INTERMOUNTAIN HEALTHCARE ALTA VIEW HOSPITAL WATER FEATURE





owner

architect

801.530.3148

INTERMOUNTAIN HEALTHCARE

CONSTRUCTION DOCUMENTS 2021 06 25



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electrical engineer

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	EVIATIONS	NOT AL	L ABBREVIATIONS MAY BE USED
& @	AND AT	LAV LB / LBS	LAVATORY POUND (S)
ACT ADJ	ACOUSTICAL CEILING TILE ADJUSTABLE	MAT MAX	MATERIAL (S) MAXIMUM
J F T	ADJOSTABLE ABOVE FINISH FLOOR ALTERNATE	MAX MDF MECH	MAXIMOM MEDIUM DENSITY MECHANICAL
JM X		MECH MEMB MEZZ	MECHANICAL MEMBRANE MEZZANINE
X	APPROXIMATE	MFR	MANUFACTURER
G	BOARD	MGR MIN	MANAGER MINIMUM
	BUILDING BLOCK(ING)	MIR MISC	MIRROR MISCELANEOUS
	BOTTOM OF BEARING	MO MTD	MASONRY OPENING MOUNT (ED)
G MT /	BASEMENT BOTH SIDES BOTH WAYS	MTL MW	METAL MICROWAVE
B	CABINET	N NIC	NORTH NOT IN CONTRACT
	CATCH BASIN CUSTOM COLOR SELECTED BY	NO. NOM	NUMBER NOMINAL
AM	ARCHITECT CORNER GUARD	NRC NTS	NOISE REDUCTION COEFFICIEN
VI	CHAMFER CONTROL JOINT		
	CENTER LINE CEILING	OD OFCI	OUTSIDE DIAMETER OWNER FURNISHED/ CONTRACT
R	CLEAR CONSTRUCTION MANAGER	OFD	INSTALLED OVERFLOW DRAIN
COL COMP	COLUMN COMPUTER	OH OPG	OVERHEAD OPENING
CONC	CONCRETE CONTINUOUS	OPP OSB	OPPOSITE ORIENTED STRAND BOARD
CMU	CONCRETE MASONRY UNIT	OSB OZ	OUNCE
CSBA CT	COLOR SELECTED BY ARCHITECT CERAMIC TILE	PERI	PERIMETER
D	DEPTH	PERM PL	PERMANENT PLATE
)B)BL	DECK BEARING DOUBLE	PLAM PNL	PLASTIC LAMINATE PANEL
DEPT DF	DEPARTMENT DRINKING FOUNTAIN	PNT P.O.	PAINT (ED) POINT OF
DIA DIM	DIAMETER DIMENSION	PR PT	PAIR POST TENSIONED
DN DRN	DOWN DRAIN	PART PLY	PARTITION PLYWOOD
L/DET	DRAIN DETAIL DISHWASHER	PLY QT	QUARRY TILE
DW DWG	DISHWASHER DRAWING		
E (F)	EAST	R / RAD RCP	RADIUS REFLECTED CEILING PLAN
E) A	EXISTING EACH	REC REF	RECESSED REFERENCE
FS J	EXTERIOR INSULATION SYSTEM EXPANSION JOINT	REFG REINF	REFRIGERATOR REINFORCE (ED)
LEC LEV	ELECTRICAL ELEVATION	REM	REMOVE (ED) REPLACE
Q	EQUAL	REQD	REQUIRED
equip Evap	EQUIPMENT EVAPORATIVE	REV RM	REVISION (S) ROOM
(IST (P	EXISTING EXPANSION	RO	ROUGH OPENING
EXT EWC	EXTERIOR ELECTRIC WATER COOLER	S SALV	SOUTH SALVAGE (ED)
A	FIRE ALARM	SALV SECT SF	SALVAGE (ED) SECTION SQUARE FOOT
	FLOOR DRAIN	SIM	SIMILAR
N	FOUNDATION FIRE EXTINGUISHER	SLNT SPEC	SEALANT SPECIFICATION (S)
EC G	FIRE EXTINGUISHER CABINET FINISH GRADE	SQ SS	SQUARE STAINLESS STEEL
	FIRE HYDRANT FINISHED	STC STD	SOUND TRANSMISSION CLASS STANDARD
	FLOOR	STL	STEEL
	FACE OF FOOT, FEET	STOR STRUC	STORAGE STRUCTURE (AL)
=T =RP =RT	FIBER REINFORCED PANEL FIRE RETARDANT TREATED WOOD	SUSP SYM	SUSPENDED SYMMETRY (ICAL)
FTG FV	FOOTING FIELD VERIFY	T	THICKNESS
	GAUGE	Т & В Т & G	TOP AND BOTTOM TONGUE AND GROOVE
V	GALVANIZED	TBD	TONGUE AND GROOVE TO BE DETERMINED TEMPORARY
	GRAB BAR GENERAL CONTRACTOR	TEMP THRU	THROUGH
SFRC SYP	GLASSFIBER REINFORCED PANEL GYPSUM	T.O. TRANS	TOP OF TRANSFORMER
WB B	GYPSUM WALLBOARD HOSE BIB	TS TYP	TUBE STEEL TYPICAL
W	HOSE BIB HANDICAP ACCESSIBLE HARDWARE	UNF UNO	UNFINISHED UNLESS OTHERWISE NOTED
F	HIGH DENSITY FIBERBOARD		
	HOLLOW METAL HEIGHT	VAR VB	VARIES VAPOR BARRIER
R		VCT VERT	VINYL COMPOSITION TILE VERTICAL
	INSIDE DIAMETER INSULATED CONCRETE FORM	VEST VWC	VESTIBULE VINYL WALL COVERING
I ICL	INCH INCLUDE	W	WEST
FO T	INFORMATION	W W/	WIDTH WITH
L	INSULATE, (D), (ION)	WC	WATER CLOSET
	INVERT	WD W/O	WOOD WITHOUT
	JOIST JOINT	WSCT WWF	WAINSCOT WELDED WIRE FABRIC

1



1

E USED

2

UTILITY CONTACTS

power ROCKY MOUNTAIN POWER

natural gas DOMINION ENERGY

telephone CENTURYLINK

DEFFICIENT

CONTRACTOR

DARD

SHEET NUMBERING + NAMING

X X 0 0 0 . 0

N CLASS

ALTA VIEW HOSPITAL

PROJECT TEAM

3

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THIS IS A QUICK REFERENCE GUIDE TO THE

IN VCBO CONSTRUCTION DOCUMENTS.

.2 DIMENSION + WALL TYPE PLAN

SEQUENCE IN NON-PLAN SHEETS

DIVISIONS IN NON-PLAN SHEETS

0 GENERAL NOTES + LEGENDS

SHEET TYPE SEQUENCE

1 FLOOR PLANS 2 ELEVATIONS

3 SECTIONS

5 DETAILS

7 SIGNAGE

8 USER DEFINED

.4 REFLECTED CEILING PLAN

- PLAN TYPE

.0 SLAB PLAN .1 ANNOTATED PLAN

.3 FINISH PLAN

SEQUENCE

LEVEL

SHEET NUMBERING AND NAMING SYSTEM USED

DENOTES AREA SEQUENCE IN PLAN, AND NUMERIC

DENOTES LEVEL IN A MULTI-STORY BUILDING. ALSO BECOMES A SEQUENCE NUMBER DENOTING

4 ENLARGED PLANS, ELEVATIONS, SECTIONS

6 DOOR, WINDOW, OTHER SCHEDULES

9 3D DRAWINGS + PERSPECTIVES

REFERENCE SYMBOL LEGEND

4

LAYOUT GRID LINES

DETAIL SECTION

A101

SECOND LEVEL

ROOM NAME AND NUMBER

ROOM NAME

LEVEL LINE

- GRID IDENTIFICATION

(A)

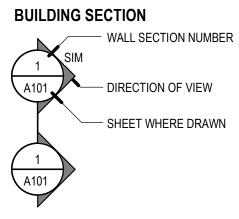
- ELEVATION NUMBER

SIM AND DIRECTION

- SHEET WHERE

DRAWN

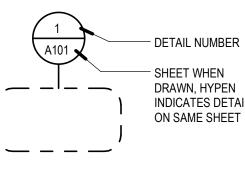
116' - 0"



WALL SECTION /----- WALL SECTION SIM NUMBER A101 DIRECTION OF VIEW

SHEET WHERE DRAWN INTERIOR ELEVATION /--- ELEVATION NUMBER AND DIRECTION

AX.X - SHEET WHERE DRAWN DETAIL REFERENCE



101 - DETAIL NUMBER WALL TYPE MARK CONSTRUCTION TYPE - BY CSI DIVISION WALL TYPE INDICATES DETAIL ON SAME SHEET FIRE RATING NOMINAL SIZE SEE WALL TYPE SHEET FOR ADDITIONAL

INFORMATION

DRAWING TAGS **REVISIONS TAG**

REVISION NUMBER $\underline{\Lambda}$

CEILING TAG - CEILING TYPE X X' - X" CEILING HEIGHT

WINDOW TAG - WINDOW MARKER

DRAWING TITLE BASIC DRAWING TITLE PROJECT NORTH

SHEET SYMBOLS

- TRANSITION SYMBOL ELEVATION MARKER

FLOOR TRANSITIONS MARKER

FINISH TAG NAME T·W2

 \bullet

R: W? B? :B B: W? F? :F L: W?

MATCH LIN

GENERAL NOTES

- 1. IT IS THE CONTRACTORS RESPONSIBILITY TO REVIEW AND COORDINATE THE WORK OF ALL SUB-CONTRACTORS, TRADES AND SUPPLIERS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BEFORE COMMENCING CONSTRUCTION, AND TO ASSURE THAT ALL PARTIES ARE AWARE OF ALL REQUIREMENTS, REGARDLESS OF WHERE THE REQUIREMENTS OCCUR IN THE CONTRACT DOCUMENTS, WHICH MIGHT AFFECT THE WORK OF THAT PARTY.
- AS PART OF THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE WORK OF ALL SUB-CONTRACTORS, TRADES AND SUPPLIERS, THE CONTRACTOR SHALL ENDEAVOR TO IDENTIFY AND NOTIFY THE ARCHITECT OF ANY CONFLICTS BETWEEN THE WORK OF DIFFERENT PARTIES AT THE EARLIEST POSSIBLE DATE SO AS TO ALLOW REASONABLE AND ADEQUATE TIME FOR THE CONFLICT TO BE RESOLVED WITHOUT DELAYING THE WORK. ALL DEVIATIONS FROM THAT WHICH IS REQUIRED BY THE CONTRACT DOCUMENTS MUST BE APPROVED IN ADVANCE BY THE ARCHITECT.
- THE ARCHITECTURAL DRAWINGS ESTABLISH AND COORDINATE THE FINISHED APPEARANCE AND EXACT LOCATION OF ALL EXPOSED ELEMENTS OF THE WORK OF ALL THE TRADES, INCLUDING THAT WORK WHICH IS ILLUSTRATED PRIMARILY ON DRAWINGS OF OTHER DISCIPLINES. QUANTITIES ARE TO BE PROVIDED AS SHOWN ON DRAWINGS OF OTHER DISCIPLINES BUT LOCATIONS SHOWN ON OTHER DRAWINGS ARE SCHEMATIC, UNLESS OTHERWISE NOTED ON THE ARCHITECTURAL DRAWINGS. THE ARCHITECTURAL DRAWINGS TAKE PRECEDENCE FOR THE FINISHED APPEARANCE AND EXACT LOCATION OF ALL PARTS OF THE WORK.
- 4. EXCEPT WHERE DIRECTED TO PLACE ITEMS OF WORK AT THE APPROXIMATE LOCATION SHOWN; DO NOT SCALE DRAWINGS FOR DIMENSIONAL INFORMATION. ALL ELEMENTS OF THE DRAWINGS MAY NOT BE DRAWN TO EXACT SCALE. ALL DIMENSIONS REQUIRED ARE SHOWN OR MAY BE DERIVED FROM THOSE SHOWN ON THE FLOOR PLANS, DETAIL PLANS, ELEVATIONS, SECTIONS, DETAILS, SCHEDULES AND SPECIFICATIONS. IF DIMENSIONS ARE NOT PRESENT, THE ARCHITECT IS TO BE NOTIFIED SO THAT A CLARIFICATION CAN BE ISSUED.
- 5. CONTRACTOR TO FOLLOW CURRENT ANSI 117-1 STANDARDS AS REPRESENTED ON SHEET G301, GENERAL ACCESSIBILITY GUIDELINES. NOTIFY ARCHITECT IF THE DESIGN DRAWINGS CONFLICT WITH THIS SHEET.

NOTES TO BIDDERS

- 1. THIS SHEET CONTAINS A LIST OF DRAWINGS WHICH COMPRISE A FULL SET OF DRAWINGS FOR THIS PROJECT. ANY CONTRACTOR, SUBCONTRACTOR, VENDOR OR ANY OTHER PERSON PARTICIPATING IN OR BIDDING ON THIS PROJECT SHALL BE RESPONSIBLE FOR THE INFORMATION CONTAINED IN ANY AND ALL SHEETS OF DRAWINGS AND SPECIFICATIONS. IF ANY PERSON, PARTY OR ENTITY ELECTS TO SUBMIT BIDS FOR ANY PORTION, OR ALL, OF THIS PROJECT, THAT PERSON, PARTY OR ENTITY SHALL BE RESPONSIBLE FOR ANY AND ALL INFORMATION CONTAINED IN THESE DRAWINGS AND SPECIFICATIONS, INCLUDING, BUT NOT LIMITED TO, ANY SUBSEQUENT ADDENDUMS OR CLARIFICATIONS THAT MAY BE ISSUED.
- 2. THESE DOCUMENTS SHOW THE DESIGN INTENT. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE EVERYTHING SHOWN ON THE DRAWINGS OR SPECIFIED REGARDLESS OF WHERE IT IS SHOWN ON THE DRAWINGS OR IN THE SPECIFICATIONS. FOR EXAMPLE: SOME MILLWORK DETAILS HAVE STEEL FRAMES WHICH MAY BE PROVIDED BY DIVISION 05 OR WITH THE MILLWORK AT THE CONTRACTOR'S DISCRETION, BUT IT SHALL BE PROVIDED AS PART OF THE CONTRACT.
- 3. EVERYTHING CALLED FOR IN THESE DOCUMENTS SHALL BE "NEW" AND PROVIDED BY THE CONTRACTOR, SUBCONTRACTOR, VENDOR OR ANY OTHER PERSON PARTICIPATING IN OR BIDDING ON THIS PROJECT UNLESS NOTED OTHERWISE AS EXISTING (EXIST), NOT IN CONTRACT (NIC) OR FOR REFERENCE ONLY. FURNISHINGS SHOWN DASHED SHALL BE FOR REFERENCE ONLY.

DESIGN DATA

5

GOVERNING BUILDING CODES: IBC 2018, to include Appendix J; IRC 2015, ANSI 117-1 2009; NFPA 101 LIFE SAFETY 2015; IMC 2018; IPC 2018; IECC 2018, for commercial projects; IFGC 2018; NEC 2017
OCCUPANCY TYPE - CH.3 • NOT APPLICABLE (WATER FEATURE ONLY)
ALLOWABLE BUILDING HEIGHT: PER TABLE 504.3: • NOT APPLICABLE (WATER FEATURE ONLY)
ALLOWABLE STORIES ABOVE GRADE PLANE: PER TABLE 504.4: • NOT APPLICABLE (WATER FEATURE ONLY)
 BUILDING AREA: PER TABLE 506.2: NOT APPLICABLE (WATER FEATURE ONLY)
 UNLIMITED AREA BUILDINGS: PER SECTION 507 NOT APPLICABLE (WATER FEATURE ONLY)
MIXED USE NONSEPERATED OCCUPANCIES: PER SECTION 508.3 • NOT APPLICABLE (WATER FEATURE ONLY)
MIXED USE OCCUPANCY SEPARATIONS: PER SECTION 508 NOT APPLICABLE (WATER FEATURE ONLY)
 PROTECTION: PER SECTION 509.4.2 NOT APPLICABLE (WATER FEATURE ONLY)
 FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS: NOT APPLICABLE (WATER FEATURE ONLY)
AUTOMATIC SPRINKLER SYSTEM: PER SECTION 903 • NOT APPLICABLE (WATER FEATURE ONLY)
 DESIGN OCCUPANCY LOAD: PER SECTION 1004 NOT APPLICABLE (WATER FEATURE ONLY)
EGRESS WIDTH FOR OCCUPANCY SERVED: PER 1005 NOT APPLICABLE (WATER FEATURE ONLY)
EXIT ACCESS - CH. 10
COMMON PATH OF EGRESS TRAVEL: PER TABLE 1006.2.1 NOT APPLICABLE (WATER FEATURE ONLY)
 2 EXITS REQUIRED - PER 1006.3.2 NOT APPLICABLE (WATER FEATURE ONLY)
 THROUGH INTERVENING SPACES PER 1016.2 NOT APPLICABLE (WATER FEATURE ONLY)
 TRAVEL DISTANCE: PER TABLE 1017.2 NOT APPLICABLE (WATER FEATURE ONLY)
 CORRIDOR FIRE RESISTANCE RATING: PER TABLE 1020.1 NOT APPLICABLE (WATER FEATURE ONLY)
MINIMUM CORRIDOR WIDTH: PER TABLE 1020.2 IN INCHES NOT APPLICABLE (WATER FEATURE ONLY)
 DEAD ENDS: PER 1020.4 NOT APPLICABLE (WATER FEATURE ONLY)

INTERIOR WALL & CEILING FINISH REQUIREMENTS:

• NOT APPLICABLE (WATER FEATURE ONLY)

NOT APPLICABLE (WATER FEATURE ONLY)

INTERIOR FLOORS FINISH: PER 804

SHEET INDEX

EE602

EP100

Grand total: 9

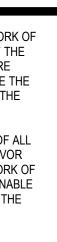
GENERAL CV G001	COVER GENERAL INFORMATION + INDEX
ARCHITECTURAL A100 A110	OVERALL PLAN ENLARGED PLAN + ELEVATIONS
PLUMBING P101	LEVEL 1 PLUMBING PLAN
ELECTRICAL EE001 EE601	SHEET INDEX, ABBREVIATIONS, AND GENERAL NOTES SPECIFICATIONS

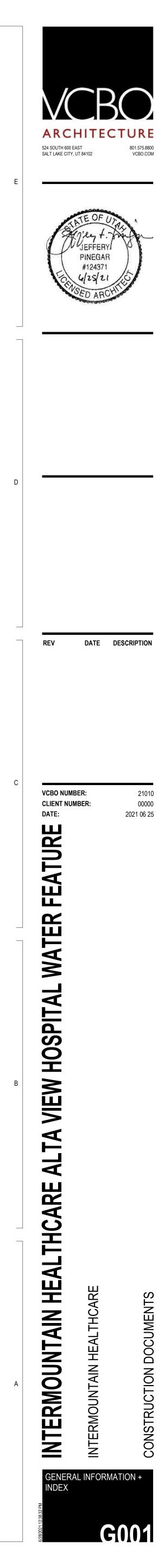
POWER PLAN - LEVEL 1 - OVERALL

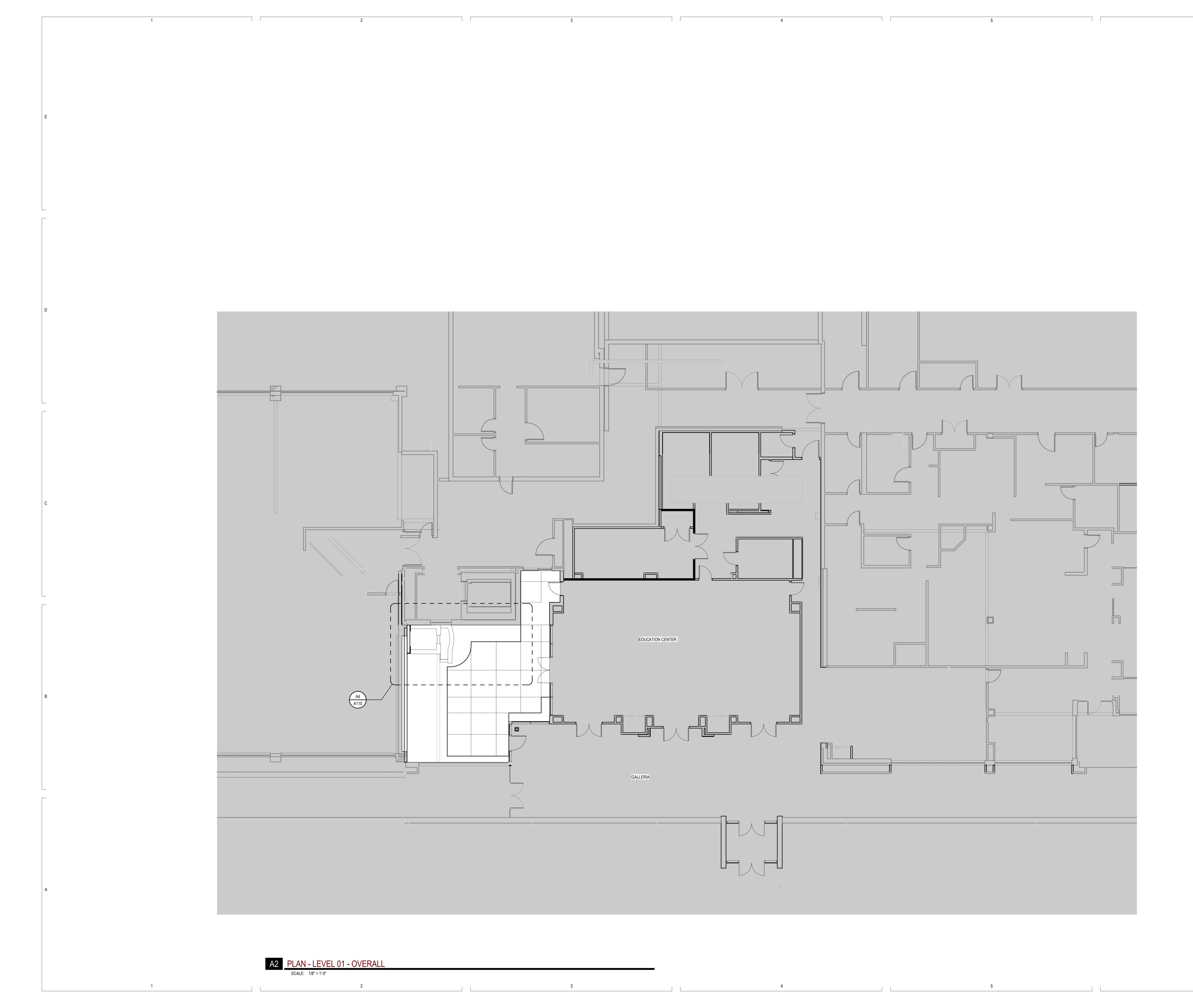
SPECIFICATIONS

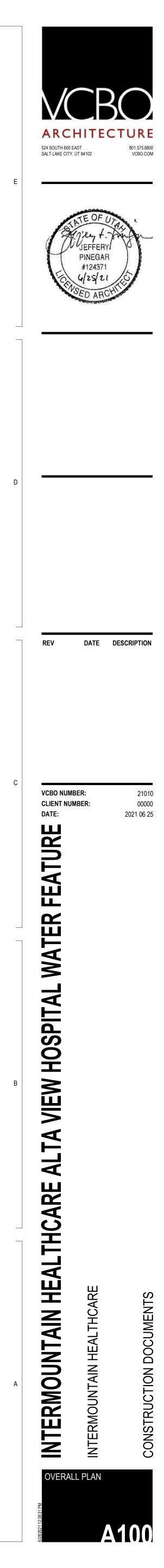












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	4 4 4
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	A A A A A A A A A A A A A A A A A A A
	44
-	
	4.4
	A
-	

EXISTING WALL -PRE-CAST — FOUNTAIN SUPPLY -----STONE VENEER, BROWNS CANYON -UPPER FOUNTAIN -----PRE-CAST STONE VENEER, BROWNS CANYON LOWER FOUNTAIN PRE-CAST, TOP FOR BENCH EXISTING PLANTER WALL

STONE VENEER, BROWNS CANYON

1

EXISTING CAST-IN-PLACE CONCRETE -PLANTER WALL TO REMAIN

2" THICK PRE-CAST CONCRETE CAP

2" THICK PRE-CAST CONCRETE CAP

8" CAST-IN-PLACE CONCERETE / - WALL, REINFORCING AS REQUIRED

12"x24" CAST-IN-PLACE FOOTING, REINFORCING AS REQUIRED

WATER SUPPLY GUTTER

UPPER SPILLWAY

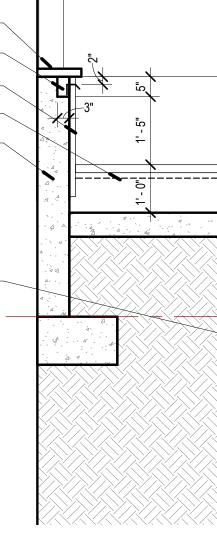
UPPER POOL

STONE VENEER

EXISTING WOMEN'S CENTER BUILDING

1

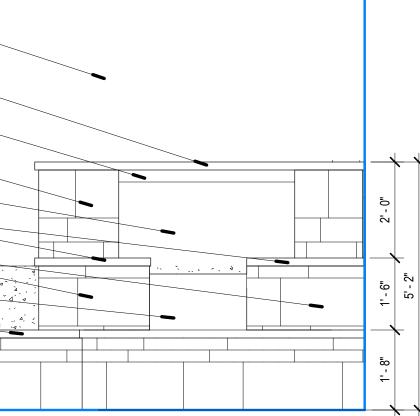
PRE-CAST CONCRETE CAP -WATER SUPPLY GUTTER UPPER SPILLWAY -UPPER POOL WATER LEVEL CAST-IN-PLACE CONCERETE WALL



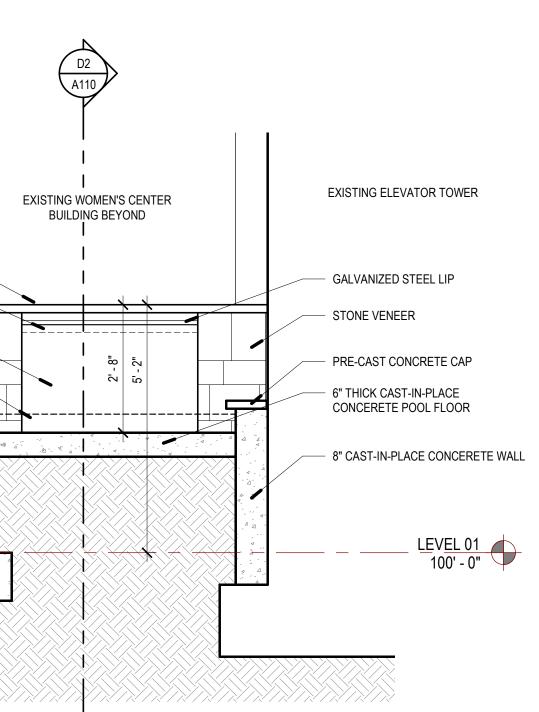
2

A2 ELEVATION - FOUNTAIN SCALE: 1/2" = 1'-0"

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

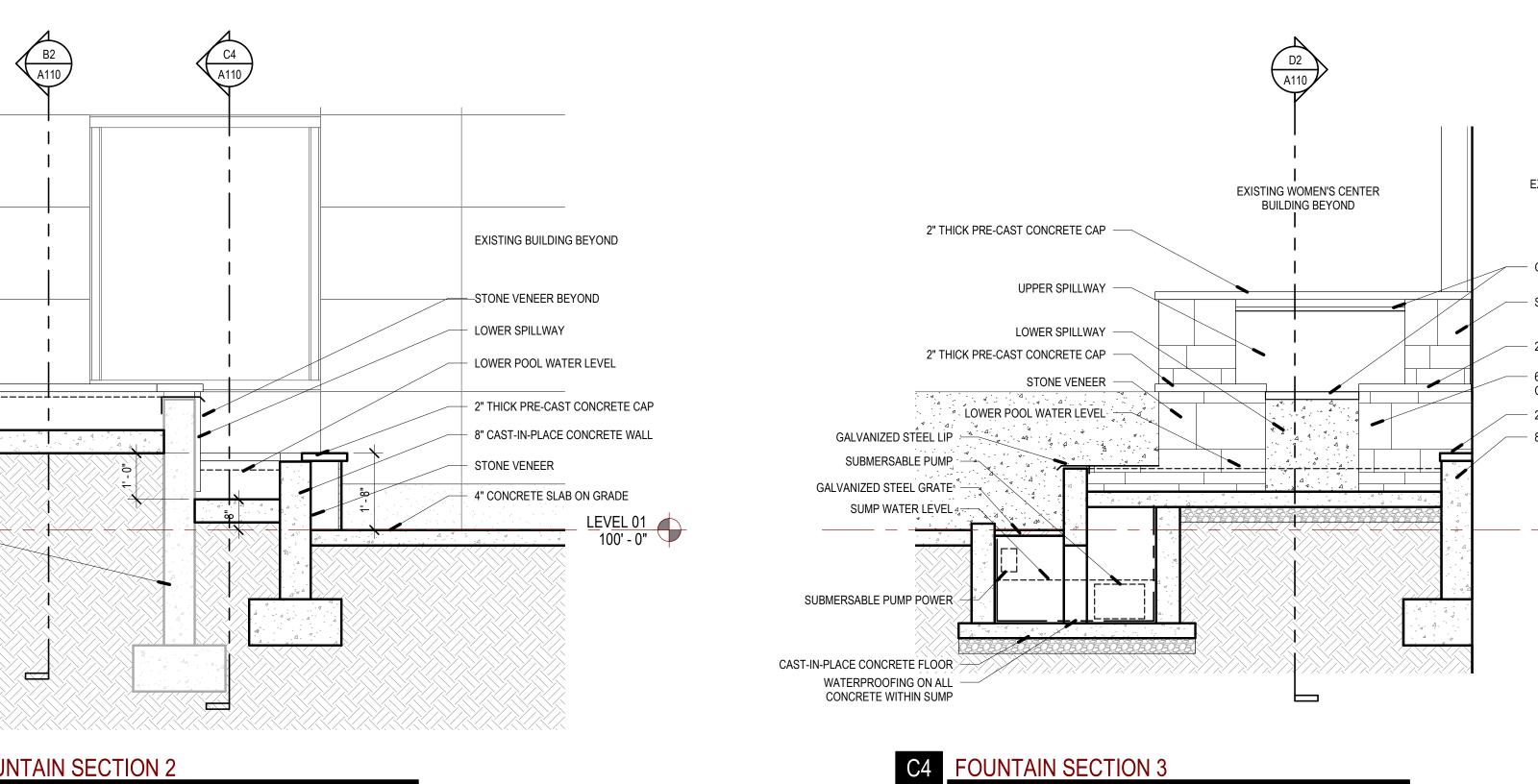


B2 FOUNTAIN SECTION 1 SCALE: 1/2" = 1'-0"

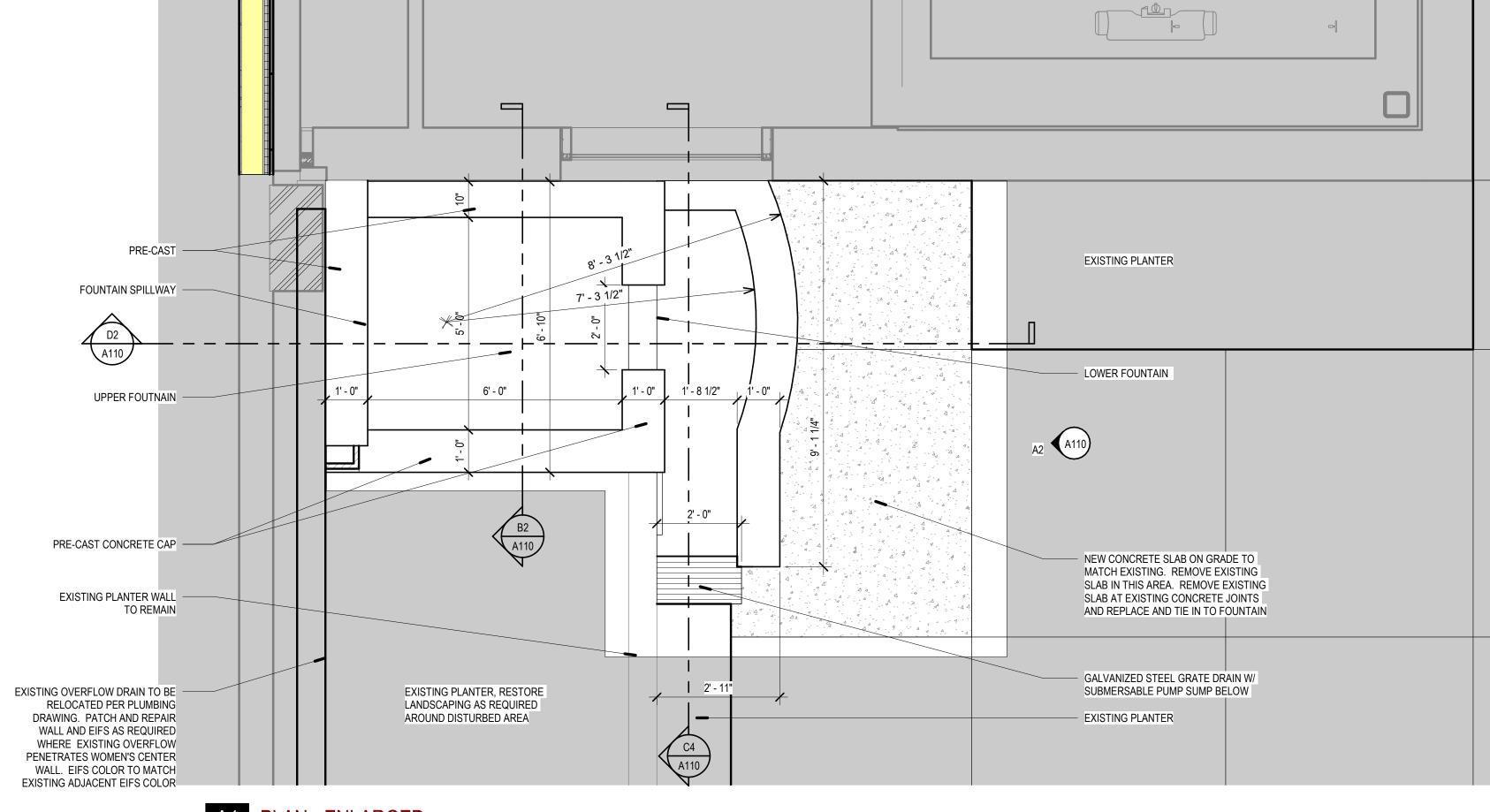


D2 FOUNTAIN SECTION 2

SCALE: 1/2" = 1-0"



3



A4 PLAN - ENLARGED SCALE: 1/2" = 1'-0"

4

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

4

LEVEL 01 100' - 0"

- 8" CAST-IN-PLACE CONCERETE WALL

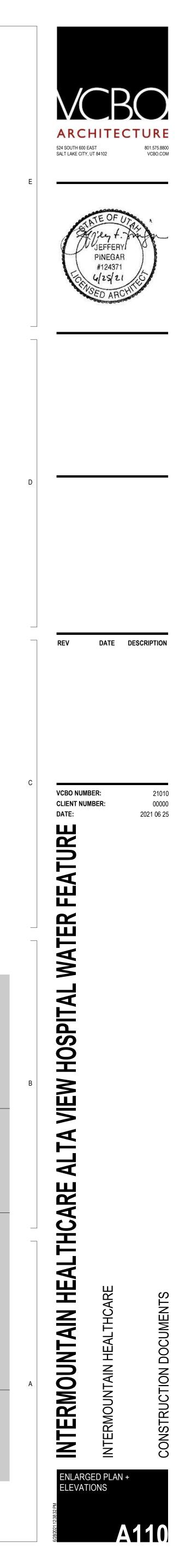
- 2" THICK PRE-CAST CONCRETE CAP - 6" THICK CAST-IN-PLACE CONCERETE POOL FLOOR — 2" THICK PRE-CAST CONCRETE CAP

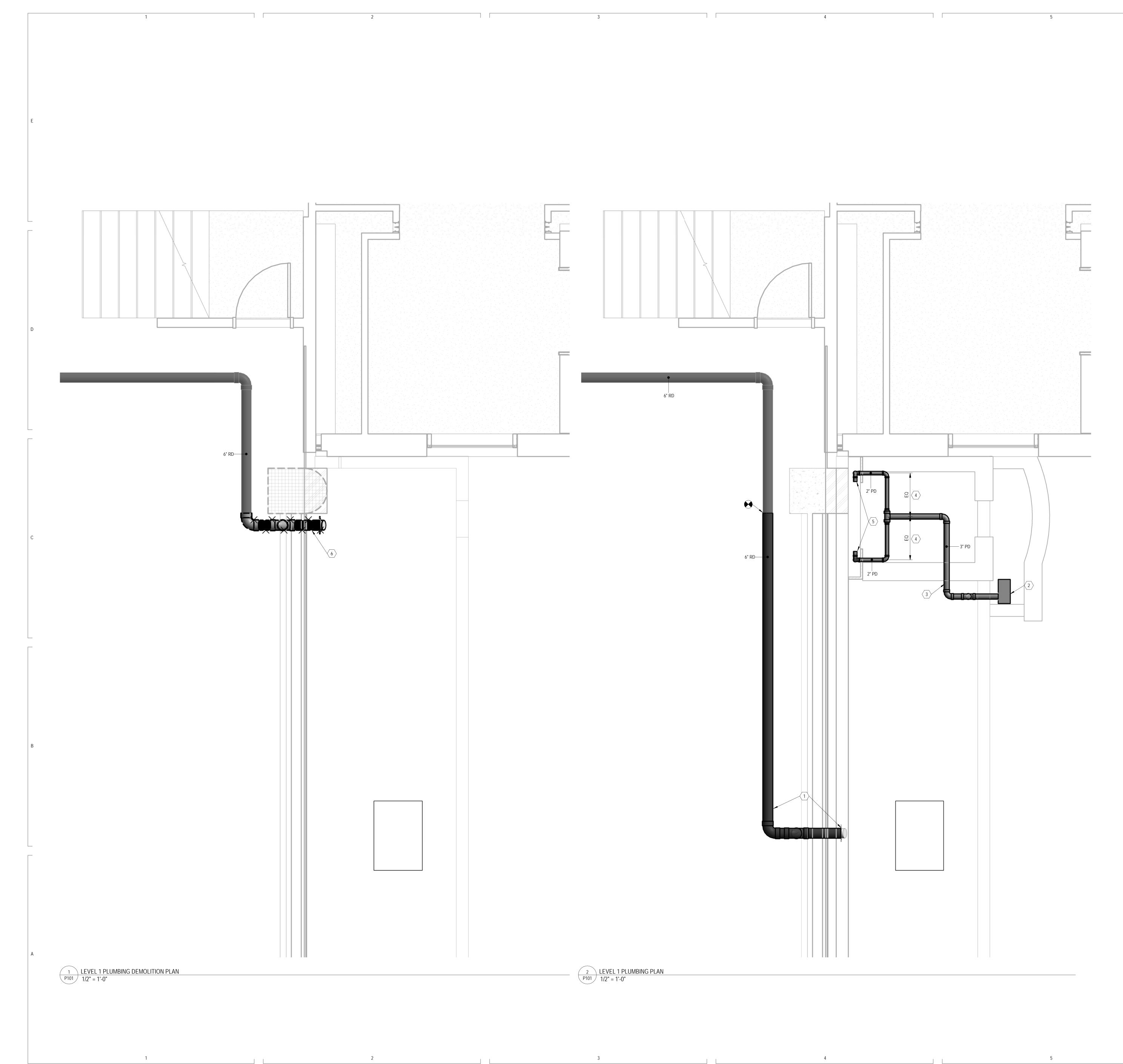
— STONE VENEER

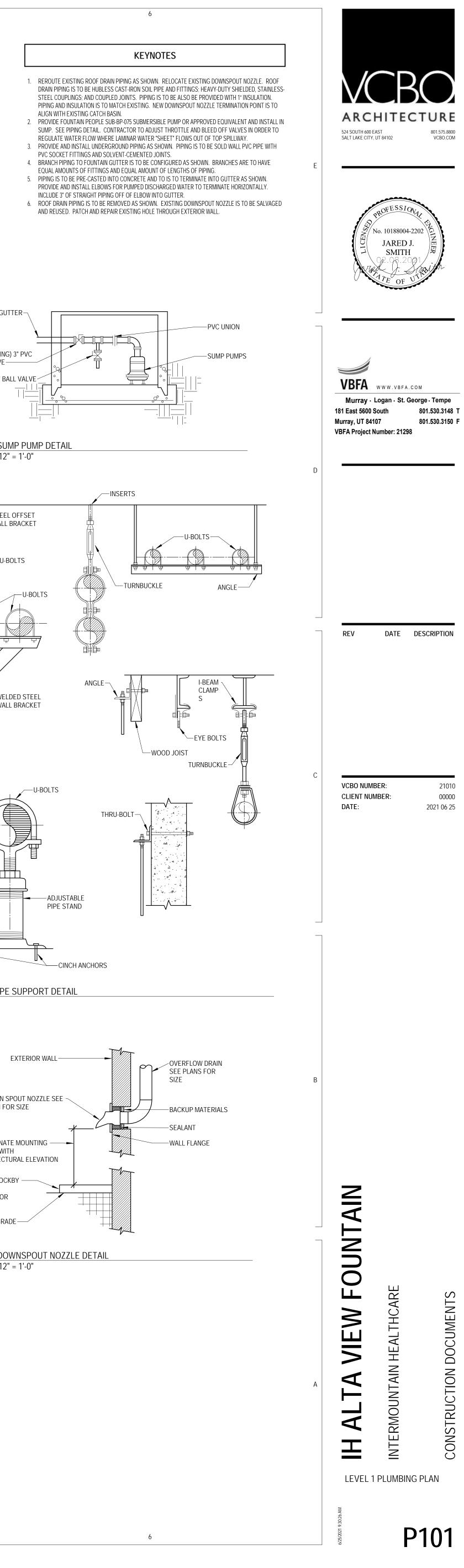
GALVANIZED STEEL LIP

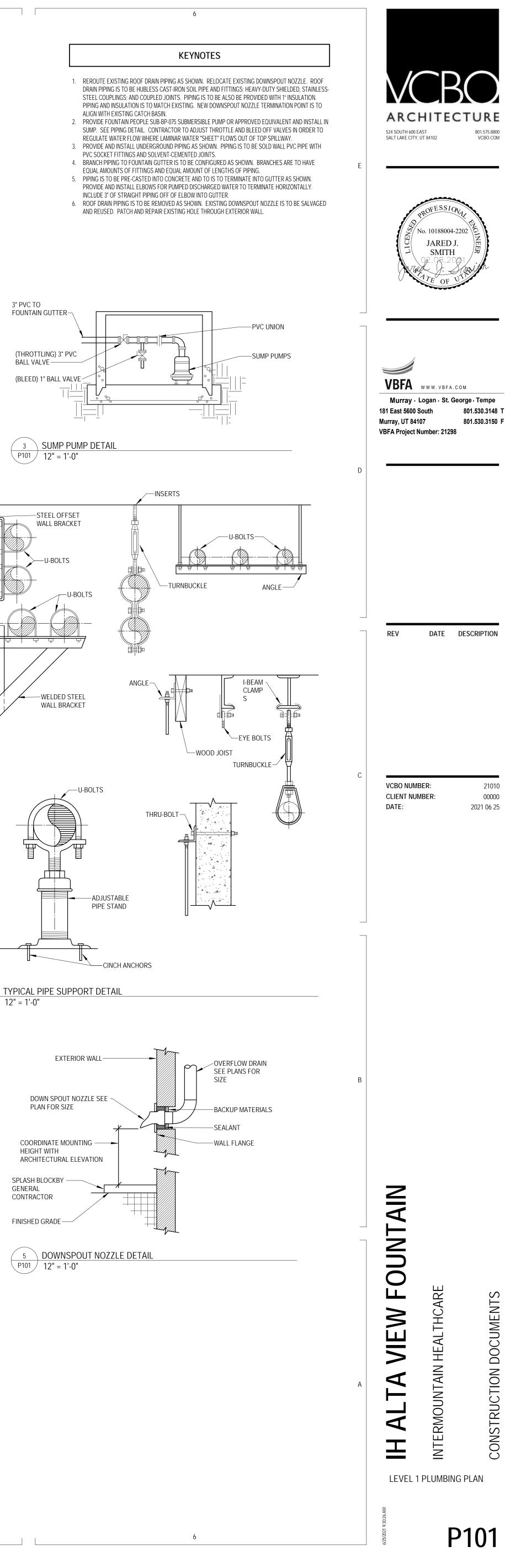
EXISTING ELEVATOR TOWER

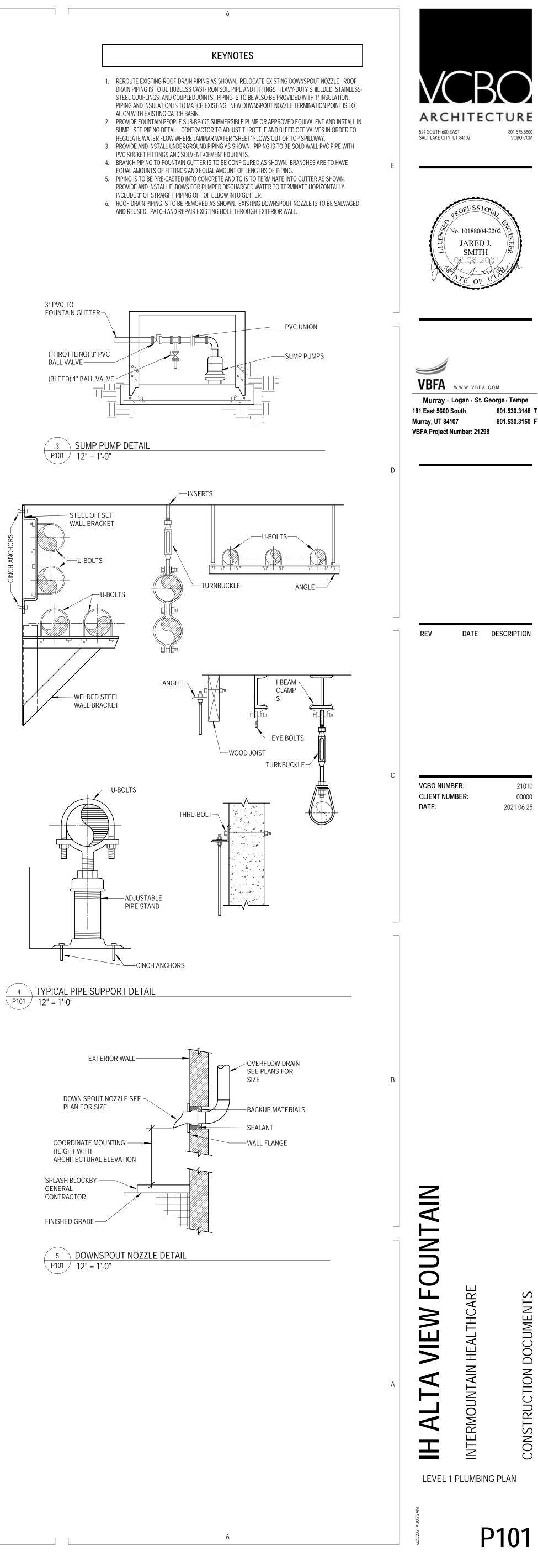
5



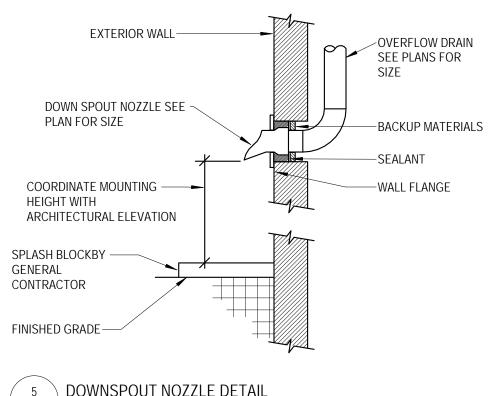












SYMBOL	SYMBOLS LEGEND
/IRING DE	
-	
<u>Ф</u> ш	RECEPTACLE, SINGLE: NEMA 5-20R.
<u></u>	RECEPTACLE, DUPLEX: NEMA 5-20R.
₿ A	RECEPTACLE, DUPLEX, ABOVE COUNTER: NEMA 5-20R.
₿c	RECEPTACLE, DUPLEX, CEILING: NEMA 5-20R.
₀₫	RECEPTACLE, DUPLEX, DEDICATED CIRCUIT: NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, DRINKING FOUNTAIN: CONCEAL WATER COOLER
∯ DF	RECEPTACLE BEHIND WATER COOLER. SEE MECHANICAL/PLUMBING SHOP DRAWINGS FOR INSTALLATION
d _{IG}	REQUIREMENTS. RECEPTACLE, DUPLEX, ISOLATED GROUND: NEMA 5-20R.
is s	RECEPTACLE, DUPLEX, SWITCHED: NEMA 5-20R.
<u> </u>	
∯ uc	RECEPTACLE, DUPLEX, FLOOR, UNDER CARPET: NEMA 5-20R.
₩w	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, WET LABEL, "WEATHERPROOF IN USE":
	NEMA 5-20R.
₿ wp	RECEPTACLE, DUPLEX, WEATHERPROOF: NEMA 5-20R.
	RECEPTACLE, DUPLEX, HOSPITAL GRADE: NEMA 5-20R.
0	RECEPTACLE, DUPLEX ON EMERGENCY POWER: NEMA 5-20R.
	RECEPTACLE, DUPLEX, HOSPITAL GRADE ON EMERGENCY
	POWER: NEMA 5-20R. RECEPTACLE, DUPLEX, CONNECTED TO UPS: NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT
	INTERRUPTER: NEMA 5-20R. RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT
	INTERRUPTER, HOSPITAL GRADE: NEMA 5-20R.
Ш	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, HOSPITAL GRADE ON EMERGENCY POWER:
•	NEMA 5-20R.
₿wp	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, WEATHERPROOF: NEMA 5-20R.
<u></u>	RECEPTACLE, DUPLEX, RECESSED: NEMA 5-20R.
 dds	RECEPTACLE, DUPLEX, SWITCHED, RECESSED: NEMA 5-20R.
<u>₩s</u>	RECEPTACLE, QUADRAPLEX: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX ON EMERGENCY
	POWER: NEMA 5-20R.
♣	RECEPTACLE, QUADRAPLEX, HOSPITAL GRADE: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX, HOSPITAL GRADE ON EMERGENCY POWER: NEMA 5-20R.
4	RECEPTACLE, QUADRAPLEX, CONNECTED TO UPS: NEMA 5-20R.
₽	RECEPTACLE, QUADRAPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER: NEMA 5-20R.
6	RECEPTACLE, SPECIAL PURPOSE. PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG.
	RECEPTACLE, SPECIAL PURPOSE ON EMERGENCY POWER.
	PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG. RECEPTACLE, DRYER: NEMA 14-30R.
	RECEPTACLE, RANGE: NEMA 14-50R.
—(C)	RECEPTACLE, CLOCK HANGER: NEMA 5-15R.
	MULTI-OUTLET ASSEMBLY: NEMA 5-20R.
D	DROP CORD. SEE DETAIL.
T	THERMOSTAT.
	FLUSH FLOOR BOX. "#" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL
FB#	SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
PP#	POWER POLE. "#" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
PT#	FLUSH FIRE RATED POKE THRU. "#" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL
	SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
Ф	SWITCH, DIMMER.
× \$	SWITCH, SINGLE POLE ("x" INDICATES FIXTURES CONTROLLED).
X \$2	SWITCH, DOUBLE POLE ("x" INDICATES FIXTURES CONTROLLED).
X \$3	SWITCH, THREE-WAY ("x" INDICATES FIXTURES CONTROLLED).
ו × \$4	SWITCH, FOUR-WAY ("x" INDICATES FIXTURES CONTROLLED).
\$DS	SWITCH, DOOR.
\$K	SWITCH, KEY OPERATED.
\$LM	SWITCH, LOW VOLTAGE MASTER.
\$M	SWITCH, MOMENTARY.
\$OS	SWITCH, OCCUPANCY SENSOR.
\$P	SWITCH, PILOT LIGHT.
\$т	SWITCH, TIMER OPERATED.
\$WP	SWITCH, WEATHERPROOF.
•	
<u></u>	RECEPTACLE, DUPLEX, TAMPER RESISTANT: NEMA 5-20R.
	INTERRUPTER, HOSPITAL GRADE: NEMA 5-20R.
Щ	RECEPTACLE, QUADRAPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, HOSPITAL GRADE ON EMERGENCY POWER:
	NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, CONNECTED TO UPS: NEMA 5-20R.
	RECEPTACLE, SINGLE PLEX, WITH USB OUTLET
U	
	RECEPTACLE, DULEX, RECESSED, NEMA 5-20R, AUTOMATICALLY CONTROLLED THROUGH TIME OR OCCUPANCY BASED CONTROLS (REFER TO PLANS FOR CONTROL METHOD)
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	RECEPTACLE, QUADRAPLEX, RECESSED, NEMA 5-20R, AUTOMATICALLY CONTROLLED THROUGH TIME OR OCCUPANCY

	2		3				
	SYMBOLS LEGEND		SYMBOLS LEGEND				
SYMBOL	DESCRIPTION	SYMBOL DESCRIPTION					
REFERENC	E AND LINE SYMBOLS		ETHODS				
A5	DETAIL INDICATOR: A5 INDICATES DETAIL NUMBER, E-501		WIRING.				
E-501	INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.	<u> </u>	WIRING TURNED UP OR TOWARDS OBSERVER.				
			WIRING TURNED DOWN OR AWAY FROM OBSERVER.				
(A5) E-201	ELEVATION OR SECTION INDICATOR, EXTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.		BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND				
$\mathbf{\mathbf{\vee}}$		A-1,3,5	NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE				
A5	ELEVATION OR SECTION INDICATOR, INTERIOR: A5 INDICATES		INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.				
E-201	ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.		BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF				
ROOM NAME	ROOM IDENTIFIER WITH ROOM NAME AND NUMBER.		ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. NUMBER IN BOX REFERS TO THE CONDUCTOR AND CONDUIT				
$\langle 1 \rangle$	KEYNOTE INDICATOR.	A-1,3,5	SCHEDULE. FOR BRANCH WIRING USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES				
Λ	REVISION INDICATOR.		EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.				
CU-1	EQUIPMENT INDICATOR.		BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF				
<u> </u>	MECHANICAL EQUIPMENT INDICATOR. "X-X" INDICATES EQUIPMENT MARK SHOWN ON EQUIPMENT SCHEDULE. "XMDP"		ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS.				
	IDENTIFIES PANEL EQUIPMENT IS CIRCUITED TO. REFER TO EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.	A-1,3,5	SMALL CROSS LINES INDICATE NUMBER OF CONDUCTORS OR CABLES. LARGER CROSS LINE INDICATES EQUIPMENT GROUND.				
	BREAK, STRAIGHT: TO BREAK PARTS OF DRAWING		WAVY CROSS LINE INDICATES INSULATED/ ISOLATED GROUND. FOR BRANCH WIRING, CROSS LINES INDICATE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.				
\sim	BREAK, ROUND						
MATCH LINE SEE XX/X-XXX	MATCH LINE INDICATOR: CENTER, EXTRA WIDE LINE.	\sim	FLEXIBLE WIRING.				
	NEW LINE: MEDIUM LINE.		WIRING AND/OR RACEWAY: THIN LINE. WHERE "X" = :				
	HIDDEN FEATURES LINE: HIDDEN, THIN LINE		$\begin{array}{cccc} CATV &=& CABLE \ TELEVISION & NC &=& NURSE \ CALL \\ CCTV &=& CLOSED \ CIRCUIT & P &=& POWER \\ && TELEVISION & RC &=& RIGID \ CONDUIT \\ FA &=& FIRE \ ALARM & S &=& SOUND \\ FO &=& FIBER \ OPTICS & T &=& TELEPHONE \end{array}$				
	EXISTING TO REMAIN LINE: THIN LINE.	— x —					
	DEMOLITION LINE: DASHED, MEDIUM LINE		I = INTERCOM TV = TELEVISION				
	PROPERTY LINE: DASHED, WIDE LINE.		OTHERS AS NOTED IN OTHER SCHEDULES. RACEWAYS AND WIRING SHALL BE SIZED AS SHOWN AND/OR SPECIFIED.				
	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE.		LOW VOLTAGE WIRING: DIVIDE, MEDIUM LINE.				
	ELECTRICAL EQUIPMENT INDICATOR. "XXX" INDICATES TYPE OF EQUIPMENT OR EQUIPMENT ID. "EF-X" IDENTIFIES MECHANICAL	+	CONDUIT STUB. DIMENSION RECORD DRAWINGS AND MARK.				
EF-X	EQUIPMENT BEING SERVED. REFER TO EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.	1	CONDUCTOR & CONDUIT ("CC") SCHEDULE INDICATOR. REFER TO ONE-LINE DIAGRAM.				
X-X	EQUIPMENT INDICATOR. "X-X" INDICATES EQUIPMENT MARK SHOWN ON EQUIPMENT SCHEDULE. "1LA-3" IDENTIFIES PANEL	HC	ADA ACCESS PUSH PLATE				
<u>X-X</u> 1LA-3	EQUIPMENT IS CIRCUITED TO. REFER TO EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.	Ø	JUNCTION BOX.				
ELECTRICA	L POWER AND DISTRIBUTION	0 _{SC}	JUNCTION BOX, SYSTEMS FURNITURE COMMUNICATION CONNECTION.				
	PANELBOARD CABINET, SURFACE MOUNTED, 1 SECTION.	0 _{SP}	JUNCTION BOX, SYSTEMS FURNITURE POWER CONNECTION.				
<u>~~~~</u>	PANELBOARD CABINET, SURFACE MOUNTED, 2 SECTION.		JUNCTION BOX, DUCT, UNDERFLOOR. TRIPLE, DOUBLE OR SINGLE DUCT SYSTEM AS INDICATED BY THE NUMBER OF				
	DISTRIBUTION PANEL OR SWITCHBOARD.		PARALLEL LINES. DESIGNATIONS AS SHOWN FOR WIRING AND/OR RACEWAY SYMBOLS.				
DP#			DUCT CELL FLOOR HEADER.				
LP	LIGHTING RELAY, CONTACTOR PANEL, OR DIMMING ENCLOSURE.	РВ	PULL BOX.				
LIGHTING			CABLE TRAY ABOVE ACCESSIBLE CEILING.				
(W-3)	FIXTURE IDENTIFICATION: (W-3) INDICATES FIXTURE TYPE AS		WIREWAY.				
	SCHEDULED.	<u> </u>	EARTH GROUND (ONE-LINE DIAGRAM).				
(W-3)	FIXTURE IDENTIFICATION, EMERGENCY WITH BATTERY PACK, CONNECTED TO GENERATOR AS INDICATED: (W-3) INDICATES	© c	JUNCTION BOX, CEILING.				
	FIXTURE TYPE AS SCHEDULED.		LADDER RACK.				
EM	EMERGENCY.		CABLE TRAY BELOW ACCESSIBLE FLOOR.				
NL	NIGHT LIGHT: DO NOT SWITCH.	•	MECHANICAL EQUIPMENT CONNECTION. REFER TO EQUIPMENT SCHEDULE FOR REQUIREMENTS.				
↑ 	EGRESS DIRECTION ARROW (EXIT SIGNS).		ELECTRIC VEHICLE CHARGING STATION.				
LV	LOW VOLTAGE LIGHTING TRANSFORMER.						
\otimes	EXIT SIGN: SINGLE FACE; CEILING MOUNTED						
\mathbf{A}	EXIT SIGN: SINGLE FACE; WALL MOUNTED						
Θ	EXIT SIGN: DOUBLE FACE; CEILING MOUNTED						
Ŷ	EXIT SIGN: DOUBLE FACE; WALL MOUNTED						

	DEFINITIONS
	NOTE: ALL DEFINITIONS MAY NOT BE USED.
	INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESEN NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS O SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS I CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTE "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.
	DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", AUTHORIZE "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIR THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHR.
	APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICAT REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBI STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.
	FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DEL THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY INSTALLATION, AND SIMILAR OPERATIONS."
	INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS A SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHIN CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."
	PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, C AND READY FOR THE INTENDED USE."
	INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY END THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OF SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRU ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND S OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN T OPERATIONS THEY ARE ENGAGED TO PERFORM.
	TECHNOLOGY SYSTEMS: THE TERM "TECHNOLOGY SYSTEMS" IS USE DESCRIBE ALL LOW VOLTAGE SYSTEMS GENERALLY REFERRED TO A "SPECIAL SYSTEMS". THESE SYSTEMS INCLUDE BUT ARE NOT NECES LIMITED TO ALL SYSTEMS WHICH UTILIZE VOLTAGES OF LESS THAN 7 SUCH AS SOUND SYSTEMS, VIDEO SYSTEMS, TV SYSTEMS, SECURITY SYSTEMS, VOICE AND DATA CABLING SYSTEMS, ETC
- 1	

4

				A	BBF	REV	IAT	IONS	5										GENEF	RAL NOTE	S
MOUNTI B - BASE C - CEILI F - FLAN G - GRID PL POLE R - RECI S - SURF W - WALI	ARHR - A ING NGE DANT E ESSED FACE L HE HS PS PS PS PS PS PS PS PS VWL VWL VWL VWL VWL VWL VWL VWL	IR RETURN AMP LOCA ARTHQUAI JSING INGED ANI OUSE SIDI HOTOCELI UARTZ RE TATIC TATIC TATIC TET LOCAT	N AND HEAT ATION KE CLIPS D LATCHED E SHIELD L SWITCH SSTRIKE		N		FINISHMWMATTE WHITEBLBLACKSLSILVERGLGOLDCLCLARPWPAINTED WHITEEAEXTRUDED ALUMINUMSSTEELGSGALVANIZED STEELCCASTCBACOLOR BY ARCHITECTSCBACOLOR BY ARCHITECTCACUSTOM COLOR BY ARCHITECTFSMEETS FEDERAL209DSTANDARD 209DTPTHERMALLY PROTECTEDFLFLUSHRREGRESSMMITERED			REFLECTOR OP•NONE/OPENSP•SPECULARSS•SEMI-SPECULARD•DIFFUSE (WHITE ENAMEL)SC•SPECULAR (COLORED)PR•PRISMATICFDR•FULL DEPTH REFLECTORDS•DIFFUSE (SEMI SPECULAR) SILVERLI•LOW IRIDESCENTIR•IRIDESCENTSL•SILVERGL•CLEAR ALZAK					 PROVIDE UNIT PRICES AND FIXTURE BRAND SELECTED FOR ADD/DELETE CHANGES FOR EACH FIXTURE TYPES SHOWN WITHIN 48 BUSINESS HOURS OF THE BID DATE. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY DISQUALIFY THE PRODUCTS AND EMPOWER THE ENGINEER TO DETERMINE FAIR VALUE FOR FIXTURE AND INSTALLATION CHANGES, WITHOUT FURTHER INPUT FROM THE CONTRACTOR OR INSTALLER. CONTRACTOR ALLOWANCE PRICES ARE ACCURATE WHEN THIS JOB WAS SPECIFIED, CONTRACTOR AND ELECTRICAL DISTRIBUTOR SHALL VERIFY THIS ALLOWANCE AND REPORT ANY PROBLEMS TO THE ENGINEER BEFORE THE BID. ALLOWANCE AND REPORT ANY PROBLEMS TO THE ENGINEER BEFORE THE BID. ALLOWANCE PRICE MAY OR MAY NOT INCLUDE LAMP(S) OR FREIGHT AS NOTED, AND DO NOT INCLUDE ANY TAXES. SUBSTITUTIONS AND/OR EQUAL FIXTURES MUST RECEIVE APPROVAL PRIOR TO BIDDING, THEY MUST BE SUBMITTED TO THE ENGINEER NO LESS THAN 2 WEEKS PRIOR TO BID OPENING. SAMPLES MUST BE PROVIDED FOR ANY AND ALL FIXTURES UPON A/E REQUEST PRIOR TO RELEASING FIXTURES. ALL FIXTURES SHALL BE LISTED AND APPROVED FOR THEIR INTENDED USE AND LOCATION. VERIFY THE PROPER MOUNTING KITS OR ACCESSORIES TO FACILITATE INSTALLATION AS SHOWN AT EACH LOCATION ON THE DRAWINGS. COMPLY WITH THE "INTERIOR LIGHTING" SECTION OF THE SPECIFICATIONS. REFER TO SPECIFICATIONS FOR IMPORTANT TECHNICAL REQUIREMENTS FOR LIGHTING FIXTURES, DRIVERS, AND LAMPS. 						
LE	ENGTH DEY DEPTH									_									F FIXTURES TO BE EITHER " D BY ARCHITECT/ENGINEE	R AND OWNER.	
ID (TX-1) (TX-11)	DESCRIPTION POOL LIGHT RECESSED IN SIDE OF FOUNTAIN, DIE CAST BRASS LED TAPE LIGHT IN EXTRUSION, EXTRUSION TO FIELD BENDABEL, (WATTS AND LUMENS SHOWN PER FOOT), WATER PROOF	HENGTH - VAR	HLABO - 0' - 1.5"	AL SIZE H9 H9 H - 0'75"	DIAMETER/ APERTURE	SNITNUOM CD CS	INC LED	согок темь 4000К 4000К	CRI	DRIVER CONFIGURATION	300114GE 120	STTS 4	HSINIE CBA	0 500	DIFFUSER/LENS		SNOILLO TORX HEAD HIGH IMPAC ACRYLIC		OPTION 1 HOLM UPBL-7 173 BS BEULUX - LLLT676 40 XX DTR 60 IP67	FACTURER (CATALOG S	SERIES) OPTION 3

		ABBREV	ΊΑΤΙ	ONS
USED.				
		-	-	
IC REPRESENTATIONS, RAGRAPHS OR	1P 1PH	SINGLE POLE SINGLE-PHASE	kV kVA	KILOVOLT KILOVOLT AMPERE
UIREMENTS IN THE	1WAY	ONE-WAY	kva kVAR	KILOVOLT AMPERE KILOVOLT AMPERE REACTIVE
OWN", "NOTED", .P THE READER LOCATE	2/C	TWO-CONDUCTOR	kW	KILOWATT
NDED.	2WAY	TWO-WAY	kWh	KILOWATT HOUR
", AUTHORIZED",	3/C 3WAY	THREE-CONDUCTOR THREE-WAY	LED LFMC	LIGHT EMITTING DIODE LIQUID TIGHT FLEXIBLE META
ED" MEAN "DIRECTED BY	40UT	QUADRUPLE RECEPTACLE		CONDUIT
SIMILAR PHRASES.		OUTLET	LFNC	LIQUID TIGHT FLEXIBLE
CONJUNCTION WITH THE	4PDT 4PST	FOUR-POLE DOUBLE THROW FOUR-POLE SINGLE THROW	LPS	NONMETALLIC CONDUIT
LS, APPLICATIONS, AND	4F31 4W	FOUR-FOLE SINGLE THROW	LRA	LOCKED ROTOR AMPS
) RESPONSIBILITIES AS	4WAY	FOUR-WAY	LTG	LIGHTING
	A	ABOVE COUNTER	LV	
PLY AND DELIVER TO	AC	ARMORED CABLE	MATV	MASTER ANTENNA TELEVISIO SYSTEM
NG, ASSEMBLY,	ADA	AMERICANS WITH DISABILITIES ACT	MAX	MAXIMUM
	ADJ	ADJACENT	MC	METAL CLAD
PERATIONS AT PROJECT , ASSEMBLY, ERECTION,	AFF	ABOVE FINISHED FLOOR	MCA	MINIMUM CIRCUIT AMPS
SION, FINISHING,	AFG AIC	ABOVE FINISHED GRADE AMPERE INTERRUPTING	MCB MCC	MAIN CIRCUIT BREAKER MOTOR CONTROL CENTER
TIONS."	AIC	CAPACITY	MCP	MOTOR CIRCUIT PROTECTION
ID INSTALL, COMPLETE	ALUM	ALUMINUM	MDP	MAIN DISTRIBUTION PANEL
,	AMP	AMPERE	MG	MOTOR GENERATOR
N ENTITY ENGAGED BY	ANN AP	ANNUNCIATOR ACCESS POINT (WIRELESS	MH MIN	MANHOLE MINIMUM
RACTOR, OR SUB-		DATA)	MIN	MINIMUM MAIN LUGS ONLY
	AR	AS REQUIRED	MOCP	MAXIMUM OVERCURRENT
ATION, AND SIMILAR	ASC	AMPS SHORT CIRCUIT		PROTECTION
	ATS	AUTOMATIC TRANSFER SWITCH	MTS NA	MANUAL TRANSFER SWITCH
TEMS" IS USED TO	AV	AUDIO VISUAL	NA NC	NOT APPLICABLE NORMALLY CLOSED
ERRED TO AS	AWG	AMERICAN WIRE GAGE	NEC	NATIONAL ELECTRICAL CODE
E NOT NECESSARILY	BB XFMR	BUCK-BOOST TRANSFORMER	NEMA	NATIONAL ELECTRICAL
LESS THAN 71 VOLTS IS, SECURITY		CEILING MOUNTED		MANUFACTURERS ASSOCIATION
	CATV	COMMUNITY ANTENNA	NFC	NATIONAL FIRE CODE
		TELEVISION	NFPA	NATIONAL FIRE PROTECTION
	CB CCBA	CIRCUIT BREAKER CUSTOM COLOR AS SELECTED	NIC	ASSOCIATION NOT IN CONTRACT
		BY ARCHITECT	NL	NIGHT LIGHT
	CCTV	CLOSED CIRCUIT TELEVISION	NO	NORMALLY OPEN
	CF/CI	CONTRACTOR FURNISHED/ CONTRACTOR INSTALLED	NTS	NOT TO SCALE
	CF/OI	CONTRACTOR INSTALLED		ON CENTER
		OWNER INSTALLED	OCP OF/CI	OVER CURRENT PROTECTION OWNER FURNISHED/
	CFBA	CUSTOM FINISH AS SELECTED BY ARCHITECT		CONTRACTOR INSTALLED
	СКТ	CIRCUIT	OF/OI	OWNER FURNISHED/ OWNER
	CM	CONSTRUCTION MANAGER	OFP	INSTALLED OBTAIN FROM PLANS
	CND	CONDUIT	OFF	OVERHEAD (COILING) DOOR
	CO	CONVENIENCE OUTLET	OL	OVERLOAD
	COR	CONTRACTING OFFICER'S REPRESENTATIVE	PB	PUSHBUTTON
	СР	CONTROL PANEL	PF PH	POWER FACTOR PHASE
	СТ	CURRENT TRANSFORMER	PNL	PANEL
	CTV	CABLE TELEVISION	PT	POTENTIAL TRANSFORMER
	CU dBA	COPPER UNIT OF SOUND LEVEL	PTZ	PAN/TILT/ZOOM
	DPDT	DOUBLE POLE, DOUBLE	QTY	QUANTITY
		THROW	R RCP	REMOVE REFLECTED CEILING PLAN
	DS	DISCONNECT SWITCH	RCP	REFLECTED CEILING PLAN RIGID METAL CONDUIT
	EA EM	EACH EMERGENCY	RNC	RIGID NONMETAL CONDUIT
	EM	ELECTRICAL METALLIC TUBING	RPM	REVOLUTIONS PER MINUTE
	ENT	ELECTRIC NONMETALLIC	RR	REMOVE AND RELOCATE
			S/S SCA	START/STOP SHORT CIRCUIT AMPS
	EPO EQUIP	EMERGENCY POWER OFF EQUIPMENT	SCA	STANDARD COLOR AS
	EQUIP	EXISTING		SELECTED BY ARCHITECT
	F	FURNITURE MOUNTED	SF	SQUARE FOOT (FEET)
	FA	FIRE ALARM	SFBA	STANDARD FINISH AS SELECTED BY ARCHITECT
	FCP	FIRE ALARM CONTROL PANEL	SPD	SURGE PROTECTIVE DEVICE
	FLA FMC	FULL LOAD AMPS FLEXIBLE METAL CONDUIT	SPDT	SINGLE POLE, DOUBLE THRO
	FOB	FREIGHT ON BOARD	SPEC	
	FVNR	FULL VOLTAGE	SPST ST	SINGLE POLE, SINGLE THROV SINGLE THROW
	FVR	NON-REVERSING FULL VOLTAGE REVERSING	SWBD	SWITCHBOARD
	GEN	GENERATOR	SWGR	SWITCHGEAR
	GFCI	GROUND FAULT INTERRUPTER	TL	TWIST LOCK
	GFP	GROUND FAULT PROTECTION	TP TP	TELEPHONE POLE TWISTED PAIR
	GND		TTB	TELEPHONE TERMINAL BOAR
	HD HID	HEAVY DUTY HIGH INTENSITY DISCHARGE	TV	TELEVISION
	HOA	HAND-OFF-AUTOMATIC	TVSS	TRANSIENT VOLTAGE SURGE
	HP	HORSE POWER	TYP	SUPPRESSER TYPICAL
	HPF	HIGH POWER FACTOR	UF	I YPICAL UNDERFLOOR
	HPS	HIGH PRESSURE SODIUM	UGND	UNDERGROUND
	HV		UPS	UNINTERRUPTIBLE POWER
	HZ I/O	HERTZ INPUT/ OUTPUT		SUPPLY
	IG	ISOLATED GROUND		VOLTS VOLT AMPERE
	IMC	INTERMEDIATE METAL	VA VFC/VF	VOLT AMPERE VARIABLE FREQUENCY MOTO
	IN1/10		D	CONTROLLER
	IN/IS IR	INSULATED/ ISOLATED	W/	WITH
	J-BOX	JUNCTION BOX	W/O WP	WITHOUT WEATHERPROOF
			XFMR	TRANSFORMER

5

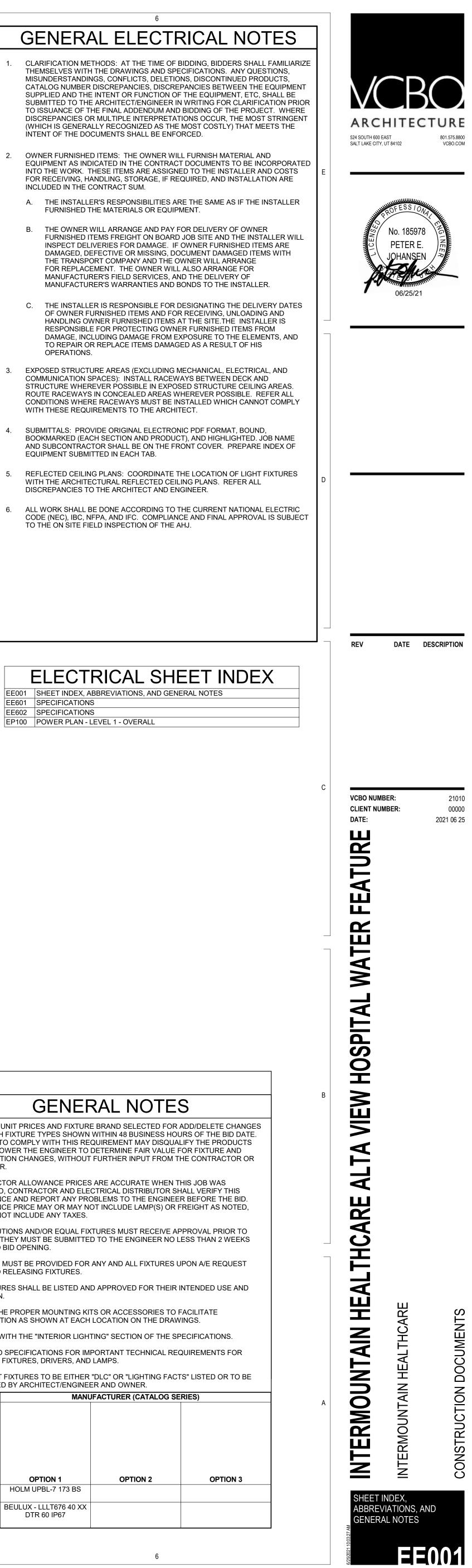
GENERAL ELECTRICAL NOTES CLARIFICATION METHODS: AT THE TIME OF BIDDING, BIDDERS SHALL FAMILIARIZE THEMSELVES WITH THE DRAWINGS AND SPECIFICATIONS. ANY QUESTIONS. MISUNDERSTANDINGS, CONFLICTS, DELETIONS, DISCONTINUED PRODUCTS, CATALOG NUMBER DISCREPANCIES, DISCREPANCIES BETWEEN THE EQUIPMENT SUPPLIED AND THE INTENT OR FUNCTION OF THE EQUIPMENT, ETC, SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER IN WRITING FOR CLARIFICATION PRIOR TO ISSUANCE OF THE FINAL ADDENDUM AND BIDDING OF THE PROJECT. WHERE DISCREPANCIES OR MULTIPLE INTERPRETATIONS OCCUR, THE MOST STRINGENT (WHICH IS GENERALLY RECOGNIZED AS THE MOST COSTLY) THAT MEETS THE INTENT OF THE DOCUMENTS SHALL BE ENFORCED. OWNER FURNISHED ITEMS: THE OWNER WILL FURNISH MATERIAL AND 2 EQUIPMENT AS INDICATED IN THE CONTRACT DOCUMENTS TO BE INCORPORATED INTO THE WORK. THESE ITEMS ARE ASSIGNED TO THE INSTALLER AND COSTS FOR RECEIVING, HANDLING, STORAGE, IF REQUIRED, AND INSTALLATION ARE INCLUDED IN THE CONTRACT SUM. A. THE INSTALLER'S RESPONSIBILITIES ARE THE SAME AS IF THE INSTALLER FURNISHED THE MATERIALS OR EQUIPMENT. B. THE OWNER WILL ARRANGE AND PAY FOR DELIVERY OF OWNER FURNISHED ITEMS FREIGHT ON BOARD JOB SITE AND THE INSTALLER WILL INSPECT DELIVERIES FOR DAMAGE. IF OWNER FURNISHED ITEMS ARE DAMAGED, DEFECTIVE OR MISSING, DOCUMENT DAMAGED ITEMS WITH THE TRANSPORT COMPANY AND THE OWNER WILL ARRANGE FOR REPLACEMENT. THE OWNER WILL ALSO ARRANGE FOR MANUFACTURER'S FIELD SERVICES, AND THE DELIVERY OF MANUFACTURER'S WARRANTIES AND BONDS TO THE INSTALLER. C. THE INSTALLER IS RESPONSIBLE FOR DESIGNATING THE DELIVERY DATES OF OWNER FURNISHED ITEMS AND FOR RECEIVING, UNLOADING AND HANDLING OWNER FURNISHED ITEMS AT THE SITE. THE INSTALLER IS RESPONSIBLE FOR PROTECTING OWNER FURNISHED ITEMS FROM DAMAGE, INCLUDING DAMAGE FROM EXPOSURE TO THE ELEMENTS, AND TO REPAIR OR REPLACE ITEMS DAMAGED AS A RESULT OF HIS OPERATIONS. EXPOSED STRUCTURE AREAS (EXCLUDING MECHANICAL, ELECTRICAL, AND 3. COMMUNICATION SPACES): INSTALL RACEWAYS BETWEEN DECK AND STRUCTURE WHEREVER POSSIBLE IN EXPOSED STRUCTURE CEILING AREAS. ROUTE RACEWAYS IN CONCEALED AREAS WHEREVER POSSIBLE. REFER ALL CONDITIONS WHERE RACEWAYS MUST BE INSTALLED WHICH CANNOT COMPLY WITH THESE REQUIREMENTS TO THE ARCHITECT. 4. SUBMITTALS: PROVIDE ORIGINAL ELECTRONIC PDF FORMAT, BOUND, BOOKMARKED (EACH SECTION AND PRODUCT), AND HIGHLIGHTED. JOB NAME AND SUBCONTRACTOR SHALL BE ON THE FRONT COVER. PREPARE INDEX OF EQUIPMENT SUBMITTED IN EACH TAB. REFLECTED CEILING PLANS: COORDINATE THE LOCATION OF LIGHT FIXTURES 5.

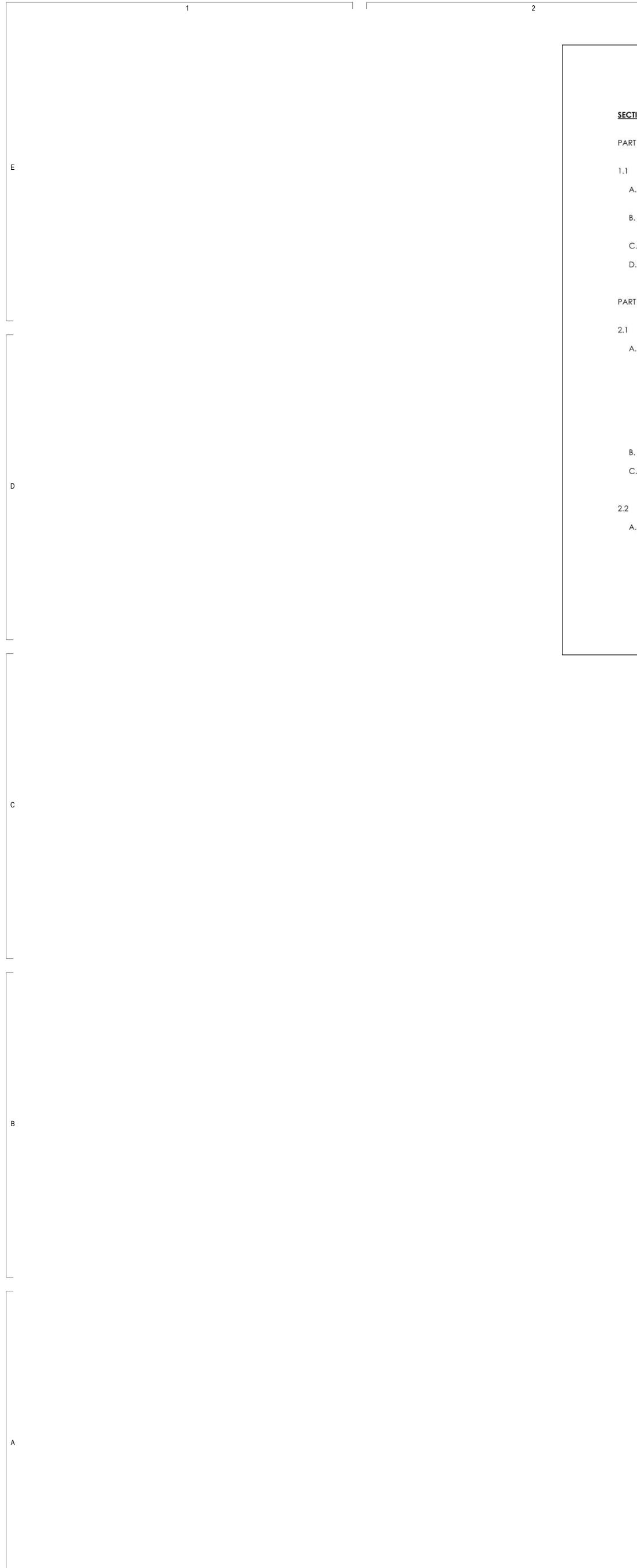
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ELECTRICAL SHEET INDEX EE001SHEET INDEX, ABBREVIATIONS, AND GENERAL NOTESEE601SPECIFICATIONS EE602 SPECIFICATIONS EP100 POWER PLAN - LEVEL 1 - OVERALL

DISCREPANCIES TO THE ARCHITECT AND ENGINEER.

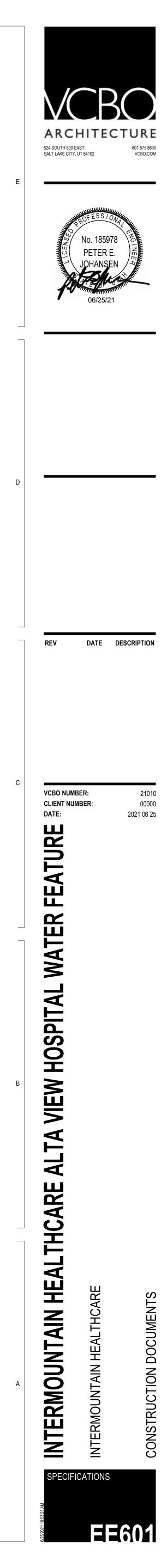
TO THE ON SITE FIELD INSPECTION OF THE AHJ.





			6. O-Z/Gedney; a brand of Emerson Indust
	- GENERAL	В.	Description: Factory-fabricated connectors material, type, and class for application and se
		2.3	SYSTEM DESCRIPTION
.1 A.	DEFINITIONS Outlet Box: Electrical box used to support utilization equipment such as a receptacle or light fixture.	Α.	Electrical Components, Devices, and Acces NFPA 70, by a qualified testing agency, a application.
В.	Pull Box: Electrical box through which branch circuit or feeder conductors are run but are not spliced.	В.	Comply with NFPA 70.
C.	Junction Box: Electrical box used for splicing branch circuit or feeder conductors.	PART 3 -	EXECUTION
D.	Multiwire Branch Circuit: A branch circuit as defined by the National Electrical Code that shares a grounded conductor between two of more phase conductors.	3.1	CONDUCTOR MATERIAL APPLICATIONS
ART 2	- PRODUCTS	Α.	Branch Circuits: Copper. Solid or stranded fo No. 8 AWG and larger.
.1	SINGLE CONDUCTORS	3.2	INSTALLATION OF CONDUCTORS AND CABLES
Α.	Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following: 1. Alpha Wire Company. 2. Belden Inc.	А. В.	Conceal cables in finished walls, ceilings, and Complete raceway installation between co according to Section 26 05 33 "Raceways an pulling conductors and cables.
	 Cerro Wire LLC. Encore Wire Corporation. General Cable; General Cable Corporation. Southwire Company. Thomas & Betts Corporation; A Member of the ABB Group. 	C.	Use manufacturer-approved pulling comp compound used must not deteriorate co manufacturer's recommended maximum pulli Do not use pulling compounds or lubricant fo for Isolated Power Systems.
В. С.	Aluminum and Copper Conductors: Comply with NEMA WC 70/ICEA S-95-658. Conductor Insulation: Comply with NEMA WC 70/ICEA S-95-658 for Type THHN/THWN-2,	D.	Use pulling means, including fish tape, cable, r that will not damage cables or raceway.
	Type XHHW-2 and Type SO.	E.	Install exposed cables parallel and perpend members, and follow surface contours where p
.2 A.	CONNECTORS AND SPLICES Manufacturers: Subject to compliance with requirements, available manufacturers	F.,	Support cables according to Section 26.05 : Systems."
	offering products that may be incorporated into the Work include, but are not limited to the following: 1. 3M.	3.3	CONNECTIONS
	 AFC Cable Systems; a part of Atkore International. Hubbell Power Systems, Inc. Ideal Industries, Inc. ILSCO. 	Α.	Tighten electrical connectors and terminals torque-tightening values. If manufacturer's to specified in UL 486A-486B.
	LOW-VOTLAGE ELECTRICAL POWER CONDUCTORS AND CBALES 26 05 19 - 1		LOW-VOTLAGE ELECTRICAL POWER COND
		1	

ustrial Automation.		
ors and splices of size, ampacity rating, d service indicated.		Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors. 1. Use oxide inhibitor in each splice, termination, and tap for aluminum conductors.
	575520 1915	Wiring at Outlets: Install conductor at each outlet, with at least 12 inches (300 mm) of slack.
cessories: Listed and labeled as defined in and marked for intended location and	3.4	IDENTIFICATION
		Identify and color-code conductors and cables according to Section 26 05 53 "Identification for Electrical Systems."
	1.245	Identify each spare conductor at each end with panel and circuit number and identify as spare conductor.
for No. 10 AWG and smaller; stranded for	3.5	SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS
		Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 26 05 44 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."
ES		
nd floors unless otherwise indicated.	3.6	FIRESTOPPING
conductor and cable termination points and Boxes for Electrical Systems" prior to		Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly according to Section 07 84 13 "Penetration Firestopping."
mpound or lubricant where necessary; conductor or insulation. Do not exceed pulling tensions and sidewall pressure values. for installation of branch circuit conductors		END OF SECTION
e, rope, and basket-weave wire/cable grips,		
endicular to surfaces of exposed structural re possible.		
0529 "Hangers and Supports for Electrical		
als according to manufacturer's published torque values are not indicated, use those		
NDUCTORS AND CBALES 26 05 19 - 2		LOW-VOTLAGE ELECTRICAL POWER CONDUCTORS AND CBALES 26 05 19 - 3
	i I	



MST-OPCINI. 11 MST-OPCINIC 12 MST-OPCINIC 13 MST-OPCINIC 14 14 MST-OPCINIC 14		26 05 33 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS	E.	EMT: Comply with ANSI C80.3 and UL 797. Factory applied color finish available in black, orange green, purple, red, yellow, blue, and white. Refer to Specification Section 26 05 5
 I. MARKIN G. KANNIN M. KANNIN	PART 1 -	GENERAL	r.	"Identification for Electrical Systems" for color coding of raceways.
 A. Karlanda Garcial. Generative control. Generative control.	1.1	DEFINITIONS	F.	
 Consisting of encounts. Michael School and School a	A.		н.	
 By Linear data methods and shares. By Linear data methods and shares and shares prime. Constructions of the shares and	В.	GRC: Galvanized rigid steel conduit.		 Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886 and NFPA 70. Fittings for EMT:
12 ACCONSTRUCT 13 ACCONSTRUCT 14 ACCONSTRUCT 15 ACCONSTRUCT 16 ACCONSTRUCT 17 ACCONSTRUCT 18 ACCONSTRUCT 19 ACCONSTRUCT 10 ACCONSTRUCT 11 ACCONSTRUCT 12 ACCONSTRUCT 13 ACCONSTRUCT 14 ACCONSTRUCT 14 ACCONSTRUCT 15 ACCONSTRUCT 16 ACCONSTRUCT 17 ACCONSTRUCT 18 ACCONSTRUCT 19 ACCONSTRUCT 10 ACCONSTRUCT 10 ACCONSTRUCT 11 ACCONSTRUCT	C.	IMC: Intermediate metal conduit.		b. Type: compression.
 A. Model balance is protect candid by an effective state and an effective state is a balance balance state and expendent of the protect candid by an effective state is a balance balance	1.2	ACTION SUBMITTALS		environmental conditions where installed, and including flexible external bonding jumper
 Insuct Date or Cash Date Lange Lang		Product Data: For color coded EMT conduit, surface raceways, wireways and fittings, floor	Ι.	Joint Compound for IMC, GRC, or ARC: Approved, as defined in NFPA 70, by authorities havin jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.
 Library is the specific conduct CA is the left of multi or distance prime is expression of the Side or a specific conduct table prime to the Side or a specific conduct table prime table prime table prime table prime table pris table prime table prime table prime table prime table pris	Β.	1. Product Data for Credit IEQ 4.1: For solvent cements and adhesive primers,	2.2	NONMETALLIC CONDUITS, TUBING, AND FITTINGS
 Division¹ Bit Charge Texture relations and controls include data, shewlines relations and advanced data. Division¹ 		 Laboratory Test Reports for Credit IEQ 4: For solvent cements and adhesive primers, documentation indicating that products comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the 	A.	Listing and Labeling: Nonmetallic conduits, tubing, and fittings shall be listed and labeled or defined in NFPA 70, by a qualified testing agency, and marked for intended location an application.
 Bit Physics I and Physics I and			В.	RNC: Type EPC-40-PVC, complying with NEMA TC 2 and UL 651 unless otherwise indicated.
 Bargle: Proceedings in the each casts or the safe pactifier. (20 mm) large MCC Complex Mill: 164A dot: MEAA TO: MEAA TO:	C.		C.	LFNC: Comply with UL 1660.
 PAR2 - FODICIT Hing for NEC Comply with NAM C2, motifs the coolid or taking the and matrix. Hing for NEC Comply with NAM C2, motifs the coolid or taking the and matrix. Hing for EAC Comply with NAM C2, motifs the coolid or taking the and matrix. Hing for EAC Comply with NAM C2, motifs the coolid or taking the and matrix. Hing for EAC Comply with NAM C22, motifs the coolid or taking the and matrix. Hing for EAC Comply with NAM C22, motifs the coolid or taking the and matrix. Hing for EAC Comply with NAM C22, motifs the coolid or taking the and matrix. Mice Comply with NAM C22, motifs the coolid or taking the and matrix. Mice Comply with NAM C22, motifs the coolid or taking the coolid or	D.		D.	
 MAL CANDOLS MEAL CONDUCTS MEAL CONDUCTS UNIG, AND MITAGS MECL CONDUCTS UNIG AND MITAGS MECL CONDUCTS UNIG AND MITAGES ME		long.	<u>E.</u>	
 MEALCOREUS 18/NG ANDERNOS MEINLADON MEINLADON	PART 2 -	PRODUCTS	F.	
 A life year Lockety when controls excluding on the set of the set o	2.1	METAL CONDUITS, TUBING, AND FITTINGS	Н.	Solvent cements and adhesive primers shall have a VOC content of 510 and 550 g/L or les
 BCC Comply with AGIC BL and LLA. ACC Comply with AGIC BL and LLA. ACC Comply with AGIC BL and LLA. MC Comply with AGIC BL and LLA. ACC Comply with AGIC BL and LLA. MC Comply with AGIC AGIC BL AGIC	Α.			respectively, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
C. AC-Comply with ARI DBS and UL 122. RECENTS AND SORS FOR EECTRCAL SYSTEM 24153.1 RECENTS AND SORS FOR EECTRCAL S	в		١.	Solvent cements and adhesive primers shall comply with the testing and product requirement of the California Department of Health Services' "Standard Practice for the Testing of Volatil Organic Emissions from Various Sources Using Small Socie Emissionmental Chambers"
MC-Comply with ANSI 6282 and UL 1242 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 24 of 33 - 1 EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS EACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS EACEWAYS EXEMPTION FOR THE ADD ADD ADD ADD ADD ADD ADD ADD ADD AD	в. С			organic emissions from various sources using small-scale Environmental Chambers."
 85TALLAIDN. Control of the service of th	D.			
 NSTALLATON Contronall presendicular to the length. For conduits 2 inch (33 mm) tode size and to a locker or guide to mise out triaget and event based in the length. For conduits 2 inch (33 mm) tode size and to a locker or guide to mise out triaget and event based in the length. For conduits 2 inch (33 mm) tode size and to a locker or guide to mise out triaget and event based in the length. For conduits 2 inch (33 mm) tode size and to a locker or guide to mise out triaget and event based in the length. For conduits 2 inch (33 mm) tode size and to a locker or guide to mise out triaget and event based in the length. For conduits 2 inch (33 mm) tode size and the length. For conduits 2 inch (33 mm) tode size and the length. For conduits 2 inch (33 mm) tode size and the locker or guide to mise out triaget and the locker or guide locker. Sufficies Start (spectra) with N2A 73 mitled 37. Compare incleway intra discord or general in the size and start or the length for conductive or guide locker o				
 INSTALLATION Restrictions INSTALLATION Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or hits article are stricter. Comply with NECA 102 for dominum conduits. Comply with NEPA 70 limitations for types of raceways allowed in specific occupancies and number of floors. Separation of Lie Safety and Critical Branch Wing: Comply with NEPA 70 Article 517. Keep raceways all east 6 inches (150 mm) away fram parallel runs of flues and steam pling. Complete raceway installation before starting conductor installation. Install ano more than the equivalent of three 90 degree bends in any conduit run except for concretal within 12 inches (300 mm) of experiments. Sale hours of starting a finish similar to that of degree bends in any conduit run except for control within conduit. Floor starting a finish similar to that of degree bends in any conduit run except for control within conduit. To which there 90 degree bends in any conduit run except for control within conduit and EAT within Thinkerd walk, callings, and floors unless otherwise indicated. Netre on duride of the strictures of within a boundaries of refer spaces. Where conduit and EAT within Thinkerd walk, callings, and floors unless otherwise indicated. Install conduits parallel of the long of strictures. Where conduit and EAT within Thinkerd walk, callings, and floors unless otherwise indicated. Install conduits parallel of the end on this as a boundaries of refin space		RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 26 05 33 - 1		RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 26 05 33 -
 Drawing or in this article are stricter. Comply with NECA 102 for aluminum conduits. Comply with NFRA 70 limitations for types of raceways allowed in specific occupancies and number of floors. Separation of Life Safety and Critical Branch Wring: Comply with NFRA 70 Article 517. Keep raceways at least 6 inches (150 nm) away from parallel runs of flues and steam or hot- water pipes. Install horben 102 om parallel runs of flues and steam or hot- water pipes. Install horben and scene an	3.2	INSTALLATION	Q.	Cut conduit perpendicular to the length. For conduits 2-inch (53-mm) trade size and larger, us roll cutter or a guide to make cut straight and perpendicular to the length.
 Suface Roceways: Suface Roceway: Suface Roceway:<td>A.</td><td>Drawings or in this article are stricter. Comply with NECA 102 for aluminum conduits. Comply with</td><td>R.</td><td>Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not les than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end o pull wire. Cap underground raceways designated as spare above grade alongside raceways i use.</td>	A.	Drawings or in this article are stricter. Comply with NECA 102 for aluminum conduits. Comply with	R.	Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not les than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end o pull wire. Cap underground raceways designated as spare above grade alongside raceways i use.
 water pipes. Install horizontal raceway runs above water and steam piping. 2. Secure surface raceway with screws or other anchor-type devices at inter exceeding 48 inches (1200 mm) and with no less training to manufacturer's written instruction and glue are not acceptable support methods. E. Comply with requirements in Section 26 05 29 "Hangers and Supports for Electrical Systems" for hangers and supports. F. Arrange stub-ups so curved portions of bends are not visible above finished stab except where conceeled in chases. G. Install no more than the equivalent of three 90-degree bends in any conduit run except for control withing conduits, for which fewer bends are allowed. Support within 12 inches (300 mm) of enclosures to which attached. H. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated, install conduits parallel or perpendicular to building lines. I. Support conduit within 12 inches (300 mm) of enclosures to which attached. J. Raceways Embedded in Slabs are prohibited. K. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fillings before making up joints. Follow compound are making up joints. Follow compound are making up joints. Follow compound are indexed so to the flexible metal conduit at threads on receives at the following changes beloed in subs. PVC-coaded raceway with a corrosion-preventing conductive L. Coat field-cut threads on PVC-coaded raceway with a corrosion-preventing conductive 	В.		S.	
 D. Complete raceway installation before starting conductor installation. E. Comply with requirements in Section 26 05 29 "Hangers and Supports for Electrical Systems" for hangers and supports. F. Arrange stub-ups so curved portions of bends are not visible above finished slab except where conceled in chases. G. Install no more than the equivalent of three 90-degree bends in any conduit run except for control witing canduits, for which fewer bends are allowed. Support within 12 inches (300 mm) of changes in direction. H. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits pare thouliding lines. J. Raceways Embedded in Slabs are prohibited. K. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions; Apply listed compound for conduit on a fittings before making up joints. Follow compound and threads of raceway and fittings before making up joints. Follow compound and threads of raceway entres of written instructions or expansion joints. Allow for the cold in the end of the preventing conduit to a conduit or a conduit or threads of raceway and fittings before making up joints. Follow compound and threads of raceway and t	C.			2. Secure surface raceway with screws or other anchor-type devices at intervals no
 E. Comply with requirements in Section 26 05 29 "Hangers and Supports for Electrical Systems" for hangers and supports. F. Arrange stub-ups so curved portions of bends are not visible above finished stab except where conceled in choses. G. Install no more than the equivalent of three 90-degree bends in any conduit run except for control witing conduits, for which fewer bends are allowed. Support within 12 inches (300 mm) of changes in direction. H. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits particular to building lines. I. Support conduit vithin 12 inches (300 mm) of enclosures to which attached. J. Raceways Embedded in Stabs are prohibited. K. Threaded Conduit Joints, Exposed to Wet, Damp, Cornsive, or Outdoor Conditions: Apply listed compound in threads of receway and filtings before making up joints. Follow compound a filtings before making up joints. Follow compound and filtings in a corasion-preventing conductive L. Coat field-cut threads on PVC-coated raceway with a corasion-preventing conductive 	D.	Complete raceway installation before starting conductor installation.		section. Support surface raceway according to manufacturer's written instructions. Tap
 F. Arrange stub-ups so curved portions of bends are not visible above finished slab except where conceeled in chases. G. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches (300 mm) of changes in direction. H. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines. I. Support conduit within 12 inches (300 mm) of enclosures to which attached. J. Raceways Embedded in Slabs are prohibited. K. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound to threads of raceway and fittings before making up joints. Follow compound to threads on PVC-coated raceway with a corrosion-preventing conductive L. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive 	E.		T.	
 control wiring conduits, for which fewer bends are allowed. Support within 12 inches (300 mm) of changes in direction. H. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines. I. Support conduit within 12 inches (300 mm) of enclosures to which attached. J. Raceways Embedded in Slabs are prohibited. K. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions. L. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive 	F.			listed sealing compound. For concealed raceways, install each fitting in a flush steel box with blank cover plate having a finish similar to that of adjacent plates or surfaces. Install racewa
 Install conduits parallel or perpendicular to building lines. I. Support conduit within 12 inches (300 mm) of enclosures to which attached. J. Raceways Embedded in Slabs are prohibited. K. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound to threads of raceway and fittings before making up joints. Follow compound to threads of raceway and fittings before making up joints. Follow compound L. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive 	G.	control wiring conduits, for which fewer bends are allowed. Support within 12 inches (300 mm) of	U.	 Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings of boxes are between the seal and the following changes of environments. Seal the interior of craceways at the following points: 1. Where conduits pass from warm to cold locations, such as boundaries of refrigerate
 I. Support conduit within 12 inches (300 mm) of enclosures to which attached. J. Raceways Embedded in Slabs are prohibited. K. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions. L. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive 	Н.			spaces.Where an underground service raceway enters a building or structure.
 J. Raceways Embedded in Slabs are prohibited. K. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions. L. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive 	l.	Support conduit within 12 inches (300 mm) of enclosures to which attached.	4140) -	
 K. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions. L. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive 	J.	Raceways Embedded in Slabs are prohibited.	۷.	
L. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive conduit runs with expansion fittings use minimum 60 degrees for each expansion	К.	compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.	۷۷.	 Install flexible metal conduit at all locations where conduits cross building or structur expansion joints. Allow for minimum 4 inches deflection in all directions or greater expansion joint exceeds 4 inches. Provide droop in flexible conduit to accommodat movement. Do not loop the flexible conduit. When calculating total bend degrees i
2. Install each expansion-joint fitting with position, mounting, and piston setting :	L.	compound prior to assembly.		 conduit runs with expansion fittings use minimum 60 degrees for each expansion-joir fitting Install each expansion-joint fitting with position, mounting, and piston setting selecter
M. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG. of installation. Install conduit supports to allow for expansion movement.	M.			according to manufacturer's written instructions for conditions at specific location at tim of installation. Install conduit supports to allow for expansion movement.
	N.	or cabinets. Install bushings on conduits up to 1-1/4-inch (35mm) trade size and insulated throat metal bushings on 1-1/2-inch (41-mm) trade size and larger conduits terminated with locknuts.	Х.	
O. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install Y. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not inc	Ο.	Install raceways square to the enclosure and terminate at enclosures with locknuts. Install	Υ.	Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individual
locknuts hand tight plus 1/4 turn more. P. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.	D	Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings		indicated, give priority to ADA requirements. Install boxes with height measured to center of bo unless otherwise indicated.
	E.			
RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 26 05 33 - 5 RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 26 05 33 - 5	Γ.	RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 26 05 33 - 5		RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 26 05 33 -

2.3	METAL WIREWAYS AND AUXILIARY GUTTERS
Α.	Description: Sheet metal, complying with UL 870 and NEMA 250, Type 1 unless otherw indicated, and sized according to NFPA 70. 1. Metal wireways installed outdoors shall be listed and labeled as defined in NFPA 70, by qualified testing agency, and marked for intended location and application.
В.	Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapte hold-down straps, end caps, and other fittings to match and mate with wireways as required complete system.
C.	Wireway Covers: Hinged type unless otherwise indicated.
D.	Finish: Manufacturer's standard enamel finish.
2.4	BOXES, ENCLOSURES, AND CABINETS
Α.	General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabin installed in wet locations shall be listed for use in wet locations.
В.	Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.
C.	Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, aluminum, Type FD, w gasketed cover.
D.	Nonmetallic Outlet and Device Boxes: Comply with NEMA OS 2 and UL 514C.
E.	Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
F.	Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, c aluminum with gasketed cover.
G.	Box extensions used to accommodate new building finishes shall be of same material recessed box.
н.	Pull boxes behind monitors: Minimum 6 inches square by 3-1/2 inches deep with two-gang ring
I.	Handholes and Boxes for Exterior Underground Wiring: Refer to Specification Section 26 05 "Underground Ducts and Raceways for Electrical Systems". 1. 3M Company. 2. Hilti

3.1 RACEWAY APPLICATION

1. Exposed Conduit: GRC or IMC.

4

	and install box flush with surface of wall. Prep raintight connection between box and cover p
AA.	Horizontally separate boxes mounted on opp vertical channel.
BB.	Fasten junction and pull boxes to or support conduits.

3.3 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 26 05 44 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."

3.4 FIRESTOPPING AND SOUND TRANSMISSION MITIGATION A. Install firestopping at penetrations of fire-rated floor and wall assemblies. Comply with

A. Outdoors: Apply raceway products as specified below unless otherwise indicated:

RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

requirements in Section 07 84 13 "Penetration Firestopping." B. Install putty pads with acoustical and firestopping capabilities on all boxes that are installed in wall or partition cavities and in gypsum board ceilings.

3.5 PROTECTION

A. Protect coatings, finishes, and cabinets from damage and deterioration. 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.

recommended by manufacturer.

END OF SECTION

2. Concealed Conduit, Aboveground: EMT. 3. Underground Conduit for branch circuits: RNC, Type EPC-40-PVC, direct buried. 4. Underground Conduit for feeders: Refer to Specification Section 26 05 43 "Underground Ducts and Raceways for Electrical Systems". JL 870 and NEMA 250, Type 1 unless otherwise Raceways Embedded in slabs or composite steel and concrete decks are prohibited. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, be listed and labeled as defined in NFPA 70, by a Electric Solenoid, or Motor-Driven Equipment): LFMC. r intended location and application. 7. Boxes and Enclosures, Aboveground: NEMA 250, Type 4X, 304 stainless steel. olings, offsets, elbows, expansion joints, adapters, B. Indoors: Apply raceway products as specified below unless otherwise indicated: to match and mate with wireways as required for Exposed, Not Subject to Physical Damage: EMT. Exposed, Not Subject to Severe Physical Damage: EMT. Exposed and Subject to Severe Physical Damage: GRC or IMC. Raceway locations indicated. include the following: a. Loading dock. b. Corridors used for traffic of mechanized carts, forklifts, and pallet-handling units. c. Mechanical rooms below 8 feet. d. Gymnasiums. 4. Concealed in Ceilings and Interior Walls and Partitions: EMT. 5. Feeder Raceways under Slabs: RNC, Type EPC-40-PVC encased in not less than 2 inches and Cabinets: Boxes, enclosures, and cabinets of 3000 psi concrete. Change from RNC, Type EPC-40-PVC to GRC or IMC before rising n wet locations. above floor. 6. Branch Circuit Raceways under Slabs: Refer to Specifications Section 260519 "Lowwith NEMA OS 1 and UL 514A. Voltage Electrical Power Conductors and Cables" for allowable application of under slab raceways. RNC, Type EPC-40-PVC direct buried. Change from RNC, Type EPC-40-PVC to nply with NEMA FB 1, aluminum, Type FD, with GRC or IMC before rising above floor. Raceways Embedded in slabs or composite steel and concrete decks are prohibited. 8. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, with NEMA OS 2 and UL 514C. Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations. A OS 1. Damp or Wet Locations: GRC or IMC. 10. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4X, 304 stainless s: Comply with NEMA FB 1 and UL 1773, cast steel in kitchens and damp or wet locations. 11. building finishes shall be of same material as

5

C. Minimum Raceway Size: 3/4-inch (21-mm) trade size.

6

- D. Raceway Fittings: Compatible with raceways and suitable for use and location.
- 1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10. EMT: Use setscrew or compression, steel fittings. Comply with NEMA FB 2.10.
- 3. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.
- E. Do not install aluminum conduits, boxes, or fittings in contact with concrete or earth.
- F. Install surface raceways only where indicated on Drawings.

RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS 26 05 33 - 4

26 05 33 - 3

Z. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, pare block surfaces to provide a flat surface for a er plate or supported equipment and box.

oposite sides of walls so they are not in the same

rt from building structure. Do not support boxes by

2. Repair damage to PVC coatings or paint finishes with matching touchup coating

26 05 33 - 7

