with running slopes less than 1:20 (see 403.6). Sections 505.2, 505.3, and 505.10 do not apply to handrails provided on walking surfaces with running slopes less than 1:20 as these sections only reference requirements for ramps and stairs.

505.2 Where Required. Handrails shall be provided on both sides of stairs and *ramps*.
EXCEPTION: In *assembly areas*, handrails shall not be required on both sides of aisle *ramps* where a handrail is provided at either side or within the aisle width.

505.3 Continuity. Handrails shall be continuous within the full length of each stair flight or *ramp* run. Inside handrails on switchback or dogleg stairs and ramps shall be continuous between flights or runs.
EXCEPTION: In *assembly areas*, handrails on *ramps* shall not be required to be continuous in aisles serving seating.

505.4 Height. Top of gripping surfaces of handrails shall be 34 inches (865 mm) minimum and 38 inches (965 mm) maximum vertically above walking surfaces, *stair nosings*, and *ramp* surfaces. Handrails shall be at a consistent height above walking surfaces, *stair nosings*, and *ramp surfaces*.

> **Advisory 505.4 Height.** The requirements for stair and ramp handrails in this document are for adults. When children are the principal users in a building or facility (e.g., elementary schools), a second set of handrails at an appropriate height can assist them and aid in preventing accidents. A maximum height of 28 inches (710 mm) measured to the top of the gripping surface from the ramp surface or stair nosing is recommended for handrails designed for children. Sufficient vertical clearance between upper and lower handrails, 9 inches (230 mm) minimum, should be provided to help prevent entrapment.

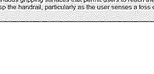


Figure 505.4
Handrail Height

505.5 Clearance. Clearance between handrail gripping surfaces and adjacent surfaces shall be 1½ inches (38 mm) minimum.

604.2 Location. *The water closet* shall be positioned with a wall or partition to the rear and to one side. The centerline of the water closet shall be 16 inches (405 mm) minimum to 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum from the side wall or partition in the ambulatory *accessible* toilet compartment specified in 604.8.2. *Water closets* shall be arranged for a left-hand or right-hand approach.

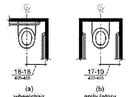


Figure 604.2
Water Closet Location

604.3 Clearance. *Clearances* around water closets and in toilet compartments shall comply with 604.3.

604.3.1 Size. Clearance around a water closet shall be 60 inches (1525 mm) minimum measured perpendicular from the side wall and 56 inches (1420 mm) minimum measured perpendicular from the rear wall.



Figure 604.3.1
Size of Clearance at Water Closets

604.3.2 Overlap. The required clearance around the water closet shall be permitted to overlap the *water closet*, associated grab bars, dispensers, sanitary napkin disposal units, coat hooks, shelves, *accessible routes*, *clear floor space* and clearances required at other fixtures, and the *turning space*. No other fixtures or obstructions shall be located within the required water closet clearance.

EXCEPTION: In *residential dwelling units*, a lavatory complying with 606 shall be permitted on the rear wall 18 inches (455 mm) minimum from the *water closet* centerline where the clearance at the water closet is 66 inches (1675 mm) minimum measured perpendicular from the rear wall.

Advisory 604.3.2 Overlap. When the door to the toilet room is placed directly in front of the *water closet*, the *water closet* cannot overlap the required maneuvering clearance for the door inside the room.

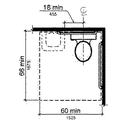


Figure 604.3.2 (Exception)
Overlap of Water Closet Clearance in Residential Dwelling Units

604.4 Seats. The seat height of a water closet above the finish floor shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

EXCEPTIONS: 1. A water closet in a toilet room for a single occupant accessed only through a private office and not for *common use* or *public use* shall not be required to comply with 604.4.
2. In *residential dwelling units*, the height of water closets shall be permitted to be 15 inches (380 mm) minimum and 19 inches (485 mm) maximum above the finish floor measured to the top of the seat.

604.5 Grab Bars. *Grab bars* for water closets shall comply with 609. Grab bars shall be provided on the side wall closest to the water closet and on the rear wall.

EXCEPTIONS: 1. Grab bars shall not be required to be installed in a toilet room for a single occupant accessed only through a private office and not for *common use* or *public use* provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 604.5.
2. In *residential dwelling units*, grab bars shall not be required to be installed in toilet or bathrooms provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 604.5.
3. In *detention or correction facilities*, grab bars shall not be required to be installed in housing or holding cells that are specially designed without protrusions for purposes of suicide prevention.

Advisory 604.5 Grab Bars Exception 2. Reinforcement must be sufficient to permit the installation of rear and side wall grab bars that fully meet all accessibility requirements including, but not limited to, required length, installation height, and structural strength.

604.5.1 Side Wall. The side wall grab bar shall be 42 inches (1065 mm) long minimum, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1370 mm) minimum from the rear wall.

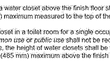


Figure 604.5.1
Side Wall Grab Bar at Water Closets

604.5.2 Rear Wall. The rear wall *grab bar* shall be 36 inches (915 mm) long minimum and extend from the centerline of the water closet 12 inches (305 mm) minimum on one side and 24 inches (610 mm) minimum on the other side.

EXCEPTIONS: 1. The rear grab bar shall be permitted to be 24 inches (610 mm) long minimum, centered on the water closet, where wall space does not permit a length of 36 inches (915 mm) minimum due to the location of a recessed fixture adjacent to the water closet.
2. Where an *administrative authority* requires flush controls for flush valves to be located in a position that conflicts with the location of the rear grab bar, then the rear grab bar shall be permitted to be split or shifted to the open side of the toilet area.

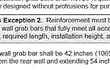


Figure 604.5.2
Rear Wall Grab Bar at Water Closets

604.6 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309. Flush controls shall be located on the open side of the water closet except in *ambulatory accessible compartments* complying with 604.8.2.

Advisory 604.6 Flush Controls. If plumbing valves are located directly behind the toilet seat, flush valves and related plumbing can cause injury or imbalance when a person leans back against them. To prevent causing injury or imbalance, the plumbing can be located behind walls or to the side of the toilet, or if approved by the local *authority having jurisdiction*, provide a toilet seat lid.

604.7 Dispensers. Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 15 inches (380 mm) minimum and 48 inches (1220 mm) maximum above the finish floor and shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

Advisory 604.7 Dispensers. If toilet paper dispensers are installed above the side wall grab bar, the outlet of the toilet paper dispenser must be 48 inches (1220 mm) maximum above the finish floor and the top of the gripping surface of the grab bar must be 33 inches (840 mm) minimum and 36 inches (915 mm) maximum above the finish floor.

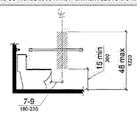


Figure 604.7
Dispenser Outlet Location

604.8 Toilet Compartments. *Wheelchair accessible* toilet compartments shall meet the requirements of 604.8.1 and 604.8.3. Compartments containing more than one plumbing fixture shall comply with 603. *Ambulatory accessible compartments* shall comply with 604.8.2 and 604.8.3.

604.8.1 Wheelchair Accessible Compartments. *Wheelchair accessible compartments* shall comply with 604.8.1.

604.8.1.1 Size. *Wheelchair accessible compartments* shall be 60 inches (1525 mm) wide *minimum measured perpendicular* to the side wall, and 56 inches (1420 mm) deep minimum for wall hung water closets and 59 inches (1500 mm) deep minimum for floor mounted water closets *measured perpendicular* to the rear wall. *Wheelchair accessible compartments* for *children's use* shall be 60 inches (1525 mm) wide minimum measured perpendicular to the side wall, and 59 inches (1500 mm) deep minimum for wall hung and floor mounted water closets measured perpendicular to the rear wall.

Advisory 604.8.1.1 Size. The minimum space required in toilet compartments is provided so that a person using a wheelchair can maneuver into position at the water closet. This space cannot be obstructed by baby changing tables or other fixtures or conveniences, except as specified at 604.3.2 (Overlap). If toilet compartments are to be used to house fixtures other than those associated with the water closet, they must be designed to exceed the minimum space requirements. Convenience fixtures such as baby changing tables must also be accessible to people with disabilities as well as to other users. Toilet compartments that are designed to meet, and not exceed, the minimum space requirements may not provide adequate space for maneuvering into position at a baby changing table.

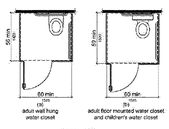


Figure 604.8.1.1
Size of Wheelchair Accessible Toilet Compartment

604.8.1.2 Doors. Toilet compartment doors, including door hardware, shall comply with 404 except that if the approach is to the latch side of the compartment door, clearance between the door side of the compartment and any obstruction shall be 42 inches (1065 mm) minimum. Doors shall be located in the front partition or in the side wall or partition farthest from the water closet. Where located in the front partition, the door opening shall be 4 inches (100 mm) maximum from the side wall or partition farthest from the water closet. Where located in the side wall or partition, the door opening shall be 4 inches (100 mm) maximum from the front partition. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the minimum required compartment area.

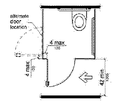


Figure 604.8.1.2
Wheelchair Accessible Toilet Compartment Doors

604.8.1.3 Approach. *Compartments* shall be arranged for left-hand or right-hand approach to the water closet.

604.8.1.4 Toe Clearance. The front partition and at least one side partition shall provide a toe clearance of 9 inches (230 mm) minimum above the finish floor and 6 inches (150 mm) deep minimum beyond the *compartment*-side face of the partition, exclusive of partition support members. *Compartments for children's use* shall provide a toe clearance of 12 inches (305 mm) minimum above the finish floor.

EXCEPTION: Toe clearance at the front partition is not required in a compartment greater than 62 inches (1575 mm) deep with a wall-hung water closet or 65 inches (1650 mm) deep with a floor-mounted water closet. Toe clearance at the side partition is not required in a compartment greater than 66 inches (1675 mm) wide. Toe clearance at the front partition is not required in a compartment for *children's use* that is greater than 65 inches (1650 mm) deep.

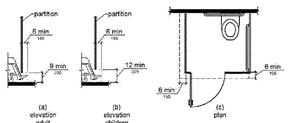


Figure 604.8.1.4
Wheelchair Accessible Toilet Compartment Toe Clearance

604.8.1.5 Grab Bars. Grab bars shall comply with 609. A side-wall grab bar complying with 604.5.1 shall be provided and shall be located on the wall closest to the water closet. In addition, a rear-wall grab bar complying with 604.5.2 shall be provided.

604.8.2 Ambulatory Accessible Compartments. *Ambulatory accessible compartments* shall comply with 604.8.2.

604.8.2.1 Size. *Ambulatory accessible compartments* shall have a depth of 60 inches (1525 mm) minimum and a width of 35 inches (890 mm) minimum and 37 inches (940 mm) maximum.

604.8.2.2 Doors. Toilet compartment doors, including door hardware, shall comply with 404, except that if the approach is to the latch side of the compartment door, clearance between the door side of the compartment and any obstruction shall be 42 inches (1065 mm) minimum. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the minimum required compartment area.

604.8.2.3 Grab Bars. Grab bars shall comply with 609. A side-wall grab bar complying with 604.5.1 shall be provided on both sides of the compartment.

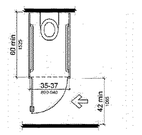


Figure 604.8.2
Ambulatory Accessible Toilet Compartment

604.8.3 Coat Hooks and Shelves. Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finish floor.

604.9 Water Closets and Toilet Compartments for Children's Use. *Water closets* and toilet compartments for *children's use* shall comply with 604.9.

Advisory 604.9 Water Closets and Toilet Compartments for Children's Use. The requirements in 604.9 are to be followed where the exception for children's water closets in 604.1 is used. The following table provides additional guidance in applying the specifications for water closets for children according to the age group served and reflects the differences in the size, stature, and reach ranges of children ages 3 through 12. The specifications chosen should correspond to the age of the primary user group. The specifications of one age group should be applied consistently in the installation of a water closet and related elements.

Advisory Specifications for Water Closets Serving Children Ages 3 through 12

	Ages 3 and 4	Ages 5 through 8	Ages 9 through 12
Water Closet Centerline	12 inches (305 mm)	12 to 15 inches (305 to 380 mm)	15 to 18 inches (380 to 455 mm)
Toilet Seat Height	11 to 12 inches (280 to 305 mm)	12 to 15 inches (305 to 380 mm)	15 to 17 inches (380 to 430 mm)
Grab Bar Height	18 to 20 inches (455 to 510 mm)	20 to 25 inches (510 to 635 mm)	25 to 27 inches (635 to 685 mm)
Dispenser Height	14 inches (355 mm)	14 to 17 inches (355 to 430 mm)	17 to 19 inches (430 to 485 mm)

604.9.1 Location. The water closet shall be located with a wall or partition to the rear and to one side. The centerline of the water closet shall be 12 inches (305 mm) minimum and 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the finish floor measured to the top of the seat. Seats shall not be sprung to return to a lifted position. The water closet shall be arranged for left-hand or right-hand approach to the water closet. Toe clearance at the front partition is not required in a compartment for *children's use* that is greater than 65 inches (1650 mm) deep.

604.9.2 Clearance. Clearance around a water closet shall comply with 604.3.

604.9.3 Height. The height of water closets shall be 11 inches (280 mm) minimum and 17 inches (430 mm) maximum measured to the top of the seat. Seats shall not be sprung to return to a lifted position.

604.9.4 Grab Bars. Grab bars for water closets shall comply with 604.5.

604.9.5 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.2 and 309.4 and shall be installed 36 inches (915 mm) maximum above the finish floor. Flush controls shall be located on the open side of the water closet except in *ambulatory accessible compartments* complying with 604.8.2.

604.9.6 Dispensers. Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 14 inches (355 mm) minimum and 19 inches (485 mm) maximum above the finish floor. There shall be a clearance of 1½ inches (38 mm) minimum below the grab bar. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

604.9.7 Toilet Compartments. Toilet compartments shall comply with 604.8.

605 Urinals

605.1 General. *Urinals* shall comply with 605.

Advisory 605.1 General. Stall-type urinals provide greater accessibility for a broader range of persons, including people of short stature.

605.2 Height and Depth. Urinals shall be the stall-type or the wall-hung type with the rim 17 inches (430 mm) maximum above the finish floor or ground. Urinals shall be 13½ inches (345 mm) deep minimum measured from the outer face of the urinal rim to the back of the fixture.

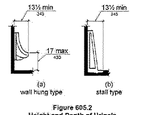


Figure 605.2
Height and Depth of Urinals

605.3 Clear Floor Space. A clear floor or ground *space* complying with 305 positioned for forward approach shall be provided.

605.4 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.

606 Lavatories and Sinks

606.1 General. Lavatories and sinks shall comply with 606.

Advisory 606.1 General. If soap and towel dispensers are provided, they must be located within the reach ranges specified in 308. Locate soap and towel dispensers so that they are conveniently useable by a person at the accessible lavatory.

606.2 Clear Floor Space. A clear floor *space* complying with 305, positioned for a forward approach, and knee and toe clearance complying with 306 shall be provided.

EXCEPTIONS: 1. A parallel approach complying with 305 shall be permitted to a kitchen sink in a *space* where a cook top or conventional range is not provided and to wet bars.
2. A lavatory in a toilet room or bathing facility for a single occupant accessed only through a private office and not for *common use* or *public use* shall not be required to provide knee and toe clearance complying with 306.
3. In *residential dwelling units*; cabinetry shall be permitted under lavatories and kitchen sinks provided that all of the following conditions are met:
(a) the cabinetry can be removed without removal or replacement of the fixture;
(b) the finish floor extends under the cabinetry; and
(c) the walls behind and surrounding the cabinetry are finished.
4. A knee clearance of 24 inches (610 mm) minimum above the finish floor or ground shall be permitted at lavatories and sinks used primarily by children 6 through 12 years where the rim or counter surface is 31 inches (785 mm) maximum above the finish floor or ground.
5. A parallel approach complying with 305 shall be permitted to lavatories and sinks used primarily by children 5 years and younger.
6. The dip of the overflow shall not be considered in determining knee and toe clearances.
7. No more than one bowl of a multi-bowl sink shall be required to provide knee and toe clearance complying with 306.

606.3 Height. Lavatories and sinks shall be installed with the front of the higher of the rim or counter surface 34 inches (865 mm) maximum above the finish floor or ground.

EXCEPTIONS: 1. A lavatory in a toilet or bathing facility for a single occupant accessed only through a private office and not for *common use* or *public use* shall not be required to comply with 606.3.
2. In *residential dwelling unit* kitchens, sinks that are adjustable to variable heights, 29 inches (735 mm) minimum and 36 inches (915 mm) maximum, shall be permitted where rough-in plumbing permits connections of supply and drain pipes for sinks mounted at the height of 29 inches (735 mm).

606.4 Faucets. Controls for faucets shall comply with 309. Hand-operated metering faucets shall remain open for 10 seconds minimum.

606.5 Exposed Pipes and Surfaces. Water supply and drain pipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.

607 Bathtubs

607.1 General. Bathtubs shall comply with 607.

607.2 Clearance. Clearance in front of bathtubs shall extend the length of the bathtub and shall be 30 inches (760 mm) wide minimum. A lavatory complying with 606 shall be permitted at the control end of the clearance. Where a permanent seat is provided at the head end of the bathtub, the clearance shall

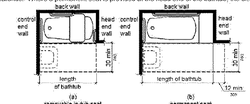


Figure 607.2
Clearance for Bathtubs

607.3 Seat. A permanent seat at the head end of the bathtub or a removable in-tub seat shall be provided. Seats shall comply with 610.

607.4 Grab Bars. Grab bars for bathtubs shall comply with 609 and shall be provided in accordance with 607.4.1 or 607.4.2.

EXCEPTIONS: 1. Grab bars shall not be required to be installed in a bathtub located in a bathing facility for a single occupant accessed only through a private office and not for *common use* or *public use* provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 607.4.
2. In *residential dwelling units*, grab bars shall not be required to be installed in bathtubs located in bathing facilities provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 607.4.

607.4.1 Bathtubs With Permanent Seats. For bathtubs with permanent seats, grab bars shall be provided in accordance with 607.4.1.

607.4.1.1 Back Wall. Two grab bars shall be installed on the back wall, one located in accordance with 609.4 and the other located 8 inches (205 mm) minimum and 10 inches (255 mm) maximum above the rim of the bathtub. Each grab bar shall be 24 inches (610 mm) long minimum and shall be installed 12 inches (305 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the control end wall.

607.4.1.2 Control End Wall. A grab bar 24 inches (610 mm) long minimum shall be installed on the control end wall at the front edge of the bathtub.

Figure 607.4.1
Grab Bars for Bathtubs with Permanent Seats

607.4.2 Bathtubs Without Permanent Seats. For bathtubs without permanent seats, grab bars shall comply with 607.4.2.

607.4.2.1 Back Wall. Two grab bars shall be installed on the back wall, one located in accordance with 609.4 and other located 8 inches (205 mm) minimum and 10 inches (255 mm) maximum above the rim of the bathtub. Each grab bar shall be 24 inches (610 mm) long minimum and shall be installed 24 inches (610 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the control end wall.

607.4.2.2 Control End Wall. A grab bar 24 inches (610 mm) long minimum shall be installed on the control end wall at the front edge of the bathtub.

607.4.2.3 Head End Wall. A grab bar 12 inches (305 mm) long minimum shall be installed on the head end wall at the front edge of the bathtub.

Figure 607.4.2
Grab Bars for Bathtubs with Removable In-Tub Seats

607.5 Controls. Controls, other than drain stoppers, shall be located on an end wall. Controls shall be between the bathtub rim and grab bar, and between the open side of the bathtub and the centerline of the width of the bathtub. Controls shall comply with 309.4.



Figure 607.5
Bathtub Control Location

607.6 Shower Spray Unit and Water. A shower spray unit with a hose 59 inches (1500 mm) long minimum that can be used both as a fixed-position shower head and as a hand-held shower shall be provided. The shower spray unit shall have an on/off control with a non-positive shut-off. If an adjustable-height shower head on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars. Bathtub shower spray units shall deliver water that is 120°F (49°C) maximum.

Advisory 607.6 Shower Spray Unit and Water. Ensure that hand-held shower spray units are capable of delivering water pressure substantially equivalent to fixed shower heads.

607.7 Bathtub Enclosures. Enclosures for bathtubs shall not obstruct controls, faucets, shower and spray units or obstruct transfer from wheelchairs onto bathtub seats or into bathtubs. Enclosures on bathtubs shall not have tracks installed on the rim of the open face of the bathtub.

608 Shower Compartments

608.1 General. Shower compartments shall comply with 608.

Advisory 608.1 General. Shower stalls that are 60 inches (1525 mm) wide and have no curb may increase the usability of a bathroom because the shower area provides additional maneuvering space.

608.2 Size and Clearances for Shower Compartments. Shower compartments shall have sizes and clearances complying with 608.2.

608.2.1 Transfer Type Shower Compartments. Transfer type shower compartments shall be 36 inches (915 mm) by 36 inches (915 mm) clear inside dimensions measured at the center points of opposing sides and shall have a 36 inch (915 mm) wide minimum entry on the face of the shower compartment.



Figure 608.2.1
Transfer Type Shower Compartment Size and Clearance

608.2.2 Standard Roll-In Type Shower Compartments. Standard roll-in type shower compartments shall be 30 inches (760 mm) wide minimum by 60 inches (1525 mm) deep minimum clear inside dimensions measured at center points of opposing sides and shall have a 60 inches (1525 mm) wide minimum entry on the face of the shower compartment.

608.2.2.1 Clearance. A 30 inch (760 mm) wide minimum by 60 inch (1525 mm) long minimum clearance shall be provided adjacent to the open face of the shower compartment.

EXCEPTION: A lavatory complying with 606 shall be permitted on one 30 inch (760 mm) wide minimum side of the clearance provided that it is not on the side of the clearance adjacent to the controls or, where provided, not on the side of the clearance adjacent to the shower seat.



Figure 608.2.2
Standard Roll-In Type Shower Compartment Size and Clearance

608.2.3 Alternate Roll-In Type Shower Compartments. *Alternate roll-in type shower* compartments shall be 36 inches (915 mm) wide and 60 inches (1525 mm) deep minimum clear inside dimensions measured at center points of opposing sides. A 36 inch (915 mm) wide minimum entry shall be provided at one end of the long side of the compartment.

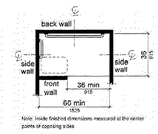


Figure 608.2.3
Alternate Roll-In Type Shower Compartment Size and Clearance

608.3 Grab Bars. Grab bars shall comply with 609 and shall be provided in accordance with 608.3. Where multiple grab bars are used, required horizontal grab bars shall be installed at the same height above the finish floor.

EXCEPTIONS: 1. Grab bars shall not be required to be installed in a shower located in a bathing facility for a single occupant accessed only through a private office and not for *common use* or *public use* provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 608.3.
2. In *residential dwelling units*, grab bars shall not be required to be installed in showers located in bathing facilities provided that reinforcement has been installed in walls and located so as to permit the installation of grab bars complying with 608.3.

608.3.1 Transfer Type Shower Compartments. In transfer type compartments, grab bars shall be provided across the control wall and back wall at points 18 inches (455 mm) from the control wall.



Figure 608.3.1
Grab Bars for Transfer Type Showers

608.3.2 Standard Roll-In Type Shower Compartments. Where a seat is provided in standard roll-in type shower compartments, grab bars shall be provided on the back wall and the side wall opposite the seat. Grab bars shall not be provided above the seat. Where a seat is not provided in standard roll-in type shower compartments, grab bars shall be provided on three walls. Grab bars shall be installed 6 inches (150 mm) maximum from adjacent walls.

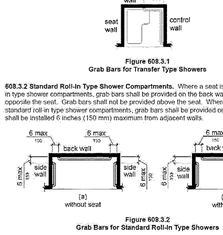


Figure 608.3.2
Grab Bars for Standard Roll-In Type Showers

608.3.3 Alternate Roll-In Type Shower Compartments. In *alternate roll-in type shower* compartments, grab bars shall be provided on the back wall and the side wall farthest from the compartment entry. Grab bars shall not be provided above the seat. Grab bars shall be installed 6 inches (150 mm) maximum from adjacent walls.

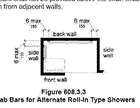


Figure 608.3.3
Grab Bars for Alternate Roll-In Type Showers

608.4 Seats. A folding or non-folding seat shall be provided in transfer type shower compartments. A folding seat shall be provided in roll-in type showers required in *transient lodging guest rooms* with mobility features complying with 806.2. Seats shall comply with 610.

EXCEPTION: In *residential dwelling units*, seats shall not be required in transfer type shower compartments provided that reinforcement has been installed in walls so as to permit the installation of seats complying with 608.4.

608.5 Controls. Controls, faucets, and shower spray units shall comply with 309.4.

608.5.1 Transfer Type Shower Compartments. In transfer type shower compartments, the controls, faucets, and shower spray unit shall be installed on the side wall opposite the seat 38 inches (965 mm) minimum and 48 inches (1220 mm) maximum above the shower floor and shall be located on the control wall 15 inches (380 mm) maximum from the centerline of the seat toward the shower opening.

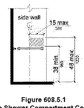


Figure 608.5.1
Transfer Type Shower Compartment Control Location

608.5.2 Standard Roll-In Type Shower Compartments. In standard roll-in type shower compartments, the controls, faucets, and shower spray unit shall be located above the grab bar, but no higher than 48 inches (1220 mm) above the shower floor. Where a seat is provided, the controls, faucets, and shower spray unit shall be installed on the back wall adjacent to the seat wall and shall be located 27 inches (685 mm) maximum from the seat wall.

Advisory 608.5.2 Standard Roll-In Type Shower Compartments. In standard roll-in type showers without seats, the shower head and operable parts can be located on any of the three walls of the shower without adversely affecting accessibility.

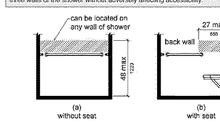


Figure 608.5.2
Standard Roll-In Type Shower Compartment Control Location

608.5.3 Alternate Roll-In Type Shower Compartments. In *alternate roll-in type shower* compartments, the controls, faucets, and shower spray unit shall be located above the grab bar, but no higher than 48 inches (1220 mm) above the shower floor. Where a seat is provided, the controls, faucets, and shower spray unit shall be located on the side wall adjacent to the seat 27 inches (685 mm) maximum from the side wall behind the seat or shall be located on the back wall opposite the seat 15 inches (380 mm) maximum, left or right, of the centerline of the seat. Where a seat is not provided, the controls, faucets, and shower spray unit shall be installed on the side wall farthest from the compartment entry.

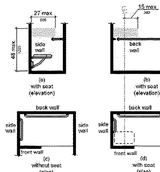


Figure 608.5.3
Alternate Roll-In Type Shower Compartment Control Location

608.6 Shower Spray Unit and Water. A shower spray unit with a hose 59 inches (1500 mm) long minimum that can be used both as a fixed-position shower head and as a hand-held shower shall be provided. The shower spray unit shall have an on/off control with a non-positive shut-off. If an adjustable-height shower head on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars. Shower spray units shall deliver water that is 120°F (49°C) maximum.

EXCEPTION: A fixed shower head located at 48 inches (1220 mm) maximum above the shower finish floor shall be permitted instead of a hand-held spray unit in *facilities* that are not medical care *facilities*, *long-term care facilities*, *transient lodging guest rooms*, or *residential dwelling units*.

Advisory 608.6 Shower Spray Unit and Water. Ensure that hand-held shower spray units are capable of delivering water pressure substantially equivalent to fixed shower heads.

608.7 Thresholds. Thresholds in roll-in type shower compartments shall be ½ inch (13 mm) high maximum in accordance with 303. In transfer type shower compartments, thresholds ½ inch (13 mm) high maximum shall be beveled, rounded, or vertical.

EXCEPTION: A threshold 2 inches (51 mm) high maximum shall be permitted in transfer type shower compartments in existing *facilities* where provision of a ½ inch (13 mm) high threshold would disturb the structural reinforcement of the floor slab.

608.8 Shower Enclosures. Enclosures for shower compartments shall not obstruct controls, faucets, and shower spray units or obstruct transfer from wheelchairs onto shower seats.

609 Grab Bars

609.1 General. Grab bars in toilet *facilities* and bathing *facilities* shall comply with 609.

609.2 Cross Section. Grab bars shall have a cross section complying with 609.2.1 or 609.2.2.

609.2.1 Circular Cross Section. *Grab bars with circular cross sections* shall have an outside diameter of 1¼ inches (32 mm) minimum and 2 inches (51 mm) maximum.

609.2.2 Non-Circular Cross Section. Grab bars with non-circular cross sections shall have a cross-section dimension of 2 inches (51 mm) maximum and a perimeter dimension of 4 inches (100 mm) minimum and 4.8 inches (120 mm) maximum.

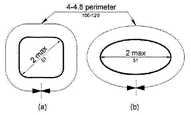


Figure 609.2.2
Grab Bar Non-Circular Cross Section

609.3 Spacing. *The space* between the wall and the grab bar shall be 1½ inches (38 mm). *The space* between the grab bar and projecting objects below and at the ends shall be 1½ inches (38 mm) minimum. *The space* between the grab bar and projecting objects above shall be 12 inches (305 mm) minimum.

EXCEPTION: *The space* between the grab bars and shower controls, shower fittings, and other grab bars above shall be permitted to be 1½ inches (38 mm) minimum.

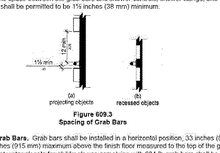


Figure 609.3
Spacing of Grab Bars

609.4 Position of Grab Bars. Grab bars shall be installed in a horizontal position, 33 inches (840 mm) minimum and 36 inches (915 mm) maximum above the finish floor measured to the top of the gripping surface, except that at water closets for *children's use* complying with 604.9, grab bars shall be installed in a horizontal position 18 inches (455 mm) minimum and 27 inches (685 mm) maximum above the finish floor measured to the top of the gripping surface. The height of the lower grab bar on the back wall of a bathtub shall comply with 607.4.1.1 or 607.4.2.1.

609.5 Surface Hazards. Grab bars and any wall or other surfaces adjacent to grab bars shall be free of *sharp* or *abrasive elements* and shall have rounded edges.

609.6 Fittings. Grab bars shall not rotate within their fittings.

609.7 Installation. Grab bars shall be installed in any manner that provides a gripping surface at the specified locations and that does not obstruct the required *clear floor space*.

609.8 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the grab bar, fastener, mounting device, or supporting structure.

610 Seats

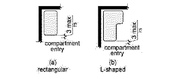
610.1 General. Seats in bathtubs and shower compartments shall comply with 610.

610.2 Bathtub Seats. The top of bathtub seats shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom finish floor. The depth of a removable in-tub seat shall be 15 inches (380 mm) minimum and 16 inches (405 mm) maximum. The seat shall be capable of secure placement. Permanent seats at the head end of the bathtub shall be 15 inches (380 mm) deep minimum and shall extend from the back wall to or beyond the outer edge of the bathtub.



Figure 610.2
Bathtub Seats

610.3 Shower Compartment Seats. Where a seat is provided in a standard roll-in shower compartment, it shall be a folding type, shall be installed on the side wall adjacent to the controls, and shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. Where a seat is provided in an alternate roll-in type shower compartment, it shall be a folding type, shall be installed on the front wall opposite the back wall, and shall extend from the adjacent side wall to a point within 3 inches (75 mm) of the compartment entry. In transfer-type showers, the seat shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. The top of the seat shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom finish floor. Seats shall comply with 610.3.1 or 610.3.2.



**Figure

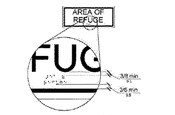


Figure 703.5.2
Position of Braille

703.4 Installation Height and Location. *Signs with tactile characters* shall comply with 703.4.

703.4.1 Height Above Finish Floor or Ground. *Tactile characters* on signs shall be located 48 inches (1220 mm) minimum above the finish floor or ground surface, measured from the baseline of the lowest *tactile character* and 60 inches (1525 mm) maximum above the finish floor or ground surface, measured from the baseline of the highest tactile character.

EXCEPTION: *Tactile characters* for elevator car controls shall not be required to comply with 703.4.1.

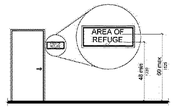


Figure 703.4.1
Height of Tactile Characters Above Finish Floor or Ground

703.4.2 Location. Where a *tactile sign* is provided at a door, the sign shall be located alongside the door at the latch side. Where a *tactile sign* is provided at double doors with one active leaf, the sign shall be located on the inactive leaf. Where a tactile sign is provided at double doors with two active leafs, the sign shall be located to the right of the right hand door. Where there is no wall space at the latch side of a single door or at the right side of double doors, signs shall be located on the nearest adjacent wall. Signs containing *tactile characters* shall be located so that a clear floor space of 18 inches (455 mm) minimum by 18 inches (455 mm) minimum, centered on the *tactile characters*, is provided beyond the arc of any door swing between the closed position and 45-degree open position.

EXCEPTION: Signs with *tactile characters* shall be permitted on the push side of doors with closers and without held-open devices.

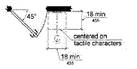


Figure 703.4.2
Location of Tactile Signs at Doors

703.5 Visual Characters. *Visual characters* shall comply with 703.5.

EXCEPTION: Where *visual characters* comply with 703.2 and are accompanied by braille complying with 703.3, they shall not be required to comply with 703.5.2 through 703.5.9.

703.5.1 Finish and Contrast. *Characters* and their background shall have a non-glare finish. *Characters* shall contrast with their background with either light characters on a dark background or dark characters on a light background.

Advisory 703.5.1 Finish and Contrast. Signs are more legible for persons with low vision when characters contrast as much as possible with their background. Additional factors affecting the ease with which the text can be distinguished from its background include shadows cast by lighting sources, surface glare, and the uniformity of the text and background colors and textures.

703.5.2 Case. *Characters* shall be uppercase or lowercase or a combination of both.

703.5.3 Style. *Characters* shall be conventional in form. *Characters* shall not be italic, oblique, script, highly decorative, or of other unusual forms.

703.5.4 Character Proportions. *Characters* shall be selected from fonts where the width of the uppercase letter "O" is 55 percent minimum and 110 percent maximum of the height of the uppercase letter "I".

703.5.5 Character Height. Minimum *character* height shall comply with Table 703.5.5. Viewing distance shall be measured as the horizontal distance between the character and an obstruction preventing further approach towards the sign. *Character* height shall be based on the uppercase letter "I".

Table 703.5.5 Visual Character Height

Height to Finish Floor or Ground From Baseline of Character	Horizontal Viewing Distance	Minimum Character Height
40 inches (1015 mm) to less than or equal to 70 inches (1780 mm)	less than 72 inches (1830 mm)	5/8 inch (16 mm)
	72 inches (1830 mm) and greater	5/8 inch (16 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 72 inches (1830 mm)
Greater than 70 inches (1780 mm) to less than or equal to 120 inches (3050 mm)	less than 180 inches (4570 mm)	2 inches (51 mm)
	180 inches (4570 mm) and greater	2 inches (51 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 180 inches (4570 mm)
greater than 120 inches (3050 mm)	less than 21 feet (6400 mm)	3 inches (75 mm)
	21 feet (6400 mm) and greater	3 inches (75 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 21 feet (6400 mm)

703.5.6 Height From Finish Floor or Ground. *Visual characters* shall be 40 inches (1015 mm) minimum above the finish floor or ground.

EXCEPTION: *Visual characters* indicating elevator car controls shall not be required to comply with 703.5.6.

703.5.7 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 10 percent minimum and 30 percent maximum of the height of the *character*.

703.5.8 Character Spacing. *Character* spacing shall be measured between the two closest points of adjacent *characters*, excluding word spaces. Spacing between individual *characters* shall be 10 percent minimum and 35 percent maximum of *character* height.

703.5.9 Line Spacing. Spacing between the baselines of separate lines of *characters* within a message shall be 135 percent minimum and 170 percent maximum of the *character* height.

703.6 Pictograms. *Pictograms* shall comply with 703.6.

703.6.1 Pictogram Field. *Pictograms* shall have a field height of 6 inches (150 mm) minimum. *Characters* and braille shall not be located in the *pictogram* field.

Figure 703.6.1
Pictogram Field

703.6.2 Finish and Contrast. *Pictograms* and their field shall have a non-glare finish. *Pictograms* shall contrast with their field with either a light *pictogram* on a dark field or a dark *pictogram* on a light field.

Advisory 703.6.2 Finish and Contrast. Signs are more legible for persons with low vision when characters contrast as much as possible with their background. Additional factors affecting the ease with which the text can be distinguished from its background include shadows cast by lighting sources, surface glare, and the uniformity of the text and background colors and textures.

703.6.3 Text Descriptors. *Pictograms* shall have text descriptors located directly below the *pictogram* field. Text descriptors shall comply with 703.2, 703.3 and 703.4.

703.7 Symbols of Accessibility. *Symbols of accessibility* shall comply with 703.7.

703.7.1 Finish and Contrast. *Symbols of accessibility* and their background shall have a non-glare finish. *Symbols of accessibility* shall contrast with their background with either a light symbol on a dark background or a dark symbol on a light background.

Advisory 703.7.1 Finish and Contrast. Signs are more legible for persons with low vision when characters contrast as much as possible with their background. Additional factors affecting the ease with which the text can be distinguished from its background include shadows cast by lighting sources, surface glare, and the uniformity of the text and background colors and textures.

703.7.2 Symbols.

703.7.2.1 International Symbol of Accessibility. The International Symbol of *Accessibility* shall comply with Figure 703.7.2.1.



Figure 703.7.2.1
International Symbol of Accessibility

703.7.2.2 International Symbol of TTY. The International Symbol of *TTY* shall comply with Figure 703.7.2.2.



Figure 703.7.2.2
International Symbol of TTY

703.7.2.3 Volume Control Telephones. Telephones with a volume control shall be identified by a *pictogram* of a telephone handset with radiating sound waves on a square field such as shown in Figure 703.7.2.3.



Figure 703.7.2.3
Volume Control Telephone

703.7.2.4 Assistive Listening Systems. *Assistive listening systems* shall be identified by the International Symbol of Access for Hearing Loss complying with Figure 703.7.2.4.



Figure 703.7.2.4
International Symbol of Access for Hearing Loss

704 Telephones

704.1 General. Public telephones shall comply with 704.

704.2 Wheelchair Accessible Telephones. *Wheelchair accessible* telephones shall comply with 704.2.

704.2.1 Clear Floor or Ground Space. A *clear floor or ground space* complying with 305 shall be provided. The clear floor or ground space shall not be obstructed by bases, enclosures, or seats.

Advisory 704.2.1 Clear Floor or Ground Space. Because clear floor and ground space is required to be unobstructed, telephones, enclosures and related telephone book storage cannot encroach on the required clear floor or ground space and must comply with the provisions for protruding objects. (See Section 307).

704.2.1.1 Parallel Approach. Where a parallel approach is provided, the distance from the edge of the telephone enclosure to the face of the telephone unit shall be 10 inches (255 mm) maximum.

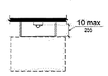


Figure 704.2.1.1
Parallel Approach to Telephone

704.2.1.2 Forward Approach. Where a forward approach is provided, the distance from the front edge of a counter within the telephone enclosure to the face of the telephone unit shall be 20 inches (510 mm) maximum.

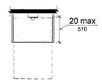


Figure 704.2.1.2
Forward Approach to Telephone

704.2.2 Operable Parts. *Operable parts* shall comply with 309. Telephones shall have push-button controls where such service is available.

704.2.3 Telephone Directories. Telephone directories, where provided, shall be located in accordance with 309.

704.2.4 Cord Length. The cord from the telephone to the handset shall be 29 inches (735 mm) long minimum.

704.3 Volume Control Telephones. Public telephones required to have volume controls shall be equipped with a receive volume control that provides a gain adjustable up to 20 dB minimum. For incremental volume control, provide at least one intermediate step of 12 dB of gain minimum. An automatic reset shall be provided.

Advisory 704.3 Volume Control Telephones. Amplifiers on pay phones are located in the base or the handset or are built into the telephone. Most are operated by pressing a button or key. If the mechanism in the handset is not being used, a mute button that temporarily turns off the microphone can also reduce the amount of background noise which the person hears in the earpiece. If a volume adjustment is provided that allows the user to set the level anywhere from the base volume to the upper requirement of 20 dB, there is no need to specify a lower limit. If a stepped volume control is provided, one of the intermediate levels must provide 12 dB of gain. Consider compatibility issues when matching an amplified handset with a phone or phone system. Amplified handsets that can be switched with pay telephone handsets are available. Portable and in-line amplifiers can be used with some phones but are not practical at most public phones covered by these requirements.

704.4 TTYs. *TTYs* required at a public pay telephone shall be permanently affixed within, or adjacent to, the telephone enclosure. Where an acoustic coupler is used, the telephone cord shall be sufficiently long to allow connection of the *TTY* and the telephone receiver.

Advisory 704.4 TTYs. Ensure that sufficient electrical service is available where TTYs are to be installed.

704.4.1 Height. When in use, the touch surface of *TTY* keypads shall be 34 inches (865 mm) minimum above the finish floor.

EXCEPTION: Where seats are provided, *TTYs* shall not be required to comply with 704.4.1.

Advisory 704.4.1 Height. A telephone with a TTY installed underneath cannot also be a wheelchair accessible telephone because the required 34 inches (865 mm) maximum keypad height can causes the highest operable part of the telephone, usually the coin slot, to exceed the maximum permitted side and forward reach ranges. (See Section 308).

Advisory 704.4.1 Height Exception. While seats are not required at TTYs, reading and typing at a TTY is more suited to sitting than standing. Facilities that often provide seats at TTYs include, but are not limited to, airports and other passenger terminals or stations, courts, art galleries, and convention centers.

704.5 TTY Shelf. Public pay telephones required to accommodate portable *TTYs* shall be equipped with a shelf and an electrical outlet within or adjacent to the telephone enclosure. The telephone handset shall be capable of being placed flush on the surface of the shelf. The shelf shall be capable of accommodating a *TTY* and shall have 6 inches (150 mm) minimum vertical clearance above the area where the *TTY* is to be placed.

705 Detectable Warnings

705.1 General. *Detectable warnings* shall consist of a surface of truncated domes and shall comply with 705.

705.1.1 Dome Size. Truncated domes in a *detectable warning* surface shall have a base diameter of 0.9 inch (23 mm) minimum and 1.4 inches (36 mm) maximum, a top diameter of 50 percent of the base diameter minimum to 65 percent of the base diameter maximum, and a height of 0.2 inch (5.1 mm).

705.1.2 Dome Spacing. Truncated domes in a *detectable warning* surface shall have a center-to-center spacing of 1.6 inches (41 mm) minimum and 2.4 inches (61 mm) maximum, and a base-to-base spacing of 0.65 inch (17 mm) minimum, measured between the most adjacent domes on a square grid.

705.1.3 Contrast. *Detectable warning* surfaces shall contrast visually with adjacent walking surfaces either light-on-dark, or dark-on-light.

704.5 TTY Shelf. Public pay telephones required to accommodate portable *TTYs* shall be equipped with a shelf and an electrical outlet within or adjacent to the telephone enclosure. The telephone handset shall be capable of being placed flush on the surface of the shelf. The shelf shall be capable of accommodating a *TTY* and shall have 6 inches (150 mm) minimum vertical clearance above the area where the *TTY* is to be placed.

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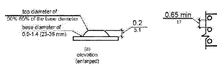


Figure 705.1
Size and Spacing of Truncated Domes

705.2 Platform Edges. *Detectable warning* surfaces at platform boarding edges shall be 24 inches (610 mm) wide and shall extend the full length of the *public use areas* of the platform.

706 Assistive Listening Systems

706.1 General. *Assistive listening systems* required in *assembly areas* shall comply with 706.

Advisory 706.1 General. Assistive listening systems are generally categorized by their mode of transmission. There are hard-wired systems and three types of wireless systems: induction loop, infrared, and FM radio transmission. Each has different advantages and disadvantages that can help determine which system is best for a given application. For example, an FM system may be better than an infrared system in some open-air assemblies since infrared signals are less effective in sunlight. On the other hand, an infrared system is typically a better choice than an FM system where confidential transmission is important because it will be contained within a given space.

The technical standards for assistive listening systems describe minimum performance levels for volume, interference, and distortion. Sound pressure levels (SPL), expressed in decibels, measure output sound volume. Signal-to-noise ratio (SNR or S/N), also expressed in decibels, represents the relationship between the loudness of a desired sound (the signal) and the background noise in a space or piece of equipment. The higher the SNR, the more intelligible the signal. The peak clipping level limits the distortion in signal output produced when high-volume sound waves are manipulated to serve assistive listening devices.

Selecting or specifying an effective assistive listening system for a large or complex venue requires assistance from a professional sound engineer. The Access Board has published technical assistance on assistive listening devices and systems.

706.2 Receiver Jacks. Receivers required for use with an *assistive listening system* shall include a 1/8 inch (3.2 mm) standard mono jack.

706.3 Receiver Hearing-Aid Compatibility. Receivers required to be hearing-aid compatible shall interface with telecoils in hearing aids through the provision of neckloops.

Advisory 706.3 Receiver Hearing-Aid Compatibility. Neckloops and headsets that can be worn as neckloops are compatible with hearing aids. Receivers that are not compatible include earbuds, which may require removal of hearing aids, earphones, and headsets that must be worn over the ear, which can create disruptive interference in the transmission and can be uncomfortable for people wearing hearing aids.

706.4 Sound Pressure Level. *Assistive listening systems* shall be capable of providing a sound pressure level of 110 dB maximum and 118 dB maximum with a dynamic range on the volume control of 50 dB.

706.5 Signal-to-Noise Ratio. The signal-to-noise ratio for internally generated noise in *assistive listening systems* shall be 18 dB minimum.

706.6 Peak Clipping Level. Peak clipping shall not exceed 18 dB of clipping relative to the peaks of speech.

707 Automatic Teller Machines and Fare Machines

Advisory 707 Automatic Teller Machines and Fare Machines. Interactive transaction machines (ITMs), other than ATMs, are not covered by Section 707. However, for entities covered by the ADA, the Department of Justice regulations that implement the ADA provide additional guidance regarding the relationship between these requirements and elements that are not directly addressed by these requirements. Federal procurement law requires that ITMs purchased by the Federal government comply with standards issued by the Access Board under Section 508 of the Rehabilitation Act of 1973, as amended. This law covers a variety of products, including computer hardware and software, websites, phone systems, fax machines, copiers, and similar technologies. For more information on Section 508 consult the Access Board's website at www.access-board.gov.

707.1 General. *Automatic teller machines* and fare machines shall comply with 707.

Advisory 707.1 General. If forecards have one tactually distinctive corner they can be inserted with greater accuracy. Token collection devices that are designed to accommodate tokens which are perforated can allow a person to distinguish more readily between tokens and common coins. Place accessible gates and fare vending machines in close proximity to other accessible elements when feasible so the facility is easier to use.

707.2 Clear Floor or Ground Space. A clear floor or ground space complying with 305 shall be provided.

EXCEPTION: *Clear floor or ground space* shall not be required at drive-up only *automatic teller machines* and fare machines.

707.3 Operable Parts. *Operable parts* shall comply with 309. Unless a clear or correct key is provided, each *operable part* shall be able to be differentiated by sound or touch, without activation.

EXCEPTION: Drive-up only automatic teller machines and fare machines shall not be required to comply with 309.2 and 309.3.

707.4 Privacy. Automatic teller machines shall provide the opportunity for the same degree of privacy of input and output available to all individuals.

Advisory 707.4 Privacy. In addition to people who are blind or visually impaired, people with limited reach who use wheelchairs or have short stature, who cannot effectively block the ATM screen with their bodies, may prefer to use speech output. Speech output users can benefit from an option to render the visible screen blank, thereby affording them greater personal security and privacy.

707.5 Speech Output. Machines shall be speech enabled. Operating instructions and orientation, visible transaction prompts, user input verification, error messages, and all displayed information for full use shall be accessible to and independently usable by individuals with vision impairments. Speech shall be delivered through a mechanism that is readily available to all users, including but not limited to, an industry standard connector or a telephone handset. Speech shall be recorded or digitized human, or synthesized.

EXCEPTIONS: 1. Audible tones shall be permitted instead of speech for visible output that is not displayed for security purposes, including but not limited to, asterisks representing personal identification numbers.

2. Advertisements and other similar information shall not be required to be audible unless they convey information that can be used in the transaction being conducted.

3. Where speech synthesis cannot be supported, *dynamic* alphabetic output shall not be required to be audible.

Advisory 707.5 Speech Output. If an ATM provides additional functions such as dispensing coupons, selling theater tickets, or providing copies of monthly statements, all such functions must be available to customers using speech output. To avoid confusion at the ATM, the method of initiating the speech mode should be easily discoverable and should not require specialized training. For example, if a telephone handset is provided, lifting the handset can initiate the speech mode.

707.5.1 User Control. Speech shall be capable of being repeated or interrupted. Volume control shall be provided for the speech function.

EXCEPTION: Speech output for any single function shall be permitted to be automatically interrupted when a transaction is selected.

707.5.2 Receipts. Where receipts are provided, speech output devices shall provide audible balance inquiry information, error messages, and all other information on the printed receipt necessary to complete or verify the transaction.

EXCEPTIONS: 1. Machine location, date and time of transaction, customer account number, and the machine identifier shall not be required to be audible.

2. Information on printed receipts that duplicates information available on-screen shall not be required to be presented in the form of an audible receipt.

3. Printed copies of bank statements and checks shall not be required to be audible.

707.6 Input. Input devices shall comply with 707.6.

707.6.1 Input Controls. At least one *tactilely* discernible input control shall be provided for each function. Where provided, key surfaces not on active areas of display screens, shall be raised above surrounding surfaces. Where membrane keys are the only method of input, each shall be *tactilely* discernable from surrounding surfaces and adjacent keys.

707.6.2 Numeric Keys. Numeric keys shall be arranged in a 12-key ascending or descending telephone keypad layout. The number five key shall be *tactilely* distinct from the other keys.

Advisory 707.6.2 Numeric Keys. Telephone keypads and computer keypads differ in one significant feature, ascending versus descending numerical order. Both types of keypads are acceptable, provided the computer-style keypad is organized similarly to the number pad located at the right on most computer keyboards, and does not resemble the line of numbers located above the computer keys.



Figure 707.6.2
Numeric Key Layout

707.6.3 Function Keys. Function keys shall comply with 707.6.3.

707.6.3.1 Contrast. Function keys shall contrast visually from background surfaces. *Characters* and symbols on key surfaces shall contrast visually from key surfaces. Visual contrast shall be either light-on-dark or dark-on-light.

EXCEPTION: *Tactile* symbols required by 707.6.3.2 shall not be required to comply with 707.6.3.1.

707.6.3.2 Tactile Symbols. Function key surfaces shall have *tactile* symbols as follows: Enter or Proceed key: raised circle; Clear or Correct key: raised left arrow; Cancel key: raised letter ex; Add Value key: raised plus sign; Decrease Value key: raised minus sign.

707.7 Display Screen. The display screen shall comply with 707.7.

EXCEPTION: Drive-up only automatic teller machines and fare machines shall not be required to comply with 707.7.1.

707.7.1 Visibility. The display screen shall be visible from a point located 40 inches (1015 mm) above the center of the clear floor space in front of the machine.

707.7.2 Characters. *Characters* displayed on the screen shall be in a sans serif font. *Characters* shall be 3/16 inch (4.8 mm) high minimum based on the uppercase letter "I". *Characters* shall contrast with their background with either light *characters* on a dark background or dark *characters* on a light background.

707.8 Braille Instructions. Braille instructions for initiating the speech mode shall be provided. Braille shall comply with 707.7.1.

708 Two-Way Communication Systems

708.1 General. Two-way communication systems shall comply with 708.

Advisory 708.1 General. Devices that do not require handsets are easier to use by people who have a limited reach.

708.2 Audible and Visual Indicators. The system shall provide both audible and visual signals.

Advisory 708.2 Audible and Visual Indicators. A light can be used to indicate visually that assistance is on the way. Signs indicating the meaning of visual signals should be provided.

708.3 Handsets. Handset cords, if provided, shall be 29 inches (735 mm) long minimum.

708.4 Residential Dwelling Unit Communication Systems. Communications systems between a *residential dwelling unit* and a *site*, *building*, or floor entrance shall comply with 708.4.

708.4.1 Common Use or Public Use System Interface. The *common use or public use system* interface shall include the capability of supporting voice and *TTY* communication with the *residential dwelling unit* interface.

708.4.2 Residential Dwelling Unit Interface. The *residential dwelling unit* system interface shall include a telephone jack capable of supporting voice and *TTY* communication with the *common use or public use system* interface.

CHAPTER 8: SPECIAL ROOMS, SPACES, AND ELEMENTS

801 General

801.1 Scope. The provisions of Chapter 8 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

Advisory 801.1 Scope. Facilities covered by these requirements are also subject to the requirements of the other chapters. For example, 806 addresses guest rooms in transient lodging facilities while 902 contains the technical specifications for dining surfaces. If a transient lodging facility contains a restaurant, this restaurant must comply with requirements in other chapters such as those applicable to certain dining surfaces.

802 Wheelchair Spaces, Companion Seats, and Designated Aisle Seats

802.1 Wheelchair Spaces. *Wheelchair spaces* shall comply with 802.1.

802.1.1 Floor or Ground Surface. The floor or ground surface of *wheelchair spaces* shall comply with 302. Changes in level are not permitted.

EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

802.1.2 Width. A single *wheelchair space* shall be 36 inches (915 mm) wide minimum Where two adjacent *wheelchair spaces* are provided, each *wheelchair space* shall be 33 inches (840 mm) wide minimum.

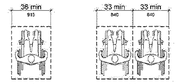


Figure 802.1.2
Width of Wheelchair Spaces

802.1.3 Depth. Where a *wheelchair space* can be entered from the front or rear, the *wheelchair space* shall be 48 inches (1220 mm) deep minimum. Where a *wheelchair space* can be entered only from the side, the *wheelchair space* shall be 60 inches (1525 mm) deep minimum.

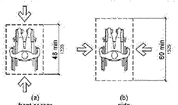


Figure 802.1.3
Depth of Wheelchair Spaces

802.1.4 Approach. *Wheelchair spaces* shall adjoin *accessible routes*. *Accessible routes* shall not overlap *wheelchair spaces*.

Advisory 802.1.4 Approach. Because accessible routes serving wheelchair spaces are not permitted to overlap the clear floor space at wheelchair spaces, access to any wheelchair space cannot be through another wheelchair space.

802.1.5 Overlap. *Wheelchair spaces* shall not overlap *circulation paths*.

Advisory 802.1.5 Overlap. The term "circulation paths" used in Section 802.1.5 means aisle width required by applicable building or life safety codes for the specific assembly occupancy. Where the circulation path provided is wider than the required aisle width, the wheelchair space may intrude into that portion of the circulation path that is provided in excess of the required aisle width.

802.2 Lines of Sight. Lines of sight to the screen, performance area, or playing field for spectators in *wheelchair spaces* shall comply with 802.2.

802.2.1 Lines of Sight Over Seated Spectators. Where spectators are expected to remain seated during events, spectators in *wheelchair spaces* shall be afforded lines of sight complying with 802.2.1.

802.2.1.1 Lines of Sight Over Heads. Where spectators are provided lines of sight over the heads of spectators seated in the first row in front of their seats, spectators seated in *wheelchair spaces* shall be afforded lines of sight over the heads of seated spectators in the first row in front of *wheelchair spaces*.

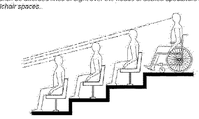


Figure 802.2.1.1
Lines of Sight Over the Heads of Seated Spectators

802.2.1.2 Lines of Sight Between Heads. Where spectators are provided lines of sight over the shoulders and between the heads of spectators seated in the first row in front of their seats, spectators seated in *wheelchair spaces* shall be afforded lines of sight over the shoulders and between the heads of seated spectators in the first row in front of *wheelchair spaces*.

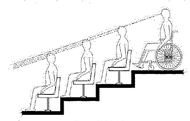


Figure 802.2.1.2
Lines of Sight Between the Heads of Seated Spectators

802.2.2 Lines of Sight Over Standing Spectators. Where spectators are expected to stand during events, spectators in *wheelchair spaces* shall be afforded lines of sight complying with 802.2.2.

802.2.2.1 Lines of Sight Over Heads. Where standing spectators are provided lines of sight over the heads of spectators standing in the first row in front of their seats, spectators seated in *wheelchair spaces* shall be afforded lines of sight over the heads of standing spectators in the first row in front of *wheelchair spaces*.

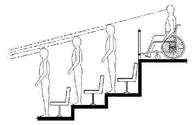


Figure 802.2.2.1
Lines of Sight Over the Heads of Standing Spectators

802.2.2.2 Lines of Sight Between Heads. Where standing spectators are provided lines of sight over the shoulders and between the heads of spectators standing in the first row in front of their seats, spectators seated in *wheelchair spaces* shall be afforded lines of sight over the shoulders and between the heads of standing spectators in the first row in front of *wheelchair spaces*.

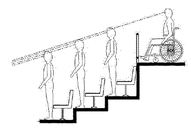


Figure 802.2.2.2
Lines of Sight Between the Heads of Standing Spectators

802.3 Companion Seats. Companion seats shall comply with 802.3.

802.3.1 Alignment. In row seating, companion seats shall be located to provide shoulder alignment with adjacent *wheelchair spaces*. The shoulder alignment point of the *wheelchair space* shall be measured 36 inches (915 mm) from the front of the *wheelchair space*. The floor surface of the companion seat shall be at the same elevation as the floor surface of the *wheelchair space*.

802.3.2 Type. Companion seats shall be equivalent in size, quality, comfort, and amenities to the seating in the immediate area. Companion seats shall be permitted to be movable.

802.4 Designated Aisle Seats. Designated aisle seats shall comply with 802.4.

802.4.1 Armrests. Where armrests are provided on the seating in the immediate area, folding or retractable armrests shall be provided on the aisle side of the seat.

802.4.2 Identification. Each designated aisle seat shall be identified by a sign or marker.

Advisory 802.4.2 Identification. Seats with folding or retractable armrests are intended for use by individuals who have difficulty walking. Consider identifying such seats with signs that contrast (light-on-dark or dark-on-light) and that are also photo luminescent.

803 Dressing, Fitting, and Locker Rooms

803.1 General. Dressing, fitting, and locker rooms shall comply with 803.

Advisory 803.1 General. Partitions and doors should be designed to ensure people using accessible dressing and fitting rooms privacy equivalent to that afforded other users of the facility. Section 803.5 requires dressing room bench seats to be installed so that they are at the same height as a typical wheelchair seat, 17 inches (430 mm) to 19 inches (485 mm). However, wheelchair seats can be lower than dressing room benches for people of short stature or children using wheelchairs.

803.2 Turning Space. *Turning space* complying with 304 shall be provided within the room.

803.3 Door Swing. Doors shall not swing into the room unless a clear floor or ground space complying with 305.3 is provided beyond the arc of the door swing.

803.4 Benches. A bench complying with 903 shall be provided within the room.

803.5 Coat Hooks and Shelves. Coat hooks provided within the room shall be located within one of the reach ranges specified in 308. Shelves shall be 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finish floor or ground.

804 Kitchens and Kitchenettes

804.1 General. Kitchens and kitchenettes shall comply with 804.

804.2 Clearance. Where a pass through kitchen is provided, clearances shall comply with 804.2.1. Where a U-shaped kitchen is provided, clearances shall comply with 804.2.2.

EXCEPTION: *Spaces* that do not provide a cooktop or conventional range shall not be required to comply with 804.2.

Advisory 804.2 Clearance. Clearances are measured from the furthest projecting face of all opposing base cabinets, counter tops, appliances, or walls, excluding hardware.

804.2.1 Pass Through Kitchen. In pass through kitchens where counters, appliances or cabinets are on two opposing sides, or where counters, appliances or cabinets are opposite a parallel wall, clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 40 inches (1015 mm) minimum. Pass through kitchens shall have two entries.

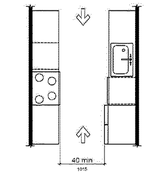


Figure 804.2.1
Pass Through Kitchens

804.2.2 U-Shaped. In U-shaped kitchens enclosed on three contiguous sides, clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.

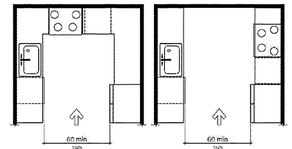


Figure 804.2.2
U-Shaped Kitchens

804.3 Kitchen Work Surface. In *residential dwelling units* required to comply with 809, at least one 30 inches (760 mm) wide minimum section of counter shall provide a kitchen work surface that complies with 804.3.

804.3.1 Clear Floor or Ground Space. A clear floor *space* complying with 305 positioned for a forward approach shall be provided. The clear floor or ground *space* shall be centered on the kitchen work surface and shall provide knee and toe clearance complying with 306.

EXCEPTION: Cabinetry shall be permitted under the kitchen work surface provided that all of the following conditions are met:
(a) the cabinetry can be removed without removal or replacement of the kitchen work surface;
(b) the finish floor extends under the cabinetry; and
(c) the walls behind and surrounding the cabinetry are finished.

804.3.2 Height. The kitchen work surface shall be 34 inches (865 mm) maximum above the finish floor or ground.

EXCEPTION: A counter that is adjustable to provide a kitchen work surface at variable heights, 29 inches (735 mm) minimum and 36 inches (915 mm) maximum, shall be permitted.

804.3.3 Exposed Surfaces. There shall be no sharp or abrasive surfaces under the work surface counters.

804.4 Sinks. Sinks shall comply with 606.

804.5 Storage. At least 50 percent of *shelf space* in *storage facilities* shall comply with 811.

804.6 Appliances. Where provided, kitchen appliances shall comply with 804.6.

804.6.1 Clear Floor or Ground Space. A clear floor or ground *space* complying with 305 shall be provided at each kitchen appliance. Clear floor or ground *spaces* shall be permitted to overlap.

804.6.2 Operable Parts. All appliance controls shall comply with 309.

EXCEPTIONS: 1. Appliance doors and door latching devices shall not be required to comply with 309.4.

2. Bottom-hinged appliance doors, when in the open position, shall not be required to comply with 309.3.

804.6.3 Dishwasher. Clear floor or ground *space* shall be positioned adjacent to the dishwasher door. The dishwasher door, in the open position, shall not obstruct the clear floor or ground *space* for the dishwasher or the sink.

804.6.4 Range or Cooktop. Where a forward approach is provided, the clear floor or ground *space* shall provide knee and toe clearance complying with 306. Where knee and toe *space* is provided, the underside of the range or cooktop shall be insulated or otherwise configured to prevent burns, abrasions, or electrical shock. The location of controls shall not require reaching across burners.

804.6.5 Oven. Ovens shall comply with 804.6.5.

804.6.5.1 Side-Hinged Door Ovens. Side-hinged door ovens shall have the work surface required by 804.3 positioned adjacent to the latch side of the oven door.

804.6.5.2 Bottom-Hinged Door Ovens. Bottom-hinged door ovens shall have the work surface required by 804.3 positioned adjacent to one side of the door.

804.6.5.3 Controls. Ovens shall have controls on front panels.

804.6.6 Refrigerator/Freezer. Combination refrigerators and freezers shall have at least 50 percent of the freezer *space* 54 inches (1370 mm) maximum above the finish floor or ground. The clear floor or ground *space* shall be positioned for a parallel approach to the *space* dedicated to a refrigerator/ freezer with the centerline of the clear floor or ground *space* offset 24 inches (610 mm) maximum from the centerline of the dedicated *space*.

805 Medical Care and Long-Term Care Facilities

805.1 General. *Medical care facility* and *long-term care facility* patient or resident sleeping rooms required to provide mobility features shall comply with 805.

805.2 Turning Space. *Turning space* complying with 304 shall be provided within the room.

805.3 Clear Floor or Ground Space. A clear floor *space* complying with 305 shall be provided on each side of the bed. The clear floor *space* shall be positioned for parallel approach to the side of the bed.

805.4 Toilet and Bathing Rooms. Toilet and bathing rooms that are provided as part of a patient or resident sleeping room shall comply with 603. Where provided, no fewer than one water closet, one lavatory, and one bathtub or shower shall comply with the applicable requirements of 603 through 610.

806 Transient Lodging Guest Rooms

806.1 General. *Transient lodging* guest rooms shall comply with 806. Guest rooms required to provide mobility features shall comply with 806.2. Guest rooms required to provide communication features shall comply with 806.3.

806.2 Guest Rooms with Mobility Features. Guest rooms required to provide mobility features shall comply with 806.2.

Advisory 806.2 Guest Rooms. The requirements in Section 806.2 do not include requirements that are common to all accessible spaces. For example, closets in guest rooms must comply with the applicable provisions for storage specified in scoping.

806.2.1 Living and Dining Areas. *Living and dining areas* shall be *accessible*.

806.2.2 Exterior Spaces. Exterior *spaces*, including patios, terraces and balconies, that serve the guest room shall be accessible.

806.2.3 Sleeping Areas. At least one sleeping area shall provide a clear floor *space* complying with 305 on both sides of a bed. The clear floor *space* shall be positioned for parallel approach to the side of the bed.

EXCEPTION: Where a single clear floor *space* complying with 305 posit

810.2.2 Dimensions. Bus stop boarding and alighting areas shall provide a clear length of 96 inches (2440 mm) minimum, measured perpendicular to the curb or vehicle roadway edge, and a clear width of 60 inches (1525 mm) minimum, measured parallel to the vehicle roadway.

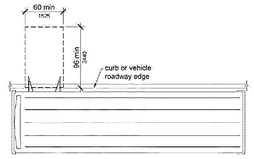


Figure 810.2.2
Dimensions of Bus Boarding and Alighting Areas

810.2.3 Connection. Bus stop boarding and alighting areas shall be connected to streets, sidewalks, or pedestrian paths by an accessible route complying with 402.

810.2.4 Slope. Parallel to the roadway, the slope of the bus stop boarding and alighting area shall be the same as the roadway, to the maximum extent practicable. Perpendicular to the roadway, the slope of the bus stop boarding and alighting area shall not be steeper than 1:48.

810.3 Bus Shelters. Bus shelters shall provide a minimum clear floor or ground space complying with 305 entirely within the shelter. Bus shelters shall be connected by an accessible route complying with 402 to a boarding and alighting area complying with 810.2.

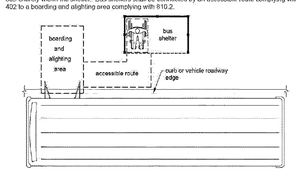


Figure 810.3
Bus Shelters

810.4 Bus Signs. Bus route identification signs shall comply with 703.5.1 through 703.5.4, and 703.5.7 and 703.5.8. In addition, to the maximum extent practicable, bus route identification signs shall comply with 703.5.5.

EXCEPTION: Bus schedules, timetables and maps that are posted at the bus stop or bus bay shall not be required to comply.

810.5 Rail Platforms. Rail platforms shall comply with 810.5.

810.5.1 Slope. Rail platforms shall not exceed a slope of 1:48 in all directions.

EXCEPTION: Where platforms serve vehicles operating on existing track or track laid in existing roadway, the slope of the platform parallel to the track shall be permitted to be equal to the slope (grade) of the roadway or existing track.

810.5.2 Detectable Warnings. Platform boarding edges not protected by platform screens or guards shall have detectable warnings complying with 705 along the full length of the public use area of the platform.

810.5.3 Platform and Vehicle Floor Coordination. Station platforms shall be positioned to coordinate with vehicles in accordance with the applicable requirements of 36 CFR Part 1192. Low-level platforms shall be 8 inches (205 mm) minimum above top of rail.

EXCEPTION: Where vehicles are boarded from sidewalks or street-level, low-level platforms shall be permitted to be less than 8 inches (205 mm).

Advisory 810.5.3 Platform and Vehicle Floor Coordination. The height and position of a platform must be coordinated with the floor of the vehicles it serves to minimize the vertical and horizontal gaps, in accordance with the ADA Accessibility Guidelines for Transportation Vehicles (36 CFR Part 1192). The vehicle guidelines, divided by bus, van, light rail, rapid rail, commuter rail, intercity rail, are available at www.access-board.gov. The preferred alignment is a high platform, level with the vehicle floor. In some cases, the vehicle guidelines permit use of a low platform in conjunction with a lift or ramp. Most such low platforms must have a minimum height of eight inches above the top of the rail. Some vehicles are designed to be boarded from a street or the sidewalk along the street and the exception permits such boarding areas to be less than eight inches high.

810.6 Rail Station Signs. Rail station signs shall comply with 810.6.

EXCEPTION. Signs shall not be required to comply with 810.6.1 and 810.6.2 where audible signs are remotely transmitted to hand-held receivers, or are user- or proximity-actuated.

Advisory 810.6 Rail Station Signs Exception. Emerging technologies such as an audible sign systems using infrared transmitters and receivers may provide greater accessibility in the transit environment than traditional Braille and raised letter signs. The transmitters are placed on or next to print signs and transmit their information to an infrared receiver that is held by a person. By scanning an area, the person will hear the sign. This means that signs can be placed well out of reach of Braille readers, even on parapet walls and on walls beyond barriers. Additionally, such signs can be used to provide wayfinding information that cannot be efficiently conveyed on Braille signs.

810.6.1 Entrances. Where signs identify a station or its entrance, at least one sign at each entrance shall comply with 703.2 and shall be placed in uniform locations to the maximum extent practicable. Where signs identify a station that has no defined entrance, at least one sign shall comply with 703.2 and shall be placed in a central location.

810.6.3 Station Names. Stations covered by this section shall have identification signs complying with 703.5. Signs shall be clearly visible and within the sight lines of standing and sitting passengers from within the vehicle on both sides when not obstructed by another vehicle.

Advisory 810.6.3 Station Names. It is also important to place signs at intervals in the station where passengers in the vehicle will be able to see a sign when the vehicle is either stopped at the station or about to come to a stop in the station. The number of signs necessary may be directly related to the size of the lettering displayed on the sign.

810.7 Public Address Systems. Where public address systems convey audible information to the public, the same or equivalent information shall be provided in a visual format.

810.8 Clocks. Where clocks are provided for use by the public, the clock face shall be unobstructed so that its elements are clearly visible. Hands, numerals and digits shall contrast with the background either light-on-dark or dark-on-light. Where clocks are installed overhead, numerals and digits shall comply with 703.5.

810.9 Escalators. Where provided, escalators shall comply with the sections 6.1.3.5.6 and 6.1.3.6.5 of ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1) and shall have a clear width of 32 inches (815 mm) minimum.

EXCEPTION: Existing escalators in key stations shall not be required to comply with 810.9.

810.10 Track Crossings. Where a circulation path serving boarding platforms crosses tracks, it shall comply with 402.

EXCEPTION: Openings for wheel flanges shall be permitted to be 2½ inches (64 mm) maximum.



Figure 810.10 (Exception)
Track Crossings

811 Storage

811.1 General. Storage shall comply with 811.

811.2 Clear Floor or Ground Space. A clear floor or ground space complying with 305 shall be provided.

811.3 Height. Storage elements shall comply with at least one of the reach ranges specified in 308.

811.4 Operable Parts. Operable parts shall comply with 309.

CHAPTER 9: BUILT-IN ELEMENTS

901 General

901.1 Scope. The provisions of Chapter 9 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

902 Dining Surfaces and Work Surfaces

902.1 General. Dining surfaces and work surfaces shall comply with 902.2 and 902.3.

EXCEPTION: Dining surfaces and work surfaces for children's use shall be permitted to comply with 902.4.

Advisory 902.1 General. Dining surfaces include, but are not limited to, bars, tables, lunch counters, and booths. Examples of work surfaces include writing surfaces, study carrels, student laboratory stations, baby changing and other tables or fixtures for personal grooming, coupon counters, and where covered by the ADA scoping provisions, employee work stations.

902.2 Clear Floor or Ground Space. A clear floor space complying with 305 positioned for a forward approach shall be provided. Knee and toe clearance complying with 306 shall be provided.

902.3 Height. The tops of dining surfaces and work surfaces shall be 28 inches (710 mm) minimum and 34 inches (865 mm) maximum above the finish floor or ground.

902.4 Dining Surfaces and Work Surfaces for Children's Use. Accessible dining surfaces and work surfaces for children's use shall comply with 902.4.

EXCEPTION: Dining surfaces and work surfaces that are used primarily by children 5 years and younger shall not be required to comply with 902.4 where a clear floor or ground space complying with 305 positioned for a parallel approach is provided.

902.4.1 Clear Floor or Ground Space. A clear floor space complying with 305 positioned for forward approach shall be provided. Knee and toe clearance complying with 306 shall be provided, except that knee clearance 24 inches (610 mm) minimum above the finish floor or ground shall be permitted.

902.4.2 Height. The tops of tables and counters shall be 26 inches (660 mm) minimum and 30 inches (760 mm) maximum above the finish floor or ground.

903 Benches

903.1 General. Benches shall comply with 903.

903.2 Clear Floor or Ground Space. Clear floor or ground space complying with 305 shall be provided and shall be positioned at the end of the bench seat and parallel to the short axis of the bench.

903.3 Size. Benches shall have seats that are 42 inches (1065 mm) long minimum and 20 inches (510 mm) deep minimum and 24 inches (610 mm) deep maximum.

903.4 Back Support. The bench shall provide for back support or shall be affixed to a wall. Back support shall be 42 inches (1065 mm) long minimum and shall extend from a point 2 inches (51 mm) maximum above the seat surface to a point 18 inches (455 mm) minimum above the seat surface. Back support shall be 2½ inches (64 mm) maximum from the rear edge of the seat measured horizontally.

Advisory 903.4 Back Support. To assist in transferring to the bench, consider providing grab bars on a wall adjacent to the bench, but not on the seat back. If provided, grab bars cannot obstruct transfer to the bench.

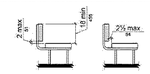


Figure 903.4
Bench Back Support

903.5 Height. The top of the bench seat surface shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the finish floor or ground.

903.6 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the seat, fastener, mounting device, or supporting structure.

903.7 Wet Locations. Where installed in wet locations, the surface of the seat shall be slip resistant and shall not accumulate water.

904 Check-Out Aisles and Sales and Service Counters

904.1 General. Check-out aisles and sales and service counters shall comply with the applicable requirements of 904.

904.2 Approach. All portions of counters required to comply with 904 shall be located adjacent to a walking surface complying with 403.

Advisory 904.2 Approach. If a cash register is provided at the sales or service counter, locate the accessible counter close to the cash register so that a person using a wheelchair is visible to sales or service personnel and to minimize the reach for a person with a disability.

904.3 Check-Out Aisles. Check-out aisles shall comply with 904.3.

904.3.1 Aisle. Aisles shall comply with 403.

904.3.2 Counter. The counter surface height shall be 38 inches (965 mm) maximum above the finish floor or ground. The top of the counter edge protection shall be 2 inches (51 mm) maximum above the top of the counter surface on the aisle side of the check-out counter.



Figure 904.3.2
Check-Out Aisle Counters

904.3.3 Check Writing Surfaces. Where provided, check writing surfaces shall comply with 902.3.

904.4 Sales and Service Counters. Sales counters and service counters shall comply with 904.4.1 or 904.4.2. The accessible portion of the counter top shall extend the same depth as the sales or service counter top.

EXCEPTION: In alterations, when the provision of a counter complying with 904.4 would result in a reduction of the number of existing counters at work stations or a reduction of the number of existing mail boxes, the counter shall be permitted to have a portion which is 24 inches (610 mm) long minimum complying with 904.4.1 provided that the required clear floor or ground space is centered on the accessible length of the counter.



Figure 904.3.2
Check-Out Aisle Counters

904.3.3 Check Writing Surfaces. Where provided, check writing surfaces shall comply with 902.3.

904.4 Sales and Service Counters. Sales counters and service counters shall comply with 904.4.1 or 904.4.2. The accessible portion of the counter top shall extend the same depth as the sales or service counter top.

EXCEPTION: In alterations, when the provision of a counter complying with 904.4 would result in a reduction of the number of existing counters at work stations or a reduction of the number of existing mail boxes, the counter shall be permitted to have a portion which is 24 inches (610 mm) long minimum complying with 904.4.1 provided that the required clear floor or ground space is centered on the accessible length of the counter.

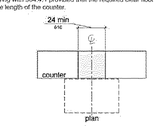


Figure 904.4 (Exception)
Alteration of Sales and Service Counters

904.4.1 Parallel Approach. A portion of the counter surface that is 36 inches (915 mm) long minimum and 36 inches (915 mm) high maximum above the finish floor shall be provided. A clear floor or ground space complying with 305 shall be positioned for a parallel approach adjacent to the 36 inch (915 mm) minimum length of counter.

EXCEPTION: Where the provided counter surface is less than 36 inches (915 mm) long, the entire counter surface shall be 36 inches (915 mm) high maximum above the finish floor.

904.4.2 Forward Approach. A portion of the counter surface that is 30 inches (760 mm) long minimum and 36 inches (915 mm) high maximum shall be provided. Knee and toe space complying with 306 shall be provided under the counter. A clear floor or ground space complying with 305 shall be positioned for a forward approach to the counter.

904.5 Food Service Lines. Counters in food service lines shall comply with 904.5.

904.5.1 Self-Service Shelves and Dispensing Devices. Self-service shelves and dispensing devices for tableware, dishware, condiments, food and beverages shall comply with 308.

904.5.2 Tray Slides. The tops of tray slides shall be 28 inches (710 mm) minimum and 34 inches (865 mm) maximum above the finish floor or ground.

904.6 Security Glazing. Where counters or teller windows have security glazing to separate personnel from the public, a method to facilitate voice communication shall be provided. Telephone handset devices, if provided, shall comply with 704.3.

Advisory 904.6 Security Glazing. Assistive listening devices complying with 706 can facilitate voice communication at counters or teller windows where there is security glazing which promotes distortion in audible information. Where assistive listening devices are installed, place signs complying with 703.7.2.4 to identify those facilities which are so equipped. Other voice communication methods include, but are not limited to, grilles, slats, talk-through baffles, intercoms, or telephone handset devices.

CHAPTER 10: RECREATION FACILITIES

1001 General

1001.1 Scope. The provisions of Chapter 10 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

Advisory 1001.1 Scope. Unless otherwise modified or specifically addressed in Chapter 10, all other ADAAG provisions apply to the design and construction of recreation facilities and elements. The provisions in Section 1001.1 apply wherever these elements are provided. For example, office buildings may contain a room with exercise equipment to which these sections would apply.

1002 Amusement Rides

1002.1 General. Amusement rides shall comply with 1002.

1002.2 Accessible Routes. Accessible routes serving amusement rides shall comply with Chapter 4.

EXCEPTIONS: 1. In load or unload areas and on amusement rides, where compliance with 405.2 is not structurally or operationally feasible, ramp slope shall be permitted to be 1:8 maximum.

2. In load or unload areas and on amusement rides, handrails provided along walking surfaces complying with 403 and required on ramps complying with 405 shall not be required to comply with 505 where compliance is not structurally or operationally feasible.

Advisory 1002.2 Accessible Routes Exception 1. Steeper slopes are permitted on accessible routes connecting the amusement ride in the load and unload position where it is "structurally or operationally infeasible." In most cases, this will be limited to areas where the accessible route leads directly to the amusement ride and where there are space limitations on the ride, not the queue line. Where possible, the least possible slope should be used on the accessible route that serves the amusement ride.

1002.3 Load and Unload Areas. A turning space complying with 304.2 and 304.3 shall be provided in load and unload areas.

1002.4 Wheelchair Spaces in Amusement Rides. Wheelchair spaces in amusement rides shall comply with 1002.4.

1002.4.1 Floor or Ground Surface. The floor or ground surface of wheelchair spaces shall be stable and firm.

1002.4.2 Slope. The floor or ground surface of wheelchair spaces shall have a slope not steeper than 1:48 when in the load and unload position.

1002.4.3 Gaps. Floors of amusement rides with wheelchair spaces and floors of load and unload areas shall be coordinated so that, when amusement rides are at rest in the load and unload position, the vertical difference between the floors shall be within plus or minus 5/8 inches (16 mm) and the horizontal gap shall be 3 inches (75 mm) maximum under normal passenger load conditions.

EXCEPTION: Where compliance is not operationally or structurally feasible, ramps, bridge plates, or similar devices complying with the applicable requirements of 36 CFR 1192.83(c) shall be provided.

Advisory 1002.4.3 Gaps Exception. 36 CFR 1192.83(c) ADA Accessibility Guidelines for Transportation Vehicles – Light Rail Vehicles and Systems – Mobility Aid Accessibility is available at www.access-board.gov. It includes provisions for bridge plates and ramps that can be used at gaps between wheelchair spaces and floors of load and unload areas.

1002.4.4 Clearances. Clearances for wheelchair spaces shall comply with 1002.4.4.

EXCEPTIONS: 1. Where provided, securement devices shall be permitted to overlap required clearances.

2. Wheelchair spaces shall be permitted to be mechanically or manually repositioned.

3. Wheelchair spaces shall not be required to comply with 307.4.

Advisory 1002.4.4 Clearances Exception 3. This exception for protruding objects applies to the ride devices, not to circulation areas or accessible routes in the queue lines or the load and unload areas.

1002.4.4.1 Width and Length. Wheelchair spaces shall provide a clear width of 30 inches (760 mm) minimum and a clear length of 48 inches (1220 mm) minimum measured to 9 inches (230 mm) minimum above the floor surface.

1002.4.4.2 Side Entry. Where wheelchair spaces are entered only from the side, amusement rides shall be designed to permit sufficient maneuvering clearance for individuals using a wheelchair or mobility aid to enter and exit the ride.

Advisory 1002.4.4.2 Side Entry. The amount of clear space needed within the ride, and the size and position of the opening are interrelated. A 32 inch (815 mm) clear opening will not provide sufficient width when entered through a turn into an amusement ride. Additional space for maneuvering and a wider door will be needed where a side opening is centered on the ride. For example, where a 42 inch (1065 mm) opening is provided, a minimum clear space of 60 inches (1525 mm) in length and 36 inches (915mm) in depth is needed to ensure adequate space for maneuvering.

1002.4.4.3 Permitted Protrusions in Wheelchair Spaces. Objects are permitted to protrude a distance of 6 inches (150 mm) maximum along the front of the wheelchair space, where located 9 inches (230 mm) minimum and 27 inches (685 mm) maximum above the floor or ground surface of the wheelchair space. Objects are permitted to protrude a distance of 25 inches (635 mm) maximum along the front of the wheelchair space, where located more than 27 inches (685 mm) above the floor or ground surface of the wheelchair space.

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SAN JOSE, CA 95125

THE FRESHWATER GROUP
2020 WEST RUDASILL ROAD
TUCSON, AZ 85704

Issue Drawing Log

REV #	DATE (MM.DD.YY)	ISSUE NAME
	8/7/20	LAND USE APPLICATION SUBMITTAL
	8/21/20	SCHEMATIC DESIGN SUBMITTAL
	8/6/21	LAND USE APPLICATION RESUBMITTAL
	10/15/21	LAND USE APPLICATION RESUBMITTAL

Seal

NOT FOR CONSTRUCTION

Sheet Identification

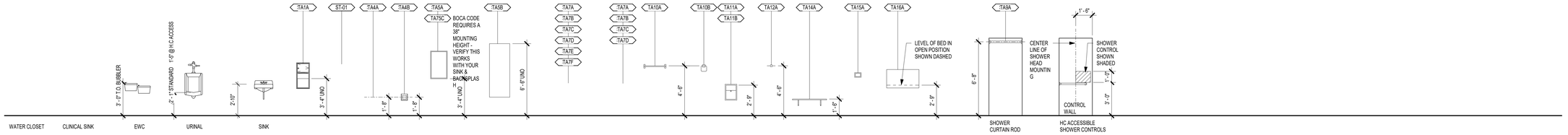
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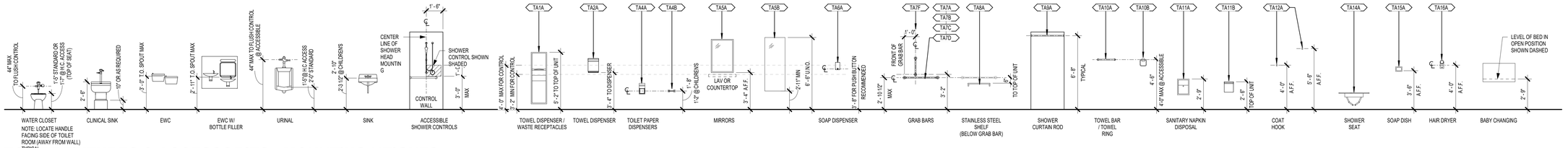
G-007

THE WATERMARK AT SANTA CRUZ

126 EUCALYPTUS AVENUE
SANTA CRUZ, CA 95060

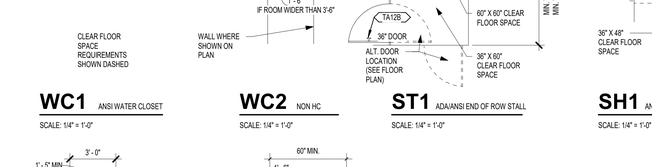
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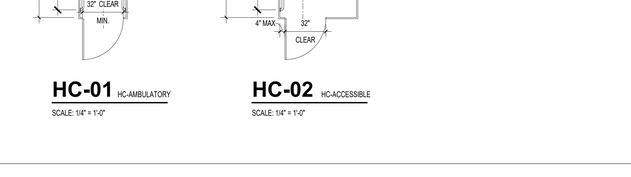
TOILET FIXTURES & ACCESSORIES - MOUNTING HEIGHTS

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



TOILET FIXTURES & ACCESSORIES - MOUNTING HEIGHTS

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



T1 ANSI TOILET

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

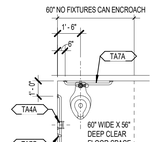
T2 TOILET

STANDARD - NON HC ACCESSIBLE

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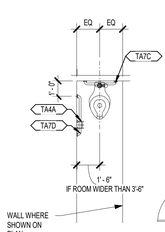
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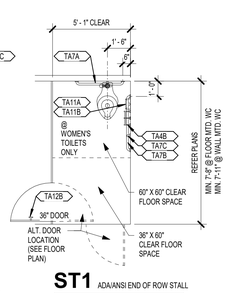
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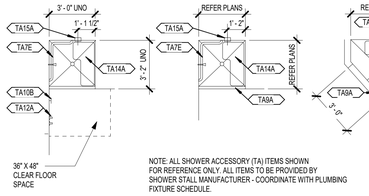
WC2 NON HC

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



ST1 ADA/ANSI END OF ROW STALL

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



SH1 ANSI/ADA SHOWER (TILE)

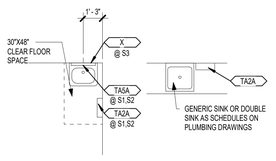
SCALE: 1/4" = 1'-0"

SH2 SHOWER (TILE)

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

SH3 SHOWER (TILE)

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

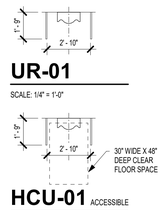


S1 ANSI/ADA SINK
S2 NON HC SINK
S3 NON HC SINK

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

S4 SINK IN COUNTERTOP

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

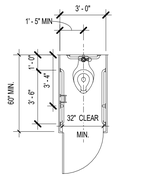


UR-01

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

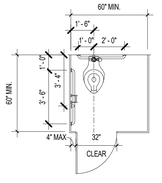
HCU-01 ACCESSIBLE

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



HC-01 HC-AMBULATORY

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



HC-02 HC-ACCESSIBLE

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

TOILET ACCESSORY SCHEDULE

Type Comments	TAG	TYPE	Count	Manufacturer	Model	Comments	Responsibility

TOILET ROOM & ACCESSORIES NOTES

1. ENLARGED PLANS INDICATE TYPICAL DIMENSIONS, LOCATIONS FOR ACCESSORIES AND SPECIALTIES AS WELL AS REQUIRED CLEARANCES TO BE MAINTAINED. REFER TO THE XXXX EQUIPMENT FLOOR PLAN SHEET(S) WHERE TOILET & SINK TYPES ARE KEYED ON THE DRAWINGS & ADDITIONAL TOILET ACCESSORIES ARE IDENTIFIED.
2. REFER TO FLOOR PLAN SHEETS FOR ROOM OR FIXTURE ORIENTATION, LOCATION OF DOOR, WALL CONSTRUCTION AND ADDITIONAL EQUIPMENT ITEMS.
3. DIMENSIONS INDICATED ARE TYPICAL UNLESS SHOWN OTHERWISE ON DIMENSIONED 1/8" SCALE FLOOR PLAN SHEETS.
4. DIMENSIONS SHOWN FOR WALLS AND OPENINGS ARE TAKEN FROM FACE OF GYPSUM BOARD.
5. DIMENSIONS SHOWN FOR ACCESSORIES AND EQUIPMENT ITEMS AND CLEAR FLOOR SPACE AREAS ARE FROM FACE OF ROOM FINISH (SUCH AS TILE).
6. NOTE THAT DOORS CANNOT INFRINGE OR SWING INTO REQUIRED RECTANGULAR CLEAR FLOOR SPACE AREAS - SHOWN DASHED ON ENLARGED PLANS.
7. FIXTURES SHOWN ARE GENERIC - REFER TO THE PLUMBING DRAWINGS FOR SCHEDULED FIXTURES.

CALLISONRTKL

CallisonRTKL Inc.
333 SOUTH HOPE STREET, SUITE C-200
LOS ANGELES, CA 90071
Tel: 213.633.6000

CallisonRTKL Project No: 040-190064

Consultant

THE WATERMARK AT SANTA CRUZ

126 EUCALYPTUS AVENUE
SANTA CRUZ, CA 95060

Client/Owner/Operator

OPPIDAN INVESTMENT COMPANY
1100 LINCOLN AVENUE, SUITE 3382
SAN JOSE, CA 95125

THE FRESHWATER GROUP
2020 WEST RUDASILL ROAD
TUCSON, AZ 85704

Issue Drawing Log

REV #	DATE (MM.DD.YY)	ISSUE NAME
	8/7/20	LAND USE APPLICATION SUBMITTAL
	8/21/20	SCHEMATIC DESIGN SUBMITTAL
	8/6/21	LAND USE APPLICATION RESUBMITTAL
	10/15/21	LAND USE APPLICATION RESUBMITTAL

Seal

NOT FOR CONSTRUCTION

Sheet Identification

TOILET TYPES

G-008

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XHEZ.W-L-1222 - THROUGH-PENETRATION FIRESTOP SYSTEMS

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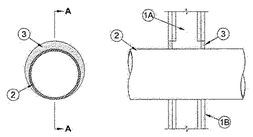
XHEZ - Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems

System No. W-L-1222

July 26, 2006

F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 1/4, 3/4 and 1 Hr (See Item 2)



Section A-A

1. **Wall Assembly —** The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs —** Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC.

B. **Gypsum Board* —** Thickness, type, number of layers and fasteners as specified in the individual Wall and Partition Design. Max diam of opening is 10-5/8 in. (270 mm).

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. **Through Penetrant —** One metallic pipe, conduit or tube to be installed eccentrically or concentrically within the firestop system. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. The annular space between the pipe, conduit or tube and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe, conduit or tube to be rigidly supported on both sides of the wall assembly. The following types and sizes of metallic pipes, conduits and tubes may be used:

A. **Steel Pipe —** Nom 8 in. (203 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.

B. **Iron Pipe —** Nom 8 in. (203 mm) diam (or smaller) cast or ductile iron pipe.

C. **Conduit —** Nom 6 in. (152 mm) diam (or smaller) rigid steel conduit, nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or nom 4 in. (102 mm) diam (or smaller) flexible steel conduit.

D. **Copper Pipe —** Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

E. **Copper Tube —** Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tube.

Type of Penetrant	Max Diam	T Rating
Steel or iron pipe, steel conduit or EMT	2 in. (51 mm)	1 hr
Steel or iron pipe, steel conduit or EMT	8 in. (203 mm)	3/4 hr
Copper pipe or tube	4 in. (102 mm)	1/4 hr

2A. **Through Penetrating Product* — Flexible Metal Piping —** As an alternate to Item 2, one nom 1-1/4 in. (32 mm) diam (or smaller) steel flexible metal pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe and the periphery of the opening shall be min 0 in. (0 mm, point contact) to max 2 in. (51 mm). Pipe to be rigidly supported on both sides of the wall assembly.

OMEGA FLEX INC

GASTITE, DIV OF TITEFLEX

WARD MFG L L C

3. **Fill, Void or Cavity Material* — Sealant —** Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall assembly. At point contact location, min 1/4 in. (6 mm) diam bead of fill material applied at metallic pipe/gypsum board interface on both surfaces of wall.

SPECIFIED TECHNOLOGIES INC — Smoshed LCT Sealant

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Last Updated on 2006-07-26

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XHEZ.W-L-2128 - THROUGH-PENETRATION FIRESTOP SYSTEMS

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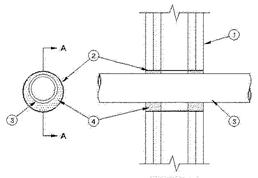
XHEZ - Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems

System No. W-L-2128

December 10, 2008

F Ratings — 1 and 2 Hr (See Item 1)
T Rating — 0 Hr



SECTION A-A

1. **Wall Assembly —** The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs —** Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.

B. **Gypsum Board* —** 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 3-1/2 in. (89 mm).

2. **Metallic Sleeve Optional —** Nom 3-1/2 in. (89 mm) (or smaller) cylindrical sleeve fabricated from min 0.016 in. thick (28 gauge) galv sheet steel and having a min 1-1/4 in. (32 mm) lap salong longitudinal seam. Length of sleeve to be installed flush with wall surfaces.

3. **Through Penetrants —** One nonmetallic pipe installed within the firestop system. Pipe may be installed at an angle not greater than 45 degrees from perpendicular. Pipe to be rigidly supported on both sides of wall assembly. The space between pipe and periphery of opening shall be min 1/4 in. (6 mm) to max 11/16 in. (17.5 mm). The following types and sizes of nonmetallic pipes may be used:

A. **Polyvinyl Chloride (PVC) Pipe —** Nom 2 in. (51 mm) diam (or smaller) Schedule 40 PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe —** Nom 2 in. (51 mm) diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping systems.

4. **Fill, Void or Cavity Materials* — Sealant —** For 1 hr F Rating, min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. For 2 hr F Rating, min 1-1/4 in. (32 mm) thickness of fill material applied within annulus, flush with both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS ONE Sealant or FS ONE MAX Intumescent Sealant

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Last Updated on 2015-01-26

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XHEZ.W-L-3124 - THROUGH-PENETRATION FIRESTOP SYSTEMS

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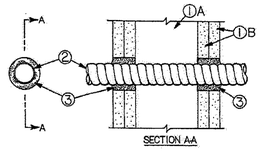
XHEZ - Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems

System No. W-L-3124

December 10, 2008

F Ratings — 1 and 2 Hr (See Item 1B)
T Ratings — 1/2, 1 and 2 Hr (See Item 3)
L Rating At Ambient — 8 CFM/sq ft
L Rating At 400 F — Less Than 1 CFM/sq ft



SECTION AA

A. **Wall Assembly —** The 1 or 2 hr fire rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs —** Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.

B. **Gypsum Board* —** 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 2-1/2 in.

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. **Through-Penetrating Product* —** Max four copper conductor No. 5 AWG (or smaller) aluminum or steel **Metal-Clad Cable+.** Max one metal-clad cable to be installed either concentrically or eccentricity within the firestop system. The annular space within the firestop system shall be a min 0 in. (point contact) to a max 3/8 in. Through-penetrating product to be rigidly supported on both sides of wall assembly.

NORTHERN CABLES INC

2A. **Cables —** As an alternate to Item 2, one cable to be installed either concentrically or eccentricity within the firestop system. The annular space within the firestop system shall be a min 0 in. (point contact) to a max 1/4 in. cable to be rigidly supported on both sides of wall assembly. The following types and sizes of cables may be used:

A. Max 50 pair No. 24 AWG (or smaller) copper conductor telephone cables with polyvinyl chloride (PVC) insulation and jacket materials.

B. Max 3/C (with ground) No. 10 AWG (or smaller) PVC insulated and jacketed nonmetallic sheathed (Romex) cable.

C. Max 3/C (with ground) No. 5 AWG aluminum conductor service entrance cable with PVC insulation and jacket materials.

3. **Fill, Void or Cavity Material* — Sealant or Putty —** Fill material applied within the annulus, flush with both surfaces of wall. Additional fill material to be installed such that a crown is formed around the penetrating item. The T Rating of the firestop system is dependent upon the hourly rating of the wall, type of through penetrant and type and thickness of fill material as tabulated below:

Rating of Wall Hr	Type of Through Penetrant	Type of Fill Mtl	Thkns of Fill Mtl In.	Thkns of Fill Mtl Crown In.	T Rating Hr
1	Telephone Cable	Sealant	5/8	1/4	1
2	Telephone Cable	Sealant	5/8	1/4	2
1	Telephone Cable	Putty	5/8	3/8	1
2	Telephone Cable	Putty	3/4	1/4	2
1	Romex Cable	Sealant	5/8	3/8	1
2	Romex Cable	Sealant	3/4	1/4	2
1	Romex Cable	Putty	5/8	3/8	1
2	Romex Cable	Putty	3/4	1/4	2
2	Service Cable	Sealant	5/8	1/4	1/2
1	Service Cable	Sealant	5/8	1/4	1/2
2	Metal Clad Cable	Sealant	5/8	1/4	1/2
1	Metal Clad Cable	Sealant	5/8	1/4	1/2

SPECIFIED TECHNOLOGIES INC — Spectrum Series 300 Sealant or SpecSeal LCG Sealant

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Last Updated on 2008-12-10

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XHEZ.C-AJ-5106 - THROUGH-PENETRATION FIRESTOP SYSTEMS

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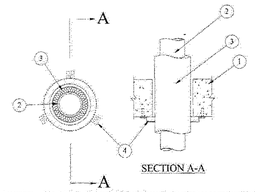
XHEZ - Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems

System No. C-AJ-5106

March 09, 2011

F Rating — 3 Hr
T Rating — 2 Hr



SECTION A-A

1. **Floor or Wall Assembly —** Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) concrete. Wall may also be constructed of any UL Classified **Concrete Blocks*.** Max diam of opening is 4-1/2 in. (114 mm).

See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. **Nonmetallic Pipe —** Nom 2 in. (51 mm) diam (or smaller) Schedule 40 polyvinyl chloride (PVC) pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. One pipe to be centered within the firestop system. Pipe to be rigidly supported on both sides of floor or wall assembly.

3. **Pipe Covering* —** Nom 1 in. (25 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m^3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. A nom annular space of 1/16 in. (1.6 mm) is required within the firestop system.

See **Pipe and Equipment Covering — Materials (MHJI)** category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

4. **Firestop Device* —** Galv steel collar fined with an intumescent material sized to fit specific diam of the through penetrant. Device to be installed around through penetrant in accordance with accompanying installation instructions. Device incorporates anchor tabs for securement to underside of the concrete floor by means of 1/4 in. (6 mm) diam by 1-1/4 in. (32 mm) long steel expansion bolts in conjunction with min 3/4 in. (19 mm) diam washers. In walls, collars are installed on each side of wall.

RECTORSEAL — Rosking Pipe Collar or FlameSafe Pipe Collar

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XHEZ.C-AJ-3023 - THROUGH-PENETRATION FIRESTOP SYSTEMS

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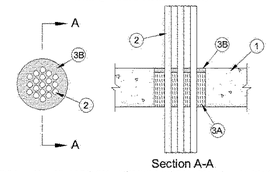
XHEZ - Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems

System No. C-AJ-3023

November 19, 2008

F Ratings — 2 and 3 Hr (See Items 2 and 3B)
T Rating — 1/2 Hr
L Rating At Ambient — 8 CFM/sq ft
L Rating At 400 F — Less Than 1 CFM/sq ft
W Rating — Class 1 (See Items 2 and 3B)



Section A-A

1. **Floor or Wall Assembly —** Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) concrete floor or min 5 in. (127 mm) thick reinforced lightweight or normal weight concrete wall. Wall may also be constructed of any UL Classified **Concrete Blocks*.** Max diam of opening is 6 in. (152 mm).

See **Concrete Blocks** (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. **Cables —** Aggregate cross-sectional area of cables in opening to be max 40 percent of the aggregate cross-sectional area of the opening. Cables to be rigidly supported on both sides of floor or wall assembly. W Rating applies only when the min separation between the individual cables is equal to or greater than 1/8 in. (3 mm). Any combination of the following types and sizes of copper conductor cables may be used

A. Max seven conductor, No. 12 AWG cables with a polyvinyl chloride (PVC)-Nylon insulation and PVC jacket.

B. Max 300 pair No. 24 AWG cable with PVC insulation and jacket materials.

C. Single conductor max 750 kcmil cable with cross linked polyethylene insulation and PVC jacket materials.

F Rating is 3 hr for item 3A. F Rating is 2 hr for items 3B and 3C.

3. **Firestop System —** The firestop system shall consist of the following:

A. **Packing Material —** Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m^3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall to accommodate the required thickness of fill material.

B. **Fill, Void or Cavity Material* — Caulk —** Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. Caulk to be forced into interstices of cable group to max extent possible. **W Rating applies only when Pensil 300 or Pensil 300 S/L Sealant is used.**

MOMENTIVE PERFORMANCE MATERIALS — Pensil 100 Caulk for floors and walls.

SPECIFIED TECHNOLOGIES INC — Pensil 100 Sealant, Pensil 300 Sealant or SpecSeal Series 831,900 Sealant for Floors and walls and Pensil 300 S/L Sealant or SpecSeal Series 931,300SL Sealant for floors only.

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Last Updated on 2018-11-19

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XHEZ.W-L-7008 - THROUGH-PENETRATION FIRESTOP SYSTEMS

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

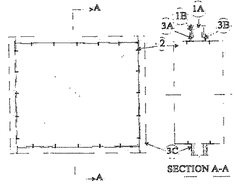
XHEZ - Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems

System No. W-L-7008

June 15, 2005

F Rating — 1 & 2 Hr (See Item 1)
T Ratings — 0 Hr



SECTION A-A

1. **Wall Assembly —** The 1 and 2 hr fire rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs —** Wall framing shall consist of steel channel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in. (610 mm) OC. Additional 3-1/2 in. (89 mm) wide steel studs shall be used to completely frame opening.

B. **Gypsum Board* —** Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Max size of opening to be 1216 sq in. (189 cm^2) with a max dimension of 38 in. (965 mm).

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. **Through-Penetrant —** Nom 36 by 30 (914 by 762 mm) (or smaller) No. 24 gauge (or heavier) galv steel duct to be installed either concentrically or eccentrically within the firestop system. An annular space of min 0 in. (0 mm, point contact) to max 2 in. (51 mm) is required within the firestop system. Steel duct to be rigidly supported on both sides of floor or wall assembly.

3. **Firestop System —** The details of the firestop system shall be as follows:

A. **Packing Material (Optional) —** Polyethylene backer rod, mineral wool batt insulation or fiberglass batt insulation friction-fit into annular space for 2 hr rated wall assemblies only. Packing material to be recessed from both surfaces of wall to accommodate the required thickness of fill material (Item 3B).

B. **Fill, Void or Cavity Material* — Caulk or Sealant —** Min 5/8 in. (16 mm) thickness of fill material applied within annulus, flush with both surfaces of wall assembly. At the point contact location between duct and wallboard, a min 1/4 in. (6 mm) diam bead of sealant shall be applied at the wallboard/duct interface on both surfaces of wall assembly.

3M COMPANY — CP-25 WB+ or FB-3000 WT

C. **Retaining Angles —** Min 16 gauge galv steel angles sized to lap duct a min of 2 in. (51 mm) and lap wall surfaces of a min of 1 in. (25 mm). Angles attached to duct on both sides of wall with min 1/2 in. (13 mm) long, No. 10 (or larger) sheet metal screws spaced a max of 1 in. (25 mm) from each end of duct and spaced a max of 6 in. (152 mm) OC.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2005-06-15

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Issue Drawing Log

REV #	DATE (MM.DD.YY)	ISSUE NAME
	8/7/20	LAND USE APPLICATION SUBMITTAL
	8/21/20	SCHEMATIC DESIGN SUBMITTAL
	8/6/21	LAND USE APPLICATION RESUBMITTAL
	10/15/21	LAND USE APPLICATION RESUBMITTAL

Seal

NOT FOR CONSTRUCTION

Sheet Identification

UL LISTINGS, FIRESTOP & PENETRATIONS

G-009

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PARTITION TYPES

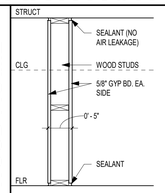
NOTES

A. REFER TO SHEET A-002 FOR TYPICAL HEAD DETAILS (RATED & NON-RATED)
B. UL DESIGN NUMBERS REFER TO THE UNDERWRITERS LABORATORIES FIRE RESISTANCE DIRECTORY
C. FIRE RATED PARTITIONS SHALL HAVE FIRESTOP SEALANTS AT THE HEAD, SILL, THROUGH PENETRATIONS, OPENINGS AND JUNCTURES WITH DISSIMILAR MATERIALS
D. NON-RATED PARTITIONS SHALL HAVE SEALANTS AT THE HEAD, SILL, THROUGH PENETRATIONS, OPENINGS AND JUNCTURES WITH DISSIMILAR MATERIALS
E. R-13 BATT INSULATION AT ALL EXTERIOR WALLS (EXCLUDES WALL TYPES H, J, & K)
F. REFER TO SHEET S1.30 THRU S1.33 FOR WOOD STUD FRAMING DTLS.

WOOD FRAME

FLAGGED

A — TYPICAL



DEFAULT PARTITION

NON-RATED
STC: N/A

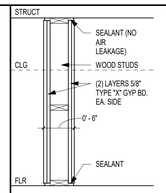
INTERIOR BEARING PARTITION

1HR RATED
ULWU305
STC: 33 (RAL-TL111-172)
NOTE: SEE ENLARGED UNIT PLANS FOR INTERIOR BEARING WALL LOCATIONS

STUD SIZE SUFFIX / WIDTH CHART

SUFFIX	STUD SIZE	TOTAL WIDTH
A1	2 x 4	4 3/4"
A2	2 x 6	6 3/4"
A3	2 x 8	8 3/4"

B — 2HR RATED



2HR RATED
ULWU301
STC: N/A

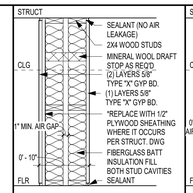
NOTE: TYPE B2 INCLUDES BATT INSULATION TO FILL CAVITY PER ACOUSTICAL.

NOTE: TYPE B6 INCLUDES 1" AIR GAP BETWEEN FRAMING

STUD SIZE SUFFIX / WIDTH CHART

SUFFIX	STUD SIZE	TOTAL WIDTH
B1	2 x 4	6"
B2	2 x 6	8"
B3	2 x 8	10"
B4	2 x 10	11 3/4"
B5	(2) 2 x 4	10 1/2"

D — 1 HR DEMISING WALL



1HR RATED
ULWU341
STC: 61 (CALIFORNIA OFFICE OF NOISE CONTROL 1.2.4.5.5.4)

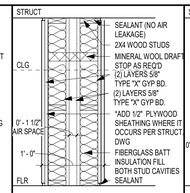
NOTE: TYPE D2 INCLUDES (1) EXTRA LAYER OF 5/8" TYPE "X" GYP BD.

NOTE: *1/2" PLYWOOD SHEATHING SHOULD OCCUR ON OUTER SIDE OF THE WALL.

STUD SIZE SUFFIX / WIDTH CHART

SUFFIX	STUD SIZE	TOTAL WIDTH
D1	(2) 2 x 4	9 7/8"
D2	(2) 2 x 4	10 1/2"

D3 — 2 HR DEMISING WALL



2HR RATED
ULWU342
STC: 63 (CALIFORNIA OFFICE OF NOISE CONTROL 1.2.4.2.5.6)

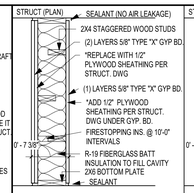
NOTE: INCLUDES (1) EXTRA LAYER OF 5/8" TYPE "X" GYP. BD ON EITHER SIDE OF AIR SPACE.

NOTE: *1/2" PLYWOOD SHEATHING SHOULD OCCUR ON OUTER SIDE OF THE WALL.

STUD SIZE SUFFIX / WIDTH CHART

SUFFIX	STUD SIZE	TOTAL WIDTH
D3	(2) 2 x 4	1' - 1 1/4"

E — 1 HR CORRIDOR WALL



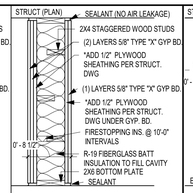
1HR RATED
ULWU340
STC: 53 (CALIFORNIA OFFICE OF NOISE CONTROL 1.2.3.5.4.3)

NOTE: *1/2" PLYWOOD SHEATHING SHOULD OCCUR ON OUTER SIDE OF THE WALL.

STUD SIZE SUFFIX / WIDTH CHART

SUFFIX	STUD SIZE	TOTAL WIDTH
E1	2 x 6	7 3/8"
E2	2 x 6	7 7/8"

E3 — 2 HR CORRIDOR WALL



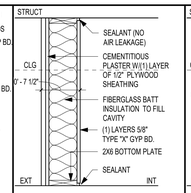
2HR RATED
GA FILE NO. WP 3910
STC: 53 (CALIFORNIA OFFICE OF NOISE CONTROL 1.2.3.2.5.5)

NOTE: INCLUDES (1) EXTRA LAYER OF 5/8" TYPE "X" GYP. BD.

STUD SIZE SUFFIX / WIDTH CHART

SUFFIX	STUD SIZE	TOTAL WIDTH
E3	2 x 6	8 1/2"

F — 1 HR EXTERIOR WALL



1HR RATED
ULWU356
STC: N/A

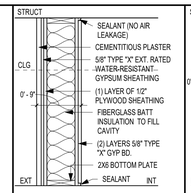
NOTE: EXTERIOR WALLS IN TYPE IIIA BUILDINGS REQUIRED TO HAVE FIRE-RETARDANT TREATED WOOD FRAMING. ESR 1791 OR EQUAL PER CBC 602.3.

NOTE: TYPE F3 TO INCLUDE RESILIENT CHANNELS PER ACOUSTICAL AND TWO LAYERS OF 5/8-INCH GYPSUM BOARD ON INTERIOR.

STUD SIZE SUFFIX / WIDTH CHART

SUFFIX	STUD SIZE	TOTAL WIDTH
F1	2 x 4	5 1/2"
F2	2 x 6	7 5/8"
F3	2 x 6	8 5/8"

G — 2 HR EXTERIOR WALL



2HR RATED ASSEMBLY COMPLIES WITH:
A. 2016 CBC, TABLE 721.1(2) 15-1.6
B. G.A. FILE NO. WP 8420
STC: N/A

NOTE: EXTERIOR WALLS IN TYPE IIIA BUILDINGS REQUIRED TO HAVE FIRE-RETARDANT TREATED WOOD FRAMING. ESR 1791 OR EQUAL PER CBC 602.3.

NOTE: TYPE G3 TO INCLUDE RESILIENT CHANNELS PER ACOUSTICAL.

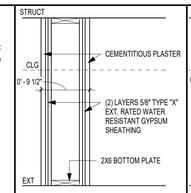
NOTE: TYPE G5 INCLUDES 1" AIR GAP BTW FRAMING

NOTE: TYPE G7 INCLUDES 5 3/8" AIR GAP BETWEEN FRAMING. LOCATED ABOVE 3 HOUR WALL.

STUD SIZE SUFFIX / WIDTH CHART

SUFFIX	STUD SIZE	TOTAL WIDTH
G1	2 x 4	6 3/4"
G2	2 x 6	8 3/4"
G3	2 x 6	9 1/4"
G4	2 x 8	10 3/4"
G5	(2) 2 x 4	11 1/4"
G6	2 x 10	1' - 0 1/2"
G7	(2) 2 x 4	1' - 4 1/8"

H — 2 HR EXTERIOR WALL PLASTER BOTH SIDES



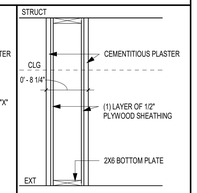
2HR RATED
ULWU316
STC: N/A

NOTE: EXTERIOR WALLS IN TYPE IIIA BUILDINGS REQUIRED TO HAVE FIRE-RETARDANT TREATED WOOD FRAMING. ESR 1791 OR EQUAL PER CBC 602.3.

STUD SIZE SUFFIX / WIDTH CHART

SUFFIX	STUD SIZE	TOTAL WIDTH
H1	2 x 6	9 1/2"
H2	(2) 2 x 4	1' - 0"

J — EXTERIOR WALL PLASTER BOTH SIDES



NON-RATED
STC: N/A

NOTE: TYPE J1, J2, J3 & J4 FURR-OUT - PLASTER ONE SIDE ONLY

NOTE: EXTERIOR WALLS IN TYPE IIIA BUILDINGS REQUIRED TO HAVE FIRE-RETARDANT TREATED WOOD FRAMING. ESR 1791 OR EQUAL PER CBC 602.3.

NOTE: TYPE J5A IS 1 HR RATED

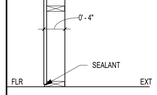
STUD SIZE SUFFIX / WIDTH CHART

SUFFIX	STUD SIZE	TOTAL WIDTH
J1	2 x 4	4 7/8"
J2	2 x 4	5"
J3	2 x 4	6 7/8"
J4	2 x 6	7"
J5	2 x 6	8 1/4"
J6	2 x 8	10 1/4"
J7	(2) 2 x 6	1' - 0"
J8	(2) 2 x 6	1' - 6"
J9	(2) 2 x 6	1' - 10"
J10	(2) 2 x 6	5' - 0"

WOOD FRAME

FLAGGED

K — WALL FURRING



NON-RATED
STC: N/A

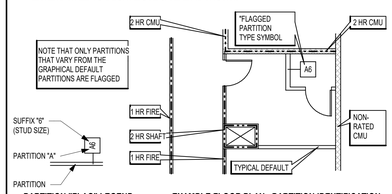
NOTE: TYPE K3 SPACE FRAMING 1" MIN. OFF FACE OF WALL. INCLUDES BATT INSULATION TO FILL CAVITY PER ACOUSTICAL

STUD SIZE SUFFIX / WIDTH CHART

SUFFIX	STUD SIZE	TOTAL WIDTH
K1	2 x 4	4 1/8"
K2	2 x 6	6 1/8"
K3	2 x 6	7 1/8"

PARTITION NOTES

1. FOR ALL PARTITIONS SHOWN ON FLOOR PLANS WITHOUT "FLAG" SYMBOLS - REFER TO "GRAPHICAL DEFAULT" PARTITION TYPES DRAWINGS THIS SHEET.
   -"FLAGGED" PARTITIONS ARE ADDITIONAL PARTITION TYPE VARIATIONS - SHOWN ALSO THIS SHEET.
   -NOTE THAT NOT ALL PARTITION TYPE VARIATIONS SHOWN THIS SHEET ARE NECESSARILY USED.
2. LINE OF "STRUCTURE" AS SHOWN AT PARTITION TYPE HEAD CONDITIONS IS DIAGRAMMATIC ONLY AND DOES NOT INDICATE EXACT CONSTRUCTION CONDITIONS. OFFSET PARTITION CONSTRUCTION AS NECESSARY TO EXTEND WALL TO DECK ABOVE & SEAL AS SHOWN.



PARTITION "FLAG" LEGEND **EXAMPLE FLOOR PLAN - PARTITION IDENTIFICATION**

3. PROVIDE DEFLECTION TRACKS OR CLIPS FOR ALL PARTITIONS ABUTTING STRUCTURE ABOVE.
4. EXTEND RATED PARTITIONS THROUGH THE INTERIOR FACE OF EXTERIOR WALL GYPSUM BOARD AND SEAL TO THE INSIDE FACE OF THE EXTERIOR BUILDING WALL SHEATHING. REFER ALSO PARTITION INTERSECTION DRAWINGS.
5. INTERIOR METAL STUD PARTITIONS ARE DIMENSIONED FROM FACE OF GYPSUM BOARD.
6. ROOMS W/ PARTITIONS TO RECEIVE SOUND ATTENUATION BLANKETS (SAB) ARE IDENTIFIED ON PLAN WITH A SOLID BAR TO THE LEFT OF THE ROOM NUMBER BOX. EXTEND SAB THE FULL LENGTH & HEIGHT OF ALL ROOM PERIMETER PARTITIONS TO PROVIDE A COMPLETE ROOM ENCLOSURE. NOTE THAT "SUB-ROOMS" MAY BE INCLUDED WITHIN THE OVERALL PERIMETER SAB ENCLOSURE.
   --NOTE THAT 3 1/2" FIBERGLASS BATTS OR 2" MINERAL WOOL FIBER INSULATION MAY BE SUBSTITUTED FOR SOUND ATTENUATION BATTS.
7. RESTROOM / TOILETS ARE TO RECEIVE SOUND ATTENUATION BLANKETS IN THE PERIMETER WALLS, WHEN FIXTURES ARE PLACED BACK TO BACK, BOTH WALLS OF THE CHASE ARE TO RECEIVE SOUND ATTENUATION.
8. ALL GLAZING IN ROOMS TO RECEIVE SOUND ATTENUATION SHALL BE 1" INSULATED GLASS.
9. MAINTAIN THE FIRE-PROTECTION RATINGS FOR ALL OPENINGS IN RATED PARTITIONS.
10. ALL RATED PARTITIONS SHALL USE UL RATED 5/8" TYPE "X" GYPSUM BOARD U.N.O.
11. IDENTIFY ALL RATED PARTITIONS WITH LABELS LOCATED 6" ABOVE THE CEILING AT MAX. 10'-0" O.C. WITH 1 1/2" HIGH LETTERS, CLEARLY LEGIBLE & BRIGHTLY INDICATED AGAINST A CONTRASTING BACKGROUND.
12. CONSTRUCT ALL CORRIDOR WALLS TO RESIST THE PASSAGE OF SMOKE. I.E., TO BE SMOKE TIGHT.
13. REFER TO PLUMBING CHASE SCHEDULE THIS SHEET FOR DEFAULT CHASE WIDTH DIMENSIONS.
14. REFER TO GYPSUM BOARD SCHEDULE THIS SHEET AND SUBSTITUTE OTHER BOARD MATERIALS WHERE NOTED.
15. WHERE THICKNESS VARIES BETWEEN TWO PARTITIONS IN AN UNINTERRUPTED CONTINUOUS WALL PLANE - OFFSET STUDS AND ALIGN FACE OF PARTITIONS. REF. TO PARTITION INTERSECTIONS.
16. PROVIDE 20 GAGE DOUBLE STUDS @ EACH DOOR & WINDOW JAMB.
17. BLOCKING: PROVIDE 16 GAUGE SHEET METAL STRAP BLOCKING FOR ALL WALL MOUNTED ITEMS, U.N.O.
18. A GAP SHALL BE MAINTAINED AT THE TOP AND BOTTOM OF ALL DEMISING WALL, CORRIDOR WALL AND FLOOR CEILING ASSEMBLIES. GAP SHALL OCCUR AT ALL CEILING AND WALL INTERSECTIONS INCLUDING INTERIOR WALLS. THE GAP SHALL BE A MINIMUM OF 1/4 INCH AND BE FILLED WITH PERMANENTLY RESILIENT NONHARDENING ACOUSTICAL SEALANT OR PERMANENTLY RESILIENT NON-HARDENING FIRE RATED SEALANT DEPENDING ON THE APPLICATION. USG SHEETROCK FIRE RATED ACOUSTICAL SEALANT IN TUBE, OR EQUAL. THE TOP AND BOTTOM OF THE WALL MUST BE ACOUSTICALLY SEALED PRIOR TO TAPING AND FINISHING.
19. ALL RESILIENT CHANNELS DESCRIBED WITHIN THE DOCUMENTS SHALL BE CLARK DIETRICH RCSD, NO EXCEPTIONS. ALL RESILIENT CHANNEL SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS WITH CLOSE ATTENTION PAID TO MAINTAINING A GAP BETWEEN THE STRUCTURE AND THE CHANNEL AT THE PERIMETER, USING THE PRE-DRILLED HOLES TO SCREW TO THE JOISTS. USING A SHEET METAL SCREW TO HOLD THE OVERLAPPING CHANNELS TOGETHER, HAVING NO FREE FLANGE IN CONTACT WITH THE STRUCTURE PRIOR TO THE INSTALLATION OF GYPSUM BOARD, MARKING THE LOCATION OF THE JOISTS TO VERIFY THAT NO SCREW IS POTENTIALLY CONNECTING TO A JOIST.
20. WALLS INCLUDING MECHANICAL PLUMBING SERVICES SHALL ALSO INCLUDE INSULATION. INSULATION SHALL BE THE DEPTH OF THE CAVITY.
21. GYPSUM BOARD SHALL BE SCREWED, NOT NAILED. ANY GYPSUM BOARD DAMAGED MAY BE REQUIRED TO BE REMOVED BY THE ACOUSTICAL ENGINEER.
22. ELECTRICAL BOXES SHALL BE OFFSET AS REQUIRED IN THE CODE IN DEMISING CONSTRUCTION.
23. INSTALLATION OF GYPSUM BOARD AND ALL ACOUSTICAL MATERIALS SHALL BE COMPLETED IN ACCORDANCE WITH THE APPROPRIATE UL RATING, THE USG CONSTRUCTION HANDBOOK, MANUFACTURER REQUIREMENTS AND PRACTICES AND ASTM PRACTICE STANDARDS FOR LIGHT WALL CONSTRUCTION. IF THESE REQUIREMENTS CONTRADICT METHODS WITHIN THIS DOCUMENT, THEN DURING DESIGN THE METHOD SHOULD BE DISCUSSED. IF THIS OCCURS DURING CONSTRUCTION, AN RFI SHOULD BE PREPARED AND DISCUSSED. PRACTICES UTILIZED BY CONTRACTORS SHALL ALWAYS BE THOSE THAT MAXIMIZE ACOUSTICAL PERFORMANCE.
24. **IN DEMISING CONSTRUCTION**, INSULATION SHALL BE IN THE WALL AND JOIST CAVITY. THIS SHALL INCLUDE DEMISING WALLS, CORRIDOR WALLS, SHAFT WALLS, EXTERIOR WALLS AND FLOOR CEILING ASSEMBLIES. INSULATION SHALL BE THE DEPTH OF THE CAVITY IN THE WALLS. INSULATION SHALL BE FULL CAVITY IN THE FLOOR CEILING CAVITIES.
25. ELECTRICAL BOX PADS SHALL BE INSTALLED BEHIND ALL ELECTRICAL BOXES IN DEMISING WALL, CORRIDOR WALL AND FLOOR CEILING ASSEMBLIES. ELECTRICAL BOX PADS SHALL COMPLETELY WRAP THE ELECTRICAL BOXES AND EXTEND TO THE BACK OF THE STRUCTURE OR BUILDING MATERIAL. BOX PADS SHALL BE EQUAL TO HILTI CP617.
26. **IN A DEMISING WALL** CONDITION, CONDUIT (AND ALL OTHER SERVICES INCLUDING MECHANICAL, ELECTRICAL AND PLUMBING) SHALL BE RUN ON THE STUD SIDE SERVED.
    IN DEMISING WALL, NO SERVICE, WIRE OR CONDUIT SHALL BE INSTALLED INTO THE AIR SPACE BETWEEN THE STUDS. MATERIALS THAT ARE SHARED OR ROUTED THROUGH THIS AREA CAN BE RUN IN BETWEEN THE TWO STUDS, BUT SHOULD NOT BE CONNECTED ACROSS STUDS RIGIDLY. NO GUSSETS ACROSS THE STUDS THAT ARE STEEL, WOOD OR ANY OTHER HARD MATERIAL
27. THERE SHALL BE NO CONTACT BETWEEN ANY SERVICE PENETRATING THE GYPSUM BOARD AND THE GYPSUM BOARD. A GAP SHOULD BE MAINTAINED AND SEALED. THIS INCLUDES ALL SERVICES (INCLUDING ELECTRICAL, MECHANICAL AND PLUMBING).
28. IN LIVING ROOMS, DINING ROOMS AND BEDROOMS, SYSTEMS SHOULD NOT BE RUN LIKE PLUMBING OR MECHANICAL.
29. IF PLUMBING MANIFOLDS ARE USED, THEY SHOULD BE ISOLATED FROM THE STRUCTURE AND BE LOCATED IN THE CEILING OF THE BATHROOM OR CLOSET AREAS.
30. **CORRIDOR WALL ASSEMBLIES - STEEL CONSTRUCTION**, ALL RESILIENT CHANNELS DESCRIBED WITHIN THE DOCUMENTS SHALL BE CLARK DIETRICH RCSD, NO EXCEPTIONS. ALL RESILIENT CHANNEL SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS WITH CLOSE ATTENTION PAID TO MAINTAINING A GAP BETWEEN THE STRUCTURE AND THE CHANNEL AT THE PERIMETER, USING THE PRE-DRILLED HOLES TO SCREW TO THE JOISTS, USING A SHEET METAL SCREW TO HOLD THE OVERLAPPING CHANNELS TOGETHER, HAVING NO FREE FLANGE IN CONTACT WITH THE STRUCTURE PRIOR TO THE INSTALLATION OF GYPSUM BOARD, MARKING THE LOCATION OF THE JOISTS TO VERIFY THAT NO SCREW IS POTENTIALLY CONNECTING TO A JOIST. RESILIENT CHANNEL SHALL BE ATTACHED AT 24" O.C. WITH THE FREE SIDE (FLANGE) AT THE TOP AND NO CONTACT WITH THE FRAMING PRIOR TO INSTALLATION OF THE GYP. BD.
31. **CORRIDOR WALL ASSEMBLIES - STEEL CONSTRUCTION**, IF RESILIENT CHANNEL IS SHOWN ON THE UNIT SIDE AND CABINETS, ETC ARE REQUIRED TO BE HUNG FROM THE WALL, ADDITIONAL RESILIENT CHANNELS AND COORDINATION WITH SUB-CONTRACTORS SHALL BE COMPLETED TO HANG THESE ELEMENTS FROM THE RESILIENT CHANNEL.
32. WHERE GYPSUM BOARD ENCLOSURES ARE REQUIRED TO RETAIN FIRE RATING, THEY SHOULD ONLY WRAP THE ITEM REQUIRED. THEY CANNOT EXTEND TO WRAP TWO OR THREE OF THE SAME ITEM. EACH MUST BE WRAPPED INDIVIDUALLY.
33. GYPSUM CONCRETE SHALL NOT BE POURED ONTO THE WALL PLATES OR ON THE INSIDE OF THE DEMISING WALL PARTITIONS (I.E. BETWEEN THE PLATES).
34. CABINETS AND DRAWERS SHOULD USE SOFT CLOSE ELEMENTS LIKE BLUM BLUMOTION.

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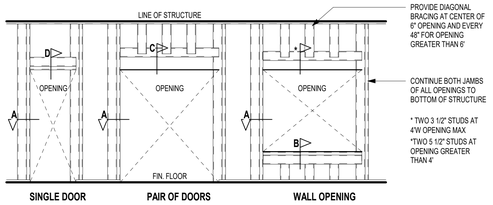
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PARTITION TYPES

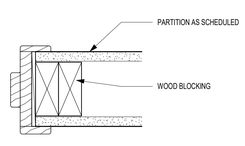
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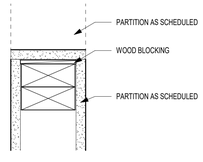
FRAMING DETAILS - WOOD



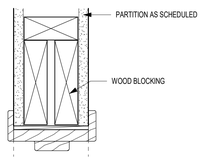
SINGLE DOOR | PAIR OF DOORS | WALL OPENING



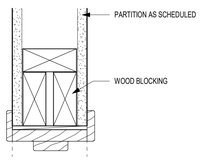
A - DOOR JAMB



B - OPEN'G SILL

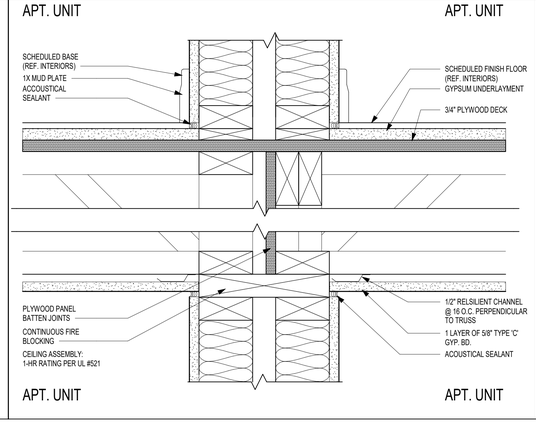


C- DOUBLE DOOR - HEADER

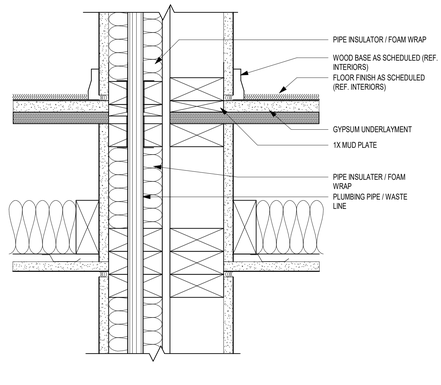


D- SINGLE DOOR - HEADER

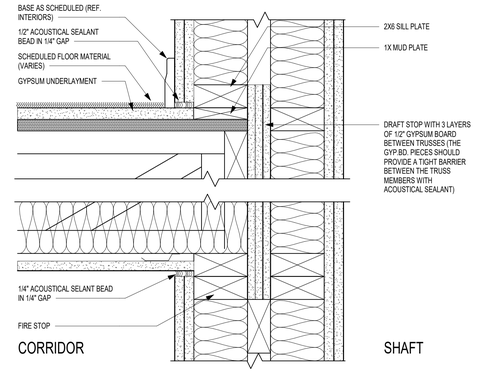
TYPICAL PARTY WALL DTL



TYP SECT @ PLUMB ISOLATION



TYPICAL SHAFT DETAIL



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PARTITION DETAILS

G-009B

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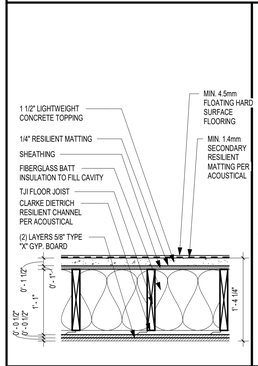
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FLOOR ASSEMBLY TYPES

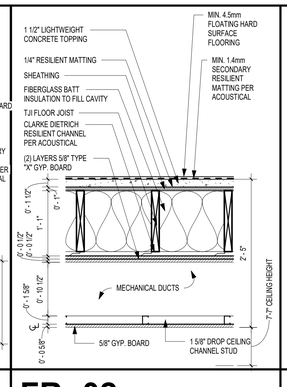
G-010

FLOOR ASSEMBLY TYPES



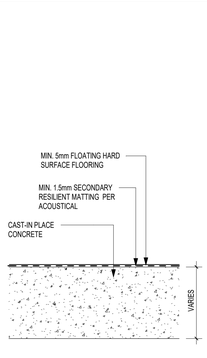
FR- 01

TYP. INTERIOR WOOD FLOOR
TOTAL DEPTH = **1' -4 1/4"**
UL #L570
FIRE RATING : 1 HOUR
STC : STC 60 IIC 55 (IN I5788.03)



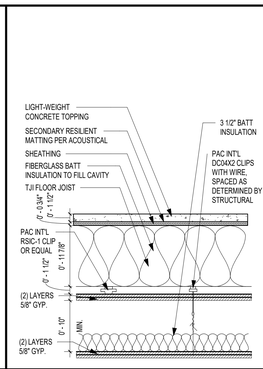
FR- 02

TYP. UNIT WOOD FLOOR W/ DROP CEILING
TOTAL DEPTH = **2'-5"**
UL #L570
FIRE RATING : 1 HOUR
STC : STC 60 IIC 55 (IN I5788.03)



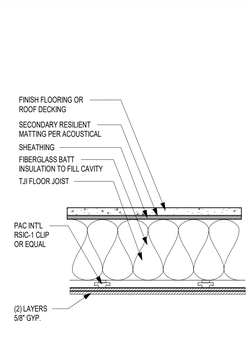
FR- 03

TYP. CONCRETE FLOOR
TOTAL DEPTH = **SEE STRUCTURAL**
STC 56 IIC 56 (IN G5873.04)



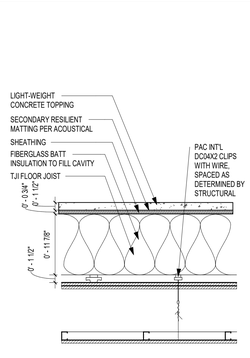
FR- 06

TYP. WOOD FLOOR ABOVE AMENITY SPACES
TOTAL DEPTH = **VARIES**
RATING : 1 HOUR
STC 62 IIC 54 (IN F4543.07)



FR- 09

UPGRADED WOOD FLOOR/CEILING @ MECH AREAS AND PUBLIC WALKWAYS
TOTAL DEPTH =**VARIES**
STC 62 IIC 54 (IN F4543.07)
SEE DETAIL 8b/A9.09a_A



FR - 10

SITE C UPGRADED WOOD FLOOR W/ DROP CEILING
TOTAL DEPTH = **2'-5"**
UL #L570 FIRE RATING : 1 HOUR
STC 62 IIC 54 (IN F4543.07)

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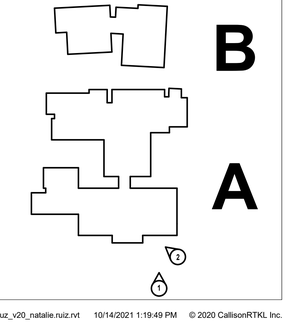


1 VIEW OF ENTRANCE FROM PELTON AVE LOOKING NORTH



2 VIEW OF ARRIVAL ENTRANCE AND PORTE-COCHERE

KEY PLAN



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RENDERINGS

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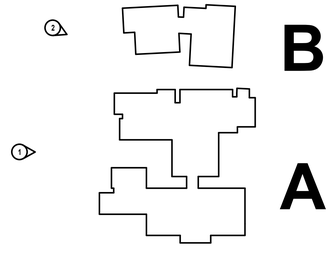


1 ON EUCALYPTUS AVE. LOOKING EAST



2 ON EUCALYPTUS AVE. LOOKING SOUTHEAST

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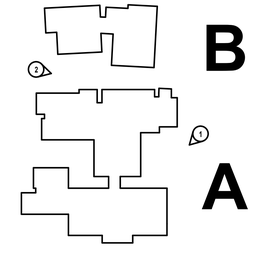


1 VIEW OF SOCIAL COURTYARD LOOKING WEST



2 VIEW OF ACTIVITY COURTYARD LOOKING EAST

KEY PLAN



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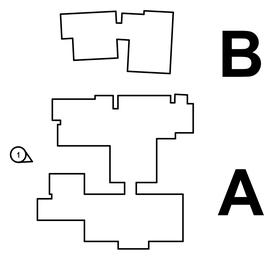
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1 AERIAL VIEW LOOKING DINING COURTYARD

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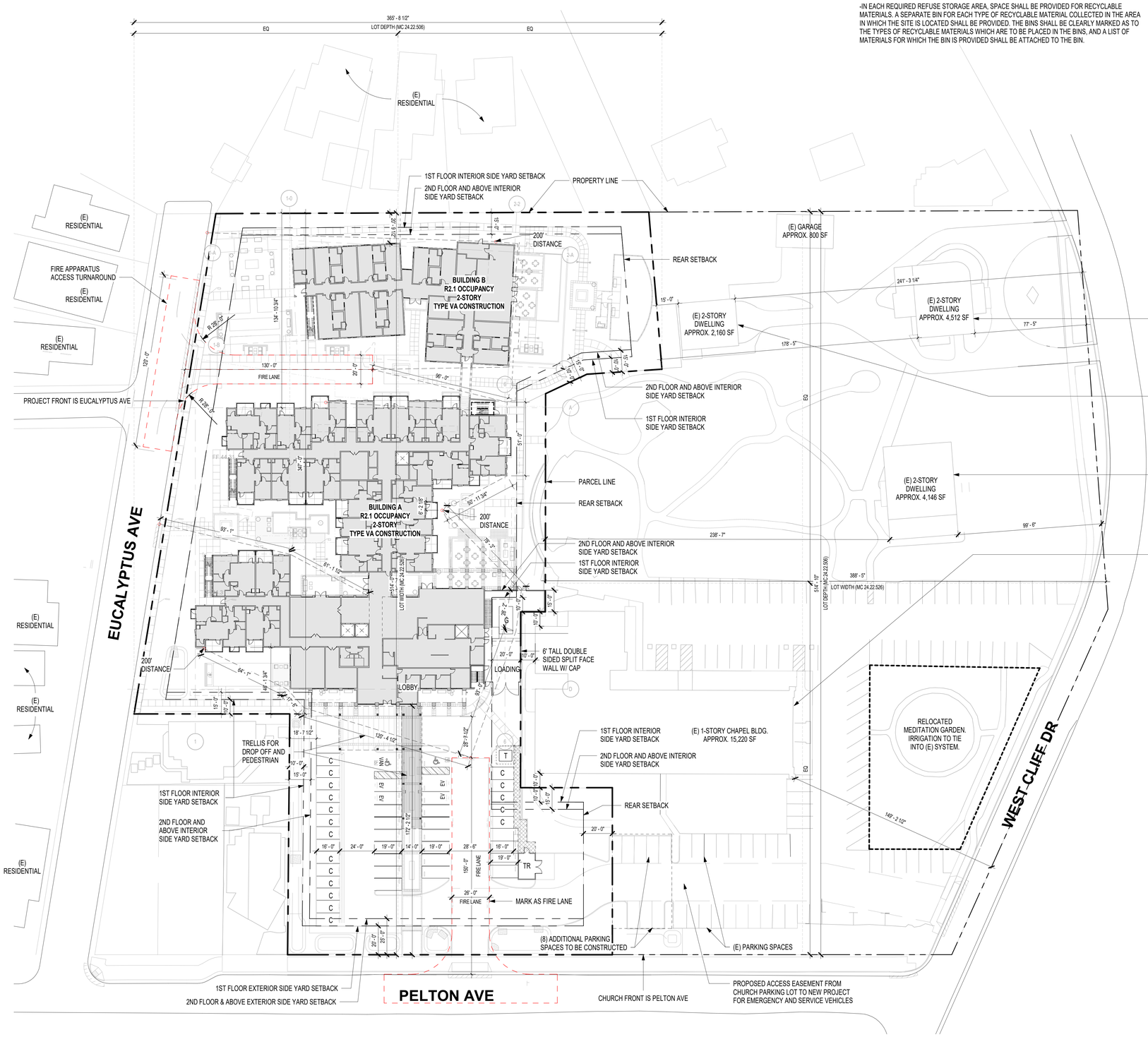
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RENDERINGS

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1 ARCHITECTURAL SITE PLAN
1" = 30'-0"

GENERAL NOTES:

-REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFORMATION

-THIS PROJECT SHALL COMPLY WITH REQUIREMENTS OF CFC. SEC. 510 FOR EMERGENCY RESPONDER RADIO COVERAGE

- ONLY RECIRCULATING WATER SHALL BE USED FOR DECORATIVE WATER FEATURES.

- OUTDOOR LIGHTING SHALL BE ENERGY-EFFICIENT, AND SHIELDED OR RECESSED SO THAT DIRECT GLARE AND REFLECTIONS ARE CONFINED TO THE MAXIMUM EXTENT FEASIBLE WITHIN THE BOUNDARIES OF THE SITE, AND SHALL BE DIRECTED DOWNWARD AND AWAY FROM ADJOINING PROPERTIES AND PUBLIC RIGHTSOF- WAY. NO PERMANENTLY INSTALLED LIGHTING SHALL BLINK, FLASH, OR BE OF UNUSUALLY HIGH INTENSITY OR BRIGHTNESS, AS DETERMINED BY THE ZONING ADMINISTRATOR.

-IN EACH REQUIRED REFUSE STORAGE AREA, SPACE SHALL BE PROVIDED FOR RECYCLABLE MATERIALS. A SEPARATE BIN FOR EACH TYPE OF RECYCLABLE MATERIAL COLLECTED IN THE AREA IN WHICH THE SITE IS LOCATED SHALL BE PROVIDED. THE BINS SHALL BE CLEARLY MARKED AS TO THE TYPES OF RECYCLABLE MATERIALS WHICH ARE TO BE PLACED IN THE BINS, AND A LIST OF MATERIALS FOR WHICH THE BIN IS PROVIDED SHALL BE ATTACHED TO THE BIN.

FLOOR AREA RATIO (FAR) CALCULATION:

TOTAL SITE AREA INCLUSIVE OF PROPOSED LOT 1 AND LOT 2 = 6.97 AC (303,613 SF)
LOT 1 AREA = 3.97 AC (172,933 SF)
LOT 2 AREA = 3 AC (130,680 SF)

ALLOWABLE FLOOR AREA RATIO (FAR) = .35
MAXIMUM FLOOR AREA ALLOWED PER FAR: 303,613 SF x .35 = 106,264 SF

EXISTING IMPROVEMENTS ON LOT 1 = APPROX. 26,838 SF
FLOOR AREA PROPOSED FOR PROJECT ON LOT 2 = 74,218 SF
LOT 1 & LOT 2 TOTAL FLOOR AREA = 101,056 SF (26,838 SF + 74,218 SF)

TOTAL SITE FAR = .33 (101,056 SF / 303,613 SF)

LOT 2 FAR CALCULATION:

ALLOWABLE FLOOR AREA RATIO (FAR) = .35
FLOOR AREA ALLOWED PER FAR: 130,680 SF x .35 = 45,738 SF

TRANSFERRED FLOOR AREA*: 28,500 SF
TOTAL FLOOR AREA ALLOWED: 45,738 SF + 28,500 SF = 74,238 SF

TOTAL FLOOR AREA PROPOSED: 74,218 SF (<74,238 SF TOTAL FLOOR AREA ALLOWED)

*THE CHURCH WILL PERMANENTLY TRANSFER UP TO 28,500 SF OF DEVELOPMENT RIGHTS (FAR) FROM LOT 1 TO LOT 2 PURSUANT TO A DEED RESTRICTION; BOTH LOT 1 AND LOT 2 WILL BE HELD IN COMMON OWNERSHIP.

MINIMUM SET BACKS (MC 24.10.4230.4)

FRONT YARD SETBACK (EUCALYPTUS AVE)	20' MIN PLUS 40% AT 25' MIN
INTERIOR SIDE YARD SETBACK: 1ST FOOR	10' MIN
INTERIOR SIDE YARD SETBACK: 2ND FOOR	15' MIN
EXTERIOR SIDE YARD SETBACK: 1ST FOOR:	20' MIN
EXTERIOR SIDE YARD SETBACK: 2ND FOOR	25' MIN
REAR SETBACK	20' MIN

LOTS WITH MORE THAN 100 FEET WIDTH (MC 24.10.4230.4.B.(2))
CALCULATION AT SITE MID DEPTH:
1ST FLOOR COMBINED SETBACK: 30% OF 514' (TOTAL SITE WIDTH)=154'MIN.
INTERIOR (NORTH) SETBACK 20'-9 1/2"+ EXTERIOR (SOUTH) SETBACK 172'-2 1/2"=193'>154'-0"
2ND FLOOR COMBINED SETBACK: 35% OF 514' (TOTAL SITE WIDTH)=180' MIN.
INTERIOR (NORTH) SETBACK 20'-9 1/2"+ EXTERIOR (SOUTH) SETBACK 172'-2 1/2"=193'>180'-0"

CALCULATION AT SITE FRONTING EUCALYPTUS AVE:
1ST FLOOR COMBINED SETBACK: 30% OF 514' (TOTAL SITE WIDTH)=154'MIN.
INTERIOR (NORTH) SETBACK 46'-1 3/4"+ INTERIOR (SOUTH) SETBACK 134'-10 3/4"=181'-6">154'-0"
2ND FLOOR COMBINED SETBACK: 35% OF 514' (TOTAL SITE WIDTH)=180' MIN.
INTERIOR (NORTH) SETBACK 46'-1 3/4"+ INTERIOR (SOUTH) SETBACK 134'-10 3/4"=181'-6">180'-0"

CALCULATION AT (E) DWELLING:
(E) BLDG. 1ST FLOOR COMBINED SETBACK:
30% OF 338.4' (TOTAL SITE WIDTH)=116.5'MIN.
INTERIOR (WEST) SETBACK 178.4'+ EXTERIOR (EAST) SETBACK 77.5'=255.9'>116.5'

(E) BLDG. 2ND FLOOR COMBINED SETBACK:
35% OF 338.4' (TOTAL SITE WIDTH)=135.9'MIN.
INTERIOR (WEST) SETBACK 178.4'+ EXTERIOR (EAST) SETBACK 77.5'=255.9'>135.9'

CALCULATION AT (E) DWELLING:
(E) BLDG. 1ST FLOOR COMBINED SETBACK:
30% OF 338.4' (TOTAL SITE WIDTH)=116.5'MIN.
INTERIOR (WEST) SETBACK 15'+ EXTERIOR (EAST) SETBACK 241.25'=256.25'>116.5'

(E) BLDG. 2ND FLOOR COMBINED SETBACK:
35% OF 338.4' (TOTAL SITE WIDTH)=135.9'MIN.
INTERIOR (WEST) SETBACK 15'+ EXTERIOR (EAST) SETBACK 241.25'=256.25'>135.9'

CALCULATION AT (E) DWELLING:
(E) BLDG. 1ST FLOOR COMBINED SETBACK:
30% OF 338.4' (TOTAL SITE WIDTH)=116.5'MIN.
INTERIOR (WEST) SETBACK 238.5'+ EXTERIOR (EAST) SETBACK 99.5'=338'>116.5'

(E) BLDG. 2ND FLOOR COMBINED SETBACK:
35% OF 338.4' (TOTAL SITE WIDTH)=135.9'MIN.
INTERIOR (WEST) SETBACK 238.5'+ EXTERIOR (EAST) SETBACK 99.5'=338'>135.9'

CALCULATION AT (E) DWELLING:
(E) BLDG. 1ST FLOOR COMBINED SETBACK:
30% OF 338.4' (TOTAL SITE WIDTH)=116.5'MIN.
INTERIOR (WEST) SETBACK 10'+ EXTERIOR (EAST) SETBACK 149.2'=159.2'>116.5'

PARKING REQUIRED (MC 24.12.240)
COMMUNITY CARE RESIDENTIAL FACILITY USE: 1 SPACE FOR EVERY 5 GUESTS (BEDS), PLUS 1 SPACE FOR EACH EMPLOYEE ON THE SHIFT WITH THE MAXIMUM NUMBER OF PERSONNEL

ASSISTED LIVING (AL)	**15** SPACES 42 1BD/STUDIO + 17 2BD = 59 UNITS (76 BEDS) (76 / 5 = 15.2)
MEMORY CARE (MC)	**4** SPACES 11 SINGLES + 4 DOUBLES = 15 UNITS (19 BEDS) (19 / 5 = 3.8)
EMPLOYEE	**16** SPACES

MULTIFAMILY USE: 1 SPACE FOR EVERY 1 BEDROOM, PLUS GUEST PARKING SPACES SHALL BE PROVIDED AT A RATE 10% OF THE ABOVE STANDARDS. FRACTIONAL SPACES WILL BE ROUNDED UP TO THE NEXT WHOLE NUMBER.

INCLUSIONARY UNIT (IU)	**3** SPACES 2 1BD/STUDIO = 2 UNITS (2 BEDROOMS) (2 * 1) + (2 * 10%) = 2.2
TOTAL	**38 SPACES REQUIRED**
PARKING PROVIDED	**38 SPACES TOTAL EXCLUDING EV STALLS**
STANDARD	19 SPACES
COMPACT	19 SPACES
ACCESSIBLE	2 SPACES INCLUDED IN TOTAL PROVIDED (PER CBC SECTION 1109A &11B-208) (1 HC VAN & 1 HC STANDARD)
EV STALL	5 SPACES (PER MC 24.12.241.3.a) (4 SPACES + 1 VAN ACCESSIBLE SPACE)
BIKE PARKING	3 SPACES (PER MC 24.12.250) (2 CLASS 1 + 1 CLASS 2)

* AS CONFIRMED BY THE CITY OF SANTA CRUZ PLANNING DEPARTMENT, BICYCLE PARKING REQUIREMENTS APPLY ONLY TO THE AFFORDABLE UNITS FOR THIS PROJECT. 1 CLASS 1 SPACE PER UNIT AND 1 CLASS 2 SPACE PER FOUR UNITS.

TRUE NORTH
PLAN NORTH

CALLISONRTKL

CallisonRTKL Inc.
333 SOUTH HOPE STREET, SUITE C-200
LOS ANGELES, CA 90071
Tel: 213.633.6000

CallisonRTKL Project No: 040-190064

Consultant

THE WATERMARK AT SANTA CRUZ

126 EUCALYPTUS AVENUE
SANTA CRUZ, CA 95060

Client/Owner/Operator

OPPIDAN INVESTMENT COMPANY
1100 LINCOLN AVENUE, SUITE 3382
SAN JOSE, CA 95125

THE FRESHWATER GROUP
2020 WEST RUDASILL ROAD
TUCSON, AZ 85704

Issue Drawing Log

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	8/21/20	SCHEMATIC DESIGN SUBMITTAL
	8/6/21	LAND USE APPLICATION RESUBMITTAL
	10/15/21	LAND USE APPLICATION RESUBMITTAL

Seal

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Sheet Identification

ARCHITECTURAL SITE PLAN

AS-100

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SUMMER SHADOW STUDY - JUNE 21ST



JUNE 21ST - 9AM



JUNE 21ST - 12PM



JUNE 21ST - 3PM

N

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SHADOW STUDY

AS-110

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WINTER SHADOW STUDY - DECEMBER 21ST



DECEMBER 21ST - 9AM



DECEMBER 21ST - 12PM



DECEMBER 21ST - 3PM

N

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SHADOW STUDY

AS-111

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1 TYPICAL ELEVATION MATERIALS
NOT TO SCALE



STUCCO
FINISH - FINE SAND 20/30 FINISH, DOVE GREY
MANUFACTURER - LA HABRA OR SIMIALR



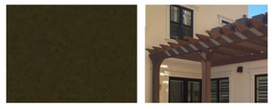
HIGH PERFORMANCE GLAZING
FINISH - CLEAR VE1-2M
MANUFACTURER - VIRACON OR SIMILAR



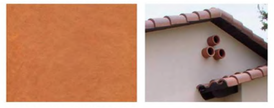
FRAMES/MULLIONS/CROWN/RAILINGS
FINISH - DURANAR XL CHOCOLATE BRONZE UC106709XL
MANUFACTURER - PPG INDUSTRIES INC. OR SIMIALR



PAVERS AND STAIR TREADS
FINISH - TERRACOTTA



WOOD TRELLIS
EXTERIOR GRADE QAULITY LUMBER
PAINTED TO MATCH PT-01



ARCHITECTURAL VENTS
FINISH - TERRACOTTA

2 MATERIAL BOARD
NOT TO SCALE

The Watermark at Santa Cruz

July 30, 2021

CODE	DESCRIPTION	COLOR	LOCATION	NOTES	
GLASS					
GL-01	INSULATED GLASS UNIT Mfr.: Viracon Mfr. Code: VRE1-46	Clear	Typical Vision Panel	Insluated glass unit with Low-E coating on #2 surface Black Primary and Secondary seals See www.viracon.com for more information	
STUCCO					
PL-01	STUCCO Mfr.:La Habra or Similar	Dove Grey	Typical Exterior Wall finish	Fine Sand 20/30 Stucco Finish w/ crack isolation and integral color See www.lahabrastucco.com for more information.	
METAL FINISH					
MTL-01	METAL Mfr.:PPG Industies, Inc. Mfr. Code: UC106709XL Mfr. Name: Duranar XL Chocolate Bronze	Chocolate Bronze	Typical Mullion, Frames, Fascia, Crown Detail and Railings	Fluoropolymer resinous 3 coat system for exterior finish See www.ppgmetalcoatings.com for more information.	
METAL RAILING					
MR-01	METAL RAILING	Match to MTL-01	Typical Railing at Balconies	Custom Aluminum Railing w/ Wood Cap	
PAINT					
PT-01	PAINT	Match to MTL-01	Wood Trellis at Balconies, Courtyards, Roof terraces and Covered Walkways		
WOOD TRELLIS					
WT-01	WOOD TRELLIS	Painted to Match PT-01	Balconies, Courtyards, Roof terraces and Covered Walkways	Exterior grade, qaulity lumber. Trellis features to shade balconies, seating areas and covered walkways	
ARCHITECTURAL VENTS					
AV-01	PRECAST VENT	Terracotta	See Elevations for locations	Round vent backed w/ aluminum screen	

3 MATERIAL SCHEDULE
NOT TO SCALE

CALLISONRTKL

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MATERIAL SCHEDULE

A-000

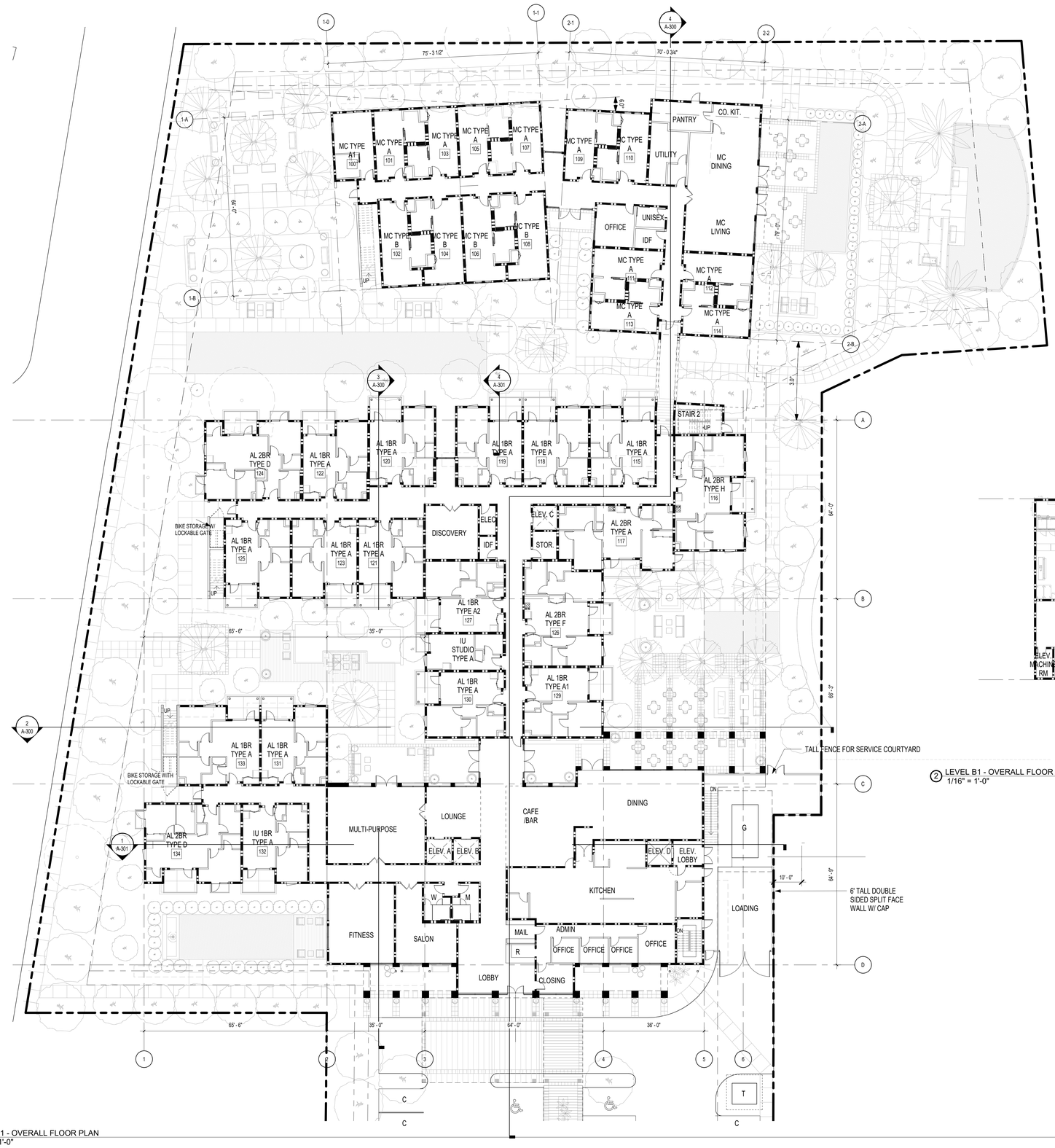
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GENERAL NOTES

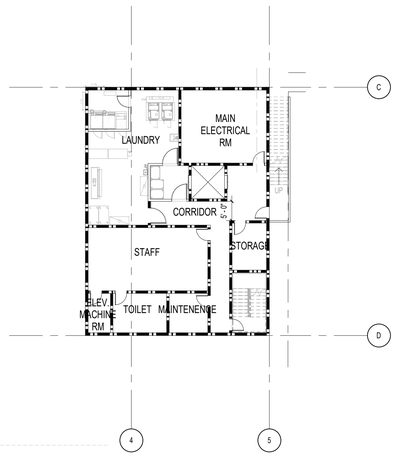
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FIRE RATING KEY

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6	NON-RATED SMOKE RESISTANT	
LOWEST 7	NON RATED	

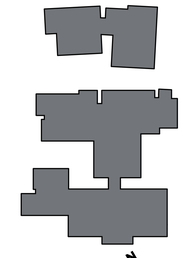


1 LEVEL 01 - OVERALL FLOOR PLAN
1/16" = 1'-0"



2 LEVEL B1 - OVERALL FLOOR PLAN
1/16" = 1'-0"

KEY PLAN



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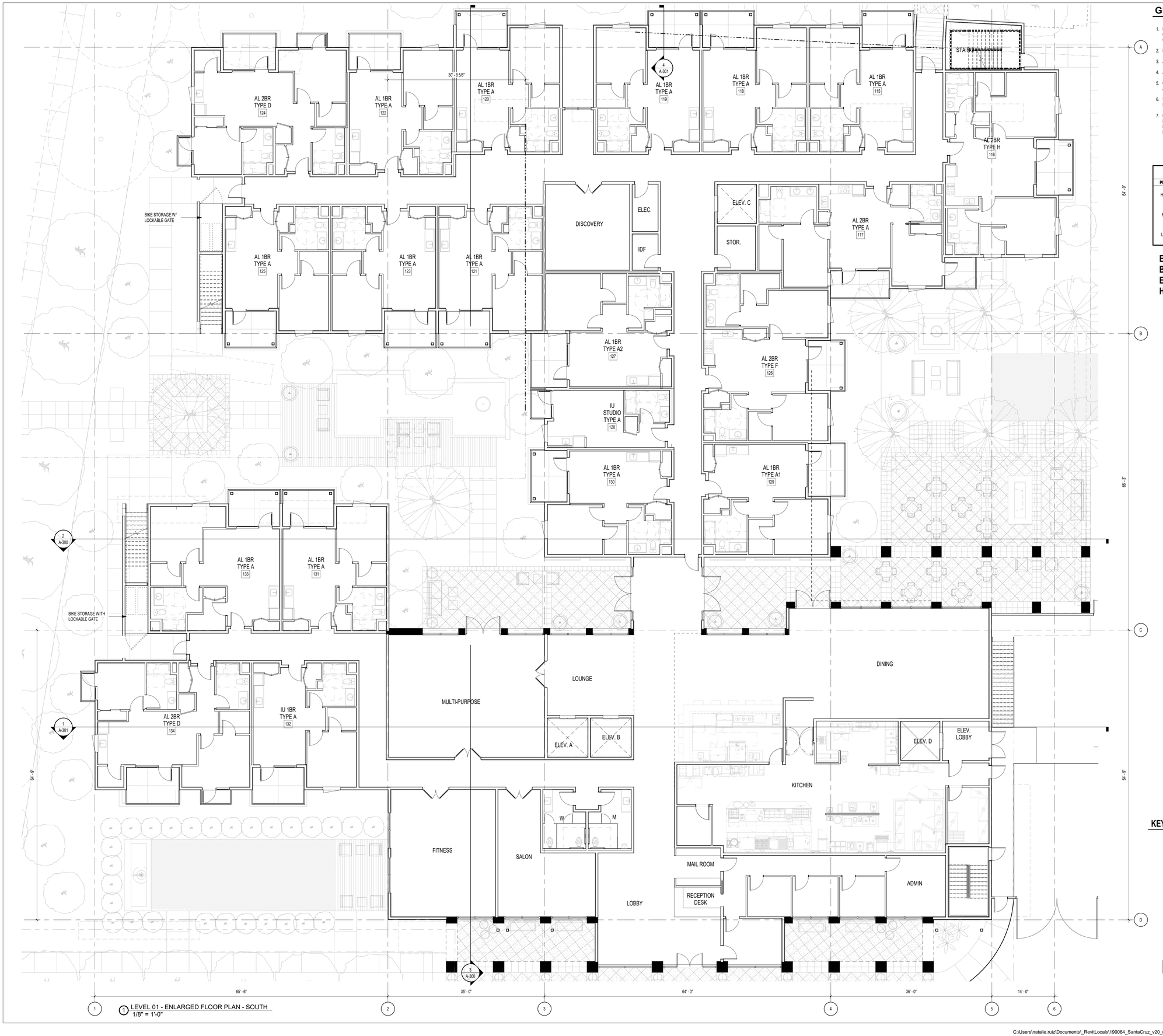
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LEVEL 01 & B1 FLOOR PLAN - OVERALL

A-110

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1 LEVEL 01 - ENLARGED FLOOR PLAN - SOUTH
1/8" = 1'-0"

GENERAL NOTES

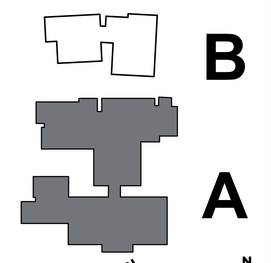
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ELEVATOR HOISTWAY DIMENSIONS BASED ON THYSSEN KRUPP 3500 lb ENDURA TWINPOST ABOVE GROUND HYDRAULIC

KEY PLAN



CALLISONRTKL

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CallisonRTKL Project No: 040-190064

Consultant

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Seal

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Sheet Identification

LEVEL 01 FLOOR PLAN - AREA 'A'

A-110A

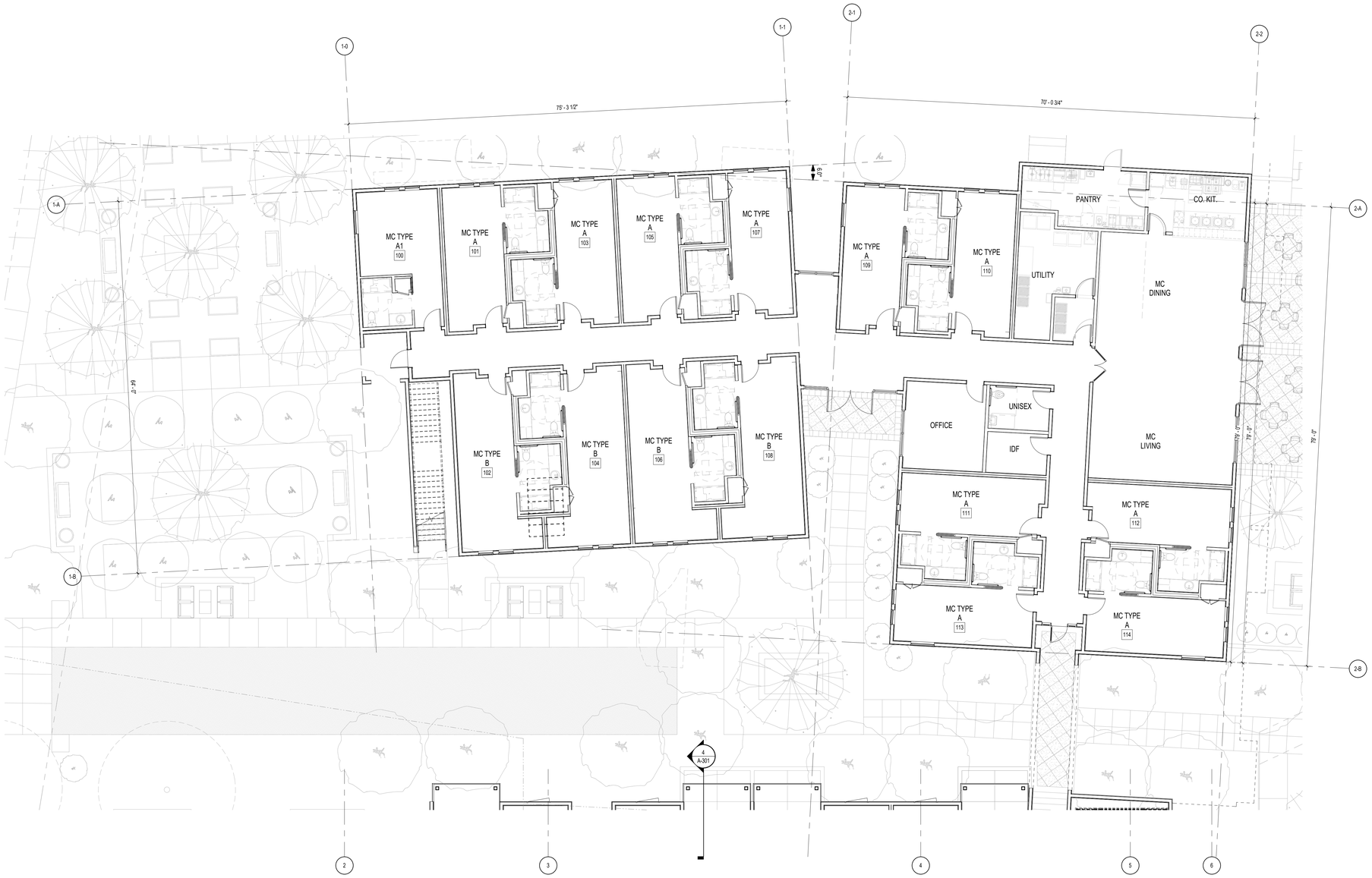
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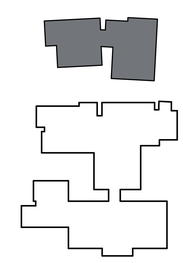
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1 LEVEL 01 - ENLARGED FLOOR PLAN - NORTH
1/8" = 1'-0"

KEY PLAN



TRUE NORTH

PLAN NORTH

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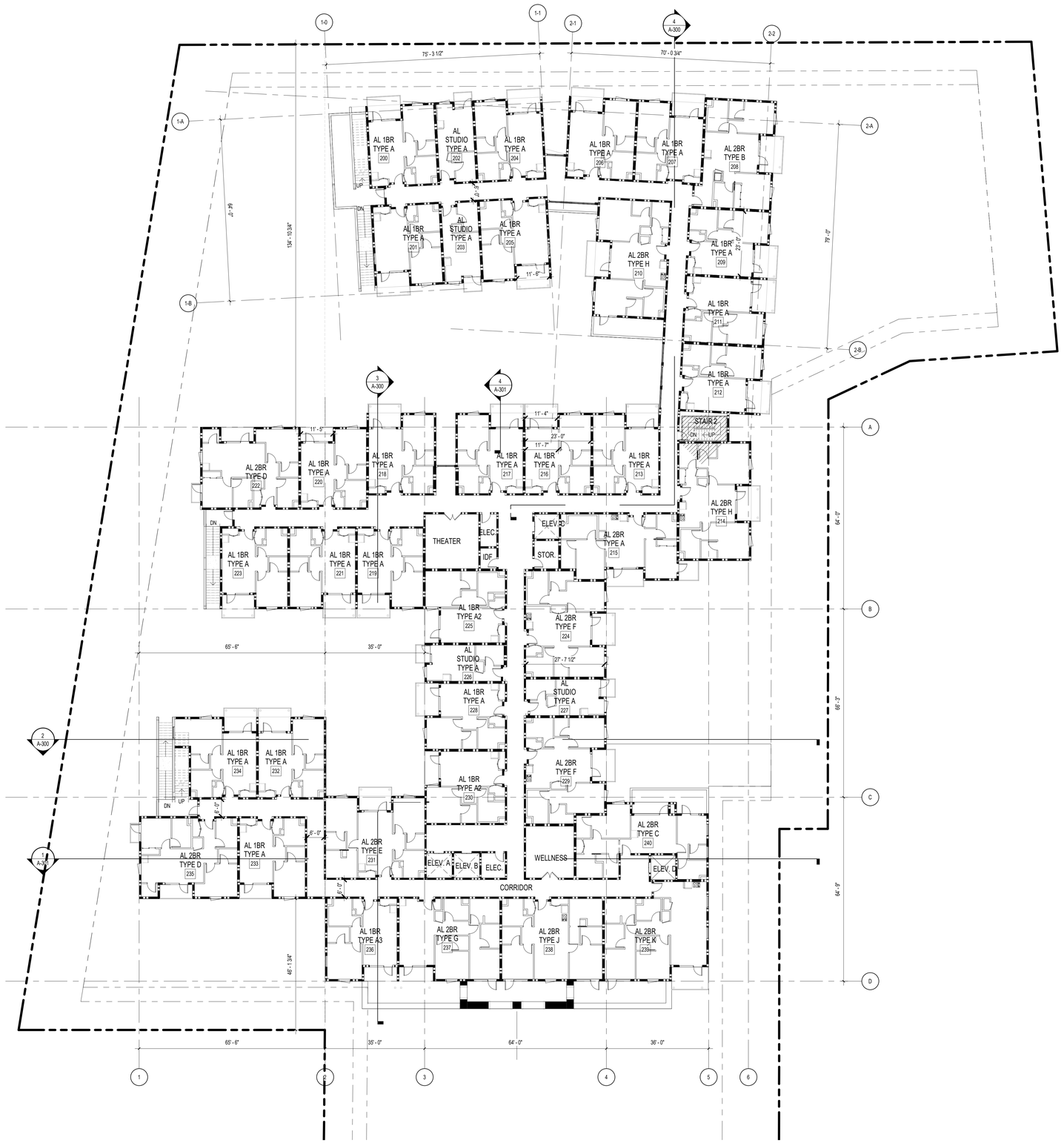
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Sheet Identification

LEVEL 01 FLOOR PLAN - AREA 'B'

A-110B

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1 LEVEL 02 - OVERALL FLOOR PLAN
1/16" = 1'-0"

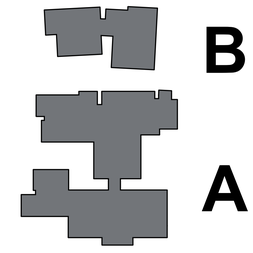
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KEY PLAN



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LEVEL 02 FLOOR PLAN - OVERALL

A-111

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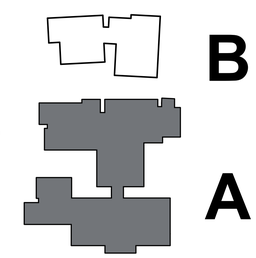
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LEVEL 02 FLOOR PLAN - AREA 'A'

A-111A

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6. SEE STRUCTURAL PLANS FOR THE LOCATION OF FOUNDATION WALL, FOOTINGS, AND COLUMNS.
7. PROVIDE WOOD BLOCKING AT ALL GRAB BARS, HAND RAILS, LOCKERS, WALL MOUNTED EQUIPMENT LOCATIONS AND OTHER LOCATIONS IDENTIFIED WITH KEYNOTES IN THE ARCHITECTURAL PLANS. VERIFY MINIMUM LOADING REQUIREMENTS WITH MANUFACTURER.

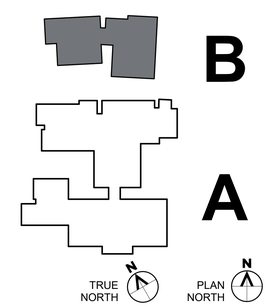
FIRE RATING KEY

PRIORITY #	PARTITION	PLAN GRAPHIC
HIGHEST 3	2 HOUR FIRE	
4	1 HOUR FIRE/SMOKE	
MEDIUM 5	1 HOUR FIRE	
6	NON-RATED SMOKE RESISTANT	
LOWEST 7	NON RATED	



1 LEVEL 02 - ENLARGED FLOOR PLAN - NORTH
1/8" = 1'-0"

KEY PLAN



CALLISONRTKL

CallisonRTKL Inc.
333 SOUTH HOPE STREET, SUITE C-200
LOS ANGELES, CA 90071
Tel: 213.633.6000

CallisonRTKL Project No: 040-190064

Consultant

THE WATERMARK AT SANTA CRUZ

126 EUCALYPTUS AVENUE
SANTA CRUZ, CA 95060

Client/Owner/Operator

OPPIDAN INVESTMENT COMPANY
1100 LINCOLN AVENUE, SUITE 3382
SAN JOSE, CA 95125

THE FRESHWATER GROUP
2020 WEST RUDASILL ROAD
TUCSON, AZ 85704

Issue Drawing Log

REV #	DATE (MM.DD.YY)	ISSUE NAME
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	8/21/20	SCHEMATIC DESIGN SUBMITTAL
	8/6/21	LAND USE APPLICATION RESUBMITTAL
	10/15/21	LAND USE APPLICATION RESUBMITTAL

Seal

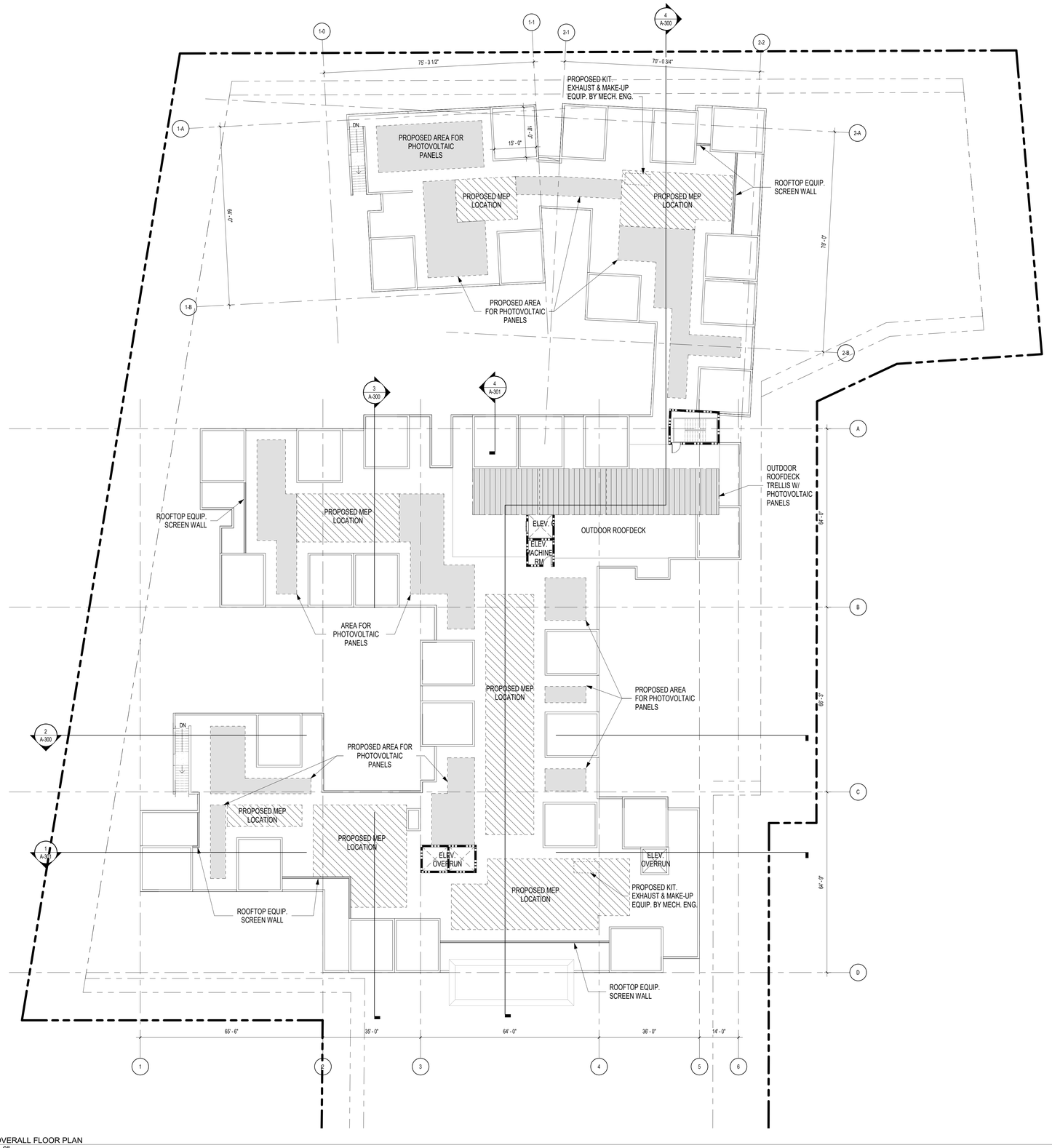
NOT FOR CONSTRUCTION

Sheet Identification

LEVEL 02 FLOOR PLAN - AREA 'B'

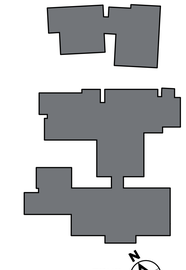
A-111B

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1 ROOF - OVERALL FLOOR PLAN
1/16" = 1'-0"

KEY PLAN



TRUE NORTH

PLAN NORTH

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	10/15/21	LAND USE APPLICATION RESUBMITTAL

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ROOF FLOOR PLAN - OVERALL

A-112

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1 LEVEL 03 - ENLARGED FLOOR PLAN - SOUTH
1/8" = 1'-0"

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Tel: 213.633.6000

CallisonRTKL Project No: 040-190064

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THE WATERMARK AT SANTA CRUZ

126 EUCALYPTUS AVENUE
SANTA CRUZ, CA 95060

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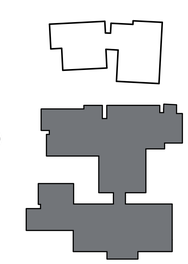
OPPIDAN INVESTMENT COMPANY
1100 LINCOLN AVENUE, SUITE 3382
SAN JOSE, CA 95125

THE FRESHWATER GROUP
2020 WEST RUDASILL ROAD
TUCSON, AZ 85704

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	10/15/21	LAND USE APPLICATION RESUBMITTAL

KEY PLAN



TRUE NORTH
PLAN NORTH

Seal

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Sheet Identification

ROOF FLOOR PLAN - AREA 'A'

A-112A

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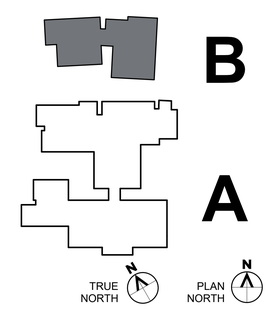
GENERAL NOTES

1. ROOF SLOPE: 1/4:12 (TYP.), UNLESS NOTED OTHERWISE.
2. ROOF FRAMING SPOT ELEVATIONS ARE BASED ON ROOF DRAIN TOP OF SHEATHING. UNLESS NOTED OTHERWISE.
3. FOR SYMBOLS AND ABBREVIATIONS REFER TO SHEET G-001.
4. ROOFING TO BE MIN. CLASS "A" 1- HR APPROVED SYSTEM.



1 LEVEL 03 - ENLARGED FLOOR PLAN - NORTH
1/8" = 1'-0"

KEY PLAN



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Seal

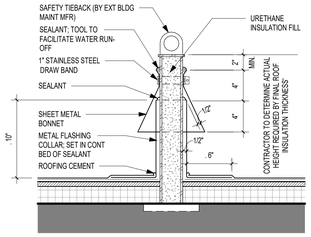
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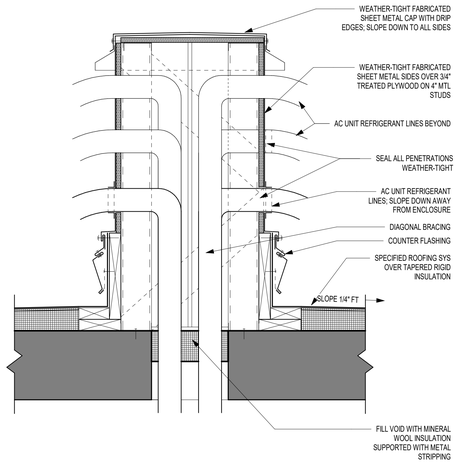
ROOF ROOF PLAN - AREA 'B'

A-112B

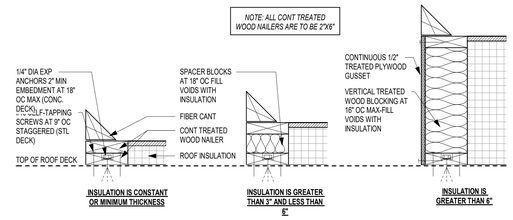
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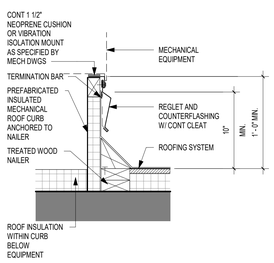
19 SAFETY TIEBACK
1 1/2" = 1'-0"



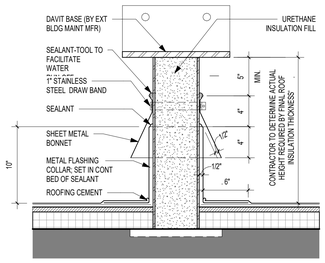
14 WATERPROOFING @ REF. LINE SETS
1 1/2" = 1'-0"



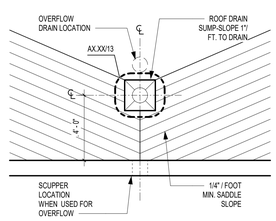
4 TREATED WOOD NAILER CONFIGURATIONS
1 1/2" = 1'-0"



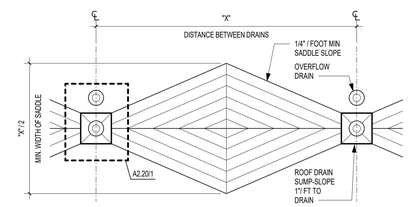
23 MECHANICAL EQUIPMENT CURB
1 1/2" = 1'-0"



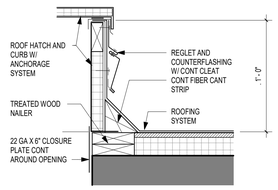
18 DAVIT BASE
1 1/2" = 1'-0"



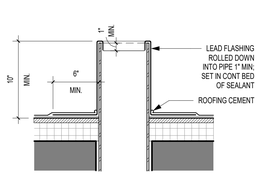
13 TYP. SADDLE AT PARAPET
1/4" = 1'-0"



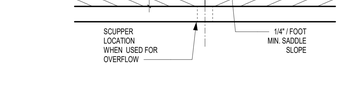
3 TYP. SADDLE GEOMETRY PLAN
1/4" = 1'-0"



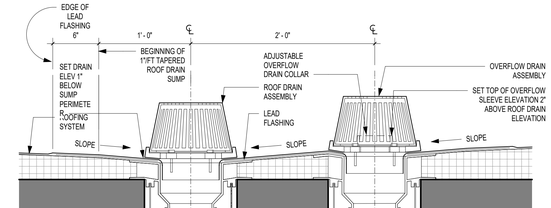
22 ROOF HATCH
1 1/2" = 1'-0"



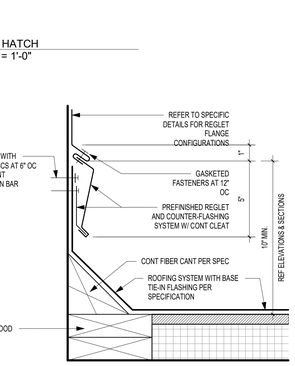
17 VENT PIPE PENETRATION
1 1/2" = 1'-0"



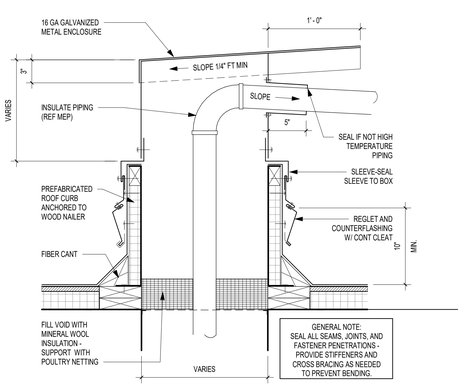
12 ROOF DRAIN SUMP SECTION
1 1/2" = 1'-0"



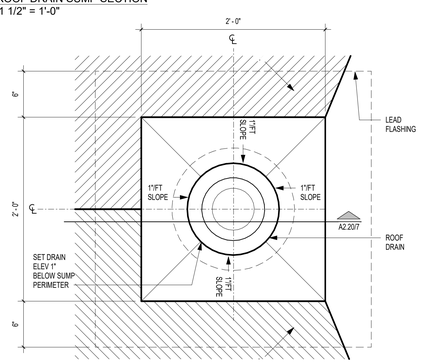
2 ROOF OVERFLOW / DRAIN SUMP SECTION
1 1/2" = 1'-0"



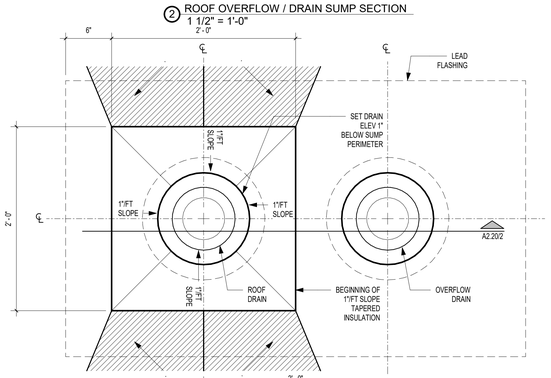
21 REGLET AND COUNTERFLASHING
3" = 1'-0"



16 MULTIPIPE PENETRATION BOX
1 1/2" = 1'-0"



11 ROOF DRAIN SUMP PLAN
1 1/2" = 1'-0"



1 ROOF OVERFLOW / DRAIN SUMP PLAN
1 1/2" = 1'-0"

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Tel: 213.633.6000

CallisonRTKL Project No: 040-190064

Consultant

Client/Owner/Operator

OPPIDAN INVESTMENT COMPANY
1100 LINCOLN AVENUE, SUITE 3382
SAN JOSE, CA 95125

THE FRESHWATER GROUP
2020 WEST RUDASILL ROAD
TUCSON, AZ 85704

THE WATERMARK AT SANTA CRUZ

126 EUCALYPTUS AVENUE
SANTA CRUZ, CA 95060

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	10/15/21	LAND USE APPLICATION RESUBMITTAL

Seal

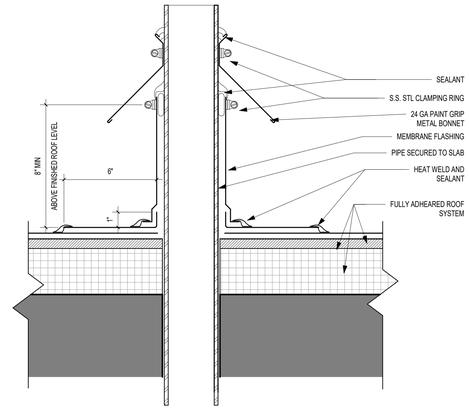
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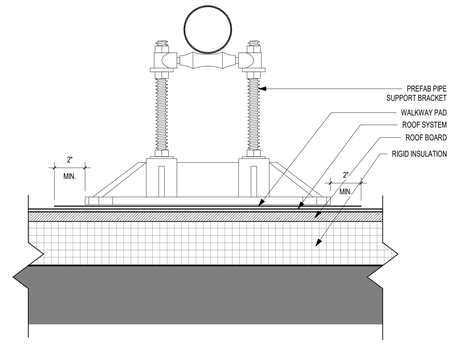
ROOF DETAILS

A-125

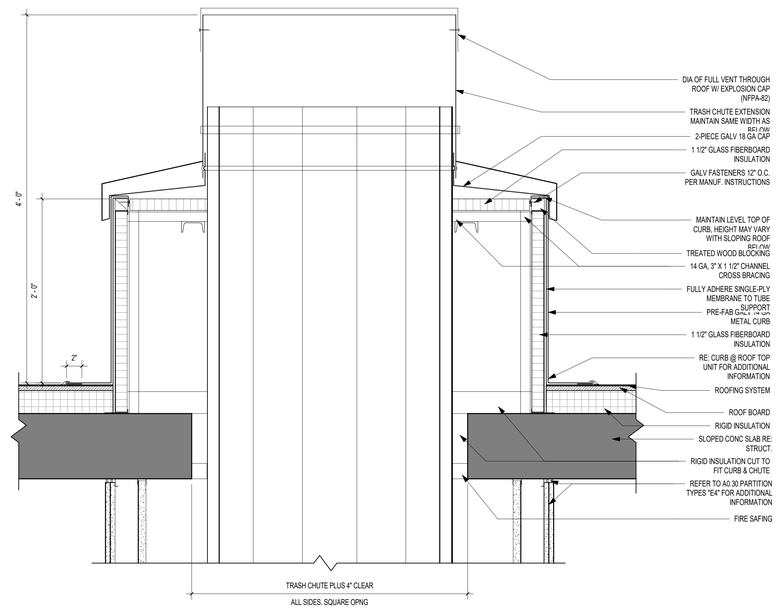
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④ PIPE SUPPORT 2
3" = 1'-0"



③ PIPE SUPPORT
3" = 1'-0"



① TRASH CHUTE VENT CURB
1 1/2" = 1'-0"

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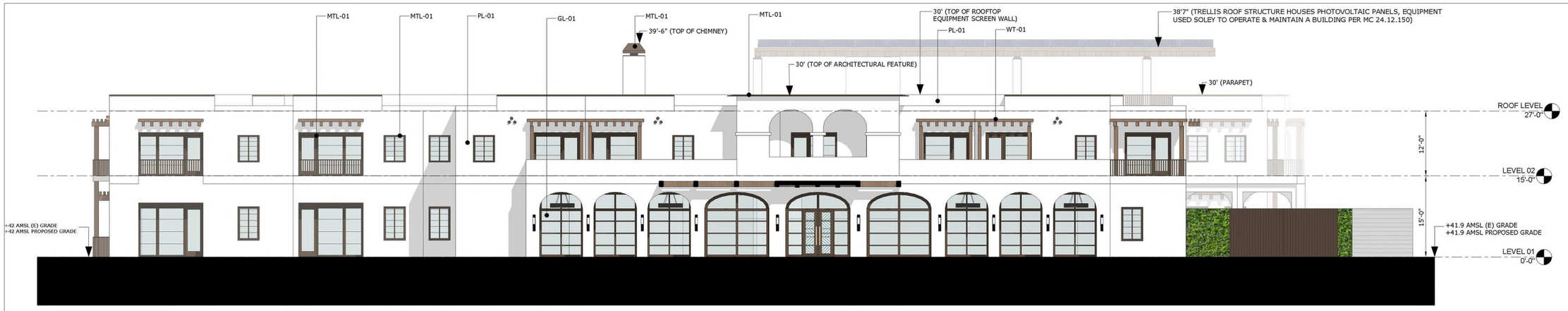
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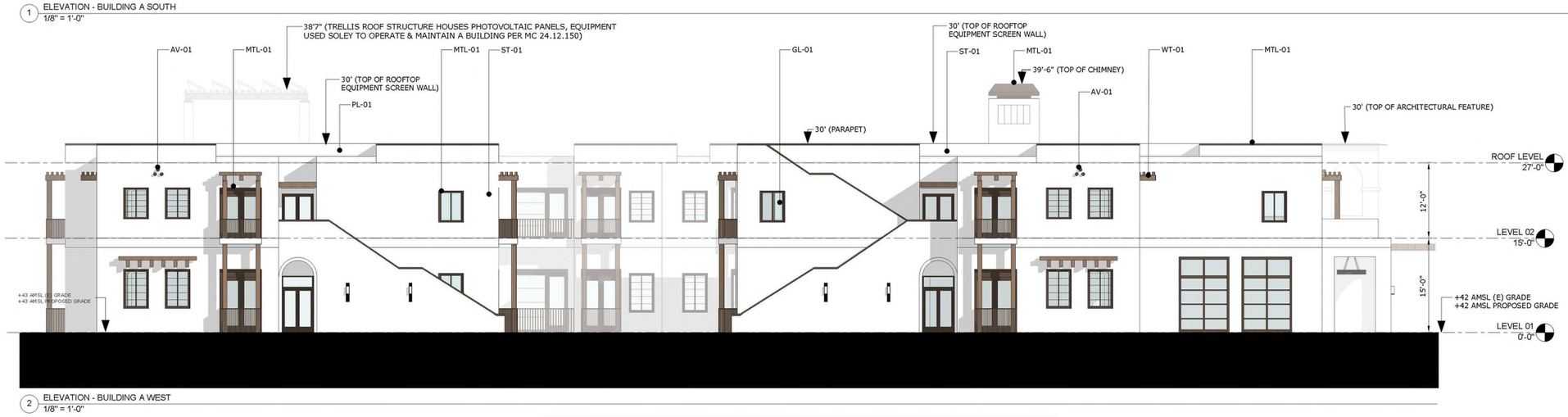
ROOF DETAILS

A-126

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1 ELEVATION - BUILDING A SOUTH
1/8" = 1'-0"



2 ELEVATION - BUILDING A WEST
1/8" = 1'-0"



3 ELEVATION - BUILDING A COURTYARD SOUTH
1/8" = 1'-0"



4 ELEVATION - BUILDING A COURTYARD WEST
1/8" = 1'-0"

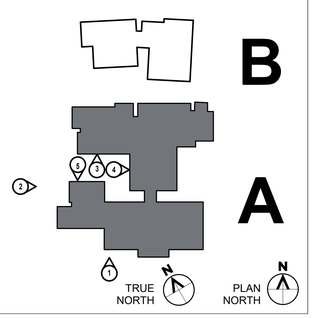


5 ELEVATION - BUILDING A COURTYARD NORTH
1/8" = 1'-0"

EXTERIOR FINISHES

GLAZING	GL-01	LOCATION: INSULATED GLASS UNIT MANUF: VIRACON COLOR: CLEAR CODE: VE1-2M
STUCCO	PL-01	LOCATION: TYP EXTERIOR WALLS MANUF: LA HABRA OR SIMILAR COLOR: DOVE GREY FINE SAND 20/30 FINISH
METAL	MTL-01	LOCATION: TYPICAL MULLION, FRAMES, FASCIAS, CROWN DETAILS AND RAILINGS MANUF: PPG INDUSTRIES INC COLOR: CHOCOLATE BRONZE CODE: UC100700XL
WOOD	WT-01	LOCATION: TRELLIS ON BALCONIES / COURTYARDS / TERRACES / COVERED WALKWAYS COLOR: PT-01
ARCHITECTURAL FEATURES	AV-01	TYPE: ATTIC VENT COLOR: TERRACOTTA

KEY PLAN



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BUILDING A EXTERIOR ELEVATIONS

A-200

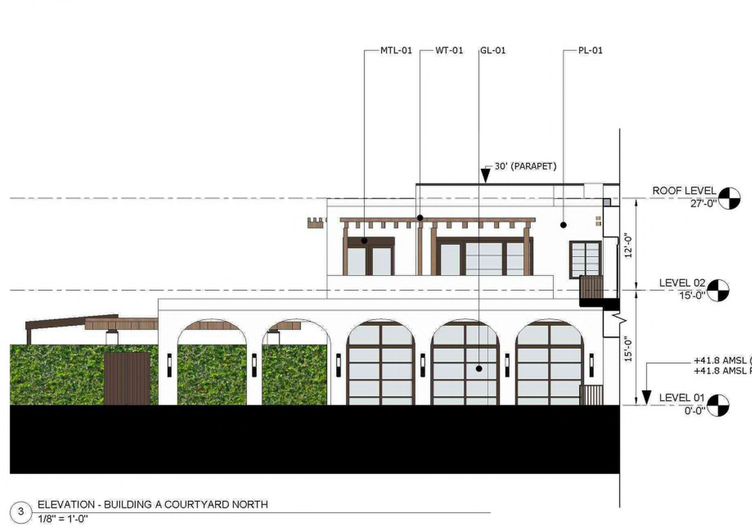
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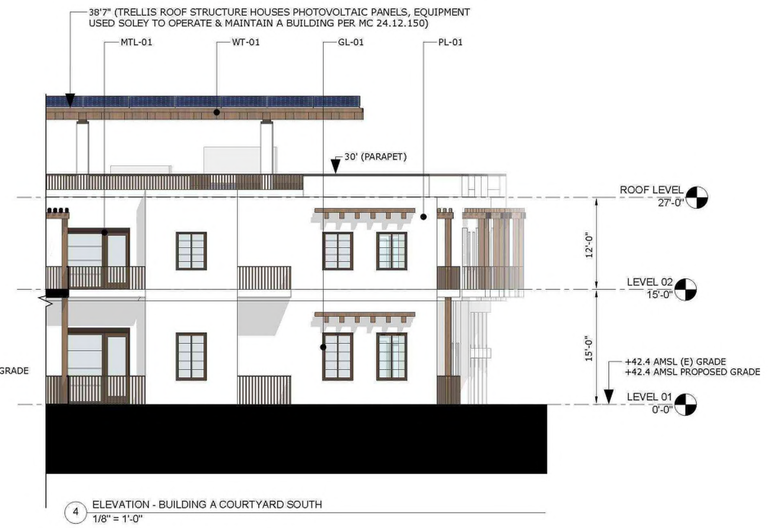
1 ELEVATION - BUILDING A NORTH
1/8" = 1'-0"



2 ELEVATION - BUILDING A EAST
1/8" = 1'-0"



3 ELEVATION - BUILDING A COURTYARD NORTH
1/8" = 1'-0"

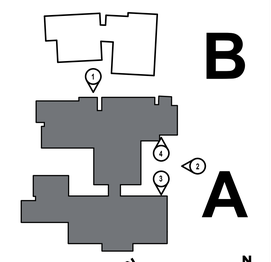


4 ELEVATION - BUILDING A COURTYARD SOUTH
1/8" = 1'-0"

EXTERIOR FINISHES

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STUCCO	PL-01	LOCATION: TYP EXTERIOR WALLS MANUF: LA HABRA OR SIMILAR COLOR: DOVE GREY FINE SAND 20/30 FINISH
METAL	MTL-01	LOCATION: TYPICAL MULLION, FRAMES, FASCIAS, CROWN DETAILS AND RAILINGS MANUF: PPG INDUSTRIES INC COLOR: CHOCOLATE BRONZE CODE: UC100700XL
WOOD	WT-01	LOCATION: TRELLIS ON BALCONIES / COURTYARDS / TERRACES / COVERED WALKWAYS COLOR: PT-01
ARCHITECTURAL FEATURES	AV-01	TYPE: ATTIC VENT COLOR: TERRACOTTA

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Sheet Identification

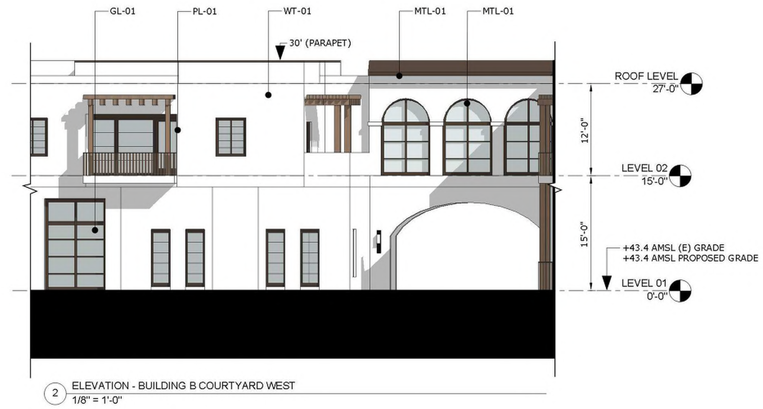
BUILDING A EXTERIOR ELEVATIONS

A-201

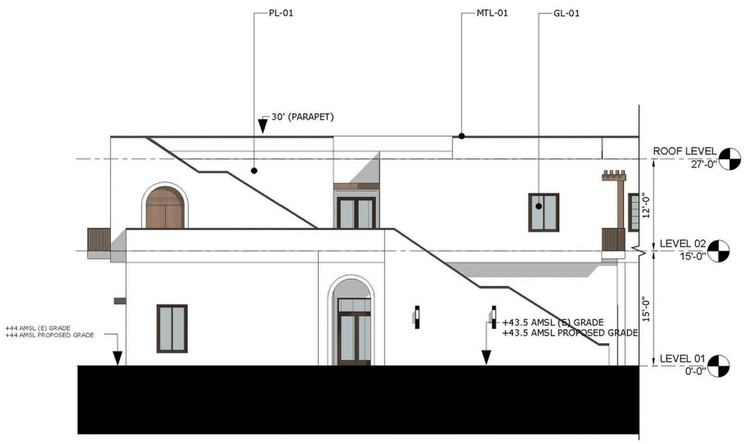
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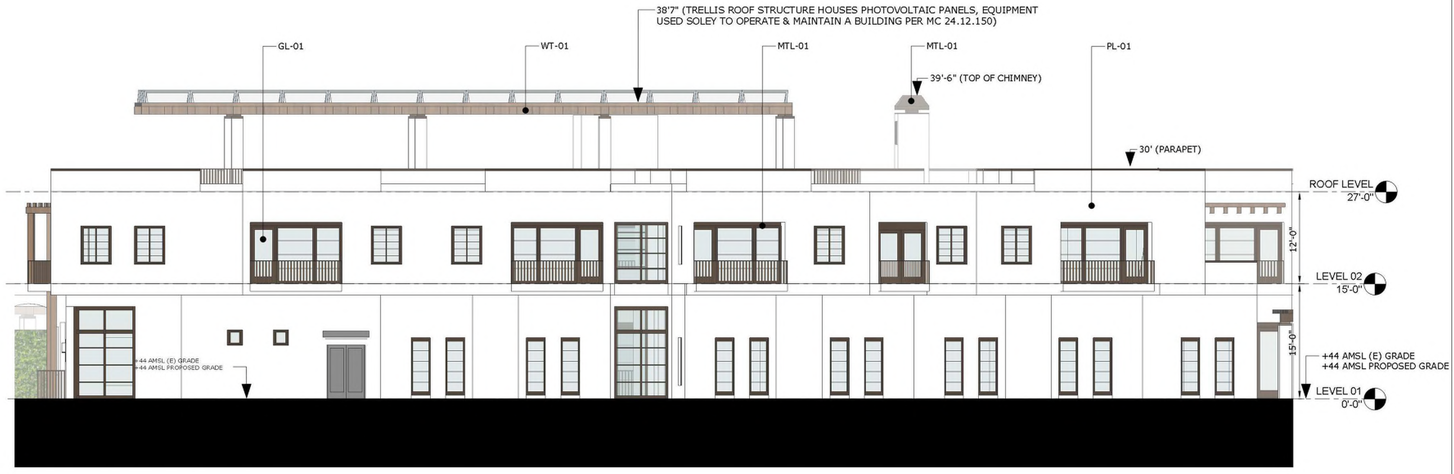
1 ELEVATION - BUILDING B SOUTH
1/8" = 1'-0"



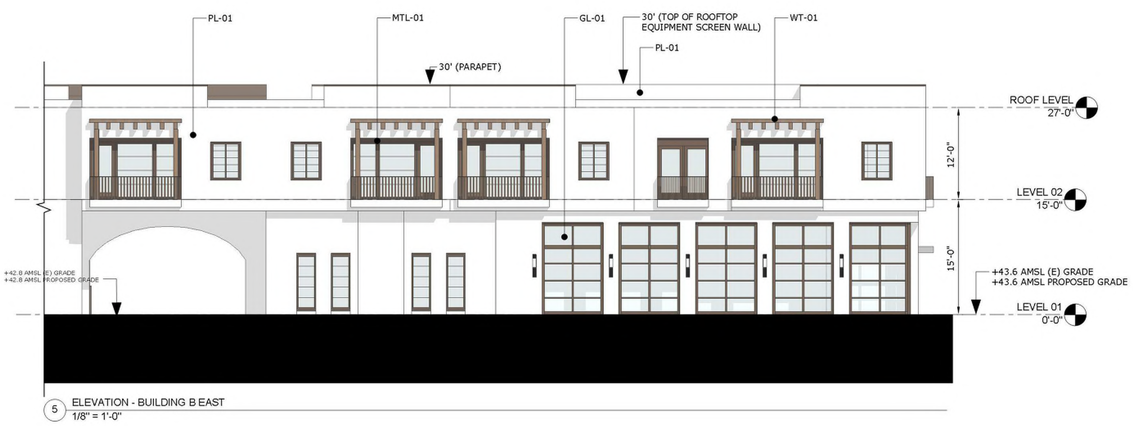
2 ELEVATION - BUILDING B COURTYARD WEST
1/8" = 1'-0"



3 ELEVATION - BUILDING B WEST
1/8" = 1'-0"



4 ELEVATION - BUILDING B NORTH
1/8" = 1'-0"

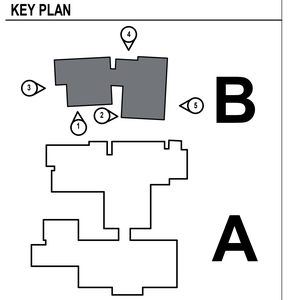


5 ELEVATION - BUILDING B EAST
1/8" = 1'-0"

EXTERIOR FINISHES

GLAZING	GL-01	LOCATION: INSULATED GLASS UNIT MANUF: VIRACON COLOR: CLEAR CODE: VE1-2M
STUCCO	PL-01	LOCATION: TYP EXTERIOR WALLS MANUF: LA HABRA OR SIMILAR COLOR: DOVE GREY FINE SAND 20/30 FINISH
METAL	MTL-01	LOCATION: TYPICAL MULLION, FRAMES, FASCIAS, CROWN DETAILS AND RAILINGS MANUF: PPG INDUSTRIES INC COLOR: CHOCOLATE BRONZE CODE: UC106709XL
WOOD	WT-01	LOCATION: TRELLIS ON BALCONIES / COURTYARDS / TERRACES / COVERED WALKWAYS COLOR: PT-01
ARCHITECTURAL FEATURES	AV-01	TYPE: ATTIC VENT COLOR: TERRACOTTA

KEY PLAN



CALLISONRTKL

CallisonRTKL Inc.
333 SOUTH HOPE STREET, SUITE C-200
LOS ANGELES, CA 90071
Tel: 213.633.6000

CallisonRTKL Project No: 040-190064

Consultant

THE WATERMARK AT SANTA CRUZ

126 EUCALYPTUS AVENUE
SANTA CRUZ, CA 95060

Client/Owner/Operator

OPPIDAN INVESTMENT COMPANY
1100 LINCOLN AVENUE, SUITE 3382
SAN JOSE, CA 95125

THE FRESHWATER GROUP
2020 WEST RUDASILL ROAD
TUCSON, AZ 85704

Issue Drawing Log

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	8/6/21	LAND USE APPLICATION RESUBMITTAL
	10/15/21	LAND USE APPLICATION RESUBMITTAL

Seal

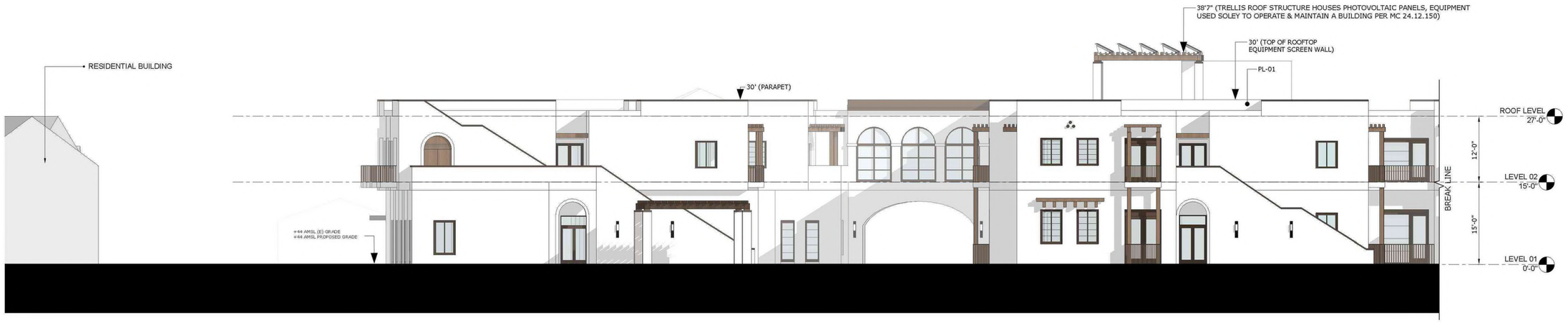
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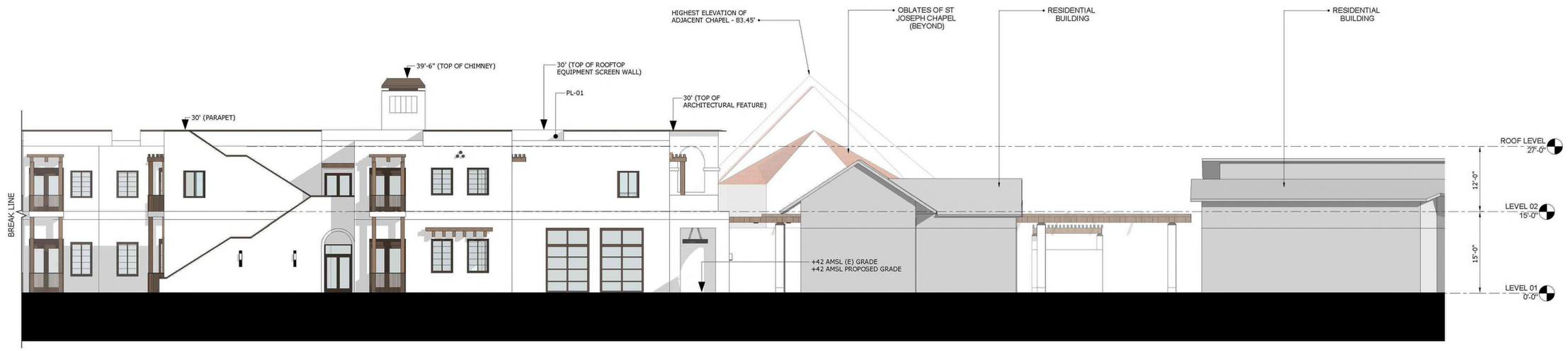
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BUILDING B EXTERIOR ELEVATIONS

A-202

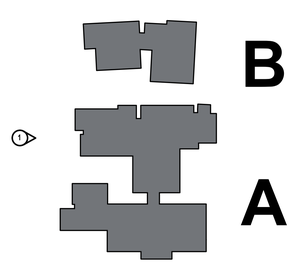
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1 ELEVATION - WEST WITH SITE CONTEXT
1/8" = 1'-0"

KEY PLAN



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Seal

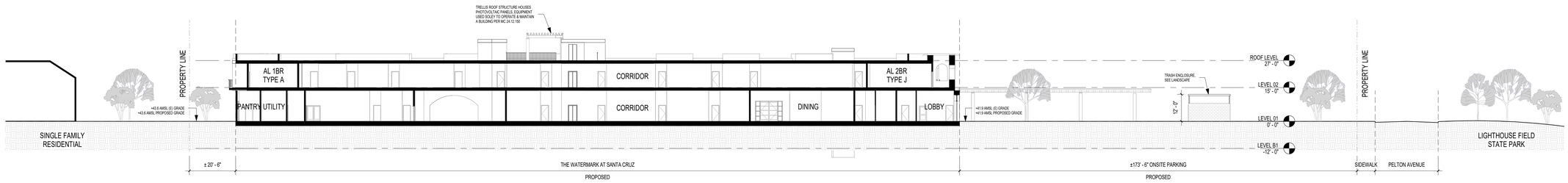
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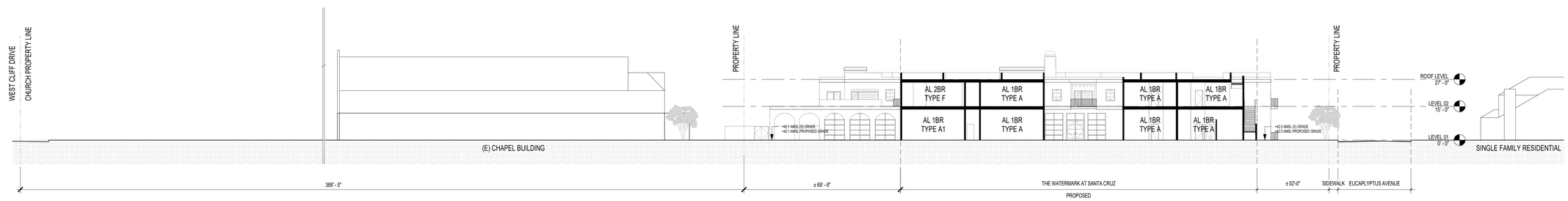
WEST ELEVATION WITH SITE CONTEXT

A-203

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4 SITE CROSS SECTION N/S
1" = 20'-0"

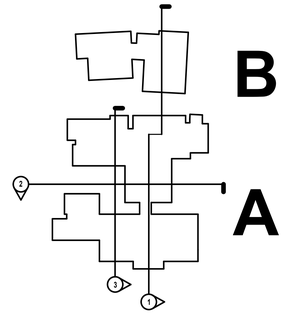


2 SITE CROSS SECTION E/W
1" = 20'-0"



3 SECTION - BLDG A N/S
1/8" = 1'-0"

KEY PLAN



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Seal

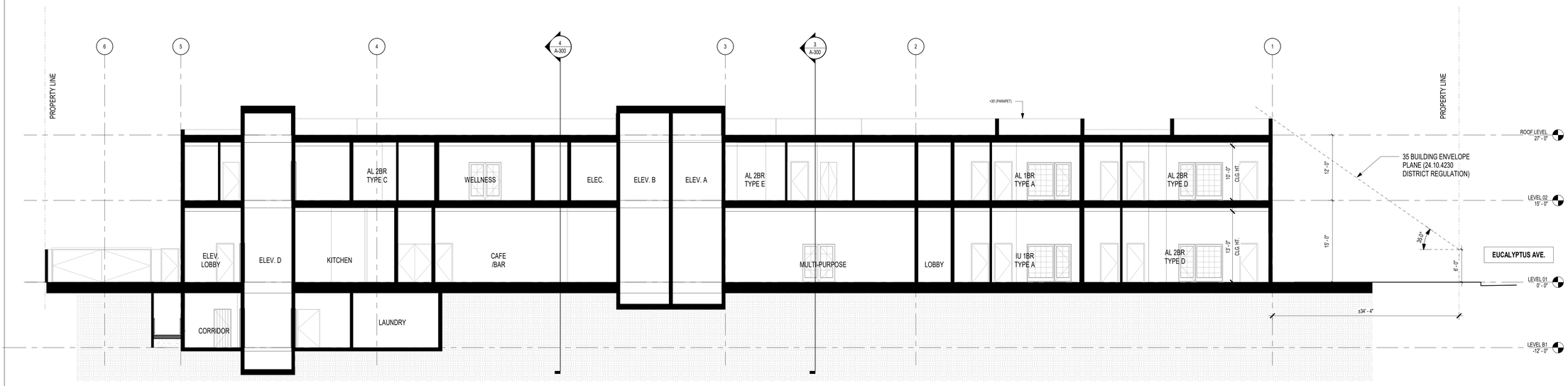
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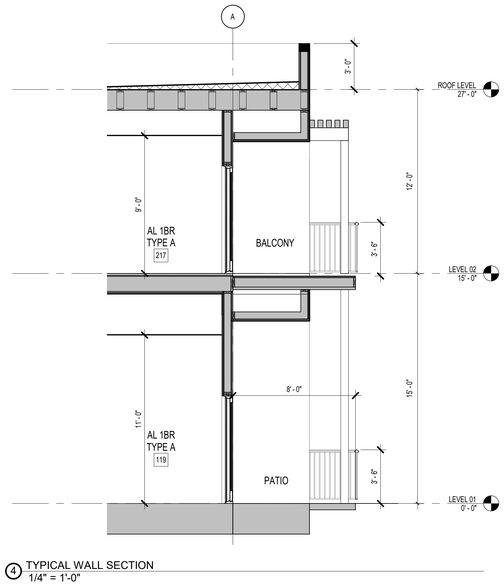
BUILDING SECTIONS

A-300

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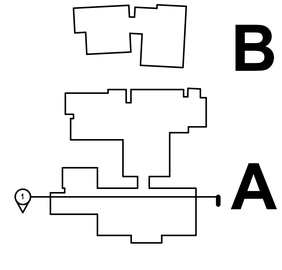


1 SECTION _ BLDG A ROOF TERRACE
1/8" = 1'-0"



4 TYPICAL WALL SECTION
1/4" = 1'-0"

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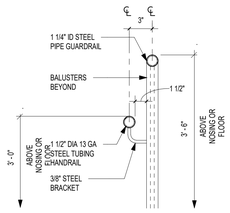
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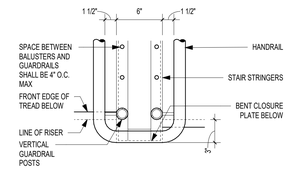
BUILDING SECTIONS

A-301

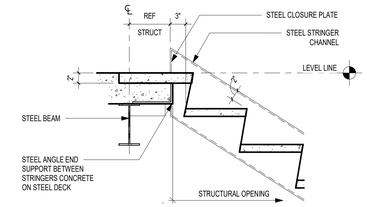
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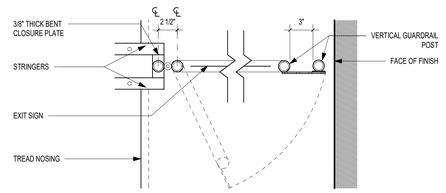
15 HANDRAIL AND GUARDRAIL SECTION
1 1/2" = 1'-0"



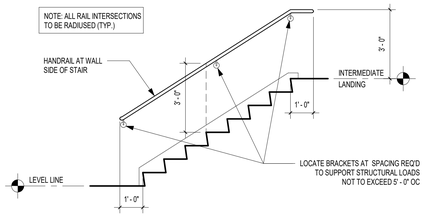
10 HANDRAIL AND GUARDRAIL AT LANDING PLAN
1 1/2" = 1'-0"



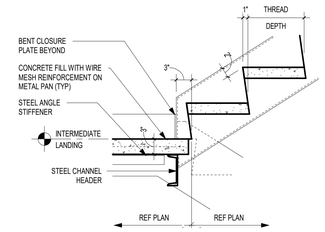
5 FLOOR LANDING
1" = 1'-0"



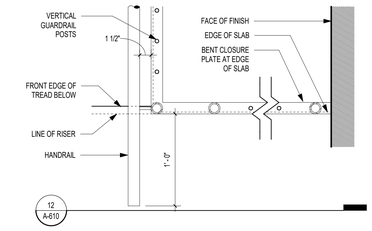
14 STAIR GATE PLAN DETAIL
1 1/2" = 1'-0"



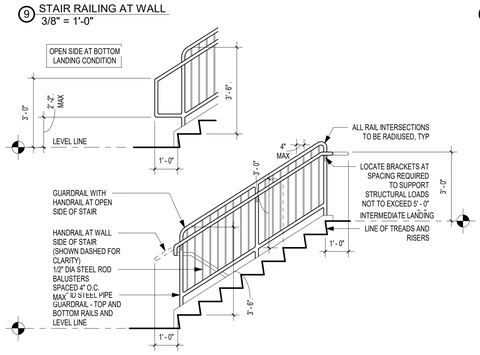
9 STAIR RAILING AT WALL
3/8" = 1'-0"



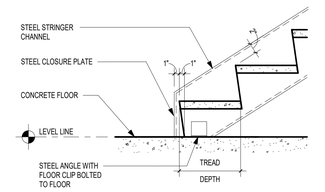
4 INTERMEDIATE LANDING
1" = 1'-0"



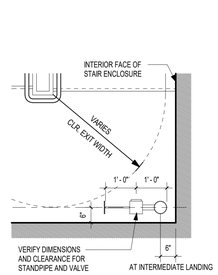
13 HANDRAIL AND GUARDRAIL AT TOP LANDING
1 1/2" = 1'-0"



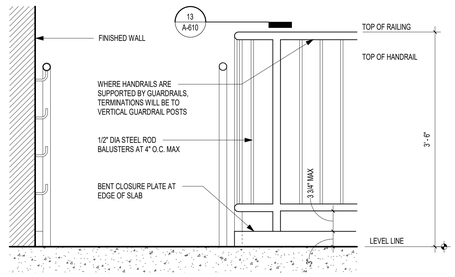
8 STAIR RAILING ELEVATION
3/8" = 1'-0"



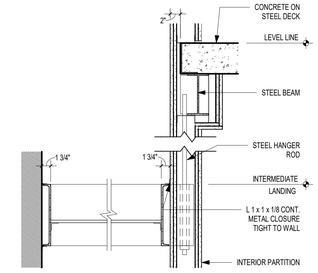
3 BOTTOM LANDING
1" = 1'-0"



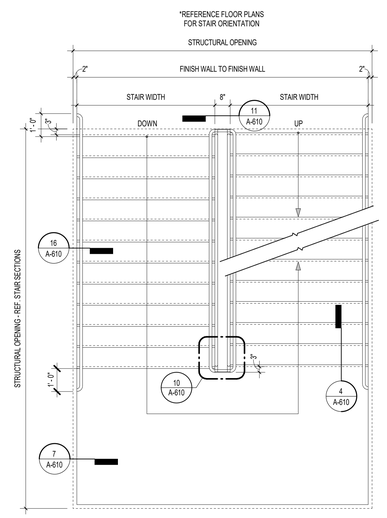
17 STANDPIPE
1/2" = 1'-0"



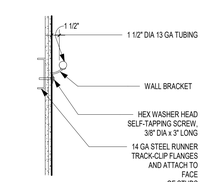
12 RAILING AND GUARDRAIL AT TOP LANDING
1" = 1'-0"



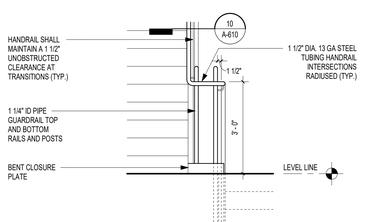
7 INTERMEDIATE LANDING SUPPORT
1" = 1'-0"



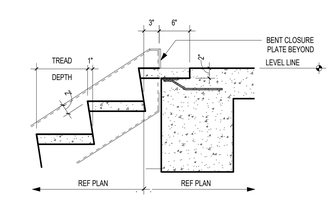
1 STAIR PLAN LAYOUTS
3/8" = 1'-0"



HANDRIAL MOUNTING
16 DTL AT GYP BD WALL
1" = 1'-0"



11 STAIR RAILING AT TRANSITION
1/2" = 1'-0"



6 FLOOR LANDING AT CONCRETE SLAB
1" = 1'-0"

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Seal

NOT FOR CONSTRUCTION

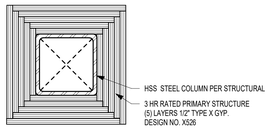
PERMIT SET
OCTOBER 22, 2012

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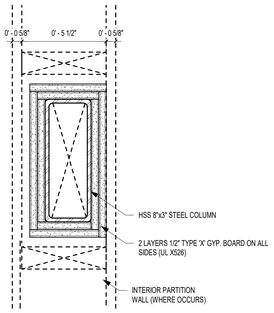
STAIR DETAILS

A-610

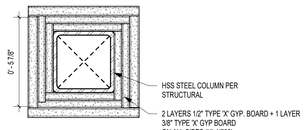
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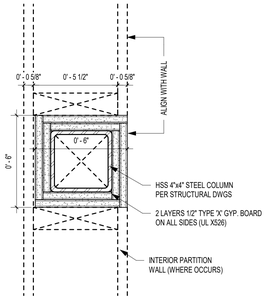
7 3 HR FIRE PROOFING AT STEEL COLUMN_BC
3" = 1'-0"



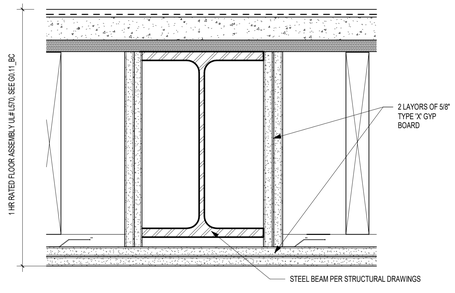
5 1 HR FIRE PROOFING AT POOL STEEL COLUMN_BC
3" = 1'-0"



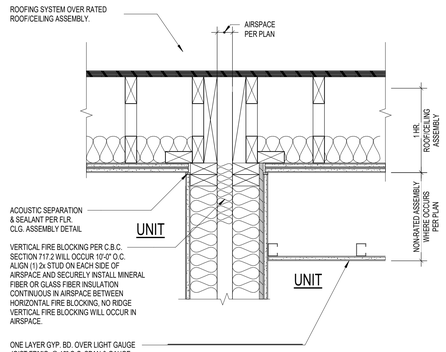
6 2 HR FIRE PROOFING AT STEEL COLUMN_BC
3" = 1'-0"



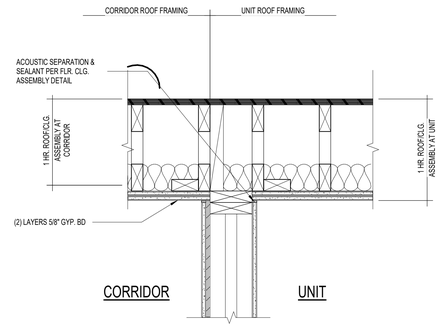
4 1 HR FIRE PROOFING AT STEEL COLUMN_BC
3" = 1'-0"



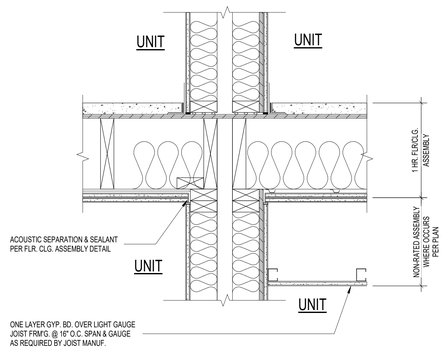
3 1 HR FIRE PROOFING AT STEEL BEAM
3" = 1'-0"



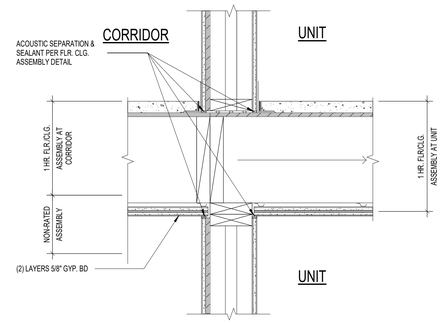
ROOF/CEILING INTERSECTION



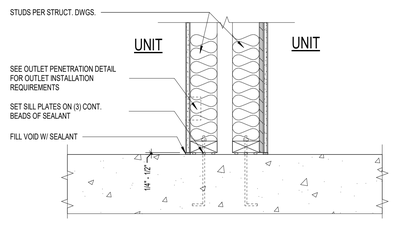
ROOF/CEILING INTERSECTION



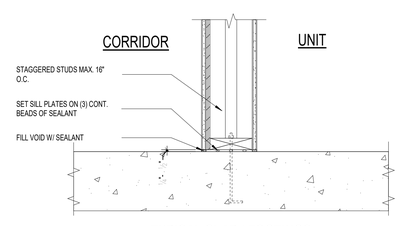
FLOOR/CEILING INTERSECTION



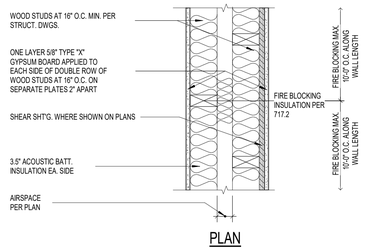
FLOOR/CEILING INTERSECTION



TYPICAL SLAB / FOOTINGS



TYPICAL SLAB / FOOTINGS

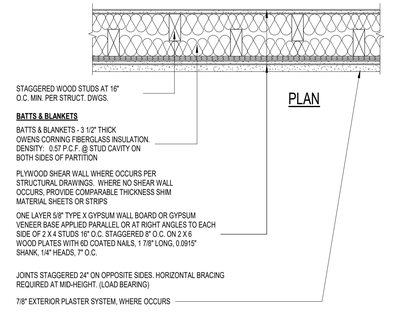


PLAN

NOTE: AT LOCATIONS WHERE THIS WALL ASSEMBLY NO LONGER REQUIRES A SHEAR PANEL ON STRUCTURAL PLANS, MAINTAIN ASSEMBLY THICKNESS & ACOUSTIC VALUE BY CONTINUOUS WD. SHTG. OR A BASE LAYER OF GYPSUM BOARD CAN REPLACE A LAYER OF WD. SHTG. OF SIMILAR THICKNESS

ASSEMBLY TYPE:	WALL	CODE DESCRIPTION:	FIRE PARTITION SECTION 709
FIRE RATING:	1 HOUR	MODIFICATIONS:	NONE
LISTING:	C.O.N.C. MANUAL #1.2.4.1.5.4		
STC RATING:	MINIMUM 50		

2 1 HR FIRE PARTITION AT PARTY WALL
1 1/2" = 1'-0"



PLAN

ASSEMBLY TYPE:	WALL	CODE DESCRIPTION:	FIRE PARTITION SECTION 709
FIRE RATING:	1 HOUR	MODIFICATIONS:	7/8" EXTERIOR PLASTER SYSTEM
LISTING:	GA ASSEMBLY NO. WP 3380		
STC RATING:	MINIMUM 50		

1 1 HR FIRE PARTITION AT CORR-UNIT
1 1/2" = 1'-0"

CALLISONRTKL

CallisonRTKL Inc.
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LOS ANGELES, CA 90071
Tel: 213.633.6000

CallisonRTKL Project No: 040-190064
Consultant

THE WATERMARK AT SANTA CRUZ

126 EUCALYPTUS AVENUE
SANTA CRUZ, CA 95060

Client/Owner/Operator

OPPIDAN INVESTMENT COMPANY
. VENUE, SUITE 3382

THE FRESHWATER GROUP
2020 WEST RUDASILL ROAD
TUCSON, AZ 85704

Issue Drawing Log

REV #	DATE (MM.DD.YY)	ISSUE NAME
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	8/21/20	SCHEMATIC DESIGN SUBMITTAL
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	10/15/21	LAND USE APPLICATION RESUBMITTAL

Seal

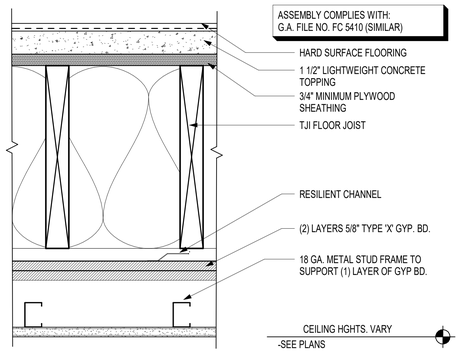
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Sheet Identification

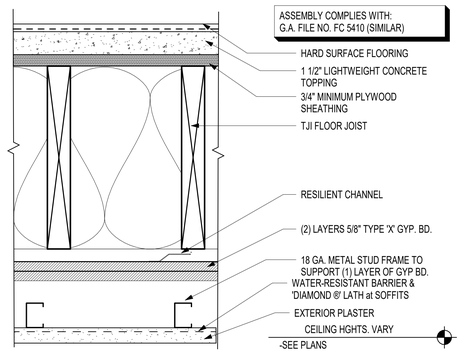
TYPICAL FIRE RATED DETAILS

A-901

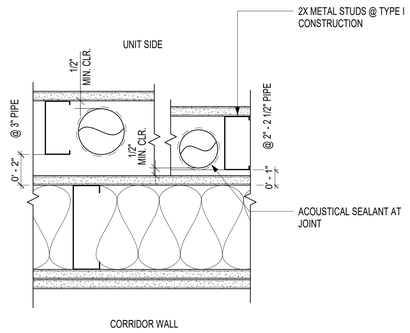
 © 2020 CallisonRTKL Inc.



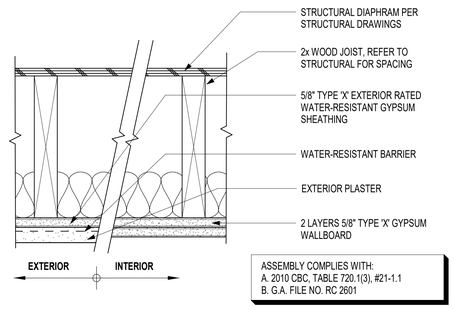
9 1HR CORRIDOR w/ DROPPED CEILING
3" = 1'-0"



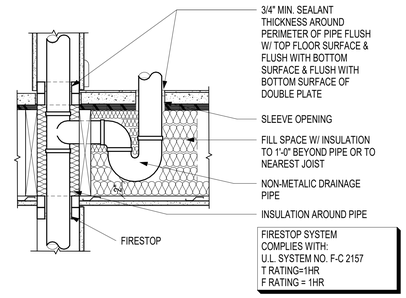
10 1HR RATED DECK w/ FURRED CEILING
3" = 1'-0"



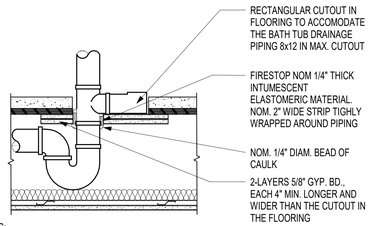
6 1 HR PLUMBING WALL AT CORRIDOR
3" = 1'-0"



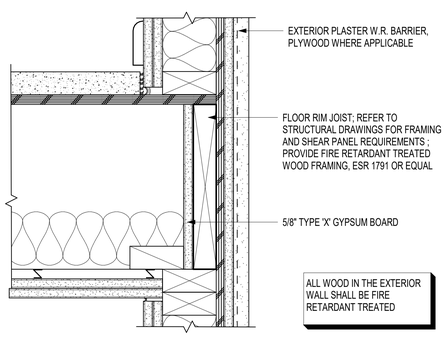
11 1HR RATED ROOF- CEILING - CONVENTIONAL
3" = 1'-0"



3 1 HR RATED FLOOR PENETRATION
1 1/2" = 1'-0"



2 FLOOR ASSEMBLY AT TUB
1 1/2" = 1'-0"



1 FLR. ASSEMBLY at 2 HR RATED EXT. BEARING WALLS
3" = 1'-0"

8 2HR FIRE BARRIER at STAIRS, ELEV., & SHAFTS
1 1/2" = 1'-0"

7 2HR FIRE BARRIER at STAIRS, ELEV., & SHAFTS
1 1/2" = 1'-0"

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OPPIDAN INVESTMENT COMPANY
√ENUE. SUITE 3382

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Seal

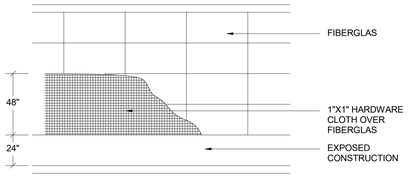
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Sheet Identification

TYPICAL FIRE RATED DETAILS

A-902

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WALL TREATMENT DETAIL (ELEVATION)

- 2" WALL TREATMENT IN ALL MECHANICAL, ELECTRICAL AND ELEVATOR MACHINE ROOM.

- 4" WALL TREATMENT IN GENERATOR ROOM.

ACOUSTICAL TREATMENT	
WALL	CEILING
2" THICK BLACK FACED DUCT LINER BOARD ATTACHED AS INDICATED ABOVE	2" THICK BLACK FACED DUCT LINER BOARD WITH 100% CEILING COVERAGE

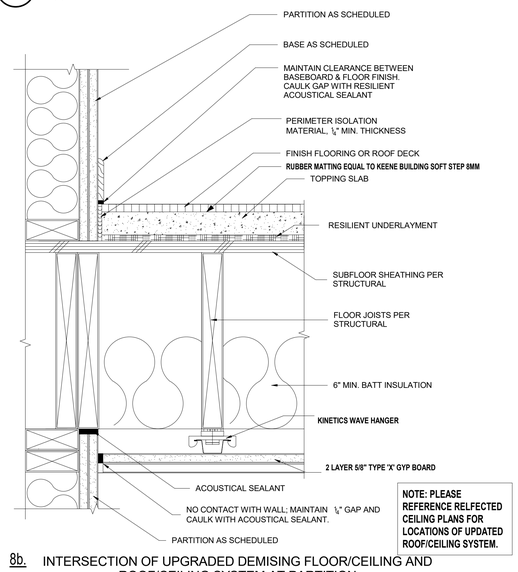
NOTE:

ATTACH FIBERGLAS BY MECHANICAL FASTENERS. THE FASTENERS SHALL BE CONSTRUCTED SO THAT NO SHARP POINTS OR EDGES SHALL PROTRUDE THROUGH THE ACOUSTICAL MATERIAL. PROTECTIVE ENDCAPS SHALL BE UTILIZED OVER SPINDLE FASTENERS. FASTENERS SHALL BE LAID OUT IN A REGULAR GRID PATTERN APPROVED BY THE ARCHITECT. THE FASTENERS SHALL BE GEMCO INSULATION HANGERS OR APPROVED EQUAL, WITH ALUMINUM DOMED CAP (UNPAINTED ALUMINUM STANDARD; COLOR AVAILABLE ON SPECIAL ORDER) AS DISTRIBUTED BY WESTERN WELDING SYSTEMS (800) 292-2215.

PREPARE SURFACE AND ATTACH FASTENERS WITH AN ADHESIVE ACCORDING TO MANUFACTURE'S WRITTEN INSTRUCTIONS. USE OF SELF ADHESIVE TAPE TO ATTACH FASTENERS IS NOT PERMITTED.

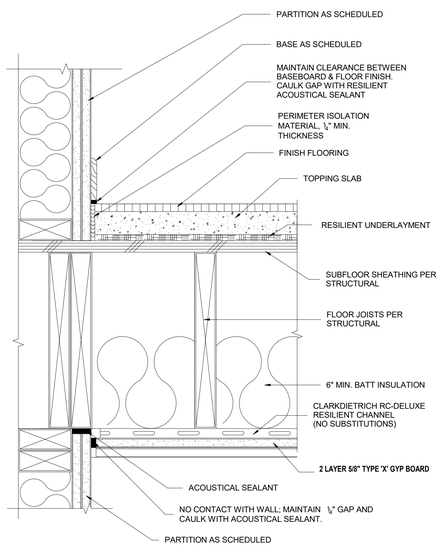
9 ACOUSTICAL TREATMENT DETAIL

N.T.S



NOTE: PLEASE REFERENCE REFLECTED CEILING PLANS FOR LOCATIONS OF UPDATED ROOF/CEILING SYSTEM.

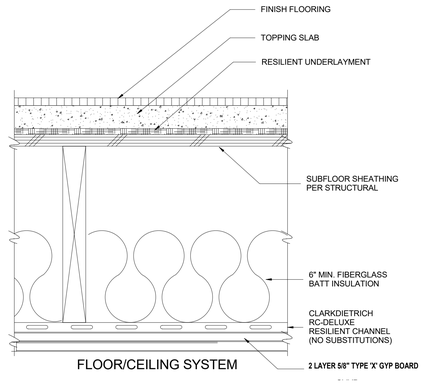
8b. INTERSECTION OF UPGRADED DEMISING FLOOR/CEILING AND ROOF/CEILING SYSTEM AT PARTITION



8a. INTERSECTION OF DEMISING FLOOR/CEILING SYSTEM AT PARTITION

8 FLOOR/CEILING FRAMING DETAILS

N.T.S



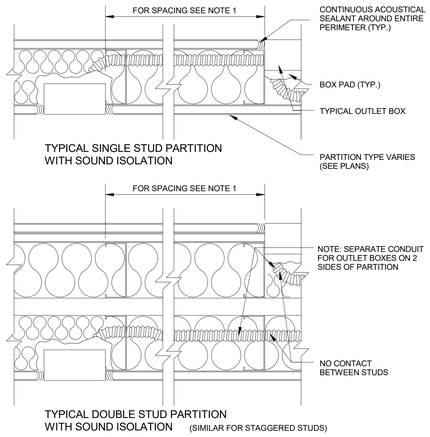
FLOOR/CEILING SYSTEM

NOTE:

1 INSTALL PERIMETER ISOLATION MATERIAL AT PERIMETER OF TOPPING SLAB AND FILL GAP WITH ACOUSTICAL SEALANT.

7 FLOOR/CEILING FRAMING DETAIL

N,T,S



TYPICAL SINGLE STUD PARTITION WITH SOUND ISOLATION

TYPICAL DOUBLE STUD PARTITION WITH SOUND ISOLATION (SIMILAR FOR STAGGERED STUDS)

NOTES:

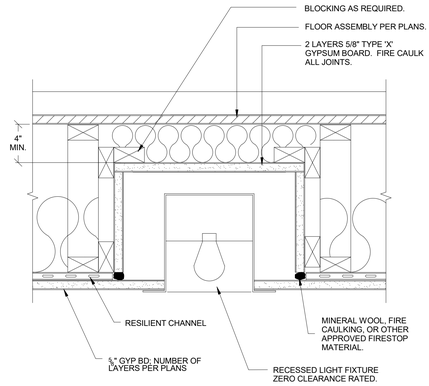
1. PLACE OUTLET BOXES IN SEPARATE STUD SPACES
2. AVOID BACK-TO-BACK OUTLETS.
3. PLUG ALL UNUSED KNOCK-OUTS IN OUTLET BOXES WITH KNOCK-OUT CAPS.
4. PROVIDE BACKING EQUIVALENT TO "LOWERY'S" OUTLET BOX PADS (HARRY A LOWERY & ASSOCIATES INC. (800) 225-8231)
5. DEPTH OF OUTLET BOX MUST BE COMPATIBLE WITH STUD SIZE IN ORDER TO ACCOMMODATE BOX PAD.
6. ACOUSTICAL BOX PAD REQUIREMENT APPLIES TO ALL PARTITIONS WITH ACOUSTICAL INSULATION.

APPLIES TO POWER, PHONE, COMMUNICATIONS, ETC.

OUTLET BOX DETAILS

6 OUTLET BOX DETAIL

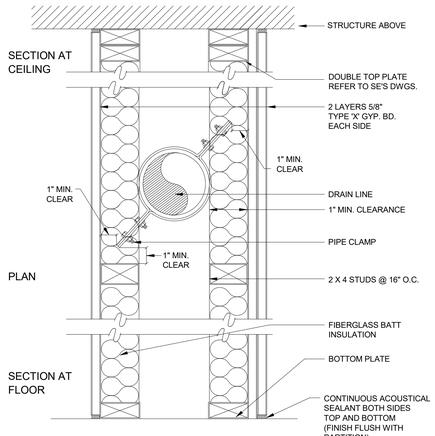
N,T,S

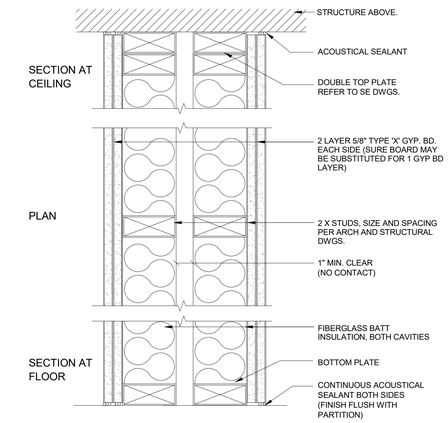


RECESSED CAN LIGHT AT SOUND RATED FLOOR ASSY.

5 RECESSED SOUND RATED DETAIL

N,T,S



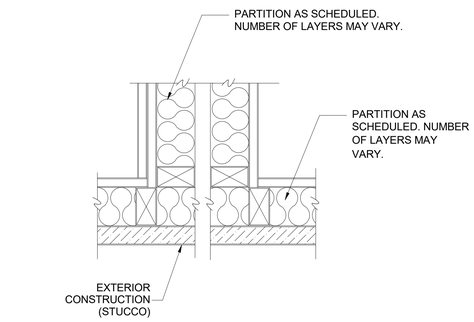


NOTES

1. NO MECHANICAL TIES BETWEEN OPPOSITE SIDE OF PARTITION.
2. KEYHOLES FOR CONDUIT SHALL BE CUT IN WOOD STUDS IN SIDE SERVED.
3. ATTACH PLYWOOD TO STUDS UNDER GYP. BOARD AS REQUIRED BY STRUCTURAL.

4 PARTITION DETAIL

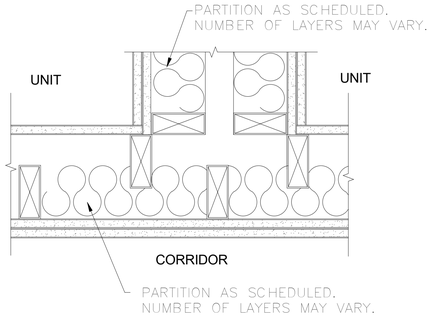
N,T,S



INTERSECTION OF DOUBLE STUD WALL AT EXTERIOR WALL

3 WALL FRAMING DETAIL

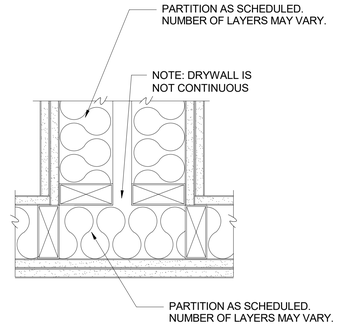
N.T.S



INTERSECTION OF DOUBLE STUD WALL AT STAGGERED STUD WALL

2 WALL FRAMING DETAIL

N,T,S



TYPICAL INTERSECTION

1 WALL FRAMING DETAIL

N,T,S

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Consultant

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SANTA CRUZ, CA 95060

Client/Owner/Operator

OPPIDAN INVESTMENT COMPANY
1100 LINCOLN AVENUE, SUITE 3382
SAN JOSE, CA 95125

THE FRESHWATER GROUP
ASN1 90%n

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Seal

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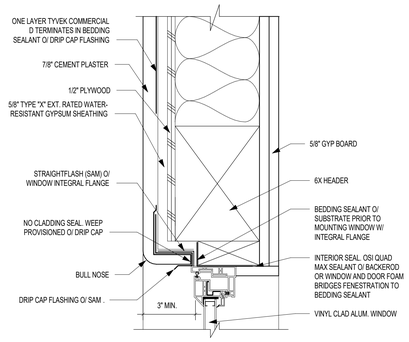
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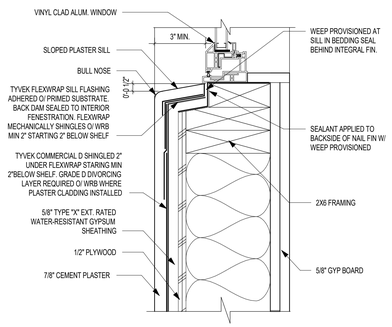
ACOUSTICAL DETAILS

A-910

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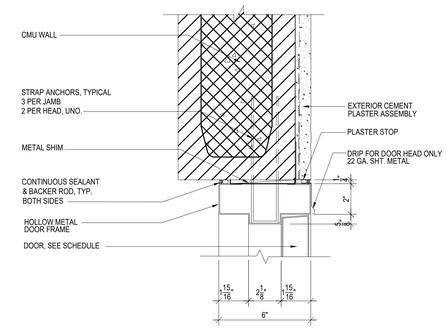
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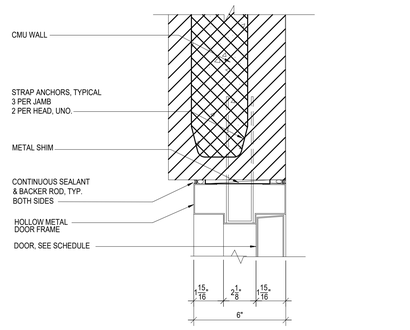
10 VINYL CLAD ALUM. WINDOW HEAD/SILL DETAILS

3" = 1'-0"



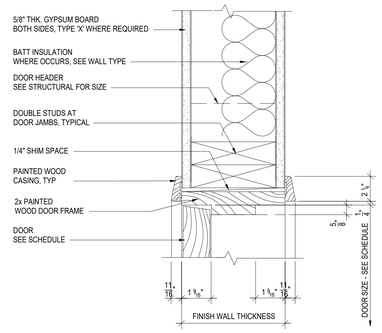
7 JAMB/HEAD DETAIL

SCALE : 3" = 1'-0"



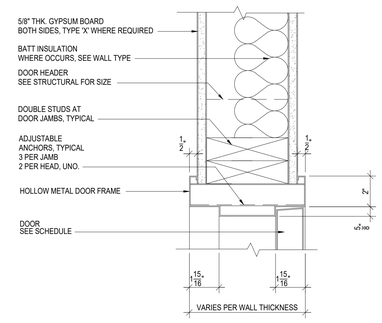
4 JAMB/HEAD DETAIL

SCALE : 3" = 1'-0"



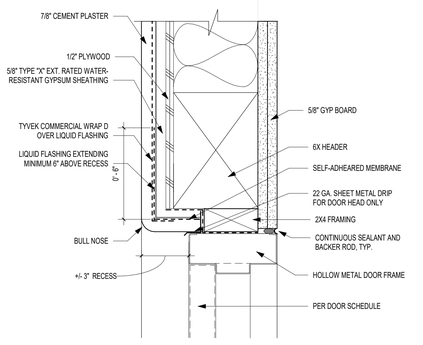
3 JAMB/HEAD DETAIL

SCALE : 3" = 1'-0"



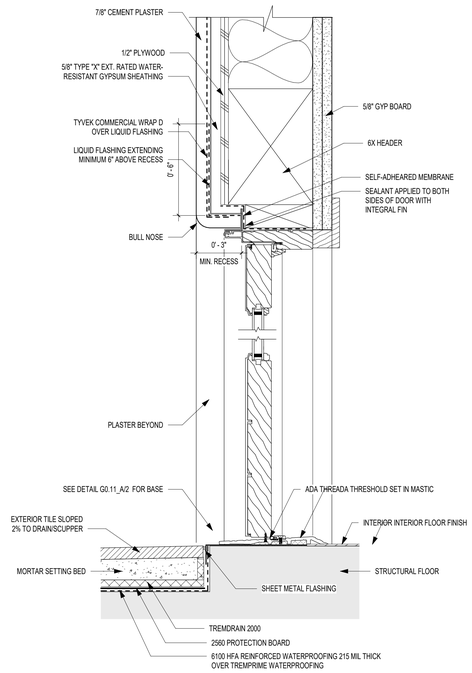
2 JAMB/HEAD DETAIL

SCALE : 3" = 1'-0"



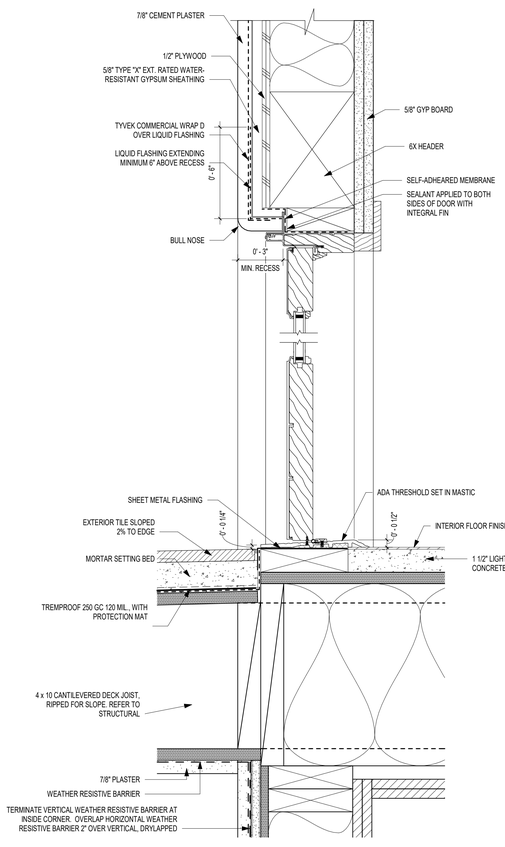
1 A - EXT. H.M. DOOR JAMB/HEAD DETAIL

3" = 1'-0"



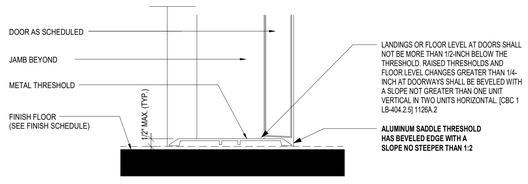
9 FRENCH DOOR HEAD/SILL DETAIL

3" = 1'-0"



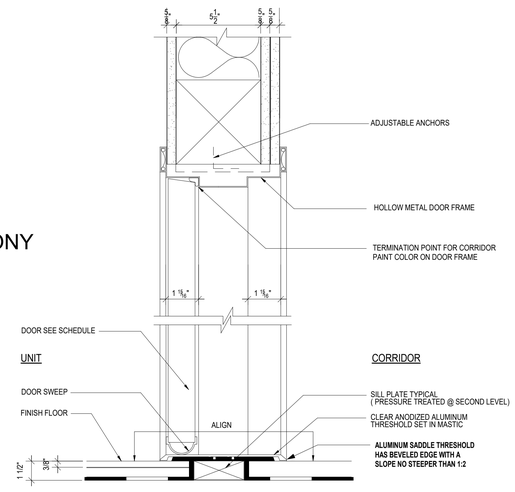
6 FRENCH DOOR HEAD/SILL DETAIL @ WD. BALCONY

3" = 1'-0"



8 THRESHOLD DETAIL

SCALE : 3" = 1'-0"



5 UNIT ENTRY DOOR HEAD/SILL DETAIL

SCALE : 3" = 1'-0"

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SAN JOSE, CA 95125

THE FRESHWATER GROUP
[illegible] ASILL ROAD

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NOT FOR CONSTRUCTION

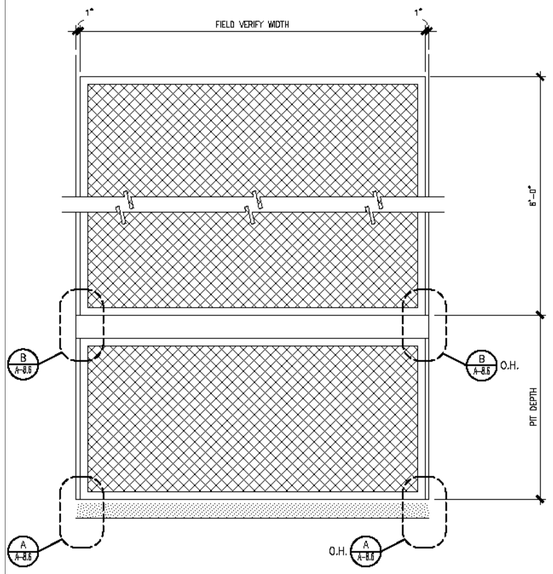
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DOOR & WINDOW DETAILS

A-920

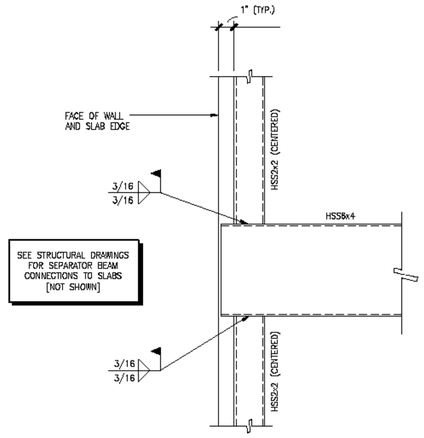
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SITE A IS IN ACCORDANCE WITH EXCEPTION 1 TO SECTION 1009.2.1, THEREFORE AN ACCESSIBLE MEANS OF EGRESS ELEVATOR IS NOT REQUIRED. IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2, THE ELEVATOR SHALL NOT BE REQUIRED ON FLOORS PROVIDED WITH A HORIZONTAL EXIT AND LOCATED AT OR ABOVE THE LEVELS. THIS EXCEPTION IS BEING APPLIED TO THE ABOVE-GRADE LEVELS OF THE PROJECT BUILDING TO NOT REQUIRE AN ACCESSIBLE MEANS OF EGRESS ELEVATOR ON STANDBY POWER. SINCE THE BELOW-GRADE GARAGE DOES NOT EXTEND MORE THAN FOUR LEVELS BELOW GRADE, IN ACCORDANCE WITH SECTION 1009.2.1, AN ACCESSIBLE MEANS OF EGRESS ELEVATOR ON STANDBY POWER IS NOT REQUIRED TO SERVE THE BELOW-GRADE PARKING LEVELS OF THIS PROJECT. SEE SHEETS G0.13A THRU A-G0.13D_A FOR COMPLIANCE

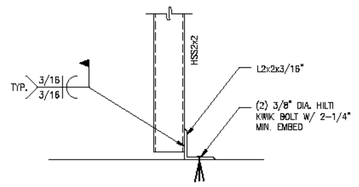


SCREENS TO BE 8 GAUGE CRIMPED WIRE - WOVEN INTO A 1 INCH BY 1 INCH SQUARE MESH AND WELDED TO HSS MEMBERS [MESH TO BE HOT-DIPPED GALVANIZED]

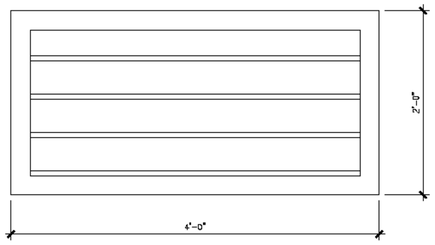
8 ELEVATOR SCREEN
SCALE: 3/4" = 1'-0"



9 ELEVATOR SCREEN INTERMEDIATE LEVEL
SCALE: 3" = 1'-0"



6 ELEVATOR SCREEN PIT LEVEL
SCALE: 3" = 1'-0"



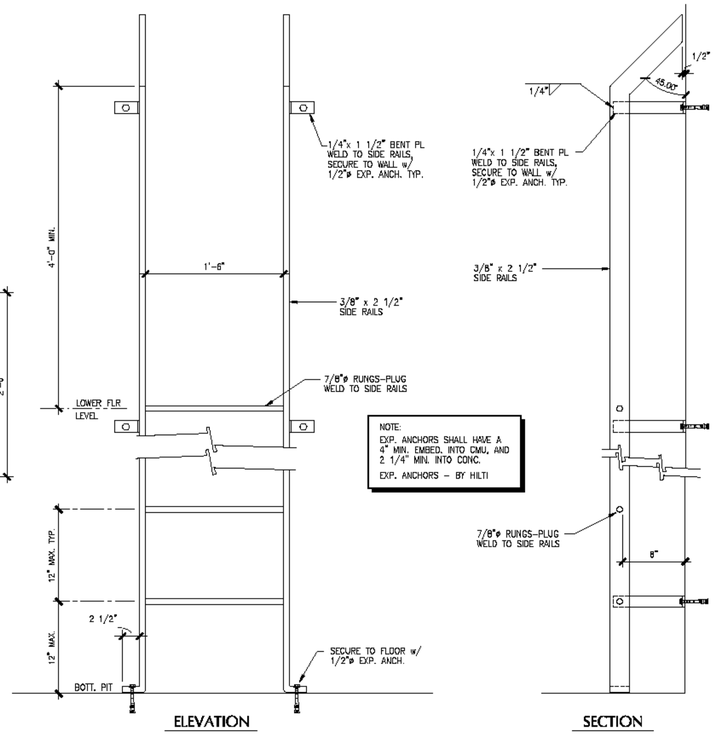
ELEVATION

SET BOTTOM OF FRAME AND SILL PIECE IN BED OF SEALANT TYP.

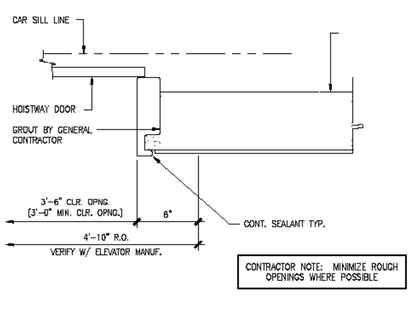
NOTE:
EXP. ANCHORS SHALL HAVE A 4" MIN. EMBED. INTO CMU WALL
EXP. ANCHORS - BY HILTI

PROVIDE HOISTWAY VENTING TO EQUAL 3 1/2" PERCENT OF THE AREA OF THE HOISTWAY, WITH A MINIMUM OF 3 SQ. FT. PER ELEVATOR PROVIDED. CBC SECTION 3004

ELEVATOR HOISTWAY VENT
SCALE: 1 1/2" = 1'-0"

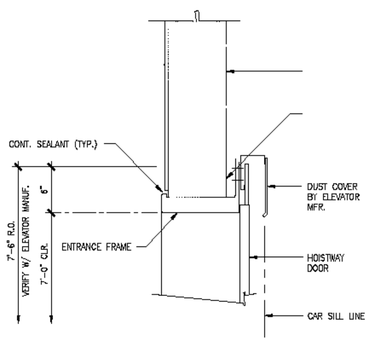


2 ELEVATOR PIT LADDER
SCALE: 1 1/2" = 1'-0"

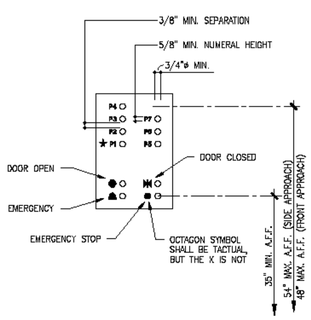


CONTRACTOR NOTE: MINIMIZE ROUGH OPENINGS WHERE POSSIBLE

7 ELEVATOR JAMB DETAIL
SCALE: 1 1/2" = 1'-0"



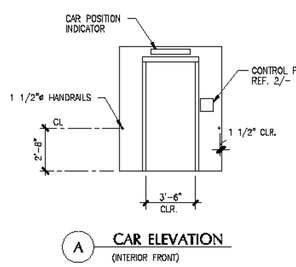
5 ELEVATOR HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



3 ELEVATOR CONTROL PANEL
SCALE: 1 1/2" = 1'-0"

EXCEPT AT THE MAIN ENTRANCE LEVEL, AN APPROVED PICTORIAL SIGN OF A STANDARDIZED DESIGN SHALL BE POSTED ADJACENT TO EACH ELEVATOR CALL STATION TO INDICATE THAT, "IN CASE OF FIRE, ELEVATOR WILL NOT OPERATE AND THAT EXIT STAIRWAYS SHOULD BE USED".

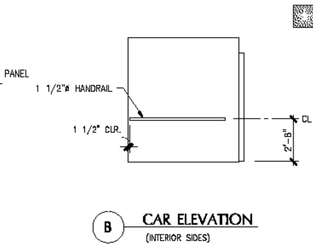
EMERGENCY TELEPHONE SHALL BE LOCATED A MAXIMUM OF 48 INCHES FROM THE FLOOR WITH A MINIMUM CORD LENGTH OF 29 INCHES. MARKINGS OR THE INTERNATIONAL SYMBOL FOR TELEPHONES SHALL BE ADJACENT TO THE CONTROL ON A CONTRASTING COLOR BACKGROUND. LETTERS OR NUMBERS SHALL BE A MINIMUM OF 5/8 INCH HIGH AND RAISED OR RECESSED 0.030 INCH. PER ICC/ANSI A117.1



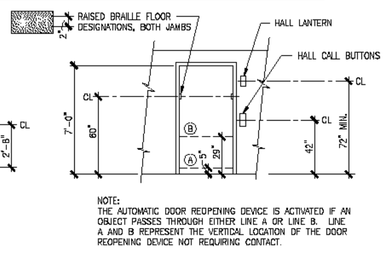
A CAR ELEVATION
(INTERIOR FRONT)

AT EACH ELEVATOR DESIGNATED FOR MEDICAL EMERGENCIES PROVIDE IDENTIFICATION AS FOLLOWS:

1. THE IDENTIFICATION SHALL BE THE INTERNATIONAL SYMBOL (STAR OF LIFE) FOR EMERGENCY MEDICAL SERVICES.
2. THE SYMBOL SHALL BE MINIMUM 3 INCHES IN SIZE.
3. THE SYMBOLS (TWO EACH SHALL BE PERMANENTLY ATTACHED TO THE HOISTWAY DOOR FRAME ON THAT PORTION AT RIGHT ANGLES TO THE HALLWAY OR LANDING AREA AT A DISTANCE NOT LESS THAN 5 FEET SIX INCHES AND NOT MORE THAN 7 FEET 0 INCHES ABOVE THE FLOOR LEVEL AT THE THRESHOLD.
4. ELEVATORS SHALL ACCOMMODATE AN "AMBULANCE" TYPE STRETCHER 24" X 84" IN THE HORIZONTAL POSITION.



B CAR ELEVATION
(INTERIOR SIDES)



NOTE:
THE AUTOMATIC DOOR REOPENING DEVICE IS ACTIVATED IF AN OBJECT PASSES THROUGH EITHER LINE A OR LINE B. LINE A AND B REPRESENT THE VERTICAL LOCATION OF THE DOOR REOPENING DEVICE NOT REQUIRING CONTACT.

C TYP. ENTRANCE ELEVATION
(EXTERIOR)

1 ELEVATOR CAB DETAILS
SCALE: 1/4" = 1'-0"

CallisonRTKL

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Tel: 213.633.6000

CallisonRTKL Project No: 040-190064

Consultant

THE WATERMARK AT SANTA CRUZ

126 EUCALYPTUS AVENUE
SANTA CRUZ, CA 95060

Client/Owner/Operator

OPPIDAN INVESTMENT COMPANY
1100 LINCOLN AVENUE, SUITE 3382
SAN JOSE, CA 95125

THE FRESHWATER GROUP

Issue Drawing Log

REV #	DATE (MM.DD.YY)	ISSUE NAME
	8/7/20	LAND USE APPLICATION SUBMITTAL
	8/21/20	SCHEMATIC DESIGN SUBMITTAL
	8/6/21	LAND USE APPLICATION RESUBMITTAL
	10/15/21	LAND USE APPLICATION RESUBMITTAL

Seal

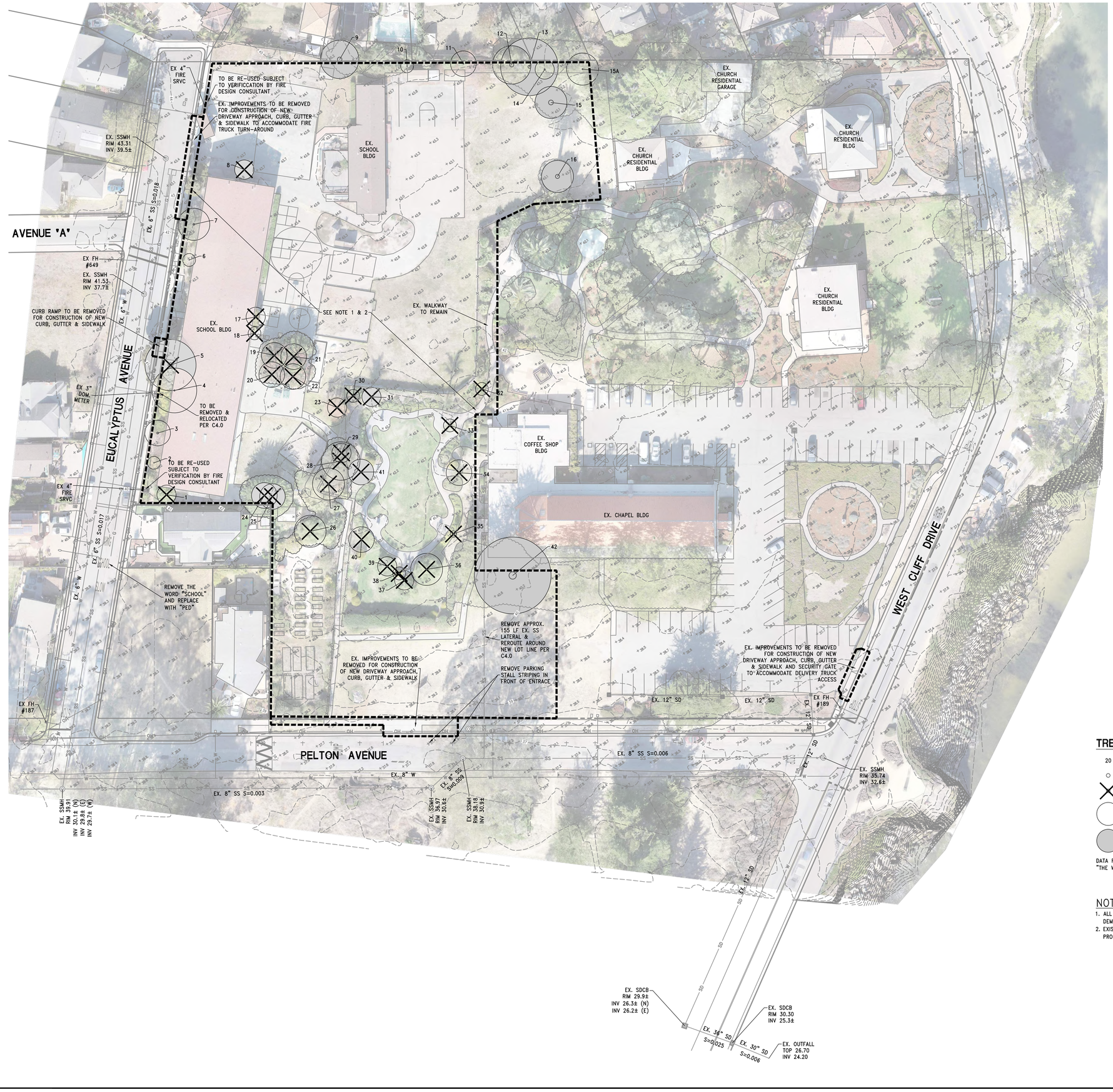
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Sheet Identification

ELEVATOR DETAILS

A-930

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TREE LEGEND

20	TREE IDENTIFICATION NUMBER
○	TREE TO REMAIN
X	TREE TO BE REMOVED
◯	ESTIMATED TREE SPREAD
◯	HERITAGE TREE

DATA PER ARBORIST REPORT PREPARED BY NIGEL BELTON, PROJECT "THE WATERMARK AT SANTA CRUZ," DATED 7/24/20.

NOTES:

1. ALL EXISTING IMPROVEMENTS WITHIN THE LIMITS SHOWN ARE TO BE DEMOLISHED AND REMOVED, UNLESS OTHERWISE NOTED.
2. EXISTING UTILITIES TO BE CUT BEHIND THE SIDEWALK OR AT THE PROPERTY LINE, CAPPED, AND ABANDONED PER AGENCY STANDARDS.

30' 0 15' 30' 60'
GRAPHIC SCALE: 1 INCH = 30 FEET

NOT FOR CONSTRUCTION

BY	REVISION	DATE
STAFF	PER CITY COMMENTS	5/21/21

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CIVIL ENGINEERING ▪ LAND PLANNING ▪ STRUCTURAL DESIGN

PRELIMINARY

EXISTING SITE CONDITIONS & DEMOLITION PLAN
WATERMARK SANTA CRUZ SENIOR HOUSING

100 PELTON AVENUE, SANTA CRUZ, CALIFORNIA

APN 004-571-02
DEVELOPMENT APPLICATION

DRAWN	DESIGN	DATE
STAFF	STAFF	08/11/21

SHEET C1.0

JOB NO. 19039

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STAFF	DESCRIPTION/REVISION	DATE
BY	PERMIT APPLICATION RESUBMITTED	11/9/2021

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www.ifandengineers.com

PRELIMINARY

SITE PLAN
WATERMARK SANTA CRUZ SENIOR HOUSING

100 PELTON AVENUE, SANTA CRUZ, CALIFORNIA

APN 004-571-02
DEVELOPMENT APPLICATION

DRAWN	DESIGN	DATE
STAFF	STAFF	08/11/21

SHEET
C1.1

JOB NO. 19039

RAISED PLANTING BEDS PER LANDSCAPE PLANS (TYP.)

MEMORY CARE GARDEN PER LANDSCAPE PLANS

PET RELIEF AREA PER LANDSCAPE PLANS

FIRE TRUCK TURN-AROUND 162.6'

BUILDING SETBACK LINES

SEE LANDSCAPE PLANS FOR PAVING MATERIALS NOT SPECIFIED HEREON

EXISTING BUILDING

EXISTING PARKING

OBLATES OF ST. JOSEPH

EUCALYPTUS AVENUE

PELTON AVENUE

WEST CLIFF DRIVE

BOLLARD (TYP.)
TRANSFORMER

CONC. VALLEY GUTTER (TYP.)

FLUSH CURB (TYP.)

6" VERTICAL CURB (TYP.)

SLOTTED CURB & GUTTER PER DTL 4, C2.0 (TYP.)

26.00' WIDE ACCESS EASEMENT FOR SERVICE & DELIVERY VEHICLES

(4) @ 7.5' = 119.7'
(8) @ 8.5' = 68.0'
(7) @ 8.5' = 59.5'
(6) @ 8.5' = 51.0'
(5) @ 8.5' = 42.5'
(3) @ 8.5' = 25.5'

RG 579 SF
RG 348 SF
RG 285 SF
RG 312 SF
RG 761 SF
RG 124 SF
RG 1341 SF

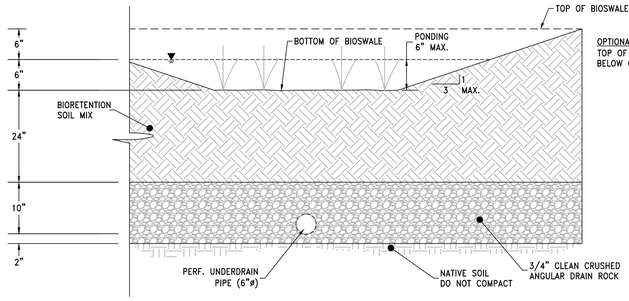
LEGEND

- PROPOSED AC PAVING
- PROPOSED CONCRETE PAVING
- RG — RAINGARDEN
- PROPOSED RETAINING WALL
- GRADED SWALE
- (A) EMERGENCY VEHICLE STAGING
- (B) ACCESS FROM CHURCH PARKING LOT TO NEW PROJECT FOR EMERGENCY & SERVICE VEHICLES
- (C) RELOCATE MEDITATION GARDEN

GRAPHIC SCALE: 1 INCH = 20 FEET

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OPTIONAL MOUNDING PARAMETERS:
TOP OF MOUNDS AT LEAST 2"
BELOW CREST OF OVERFLOW RISER

BIORETENTION AREA - TYPICAL SECTION
NTS

NOTES
1. SURFACE OF THE PLANTING BED SHALL BE RELATIVELY LEVEL BUT MAY HAVE A SLIGHT SLOPE TO DISTRIBUTE WATER THROUGHOUT SURFACE AREA.

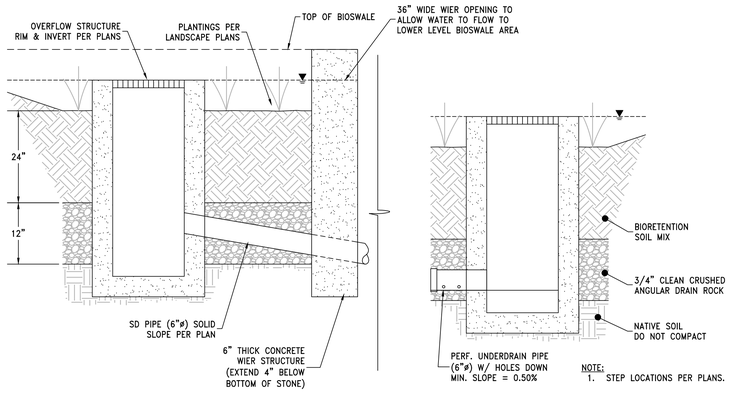
UNDER DRAIN AND OVERFLOW
1. INSTALL WATERPROOFING AS NECESSARY TO PROTECT ADJACENT BUILDING WALLS.
2. UNDER DRAIN SHALL CONSIST OF A 6 INCH DIAMETER PERFORATED PIPE WITH CLEANOUTS AND CONNECTION TO A STORM DRAIN OR DISCHARGE POINT.
3. THE UNDER DRAIN TRENCH SHALL INCLUDE A 12 INCH THICK LAYER OF 3/4" ANGULAR DRAIN ROCK. PLACE UNDER DRAIN WITH PERFORATIONS FACING DOWNWARD, AT A MINIMUM 0.5% SLOPE.
4. TO AVOID CLOGGING, FILTER FABRIC SHALL NOT BE USED IN OR AROUND THE THE UNDER DRAIN OR BETWEEN THE BIOTREATMENT SOIL MIX AND THE DRAIN ROCK. IF DESIRED, A 2 INCH PEA GRAVEL LAYER MAY BE USED BETWEEN THE BIOTREATMENT SOIL MIX AND THE DRAIN ROCK.

SOIL REQUIREMENTS
1. PLANTING SOILS SHALL MEET THE BIOTREATMENT SOIL MIX SPECIFICATIONS APPROPRIATE FOR THE JURISDICTION. A MINIMUM INFILTRATION RATE OF 5 IN/HR AND A MAXIMUM INFILTRATION RATE OF 10 IN/HR ARE REQUIRED.

VEGETATION
1. PLANT SPECIES SELECTED SHALL BE SUITABLE FOR BIORETENTION AREA LOCATION, BIOTREATMENT SOILS AND OCCASIONAL INUNDATION.
2. VEGETATION SHOULD NOT BLOCK INFLOW, CREATE SAFETY ISSUES OR OBSTRUCT FACILITIES.
3. PLANTING SELECTIONS ARE SUBJECT TO THE LANDSCAPING REQUIREMENTS OF THE LOCAL JURISDICTION AND SHALL BE SELECTED BY A LICENSED LANDSCAPE ARCHITECT OR ARCHITECT.

CONSTRUCTION REQUIREMENTS
1. BIORETENTION AREAS ARE NOT INTENDED TO WORK AS CONSTRUCTION PHASE BMP'S AND SHOULD NOT BE INSTALLED UNTIL SUBSTANTIAL COMPLETION OF THE PROJECT. PROTECT THE AREA FROM CONSTRUCTION SITE RUNOFF; DIVERT RUNOFF FROM UNSTABILIZED AREAS AWAY FROM COMPLETED BIORETENTION AREAS.

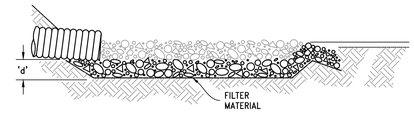
MAINTENANCE
1. CONDUCT BIANNUAL EVALUATION OF THE HEALTH OF THE VEGETATION AND REMOVE AND REPLACE DEAD OR DYING PLANTS.
2. MAINTAIN VEGETATION AND THE IRRIGATION SYSTEM.
3. AVOID THE USE OF PESTICIDES AND QUICK RELEASE SYNTHETIC FERTILIZERS.
4. BEFORE THE WET SEASON BEGINS, VERIFY THAT THERE IS SUFFICIENT BIOTREATMENT SOIL MEDIA TO EFFECTIVELY FILTER STORMWATER. REMOVE ACCUMULATIONS OF SEDIMENT, LITTER AND DEBRIS AS NECESSARY.
5. PERIODICALLY CHECK DOWNSPOUTS, INLETS AND OVERFLOW PIPING. REMOVE DEBRIS AND REPAIR/REPLACE DAMAGED OR DISCONNECTED PIPES.



NOTE:
1. STEP LOCATIONS PER PLANS.

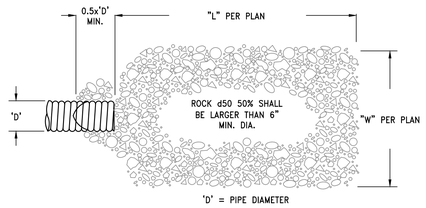
BIORETENTION AREA - SECTION VIEW @ STEP
NTS

2



THICKNESS ('d') = 1.5 x MAX. ROCK DIAMETER – 6" MIN.

SECTION



'D' = PIPE DIAMETER

PLAN

NOTES:
1. 'La' = LENGTH OF APRON. DISTANCE 'La' SHALL BE OF SUFFICIENT LENGTH TO DISSIPATE ENERGY.

2. APRON SHALL BE SET AT A ZERO GRADE AND ALIGNED STRAIGHT.

3. FILTER MATERIAL SHALL BE FILTER FABRIC OR 6" THICK MINIMUM GRADED GRAVEL LAYER.

CONSTRUCTION SPECIFICATIONS:
1. ENSURE THAT THE SUBGRADE FOR THE FILTER AND RIPRAP FOLLOWS THE REQUIRED LINES AND GRADES SHOWN IN THE PLAN. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO THE DENSITY OF THE SURROUNDING UNDISTURBED MATERIAL. LOW AREAS IN THE SUBGRADE ON UNDISTURBED SOIL MAY ALSO BE FILLED BY INCREASING THE RIPRAP THICKNESS.

2. THE RIPRAP AND GRAVEL FILTER MUST CONFORM TO THE SPECIFIED GRADING LIMITS SHOWN ON THE PLANS.

3. NFILTER CLOTH, WHEN USED, MUST MEET DESIGN REQUIREMENTS AND BE PROPERLY PROTECTED FROM PUNCHING OR TEARING DURING INSTALLATION. REPAIR ANY DAMAGED FABRIC BY REMOVING THE RIPRAP AND PLACING ANOTHER PIECE OF FILTER CLOTH OVER THE DAMAGED AREA. ALL CONNECTING JOINTS SHOULD OVERLAP A MINIMUM OF 1 FOOT. IF THE DAMAGE IS EXTENSIVE, REPLACE THE ENTIRE FILTER CLOTH. REFER TO APPENDIX –GEOTEXTILES/GEOSYNTHETICS

4. RIPRAP MAY BE PLACED BY EQUIPMENT, BUT TAKE CARE TO AVOID DAMAGING THE FILTER.

5. THE MINIMUM THICKNESS OF THE RIPRAP SHOULD BE 1.5 TIMES THE MAXIMUM STONE DIAMETER.

6. RIPRAP MAY BE FIELD STONE OR ROUGH QUARRY STONE. IT SHOULD BE HARD, ANGULAR, HIGHLY WEATHER–RESISTANT AND WELL GRADED.

7. CONSTRUCT THE APRON ON ZERO GRADE WITH NO OVERFALL AT THE END. MAKE THE TOP OF THE RIPRAP AT THE DOWNSTREAM END LEVEL WITH THE RECEIVING AREA OR SLIGHTLY BELOW IT.

8. ENSURE THAT THE APRON IS PROPERLY ALIGNED WITH THE RECEIVING STREAM AND PREFERABLY STRAIGHT THROUGHOUT ITS LENGTH. IF A CURVE IS NEEDED TO FIT SITE CONDITIONS, PLACE IT IN THE UPPER SECTION OF THE APRON.

9. IMMEDIATELY AFTER CONSTRUCTION, STABILIZE ALL DISTURBED AREAS WITH VEGETATION.

INSPECTION AND MAINTENANCE:
1. INSPECT RIPRAP OUTLET STRUCTURES AFTER HEAVY RAINS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

ENERGY DISSIPATOR
NTS

1

NOT FOR CONSTRUCTION

BY	STAFF	REVISION	PER CITY COMMENTS	DATE	6/21/21

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6300 SOQUEL AVE, SUITE 101
SANTA CRUZ, CA 95062
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www.iflandengineers.com

PRELIMINARY

CONSTRUCTION DETAILS

WATERMARK SANTA CRUZ SENIOR HOUSING

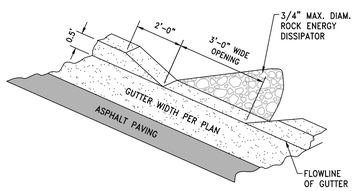
100 PELTON AVENUE, SANTA CRUZ, CALIFORNIA

APN 004-571-02
DEVELOPMENT APPLICATION

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STAFF	STAFF	08/11/21

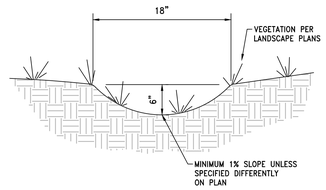
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JOB NO. 19039



SLOTTED CURB & GUTTER
NTS

3



SWALE - GRADED
NTS

4

5

6

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SANTA CRUZ, CA 95062
TEL (831) 426-5313
FAX (831) 426-1763
www.ifandengineers.com

3" THRU-CURB DRAINS

12x12 SDCB
RIM 44.7
INV 44.2

FF 44.31

EUCALYPTUS AVENUE

STUB OUT FOR CONNECTION OF TURF UNDER DRAIN INV 42.70

STUB OUT FOR CONNECTION OF TURF UNDER DRAIN INV 42.54

SEE SHEET C3.1

ESTIMATED EARTHWORK QUANTITIES

1,200	CUBIC YARDS CUT
2,700	CUBIC YARDS FILL
1,500	CUBIC YARDS FILL

NOTES:
1. ESTIMATE DOES NOT INCLUDE BUILDING OR RETAINING WALL FOUNDATIONS, UTILITY TRENCH VOLUMES OR ANY OVEREXCAVATION, IF REQUIRED BY SITE CONDITIONS.
2. ESTIMATE ASSUMES A 15% COMPACTION FACTOR ON ALL FILL MATERIAL AND A 0% EXPANSION FACTOR ON ALL CUT MATERIAL.
3. PRIOR TO COMMENCEMENT OF WORK CONTRACTOR SHALL CONFIRM THAT ESTIMATES ARE CORRECT.

NOTES:
1. THE BOUNDARY AND TOPOGRAPHIC SURVEY FOR THIS SITE PROVIDED BY IFLAND SURVEY, AND IS BASED UPON A UAV (DRONE) TOPOGRAPHIC SURVEY, PROJECT G19048, DATED 11/11/19, AND SUBSEQUENT FIELD SURVEY, DATED 06/29/20. THE BOUNDARY DATA SHOWN HEREON IS FROM RECORD DATA.
2. ALL GRADING AND COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT PROVIDED BY DEES & ASSOCIATES, INC, PROJECT NO. SCR-1496, DATED AUGUST 2020.
3. REFER TO SHEET C4.0 FOR PROPOSED UTILITY INFORMATION NOT OTHERWISE SHOWN HEREON.
4. ALL PROPOSED STORM DRAIN LINES SHALL BE 6" UNLESS SPECIFIED OTHERWISE.
5. REFET TO SHEET C6.0 FOR OFF-SITE STREET IMPROVEMENTS.

10' 0 5' 10' 20'
GRAPHIC SCALE: 1 INCH = 10 FEET

CALL BEFORE YOU DIG
USA 811

PRELIMINARY

GRADING AND DRAINAGE PLAN - (NORTH WING)

WATERMARK SANTA CRUZ SENIOR HOUSING

100 PELTON AVENUE, SANTA CRUZ, CALIFORNIA

APN 004-571-02
DEVELOPMENT APPLICATION

DRAWN	DESIGN	DATE
STAFF	STAFF	08/11/21

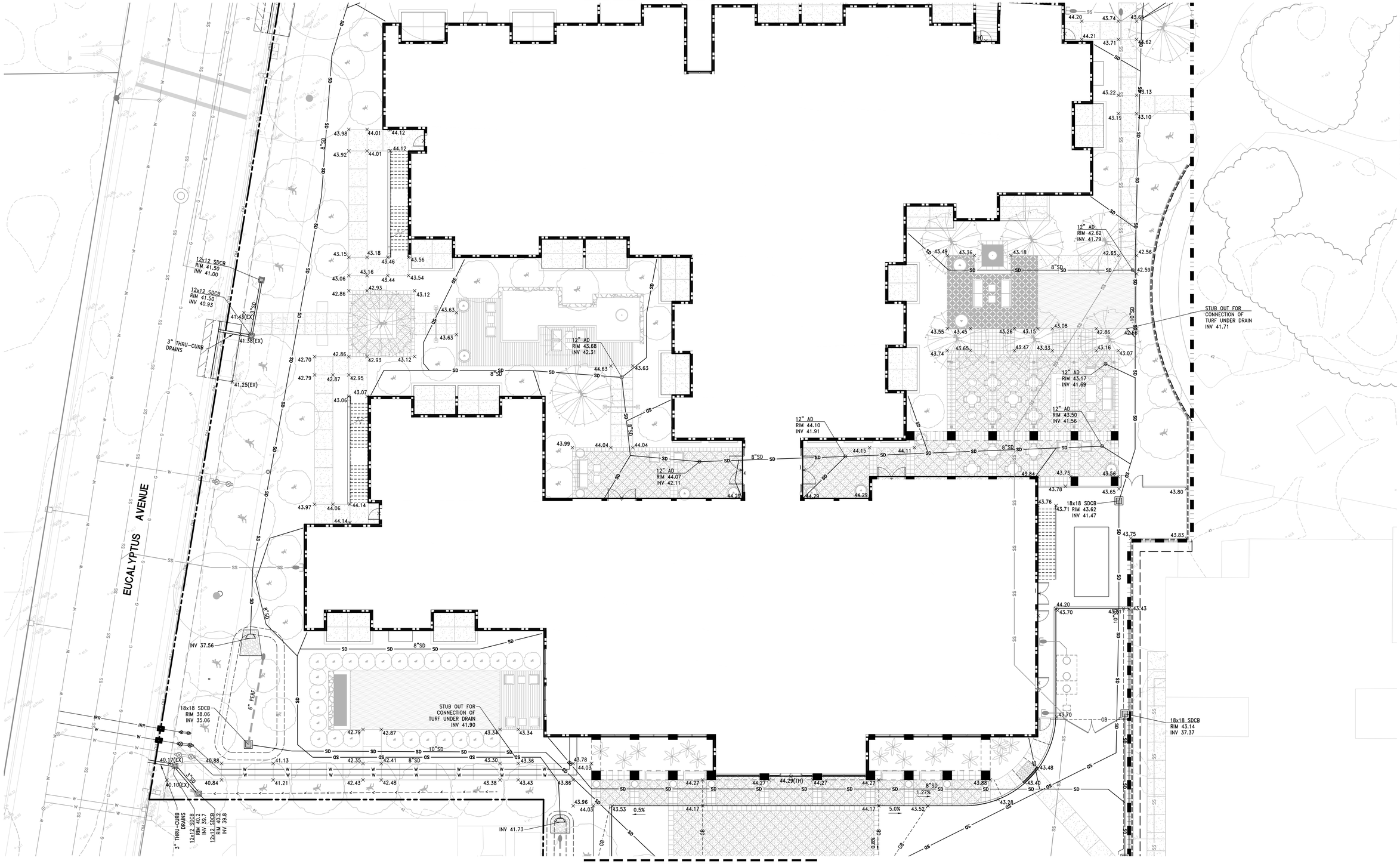
SHEET C3.0

JOB NO. 19039

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SEE SHEET C3.0



SEE SHEET C3.2

NOTES:
1. SEE NOTES ON SHEET C3.0.
2. SEE ESTIMATED EARTHWORK QUANTITIES ON SHEET C3.0.

GRAPHIC SCALE: 1 INCH = 10 FEET

NOT FOR CONSTRUCTION

BY	REVISION	DATE
STAFF	PER CITY COMMENTS	5/21/21

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8300 SOQUEL AVE, SUITE 101
SANTA CRUZ, CA 95062
TEL (831) 426-5313
FAX (831) 426-1763
www.iflandengineers.com

PRELIMINARY

GRADING AND DRAINAGE PLAN - (SOUTH WING)

WATERMARK SANTA CRUZ SENIOR HOUSING

100 PELTON AVENUE, SANTA CRUZ, CALIFORNIA

APN 004-571-02
DEVELOPMENT APPLICATION

DRAWN	DESIGN	DATE
STAFF	STAFF	08/11/21

SHEET C3.1

JOB NO. 19039

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SEE SHEET C3.1

EX BLDG

PROPOSED WALKWAY PER LANDSCAPE PLANS

PELTON AVENUE

SEE SHEET C6.0

NOT FOR CONSTRUCTION

PRELIMINARY

GRADING AND DRAINAGE PLAN - (PARKING)

WATERMARK SANTA CRUZ SENIOR HOUSING

100 PELTON AVENUE, SANTA CRUZ, CALIFORNIA

APN 004-571-02

DEVELOPMENT APPLICATION

STAFF	DATE
BY	5/21/21
	PER CITY COMMENTS
	REVISION

DESIGN: STAFF
DRAWN: STAFF
DATE: 08/11/21

SHEET C3.2

JOB NO. 19039

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TEL (831) 426-5313
FAX (831) 426-1763
www.ifandengineers.com

NOTES:

1. SEE NOTES ON SHEET C3.0.
2. SEE ESTIMATED EARTHWORK QUANTITIES ON SHEET C3.0.
3. STORM DRAIN LINES THAT TERMINATE INTO BIOSWALE AREAS SHALL BE EQUIPPED WITH ENERGY DISSIPATERS PER DETAIL 1, C2.0

GRAPHIC SCALE: 1 INCH = 10 FEET

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STAFF	REVISION	BY
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WATERMARK SANTA CRUZ SENIOR HOUSING

100 PELTON AVENUE, SANTA CRUZ, CALIFORNIA

UTILITY PLAN

APN 004-571-02

DEVELOPMENT APPLICATION

DRAWN	DESIGN	DATE
STAFF	STAFF	08/11/21

SHEET C4.0

JOB NO. 19039

PRELIMINARY

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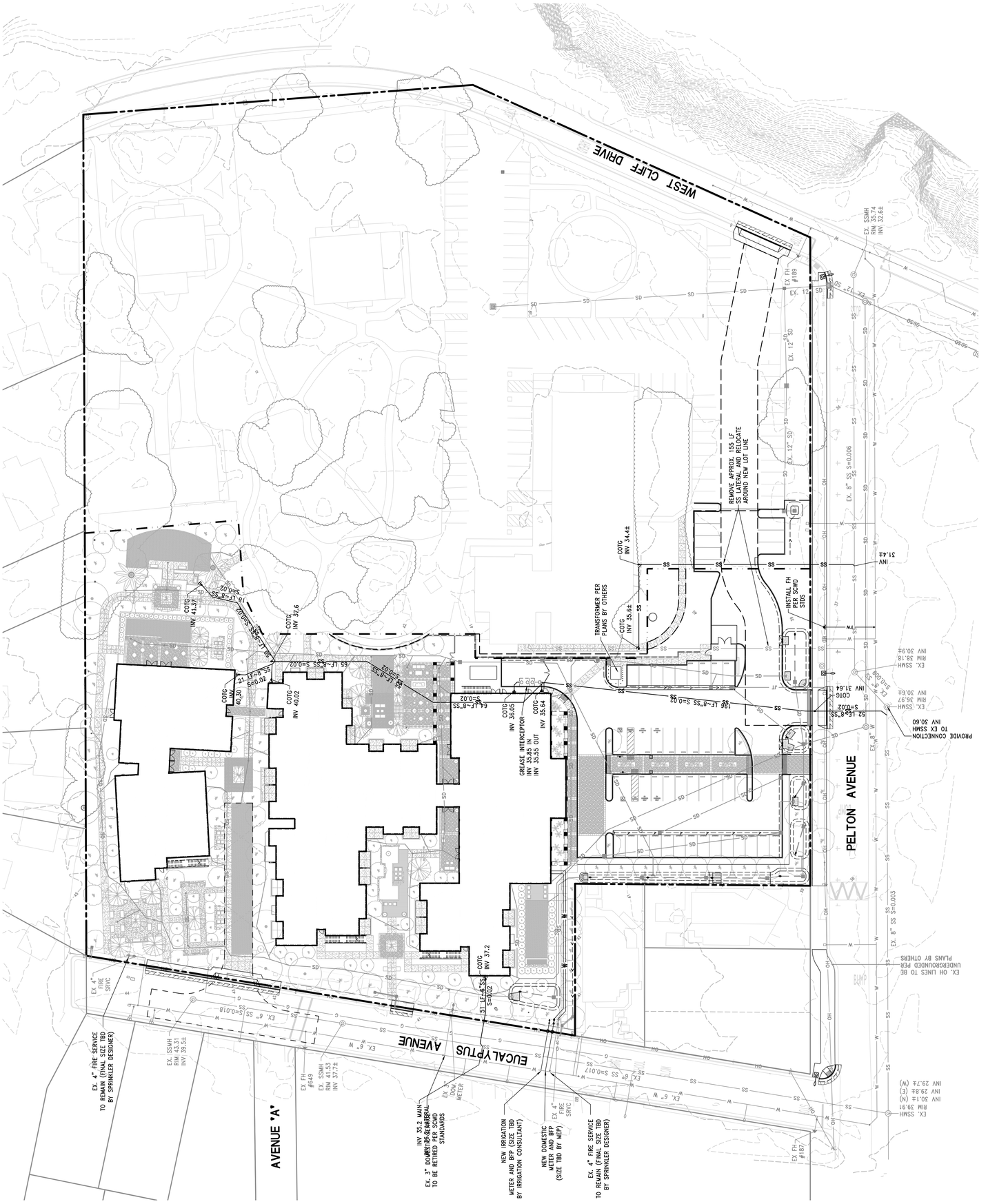
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HYD #	STATIC	RESIDUAL	FLOW	FLOW@20
187	110 PSI	65 PSI	750 GPM	1090 GPM
189	102 PSI	75 PSI	1300 GPM	2281 GPM
649	102 PSI	38 PSI	805 GPM	920 GPM

FIRE HYRANT - FLOW DATA

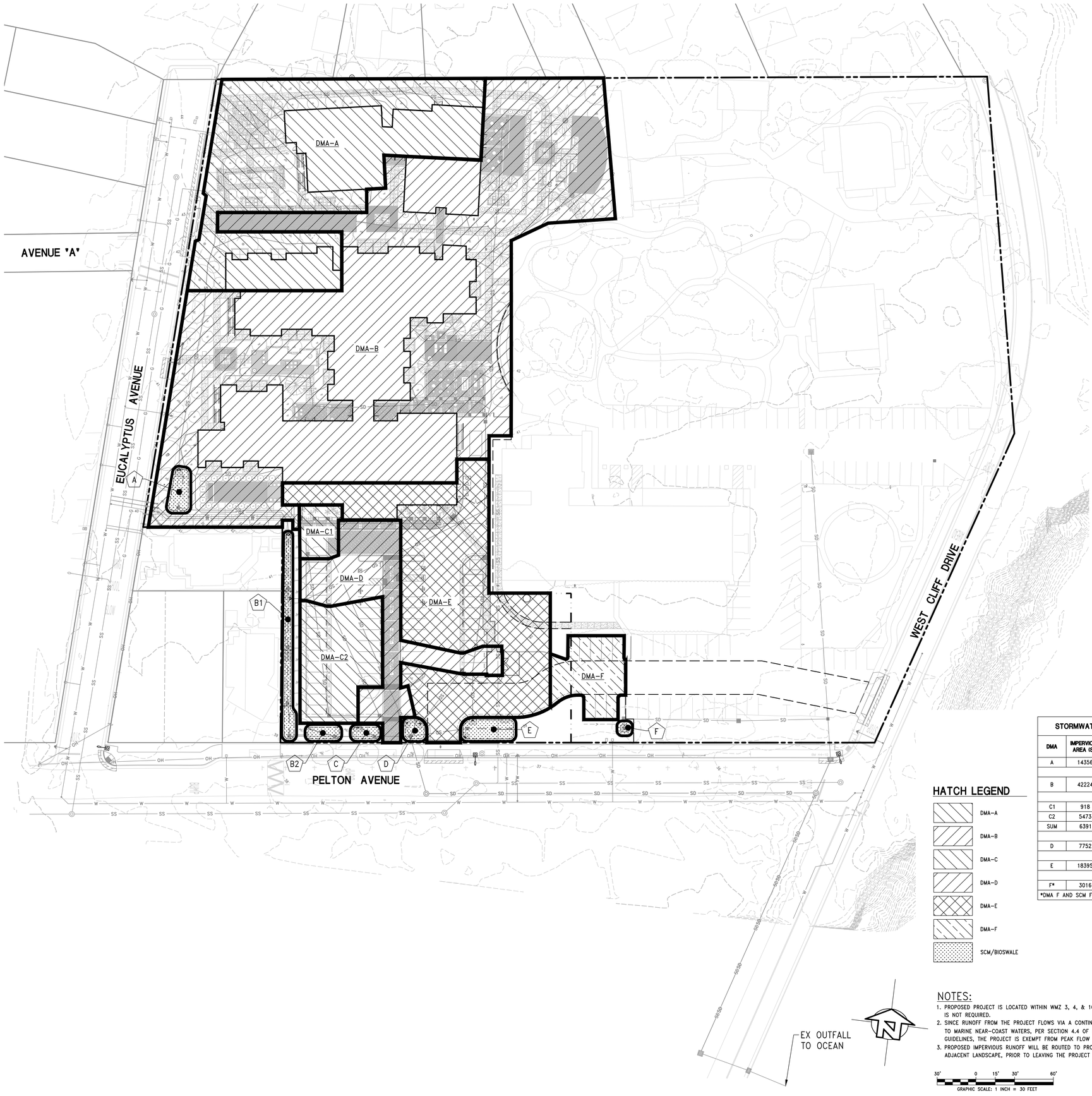
NOTES:
1. JOINT TRENCH LINES SHOWN HEREON ARE FOR REFERENCE ONLY. REFER TO PLANS BY OTHERS FOR FULL DESIGN.

GRAPHIC SCALE: 1 INCH = 30 FEET



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HATCH LEGEND

- DMA-A
- DMA-B
- DMA-C
- DMA-D
- DMA-E
- DMA-F
- SCM/BIOSWALE

STORMWATER MITIGATION SUMMARY

DMA	IMPERVIOUS AREA (SF)	MIN 4% TREATMENT AREA (SF)	SCM (PROVIDED AREA SF)
A	14356	575	SCM A: 579
B	42224	1689	SCMs B1+B2: 1689
C1	918		
C2	5473		
SUM	6391	256	SCM C: 285
D	7752	311	SCM D: 312
E	18395	736	SCM E: 761
F*	3016	121	SCM F: 124

*DMA F AND SCM F SHALL BE MAINTAINED BY WATERMARK

NOTES:

1. PROPOSED PROJECT IS LOCATED WITHIN WMZ 3, 4, & 10, THEREFORE ONS-SITE RETENTION IS NOT REQUIRED.
2. SINCE RUNOFF FROM THE PROJECT FLOWS VIA A CONTINUOUS PIPE SYSTEM FOR DISCHARGE TO MARINE NEAR-COAST WATERS, PER SECTION 4.4 OF THE CITY'S STORMWATER BMP GUIDELINES, THE PROJECT IS EXEMPT FROM PEAK FLOW MANAGEMENT REQUIREMENTS.
3. PROPOSED IMPERVIOUS RUNOFF WILL BE ROUTED TO PROPOSED BIO-SWALE (SCM) AREAS, OR ADJACENT LANDSCAPE, PRIOR TO LEAVING THE PROJECT SITE.

30' 0 15' 30' 60'
GRAPHIC SCALE: 1 INCH = 30 FEET

APPENDIX A
STORM WATER AND LOW-IMPACT DEVELOPMENT BMP REQUIREMENT WORKSHEET

How to Use This Worksheet

The City's Storm Water BMP requirements are based on project type, proposed impervious area, and location within the watershed. This worksheet was developed to help permit applicants determine and meet storm water BMP requirements applicable to a proposed development or redevelopment

1 - Download this fillable form online at **www.cityofsantacruz.com/LID**.
2 - Fill out the Worksheet to determine what stormwater BMP requirements apply to a proposed project.
3 - Attach Worksheet and additional documentation required as listed in the City Storm Water Best Management Practices for Private and Public Development Projects to plans for review by the Department of Public Works.
4 - Please contact the Public Works Environmental Project Analyst at 420-5160 if you have any questions on completing the worksheet.

Project Address: 100 PELTON AVENUE **Bldg Permit #:**

A - Project Type

Check project type that applies:

☐ Single Family Home ☑ Multi-family, Commercial, Industrial, Public facilities

Check development type that applies:

☑ New Development ☐ Redevelopment / Remodel

B - Proposed Development Area and Impervious Area:

Pre-project impervious surface area:	51135	sq ft
Post-project impervious surface area:	89118	sq ft
Amount of impervious surface area that will be **replaced**:	51135	sq ft
Amount of new impervious surface area that will be **created**:	37983	sq ft
Reduced Impervious Area Credit:	0	sq ft
New and Replaced Impervious Area =	**89118**	**sq ft**
Net Impervious Area =	**89118**	**sq ft**

(Net Impervious Area = Impervious Area created + Impervious Area replaced - Reduced Impervious Area Credit)

C - Post-Construction BMP Tier requirement:

Check Project Type and Impervious Area (from calculations above) that applies.
BMP requirements are cumulative (e.g. a project subject to BMP Tier 3 is also subject to Tiers 1 and 2), permit review fees are not cumulative.
Projects requiring a Stormwater Control Plan will need to involve a civil engineer.

SINGLE FAMILY HOMES	BMP TIER	Permit Review Fee	Stormwater Control Plan required?
☐ Single-family Home with Net Impervious Area < **15,000 sf**. **please consult Chapter 6A, BMPs for Single-Family Homes on Small Lots**	N/A	$0	No
☐ Net Impervious Area ≥ **15,000 sf**; New and replaced impervious area < **22,500 sf**	3	$330	Yes
☐ New and replaced impervious area ≥ **22,500 sf**	4	$550	Yes

MULTI-FAMILY, COMMERCIAL, INDUSTRIAL, PUBLIC FACILITIES	BMP TIER	Permit Review Fee	Stormwater Control Plan Required?
☐ New and Replaced Impervious Area ≥ **2,500 sf**; Net Impervious Area < **5,000 sf**	1	$0	No
☐ Net Impervious Area ≥ **5,000 sf**; New and Replaced Impervious Area < **15,000 sf**	2	$330	Yes
☐ New and Replaced Impervious Area ≥ **15,000 sf** but < **22,500 sf**	3	$550	Yes
☑ New and replaced impervious area ≥ **22,500 sf**	4	$550	Yes

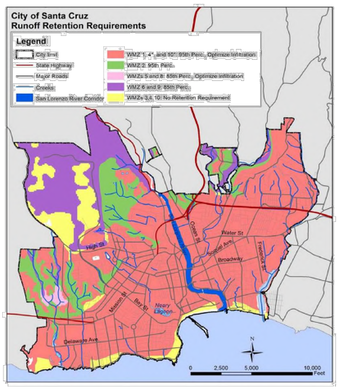
- 1 -

If the proposed project is only subject to BMP Tiers 1 or 2, skip to Step F.

D - Watershed Management Zones - For projects subject to Tiers 3 Post-Construction BMP requirements only.
Watershed Management Zones are viewable online on the City of Santa Cruz GIS website at: http://gis.cityofsantacruz.com/gis/index.html

Watershed Management Zones and associated Tier 3 (Runoff Retention) Post-Construction BMP requirements
If Tier 3 BMP requirements are applicable to the project, check the watershed management zone area where the project is located.

☐ WMZ 1, and portions of 4, and 10 overlying groundwater basin ☐ WMZ 2
☐ WMZ 5 and 8 ☐ WMZ 6 and 9
☑ WMZ 3, 4 and 10



- 2 -

E - Special Circumstances - For projects subject to Tiers 3 and 4 Post-Construction BMP requirements only.
Check if special circumstance applies to the project

☐ Highly Altered Channel and Intermediate Flow Control Facility ☐ Urban Sustainability Area

F - Additional Stormwater BMP Requirements for Multi-family, Commercial and Industrial projects
Check if additional BMP requirements apply to the project

a) State Construction Activities Storm Water General Permit
☑ Construction activity resulting in land disturbance of one acre or more, or part of a larger common plan of development
b) Additional Source Control BMP requirements for specific facilities

☑ Commercial or industrial facility ☑ Parking areas
☐ Material Storage Areas ☐ Pools, spas and other water features
☐ Vehicle fueling, maintenance and wash areas ☐ Trash Storage Areas
☐ Equipment and accessory wash areas ☐ Restaurants and food processing or manufacturing facilities
☐ Interior and parking garage floor drains ☐ Miscellaneous drain or wash water

G - Complete if your project is only subject to Tier 1 Requirements - Site planning and LID design measures.
LID design measures shall be clearly marked on site plans

Check applicable boxes and provide short description of measure and location

☑ Conserve natural areas, riparian areas and wetlands
Description: NO RIPARIAN OR WETLAND DISTURBANCE AS PART OF THIS PROJECT

☑ Concentrate improvements on the least-sensitive portions of the site and minimize grading
Description: GRADING WILL BE MINIMIZED TO THE EXTENT FEASIBLE

☐ Direct roof runoff into cisterns or rain barrels
Description:

☑ Direct roof downspouts to landscaped areas or rain gardens
Description: ROOF AREAS AND PARKING AREAS TO DISCHARGE INTO BIOSWALE AREAS

☐ Use pervious pavement (pervious concrete or asphalt, turf block, crushed aggregate, etc.)
Description: NOT FEASIBLE DUE TO SOIL CONDITIONS

☑ Dispense runoff from paved areas to adjacent pervious areas
Description: PORTION OF HARDSCAPE AREAS TO DISCHARGE TO ADJACENT LANDSCAPE PRIOR TO LEAVING SITE

- 3 -

NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTION	DATE
2	PER RETRO COMMENTS	08/09/2021

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SANTA CRUZ, CA 95062
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PRELIMINARY

STORMWATER CONTROL PLAN

WATERMARK SANTA CRUZ SENIOR HOUSING

100 PELTON AVENUE, SANTA CRUZ, CALIFORNIA

APN 004-571-02
DEVELOPMENT APPLICATION

DRAWN: STAFF
DESIGN: STAFF
DATE: 08/11/21

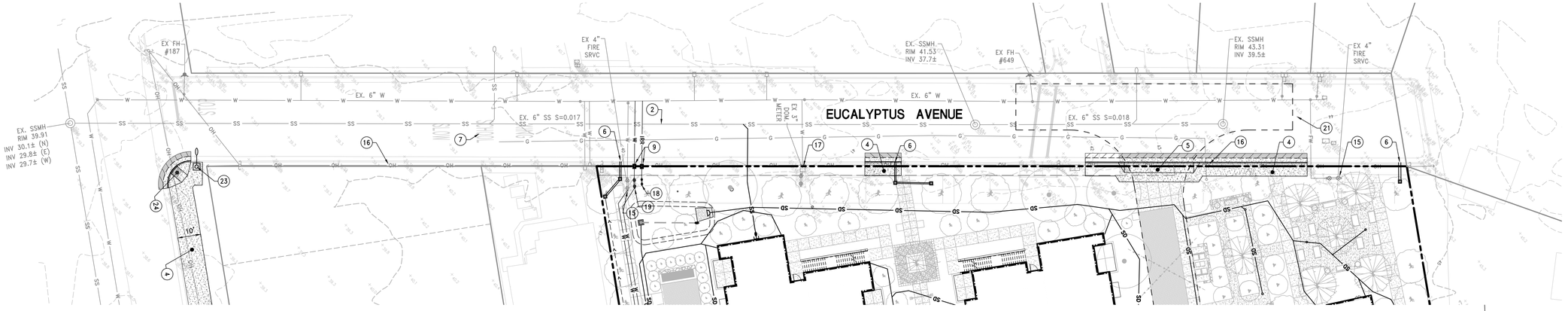
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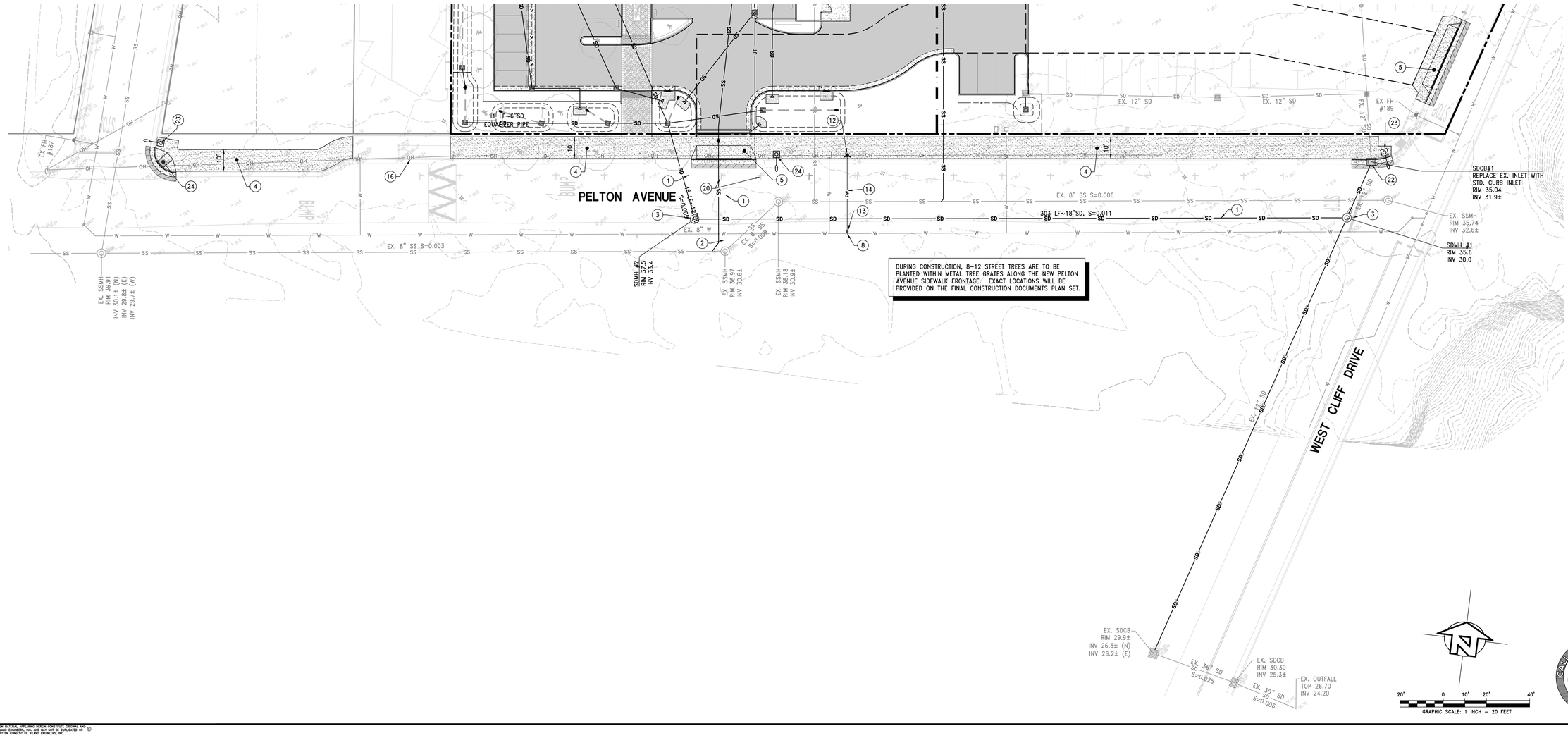


CONSTRUCTION NOTES

1. PIPE TRENCH PER CITY OF SANTA CRUZ STD. DTL 1
2. SEWER LATERAL PER CITY OF SANTA CRUZ STD. DTL 2
3. MANHOLE PER CITY OF SANTA CRUZ STD. DTL'S 3 & 4
4. CURB, GUTTER & SIDEWALK PER CITY OF SANTA CRUZ STD. DTL 8
5. DRIVEWAY APPROACH PER CITY OF SANTA CRUZ STD. DTL 9
6. SIDEWALK CURB DRAIN PER CITY OF SANTA CRUZ STD. DTL 10
7. REMOVE THE WORD "SCHOOL" & REPLACE WITH THE WORD "PED"
8. SERVICE CONNECTION PER SCWD STD. DTL 1
9. METER BOX PER SCWD STD. DTL 2
10. 2-INCH & SMALLER SERVICE PER SCWD STD. DTL 5
11. 2-INCH & SMALLER BACKFLOW PREVENTER PER SCWD STD. DTL 8
12. FIRE HYDRANT PER SCWD STD. DTL 10
13. GATE VALVE PER SCWD STD. DTL 11
14. LATERAL TRENCH PER SCWD STD. DTL 14
15. EX. 4" FIRE SERVICE TO REMAIN (FINAL SIZE TBD BY SPRINKLER DESIGNER)
16. OVERHEAD LINES TO BE UNDERGROUNDED PER PLANS BY OTHERS
17. EX. 3" DOMESTIC SERVICE TO BE RETIRED PER SCWD STD'S.
18. NEW IRRIGATION METER & BFP (SIZE TBD BY IRRIGATION CONSULTANT)
19. NEW DOMESTIC METER & BFP (SIZE TBD BY MEP)
20. REMOVE PARKING STRIPING IN FRONT OF ENTRANCE
21. FIRE TRUCK TURN-AROUND AREA
22. CATCH BASIN (TYPE B) PER CITY OF SANTA CRUZ STD. DTL 6
23. ELECTROLIER (TYPE 1) PER CITY OF SANTA CRUZ STD. DTL 18
24. CURB RAMP (CASE A) PER CALTRANS 2018 STD. PLAN A88A

DURING CONSTRUCTION, ANY DAMAGED CURB, GUTTER & SIDEWALK ALONG THE PROPERTY FRONTAGE IS TO BE REMOVED AND REPLACED IN KIND PER CITY STANDARD DETAIL B.

GRAPHIC SCALE: 1 INCH = 20 FEET



DURING CONSTRUCTION, 8-12 STREET TREES ARE TO BE PLANTED WITHIN METAL TREE GRATES ALONG THE NEW PELTON AVENUE SIDEWALK FRONTAGE. EXACT LOCATIONS WILL BE PROVIDED ON THE FINAL CONSTRUCTION DOCUMENTS PLAN SET.

GRAPHIC SCALE: 1 INCH = 20 FEET

NOT FOR CONSTRUCTION

BY	REVISION	DATE
STAFF	PER CITY COMMENTS	8/27/21

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PRELIMINARY

OFF-SITE STREET IMPROVEMENT PLANS

WATERMARK SANTA CRUZ SENIOR HOUSING

100 PELTON AVENUE, SANTA CRUZ, CALIFORNIA

APN 004-571-02

DEVELOPMENT APPLICATION

DRAWN	DESIGN	DATE
STAFF	STAFF	08/11/21

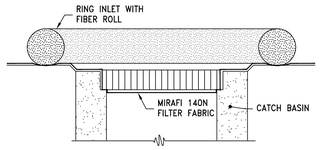
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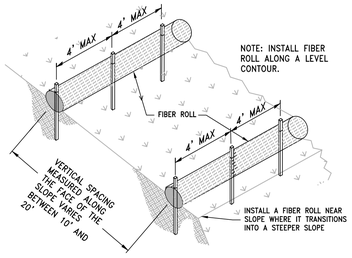


INSPECTION AND MAINTENANCE:

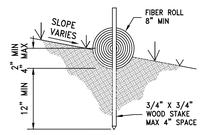
1. FILTER FABRIC BARRIERS SHALL BE INSPECTED WEEKLY AFTER EACH SIGNIFICANT STORM – 1 INCH RAINFALL (25.4 MM) IN 24 HOUR PERIOD. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. SEDIMENT SHOULD BE REMOVED WHEN IT REACHES 3" MAXIMUM HEIGHT, AT THAT TIME INSPECT THE FILTER MATERIAL FOR TEARS AND CLEAN OR REPLACE AS REQUIRED.
3. THE REMOVED SEDIMENT SHALL BE DISTRIBUTED EVENLY ACROSS AREAS ON-SITE, CONFORM WITH THE EXISTING GRADE AND BE REVEGETATED OR OTHERWISE STABILIZED PER EROSION CONTROL NOTES.

CATCH BASIN PROTECTION

NTS



TYPICAL INSTALLATION



ENTRENCHMENT DETAIL

FIBER ROLLS PART 1

NTS

CONSTRUCTION SPECIFICATIONS

1. PREPARE SLOPE BEFORE THE FIBER ROLL PROCEDURE IS STARTED. SHALLOW GULLIES SHOULD BE SMOOTHED AS WORK PROGRESSES.
2. DIG SMALL TRENCHES ACROSS SLOPE ON CONTOUR, TO PLACE FIBER ROLLS IN. THE TRENCH SHOULD BE DEEP ENOUGH TO ACCOMMODATE HALF THE THICKNESS OF THE FIBER ROLL. WHEN THE SOIL IS LOOSE AND UNCOMPACTED, THE TRENCH SHOULD BE DEEP ENOUGH TO BURY THE FIBER ROLL 2/3 OF ITS THICKNESS BECAUSE THE GROUND WILL SETTLE. IT IS CRITICAL THAT FIBER ROLLS ARE INSTALLED PERPENDICULAR TO WATER MOVEMENT, PARALLEL TO THE SLOPE CONTOUR.
3. START BUILDING TRENCHES AND INSTALL FIBER ROLLS FROM THE BOTTOM OF THE SLOPE AND WORK UP.
4. CONSTRUCT TRENCHES AT CONTOUR INTERVALS OF THREE TO EIGHT FEET APART DEPENDING ON STEEPNESS OF SLOPE. THE STEEPER THE SLOPE, THE CLOSER TOGETHER THE TRENCHES.
5. LAY THE FIBER ROLL ALONG THE TRENCHES FITTING IT SNUGLY AGAINST THE SOIL. MAKE SURE NO GAPS EXIST BETWEEN THE SOIL AND THE FIBER ROLL. USE A STRAIGHT BAR TO DRIVE HOLES THROUGH THE FIBER ROLL AND INTO THE SOIL FOR THE WOODEN STAKES.
6. DRIVE THE STAKE THROUGH THE PREPARED HOLE INTO THE SOIL. LEAVE ONLY ONE OR TWO INCHES OF STAKE EXPOSED ABOVE FIBER ROLL. IF USING WILLOW STAKES REFER TO USDA SOIL CONSERVATION SERVICE TECHNICAL GUIDE, BIOENGINEERING, FOR GUIDELINES TO PREPARING LIVE WILLOW MATERIAL.
7. INSTALL STAKES AT LEAST EVERY FOUR FEET APART THROUGH FIBER ROLL. ADDITIONAL STAKES MAY BE DRIVEN ON THE DOWNSLOPE SIDE OF THE TRENCHES ON HIGHLY EROSIVE OR VERY STEEP SLOPES.

INSTALLATION AND MAINTENANCE

8. INSPECT THE FIBER ROLL AND THE SLOPES AFTER SIGNIFICANT STORMS. MAKE SURE THE FIBER ROLLS ARE IN CONTACT WITH THE SOIL.
9. REPAIR ANY RILLS OR GULLIES PROMPTLY.
10. RESEED OR REPLANT VEGETATION IF NECESSARY UNTIL THE SLOPE IS STABILIZED.

FIBER ROLLS PART 2

NTS

SLOPE INSTALLATION TABLE	
SLOPE	**MAX FIBER ROLL SPACING (FT)**
4:1 (OR FLATTER)	20
4:1 TO 2:1	15
GREATER THAN 2:1	10

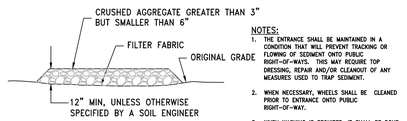
EROSION CONTROL NOTES

1. THE EROSION CONTROL PLANS IN THIS SET SHALL BE REVIEWED AND IMPLEMENTED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORK. ADDITIONAL DIRECTION, DETAILS, AND REQUIREMENTS ARE INCLUDED IN THE SWPPP. CONTRACTOR SHALL WORK WITH THE PROJECT'S QUALIFIED SWPPP PRACTITIONER (QSP) THROUGHOUT CONSTRUCTION TO ENSURE THE SITE IS PROPERLY PROTECTED FROM POSSIBLE POLLUTANTS. THE QSP HAS AUTHORIZATION TO ADD OR REMOVE BMP MEASURES THROUGHOUT CONSTRUCTION AS SPECIFIED IN THE SWPPP DOCUMENT.
2. THE QSP SHALL ENSURE ALL MONITORING AND INSPECTIONS ARE PERFORMED AS REQUIRED BY THE SWPPP AND ALL RECORDS ARE RETAINED ONSITE THROUGHOUT CONSTRUCTION.
3. NO LAND CLEARING, GRADING OR EXCAVATION SHALL BE DONE BETWEEN OCTOBER 1ST AND APRIL 30TH. ANY DEVIATION FROM THIS CONDITION REQUIRES REVIEW AND APPROVAL OF A SEPARATE WINTER EROSION CONTROL PLAN BY ENVIRONMENTAL PLANNING PRIOR TO BEGINNING CONSTRUCTION. THE DEVELOPER SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING SITE EROSION CONTROL AT ALL TIMES.
4. IT SHALL BE THE RESPONSIBILITY OF THE OWNER AND THE PERMITTEE TO ENSURE THAT EROSION DOES NOT OCCUR FROM ANY ACTIVITY DURING OR AFTER PROJECT CONSTRUCTION. ADDITIONAL MEASURES, BEYOND THOSE SPECIFIED, MAY BE REQUIRED BY THE PLANNING DIRECTOR AS DEEMED NECESSARY TO CONTROL ACCELERATED EROSION.
5. PRIOR TO ANY FORECAST RAIN AND ANYTIME BETWEEN OCTOBER 1ST AND APRIL 30TH, AT THE END OF EACH WORKDAY, AT THE END OF EACH WORKWEEK, THE DEVELOPER SHALL IMPLEMENT ALL TEMPORARY MEASURES NECESSARY TO PREVENT EROSION AND SILTATION, UNTIL THE PROJECT HAS BEEN FINALIZED. THESE MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, DIRECT SEEDING OF THE AFFECTED AREAS, STRAW MULCHING, AND/OR INSTALLATION OF STRAW BALES DAMS/SILT FENCES.
6. DURING CONSTRUCTION, NO TURBID WATER SHALL BE PERMITTED TO LEAVE THE SITE. USE OF SILT AND GREASE TRAPS, FILTER BERMS, OR SILT FENCES SHALL BE USED TO PREVENT SUCH DISCHARGE.
7. ALL AREAS ON- AND OFF-SITE EXPOSED DURING CONSTRUCTION ACTIVITIES, IF NOT PERMANENTLY LANDSCAPED PER PLAN, SHALL BE PROTECTED BY MULCHING AND/OR SEEDING WITH ANNUAL WINTER BARLEY.
8. ALL EXCAVATED MATERIAL SHALL BE REMOVED TO AN APPROVED DISPOSAL SITE OR DISPOSED OF ON-SITE IN A MANNER THAT WILL NOT CAUSE EROSION.
9. ANY MATERIAL STOCKPILED, FOR LONGER THAN 14 DAYS, DURING CONSTRUCTION SHALL BE COVERED WITH PLASTIC.
10. UPON COMPLETION OF CONSTRUCTION, ALL REMAINING EXPOSED SOILS SHALL BE PERMANENTLY REVEGETATED PER LANDSCAPING PLAN. THE PROTECTION REQUIRED BY SECTION 16.19.140 SHALL BE INSTALLED PRIOR TO CALLING FOR FINAL APPROVAL OF THE PROJECT AND AT ALL TIMES BETWEEN OCTOBER 1ST AND APRIL 30TH. SUCH PROTECTION SHALL BE MAINTAINED FOR AT LEAST ONE WINTER UNTIL PERMANENT PROTECTION IS ESTABLISHED.
11. EXPOSED SOIL ON SLOPES GREATER THAN 20% SHALL BE SEEDED, COVERED WITH 2 INCHES OF STRAW, AND AN EROSION CONTROL BLANKET. THE EROSION CONTROL BLANKET SHALL BE STAKED IN PLACE.
12. IT IS THE DEVELOPER'S RESPONSIBILITY TO SEE THAT ADDITIONAL MEASURES, NECESSARY TO CONTROL SITE EROSION AND PREVENT SEDIMENT TRANSPORT OFF-SITE ARE IMPLEMENTED.
13. ALL SPILLS AND/OR LEAKS SHALL BE IMMEDIATELY CLEANED UP AND MITIGATED PER THE SPILL RESPONSE REQUIREMENTS SPECIFIED IN THE SWPPP DOCUMENT AND THE CONTRACTORS O&M STANDARDS.

NOT FOR CONSTRUCTION

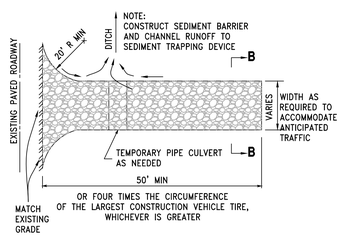
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		REVISION	DATE

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SECTION B-B

NTS



STABILIZED CONSTRUCTION ENTRANCE PART 1

NTS

CONSTRUCTION SPECIFICATIONS:

1. THE AGGREGATE SIZE FOR CONSTRUCTION OF THE PAD SHALL BE 2-3 INCH (50-75 MM) STONE. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT.
2. THE THICKNESS OF THE PAD SHALL NOT BE LESS THAN 6 INCHES (152 MM). USE GEOTEXTILE FABRICS, IF NECESSARY, TO IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.
3. THE WIDTH OF THE PAD SHALL NOT BE LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS AND IN ANY CASE SHALL NOT BE LESS THAN 12 FEET (3.6 M) WIDE.
4. THE LENGTH OF THE PAD SHALL BE AS REQUIRED, BUT NOT LESS THAN 50 FEET (15.2 M).
5. LOCATE CONSTRUCTION ENTRANCES AND EXITS TO LIMIT SEDIMENT LEAVING THE SITE AND TO PROVIDE FOR MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES. AVOID ENTRANCES WHICH HAVE STEEP GRADES AND ENTRANCES AT CURVES IN PUBLIC ROADS.
6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR MAINTENANCE OF ANY MEASURES USED TO TRAP SEDIMENT.
7. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
8. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
9. WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. SEE SEDIMENT BASIN BMP.
10. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, STRAW BALES, OR OTHER APPROVED METHODS.

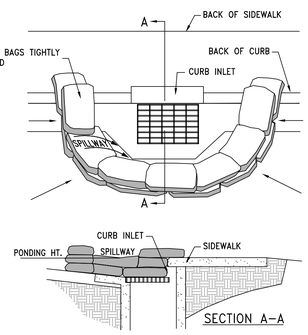
INSPECTION AND MAINTENANCE:

11. MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE.
12. REPLACE GRAVEL MATERIAL WHEN SURFACE VOIDS ARE VISIBLE.
13. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY.
14. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS. REMOVE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS WITHIN 24 HOURS.

STABILIZED CONSTRUCTION ENTRANCE PART 2

NTS

RUMBLE STRIPS MAY BE USED AS AN ALTERNATIVE SUBJECT TO THE APPROVAL OF THE CITY PRIOR TO INSTALLATION



CURB INLET PROTECTION PART 1

NTS

CONSTRUCTION SPECIFICATIONS:

1. PLACE THE BARRIERS ON GENTLY SLOPING STREETS WHERE WATER CAN POND.
2. THE BARRIERS MUST ALLOW FOR OVERFLOW FROM A SEVERE STORM EVENT. SLOPE RUNOFF SHALL BE ALLOWED TO FLOW OVER BLOCKS AND GRAVEL AND NOT BE BYPASSED OVER THE CURB. A SPILLWAY SHALL BE CONSTRUCTED WITH THE SANDBAG STRUCTURES TO ALLOW OVERFLOW.
3. THE SANDBAG SHOULD BE OF WOVEN-TYPE GEOTEXTILE FABRIC.
4. THE SANDBAGS SHALL BE FILLED WITH 3/4 INCH (19 MM) DRAIN ROCK OR 1/4 INCH (6 MM) PEA GRAVEL.
5. THE SANDBAGS SHALL BE PLACED IN A CURVED ROW FROM THE TOP OF CURB AT LEAST 3 FEET (0.9 M) INTO THE STREET. THE ROW SHOULD BE CURVED AT THE ENDS, POINTING UPHILL.
6. SEVERAL LAYERS OF BAGS SHOULD BE OVERLAPPED AND PACKED TIGHTLY.
7. LEAVE A ONE-SANDBAG GAP IN THE TOP ROW TO ACT AS A SPILLWAY.

FOR BLOCK AND GRAVEL TYPE BARRIERS:

8. PLACE TWO CONCRETE BLOCKS ON THEIR SIDES PERPENDICULAR TO THE CURB AT EITHER END OF THE INLET OPENING. THESE WILL SERVE AS SPACER BLOCKS.
9. PLACE CONCRETE BLOCKS ON THEIR SIDES ACROSS THE FRONT OF THE INLET AND ABUTTING THE SPACER BLOCKS. THE OPENINGS IN THE BLOCKS SHOULD FACE OUTWARD, NOT UPWARD.
10. CUT A 2 BY 4 INCH (51 BY 102 MM) STUD THE LENGTH OF THE CURB INLET PLUS THE WIDTH OF THE TWO SPACER BLOCKS. PLACE THE STUD THROUGH THE OUTER HOLE OF EACH SPACER BLOCK TO HELP KEEP THE FRONT BLOCKS IN PLACE.
11. PLACE WIRE MESH OVER THE OUTSIDE VERTICAL FACE (OPEN ENDS) OF THE CONCRETE BLOCKS TO PREVENT STONE FROM BEING WASHED THROUGH THE BLOCKS.
12. USE CHICKEN WIRE, HARDWARE CLOTH WITH 1/2 INCH (13 MM) OPENINGS, OR FILTER FABRIC. REFER TO APPENDIX – GEOTEXTILES/GEOSYNTHETICS.
13. PLACE ¼ – 1½ INCH (19–34 MM) GRAVEL AGAINST THE WIRE TO THE TOP OF THE BARRIER.

INSPECTION AND MAINTENANCE:

14. INSPECT AND CLEAN BARRIER DURING AND AFTER EACH SIGNIFICANT STORM AND REMOVE SEDIMENT FROM BEHIND SANDBAG STRUCTURE AFTER EVERY STORM.
15. ANY SEDIMENT AND GRAVEL SHALL BE IMMEDIATELY REMOVED FROM THE TRAVELED WAY OF ROADS.
16. THE REMOVED SEDIMENT SHALL BE PLACED WHERE IT CANNOT ENTER A STORM DRAIN, STREAM, OR BE TRANSPORTED OFF SITE.
17. IF THE GRAVEL BECOMES CLOGGED WITH SEDIMENT, IT MUST BE CAREFULLY REMOVED FROM THE INLET AND EITHER CLEARED OR REPLACED.

CURB INLET PROTECTION PART 2

NTS

PRELIMINARY

WATERMARK SANTA CRUZ SENIOR HOUSING

100 PELTON AVENUE, SANTA CRUZ, CALIFORNIA

EROSION CONTROL NOTES AND DETAILS

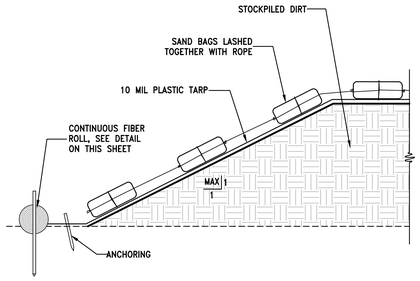
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DEVELOPMENT APPLICATION

DRAWN	DESIGN	DATE
STAFF	STAFF	08/11/21

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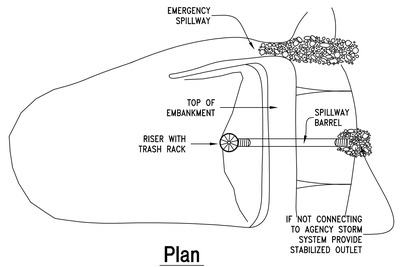
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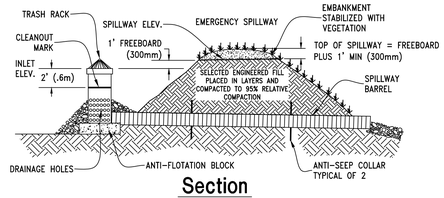
NOTE:
STOCKPILE SIZE AND LOCATIONS TO BE DETERMINED BY CONTRACTOR WITH ENGINEERS APPROVAL.

DIRT STOCKPILE

N.T.S.



Plan



Section

SEDIMENT BASIN

N.T.S.

CONSTRUCTION SPECIFICATIONS:

CONSTRUCT THE BASIN BY EXCAVATING OR BUILDING AN EMBANKMENT BEFORE ANY CLEARING OR GRADING WORK BEGINS.

AREAS UNDER THE EMBANKMENT AND ANY STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION AND ROOTMAT AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN.

IN ORDER TO FACILITATE CLEANOUT AND RESTORATION, THE BASIN AREA SHALL BE CLEARED, GRUBBED AND STRIPPED OF ANY VEGETATION.

A CUT-OFF TRENCH SHALL BE EXCAVATED ALONG THE CENTERLINE OF THE EARTH FILL EMBANKNIENTS. THE MINIMUM DEPTH SHALL BE 2 FEET (0.6 M) THE CUT-OFF TRENCH SHALL EXTEND UP BOTH ABUTMENTS TO THE RISER CREST ELEVATION.

FILL MATERIAL FOR THE EMBANKMENT SHOULD BE CLEAN MINERAL SOIL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS OR OTHER OBJECTIONABLE MATERIAL.

THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IT CAN BE FORMED BY HAND INTO A BALL WITHOUT CRUMBLING.

FILL MATERIAL SHALL BE PLACED IN 6 INCH (0.2 M) LIFTS, CONTINUOUS LAYERS OVER THE ENTIRE LENGTH OF THE FILL. COMPACTING SHALL BE OBTAINED BY ROUTING THE HAULING EQUIPMENT OVER THE FILL SO THAT THE ENTIRE SURFACE OF EACH LAYER OF THE FILL IS TRAVERSED BY AT LEAST ONE WHEEL OR TREAD TRACK OF THE EQUIPMENT, OR BY THE USE OF A COMPACTOR.

THE EMBANKMENT SHOULD BE CONSTRUCTED TO AN ELEVATION OF 10 PERCENT HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLEMENT IF COMPACTING IS ACHIEVED WITH HAULING EQUIPMENT. IF COMPACTORS ARE USED FOR COMPACTING, THE OVERBUILD MAY BE REDUCED TO NOT LESS THAN 5 PERCENT.

THE PRINCIPLE SPILLWAY RISER SHALL BE SECURELY ATTACHED TO THE DISCHARGE PIPE BY WELDING ALL AROUND. ALL CONNECTIONS SHALL BE WATERTIGHT.

THE PIPE AND RISER SHALL BE PLACED ON A FIRM, SMOOTH SOIL FOUNDATION. THE CONNECTION BETWEEN THE RISER AND THE RISER BASE SHALL BE WATERTIGHT. PERVIOUS MATERIALS SUCH AS SAND, GRAVEL OR CRUSHED STONE SHALL NOT BE USED AS BACKFILL AROUND THE PIPE OR ANTI-SEEP COLLARS.

THE FILL MATERIAL AROUND THE PIPE SPILLWAY SHALL BE PLACED IN 4-INCH (102 MM) LAYERS AND COMPACTED UNDER THE SHOULDERS AND AROUND THE PIPE TO AT LEAST THE SAME DENSITY AS THE ADJACENT EMBANKMENT. A MINIMUM OF 2 FEET (0.6 M) OF COMPACTED BACKFILL SHALL BE PLACED OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT.

STEEL BASE PLATES SHALL HAVE AT LEAST 2 1/2 FEET (0.8 M) OF COMPACTED EARTH, STONE OR GRAVEL OVER THEM TO PREVENT FLOTATION.

THE EMERGENCY SPILLWAY SHALL NOT BE INSTALLED IN FILL. ELEVATIONS, DESIGN WIDTH, AND ENTRANCE AND EXIT CHANNEL SLOPES ARE CRITICAL TO THE SUCCESSFUL OPERATION OF THE EMERGENCY SPILLWAY.

BAFFLES SHALL BE CONSTRUCTED OF 4 INCH (102 MM) BY 4 INCH (102 MM) POSTS AND OF 4 FOOT (1.2 M) BY 8 FOOT (2.4 M) – ½ INCH (12.7 MM) EXTERIOR PLYWOOD. THE POSTS SHALL BE SET AT LEAST 3 FEET (0.9 M) INTO THE GROUND, NO FURTHER APART THAN 8 FEET (2.4 M) CENTER TO CENTER, AND SHALL REACH A HEIGHT 6 INCHES (0.2 M) BELOW THE RISER CREST ELEVATION.

THE EMBANKMENT AND EMERGENCY SPILLWAY SHALL BE STABILIZED WITH VEGETATION IMMEDIATELY FOLLOWING CONSTRUCTION.

CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION WILL BE MINIMIZED.

LOCAL AND STATE REQUIREMENTS SHALL BE MET CONCERNING FENCING AND SIGNS WARNING THE PUBLIC OF HAZARDS OF SOFT SEDIMENT AND FLOODWATER.

INSPECTION AND MAINTENANCE:
INSPECT WEEKLY AND AFTER EACH RAIN.

ALL DAMAGES CAUSED BY SOIL EROSION OR CONSTRUCTION EQUIPMENT SHALL BE REPAIRED BEFORE THE END OF EACH WORKING DAY.

REMOVE SEDIMENT WHEN THE SEDIMENT STORAGE ZONE IS HALF FULL. THIS SEDIMENT SHALL BE PLACED IN SUCH A MANNER THAT IT WILL NOT ERODE FROM THE SITE. THE SEDIMENT SHALL NOT BE DEPOSITED DOWNSTREAM FROM THE EMBANKMENT OR IN OR ADJACENT TO A STREAM OR FLOODPLAIN.

WHEN TEMPORARY STRUCTURES HAVE SERVED THEIR INTENDED PURPOSE AND THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED, THE EMBANKMENT AND RESULTING SEDIMENT DEPOSIT SHALL BE LEVELED OR OTHERWISE DISPOSED OF IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

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PRELIMINARY

WATERMARK SANTA CRUZ SENIOR HOUSING

EROSION CONTROL NOTES AND DETAILS

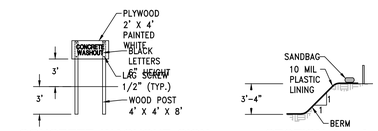
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DEVELOPMENT APPLICATION

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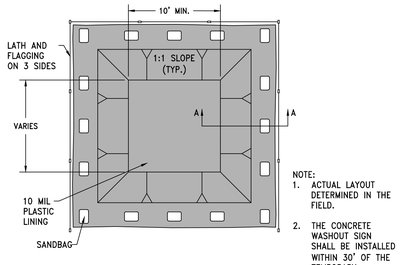
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CONCRETE WASHOUT SIGN

SECTION A - A

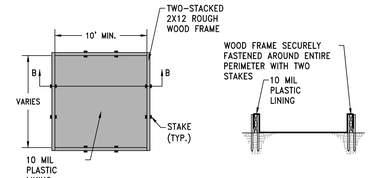


NOTE:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

TYPE 1 - BELOW GRADE

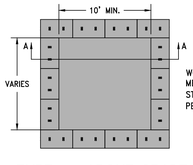
CONCRETE WASHOUT PART 1

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TYPE 2 - ABOVE GRADE (WOOD PLANKS)

SECTION B - B

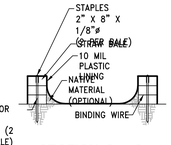


NOTE:
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

TYPE 2 - ABOVE GRADE (HAY BALES)

CONCRETE WASHOUT PART 2

NTS



SECTION C - C

CONSTRUCTION SPECIFICATIONS:

1. PCC AND AC WASTE SHALL NOT BE ALLOWED TO ENTER STORM DRAINAGE SYSTEMS OR WATERCOURSES.
2. A SIGN SHALL BE INSTALLED ADJACENT TO EACH TEMPORARY CONCRETE WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.
3. A FOREMAN AND/OR CONSTRUCTION SUPERVISOR SHALL MONITOR ONSITE CONCRETE WORKING TASKS , SUCH AS SAW CUTTING, CORING, GRINDING AND GROOVING TO ENSURE PROPER METHODS ARE IMPLEMENTED.
4. RESIDUE FROM SAW CUTTING, CORING AND GRINDING OPERATIONS SHALL BE PICKED UP BY MEANS OF A VACUUM DEVICE. RESIDUE SHALL NOT BE ALLOWED TO FLOW ACROSS THE PAVEMENT AND SHALL NOT BE LEFT ON THE SURFACE OF THE PAVEMENT.
5. VACUUMED SLURRY RESIDUE SHALL BE TEMPORARILY STORED IN A TEMPORARY CONCRETE WASHOUT FACILITY OR WITHIN AN IMPERMEABLE CONTAINMENT VESSEL OR BIN APPROVED BY THE ENGINEER.
6. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL B LOCATED A MINIMUM OF 50 FT FROM STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES AND WATERCOURSES, UNLESS DETERMINED INFEASIBLE BY THE ENGINEER. EACH FACILITY SHALL BE LOCATED AWAY FROM CONSTRUCTION TRAFFIC OR ACCESS AREAS TO PREVENT DISTURBANCE OR TRACKING.
7. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED ABOVE GRADE OR BELOW GRADE AT THE OPTION OF THE CONTRACTOR. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY BY WASHOUT OPERATIONS.
8. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL HAVE A TEMPORARY PIT OR BERMED AREAS OF SUFFICIENT VOLUME TO COMPLETELY CONTAIN ALL LIQUID AND WASTE CONCRETE MATERIALS GENERATED DURING WASHOUT PROCEDURES
9. PERFORM WASHOUT OF CONCRETE MIXERS, DELIVERY TRUCKS AND OTHER DELIVERY SYSTEMS IN DESIGNATED AREAS ONLY.
10. PUMP EXCESS CONCRETE IN CONCRETE PUMP BIN BACK INTO CONCRETE MIXER TRUCK.
11. ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN, THE CONCRETE SHALL BE BROKEN UP, REMOVED AND DISPOSED OF.
12. PLASTIC LINING MATERIAL SHALL BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND SHALL BE FREE OF HOLES, TEARS OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL. LINER SEAMS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
13. THE SOIL BASE SHALL BE PREPARED FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE PLASTIC LINING MATERIAL.
14. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE AND WASHOUT MATERIALS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFF SITE.
15. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED AND REPAIRED.

CONCRETE WASHOUT PART 3

NTS

INSPECTION AND MAINTENANCE

1. THE CONTRACTORS WATER POLLUTION CONTROL (WPCM) MANAGER SHALL MONITOR ON SITE CONCRETE WASTE STORAGE AND DISPOSAL PROCEDURES AT LEAST WEEKLY.
2. THE WPCM SHALL MONITOR CONCRETE WORKING TASKS, SUCH AS SAW CUTTING, CORING, GRINDING AND GROOVING DAILY TO ENSURE PROPER METHODS ARE EMPLOYED AS DIRECTED BY THE ENGINEER.
3. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE MAINTAINED TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM FREEBOARD OF 4 INCHES FOR ABOVE GRADE FACILITIES AND 12 INCHES FOR BELOW GRADE FACILITIES. MAINTAINING TEMPORARY CONCRETE WASHOUT FACILITIES SHALL INCLUDE REMOVING AND DISPOSING OF HARDENED CONCRETE AND RETURNING THE FACILITIES TO A FUNCTIONAL CONDITION. HARDENED CONCRETE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
4. EXISTING FACILITIES MUST BE CLEANED, OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75% FULL.
5. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE INSPECTED FOR DAMAGE (I.E. TEARS IN POLYETHYLENE LINER, MISSING SANDBAGS, ETC.). DAMAGED FACILITIES SHALL BE REPAIRED.

CONCRETE WASHOUT PART 4

NTS

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PRELIMINARY

WATERMARK SANTA CRUZ SENIOR HOUSING

EROSION CONTROL PLAN

100 PELTON AVENUE, SANTA CRUZ, CALIFORNIA

APN 004-571-02

DEVELOPMENT APPLICATION

DRAWN	DESIGN	DATE
STAFF	STAFF	08/11/21

SHEET C7.2

JOB NO. 19039

ENGINEERS
CIVIL ENGINEERING ▪ LAND PLANNING ▪ STRUCTURAL DESIGN
6300 SOQUEL AVE, SUITE 101
SANTA CRUZ, CA 95062
TEL (831) 426-5313
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www.ifulandengineers.com

BY	REVISION	DATE
STAFF	PER CITY COMMENTS	8/31/21

NOTES:
1. SEE EROSION CONTROL NOTES AND DETAILS SHEETS AS PART OF THIS PLAN SET.

ESTIMATED AREA OF DISTURBANCE 122,000 SF

TREE — TREES TO BE PROTECTED DURING CONSTRUCTION PER ARBORIST REPORT

FR — FIBER ROLLS PER NOTE 1

CATCH BASIN PROTECTION PER NOTE 1

CURB INLET PROTECTION PER NOTE 1

STABILIZED CONSTRUCTION ENTRANCE PER NOTE 1

GRADING STOCKPILE PER NOTE 1

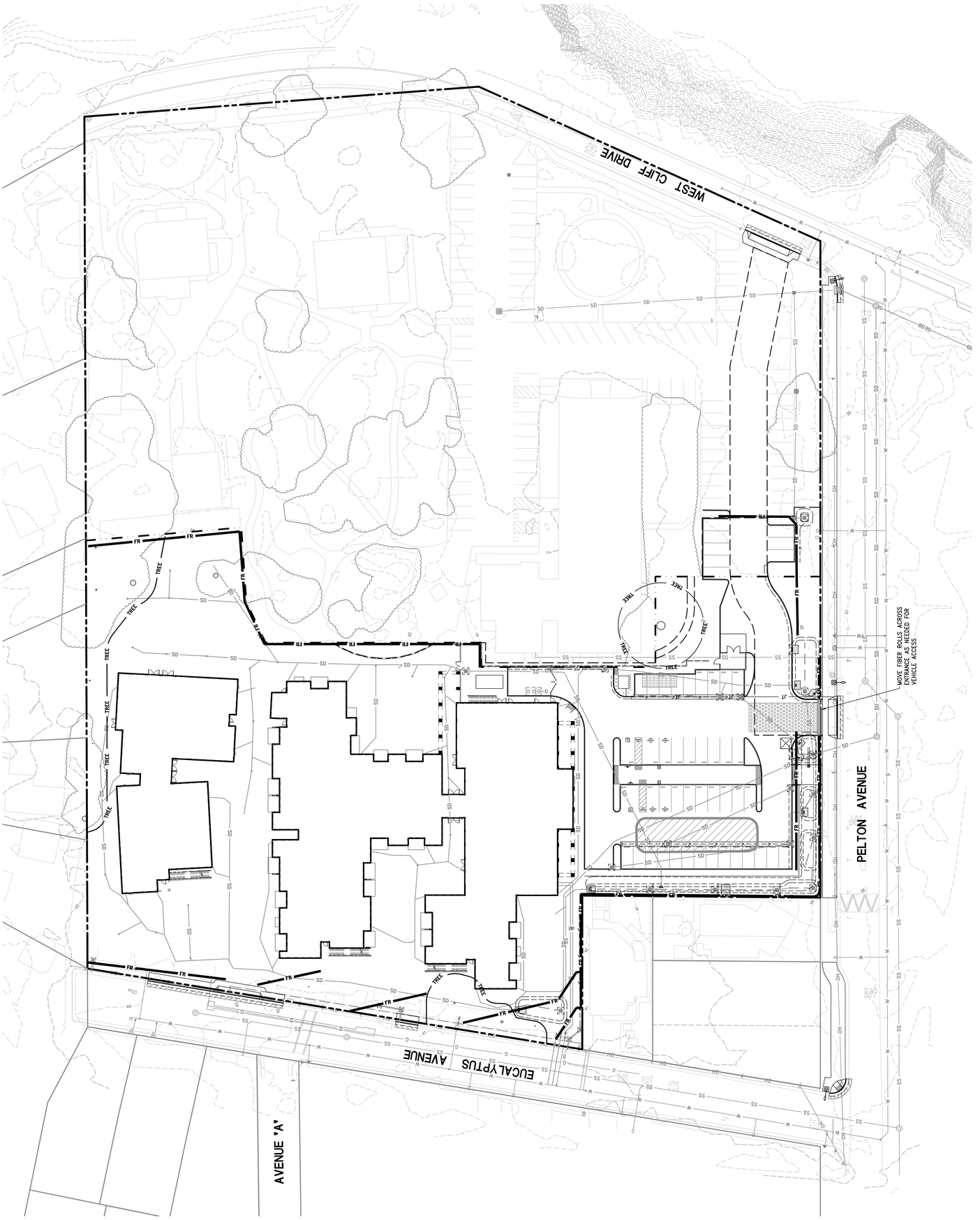
PORTABLE TOILETS PER NOTE 1

CONCRETE WASHOUT PER NOTE 1

SEDIMENT BASIN PER NOTE 1

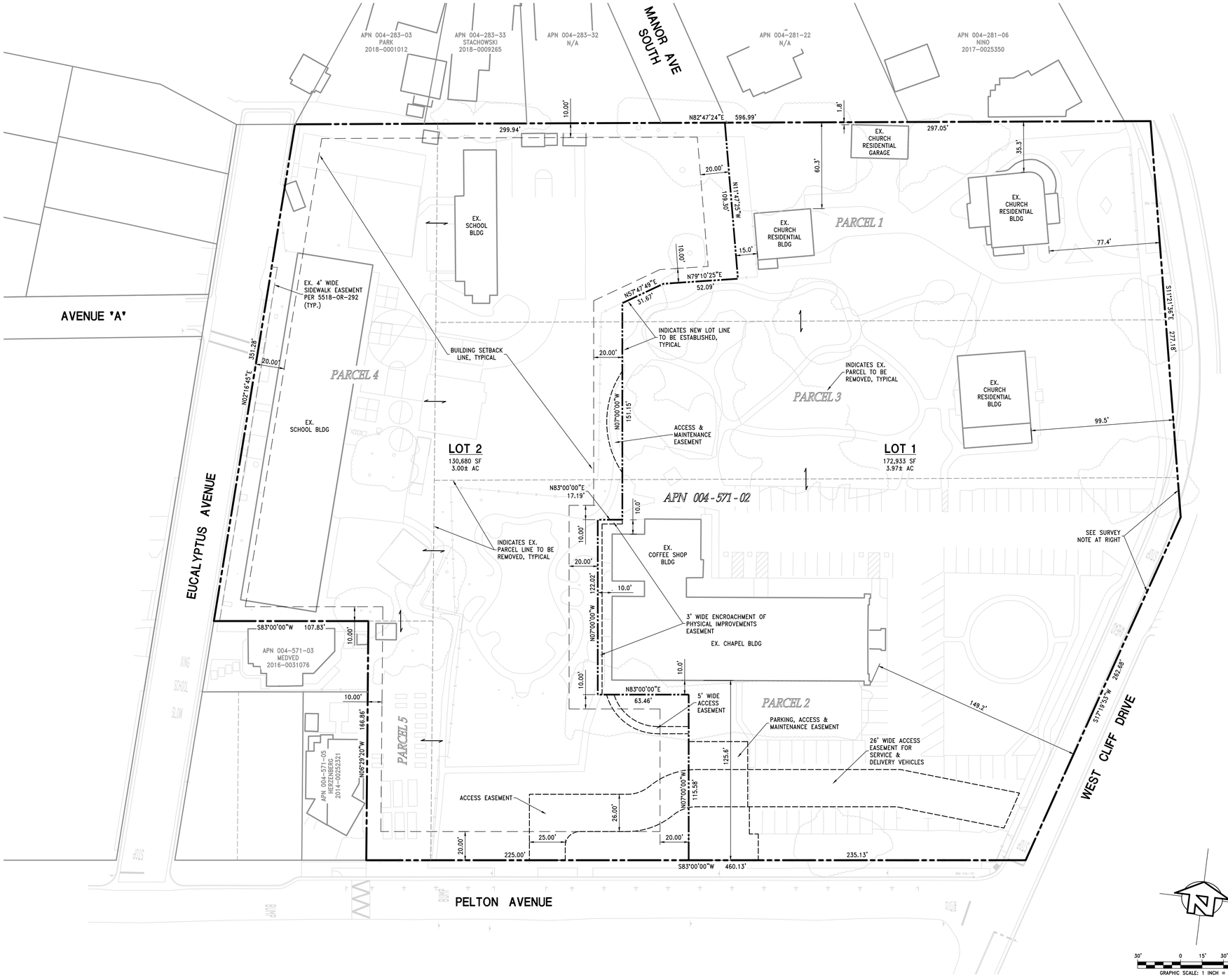
INSTALL CONSTRUCTION FENCE ALONG PERIMETER OF PROJECT AND ADJUST AS WARRANTED WITH CONSTRUCTION SEQUENCING

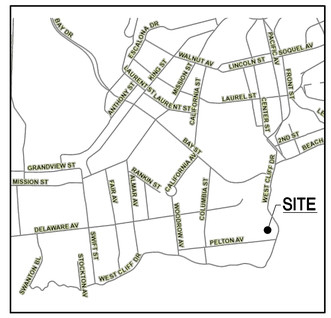
GRAPHIC SCALE: 1 INCH = 30 FEET (60' / 30' / 0 / 15' / 30')



I:_PROJECTS\2019\19039 OPPH\DWGS\2 - DD PHASE_DD PHASE\C7.2-ERDS.dwg 14Oct21 01:52:16 PM mregan © ifland engineers, inc.

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VICINITY MAP
N.T.S.

BENCHMARK

THE BENCHMARK FOR THIS SURVEY IS CITY OF SANTA CRUZ BENCHMARK #H4-10, WHICH IS A 7/8" BRASS TAG, LOCATED AT THE NORTHEAST CORNER OF WEST CLIFF DRIVE AND PELTON AVENUE.

ELEVATION= 35.63 FEET (NAVD88)

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS BETWEEN MONUMENTS FOUND ALONG THE EASTERLY RIGHT-OF-WAY OF LIGHTHOUSE AVENUE, AS SHOWN ON THAT MAP FILED IN VOLUME 87 OF MAPS, AT PAGE 22, SANTA CRUZ COUNTY RECORDS.

BEARING= N 04°09'00" E

SURVEY INFORMATION

THE BOUNDARY AND TOPOGRAPHIC DATA SHOWN HEREON WAS PROVIDED TO IFLAND ENGINEERS, INC. BY IFLAND SURVEY, AND IS BASED UPON A UAV (DRONE) TOPOGRAPHIC SURVEY, PROJECT G19048, DATED 11/11/19, AND SUBSEQUENT FIELD SURVEY, DATED 06/29/20. THE BOUNDARY DATA SHOWN HEREON IS FROM RECORD DATA.

SURVEY NOTE

THE PRELIMINARY TITLE REPORT LEGAL DESCRIPTION AND OTHER HISTORICAL DEED DESCRIPTIONS CALL FOR THESE PARCEL LINES TO EXTEND INTO WEST CLIFF DRIVE AS SHOWN HEREON. HOWEVER, EXCEPTION CLAUSE #8 LISTED IN THE TITLE REPORT ALSO EXCEPTS THEREFROM ALL THAT PORTION OF LAND LYING WITHIN WEST CLIFF DRIVE, A PUBLIC STREET OF VARIED WIDTH.

UTILITIES NOTE

AN EXISTING SANITARY SEWER LATERAL SERVING THE OBLATES COFFEE SHOP CURRENTLY PASSES THROUGH AN AREA THAT WILL BECOME PART OF LOT 2, AND WILL BE RELOCATED TO LOT 1 AS SHOWN ON SHEET C4.0. ALL OTHER UTILITIES SERVING BUILDINGS ON LOT 1 RESIDE WITHIN LOT 1.

GENERAL DATA

MAP PREPARED BY: IFLAND ENGINEERS
5300 SOQUEL AVENUE, SUITE 101
SANTA CRUZ, CA 95062
(831) 426-5313
CONTACT: JON IFLAND

OWNER:
APN 004-571-02 OBLATES OF ST. JOSEPH
544 W. CLIFF DRIVE
SANTA CRUZ, CA 95060
(831) 457-1868
ATTN: FATHER MATTHEW SPENCER

NOT FOR CONSTRUCTION

BY	STAFF	PER CITY COMMENTS	5/21/21
		REVISION	DATE

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LOT LINE ADJUSTMENT MAP
WATERMARK SANTA CRUZ SENIOR HOUSING
100 PELTON AVENUE, SANTA CRUZ, CALIFORNIA

APN 004-571-02
DEVELOPMENT APPLICATION

DRAWN	DESIGN	DATE
STAFF	STAFF	08/11/21

SHEET
LLA1.0

JOB NO. 19039

I:\PROJECTS\2019\19039 OPPA\LWMSX2 - 100 PHASE_100 PHASE\LLA1.0-LLA.dwg 1/26/21 11:34:16 AM JimWard ©IFLAND ENGINEERS, INC.

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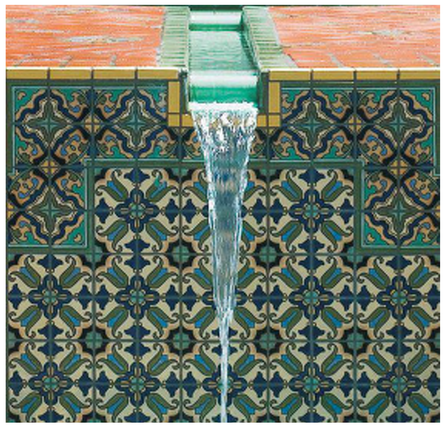


















CALLISONRTKL

CallisonRTKL Inc.
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Tel: 213.633.6000

CallisonRTKL Project No: 040-190064

Consultant

MJS LANDSCAPE ARCHITECTURE

THE WATERMARK AT SANTA CRUZ

126 EUCALYPTUS AVENUE
SANTA CRUZ, CA 95060

Client/Owner/Operator

OPPIDAN INVESTMENT COMPANY
1100 LINCOLN AVENUE, SUITE 3382
SAN JOSE, CA 95125

THE FRESHWATER GROUP
2020 WEST RUBASIL ROAD
TUCSON, AZ 85704

Issue Drawing Log

REV #	DATE (MM.DD.YY)	ISSUE NAME
	08.07.2020	LAND USE APPLICATION SUBMITTAL
	08.21.2020	SCHEMATIC DESIGN SUBMITTAL
	08.16.2021	SCHEMATIC DESIGN SUBMITTAL
	10.15.2021	LAND USE APPLICATION RESUBMITTAL

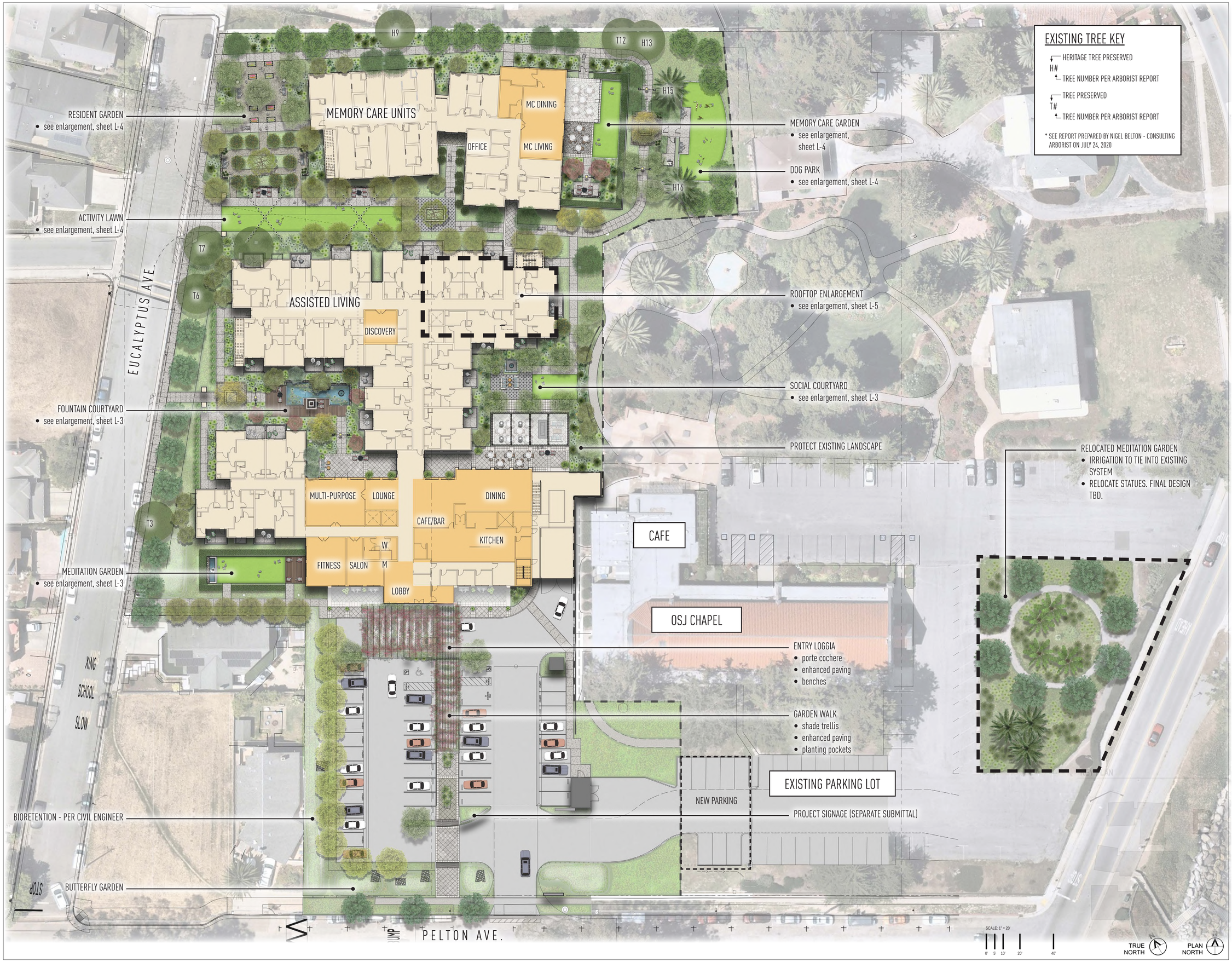
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Sheet Identification

LANDSCAPE INSPIRATION IMAGES

L-1



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	08.05.2021	SCHEMATIC DESIGN SUBMITTAL
	10.15.2021	LAND USE APPLICATION RESUBMITTAL

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CONCEPTUAL LANDSCAPE PLAN

L-2



FOUNTAIN COURT
- water feature
- wood paving
- lounge furnishings
- pollinator friendly planting (monarch butterflies)

MEDITATION GARDEN
- water feature
- wood paving
- 42" max privacy hedge
- lounge furnishings

SOCIAL COURTYARD
- loggia with enhanced paving
- dining terrace
- heaters
- specimen trees
- cement tile carpet
- enhanced paving
- lounge furnishings
- fireplace
- fountain
- multi-use turf

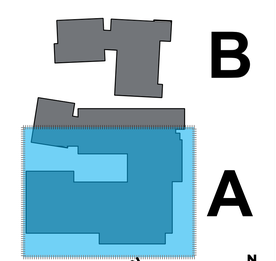
ENTRY LOGGIA
- porte cochere / drop-off
- enhanced paving
- benches

PAVING KEY

1. SITEWIDE CONCRETE PAVING
   -GRACE TOPCAST 3 FINISH
2. CONCRETE PAVER FIELD
   -QCP - FLATWORX 24" SQ. PAVER -WT2
3. CONCRETE PAVER BANDING
   -QCP - FLATWORX 12" SQ. PAVER -WT1
4. CEMENT TILE CARPET
   -CLE' TILE - PATTERN SQUARE 8" SQ.
5. WOOD ACCENT PAVING
   -ROBI DECKING BLACK LOCUST

SCALE: 1" = 10'
0' 5' 10' 20'

KEY PLAN



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BUILDING A ENLARGEMENT

L-3

RESIDENT GARDEN
- raised planter beds
- citrus grove
- seating

MEMORY CARE GARDEN
- dining patio with shade
- multi-use lawn
- 6' min. tubular steel fence
- wind chimes
- seating nodes



ACTIVITY LAWN / FIRELANE
- synthetic lawn
- lawn games / tai chi
- low stone wall
- lounge furnishings
- specimen tree
- shade trees
- festival lights
- fire lane
- seating nodes

PAVING KEY

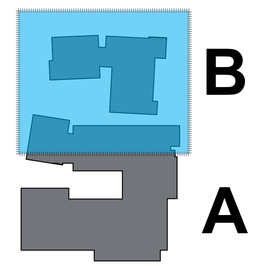
1. SITEWIDE CONCRETE PAVING
   -GRACE TOPCAST 3 FINISH
2. CONCRETE PAVER FIELD
   -QCP - FLATWORX 24" SQ. PAVER -WT2
3. CONCRETE PAVER BANDING
   -QCP - FLATWORX 12" SQ. PAVER -WT1
4. CEMENT TILE CARPET
   -CLE' TILE - PATTERN SQUARE 8" SQ.
5. PET RELIEF TURF
   FOREVER - K9 GRASS CLASSIC
6. FIRE LANE TURF
   IMPERIAL SYNTHETIC TURF - IMPERIAL FESCUE
   90 OVER FIRE DEPARTMETN APPROVED BASE

DOG PARK
- synthetic lawn
- trap fence
- benches
- dog wash
- privacy hedge
- existing canary island palms
- entry court with tree allee

CONNECTION TO OSJ CAMPUS

SCALE: 1" = 20'
0' 5' 10' 20' 40'

KEY PLAN



TRUE NORTH
PLAN NORTH

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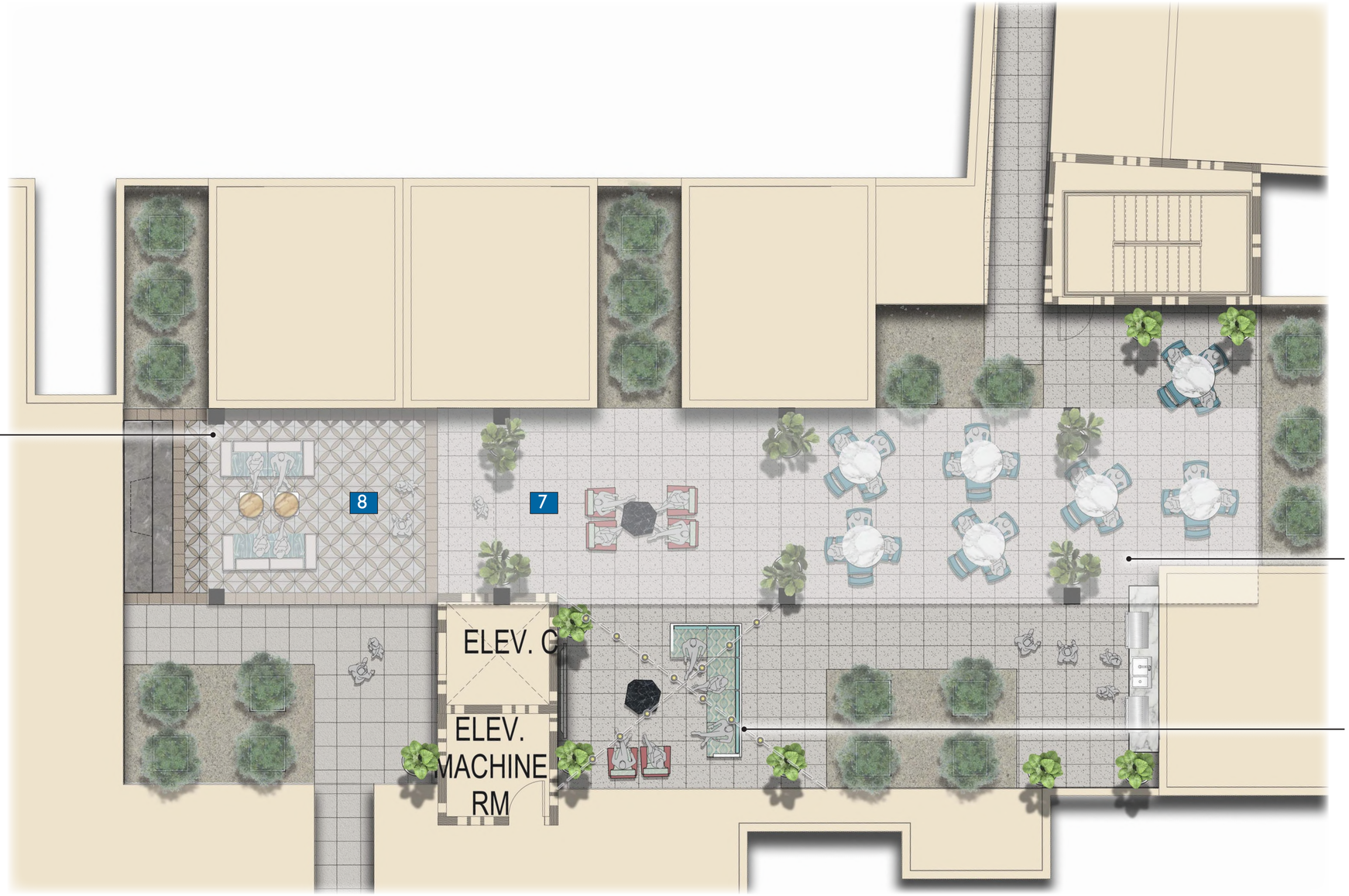
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Sheet Identification

BUILDING B ENLARGEMENT

L-4



FIREPLACE LOUNGE
- lounge furnishings
- fireplace
- decorative tile paving
- pottery

DINING TERRACE
- shade trellis
- built-in bbq counter
- dining tables
- lounge seating
- pottery

OUTDOOR TV LOUNGE
- wall mounted tv
- lounge seating
- pottery

PAVING KEY

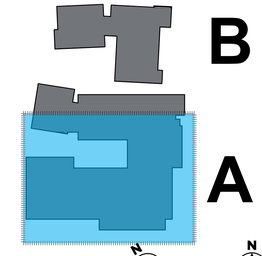
7 CONCRETE PAVER ON PEDESTAL
-QCP - FLATWORX 24" SQ. PAVER -WT2

8 CEMENT TILE CARPET ON PEDESTAL BASE
-CLE' TILE - PATTERN SQUARE 8" SQ.

SCALE: 1" = 4'

0' 4' 8' 16'

KEY PLAN



TRUE NORTH

PLAN NORTH

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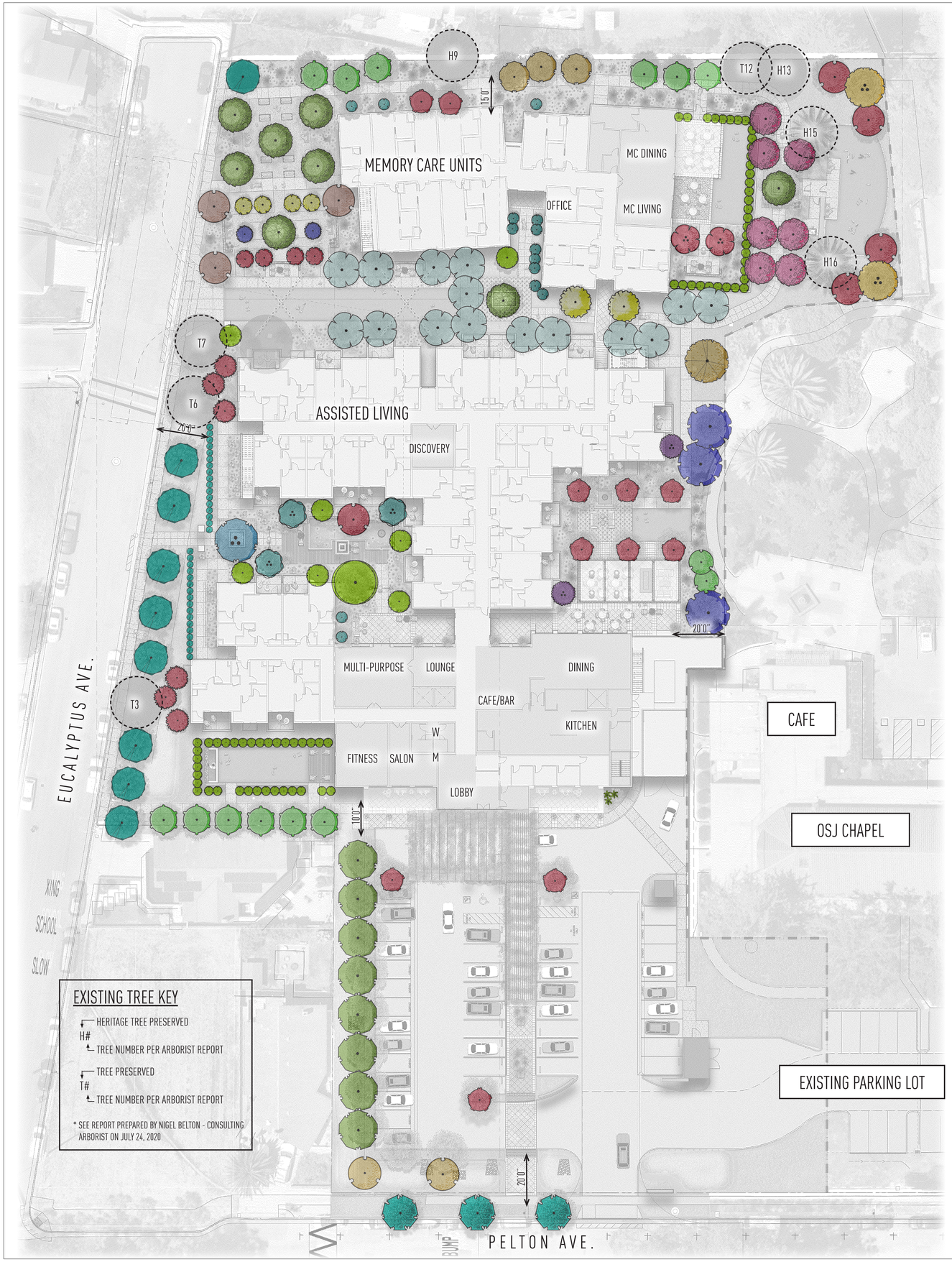
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BUILDING A ROOF TERRACE

L-5



EXISTING TREE KEY

- H# — HERITAGE TREE PRESERVED
  - TREE NUMBER PER ARBORIST REPORT
- T# — TREE PRESERVED
  - TREE NUMBER PER ARBORIST REPORT

* SEE REPORT PREPARED BY NIGEL BELTON - CONSULTING ARBORIST ON JULY 24, 2020

PROPOSED TREE LIST

THIS PRELIMINARY PLANT PALETTE IS INTENDED TO REPRESENT A TYPICAL SAMPLE OF THE PROPOSED PLANTS BUT DOES NOT INDICATE THE EXACT SPECIES WHICH WILL BE DEVELOPED ON THE DETAILED PLANS. FINAL SELECTION OF STREET TREES TO BE COORDINATED WITH CITY ARBORIST, LESLIE KEEDY.

ALL PLANTS ARE CAP-IPC NON-INVASIVE.THESE PLANTS ARE WATER CONSERVING and USED FOR THEIR DEEP ROOT SYSTEMS WHICH STABILIZES SOIL and MINIMIZES EROSION IMPACTS.

PLANT SCHEDULE

TREES	BOTANICAL NAME	COMMON NAME	SIZE	QTY
	ACER PALMATUM `BLOODGOOD`	BLOODGOOD JAPANESE MAPLE	36"BOX	1
	ARBUTUS MENZIESII	PACIFIC MADRONE	24"BOX	3
	ARBUTUS X `MARINA`	ARBUTUS MULTI-TRUNK	36"BOX	11
	BAUHINIA X BLAKEANA	HONG KONG ORCHID TREE	36"BOX	5
	CHORISIA SPECIOSA	SILK FLOSS TREE	24"BOX	2
	CITRUS X LIMON	LEMON	15 GAL.	4
	CYCAS REVOLUTA	SAGO PALM	24"BOX	3
	DIOSPYROS VIRGINIANA	COMMON PERSIMMON	15 GAL.	4
	EUCALYPTUS FICIFOLIA	RED FLOWERING GUM	36"BOX	9
	EUCALYPTUS SPATHULATA	SWAMP MALLEE	24"BOX	3
	FRUIT TREE	FRUIT TREE - TBS.	15 GAL.	2
	HESPEROCYPARIS MACROCARPA	MONTEREY CYPRESS	36"BOX	1
	JUNIPERUS CHINENSIS `TORULOSA`	HOLLYWOOD JUNIPER	24"BOX	7
	LAURUS X `SARATOGA`	SARATOGA HYBRID LAUREL	36"BOX	15
	LIGUSTRUM JAPONICUM 'TEXANUM'	TEXAS JAPANESE PRIVET	15 GAL.	34
	LOPHOSTEMON CONFERTUS	BRISBANE BOX	24"BOX	12
	MAGNOLIA X SOULANGEANA	SAUCER MAGNOLIA	24"BOX	2
	MALUS X `PRAIRIFIRE`	PRAIRIFIRE CRABAPPLE	24"BOX	7
	METROSIDEROS EXCELSA	NEW ZEALAND CHRISTMAS TREE	36"BOX	3
	OLEA EUROPAEA `SWAN HILL` TM	SWAN HILL OLIVE	48"BOX	8
	PODOCARPUS ELONGATUS `MONMAL` TM	ICEE BLUE YELLOW WOOD	24"BOX	14
	PRUNUS CAROLINIANA `BRIGHT `N TIGHT` TM	BRIGHT `N TIGHT CAROLINA LAUREL	24"BOX	70
	QUERCUS AGRIFOLIA	COAST LIVE OAK	48"BOX	3
	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	36"BOX	1
	TRISTANIOPSIS LAURINA	WATER GUM	36"BOX	8

SCALE: 1" = 20'

0' 5' 10' 20' 40'

TRUE NORTH

PLAN NORTH

CALLISONRTKL

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TREE PLAN

L-6

WATER CONSERVATION PRINCIPLES

PURPOSE: TO PROVIDE THE MAINTENANCE STAFF A MECHANICAL DEVICE TO DISTRIBUTE WATER AND ENSURE PLANT SURVIVAL IN THE MOST EFFICIENT MANNER AND WITHIN A TIME FRAME THAT LEAST INTERFERES WITH THE ACTIVITIES OF THE RESIDENTS.

CONCEPT: THE SYSTEM WILL UTILIZE DRIP and BUBBLER IRRIGATION COMPATIBLE WITH THE AREA BEING WATERED AND INFILTRATION RATES OF THE SOIL. THE SYSTEM WILL BE CONTROLLED BY A 'WEATHER TRAK' or 'SMART' CONTROLLER. VALVES PROGRAMMED FROM AUTOMATIC CONTROLLERS WILL MAXIMIZE EFFICIENT WATER APPLICATION.

TO AVOID WATER RUNOFF, THE CONTROLS WILL BE OVERSEEN BY A FLOW MONITOR THAT WILL DETECT ANY BROKEN BUBBLER HEADS or DRIP TUBING TO STOP THAT STATION'S OPERATION, ADVANCING TO THE NEXT WORKABLE STATION. IN THE EVENT OF PRESSURE SUPPLY LINE BREAKAGE, IT WILL COMPLETELY STOP THE OPERATION OF THE SYSTEM. ALL MATERIAL WILL BE NON-FERROUS, WITH THE EXCEPTION OF THE BRASS PIPING INTO AND OUT OF THE BACKFLOW UNITS. ALL WORK WILL BE IN THE BEST ACCEPTABLE MANNER IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS PREVAILING IN THE INDUSTRY.

LANDSCAPE SECURITY MEASURES:

- LANDSCAPING WILL BE OF THE TYPE AND SITUATED IN LOCATIONS TO MAXIMIZE OBSERVATION WHILE PROVIDING A DEGREE OF AESTHETICS . SECURITY PLANTING MATERIALS ARE ENCOURAGED ALONG PROPERTY LINES AND WALLS AND UNDER VULNERABLE WINDOWS.
- TREES WILL NOT BE PLANTED CLOSE ENOUGH TO THE STRUCTURE TO ALLOW EASY ACCESS TO THE ROOF, OR SHOULD BE KEPT TRIM MED TO MAKE CLIMBING DIFFICULT.
- ALL LANDSCAPING WILL BE MAINTAINED IN A MANNER THAT ALLOWS FOR THE MAXIMUM COVERAGE BY ADJACENT LIGHT FIXTURES.

IRRIGATION CONCEPT STATEMENT

LANDSCAPE PLANS ARE CONSISTENT WITH THE APPLICABILITY AND REQUIREMENTS OF CHAPTER 16.16 OF THE SANTA CRUZ MUNICIPAL CODE.

IRRIGATION ZONES: IRRIGATION HYDRO-ZONES SHALL HAVE PLANTS GROUPED with SIMILAR WATERING REQUIREMENTS.

DEPTH OF IRRIGATION LINES: ALL ON-GRADE LATERAL LINES SHALL BE BURIED TO A DEPTH OF 18" MIN. ALL ON-GRADE MAINLINES SHALL BE BURIED TO A DEPTH OF 24" MIN.

BACKFLOW PREVENTER: BACKFLOW PREVENTER SHALL BE A REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER (FEBCO 825Y OR EQUAL) TYPE AS APPROVED BY WATER PURVEYOR and SCREENED with LANDSCAPING from PUBLIC VIEW.

IRRIGATION EMITTERS: ALL SHRUB AREAS SHALL BE IRRIGATED USING DRIP TYPE IRRIGATION SYSTEM. ALL TREES SHALL BE IRRIGATED USING BUBBLER AND/OR DRIP IRRIGATION SYSTEM. ALL GROUNDCOVER AREAS SHALL BE IRRIGATED USING DRIP IRRIGATION SYSTEM.

IRRIGATION CONTROLLER: CONTROLLER SHALL BE AUTOMATIC WITH MULTIPLE PROGRAMMING CAPABILITY. CONTROLLER TO BE REPROGRAMMED SEASONALLY TO MINIMIZE RUNOFF AND OVER WATERING. "SMART" CONTROLLER WEATHER TRACKING DEVICES SHALL BE UTILIZED TO CONTROL IRRIGATION CYCLES ACCORDING TO SPECIFIC IRRIGATION REQUIREMENTS.

CLASS OF IRRIGATION PIPE: ALL MAINLINE SHALL BE CLASS 315 PVC. ALL LATERAL LINE SHALL BE CLASS 200 PVC.

* * * SPECIAL PROJECT IRRIGATION NOTES * * *

1. THE IRRIGATION DESIGN SHALL COMPLY with THE CRITERIA of CITY of SANTA CRUZ WATER CONSERVATION POLICIES and REQUIREMENTS.

2. THE IRRIGATION SYSTEM SERVING LANDSCAPE and TREES in the PUBLIC RIGHT-OF-WAY will be CONNECTED to the ON-SITE WATER SUPPLY.

LANDSCAPE NOTES:

1. LANDSCAPE WILL BE DESIGNED , DOCUMENTED, INSTALLED AND MAINTAINED IN CONFORMANCE TO THE GUIDELINES FOR IMPLEMENTATION OF THE CITY OF SANTA CRUZ WATER EFFICIENT LANDSCAPE REGULATIONS.
2. ANY TREE OR PALM WITHIN 5 FEET OF HARDSCAPE AREA WILL RECEIVE ROOT CONTROL BARRIERS.
3. ALL PLANTING AREAS WILL RECEIVE 3" THICK LAYER OF SHREDDED WOOD MULCH.
4. FINAL SELECTION OF STREET TREES TO BE COORDINATED WITH CITY ARBORIST LESLIE KEEDY AT THE PARKS AND RECREATION DEPARTMENT, 420-5246.
5. NO SUB-DRAINAGE SYSTEM REQUIRED FOR ARTIFICIAL TURF AREA.

LANDSCAPE SETBACK REGULATIONS:

TOTAL FRONT YARD AREA = 7,049 SF
- 35% OF TOTAL FRONT YARD AREA MAY BE PAVED OR DEVELOPED IN NON-PLANT MATERIALS.
- MAX. 2,467 SF NON-PLANT MATERIALS ALLOWED, 1,893 SF NON-PLANT MATERIAL PROVIDED IN FRONT YARD.

TOTAL SIDE YARD AREA = 3,423 SF
- 35% OF TOTAL FRONT YARD AREA MAY BE PAVED OR DEVELOPED IN NON-PLANT MATERIALS.
- MAX. 1,198 SF NON-PLANT MATERIALS ALLOWED, 842 SF NON-PLANT MATERIAL PROVIDED IN FRONT YARD

TREE MITIGATION REQUIREMENTS

- 2:1 TREE REPLACEMENT RATIO ON REMOVALS REQUIRED PER LOCAL COASTAL PROGRAM POLICY.
- 11 OF 30 TREES PRESERVED ON SITE PER ARBORIST REPORT BY CALLISON RTKL DATED MAY 27, 2020.
- 7 OF 13 HERITAGE TREES PRESERVED ON SITE PER ARBORIST REPORT BY CALLISON RTKL DATED MAY 27, 2020.
- TOTAL 25 TREES ON SITE REQUIRING MITIGATION. 50 TREES REQUIRED AS REPLACEMENT PER THE LOCAL COASTAL PROGRAM 2:1 REPLACEMENT RATIO POLICY.
- TOTAL QUANTITY OF TREES PROPOSED ON SITE: 241

PROPOSED SHRUB LIST

THIS PRELIMINARY PLANT PALETTE IS INTENDED TO REPRESENT A TYPICAL SAMPLE OF THE PROPOSED PLANTS BUT DOES NOT INDICATE THE EXACT SPECIES WHICH WILL BE DEVELOPED ON THE DETAILED PLANS.

ALL PLANTS ARE CAP-IPC NON-INVASIVE.

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	WUCOLS
HYDROZONE 1 - ENHANCED SHRUB PALETTE - SUN EXP.				
	LARGE SHRUBS			
	ALYOGYNE HUEGELI	BLUE HIBISCUS	5 GAL	Moderate
	COTONEASTER LACTEUS	PARNEY COTONEASTER	5 GAL	Moderate
	PITTOSPORUM SPP.	PITTOSPORUM	5 GAL	Moderate
	PHOTINIA FRASERI	RED-TIPPED PHOTINIA	5 GAL	Moderate
	PYRACANTHA SPECIES	FIRE THORN	5 GAL	Moderate
	MEDIUM SHRUBS			
	CEANOTHUS SPECIES	CEANOTHUS	5 GAL	Low
	DIETES BICOLOR	BUTTERFLY IRIS	5 GAL	Moderate
	LIGUSTRUM J. 'TEXANUM'	WAX LEAF PRIVET-HEDGE	5 GAL	Moderate
	RHAPHIOLEPIS INDICA 'CLARA'	INDIA HAWTHORN	5 GAL	Moderate
	ROSA SPP.	ROSE	5 GAL	Moderate
	SMALL SHRUBS			
	HEMEROCALLIS HYBRIDS	DAYLILY	1 GAL	Moderate
	MAHONIA REPENS	CREEPING MAHONIA	1 GAL	Low
	PYRACANTHA 'RED ELF'	DWARF FIRETHORN	1 GAL	Moderate
	ROSEMARINUS PROSTRATUS	DWARF ROSEMARY	1 GAL	Low
	SALVIA ALPINIA	WHITE SAGE	1 GAL	Low
	TRACHELOSPERMUM JASMINOIDES	STAR JASMINE	1 GAL	Moderate
HYDROZONE 2 - ENHANCED SHRUB PALETTE - SHADE EXP.				
	LARGE SHRUBS			
	ELEAGNUS PUNGENS	SILVERBERRY	5 GAL	Moderate
	LIGUSTRUM J. 'TEXANUM'	WAX LEAF PRIVET	5 GAL	Moderate
	PITTOSPORUM T. VARIEGATA	VARIEGATED TOBIRA	5 GAL	Moderate
	MEDIUM SHRUBS			
	ARBUTUS UNEDO ' COMPACTA'	DWF. STRAWBERRY TREE	5 GAL	Low
	ASPARAGUS SPRENGERI	ASPARAGUS FERN	5 GAL	Moderate
	DIETES BICOLOR	BUTTERFLY IRIS	5 GAL	Moderate
	SMALL SHRUBS			
	HEUCHERA SANGUINEA	CORAL BELLS	1 GAL	Moderate
	IRIS DOUGLASIANA	PACIFIC COAST HYBRID	1 GAL	Moderate
	MAHONIA REPENS	CREEPING MAHONIA	1 GAL	Low
	MYRTUS COMMUNIS 'COMPACTA'	DWARF MYRTLE	5 GAL	Moderate
HYDROZONE 3 - WATER CONSERVING SHRUBS (common area not adjacent to the residential buildings)				
	LARGE SHRUBS			
	ARBUTUS UNEDO	STRAWBERRY TREE-MULTI	5 GAL	Low
	CEANOTHUS SPECIES	CEANOTHUS	5 GAL	Low
	FEIJOA SELLOWIANA	PINEAPPLE GUAVA	5 GAL	Low
	ROMNEYA COULTERI	MATILIJA POPPY	5 GAL	Low
	RHAMNUS CALIFORNICA	COFFEEBERRY	5 GAL	Low
	MEDIUM SHRUBS			
	BACCHARIS 'TWIN PEAKS'	COYOTE BUSH	5 GAL	Low
	CEANOTHUS SPP.	CEANOTHUS	5 GAL	Low
	KNIPHOFIA UVARIA	RED-HOT POKER	5 GAL	Low
	LEUCOPHYLLUM SPP.	TEXAS RANGER	5 GAL	Low
	RHAMNUS C. 'EVE CASE'	COFFEEBERRY	5 GAL	Low
	RHUS INTEGRIFOLIA	LEMONADE BERRY	5 GAL	Low
	SMALL SHRUBS			
	ARCHOSTAPHYLOS 'EMERALD CARPET'	MANZANITA	1 GAL	Low
	MUHLENBERGIA RIGENS	DEER GRASS	1 GAL	Low
	SALVIA CLEVELANDII	CLEVELAND SAGE	1 GAL	Low
BIORETENTION BASINS				
	ZONE 'A' - BOTTOM OF BASIN INUNDATED DURING STORM EVENTS			
	CAREX DIVULSA	BERKELEY SEDGE	1 GAL	Low
	CHONDROPETLUM TECTORUM	SMALL CAPE RUSH	5 GAL	Moderate
	JUNCUS PATENS	WIRE GRASS	1 GAL	Moderate
	ZONE 'B' - SIDE SLOPES OF BASIN ABOVE PONDING WATER			
	ACHILLEA MILLEFOLIUM	COMMON YARROW	1 GAL	Low
	LEYMUS C. 'CANYON PRINCE'	CANYON PRINCE WILD RYE	5 GAL	Low
	MUHLENBERGIA RIGENS	DEER GRASS	5 GAL	Low
BUTTERFLY GARDEN				
	ABUTILON X HYBRIDUM	FLOWERING MAPLE	5 GAL	Moderate
	ACHILLEA MILLEFOLIUM	COMMON YARROW	1 GAL	Low
	BUDDLEJA DAVIDII	BUTTERFLY BUSH	5 GAL	Moderate
	CEANOTHUS THYRSIFLORUS	BLUEBLOSSOM	1 GAL	Low
	ENCELIA CALIFORNICA	CA BRITTLEBRUSH	1 GAL	Low
	ERICAMERIA ERICOIDES	CA GOLDENBUSH	1 GAL	Low
	ERIGERON GLAUCUS	SEASIDE FLEABANE	1 GAL	Low
	LANTANA MONTEVIDENSIS	TRAILING LANTANA	5 GAL	Moderate
	LOBELIA DUMNII VAR. SERRATA	DUNN'S LOBELIA	1 GAL	Moderate
	SALVIA LEUCANTHA	MEXICASN BUSH SAGE	5 GAL	Low
	SALVIA MELIFERA	BLACK SAGE	5 GAL	Low
VINES ATTACHED to ENTRY TRELLIS & LOGGIA COLUMNS				
ATTACH TO COLUMNS	BOUGAINVILLEA 'LA JOLLA'	BOUGAINVILLEA	15 GAL	Moderate
	ROSA 'ALTISSIMO'	CLIMBING RED ROSE	15 GAL	Moderate
SHRUBS for SCREENING UTILITIES				
	LAURUS NOBLIS - COLUMN	BAY LAUREL	15 GAL	Moderate
	LIGUSTRUM J. 'TEXANUM' - COLUMN	WAX-LEAF PRIVET	15 GAL	Moderate
	PITTOSPORUM T. 'MARJORIE CHANNON'	TAWHIWHI	15 GAL	Moderate
	PRUNUS C. 'BRIGHT & TIGHT'	CAROLINA LAUREL	15 GAL	Moderate

PROPOSED TREE LIST

THIS PRELIMINARY PLANT PALETTE IS INTENDED TO REPRESENT A TYPICAL SAMPLE OF THE PROPOSED PLANTS BUT DOES NOT INDICATE THE EXACT SPECIES WHICH WILL BE DEVELOPED ON THE DETAILED PLANS. FINAL SELECTION OF STREET TREES TO BE COORDINATED WITH CITY ARBORIST, LESLIE KEEDY.

ALL PLANTS ARE CAP-IPC NON-INVASIVE.THESE PLANTS ARE WATER CONSERVING and USED FOR THEIR DEEP ROOT SYSTEMS WHICH STABILIZES SOIL and MINIMIZES EROSION IMPACTS.

PLANT SCHEDULE

TREES	BOTANICAL NAME	COMMON NAME	SIZE	QTY
	ACER PALMATUM `BLOODGOOD`	BLOODGOOD JAPANESE MAPLE	36"BOX	1
	ARBUTUS MENZIESII	PACIFIC MADRONE	24"BOX	3
	ARBUTUS X `MARINA`	ARBUTUS MULTI-TRUNK	36"BOX	11
	BAUHINIA X BLAKEANA	HONG KONG ORCHID TREE	36"BOX	5
	CHORISIA SPECIOSA	SILK FLOSS TREE	24"BOX	2
	CITRUS X LIMON	LEMON	15 GAL.	4
	CYCAS REVOLUTA	SAGO PALM	24"BOX	3
	DIOSPYROS VIRGINIANA	COMMON PERSIMMON	15 GAL.	4
	EUCALYPTUS FICIFOLIA	RED FLOWERING GUM	36"BOX	9
	EUCALYPTUS SPATHULATA	SWAMP MALLEE	24"BOX	3
	FRUIT TREE	FRUIT TREE - TBS.	15 GAL.	2
	HESPEROCYPARIS MACROCARPA	MONTEREY CYPRESS	36"BOX	1
	JUNIPERUS CHINENSIS `TORULOSA`	HOLLYWOOD JUNIPER	24"BOX	7
	LAURUS X `SARATOGA`	SARATOGA HYBRID LAUREL	36"BOX	15
	LIGUSTRUM JAPONICUM 'TEXANUM'	TEXAS JAPANESE PRIVET	15 GAL.	34
	LOPHOSTEMON CONFERTUS	BRISBANE BOX	24"BOX	12
	MAGNOLIA X SOULANGEANA	SAUCER MAGNOLIA	24"BOX	2
	MALUS X `PRAIRIFIRE`	PRAIRIFIRE CRABAPPLE	24"BOX	7
	METROSIDEROS EXCELSA	NEW ZEALAND CHRISTMAS TREE	36"BOX	3
	OLEA EUROPAEA `SWAN HILL` TM	SWAN HILL OLIVE	48"BOX	8
	PODOCARPUS ELONGATUS `MONMAL` TM	ICEE BLUE YELLOW WOOD	24"BOX	14
	PRUNUS CAROLINIANA `BRIGHT `N TIGHT` TM	BRIGHT `N TIGHT CAROLINA LAUREL	24"BOX	70
	QUERCUS AGRIFOLIA	COAST LIVE OAK	48"BOX	3
	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	36"BOX	2
	TRISTANIOPSIS LAURINA	WATER GUM	36"BOX	8

CALLISONRTKL

CallisonRTKL Inc.
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LOS ANGELES, CA 90071
Tel: 213.633.6000

CallisonRTKL Project No: 040-190064

Consultant

MJS LANDSCAPE ARCHITECTURE

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SANTA CRUZ, CA 95060

Client/Owner/Operator

OPPIDAN INVESTMENT COMPANY
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SAN JOSE, CA 95125

THE FRESHWATER GROUP
2020 WEST RUDASILL ROAD
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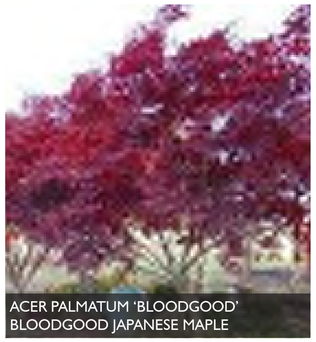
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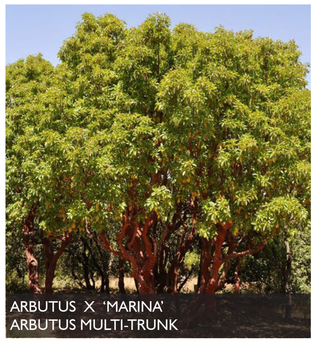
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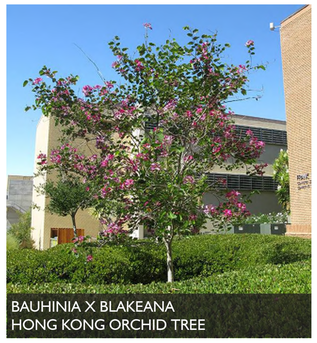
PLANT PALETTE AND NOTES

L-7

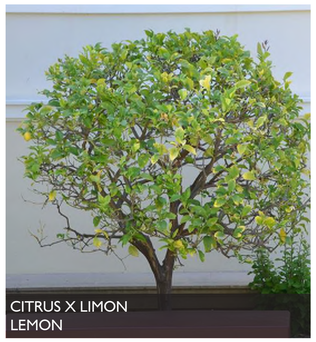

ACER PALMATUM 'BLOODGOOD'
BLOODGOOD JAPANESE MAPLE

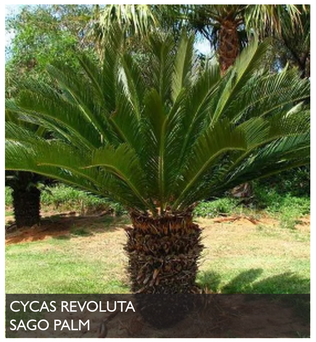

ARBUTUS MENZIESII
PACIFIC MADRONE

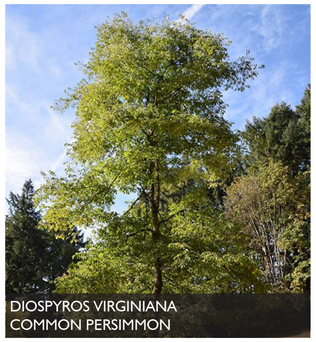

ARBUTUS X `MARINA'
ARBUTUS MULTI-TRUNK


BAUHINIA X BLAKEANA
HONG KONG ORCHID TREE

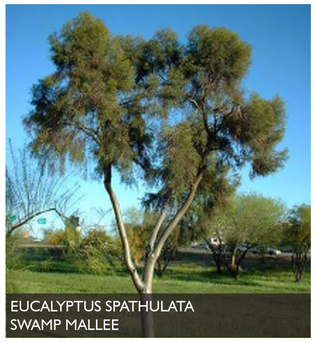

CHORISIA SPECIOSA
SILK FLOSS TREE


CITRUS X LIMON
LEMON

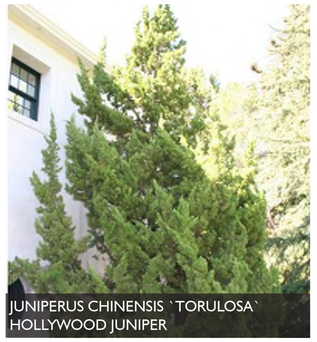

CYCAS REVOLUTA
SAGO PALM


DIOSPYROS VIRGINIANA
COMMON PERSIMMON


EUCALYPTUS FICIFOLIA
RED FLOWERING GUM


EUCALYPTUS SPATHULATA
SWAMP MALLEE


HESPEROCYPARIS MACROCARPA
MONTEREY CYPRESS


JUNIPERUS CHINENSIS `TORULOSA`
HOLLYWOOD JUNIPER


LAURUS X `SARATOGA`
SARATOGA HYBRID LAUREL


LOPHOSTEMON CONFERTUS
BRISBANE BOX


MAGNOLIA X SOULANGEANA
SAUCER MAGNOLIA


MALUS X `PRAIRIFIRE`
PRAIRIFIRE CRABAPPLE

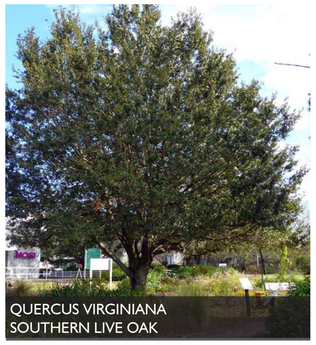

METROSIDEROS EXCELSA
NEW ZEALAND CHRISTMAS TREE


OLEA EUROPAEA `SWAN HILL` TM
SWAN HILL OLIVE


PODOCARPUS ELONGATUS `MONMAL` TM
ICEE BLUE YELLOW WOOD


PRUNUS CAR. `BRIGHT `N TIGHT` TM
BRIGHT `N TIGHT CAROLINA LAUREL


QUERCUS AGRIFOLIA
COAST LIVE OAK


QUERCUS VIRGINIANA
SOUTHERN LIVE OAK


TRISTANIOPSIS LAURINA
WATER GUM

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Consultant

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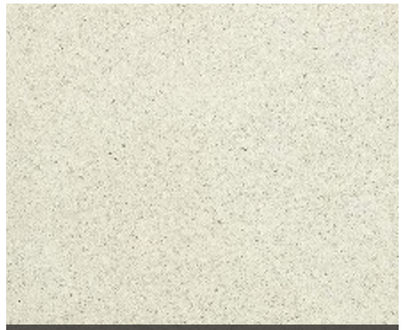
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TREE IMAGES

L-8



2 7 ENHANCED PAVING - CONCRETE PAVER FIELD



3 ENHANCED PAVING - CONCRETE BANDING



4 8 CEMENT TILE CARPET



RAISED GARDEN BEDS



FOUNTAIN WITH STONE WALL



PATIO GATES AND WALLS



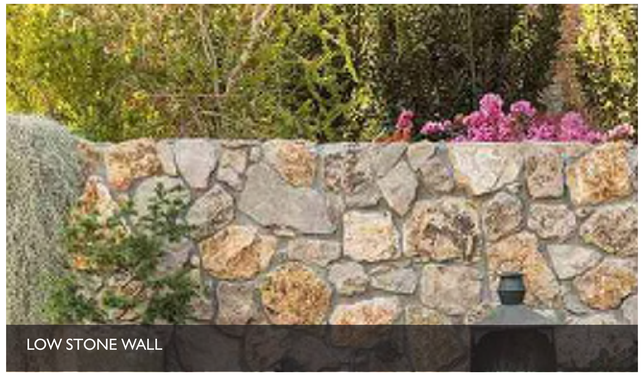
FIREPLACE



POTTERY



BIRD BATH



LOW STONE WALL



SCREEN GATES

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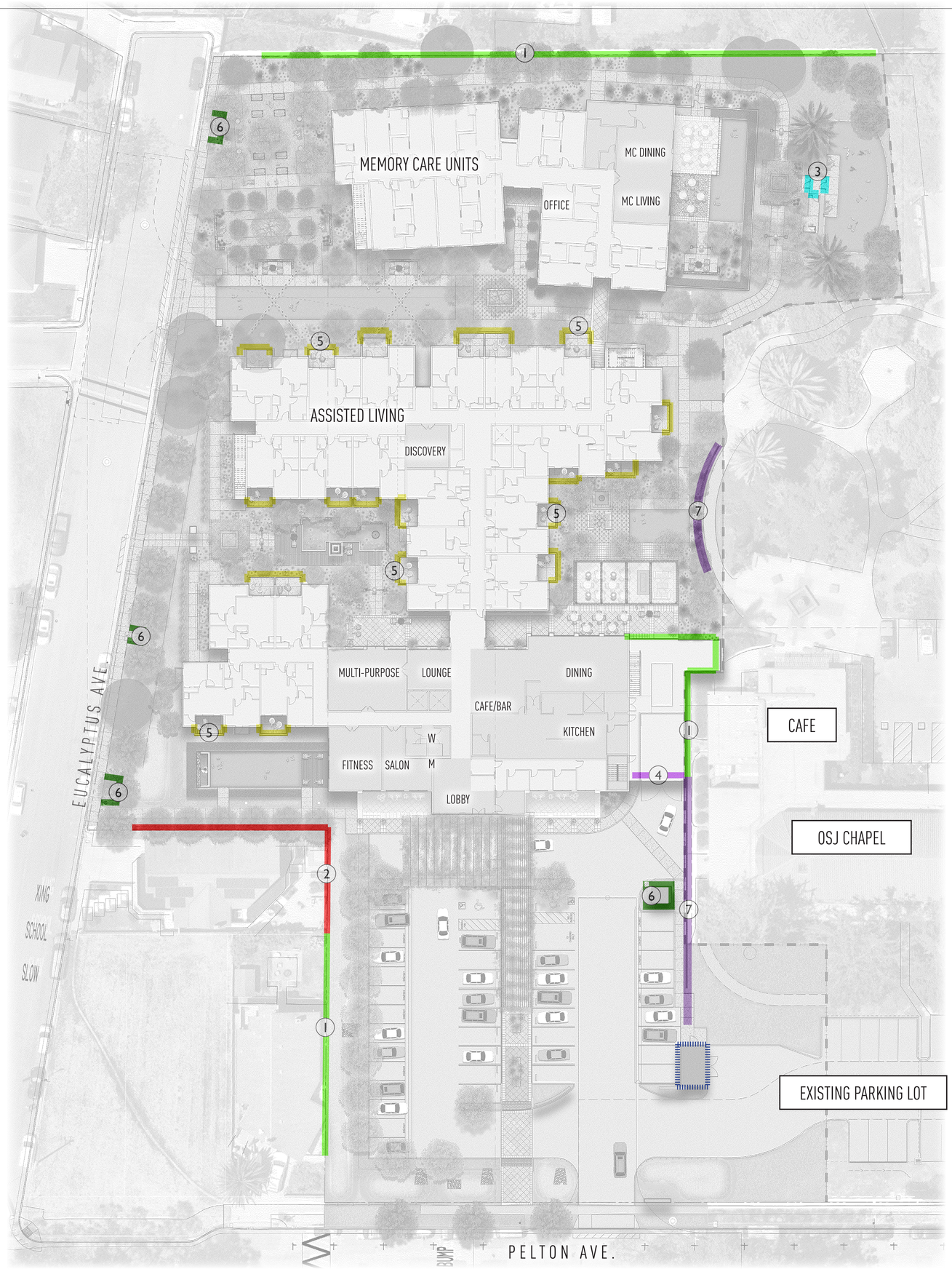
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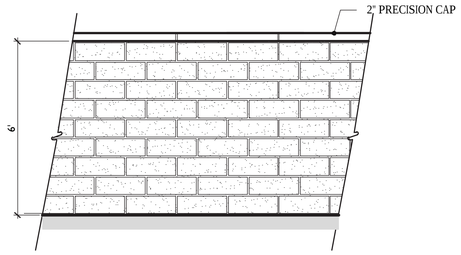
LANDSCAPE MATERIALS

L-9

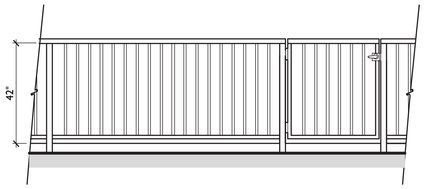


WALL and FENCE KEY:

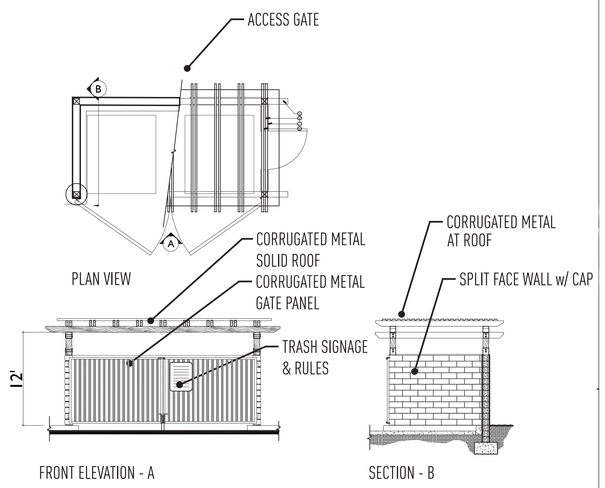
1	6' HT. SPLIT FACED BLOCK WALL w/ PRECAST CAP COLOR: SOURDOUGH
2	EXISTING WALL - PROTECT-IN-PLACE
3	42" PEDESTRIAN GATE AT DOG PARK
4	6' HT. VEHICULAR GATE - PER ARCHITECT. REFER TO SHEET A-200
5	PATIO LOW FENCE - PER ARCHITECT. REFER TO SHEET A-200
6	LANDSCAPE SCREENING AT UTILITIES (3' MAX. - SEE PROPOSED SHRUB LIST)
7	LOW RETAINING WALL. REFER TO CIVIL PLANS.



A 6' HT. SPLIT FACED BLOCK WALL w/ PRECAST CAP



B 42" HT. PEDESTRIAN GATE at DOG PARK



TRASH ENCLOSURE DETAIL

SCALE: 1" = 20'

0' 5' 10' 20' 40'

TRUE NORTH

PLAN NORTH

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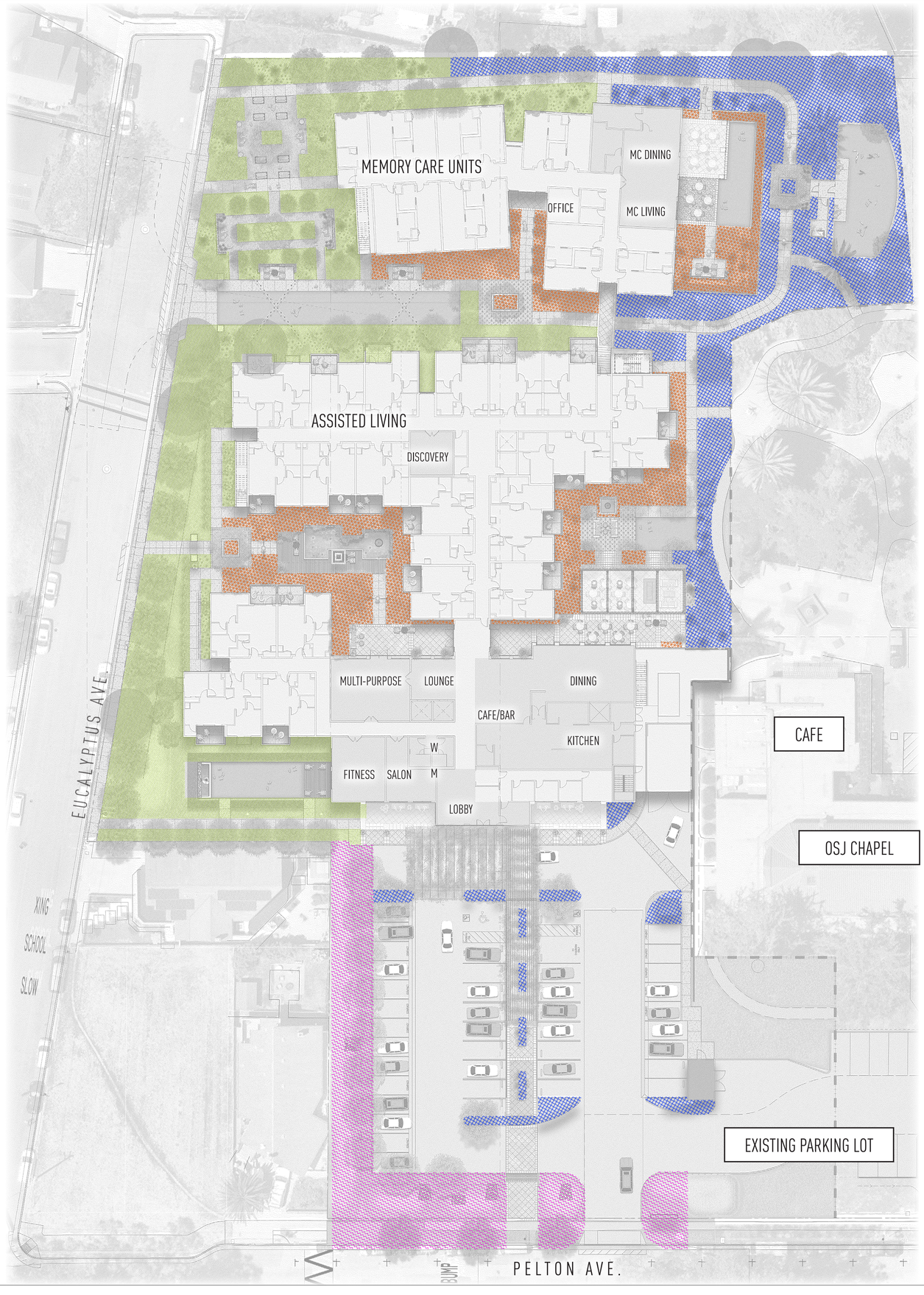
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WALL, FENCE AND SCREENING EXHIBIT

L-10



IRRIGATION HYDROZONES:

	HYDRO-ZONE 1 - NORTH/WEST FACING - 15,719 S.F. IRRIGATION TECHNIQUE TREES - BUBBLERS SHRUBS - SUB SURFACE DRIP IRRIGATION
	HYDRO-ZONE 2 - COURTYARD - 5,985 S.F. IRRIGATION TECHNIQUE TREES - BUBBLERS SHRUBS - SUB SURFACE DRIP IRRIGATION
	HYDRO-ZONE 3 - SOUTH/EAST FACING - 10,476 S.F. IRRIGATION TECHNIQUE TREES - BUBBLERS SHRUBS - SUB SURFACE DRIP IRRIGATION
	HYDRO-ZONE 4 - BIORETENTION BASIN - 6,609 S.F. IRRIGATION TECHNIQUE TREES - BUBBLERS SHRUBS - SUB SURFACE DRIP IRRIGATION
	TOTAL LANDSCAPE AREA: 38,789 S.F.

WATER CONSERVATION PRINCIPLES

PURPOSE: TO PROVIDE THE MAINTENANCE STAFF A MECHANICAL DEVICE TO DISTRIBUTE WATER AND ENSURE PLANT SURVIVAL IN THE MOST EFFICIENT MANNER AND WITHIN A TIME FRAME THAT LEAST INTERFERES WITH THE ACTIVITIES OF THE RESIDENTS.

CONCEPT: THE SYSTEM WILL UTILIZE DRIP and BUBBLER IRRIGATION COMPATIBLE WITH THE AREA BEING WATERED AND INFILTRATION RATES OF THE SOIL. THE SYSTEM WILL BE CONTROLLED BY A 'WEATHER TRAK' or 'SMART' CONTROLLER. VALVES PROGRAMMED FROM AUTOMATIC CONTROLLERS WILL MAXIMIZE EFFICIENT WATER APPLICATION.

TO AVOID WATER RUNOFF, THE CONTROLS WILL BE OVERSEEN BY A FLOW MONITOR THAT WILL DETECT ANY BROKEN BUBBLER HEADS or DRIP TUBING TO STOP THAT STATION'S OPERATION, ADVANCING TO THE NEXT WORKABLE STATION. IN THE EVENT OF PRESSURE SUPPLY LINE BREAKAGE, IT WILL COMPLETELY STOP THE OPERATION OF THE SYSTEM. ALL MATERIAL WILL BE NON-FERROUS, WITH THE EXCEPTION OF THE BRASS PIPING INTO AND OUT OF THE BACKFLOW UNITS. ALL WORK WILL BE IN THE BEST ACCEPTABLE MANNER IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS PREVAILING IN THE INDUSTRY.

IRRIGATION CONCEPT STATEMENT

LANDSCAPE PLANS ARE CONSISTENT WITH THE APPLICABILITY AND REQUIREMENTS OF CHAPTER 16.16 OF THE SANTA CRUZ MUNICIPAL CODE.

IRRIGATION ZONES: IRRIGATION HYDRO-ZONES SHALL HAVE PLANTS GROUPED with SIMILAR WATERING REQUIREMENTS.

DEPTH OF IRRIGATION LINES: ALL ON-GRADE LATERAL LINES SHALL BE BURIED TO A DEPTH OF 18" MIN. ALL ON-GRADE MAINLINES SHALL BE BURIED TO A DEPTH OF 24" MIN.

BACKFLOW PREVENTER: BACKFLOW PREVENTER SHALL BE A REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER (FEBCO 825Y OR EQUAL) TYPE AS APPROVED BY WATER PURVEYOR and SCREENED with LANDSCAPING from PUBLIC VIEW.

IRRIGATION EMITTERS: ALL SHRUB AREAS SHALL BE IRRIGATED USING DRIP TYPE IRRIGATION SYSTEM. ALL TREES SHALL BE IRRIGATED USING BUBBLER AND/OR DRIP IRRIGATION SYSTEM. ALL GROUNDCOVER AREAS SHALL BE IRRIGATED USING DRIP IRRIGATION SYSTEM.

IRRIGATION CONTROLLER: CONTROLLER SHALL BE AUTOMATIC WITH MULTIPLE PROGRAMMING CAPABILITY. CONTROLLER TO BE REPROGRAMMED SEASONALLY TO MINIMIZE RUNOFF AND OVER WATERING. "SMART" CONTROLLER WEATHER TRACKING DEVICES SHALL BE UTILIZED TO CONTROL IRRIGATION CYCLES ACCORDING TO SPECIFIC IRRIGATION REQUIREMENTS.

CLASS OF IRRIGATION PIPE: ALL MAINLINE SHALL BE CLASS 315 PVC. ALL LATERAL LINE SHALL BE CLASS 200 PVC.

* * * SPECIAL PROJECT IRRIGATION NOTES * * *

1. THE IRRIGATION DESIGN SHALL COMPLY with THE CRITERIA of CITY of SANTA CRUZ WATER CONSERVATION POLICIES and REQUIREMENTS.

2. THE IRRIGATION SYSTEM SERVING LANDSCAPE and TREES in the PUBLIC RIGHT-OF-WAY will be CONNECTED to the ON-SITE WATER SUPPLY.

California Water Efficient Landscape Worksheet

Reference Evapotranspiration (ET$_o$)			32.9	Project Type			0.55
Hydrozone # / Planting Description[a]	Plant Factor (PF)	Irrigation Method[b]	Irrigation Efficiency (IE)[c]	ETAF (PF/IE)	Landscape Area (Sq. Ft.)	ETAF x Area	Estimated Total Water Use (ETWU)[d]
Regular Landscape Areas							
Hydrozone # 1	0.3	Drip	0.81	0.37	11,371	4211	85906
Hydrozone # 2	0.5	Drip	0.81	0.62	4,453	2749	56069
Hydrozone # 3	0.3	Drip	0.81	0.37	15,155	5613	114493
Hydrozone # 4	0.5	Drip	0.81	0.62	5,111	3155	64354
			0.75	0.00		0	0
			0.75	0.00		0	0
			0.75	0.00		0	0
			0.75	0.00		0	0
			0.75	0.00		0	0
			0.75	0.00		0	0
			0.75	0.00		0	0
			0.75	0.00		0	0
			0.75	0.00		0	0
			0.75	0.00		0	0
			0.75	0.00		0	0
			0.75	0.00		0	0
			0.75	0.00		0	0
			0.75	0.00		0	0
			0.75	0.00		0	0
			0.75	0.00		0	0
			0.75	0.00		0	0
				Totals	36090	15728	320823
Special Landscape Areas							
				1		0	0
				1		0	0
				1		0	0
				1		0	0
				Totals	0	0	0
						ETWU Total	320823
						Maximum Allowed Water Allowance (MAWA)[e]	404890

SCALE: 1" = 20'

0' 5' 10' 20' 40'

TRUE NORTH

PLAN NORTH

CALLISONRTKL

CallisonRTKL Inc.
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Tel: 213.633.6000

CallisonRTKL Project No: 040-190064

Consultant

MJS LANDSCAPE ARCHITECTURE

THE WATERMARK AT SANTA CRUZ

126 EUCALYPTUS AVENUE
SANTA CRUZ, CA 95060

Client/Owner/Operator

OPPIDAN INVESTMENT COMPANY
1100 LINCOLN AVENUE, SUITE 3382
SAN JOSE, CA 95125

THE FRESHWATER GROUP
2020 WEST RUDASILL ROAD
TUCSON, AZ 85704

Issue Drawing Log

REV #	DATE (MM.DD.YY)	ISSUE NAME
	08.07.2020	LAND USE APPLICATION SUBMITTAL
	08.21.2020	SCHEMATIC DESIGN SUBMITTAL
	08.16.2021	SCHEMATIC DESIGN SUBMITTAL
	10.15.2021	LAND USE APPLICATION RESUBMITTAL

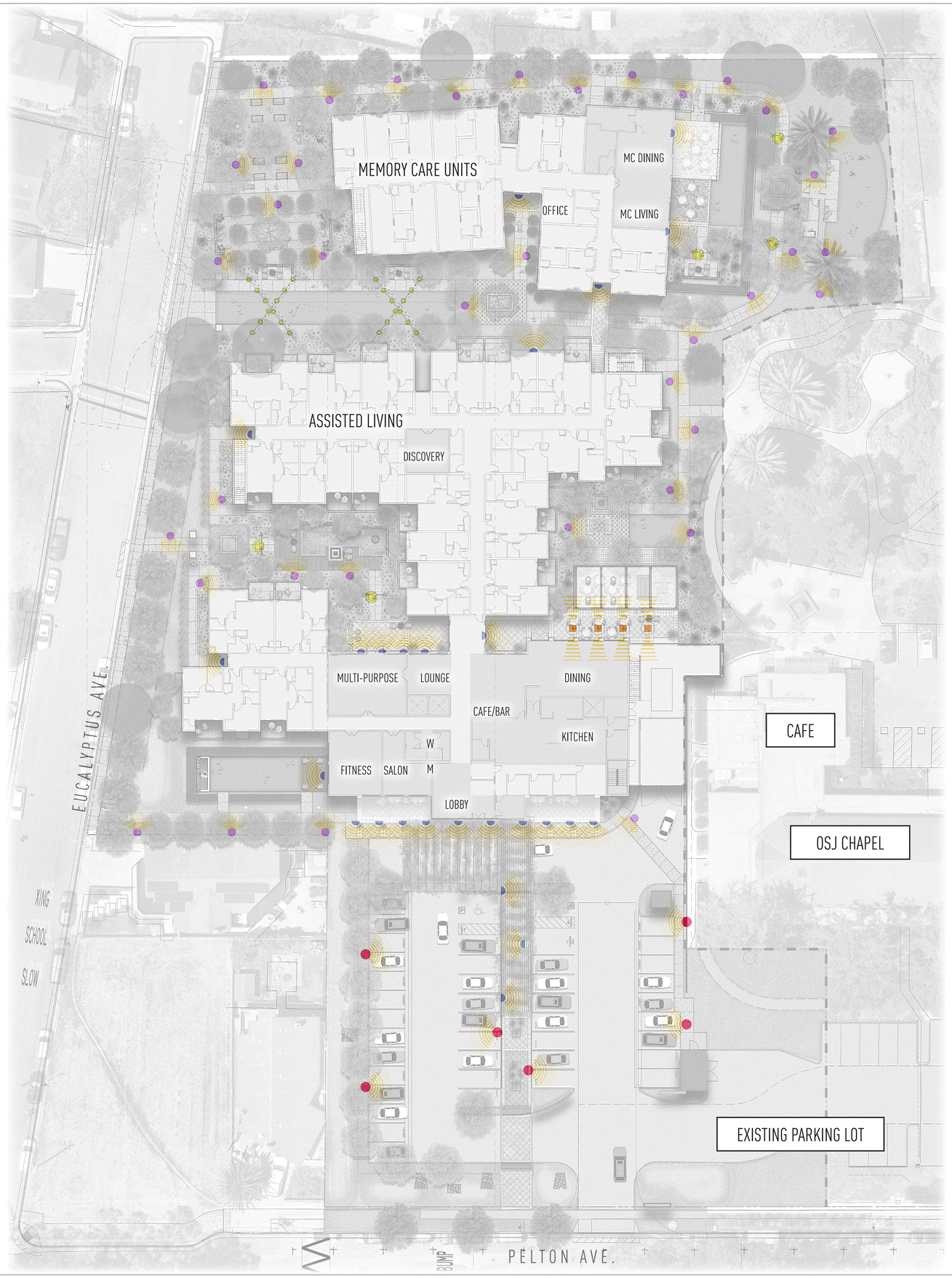
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Sheet Identification

HYDROZONE PLAN

L-11



LIGHTING CONCEPT:

THE OUTDOOR LIGHTING CONCEPT IS TO PROVIDE LEVELS OF LIGHTING SUFFICIENT TO MEET SAFETY AND ORIENTATION NEEDS.

WITHIN PUBLIC AREAS LIGHTING WILL BE WARM COLORED AND UNOBTRUSIVE. LIGHT SOURCES WILL BE TUNGSTEN OR METAL HALIDE.

LIGHTING SOURCES FOR THE LANDSCAPE AND PAVED AREAS WILL BE CONCEALED AND THE LIGHTING INDIRECT NOT VISIBLE FROM A PUBLIC VIEWPOINT. LIGHT SOURCES SHOULD BE DIRECTED SO THAT IT DOES NOT FALL OUTSIDE THE AREA TO BE LIGHTED.

ALL EXTERIOR SURFACE AND ABOVE-GROUND MOUNTED FIXTURES WILL BE SYMPATHETIC AND COMPLIMENTARY TO THE ARCHITECTURAL THEME.

PHOTOMETRICS TO BE PROVIDED BY ELECTRICAL CONSULTANT.

EXTERIOR LIGHTING LEGEND

SYMBOL	TYPE/TECHNIQUE:	LOCATION:
	BOLLARD	PEDESTRIAN WALKWAYS
	12' HT POLE	INTERIOR ROADS / PARKING LOT FIXTURE WILL NOT PRODUCE OFF-SITE GLARE
	OVERHEAD FESTIVAL LIGHTING	MINIMUM 14' ABOVE FINISH SURFACE
	BUILDING MOUNTED SCONCE	TO BE SELECTED BY ARCHITECT
	CEILING LIGHT	TRELLIS STRUCTURES / ARCHITECTURE. FIXTURE WILL NOT PRODUCE OFF-SITE GLARE
	PENDENT LIGHT	METAL PORTALS. FIXTURE WILL NOT PRODUCE OFF-SITE GLARE

SCALE: 1" = 20'

0' 5' 10' 20' 40'

TRUE NORTH

PLAN NORTH

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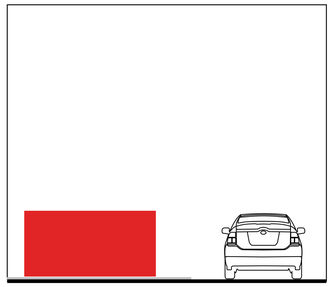
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CONCEPTUAL LANDSCAPE LIGHTING PLAN

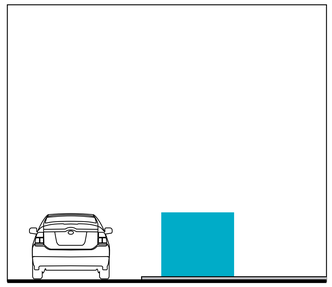
L-12

SITE SIGNAGE - SUMMARY OF SIGN TYPES

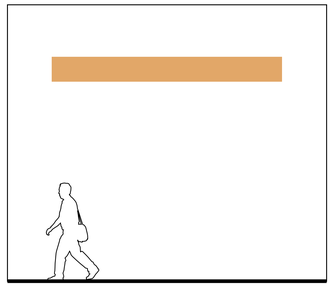
SITE SIGNAGE



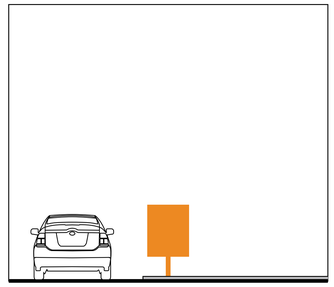
s01 Primary Site Monument ID



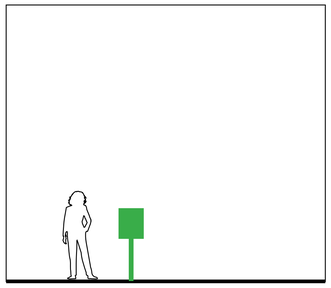
s02 Secondary Site ID



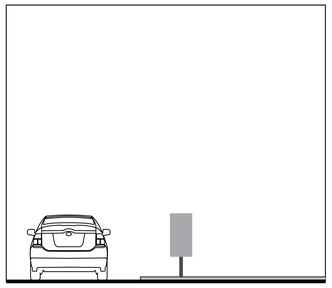
s03 Building ID



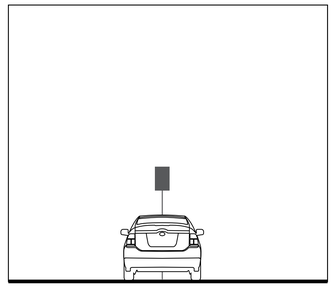
s06 Vehicular Directional



s08 Pedestrian Directional



s14 Parking Regulatory



s16 Parking Stall ID

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CallisonRTKL Project No: 040-190064

Consultant

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Client/Owner/Operator

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THE FRESHWATER GROUP
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TUCSON, AZ 85704

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	10/15/21	LAND USE APPLICATION RESUBMITTAL

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Sheet Identification

SUMMARY OF SIGN TYPES

G-01

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SITE SIGNAGE - LOOK AND FEEL























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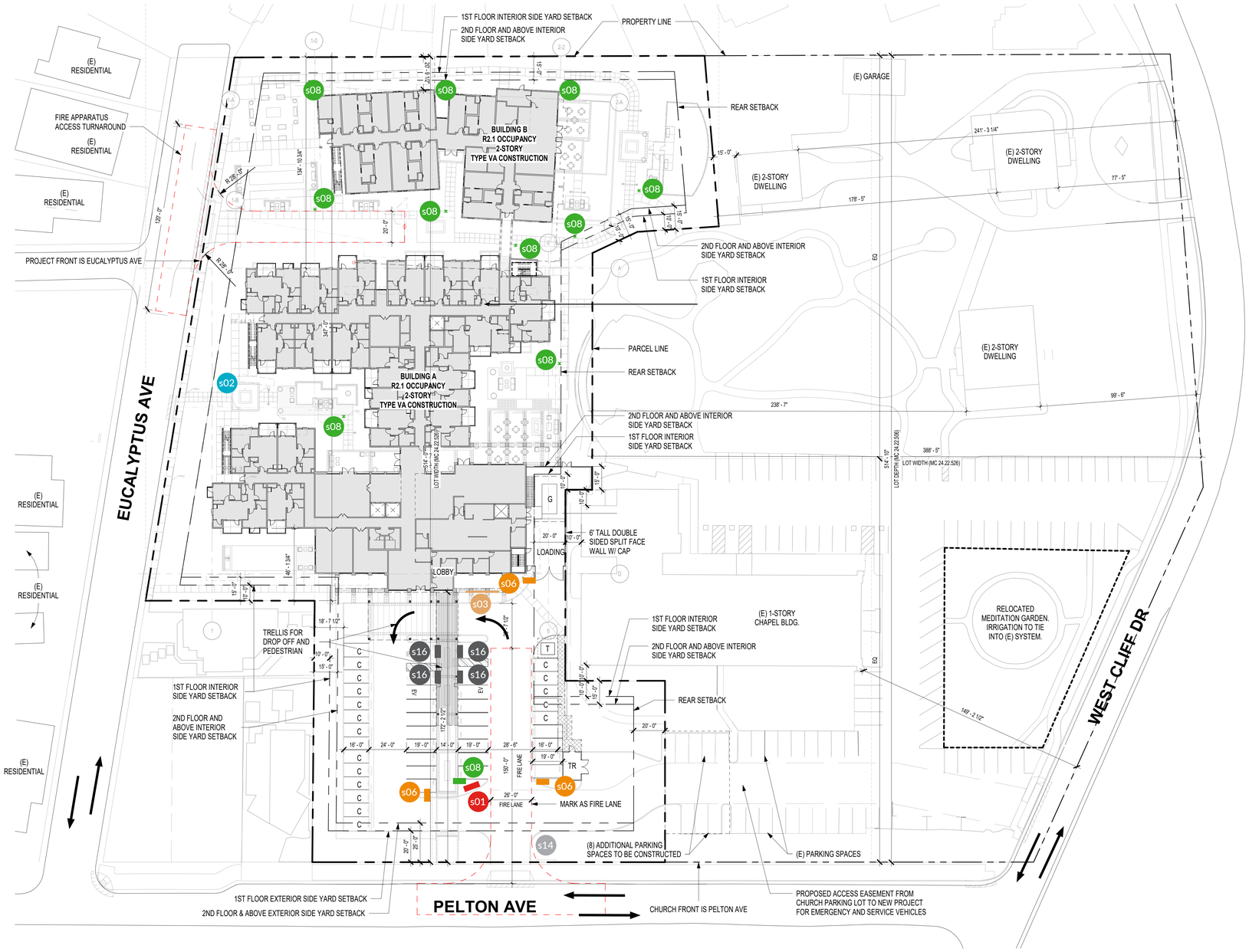
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LOOK & FEEL

G-02

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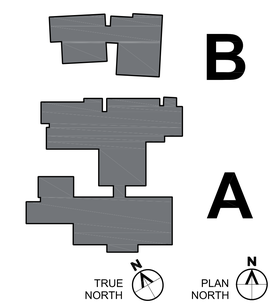


1 ARCHITECTURAL SITE PLAN
1" = 30'-0"

SITE SIGNAGE - Preliminary Locations

- s01 Primary Site Monument ID
- s02 Secondary Site Monument ID
- s03 Building ID
- s06 Vehicular Directional
- s08 Pedestrian Directional
- s14 Parking Regulatory
- s16 Parking Stall ID (ADA/EV)

KEY PLAN



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SIGN LOCATION PLAN

G-03

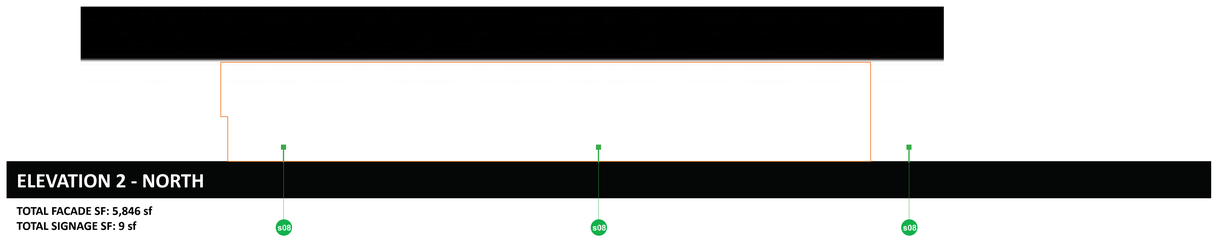
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SITE SIGNAGE - ELEVATIONS



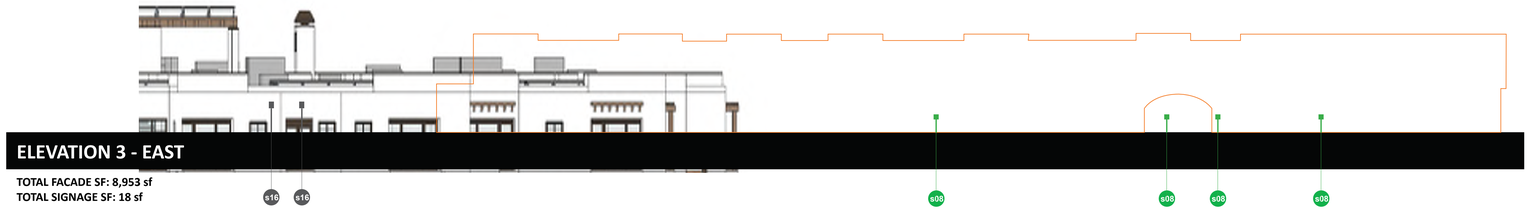
ELEVATION 1 - SOUTH

TOTAL FACADE SF: 6,670 sf
TOTAL SIGNAGE SF: 65 sf



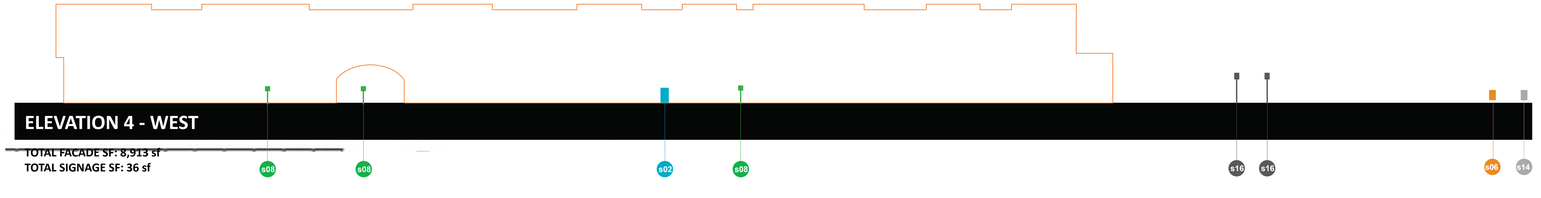
ELEVATION 2 - NORTH

TOTAL FACADE SF: 5,846 sf
TOTAL SIGNAGE SF: 9 sf



ELEVATION 3 - EAST

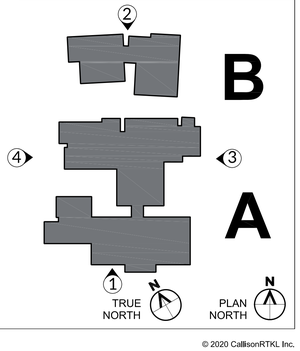
TOTAL FACADE SF: 8,953 sf
TOTAL SIGNAGE SF: 18 sf



ELEVATION 4 - WEST

TOTAL FACADE SF: 8,913 sf
TOTAL SIGNAGE SF: 36 sf

KEY PLAN



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Seal

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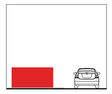
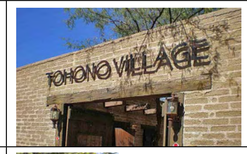
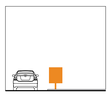
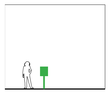
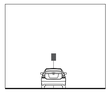
Sheet Identification

ELEVATIONS

G-04

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SITE SIGNAGE - SIGNAGE DESCRIPTIONS AND DETAILS

SIGN TYPE	DESCRIPTION	FABRICATION DETAILS	SIZE / QTY	DESIGN EXAMPLES
s01 Primary Site Monument ID 	(FREESTANDING SIGN) SINGLE-SIDED, MONUMENT SIGN WITH WATERMARK LOGO TO IDENTIFY THE SITE AND PROVIDE A DESCRIPTION OF THE FUNCTION OF THE PROPERTY.	FABRICATED FLAT-CUT ALUMINUM LETTERS, PAINTED ON ALL SIDES AND APPLIED TO CONCRETE WALL WITH FINISH TO MATCH BUILDING. MONUMENT SIGN TO HAVE EXTERNAL, GROUND-MOUNTED LIGHTING TO WASH FACE OF SIGN WITH A COLOR TEMPERATURE TO MATCH SITE LIGHTING.	W: 8'-0" X H: 4'-0" X D: 1'-0" SQ FT: 32 QUANTITY: 01 TOTAL: 32 SQ FT	  
s02 Secondary Site Monument ID 	(FREESTANDING SIGN) SINGLE-SIDED, SMALL MONUMENT SIGN WITH WATERMARK LOGO TO IDENTIFY THE SITE.	FABRICATED FLAT-CUT ALUMINUM LETTERS, PAINTED ON ALL SIDES AND APPLIED TO CONCRETE WALL WITH FINISH TO MATCH BUILDING. MONUMENT SIGN TO HAVE EXTERNAL, GROUND-MOUNTED LIGHTING TO WASH FACE OF SIGN WITH A COLOR TEMPERATURE TO MATCH SITE LIGHTING.	W: 2'-6" X H: 4'-6" SQ FT: 12 QUANTITY: 01 TOTAL:12 SQ FT	  
s03 Building ID 	(WALL SIGN) SINGLE-SIDED, LETTERING TO IDENTIFY BUILDING	FABRICATED FLAT-CUT ALUMINUM LETTERS, PAINTED ON ALL SIDES MOUNTED TO ENTRY WITH EXTERNAL LIGHTING TO WASH FACE OF SIGN WITH A COLOR TEMPERATURE TO MATCH SITE LIGHTING.	W: 14'-0" X H: 1'-6" SQ FT: 21 QUANTITY: 01 TOTAL: 21 SQ FT	
s06 Vehicular Directional 	(FREESTANDING SIGN) SINGLE-SIDED, FREESTANDING DIRECTIONAL SIGN WITH LETTERING FOR VEHICLES CIRCULATING SITE.	FABRICATED ALUMINUM SIGN PANEL PAINTED ON ALL SIDES WITH RETRO-REFLECTIVE TEXT FASTENED TO PAINTED ALUMINUM POST.	W: 2'-0" X H: 3'-0" X 5'-0" HEIGHT SQ FT: 6 QUANTITY: 03 TOTAL: 18 SQ FT	
s08 Pedestrian Directional 	(FREESTANDING SIGN) SINGLE-SIDED, FREESTANDING DIRECTIONAL SIGN FOR VISITORS ON SITE TO IDENTIFY BUILDING DIRECTIONS AND PROVIDE LINKAGE FOR TRAIL.	FABRICATED ALUMINUM SIGN PANEL PAINTED ON ALL SIDES WITH APPLIED TEXT FASTENED TO PAINTED ALUMINUM POST.	W: 1'-6" X H: 1'-6" SQ FT: 3 QUANTITY: 11 TOTAL: 33 SQ FT	 
s14 Parking Regulatory 	(FREESTANDING SIGN) SINGLE-SIDED, FREESTANDING SIGN WITH STATE REQUIRED PARKING LOT REGULATIONS. SIGN TO MEET CBC-11B-502.8	FABRICATED ALUMINUM SIGN PANEL PAINTED ON ALL SIDES WITH APPLIED SYMBOL AND TEXT FASTENED TO PAINTED ALUMINUM POST.	W: 2'-0" X H: 3'-0" SQ FT: 6 QUANTITY: 01 TOTAL: 6 SQ FT	 
s16 Parking Stall ID 	(FREESTANDING SIGN) SINGLE-SIDED, FREESTANDING ADA ACCESSIBLE PARKING STALL IDENTIFICATION. SIGN TO MEET ADAAG 502.6.	FABRICATED ALUMINUM SIGN PANEL PAINTED ON ALL SIDES WITH APPLIED SYMBOL AND TEXT FASTENED TO PAINTED ALUMINUM POST.	W: 1'-6" X H: 2'-0" SQ FT: 3 QUANTITY: 04 TOTAL: 12 SQ FT	 

TOTAL PROPOSED SQFT: 134

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	8/21/20	SCHEMATIC DESIGN SUBMITTAL
	8/6/21	LAND USE APPLICATION RESUBMITTAL
	10/15/21	LAND USE APPLICATION RESUBMITTAL

Seal

NOT FOR CONSTRUCTION

Sheet Identification

SITE SIGNAGE DESCRIPTIONS

G-05

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