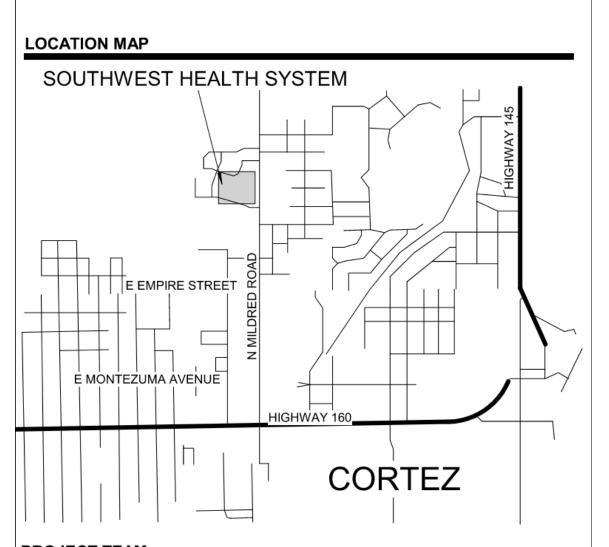
GENERAL NOTES

- IF DISCREPANCIES OCCUR BETWEEN DRAWINGS OR BETWEEN THE DRAWINGS AND SPECIFICATIONS, SUBMIT AN RFI FOR RESOLUTION. DO NOT SCALE THE DRAWINGS. SUBMIT AN RFI IF CRITICAL DIMENSIONS DO NOT
- APPEAR ON THE DRAWINGS. THE BUILDING EXTERIOR IS DEFINED BASED ON A SYSTEMS METHODOLOGY.
- REFER TO A-700 DRAWING SERIES FOR COMPONENTS THAT COMPRISE EACH SYSTEM. PROVIDE ISOLATION BETWEEN ALL DISSIMILAR METALS WHERE THEY OCCUR TO
- PREVENT ELECTROLYTIC REACTION AND CORROSION. VERIFY EQUIPMENT ROUGH-IN DIMENSIONS WITH MANUFACTURER FOR
- EQUIPMENT THAT IS EXISTING, REUSED, OR FURNISHED BY OWNER.

DEFINITIONS

ALIGN	TO ACCURATELY LOCATE FACE BASED ON ADJACENT ITEMS OR CONSTRUCTION
MAXIMUM	THE CONDITION MAY NOT VARY TO A DIMENSION GREATER THAN THAT SHOWN WITHOUT THE APPROVAL OF THE ARCHITECT
MINIMUM	THE CONDITION MAY NOT VARY TO A DIMENSION SMALLER THAN THAT SHOWN WITHOUT THE APPROVAL OF THE ARCHITECT
TYPICAL	THE CONDITION APPLIES TO SAME CONDITIONS THROUGHOUT UNLESS NOTED OTHERWISE



PROJECT TEAM

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STANDARD ABBREVIATIONS LEGEND

ACT	
	ACOUSTICAL CEILING TILE
ADD	ADDENDUM
AFF	ABOVE FINISHED FLOOR
AL	ALUMINUM
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZED
APPROX	APPROXIMATE(LY)
ARCH	ARCHITECT or ARCHITECTURAL
ASI	ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS
AUX	AUXILIARY
BLDG	BUILDING
BSMT	BASEMENT
BTWN	BETWEEN
CD	CONSTRUCTION DOCUMENTS or CONTRACT DOCUMENTS
CJ	CONSTRUCTION JOINT or CONTROL JOINT
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CORR	CORRIDOR
DBL	DOUBLE
DEMO	DEMOLISH or DEMOLITION
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION or DIMENSIONAL
DW	DISHWASHER
DWG	DRAWING
EA	EACH
EJ	EXPANSION JOINT
ELEC	ELECTRIC(AL)
ELEV	ELEVATOR
EMER	EMERGENCY
EOS	EDGE OF SLAB
EQ	EQUAL
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FFE	FURNITURE, FIXTURES AND EQUIPMENT
FHC	FIRE HOSE CABINET
GA	GAUGE
GALV	GALVANIZED
HB	HOSE BIBB
HORIZ	HORIZONTAL
HT	HEIGHT
HVAC	HEATING, VENTILATION and AIR CONDITIONING
IBC	INTERNATIONAL BUILDING CODE
JAN	JANITOR
JT	JOINT
L	ANGLE
MAX	MAXIMUM
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL and PLUMBING
MEZZ	MEZZANINE
MIN	MINIMUM
MISC	MISCELLANEOUS
МО	MASONRY OPENING
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO.	NUMBER
NOTE:	FOR ADDITIONAL ABBREVATIONS; REFER TO SPECIFICATION 01 4200
	COMPLETE INDUSTRY STANDARD ABBREVIATION LIST
NRC	NOISE REDUCTION COEFFICIENT
NTS	
	NOT TO SCALE
OC	ON-CENTER
OC OPNG	
OPNG OPP	ON-CENTER OPENING OPPOSITE
OPNG OPP PERIM	ON-CENTER OPENING OPPOSITE PERIMETER
OPNG OPP PERIM PR	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST
OPNG OPP PERIM PR PSF	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT
OPNG OPP PERIM PR PSF PSI	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH
OPNG OPP PERIM PR PSF PSI PT	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED
OPNG OPP PERIM PR PSF PSI PT QTY	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY
OPNG OPP PERIM PR PSF PSI PT QTY R	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE
OPNG OPP PERIM PR PSF PSI PT QTY R RCP	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN
OPNG OPP PERIM PSF PSI PT QTY R RCP RD RE	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN REFER TO or REFERENCE
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN REFER TO or REFERENCE REVISE, REVISED or REVISION
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV RM	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN REFER TO or REFERENCE REVISE, REVISED or REVISION ROOM
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV RE REV RM RO	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN REFER TO or REFERENCE REVISE, REVISED or REVISION ROOM ROUGH OPENING
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV RD RE REV RM RO ROW	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN REFER TO or REFERENCE REVISE, REVISED or REVISION ROOM ROUGH OPENING RIGHT-OF-WAY
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV RD RE REV RM RO ROW RTU	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN REFER TO or REFERENCE REVISE, REVISED or REVISION ROOM ROUGH OPENING RIGHT-OF-WAY ROOFTOP UNIT
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN REFER TO or REFERENCE REVISE, REVISED or REVISION ROOM ROUGH OPENING RIGHT-OF-WAY ROOFTOP UNIT SANITARY
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV RD RE REV RM RO ROW RTU SAN SF	ON-CENTEROPENINGOPPOSITEPERIMETERPAIR or PROPOSAL REQUESTPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHPAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATEDQUANTITYRADIUS, RISER or THERMAL RESISTANCEREFLECTED CEILING PLANROAD or ROOF DRAINREFER TO or REFERENCEREVISE, REVISED or REVISIONROOMROUGH OPENINGRIGHT-OF-WAYROOFTOP UNITSANITARYSQUARE FOOT (FEET)
OPNG OPP PERIM PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN SF SHT	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN REFER TO or REFERENCE REVISE, REVISED or REVISION ROOM ROUGH OPENING RIGHT-OF-WAY ROOFTOP UNIT SANITARY SQUARE FOOT (FEET) SHEET
OPNG OPP PERIM PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN SF SHT SIM	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN REFER TO or REFERENCE REVISE, REVISED or REVISION ROOM ROUGH OPENING RIGHT-OF-WAY ROOFTOP UNIT SANITARY SQUARE FOOT (FEET) SHEET SIMILAR
OPNG OPP PERIM PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN SF SHT SIM SPEC	ON-CENTEROPENINGOPPOSITEPERIMETERPAIR or PROPOSAL REQUESTPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHPAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATEDQUANTITYRADIUS, RISER or THERMAL RESISTANCEREFLECTED CEILING PLANROAD or ROOF DRAINREFER TO or REFERENCEREVISE, REVISED or REVISIONROOMROUGH OPENINGRIGHT-OF-WAYROOFTOP UNITSANITARYSQUARE FOOT (FEET)SHEETSIMILARSPECIFICATION(S)
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV RD RE REV RM RO ROW RTU SAN SF SHT SIM SPEC SQ	ON-CENTEROPENINGOPPOSITEPERIMETERPAIR or PROPOSAL REQUESTPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHPAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATEDQUANTITYRADIUS, RISER or THERMAL RESISTANCEREFLECTED CEILING PLANROAD or ROOF DRAINREFER TO or REFERENCEREVISE, REVISED or REVISIONROOMROUGH OPENINGRIGHT-OF-WAYSQUARE FOOT (FEET)SHEETSIMILARSPECIFICATION(S)SQUARE
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN SF SHT SIM SPEC SQ STC	ON-CENTEROPENINGOPPOSITEPERIMETERPAIR or PROPOSAL REQUESTPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHPAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATEDQUANTITYRADIUS, RISER or THERMAL RESISTANCEREFLECTED CEILING PLANROAD or ROOF DRAINREFER TO or REFERENCEREVISE, REVISED or REVISIONROOMROUGH OPENINGRIGHT-OF-WAYROOFTOP UNITSANITARYSQUARE FOOT (FEET)SHEETSIMILARSPECIFICATION(S)SQUARESOUND TRANSMISSION CLASS
OPNG OPP PERIM PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN SF SHT SIM SPEC SQ STC STL	ON-CENTEROPENINGOPPOSITEPERIMETERPAIR or PROPOSAL REQUESTPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHPAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATEDQUANTITYRADIUS, RISER or THERMAL RESISTANCEREFLECTED CEILING PLANROAD or ROOF DRAINREFER TO or REFERENCEREVISE, REVISED or REVISIONROOMROUGH OPENINGRIGHT-OF-WAYSQUARE FOOT (FEET)SHEETSIMILARSPECIFICATION(S)SQUARESOUND TRANSMISSION CLASSSTEEL
OPNG OPP PERIM PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN SF SHT SIM SPEC SQ STC STL STDR	ON-CENTEROPENINGOPPOSITEPERIMETERPAIR or PROPOSAL REQUESTPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHPAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATEDQUANTITYRADIUS, RISER or THERMAL RESISTANCEREFLECTED CEILING PLANROAD or ROOF DRAINREFER TO or REFERENCEREVISE, REVISED or REVISIONROOMROUGH OPENINGRIGHT-OF-WAYSQUARE FOOT (FEET)SHEETSIMILARSPECIFICATION(S)SQUARESOUND TRANSMISSION CLASSSTEELSTORAGE
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN SF SHT SIM SPEC SQ STC STL STOR TO	ON-CENTEROPENINGOPPOSITEPERIMETERPAIR or PROPOSAL REQUESTPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHPAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATEDQUANTITYRADIUS, RISER or THERMAL RESISTANCEREFLECTED CEILING PLANROAD or ROOF DRAINREFER TO or REFERENCEREVISE, REVISED or REVISIONROOMROUGH OPENINGRIGHT-OF-WAYROOFTOP UNITSANITARYSQUARE FOOT (FEET)SHEETSIMILARSPECIFICATION(S)SQUARESOUND TRANSMISSION CLASSSTEELSTORAGETOP OF
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN SF SHT SIM SF SHT SIM SPEC SQ STC STL STOR TO TOC	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN REFER TO or REFERENCE REVISE, REVISED or REVISION ROOM ROUGH OPENING RIGHT-OF-WAY ROOFTOP UNIT SANITARY SQUARE FOOT (FEET) SHEET SIMILAR SPECIFICATION(S) SQUARE SOUND TRANSMISSION CLASS STEEL STORAGE TOP OF TOP OF CONCRETE
OPNG OPP PERIM PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN SF SHT SIM SF SHT SIM SPEC SQ STC STL STC STL STOR TO TOC TOC	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN REFER TO or REFERENCE REVISE, REVISED or REVISION ROOM ROUGH OPENING RIGHT-OF-WAY ROOFTOP UNIT SANITARY SQUARE FOOT (FEET) SHEET SIMILAR SPECIFICATION(S) SQUARE SOUND TRANSMISSION CLASS STEEL STORAGE TOP OF TOP OF CONCRETE TOP OF PARAPET
OPNG OPP PERIM PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN SF SHT SIM SF SHT SIM SPEC SQ STC STL STOR TO TOC TOP TOS	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN ROAD or ROOF DRAIN REFER TO or REFERENCE REVISE, REVISED or REVISION ROOM ROUGH OPENING RIGHT-OF-WAY ROOFTOP UNIT SANITARY SQUARE FOOT (FEET) SHEET SIMILAR SPECIFICATION(S) SQUARE SOUND TRANSMISSION CLASS STEEL STORAGE TOP OF TOP OF CONCRETE TOP OF STEEL
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN SF SHT SIM SPEC SQ STC STL STOR TO TOC TOP TOS TOW	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN REFER TO or REFERENCE REVISE, REVISED or REVISION ROOM ROUGH OPENING RIGHT-OF-WAY ROOFTOP UNIT SANITARY SQUARE FOOT (FEET) SHEET SIMILAR SPECIFICATION(S) SQUARE SOUND TRANSMISSION CLASS STEEL STORAGE TOP OF TOP OF CONCRETE TOP OF STEEL TOP OF STEEL TOP OF WALL
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN SF SHT SIM SPEC SQ STC STL STC STL STOR TO TOC TOP TOS TOW TYP	ON-CENTEROPENINGOPPOSITEPERIMETERPAIR or PROPOSAL REQUESTPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHPAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATEDQUANTITYRADIUS, RISER or THERMAL RESISTANCEREFLECTED CEILING PLANROAD or ROOF DRAINREFER TO or REFERENCEREVISE, REVISED or REVISIONROOMROUGH OPENINGRIGHT-OF-WAYSOUARE FOOT (FEET)SHEETSIMILARSPECIFICATION(S)SQUARESOUND TRANSMISSION CLASSSTEELSTORAGETOP OFTOP OF STEELTOP OF STEELTOP OF STEELTOP OF WALLTYPICAL
OPNG OPP PERIM PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN SF SHT SIM SF SHT SIM SPEC SQ STC STL STC STL STOR TO TOC TOC TOC TOC TOP TOS TOW TYP UNO	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN REFER TO or REFERENCE REVISE, REVISED or REVISION ROOM ROUGH OPENING RIGHT-OF-WAY ROOFTOP UNIT SANITARY SQUARE FOOT (FEET) SHEET SIMILAR SPECIFICATION(S) SQUARE SOUND TRANSMISSION CLASS STEEL STORAGE TOP OF TOP OF CONCRETE TOP OF STEEL TOP OF STEEL TOP OF STEEL TOP OF WALL TYPICAL UNLESS NOTED OTHERWISE
OPNG OPP PERIM PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN SF SHT SIM SF SHT SIM SPEC SQ STC STL STOR TO TOC TOC TOC TOP TOS TOW TYP UNO VIF	ON-CENTEROPENINGOPPOSITEPERIMETERPAIR or PROPOSAL REQUESTPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHPAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATEDQUANTITYRADIUS, RISER or THERMAL RESISTANCEREFLECTED CEILING PLANROAD or ROOF DRAINREFER TO or REFERENCEREVISE, REVISED or REVISIONROOMROUGH OPENINGRIGHT-OF-WAYSQUARE FOOT (FEET)SHEETSIMILARSPECIFICATION(S)SQUARESOUND TRANSMISSION CLASSSTEELSTORAGETOP OFTOP OF PARAPETTOP OF STEELTOP OF STEELUNLESS NOTED OTHERWISEVERIFY IN FIELD
OPNG OPP PERIM PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN SF SHT SIM SPEC SQ STC STL STOR TO TOC TOC TOC TOP TOS TOW TYP UNO VIF W/	ON-CENTEROPENINGOPPOSITEPERIMETERPAIR or PROPOSAL REQUESTPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHPAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATEDQUANTITYRADIUS, RISER or THERMAL RESISTANCEREFLECTED CEILING PLANROAD or ROOF DRAINREFER TO or REFERENCEREVISE, REVISED or REVISIONROOMROUGH OPENINGRIGHT-OF-WAYSOUTOP UNITSANITARYSQUARE FOOT (FEET)SHEETSIMILARSPECIFICATION(S)SQUARESOUND TRANSMISSION CLASSSTEELSTOP OFTOP OF CONCRETETOP OF STEELTOP OF STEELTOP OF STEELTOP OF WALLTYPICALWITHWITH
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV RM RO ROW RTU SAN SF SHT SIM SPEC SQ STC STL STOR TO TOC TOC TOP TOS TOW TYP UNO VIF W/ W/O	ON-CENTEROPENINGOPPOSITEPERIMETERPAIR or PROPOSAL REQUESTPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHPAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATEDQUANTITYRADIUS, RISER or THERMAL RESISTANCEREFLECTED CEILING PLANROAD or ROOF DRAINREFER TO or REFERENCEREVISE, REVISED or REVISIONROOMROUGH OPENINGRIGHT-OF-WAYSQUARE FOOT (FEET)SHEETSIMILARSPECIFICATION(S)SQUARESOUND TRANSMISSION CLASSSTEELTOP OFTOP OF CONCRETETOP OF STEELTOP OF STEELTOP OF STEELTOP OF WALLTYPICALWITHWITHOUT
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV RM RO RCP RD RE STO ST ST SIM SF SHT SIM SF SHT SIM SPEC SQ STC STL STOR TO TOC TOC TOC TOC TOP TOS TOW TYP UNO VIF W/ W/O WD	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN REFER TO or REFERENCE REVISE, REVISED or REVISION ROOM ROUGH OPENING RIGHT-OF-WAY ROOFTOP UNIT SANITARY SQUARE FOOT (FEET) SHEET SIMILAR SPECIFICATION(S) SQUARE SOUND TRANSMISSION CLASS STEEL STORAGE TOP OF CONCRETE TOP OF PARAPET TOP OF STEEL TOP OF STEEL TOP OF STEEL TOP OF WALL TYPICAL WITH WITHOUT WOOD
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV RM RO RE REV RM RO RE STC SIM SF SHT SIM SF SHT SIM SF SHT SIM SF STC STL STOR TO TOC TOC TOP TOS TOP TOS TOW TYP UNO VIF W/ W/O WD	ON-CENTEROPENINGOPPOSITEPERIMETERPAIR or PROPOSAL REQUESTPOUNDS PER SQUARE FOOTPOUNDS PER SQUARE INCHPAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATEDQUANTITYRADIUS, RISER or THERMAL RESISTANCEREFLECTED CEILING PLANROAD or ROOF DRAINREFER TO or REFERENCEREVISE, REVISED or REVISIONROOMROUGH OPENINGRIGHT-OF-WAYSQUARE FOOT (FEET)SHEETSIMILARSPECIFICATION(S)SQUARESOUND TRANSMISSION CLASSSTEELSTORAGETOP OFTOP OF STEELTOP OF STEELTOP OF STEELTOP OF WALLTYPICALUNLESS NOTED OTHERWISEVERIFY IN FIELDWITHWITHOUTWOODWORKING POINT
OPNG OPP PERIM PR PSF PSI PT QTY R RCP RD RE REV RM RO RCP RD RE STO ST ST SIM SF SHT SIM SF SHT SIM SPEC SQ STC STL STOR TO TOC TOC TOC TOC TOP TOS TOW TYP UNO VIF W/ W/O WD	ON-CENTER OPENING OPPOSITE PERIMETER PAIR or PROPOSAL REQUEST POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PAINT(ED), POST-TENSIONED SLAB or PRESSURE TREATED QUANTITY RADIUS, RISER or THERMAL RESISTANCE REFLECTED CEILING PLAN ROAD or ROOF DRAIN REFER TO or REFERENCE REVISE, REVISED or REVISION ROOM ROUGH OPENING RIGHT-OF-WAY ROOFTOP UNIT SANITARY SQUARE FOOT (FEET) SHEET SIMILAR SPECIFICATION(S) SQUARE SOUND TRANSMISSION CLASS STEEL STORAGE TOP OF CONCRETE TOP OF PARAPET TOP OF STEEL TOP OF STEEL TOP OF STEEL TOP OF WALL TYPICAL WITH WITHOUT WOOD

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	ARCHITECTURAL SYMBOLS LEGEND			
	BUILDING SECTION REFERENCE			
		#	Name	
	WALL SECTION # REFERENCE X-###	Genera G-000	COVER	C
	DETAIL ELEVATION #	Life Saf		
	REFERENCE X-###	Civil		
	INTERIOR ELEVATION	C100 C101 C102	TOPOGRAPHIC SURVEY SITE PLAN ENLARGEMENT - STORAGE BUILDING DETAILS	
	# #	Structur S-100	al STRUCTURAL GENERAL NOTES & DETAILS	
	EXTERIOR ELEVATION # X-### #	S- 101 S- 102	FOUNDATION PLAN MEZZANINE FRAMING PLAN	C
		S- 103 Archited	DETAILS	_
	DETAIL CALLOUT	A-101 A-200	OVERALL FLOOR PLANS EXTERIOR ELEVATIONS AND SECTIONS	
		Mechar	nical MECHANICAL COVER SHEET	C
	DIMENSION STRING	- M002 M200	MECHANICAL SHEET SPEC MECHANICAL PLANS	C
	CENTERLINE	Electrica E001	ELECTRICAL COVER SHEET AND SPECIFICATIONS	C
	GRID LABEL - NEW (#)	E010 E200 E300	SCHEDULES, ONE-LINE DIAGRAM, AND LIGHTING COMPLIANCE POWER PLANS LIGHTING PLANS	
	GRID LABEL - EXISTING #	Manufa C1	cturer Provided Metal Building Documents COVER PAGE	
	ELEVATION LABEL	C2 D1	NOTES PAGE DETAIL DRAWINGS	
	EXTERIOR SYSTEM TAG	D2 D3 D4	DETAIL DRAWINGS DETAIL DRAWINGS DETAIL DRAWINGS	
	INTERIOR PARTITION TYPE TAG Fn2PX	E1 E2	ROOF FRAMING CROSS SECTION	C
	WINDOW TAG	E3 E4 E5	SIDEWALL ELEVATION SIDEWALL ELEVATION ENDWALL ELEVATION	
	CURTAIN WALL TAG	E6 F1 F2	ENDWALL ELEVATION ANCHOR ROD PLAN REACTIONS	
	STOREFRONT TAG		NGINEERED METAL BUILDING NOTES:	
	SPOT ELEVATION EL = 100'-0" DOOR TAG (####X)	2. MET.	-ENGINEERED METAL BUILDING SHALL BE CONSIDERED OWNER PROVIDED AL BUILDING ERECTION DRAWINGS FROM THE MANUFACTURER ARE INCLU GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR UNLOADING THE MET	JDED /
	ROOM TAG ROOM NAME	AUGUS 4. THE	ST 24 FOR THE BUILDING COMPONENTS AND MID-SEPTEMBER FOR BUILDIN RE IS ROOM ON THE HOSPITAL PROPERTY TO STORE THE BUILDING COMP METAL BUILDING MANUFACTURER WILL PROVIDE THE STRUCTURAL FRAM	g ins Onen
	AREA TAG AREA NAME 150 SF		-0" MAN DOORS, DOWNSPOUTS AND GUTTERS.	
DN 01 4200 FOR	CEILING HEIGHT TAG			
	FINISH TAG			
	VIEW REFERENCE 1 / A-101			
	KEYNOTE AND LEADER- TYPE 1			
)	KEYNOTE AND LEADER- TYPE 2 07 2700 - SHEET WATERPROOFING			
	REVISION CLOUD AND TAG			
	N N			
	NORTH ARROW			
	GRAPHIC SCALE			
	0' 4' 8' 16' 32'	ALE: 1/8" = 1'-0"		
	DETAIL NUMBERING BATTLESHIP GRID ORDER			
	D			
	C SHADED DETAIL L WOULD BE NUMBE			
	B THE DETAIL SHEE			
	A			
	1 2 3 4 5 6			

Original Issuance:

CONSTRUCTION DOCUMENTS

SHS - STORAGE BUILDING

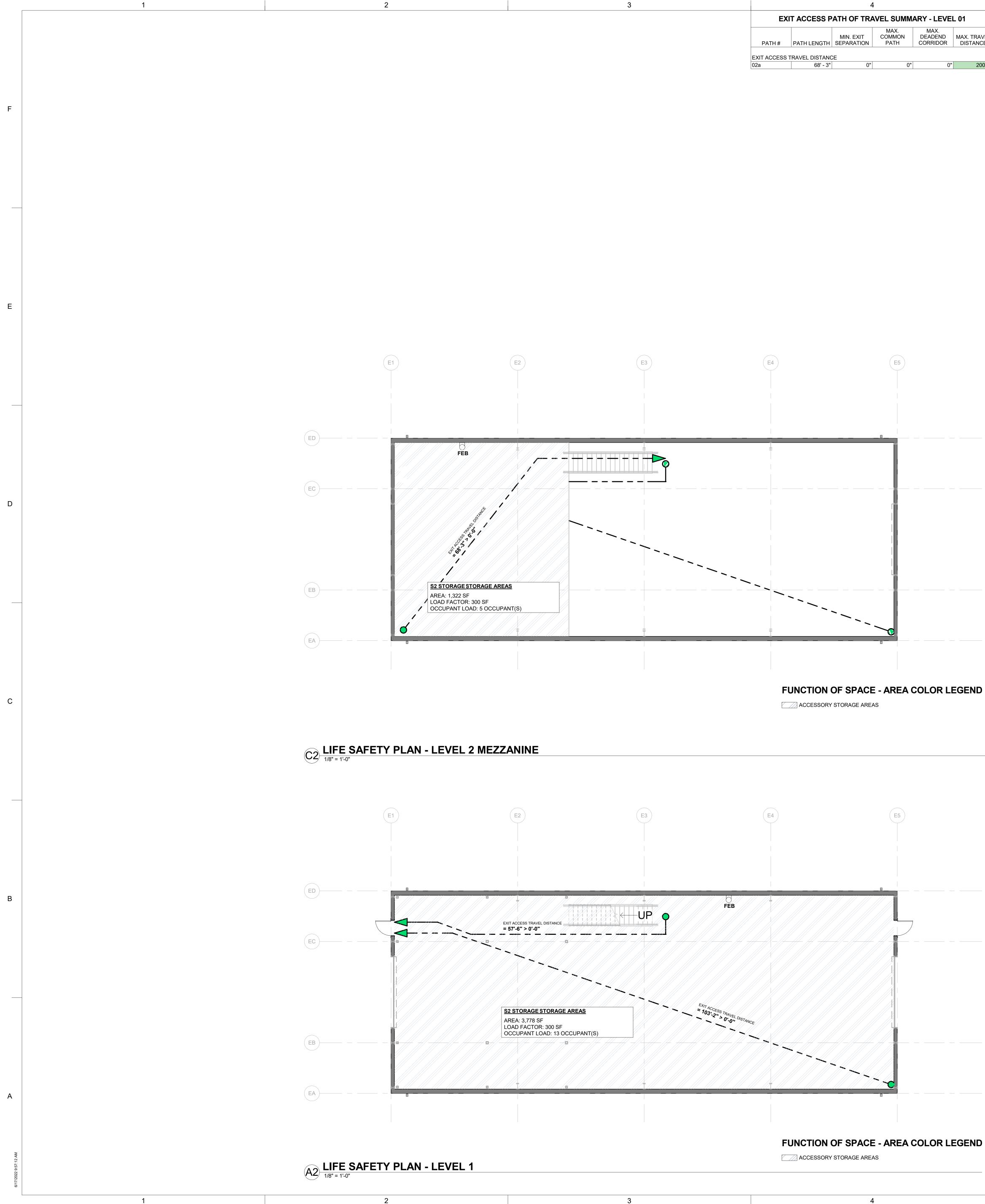
Issue Date:

Project:

D, CONTRACTOR INSTALLED.
UDED AS AN APPENDIX IN THIS DRAWING SET.
TAL BUILDING COMPONENTS UPON DELIVERY. DELIVERY TIMES ARE
NG INSTALLATION.
PONENTS AFTER IT IS DELIVERED AND BEFORE ITS ERECTED.
MING, EXTERIOR METAL WALL AND ROOF PANELS, INSULATION, (2)

	Issuance	Sheet Issue Date	Revision Name	Revision Date
	CONSTRUCTION DOCUMENTS	06.16.2022		
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		2	1				
EXIT ACCESS PATH OF TRAVEL SUMMARY							
PATH #	PATH LENGTH	MIN. EXIT SEPARATION	MAX. COMMON PATH	MA DEAD CORR			
EXIT ACCESS	TRAVEL DISTANC	CE					
02a	68' - 3"	0"	0"				

FUNCTION OF SPACE - AREA COLOR LEGEND

4

				5	5							6	
EVEL	. 01	EXIT ACCESS PATH OF TRAVEL SUMMARY - LEVEL 01						LIFE SAFETY LEGEND					
ND DOR	MAX. TRAVEL DISTANCE	PATH #	PATH LENGTH	MIN. EXIT SEPARATION	MAX. COMMON PATH	MAX. DEADEND CORRIDOR	MAX. TRAVEL DISTANCE		SAFETY AI	NOTATION	N SYMBOLS	<u>3</u>	
		EXIT ACCESS 1	TRAVEL DISTANC	E					LIFE SAI	FETY NOTE	S		
0"	200'-0"		103' - 2"	0"	0"	0'							
		02b	57' - 6"	0"	0"	0'	200'-0"	1	INCIDEN		SSORY OC	CUPANCY NOTES	
		CODE AND LIF	E SAFETY					FIRE	SAFETY C	OMPONEN [®]	TS (COORDINA	TE FINAL LOCATION(S) WI	TH LOCAL FIRE DEPARTME
								8					
		PROJECT DES	SCRIPTION: THI STO	E WORK CONSI ⁻ ORAGE BUILDIN				FEB	FIRE EX	TINGUISHE	R BRACKE		E DEPARTMENT C
			ME	ZZANINE.				FEC	FIRE EX	TINGUISHE		· O STP STA	
												•••.	
								FVC	FIRE VA	LVE CABIN	ET		
		APPLICABLE I	BUILDING CODE					ECPE	ESS COMP	ONENTS			
		2015 2019		AL BUILDING CO AL ENERGY CON						UNENTS			
		2019		AL MECHANICAL		JDE						01	
		2015	INTERNATIONA	AL FUEL GAS CC	DE							— *6	ERALL DIAGONAL DISTANCE 0'-0" (1/3 DIAGONA
		2015		AL PLUMBING CO	DDE			EA					(1/3 DISTAN
		2017 2015	INTERNATIONAL ELE						= 60	-0" < 250' M	AX.		- DIAGONA
		2015		1 ACCESSIBILIT	Y STANDARD			—					
		2012	NFPA 101							ARTMENT) CCESS TRAVEL [DISTANCE		
		2018	FACILITY GUID	ELINES INSTITU	TE			SC		-0" < 150' M		_	
								• <u> </u>					AL EXIT SEPARATION DIST.
		CONSTUC	TION TYPE:		IBC (20		NFPA (2012) II (000)	CS	## EXIT AC	CESS TRAVEL I	DISTANCE		1'-0" > 20'-0" (1/3 DI
			ICY CLASSIFICAI	TON:	S-2		STORAGE		= 60	-0" < 125' M	AX.	_	
			TY SYSTEMS:			NOT SPRINKLE		X —					
		MAX. TRAY	VEL DISTANCE A	LLOWED TO EX	IT: 300' (10	17.2) 3	800' (18.2.6.2.1)		## сомма	ON PATH OF EGF	RESS TRAVEL		E1 DEAD END CORI
								6	## = 60'-	ON PATH OF EGF -0'' < 125' M	AX.	* •	′└
		CONSTRUCT	ON (TYPE II-B)		IB	C	NFPA						
			. ,		RATI	NG	RATING	0	EXIT A	CCESS	0	EXIT	0 EXI
		STRUCTURAL	FRAME		0 H		0 HR		(OCCUPA	NT LOAD)		(OCCUPANT LOAD)	(000
		BEAMS	`		<u>0 H</u>		0 HR						
			ARING WALLS		0 H		0 HR 0 HR	וחחא		ENTIFIERS			
		INTERIOR BEA			0 H		0 HR						
			NBEARING WAL	LS	0 H		0 HR	-					
		FLOOR CONS			0 H		0 HR	1		Н.1 НА	ZARDOUS		HORIZONTAL
		ROOF CONST	RUCITON & CAN		0 H	R	0 HR			AREAS			ASSEMBLY A
			TICAL EXIT ENCL	OSURES	0 H		0 HR	╷└┸┻					
		EXTERIOR OP			0 H		0 HR						
		EDGE OF SLA	D		0 H	r	0 HR			AREAS	ZARDOUS		8'-0" CORRIDO
										H-3 HAZ AREAS	ZARDOUS		6'-0" CORRIDO ADJUNCT ARE
										ANEAJ			

FIRE RATED WALL LEGEND

					FIRE DOOR ASSEMBLY PER IBC TABLE 716.1(2)
	F	IRE PARTITION	. 5 HR		¹ / ₃ HOUR AT FIRE PART ¹ / ₃ HOUR ^(b) AT CORRIDO
	(P		1HR		¹ / ₃ HOUR ^(b) AT CORRIDO ³ / ₄ HOUR AT OTHER FIR
FIRE WALL (W)			2 HR		1 ¹ / ₂ HOUR
			3HR		3 HOUR ^(a)
			4HR	- 111 - 111 - 111 - 111	3 HOUR
			1HR		1 HOUR AT SHAFT, EXIT EXIT PASSAGEWAY WA ³ / ₄ HOUR AT OTHER FIR
	F	IRE BARRIER	2 HR		1 ¹ / ₂ HOUR
	(B)	3HR		3 HOUR
			4HR		3 HOUR
	E	XTERIOR FIRE	1HR		
		ESISTANCE ATED WALL	2 HR		
	(R)	3HR		
			1HR		
	EXTERIOR FIRE RESISTANCE RATED WALL		2 HR		
	(E)	3HR	101 001 001 001 001 001 001	
			1HR		
	R	ITERIOR FIRE ESISTANCE ATED WALL	2 HR		
	(N		3HR	101 101 001 001 100 000 000	
		XISTING RATED WA alftone)	ALL.		
	IERS	HORIZONTAL EXI ⁻ MODIFIER (H)	Г		
	FIRE / SMOKE RATING MODIFIERS	SMOKE PARTITIO	N (v)		(c)
	SMOKE RA	SMOKE BARRIER	(X)		¹ / ₃ HOUR ^(b)
	FIRE	WALL RESISTING PASSAGE OF SMO		:	(d)(e)
	АТЕР	NEW WALL			
	EXISTING WALL (HALFTONE)				
	F S	IOURS, INSTALLED SHALL BE DEEMED IBC TABLE 716.1()	ÓN OPF EQUIVA 2) - FIRE	POSITE SIDES OF THE S LENT TO ONE 3 HR FIRE -RESISTIVE-RATED GL/	FIRE PROTECTION RATI SAME OPENING IN A FIRE DOOR. AZING FOR OPENINGS AS ND OR CORRIDOR WALL
		ECTION 716.1.2.3		ASSEMBLIES THAT SE	RVE AS SMOKE AND DRA
	C	CONTROL ASSEMBL	LIES SHA	ALL BE TESTED IN ACC	ORDANCE WITH UL 1784 .
	(0	[#] IBC 716.2.6.4 - AU	TOMATI	C-CLOSING FIRE DOOR	ASSEMBLIES SHALL BE

^(d) **IBC 716.2.6.4** - AUTOMATIC-CLOSING FIRE DOOR ASSEMBLIES SHALL BE SELF-CLOSING IN ACCORDANCE WITH **NFPA 80**.

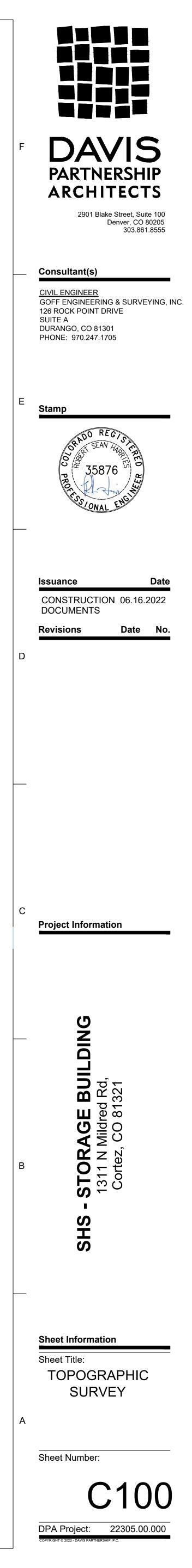
(e) IBC 509.4.2 - DOORS SHALL BE SELF- OR AUTOMATIC-CLOSING UPON DETECTION OF SMOKE PER SECTION 716.2.6.6. NO AIR TRANSFER OPENINGS AND UNDERCUTS IN EXCESS OF THE CLEARANCE PERMITTED PER NFPA 80. WALLS SURROUNDING THE INCIDENTAL USE SHALL NOT HAVE AIR TRANSFER OPENINGS UNLESS PROVIDED WITH SMOKE DAMPERS PER SECTION 710.8.

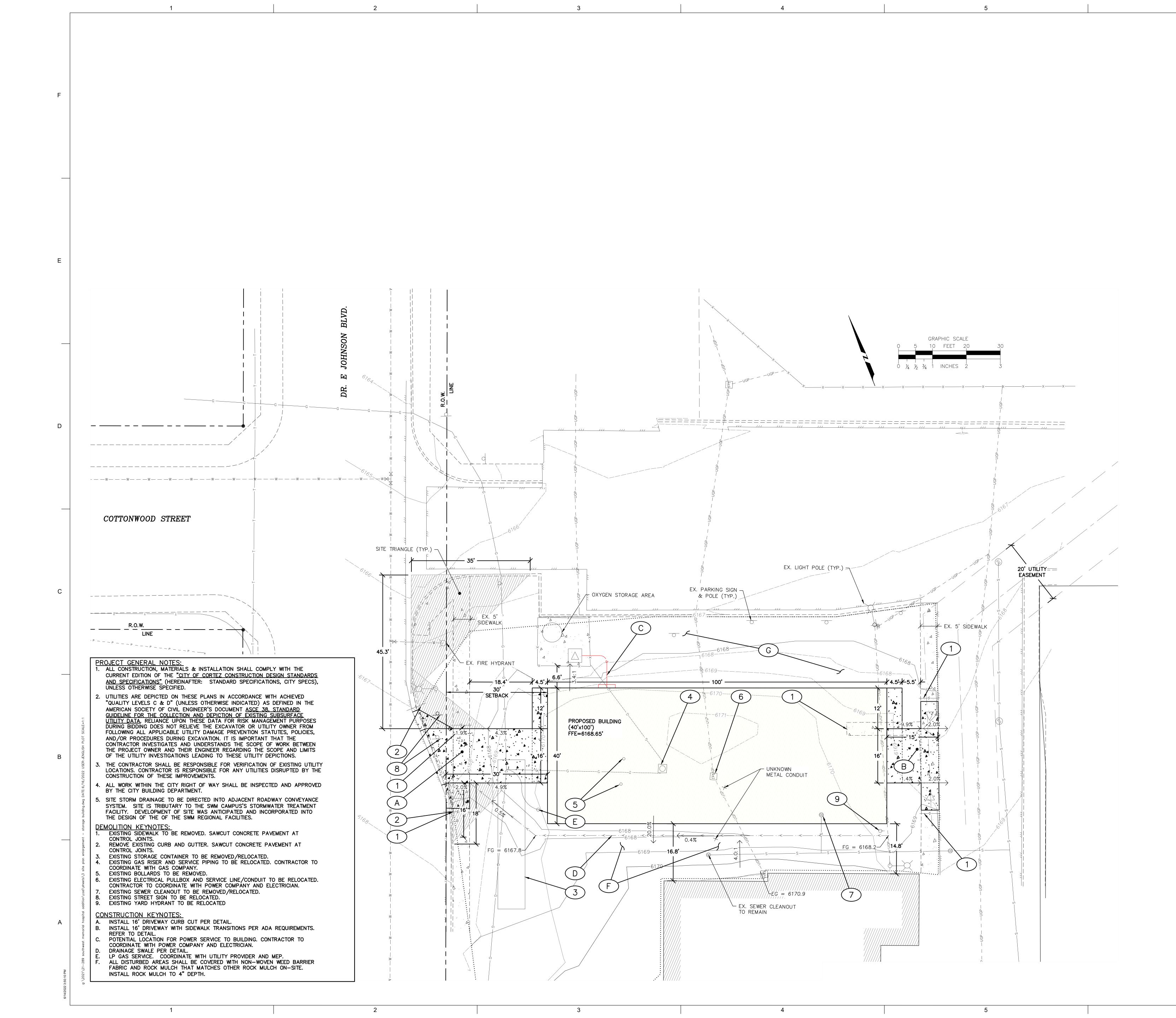
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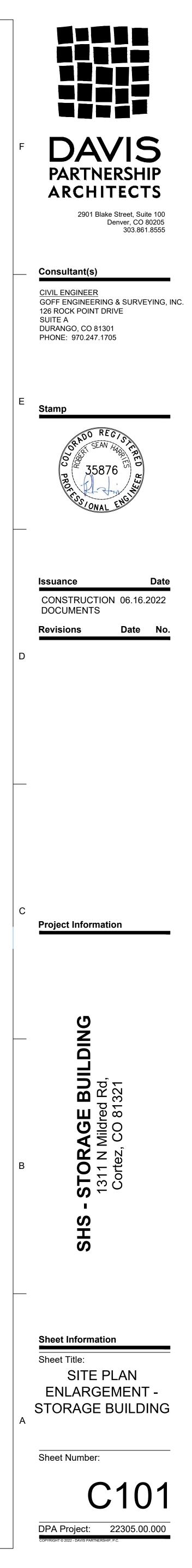


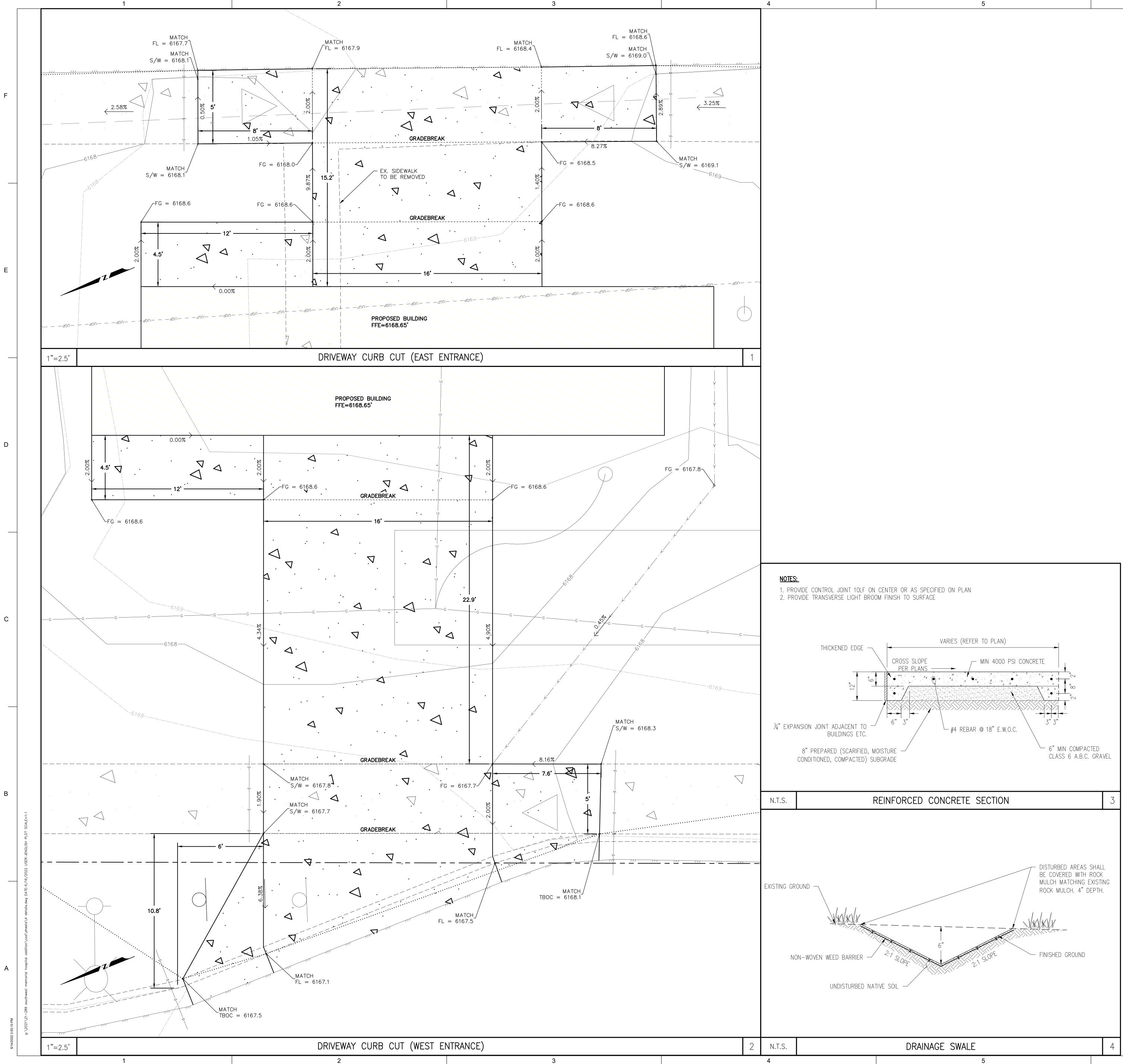


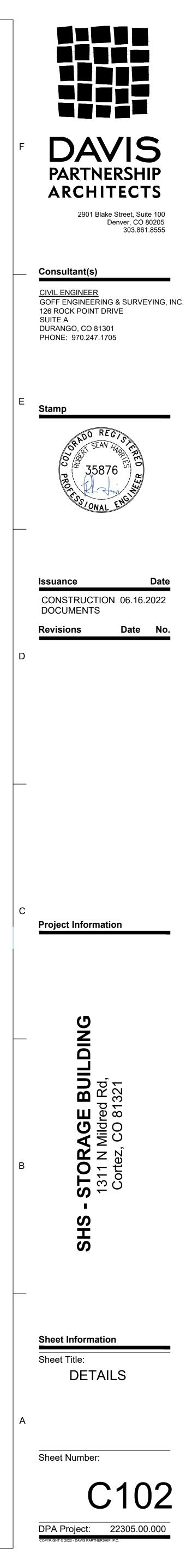
\2021\21-289 southwest memorial hospital addition\cad\sheets\2 topographic survey.dwg DATE:6/16/2022 USER:JENGLISH PLOT

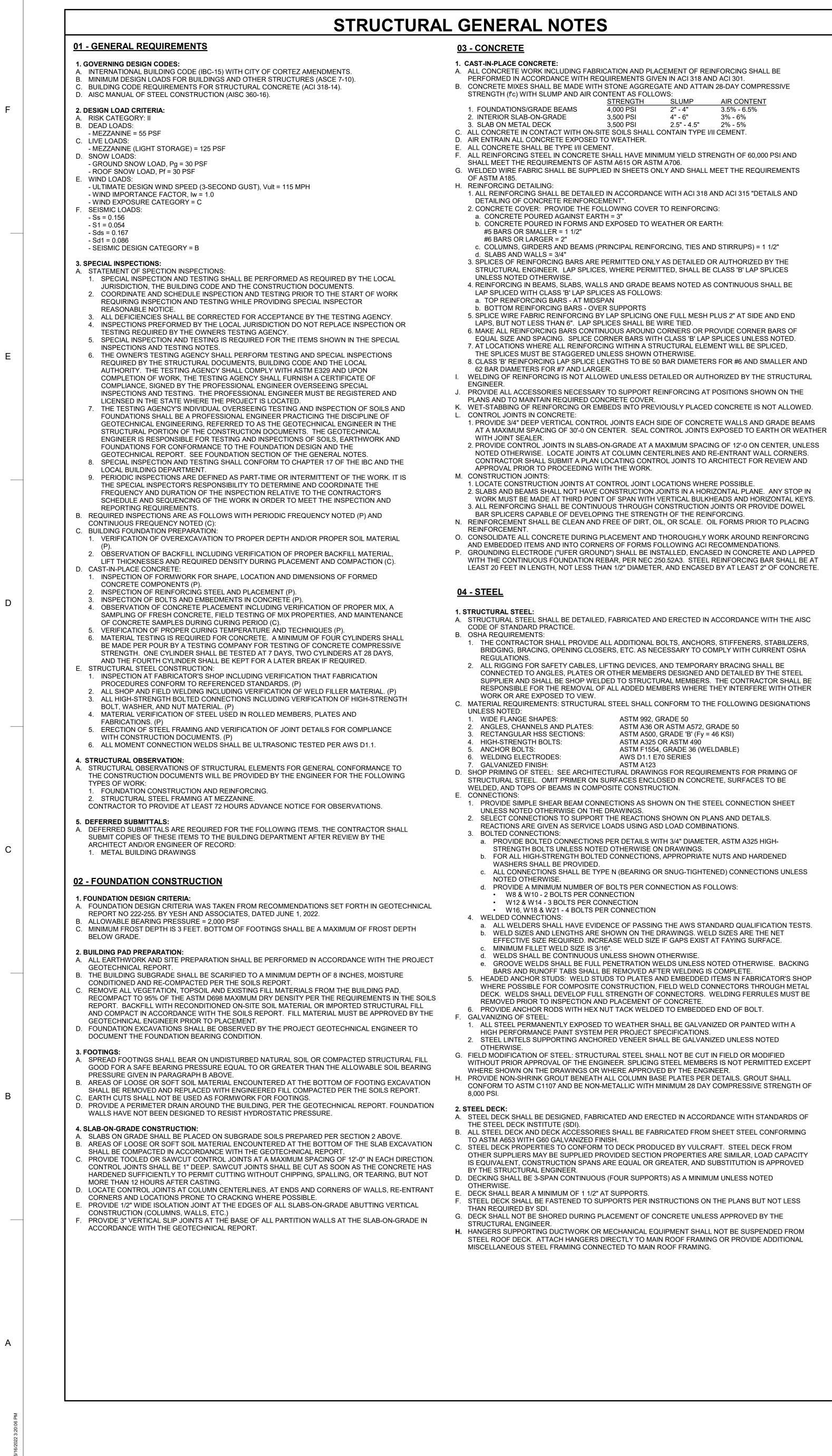












05 - INSTRUCTIONS AND COORDINATION

1. COORDINATION:

- TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. B. CONFLICTS WITHIN THE STRUCTURAL DRAWINGS OR BETWEEN THE STRUCTURAL DRAWINGS AND
- PROCEEDING WITH MODIFICATIONS OR ADJUSTMENT TO EQUIPMENT LOCATION, SIZE, WEIGHT, OPENINGS AND SUPPORT REQUIREMENTS. REPORT DIFFERENCES TO THE ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH THE WORK.

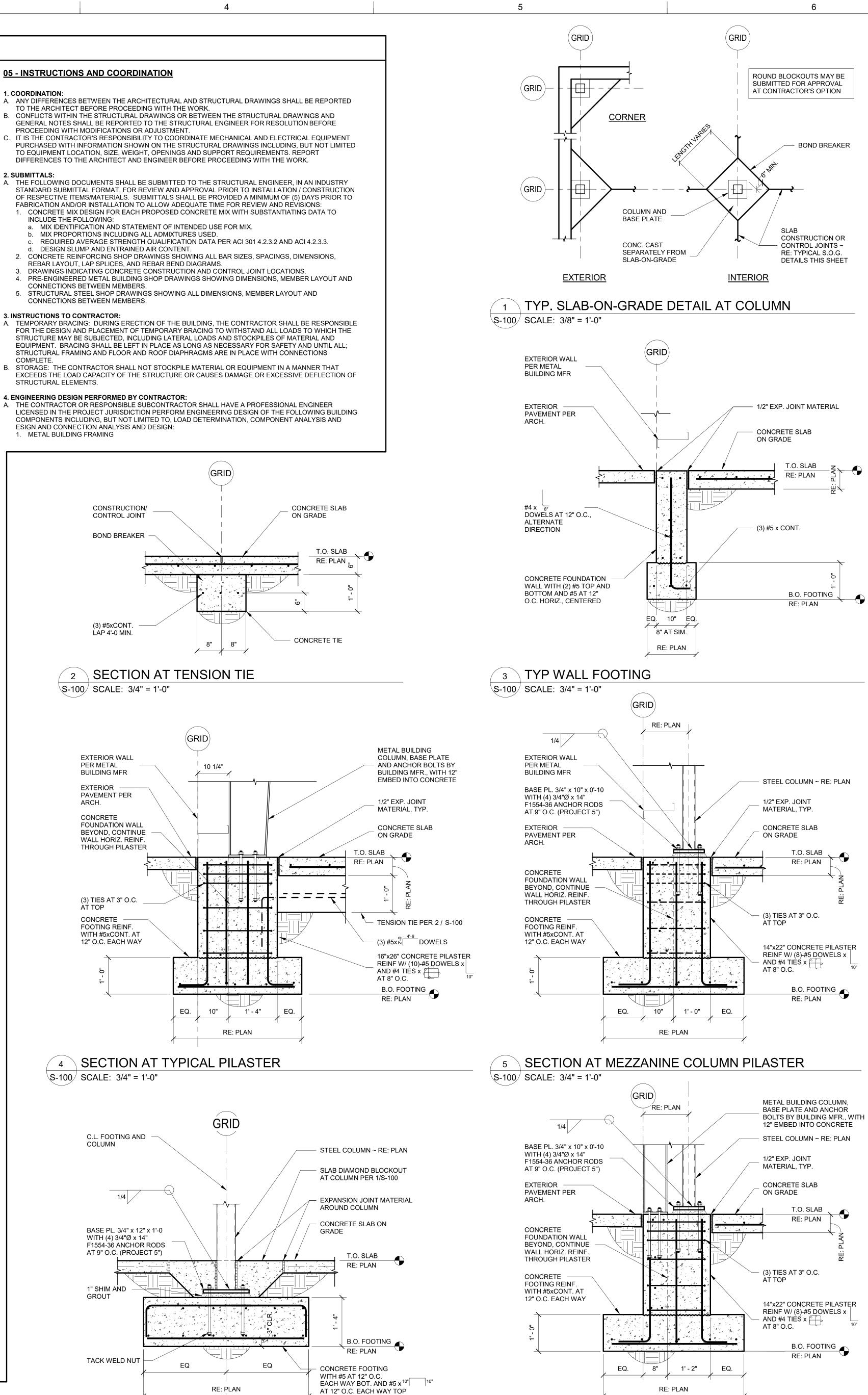
2. SUBMITTALS:

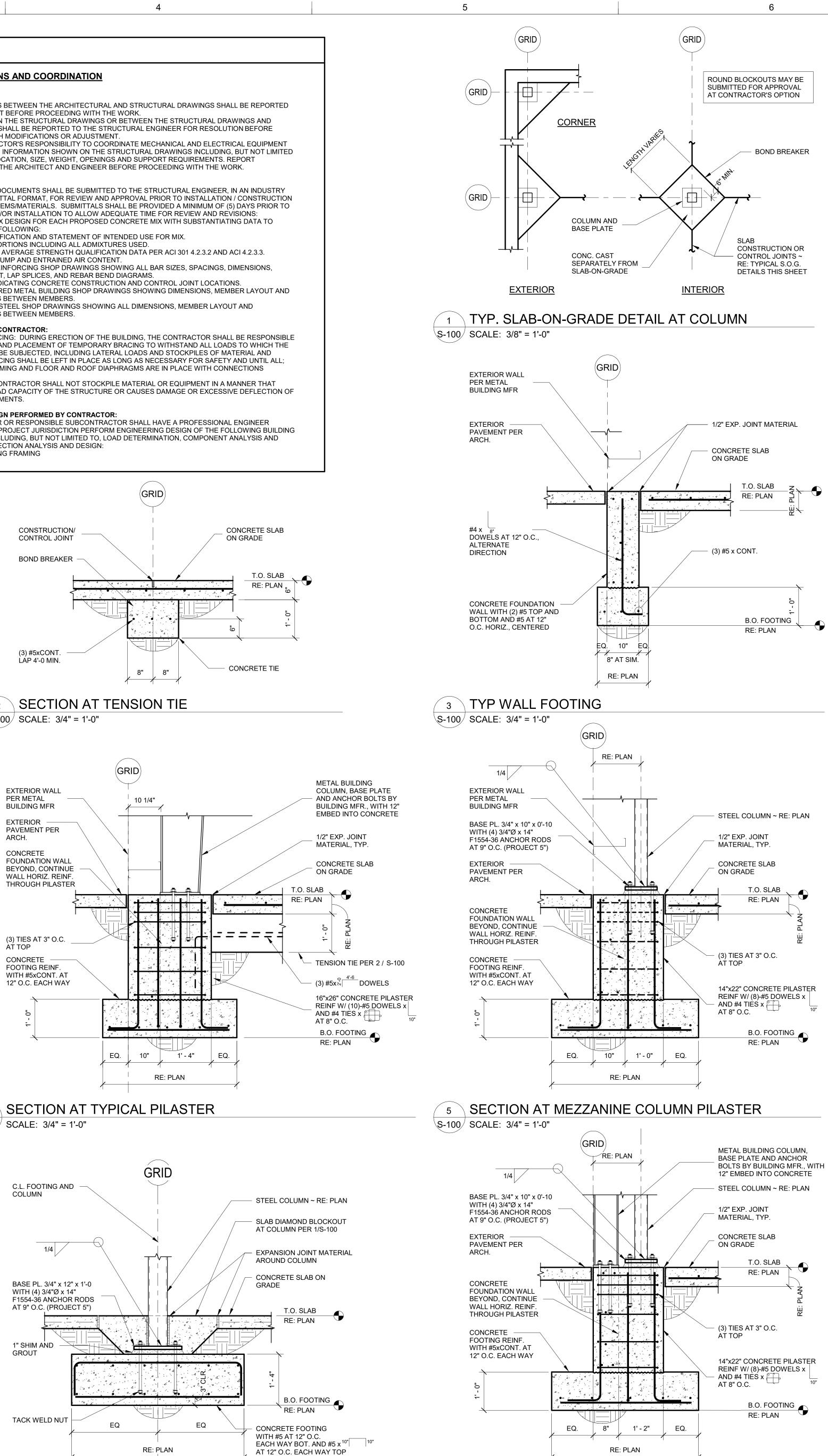
- FABRICATION AND/OR INSTALLATION TO ALLOW ADEQUATE TIME FOR REVIEW AND REVISIONS: 1. CONCRETE MIX DESIGN FOR EACH PROPOSED CONCRETE MIX WITH SUBSTANTIATING DATA TO INCLUDE THE FOLLOWING: a. MIX IDENTIFICATION AND STATEMENT OF INTENDED USE FOR MIX.
- b. MIX PROPORTIONS INCLUDING ALL ADMIXTURES USED.
- I. DESIGN SLUMP AND ENTRAINED AIR CONTENT. REBAR LAYOUT, LAP SPLICES, AND REBAR BEND DIAGRAMS.
- CONNECTIONS BETWEEN MEMBERS.

CONNECTIONS BETWEEN MEMBERS.

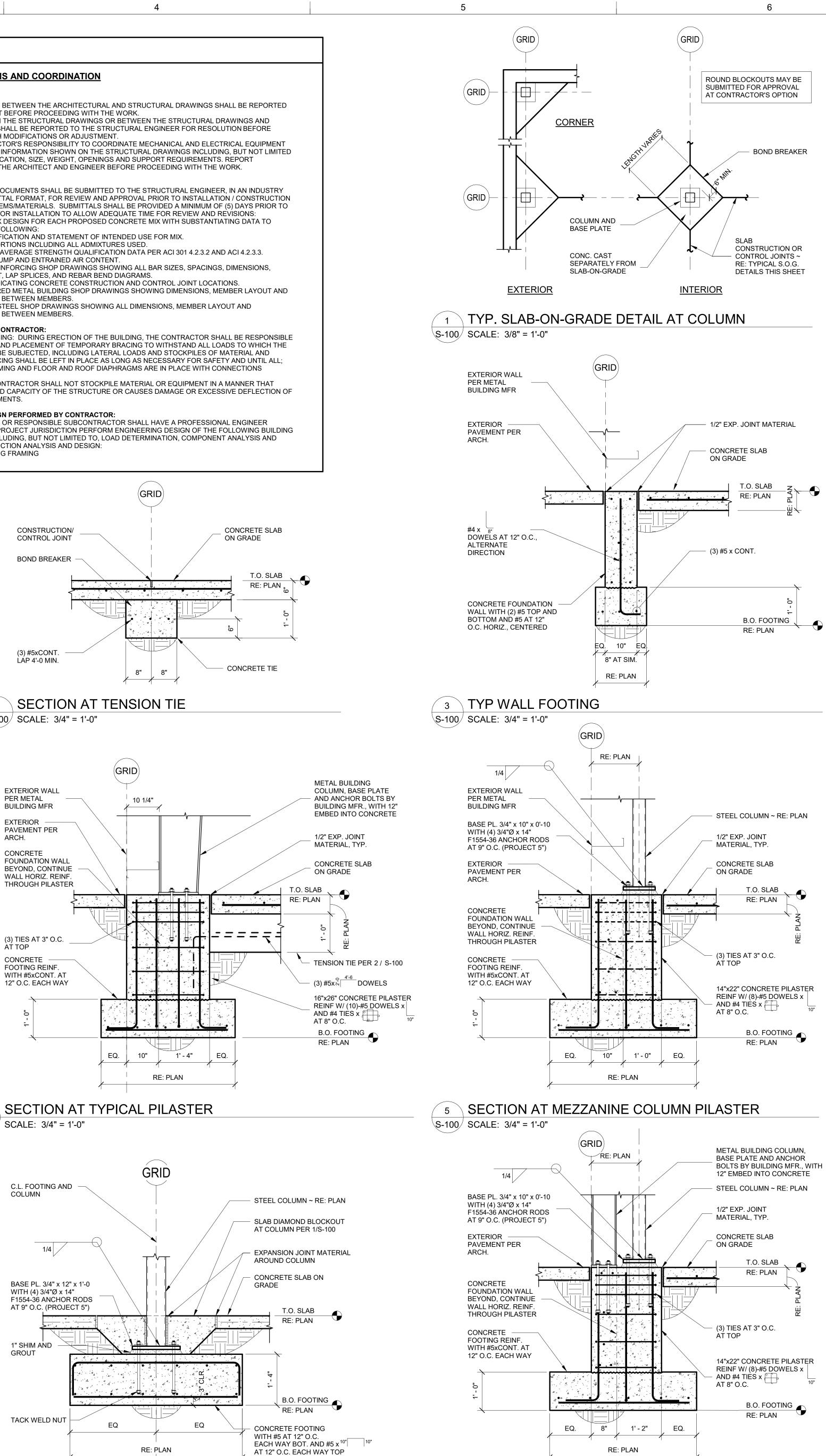
- 3. INSTRUCTIONS TO CONTRACTOR: STRUCTURE MAY BE SUBJECTED, INCLUDING LATERAL LOADS AND STOCKPILES OF MATERIAL AND STRUCTURAL FRAMING AND FLOOR AND ROOF DIAPHRAGMS ARE IN PLACE WITH CONNECTIONS COMPLETE.
- B. STORAGE: THE CONTRACTOR SHALL NOT STOCKPILE MATERIAL OR EQUIPMENT IN A MANNER THAT STRUCTURAL ELEMENTS.

A. THE CONTRACTOR OR RESPONSIBLE SUBCONTRACTOR SHALL HAVE A PROFESSIONAL ENGINEER COMPONENTS INCLUDING, BUT NOT LIMITED TO, LOAD DETERMINATION, COMPONENT ANALYSIS AND ESIGN AND CONNECTION ANALYSIS AND DESIGN: 1. METAL BUILDING FRAMING





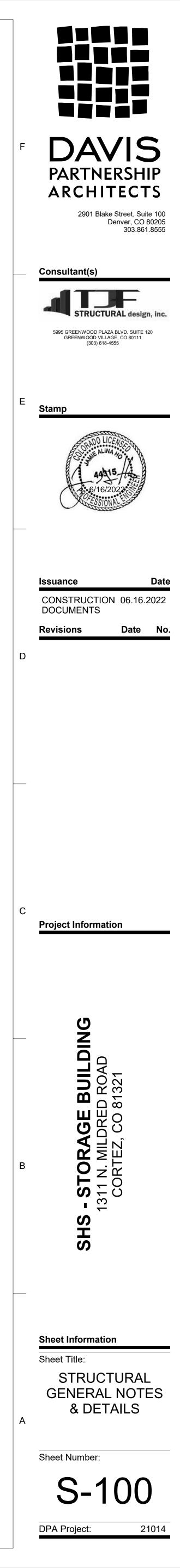
´ 4 S-100/ SCALE: 3/4" = 1'-0"

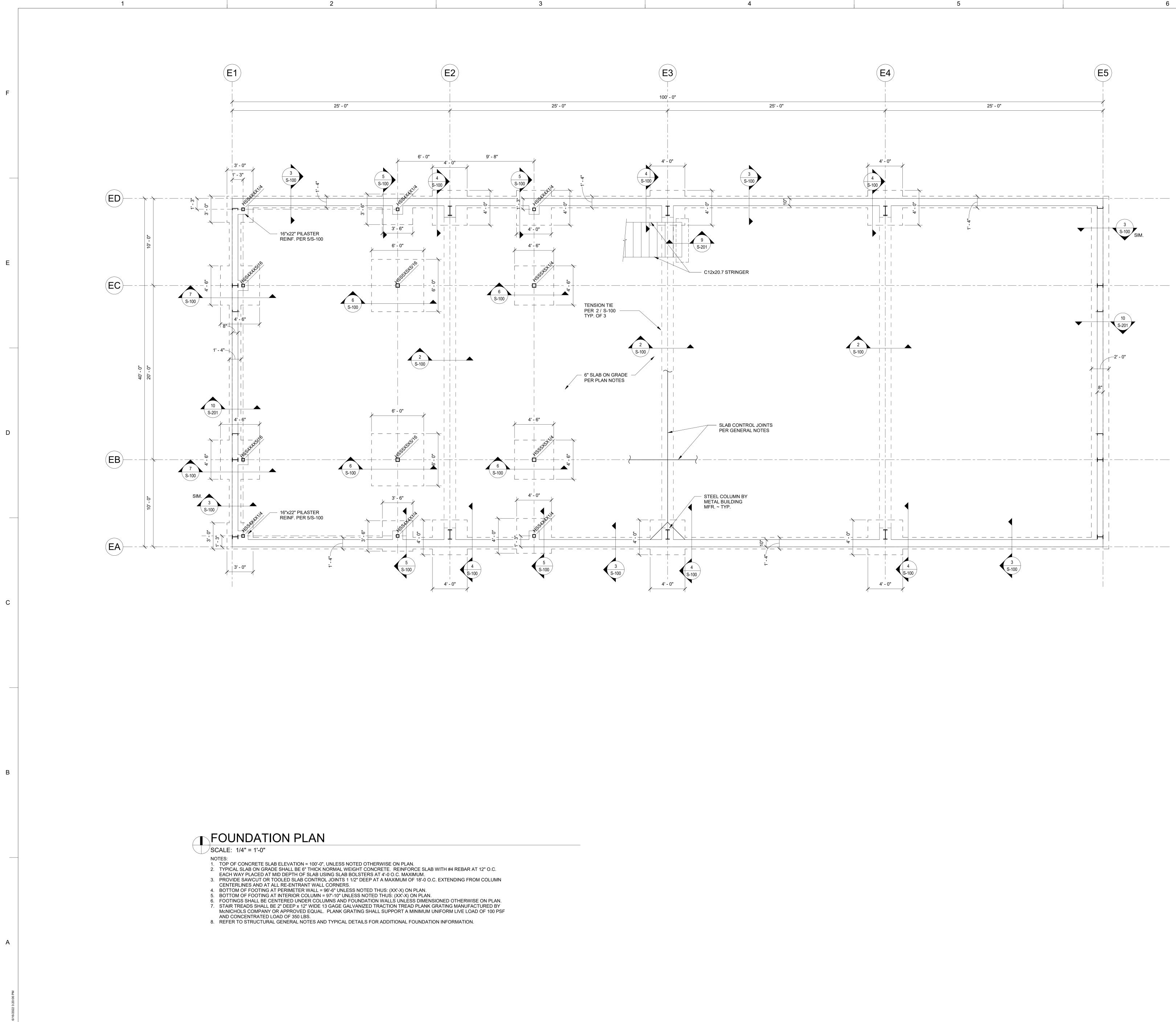


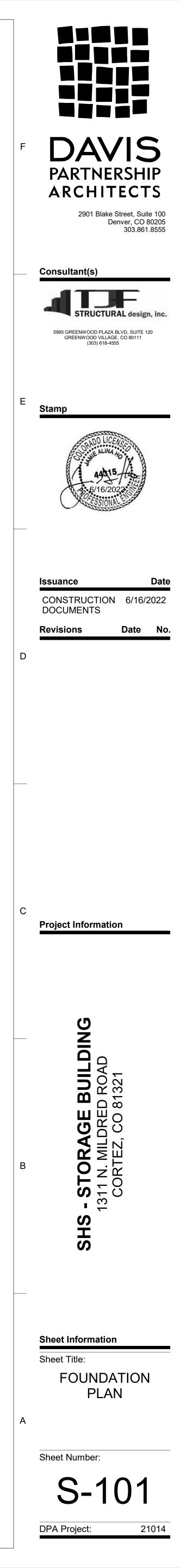
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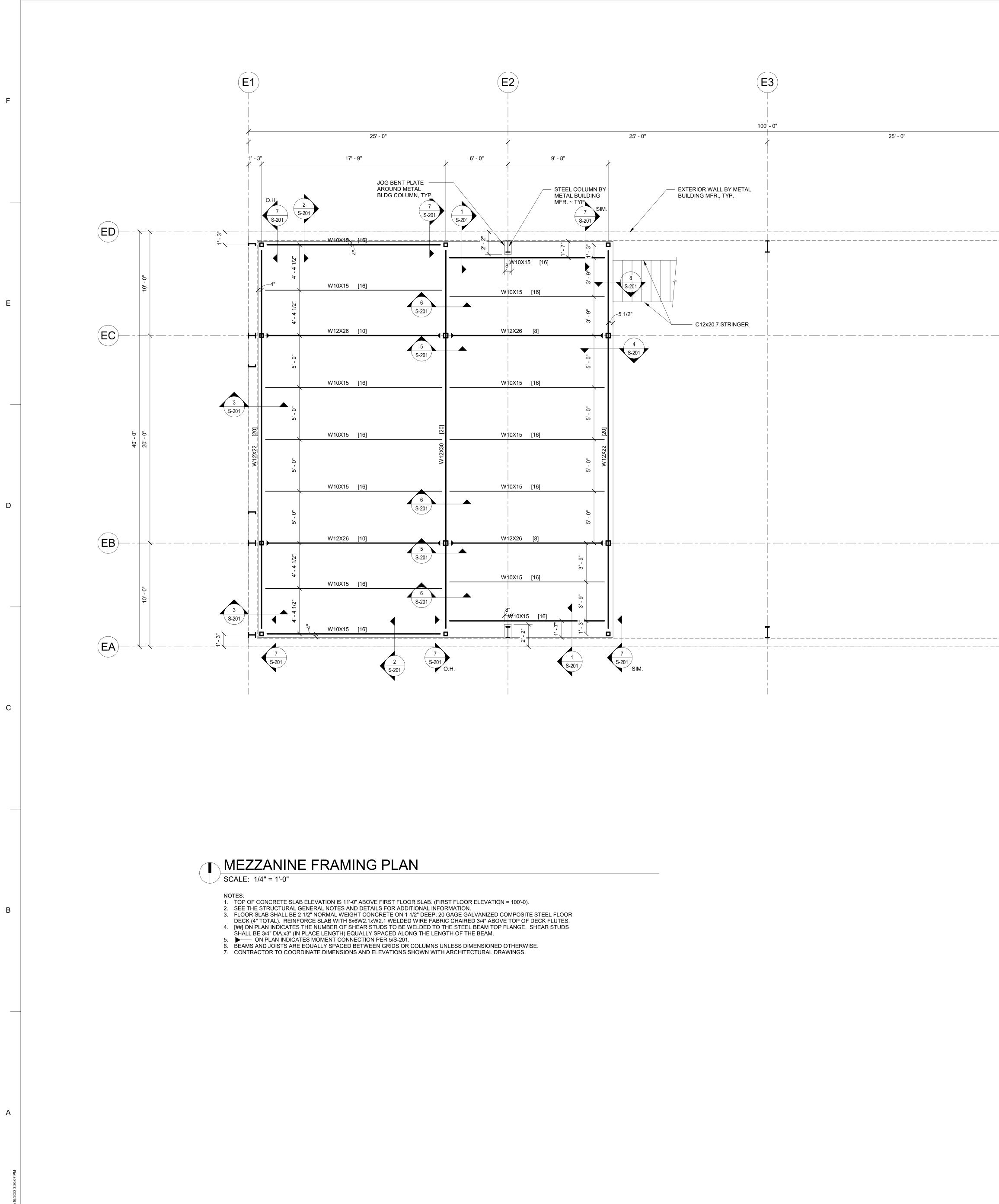
SECTION AT COMBINED COLUMN PILASTER S-100/ SCALE: 3/4" = 1'-0"

5



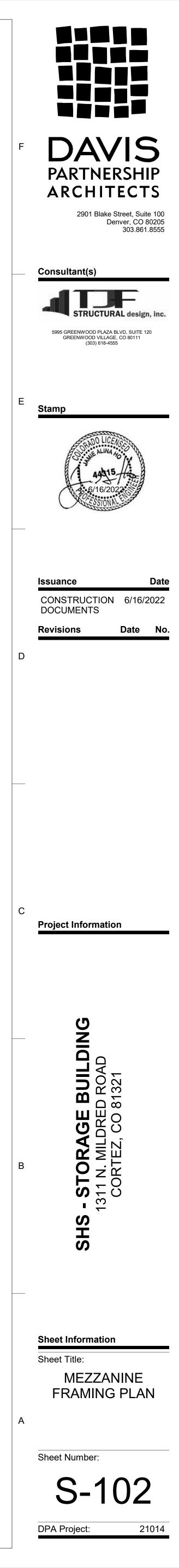


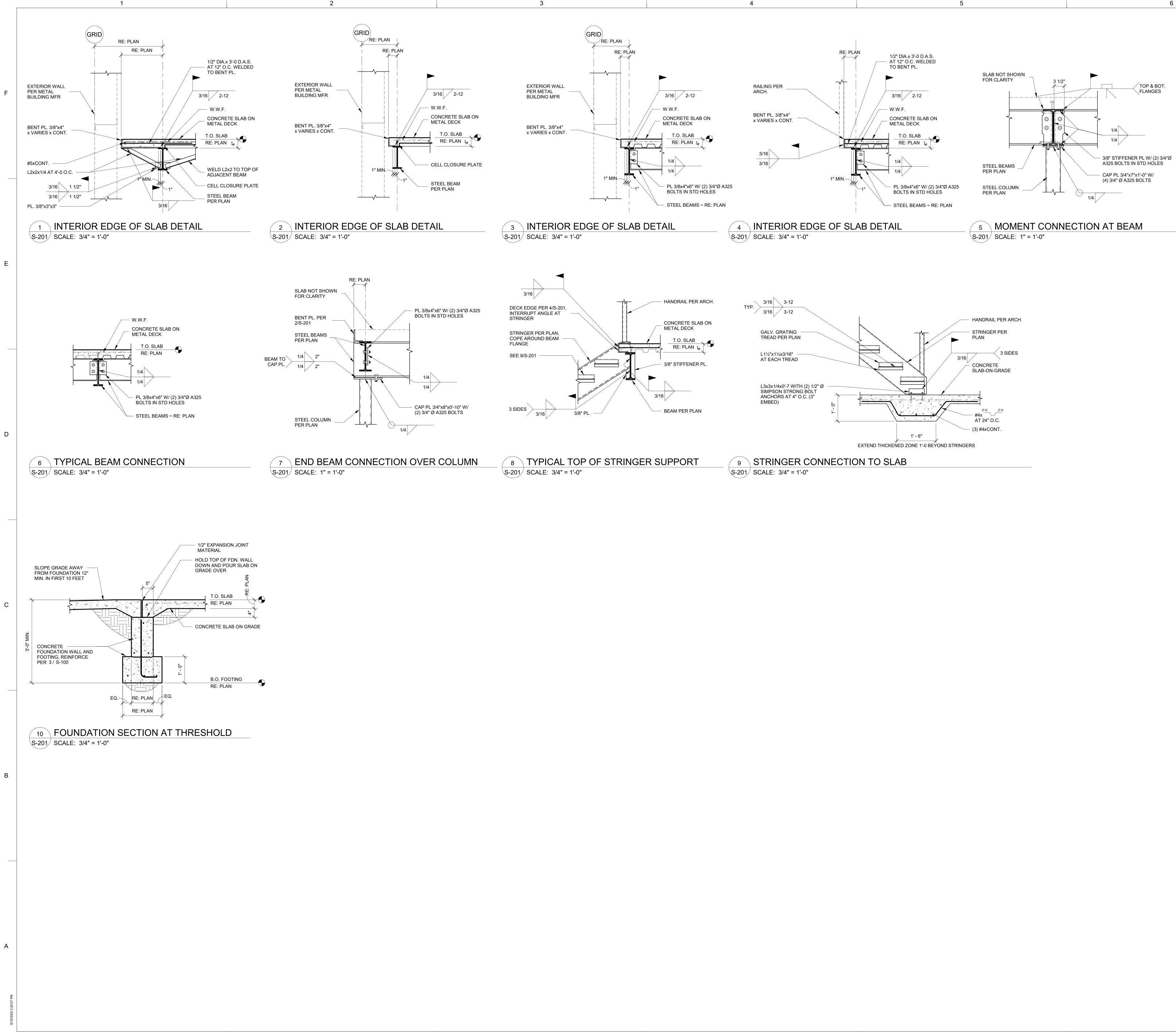


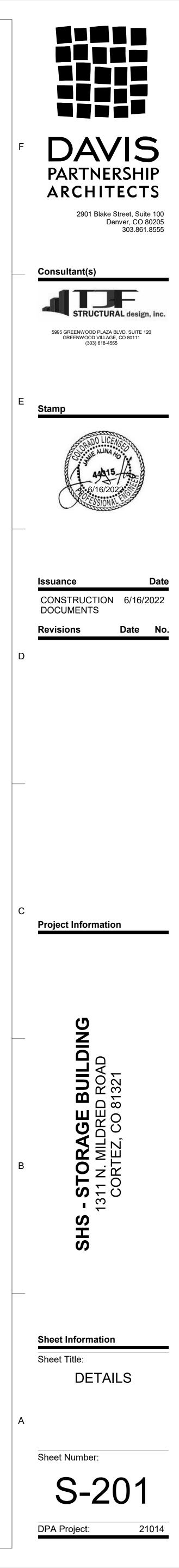


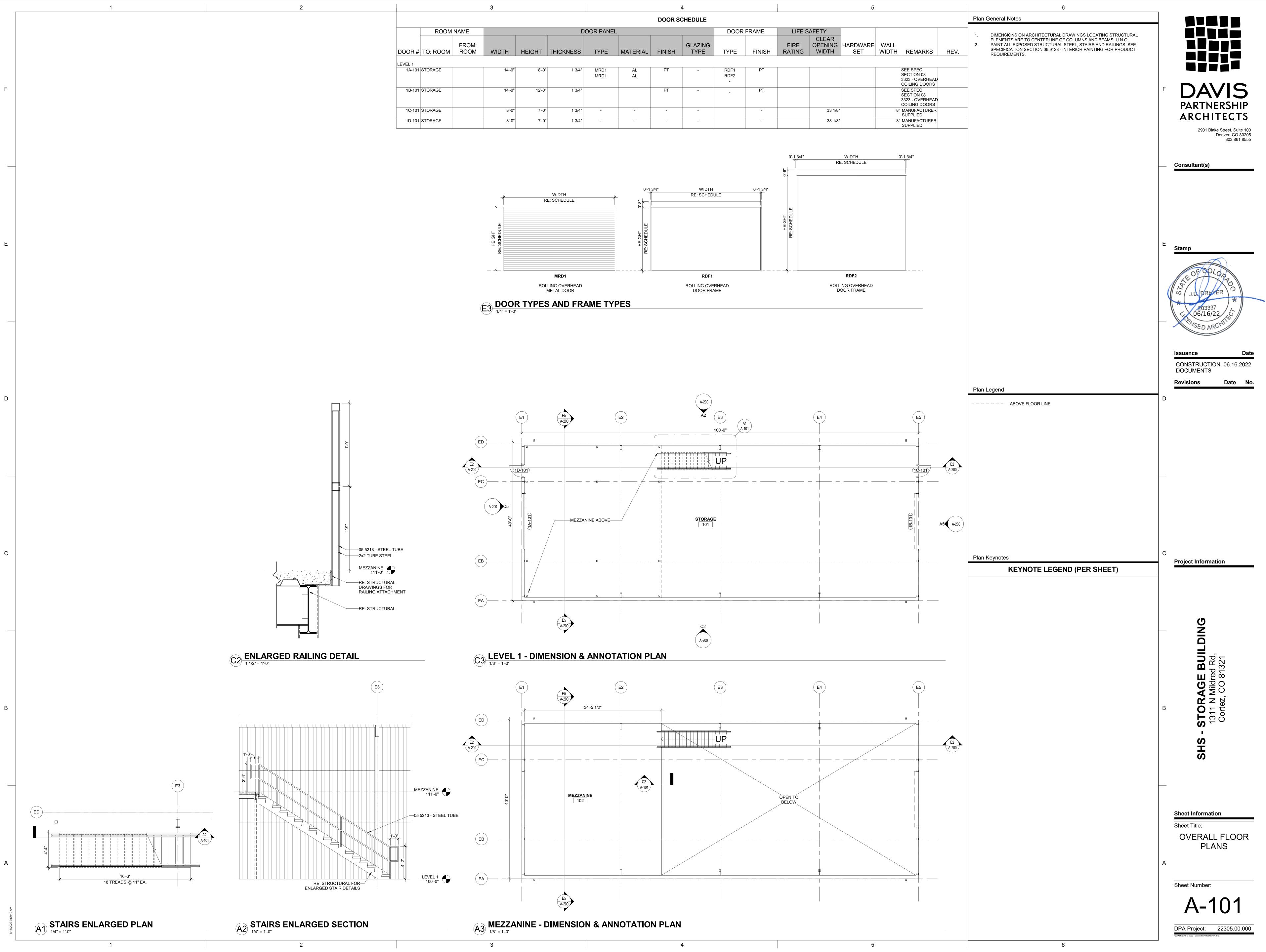
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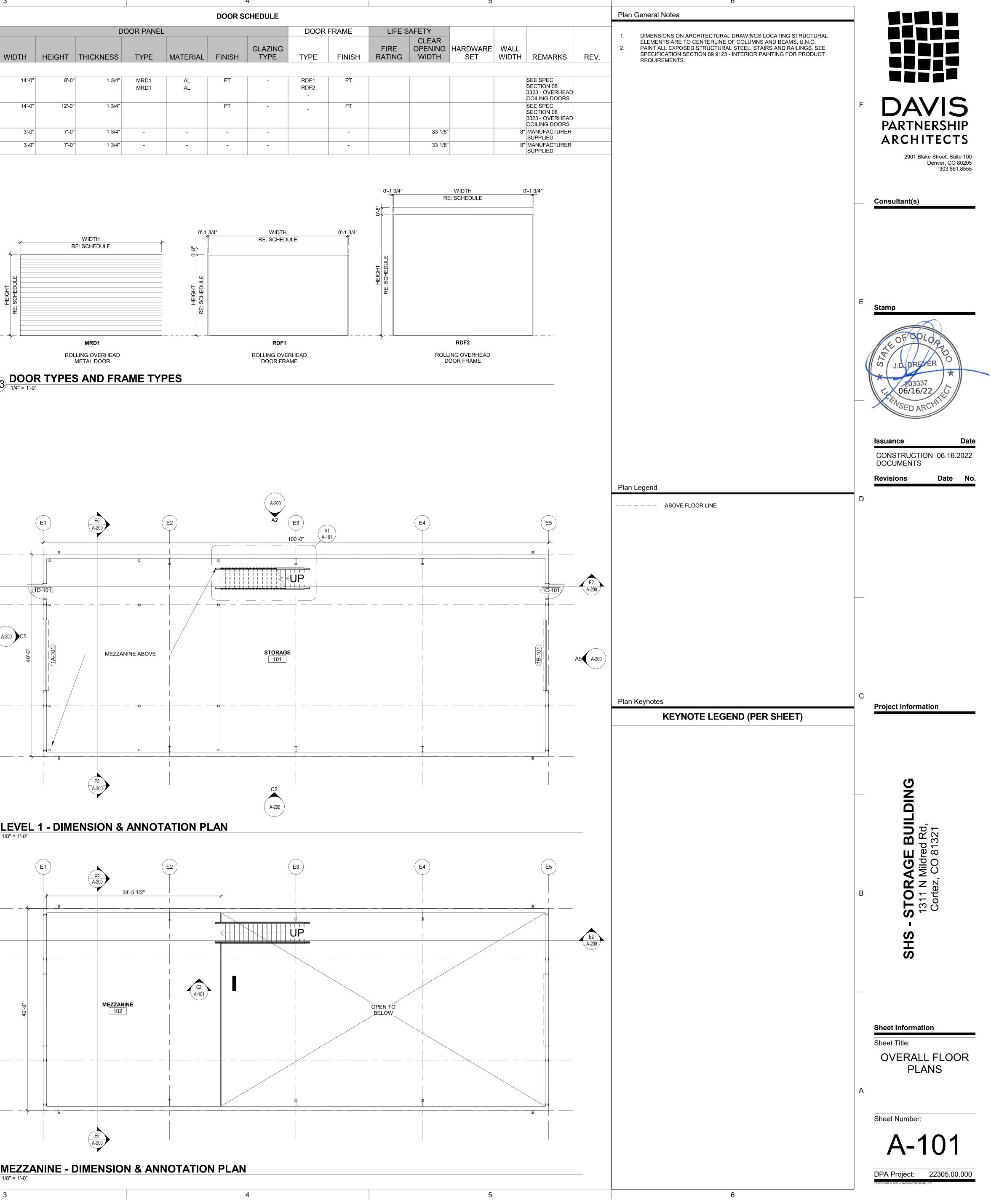




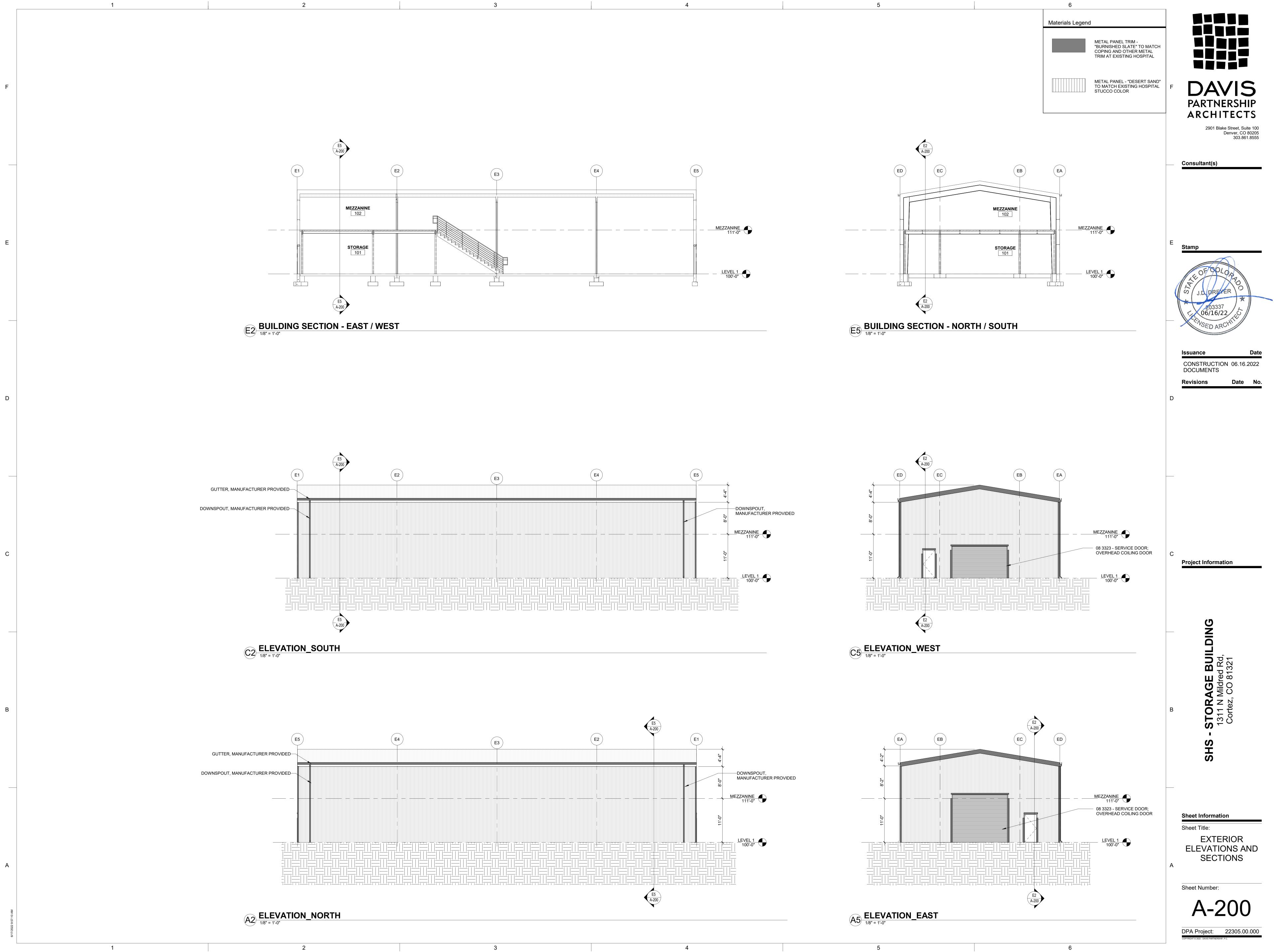




	3								4	
								DOOR SO	CHEDULE	
	ROOM	NAME			[DOOR PANEL				D
DOOR #	TO: ROOM	FROM: ROOM	WIDTH	HEIGHT	THICKNESS	TYPE	MATERIAL	FINISH	GLAZING TYPE	TYF
LEVEL 1										
1A-101	STORAGE		14'-0"	8'-0"	1 3/4"	MRD1 MRD1	AL AL	PT	-	RDI RDI -
1B-101	STORAGE		14'-0"	12'-0"	1 3/4"			PT	-	-
1C-101	STORAGE		3'-0"	7'-0"	1 3/4"	-	-	-	-	
1D-101	STORAGE		3'-0"	7'-0"	1 3/4"	-	-	-	-	







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	SYMBOL	LEGEND			
		, ↓	SOLENOID VALVE	ABV ACU	ABO
	MATCH LINE	· · · · · · · · · · · · · · · · · · ·		ACU	AIR
EF	EQUIPMENT TAG		RADIUS ELBOW, R/D=1.5 UNLESS NOTED OTHERWISE	AD AFF	ACC ABO
				AFMS	AIR
\bullet	POINT OF CONNECTION, NEW WORK TO EXISTING WORK	,		AHU AL	AIR ACC
5			DUCT MOUNTED COIL	ALT	ALTI
$\left \right = \left \right $	POINT OF DISCONNECTION			ALD APPROX	AUT APP
<u>}</u>	DEVICE		SHOWN IN ORDER (LEFT TO RIGHT): FIRE DAMPER (FD) / SMOKE DAMPER (SD) /	ARCH AS	ARC
<u>SD-1</u> 550	AIR OUTLET/ INLET DEVICE <u>SD-1 12X12</u> NECK SIZE OPTIONAL (IF DESIGNATION 550 NOT GIVEN REFER) TO		COMBINATION FIRE SMOKE DAMPER (FSD)	AVG	AVE
	SCHEDULE) AIRFLOW (CFM)			B BD	BOIL
<u>۲</u>	NEW WORK EXISTING WORK TO REMAIN	⊕ _{TU-01}	ROOM SENSOR OR THERMOSTAT (WITH ZONE OR EQUIPMENT DESIGNATION WERE APPLICABLE)	BDD BF	BAC
·	EXISTING WORK TO BE REMOVED		ROOM SENSOR OR THERMOSTAT (WITH LEADER TO RELATED EQUIPMENT	BFW	BEL
∫ UP ∫		Θ2	HUMIDITY SENSOR (WITH ZONE OR EQUIPMENT DESIGNATION WERE APPLICABLE)	BG BHP	BEL
<u></u>	SLOPE PIPE UP OR DOWN (DN) AS NOTED		HUMIDITY SENSOR (WITH LEADER TO RELATED EQUIPMENT	во	BLA
	BOTTOM / UP PIPE CONNECTION		DUCT SMOKE DETECTOR (SHOWN HERE TO BE	BOD BOP	BOT BOT
	PUMP (FOR DIAGRAMMATIC)		FURNISHED BY ELECTRICAL)	BOR BTU	BOT BRIT
	GLOBE VALVE		CEILING SUPPLY DIFFUSER	BTUH	BTU
,	CHECK VALVE		CEILING RETURN REGISTER OR GRILLE	C CA	CON
	STOP CHECK VALVE			CAV	CON
	CALIBRATED FLOW BALANCE VALVE FLOW LIMITING VALVE	↑ ↑ ⊱¶ →	DIFFUSER, REGISTER OR GRILLE THROW INDICATOR (SUPPLY, RETURN OR EXHAUST)	CC CD	COC
, <u>с</u> , ,	HOSE END BALL VALVE WITH CAP AND CHAIN	$\begin{array}{c} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	SUPPLY REGISTER OR GRILLE	CE CFF	CEIL
<u>ب</u>	BUTTERFLY VALVE	 ;[CFH	CUB
, € ,	2-WAY MODULATING CONTROL VALVE	~ +	RETURN OR EXHAUST REGISTER OR GRILLE	CFM CG	CUE
	2-WAY 2-POSITION CONTROL VALVE	,€ ,€		CHS	CHI
			SCREENED RETURN OR EXHAUST AIR OPENING	CHR G	CHII
	3-WAY MODULATING CONTROL VALVE			CMPR CO	CON
	3-WAY 2-POSITION CONTROL VALVE		SLOPING RISE OR DROP IN RECTANGULAR DUCTWORK	COEFF	COE
	RELIEF VALVE / ANGLE VALVE		SLOPING RISE OR DROP IN ROUND DUCTWORK	COND CONN	CON
,, ₽ ,	PRESSURE REDUCING VALVE (PRV)			CONT	CON
		18x12	RECTANGULAR DUCT, SIZE BASED ON CLEAR	COP COTG	COE CLE
	THERMOSTATIC AIR VENT (AIR SYSTEMS)	18x12	INSIDE DIMENSIONS, FIRST FIGURE INDICATES PLAN SIZE	CP CR	CON
y q ∫ ⊘	PRESSURE GAUGE, STEAM SYSTEMS			CV	COE
<u>, Г</u> ув	PRESSURE GAUGE, HYDRONIC SYSTEMS	, <u>180</u>	ROUND DUCT, DIAMETER SIZE BASED ON	CWS CWR	CON
şş	VACUUM BREAKER	<u> 180</u>	CLEAR INSIDE DIMENSIONS	CT D	COC
5S	FLOW METER (INSTANTANEOUS FLOW)			DB	DRY
	TOTALIZING FLOW METER	24x10Ø	FLAT OVAL DUCT, SIZE BASED ON CLEAR INSIDE DIMENSIONS, FIRST FIGURE INDICATES PLAN SIZE	DDC DEG. F	DIRE
	BTU METER	≤ 24x10Ø ≤		DENS DIA	DEN
	PIPE SLIDE	← <u> </u>	ACOUSTIC LINING IN DUCT (SIZE NOTED INDICATES	DIA	DIA
	CHANGE IN PIPE SIZE, CONCENTRIC REDUCER UNLESS SPECIFIED DIFFERENTLY		INSIDE CLEAR DIMENSIONS)	DRN DWG	DRA DRA
<u>ج</u>	CAPPED PIPE	, BDD • SGD= ,		(E)	EXIS
S	WYE TYPE STRAINER WITH HOSE END BLOW OFF VALVE	BDD SGD	BACK DRAFT DAMPER/	EA EAD	EXH EXH
۶ ۶	WYE TYPE STRAINER		SLIDE GATE DAMPER	EAT EDB	ENT
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER	H H H		EF	EXH
۶ <u>ـــــ</u>	SIGHT GLASS		SUPPLY DUCT TURNING UP. (IN ORDER SHOWN. RECTANGULAR, FLAT OVAL & ROUND)	EFF ET	EFF EXP
,, <u>`</u> ,	HIGH PRESSURE STEAM TRAP ASSEMBLY			EWB EWT	ENT ENT
<u> </u>	LOW PRESSURE STEAM TRAP ASSEMBLY	$\mathcal{F} \rightarrow \mathcal{F} \mathcal{F} \mathcal{F} \mathcal{F}$	SUPPLY DUCT TURNING DOWN. (IN ORDER SHOWN.	EXH	EXH
<u> </u>	BLIND FLANGE		RECTANGULAR, FLAT OVAL & ROUND)	EXP °F	EXP DEG
 ⊱HWS	HEATING WATER SUPPLY			F (F)	FILT
	HEATING WATER RETURN	H H	RETURN DUCT TURNING UP. (IN ORDER SHOWN.	(FC	FLE
└───CHS────┘	CHILLED WATER SUPPLY		RECTANGULAR & ROUND)	FCU FD	FAN
← CHR ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ←	CHILLED WATER RETURN PROCESS CHILLED WATER SUPPLY			FLA	FUL
	PROCESS CHILLED WATER RETURN	₩ ₩ ₩	RETURN DUCT TURNING DOWN. (IN ORDER	FLR FPI	FLO FINS
CWS∫	CONDENSER WATER SUPPLY		SHOWN. RECTANGULAR & ROUND)	FPM FPS	FEE
	CONDENSER WATER RETURN			FS	FLO
← CSS ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ← ←	CENTRIFUGAL SEPARATOR SUPPLY CENTRIFUGAL SEPARATOR RETURN		EXHAUST DUCT TURNING UP. (IN ORDER SHOWN. RECTANGULAR & ROUND)	FT FV	FEE FAC
	LOW PRESSURE STEAM (0-15 PSI)			GA	GAG
	LOW PRESSURE CONDENSATE RETURN (0-15 PSI)	<u>ب</u>		GPM GPH	GAL GAL
⊱ HPS(70)≶	HIGH PRESSURE STEAM (ABOVE 15 PSI, MAX STEAM PRESSURE INDICATED)		EXHAUST DUCT TURNING DOWN. (IN ORDER SHOWN. RECTANGULAR & ROUND)	GSM HC	GAL HEA
⊱ HPR(70)≶	HIGH PRESSURE CONDENSATE RETURN (ABOVE 15 PSI, MAX STEAM PRESSURE INDICATED)			HD	HEA
SBBDS	BOILER BLOWDOWN		DUCT ACCESS DOOR	HGT HOA	HEI
S−−−−−S	BOILER FEEDWATER			HP	HOF
← CD ← →	CONDENSATE DRAIN NATURAL GAS	¢s	DUCT PITOT.	HR HT	HOL
	DRAIN LINE		SP IS FOR SUPPLY DUCT.	HTP	HEA
S A A A A A A A A A A A A A A A A A A A	2-WAY MODULATING CONTROL VALVE, XX = SPECIAL DESIGNATION (EG: PI=PRESSURE INDEPENDENT)	н на	DIFFERENTIAL PRESSURE SENSOR	HVAC	HEA AND
	2-WAY 2-POSITION CONTROL VALVE, XX = SPECIAL DESIGNATION (EG: BF=BUTTERFLY VALVE)		DISPLAY MONITOR AND ALARM	HWR HWS	HEA HEA
	3-WAY MODULATING CONTROL VALVE, XX = SPECIAL DESIGNATION (EG: PI=PRESSURE INDEPENDENT)	×	AUDIO VISUAL ALARM	НХ	HEA
	3-WAY 2-POSITION CONTROL VALVE, XX = SPECIAL DESIGNATION (EG: BF=BUTTERFLY VALVE)		CAV BOX	IAC IAS	INST INST
S CP S CP S S S S S S S S S S S S S S S	2-WAY MODULATING CHARACTERIZED PORT BALL VALVE		VAV BOX	ID	INSI

3

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4

4

, J	ABOVE AIR CONDITIONING UNIT	IN INV	INCHES INVERT ELEVATION
;	AIR COOLED CHILLER	KW	KILOWATT
	ACCESS DOOR	KWH	KILOWATT HOUR
10	ABOVE FINISHED FLOOR	LAT	LEAVING AIR TEMP.
IS I	AIR FLOW MEASURING STATION	LBS	POUNDS LINEAR DIFFUSER
	ACOUSTICAL LINING	LPR	LOW PRESSURE STEAM RETURN
	ALTITUDE	LPS	LOW PRESSURE STEAM SUPPLY
	AUTOMATIC LOUVER DAMPER	LVR	LOUVER
ROX	APPROXIMATE	LWT	LEAVING WATER TEMP.
H		M	
;	AIR SEPARATOR AVERAGE	 	MAGNETIC GAUGE MAKE UP AIR
	BOILER	MAT	MIXED AIR TEMPERATURE
	BLOWDOWN	MAX	MAXIMUM
	BACK DRAFT DAMPER	MBD	MANUAL BALANCING DAMPER
	BELOW FLOOR	MBH	THOUSAND BTU/HOUR
	BOILER FEEDWATER	MCC	MOTOR CONTROL CENTER
	BELOW GRADE BRAKE HORSEPOWER	MFG	MANUFACTURER
	BLANK OFF	MMS	MANUAL MOTOR START
	BOTTOM OF DUCT	(N)	NEW
	BOTTOM OF PIPE	N/A	NOT APPLICABLE
	BOTTOM OF RACK	NC	NORMALLY CLOSED
		NIC	
-	BTU PER HOUR COMMON	NK NO	NECK NORMALLY OPEN OR NUMBER
	COMPRESSED AIR	NTS	NOT TO SCALE
	CONSTANT VOLUME	OA	OUTSIDE AIR
	COOLING COIL	OBD	OPPOSED BLADE DAMPER
	CEILING DIFFUSER	OD	OUTSIDE DIMENSION
	CEILING EXHAUST	ORD	
	CAP FOR FUTURE CUBIC FEET PER HOUR	ΔP	PRESSURE DROP OR DIFFERENTAIL
	CUBIC FEET PER MINUTE	P PC	PUMP PUMPED CONDENSATE
	CEILING GRILLE	PG	PIPE GUIDE
	CHILLED WATER SUPPLY	PH	PHASE (ELECTRICAL)
	CHILLED WATER RETURN	PHC	PREHEAT COIL
	CENTERLINE	POC	POINT OF CONNECTION
R		PRESS	PRESSURE
FF	CLEAN OUT (DOOR) COEFFICIENT	PSI	POUNDS PER SQUARE INCH POUNDS PER SQUARE INCH GAUGE
D	CONDENSATE	R	RISE
N	CONNECTION, CONNECT	RA	RETURN AIR
Г	CONTINUATION	RAD	RETURN AIR DUCT
	COEFF. OF PERFORMANCE	RCVR	RECEIVER
3	CLEAN OUT TO GRADE	RF	
	CONDENSATE PUMP CEILING REGISTER	RH	RELATIVE HUMIDITY REHEAT COIL
	COEFF., VALVE FLOW	RPM	REVOLUTIONS/MINUTE
	COND. WATER SUPPLY	SA	SUPPLY AIR
	COND. WATER RETURN	SAD	SUPPLY AIR DUCT
	COOLING TOWER	SEC	SECOND
	DROP OR INDIRECT DRAIN	SF	SUPPLY FAN
	DRY BULB DIRECT DIGITAL CONTROL	SP SPEC	STATIC PRESSURE SPECIFICATION
. F	DEGREES FAHRENHEIT	SQ	SQUARE
S	DENSITY	SS	STAINLESS STEEL
	DIAMETER	STD	STANDARD
	DOWN	STM	STEAM
	DRAIN	SYM	SYMBOL
i	DRAWING EXISTING	SYS	SYSTEM TEMPERATURE DIFF.
	EXHAUST AIR	TEMP	TEMPERATURE
	EXHAUST AIR DUCT OR DAMPER	TOP	TOP OF PIPE
	ENTERING AIR TEMP.	TOR	TOP OF RACK
	ENTERING DRY BULB TEMP.	тот	TOTAL
	EXHAUST FAN	TT	TEMP. TRANSMITTER
	EFFICIENCY	TYP	TYPICAL
	EXPANSION TANK ENTERING WET BULB	U.C. UON	UNDERCUT UNLESS OTHERWISE NOTED
	ENTERING WATER TEMP.	V	VOLT
	EXHAUST	VA	VALVE
	EXPANSION	VAV	VARIABLE AIR VOLUME
	DEGREES FAHRENHEIT	VERT	VERTICAL
	FILTER	VFD	
	FUTURE FLEXIBLE CONNECTION	VOL W	VOLUME WATTS
	FAN COIL UNIT	WB	WATTS WET BULB
	FIRE DAMPER OR FLOOR DRAIN	W/O	WITHOUT
	FULL LOAD AMPS	WT	WEIGHT
	FLOOR	WTR	WATER
	FINS PER INCH FEET PER MINUTE	WSR	
	FEET PER MINUTE	WRR	WALL RETURN REGISTER
	FLOOR SINK		
	FEET		
	FACE VELOCITY	_	
	GAGE OR GAUGE	_	
	GALLONS PER MINUTE	_	
	GALVANIZED SHEET METAL	_	
	~		
	HEATING COIL		
	HEATING COIL HEAD		
	HEAD HEIGHT HAND, OFF, AUTO		
	HEAD HEIGHT HAND, OFF, AUTO HORSE POWER		
	HEAD HEIGHT HAND, OFF, AUTO HORSE POWER HOUR(S)		
	HEAD HEIGHT HAND, OFF, AUTO HORSE POWER		
	HEAD HEIGHT HAND, OFF, AUTO HORSE POWER HOUR(S) HUMIDITY TRANSMITTER HEAT PUMP HEATING, VENTILATING		
	HEAD HEIGHT HAND, OFF, AUTO HORSE POWER HOUR(S) HUMIDITY TRANSMITTER HEAT PUMP		
	HEAD HEIGHT HAND, OFF, AUTO HORSE POWER HOUR(S) HUMIDITY TRANSMITTER HEAT PUMP HEATING, VENTILATING		
1	HEAD HEIGHT HAND, OFF, AUTO HORSE POWER HOUR(S) HUMIDITY TRANSMITTER HEAT PUMP HEATING, VENTILATING AND AIR CONDITIONING HEATING WATER RETURN HEATING WATER SUPPLY		
1 // - / / / / / / / / / / / / / / / / /	HEAD HEIGHT HAND, OFF, AUTO HORSE POWER HOUR(S) HUMIDITY TRANSMITTER HEAT PUMP HEATING, VENTILATING AND AIR CONDITIONING HEATING WATER RETURN		

GENERAL NOTES

6

- 1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- 2. IN THE EVENT OF A DISCREPANCY BETWEEN CONTRACT DRAWINGS AND SPECIFICATIONS, THE MOST STRINGENT SHALL GOVERN.
- 3. ALL WORK TO BE IN ACCORDANCE WITH REQUIREMENTS OF GOVERNING STATE AND LOCAL FIRE AND BUILDING CODES, & NFPA CODE 101/99.
- 4. INSTALL ALL PIPING AND DUCTWORK TO AVOID ARCHITECTURAL FRAMING, STRUCTURAL MEMBERS, AND OTHER OBSTRUCTIONS. COORDINATE PIPING AND DUCTWORK LOCATION WITH ALL APPLICABLE CONTRACT DRAWINGS PRIOR TO PLACING SLEEVES IN FLOORS OR WALLS.
- 5. INSTALL ALL PIPING AND DUCTWORK TO BEST SUIT FIELD CONDITIONS AND COORDINATE WITH THE INSTALLATION WORK OF OTHER TRADES. THE DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED TO DETERMINE EXACT LOCATIONS OF PIPING OR DUCTWORK.
- 6. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT DIFFUSER LOCATIONS AND FINISHED CEILING.
- 7. COORDINATE DUCTWORK, PIPING WITH STRUCTURAL DRAWINGS, LIGHTING AND SPRINKLER SYSTEM. PROVIDE TRANSITIONS AS REQUIRED.
- 8. WHETHER OR NOT THEY ARE SHOWN ON DRAWINGS PROVIDE ALL CONCRETE PADS, SPECIAL SUPPORTS AND ANCHORING FOR ALL MECHANICAL EQUIPMENT REQUIRING SUCH. SEE ARCH OR STRUCTURAL DRAWINGS FOR ADDITIONAL INFO.
- 9. ALL DUCT DIMENSIONS ARE AIRSTREAM DIMENSIONS.
- 10. SEAL ALL FIRE RATED PENETRATIONS WITH FIRE RETARDANT MATERIAL AS SPECIFIED. REFER TO ARCHITECTURAL. 11. THERMOSTAT APPEARANCE AND LOCATION SHALL BE COORDINATED WITH ARCHITECTS/OWNER.
- 12. PROVIDE OPERATING HANDLES FOR ALL VALVE AND COCKS WITHOUT INTEGRAL OPERATORS.
- 13. IN MECHANICAL OR EQUIPMENT ROOMS, INSTALL ALL VALVES ACCESSIBLE FROM FLOOR LEVEL WHERE POSSIBLE. PROVIDE GUIDED CHAIN OPERATIONS, UNLESS OTHERWISE NOTED, ON ALL VALVES IN MECHANICAL AND EQUIPMENT ROOMS INSTALLED OVER 7' ABOVE FLOOR.
- 14. PROVIDE VALVES AND OTHER PIPING SPECIALTIES SAME SIZE AS LINE SIZE SHOWN UNLESS OTHERWISE NOTED.
- 15. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, ALL HOT WATER SUPPLY/RETURN TAKE-OFFS TO REHEAT COIL FOR AIR TERMINAL BOXES SHALL BE 3/4" DIAMETER.
- 16. PROVIDE UNIONS OR FLANGES ON EACH SIDE OF CONTROL VALVES AND PUMPS. EVERY PIPING ASSEMBLY SHALL BE MADE SO AS TO MAKE EVERY VALVE AND PIECE OF EQUIPMENT EASILY REMOVABLE. WELDED OR SOLDER-JOINT VALVES ARE EXCEPTED FROM THIS REQUIREMENT.
- 17. ALL DRAIN CONNECTIONS FROM MECHANICAL EQUIPMENT SHALL BE PIPED TO SPILL DIRECTLY INTO NEAREST FLOOR DRAIN. 18. PROVIDE 1" AIR GAP AT ALL DRAIN CONNECTIONS.
- 19. SEPARATE ALL CEILING HANGING AND BRACING WIRES AT LEAST 6" FROM ALL UNBRACED DUCTS, PIPES, CONDUITS, ETC. AT THE CONTRACTOR'S OPTION HE MAY BRACE UNBRACED DUCTS, PIPES, CONDUITS, ETC. IN A MANNER CONFORMING TO REQUIREMENTS ESTABLISHED BY THE MECHANICAL AND ELECTRICAL CONTRACT DOCUMENTS, OR THE CONTRACTOR MAY INSTALL TRAPEZE SUPPORTS TO RECEIVE THE CEILING HANGING AND BRACING WIRES. THE GENERAL CONTRACTOR SHALL COORDINATE THE WORK AND RESPONSIBILITY FOR ACCOMMODATING SUCH WORK.
- 20. DUCTS ON THE CONSTRUCTION SITE SHALL BE PROTECTED AND ISOLATED FROM DUST CONTAMINATION. THIS SHALL INCLUDE DUCTWORK THAT IS PARTIALLY INSTALLED. IF DUCTWORK IS TO REMIAN OPEN TO THE CONSTRUCTION ENVIRONMENT FOR MORE THAN A FEW HOURS, PROVIDE A TEMPORARY SEAL ON THE DUCT.
- 21. ALL PIPING AND DUCTWORK TO BE FLEXIBLE CONNECTED TO ROTATING EQUIPMENT: INCLUDING BUT NOT LIMITED TO FANS, AHU'S, PUMPS AND AT ALL COILS, ETC.
- 22. SEE ARCHITECTURAL AND STRUCTURAL DOCUMENTS FOR EQUIPMENT SUPPORTS AND ROOF OPENINGS. 23. ALL PIPING IN MECHANICAL ROOMS TO BE HUNG WITH SPRING ISOLATORS WITH 1/2" STATIC DEFLECTION AT SPECIFIED SPACING FOR HORIZONTAL PIPING, VERTICAL DROPS AND ALL ELBOWS.
- 24. PROVIDE ELBOW SUPPORTS AT ALL PIPE CONNECTIONS TO EQUIPMENT.
- 25. SEE ARCHITECTURAL DOCUMENTS FOR PAINTING OF ALL EXPOSED DUCTWORK, PIPING, AIR OUTLET AND FIXTURE TRIM. ALL DUCTWORK AND PIPING ON MECHANICAL EQUIPMENT LEVEL (ROOF) IS TO BE PAINTED IN COMPLIANCE WITH DIVISION 15 AND DIVISION 9.
- 26. INSTALL SHUT-OFF VALVES AT EACH BRANCH PIPE LINE. 27. UNLESS SPECIFICALLY SPECIFIED OR SHOWN OTHERWISE ALL CONSTRUCTION IS TO CONFORM TO SMACNA HVAC CONSTRUCTION STANDARDS AS A MINIMUM REQUIREMENT.
- 28. REFER TO ARCHITECTURAL SPECIFICATION FOR APPROVED FIRESTOPPING SYSTEM. 29. ALL PIPING NOTED TO BE CAPPED FOR FUTURE EXTENSION SHALL BE PROVIDED WITH VALVE NEAR CAP TO PERMIT FUTURE CONNECTION OF THE SYSTEM WITHOUT SHUTTING DOWN THE ACTIVE PORTION OF THE SYSTEM.
- 30. INSTALL SHUT-OFF VALVES AT EACH BRANCH PIPE LINE.
- 31. COORDINATE SYSTEM SHUTDOWN WITH OWNER'S REPRESENTATIVE. PROVIDE A MINIMUM OF 72 HOUR NOTICE.

GENERAL CONDITIONS

- 1. ALL WORK TO BE IN ACCORDANCE WITH REQUIREMENTS OF GOVERNING LOCAL FIRE CODES AND BUILDING CODES.
- 2. SCHEDULE ALL WORK ACCESS AND STORAGE WITH THE FACILITY ADMINISTRATOR.
- 3. CONTRACTOR SHALL PROVIDE DUST COVERS AS REQUIRED TO CONTAIN DUST AND DEBRIS WITHIN CONSTRUCTION AREA AND KEEP DIRT AND DUST TO A MINIMUM.
- 4. ALL REMOVED ITEMS DEEMED TO HAVE VALUE BY THE OWNER SHALL BE DELIVERED TO A PLACE OF STORAGE AT THE SITE AS DIRECTED. ALL OTHER ITEMS MUST BE DISPOSED OF OFF SITE IN A LEGAL MANNER. 5. WHERE EXISTING CONSTRUCTION IS CUT, DAMAGED, OR REMODELED, PATCH WITH MATERIALS TO MATCH IN
- KIND, QUALITY AND PERFORMANCE. 6. CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR SAFETY OF ALL PERSONS ON OR ABOUT THE CONSTRUCTION SITE IN ACCORDANCE WITH APPLICABLE LAWS AND CODES. GUARD ALL HAZARDS IN ACCORDANCE WITH THE SAFETY PROVISIONS OF THE LATEST MANUAL OF ACCIDENT PREVENTION PUBLISHED
- BY THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA. 7. CLEAN ALL EXPOSED SURFACES AND NEW EQUIPMENT AFTER COMPLETION.
- 8. WHEN INSTALLING DRILLED-IN ANCHORS AND/OR POWDER DRIVEN PINS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE DRILLED-IN ANCHOR AND/OR PIN.

MECHANICAL DRAWING INDEX

MECHANICAL COVER SHEET MECHANICAL SHEET SPEC

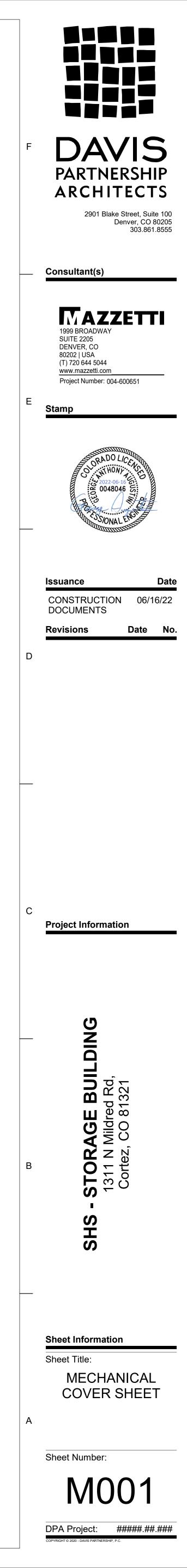
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5

MECHANICAL PLANS

INSTRUMENT AIR SUPPLY

INSIDE DIMENSION



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F			
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A. Design Intent: Drawings are in part diagrammatic, intended to convey the scope of work and indicate general arrangement of equipment, ducts, piping and approximate sizes and locations of equipment connections. The intended result of the Contract Documents, which include drawings, specifications, and related documents, is to provide a complete working installation of all systems and equipment, in proper operating condition, finished, tested, and ready for its intended use (the "Design Intent"). Provide all items not specifically shown on the drawings or called for in the specifications or related Contract Documents but required to conform to the Design Intent. The scope of work includes all labor, material, and equipment to achieve the Design Intent and all necessary and required temporary and incidental equipment, connections, services, supports, hoisting and scaffolding, access provisions, tools, appliances, consumables, fees, permits and licenses, debris removal/disposal, supervision, and labor, including required start-up, check-out, and training to provide complete and fully operable systems in compliance with the Contract

B. Permits, Insurance, Bond: Obtain all permits required for the installation of the work and pay all fees in connection therewith. Provide insurance and bonding as required by the building owner. C. Examine the Drawings, Specifications, and other Contract Documents relating to the Work of all trades and become fully informed as to the extent and character of work required. Coordinate all work with that of other trades to ensure proper and complete installation of all

D. The drawings, specifications, and related Contract Documents are complementary and interrelated; what is required by one is as if required by another. Information and requirements may be included in one and not another. Before proceeding with any work, conduct a full and thorough review of all Contract Documents, including but not limited to all drawings and specifications, to ascertain requirements of the Work. Where there is a conflict in or between the drawings, specifications, or other related Contract Documents as to performance, the more stringent requirement shall apply, or as to quality, the highest quality provision shall apply and be included, each without cost or schedule impact.

E. Before submitting a bid and prior to the start of work, examine all conditions relating to the Work, including that associated with the work of other trades upon which this work may rely or otherwise depend, to achieve the Design Intent, in accordance with the best trade practices, workmanship, and highest quality product installation, taking into account the sequence of the work, delivery, storage, and hoisting requirements, requirements for access, testing, temporary services, and all other site limitations and project complexities. Report to the Architect/Engineer any conditions which might prevent installation of materials and/or equipment in the manner intended by the Contract Documents or contrary to applicable codes, standards, or regulations.

F. Notify the Architect/Engineer before submitting a proposal of any aspect of the Contract Documents which may be incomplete, incorrect, or indefinite, or which appears to conflict with existing conditions or the Design Intent. No consideration or allowance will be granted for any misunderstanding of materials, equipment, components to be furnished, or work to be done to accomplish the Design Intent. G. As-Built Drawings: Maintain a set of contract documents on-site at all times for marking as-built conditions. Mark all deviations from the design drawings on this set. Note the location and elevation of both new and existing ducts, piping, and equipment. At conclusion of the project, transfer sketches and notes to a clean set of drawings, accurately indicating as-built conditions. Use color markings to distinguish from the original. Prior to submitting final pay request, submit full-color scan, minimum 400 dpi, in pdf format, to engineer for approval. H. Tender of a proposal is an explicit agreement to the terms and conditions of the Contract Documents.

1. Furnish: Supply and deliver, ready for installation, assembly or intended use, all materials, labor, equipment, tests, testing apparatus, controls, accessories, and all other items required for the proper and complete application.

2. Install: Includes unloading, unpacking, assembling, hoisting, erecting, installation, applying, finishing, protecting, cleaning, and similar operations at the project site as necessary to complete all items of work as required for the intended use/operation including all testing, certification, commissioning, and other requirements for final turnover to the Owner. 4. Finished Spaces: Spaces other than mechanical or electrical equipment rooms, furred spaces, pipe and duct shafts, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspaces, and tunnels.

5. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop, yard, or building exterior locations. 6. Wiring: All wires, raceways, fittings, conductors, connectors, tape, junction and outlet boxes, connectors, splices, and all other items necessary and/or required in connection with such work.

7. Raceway: All raceways, conduit, fittings, hangers, supports, sleeves, etc. 8. Piping: Pipe, tube, fittings, valves, hangers, and other accessories which comprise a system.

Comply with the requirements of all codes and standards adopted by authorities having jurisdiction.

2. The codes and standards referred to are minimum standards. Where the requirements of Contract Documents exceed those of the codes and standards, comply with the Contract Documents.

1. Except where dimensions are shown, the drawings are diagrammatic and shall not be scaled. Exact location of fixtures, apparatus, duct work and piping shall be determined by dimensions on the site and from architectural drawings. 2. The Architect/Engineer specifically reserves the right, up to the time of roughing-in, to exactly define the position of the equipment to be installed and connected to arrangement of these connections. . The drawings indicate the general locations of apparatus, fixtures, and piping. Where job conditions require reasonable changes to indicated locations and arrangement, make such changes where approved by the Engineer and without additional cost to the owner.

Equipment requiring operation, service or maintenance during the life of the system shall be made easily accessible. Comply with manufacturer's published service access requirements.

. Ductwork or piping shall not be run within 42" of electrical switchboards, panel boards, motor control centers, or the electrical panels integral to equipment. 3. Provide access panels in ceilings and walls for required service access to life safety dampers, actuators, equipment, balancing devices, shutoff valves, and other items that require service and/or inspection. Location and type of access panels must be coordinated with and

1. Submit all required documents in Portable Document Format (pdf). Include cover sheet with project name, date, name of submitting contractor, specific product being submitted, specification reference and identification tag used on the plans, where applicable. Clearly state that the product complies with the contract documents and note any deviations from the contract documents. 2. Where product sheets with multiple options are submitted, clearly indicate the specific item being submitted.

3. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, and furnished specialties and accessories. Include factory selections.

a. As-built drawings: Maintain accurate records on a set of contract drawings of all deviations made during the progress of the work. The completed set of drawings, with the nature and extent of all deviations clearly shown, shall be submitted to the engineer upon completion and acceptance of the work. As-built drawings shall be forwarded to the engineer for approval in pdf format. b. Operation and Maintenance Data: For all equipment, to include in emergency, operation, and maintenance manuals.

c. Operating instructions: Conduct formal instruction sessions for the owner's operating personnel to cover the following. Submit written statement from the owner's representative acknowledging satisfactory completion of instruction: 1) General familiarization and operating procedures for the entire mechanical installation.

1. Remove all stickers, rust, stains, temporary labels, and temporary covers.

Foreign matter shall be blown, vacuumed or flushed out of piping, pumps, fans, motors, devices, switches, panels, duct work and equipment. Identification plates on equipment shall be clean, undamaged, and easily readable.

1. The entire installation shall be guaranteed free from defects in material and workmanship for a period of one year from date of final acceptance. The contractor shall provide all labor and material to repair defects that appear.

a. All piping systems shall be identified by the name of contents and the direction of flow in accordance with ANSI A13.1. Identify all new piping systems. b. Name of contents and directional arrows near each valve, on both sides of pipes passing through walls, at least once within each space and at 30 foot intervals.

a. Install or permanently fasten labels on each major item of mechanical equipment and each item scheduled on the Drawings.

a. Install engraved plastic or two-color vinyl label printer labels on every control sensor, transmitter, actuator, controller, or other device, with designation used on control shop drawings.

a. For the purpose of this specification, power wiring shall be defined as: 1) All wiring from the power source panelboards (or switchboard) to the disconnect switch, starter, and/or variable frequency drive, including wiring from these switches to the equipment, and final connection to the equipment.

3) Any power wiring indicated on the Drawings.

b. All power wiring from the power source to the above noted switches, and wiring from these switches to the equipment, including final connection to same, shall be provided under the electrical division. c. Provide power wiring to all control panels and control devices requiring line voltage power, whether or not indicated on electrical drawings.

a. All other wiring required, whether line voltage or low voltage, internal or external, to provide for the operation of the equipment shall be considered as control wiring.

b. Install all control wiring per NFPA 70, National Electrical Code and in accordance with Division 26 drawings and specifications. Install wiring within conduit where subject to physical damage and where exposed, up to 10 feet above floor. 3. Provide all power and control wiring to all electrically operated equipment furnished by Division 23. Provide interlocks between controllers and mechanical equipment.

1. Provide all required components necessary for the complete installation and satisfactory operation of the mechanical systems, of the proper voltage and current rating for the motor it serves. 2. All starters and variable frequency drives shall be enclosed. Use NEMA type 1 for general purpose enclosures, NEMA type 4 for watertight enclosures, and NEMA type 12 for dust-tight enclosures. Location of motor determines type of enclosure, unless controller location is

3. Manual motor starters for single phase motors comprise a snap switch and a manual-reset thermal overload device.

5. Polyphase motors: NEMA MG 1, Design B, premium efficient, 1.15 service factor, Class F temperature rise, Class H insulation. Regreasable bearings suitable for radial and thrust loads, with shaft grounding ring. Cast iron enclosure frames sizes 324T and larger; rolled steel for 6. ECM motors: Where specified, provide electronically commutated motors with variable speed control.

a. Provide a system of supporting devices and hangers for support and bracing of piping, conduit, and equipment as required by code and as required to install a complete, operating system.

c. Do not support ductwork, piping, conduits, conductors, or equipment from other piping, conduits, ceiling grids, equipment, ductwork, or ceiling supports. In all cases, provide independent supports for such components and equipment. 2. Metal Supports and Anchorages: Refer to local codes, practices and standards for installation and material requirements and limitations relating to the use of metal supports and anchorages, including applicable seismic requirements. Use structural steel shapes, metal framing systems, and pipe and equipment support systems. Field Welding: Comply with AWS D1.1.

3. Grouting: Mix and place grout for equipment base bearing surfaces, pump and other equipment base plates, and anchors. Comply with grout manufacturer's recommendations for mixing, placement, and curing. 4. Suspension Support for Ducts, Pipes, Equipment:

a. Connect suspension supports directly to building steel. Do not support from other pipes, ducts, or equipment. Where hangers are required between building steel points, add supplementary steel members as required to adequately support the load. b. Furnish and install all necessary hangers, inserts, supports, supplementary steel, etc., to properly support all equipment, ductwork and piping in an approved manner and in full accordance with the manufacturers recommendations.

c. For support of pipes with operating weight of 50 pounds per foot, consult with structural engineer for delegated engineering design.

Remove piping and ductwork indicated on the plans to be removed. Terminate at mains. Cap water- or air-tight. 2. Present to owner a list of equipment to be removed. At owner's direction, remove to a designated location any equipment that the owner chooses to retain. Remove all other equipment from the site and dispose of according to local regulations.

4. Repair damaged insulation. Match existing materials and installation methods or match specifications for new work. Do not use any asbestos-containing material. 5. Patch ductwork and piping using specifications for new work.

. Temporary disconnection: Remove, store, clean, reinstall, reconnect, and make operational any equipment indicated for relocation. 7. Protect existing building components, materials, and finishes that are indicated to remain. Where building materials must be cut, removed, or damaged, restore to existing condition or comply with specifications for new work. Coordinate with other trades.

8. Where masonry must be penetrated, cut with saws or core drill.

A. Type: Stationary, drainable blades, 37.5 degree. Blades drain to jambs; jambs have downspouts to drain out at louver sill.

Ratings: Per AMCA 500 for air and water penetration performance. Ratings shall bear the AMCA seal. D. Wind Load: 30 psf (110 mph wind equivalent). Manufacturer to provide installation instructions for supporting multiple sections, where required, to meet wind load performance.

F. Pressure Loss: maximum 0.1 inch w.g. at 700 fpm free area velocity. G. Rain Penetration: 0.01 oz/sqft at 873 fpm free area velocity for 48x48 louver.

H. Blades and Frames extruded aluminum with 1.2mil Kynar finish.

J. Installation: Per manufacturer's printed instructions and architectural details.

1. All welding in accordance with the national certified pipe welding bureau or other approved procedure conforming to the requirements of ASME Boiler and Pressure Vessel Code & ANSI 31.1. All welders shall be certified.

2. Provide brass dielectric fitting at dissimilar metals. Support and anchor all piping. Size hangers on cold pipe to clear insulation and provide 12-inch long galvanized steel shield between hanger.

1. Steel Piping: Schedule 40 black steel Type E or S, Grade B. Malleable iron threaded fittings. Threaded joints NPS 2 and smaller, 125 psi class fittings for 75 psig and lower.

2. Corrugated, stainless-steel tubing (ANSI/IAS LC1) coating with h PE with flame retardant. Maximum of 3 feet in length for final equipment connections.

1. Shutoff valves, NPS 2.5 and smaller: Ball Valves, two-piece construction, full port, bronze body with ball and stem. MSS SP-110.

1. Route piping in orderly manner, plumb and parallel to building structure, and maintain gradient. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.

3. Provide clearance for installation of insulation and access to valves and fittings. 4. Do not run piping through transformer vaults or other electrical or electronic equipment spaces and enclosures.

5. Maintain 42" clearance from switchboards, panelboards and motor control centers. 6. Install unions or flanges downstream of valves and at equipment or apparatus connections.

A. Direct-drive units with internal speed control for balancing.

B. Shaft Bearings: Prelubricated and sealed, self-aligning, L50 life of 200,000 hours. Ratings certified in accordance with AMCA for air and sound performance.

F. Propeller Exhaust Fan: Galvanized steel body and butterfly dampers, weather hood.

A. Direct-drive units not connected to variable frequency drive have internal speed control for balancing, ECM motors. B. Cabinet: galvanized steel with baked-enamel finish, access doors, glass-fiber insulation, and reflective liner.

E. Gas burner: sealed combustion air supply and flue. Motor - ventilated, built-in automatic reset overload protection, 1/4 hp or greater have ball bearings

B. Actuators: Electric, quarter-turn. 120VAC for larger valves and dampers. Use modulating actuators, except where spring-return control is required. Actuator wiring is Control Wiring. C. Dampers: AMCA-rated, galvanized steel or extruded aluminum frame, airfoil-shaped dampers with blade and edge seals for tight shutoff, leakage less than 10 cfm per sqft of damper area at 4-inches w.g. differential pressure and 50 ft-lb closing torque. Use parallel-bade dampers in air

A. Balancing contractor shall be independent, certified AABC or NEBB member.

B. Examine systems for installed balancing devices, such as test ports, gage cocks, thermometer wells, flow control devices, balancing valves and fittings, and manual volume dampers. Verify that locations of these balancing devices are accessible. C. Examine system and equipment installations and verify that field quality-control testing, cleaning, and adjusting specified in individual sections have been performed.

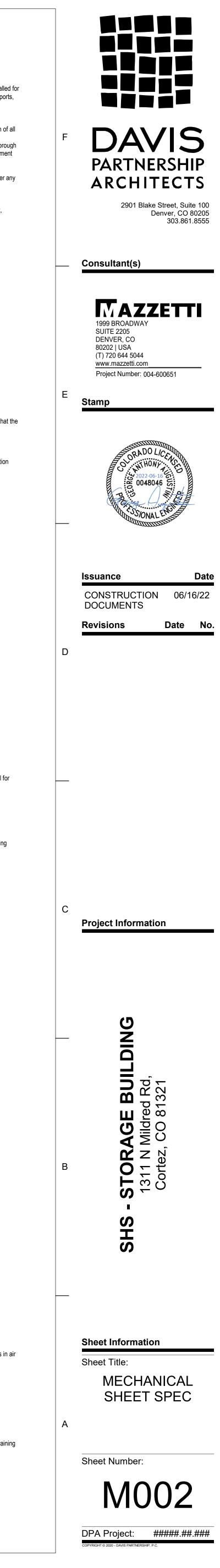
D. Examine HVAC equipment and filters and verify that bearings are greased, belts are aligned and tight, and equipment with functioning controls is ready for operation.

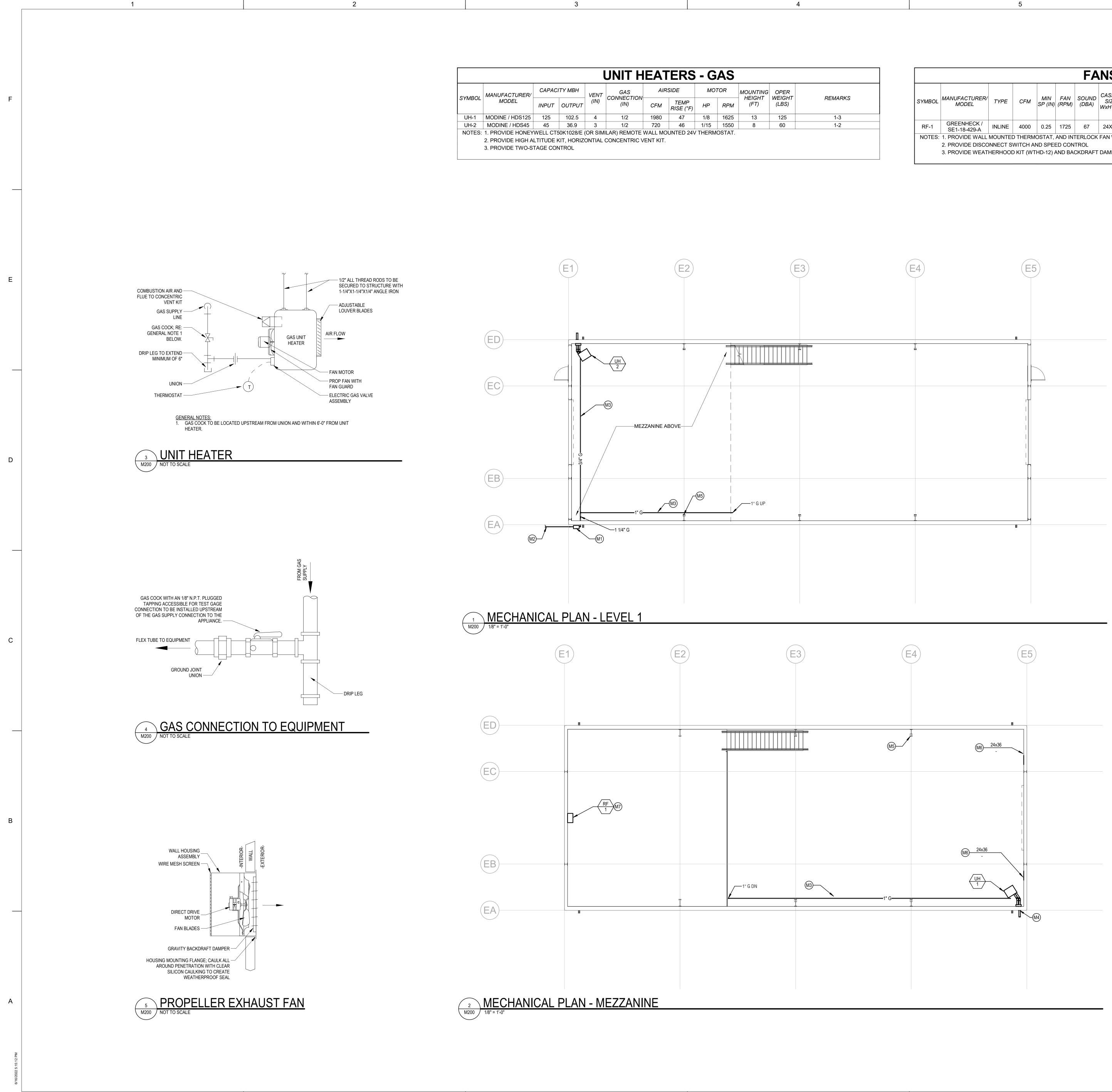
Report deficiencies discovered before and during performance of tab procedures. Observe and record system reactions to changes in conditions. Record default set points if different from indicated values. F. Complete air balance must be accomplished before actual water balance begins.

5

G. Provide a certified testing and balance report for review and inclusion in turnover package to owner, pdf format. Format forms in accordance with AABC or NEBB standards.

A. Startup HVAC systems and perform operational commissioning. Run test all systems to verify that control systems are fully operational and the sequence of operation is met. Submit a written report to the owner and engineer for verification. Provide a minimum of eight hours of training to the building operational personnel on proper operation and maintenance of each system and system component. Provide to the owner complete documentation, including all submittals, O&M manuals, warranties, as-builts, Test and Balance reports, etc.





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					UNIT H	EA1	FERS	- G	AS			
	MANUFACTURER/	CAPAC	ITY MBH	VENT	GAS	AIF	SIDE	MO	TOR	MOUNTING HEIGHT	OPER WEIGHT	
SYMBOL	MODEL	INPUT	OUTPUT	(IN)	CONNECTION (IN)	CFM	TEMP RISE (°F)	HP	RPM	(FT)	(LBS)	REMARKS
UH-1	MODINE / HDS125	125	102.5	4	1/2	1980	47	1/8	1625	13	125	1-3
UH-2	MODINE / HDS45	45	36.9	3	1/2	720	46	1/15	1550	8	60	1-2
NOTES:	1. PROVIDE HONEY	WELL CT	50K1028/E	OR SIM	ILAR) REMOTE	WALL MC	UNTED 24V	/ THERM	OSTAT.			
	2. PROVIDE HIGH A	LTITUDE I	kit, horizo	ONTIAL	CONCENTRIC V	ENT KIT.						
	3. PROVIDE TWO-S	TAGE CO	NTROL									

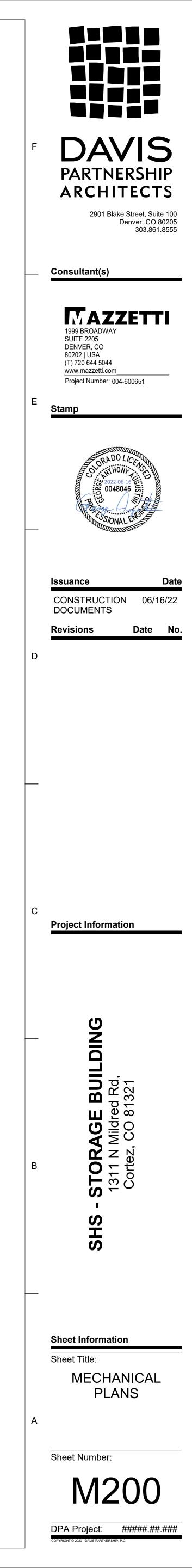
NUFACTURER/						-					
NUFACTURER/							MOTOR				
MODEL	TYPE	CFM	MIN SP (IN)	FAN (RPM)	SOUND (DBA)	CASING SIZE WxH (IN)	BHP	HP	V/PH/HZ	OPER WEIGHT (LBS)	REMARKS
REENHECK / SE1-18-429-A	INLINE	4000	0.25	1725	67	24X24	0.6	3/4	115/60/1	48	ALL
PROVIDE WALL	MOUNTED	D THERMO	OSTAT,	AND IN	TERLOCK					40	
SE PF	E1-18-429-A ROVIDE WALL I ROVIDE DISCO	E1-18-429-A INLINE ROVIDE WALL MOUNTEE ROVIDE DISCONNECT S	E1-18-429-A INLINE 4000 ROVIDE WALL MOUNTED THERM ROVIDE DISCONNECT SWITCH AN	E1-18-429-A INLINE 4000 0.25 ROVIDE WALL MOUNTED THERMOSTAT, ROVIDE DISCONNECT SWITCH AND SPEE	E1-18-429-A INLINE 4000 0.25 1725 ROVIDE WALL MOUNTED THERMOSTAT, AND IN ROVIDE DISCONNECT SWITCH AND SPEED CON	E1-18-429-A INLINE 4000 0.25 1725 67 ROVIDE WALL MOUNTED THERMOSTAT, AND INTERLOCK ROVIDE DISCONNECT SWITCH AND SPEED CONTROL	REENHECK / E1-18-429-AINLINE40000.2517256724X24ROVIDE WALL MOUNTED THERMOSTAT, AND INTERLOCK FAN WITH ROVIDE DISCONNECT SWITCH AND SPEED CONTROL	REENHECK / E1-18-429-AINLINE40000.2517256724X240.6ROVIDE WALL MOUNTED THERMOSTAT, AND INTERLOCK FAN WITH LOUR ROVIDE DISCONNECT SWITCH AND SPEED CONTROL	REENHECK / INLINE 4000 0.25 1725 67 24X24 0.6 3/4 ROVIDE WALL MOUNTED THERMOSTAT, AND INTERLOCK FAN WITH LOUNVER D	REENHECK / E1-18-429-AINLINE40000.2517256724X240.63/4115/60/1ROVIDE WALL MOUNTED THERMOSTAT, AND INTERLOCK FAN WITH LOUNVER DAMPERS. ROVIDE DISCONNECT SWITCH AND SPEED CONTROL	REENHECK / E1-18-429-AINLINE40000.2517256724X240.63/4115/60/148ROVIDE WALL MOUNTED THERMOSTAT, AND INTERLOCK FAN WITH LOUNVER DAMPERS. ROVIDE DISCONNECT SWITCH AND SPEED CONTROLCONTROLControlControl

6

KEYNOTES

5

- (N) NATURAL GAS METER. 14 IN WG PRESSURE, 170MBH LOAD AT 150 FT LENGTH. M1 UNDERGROUND NATURAL GAS PIPING, REFER TO CIVIL FOR CONTINUATION. M2 NATURAL GAS PIPING ROUTED TIGHT TO WALL/STRUCTURE. M3
- SEALED COMBUSTION SYSTEM FOR UNIT HEATER. PROVIDE CONCENTRIC VENT M4 KIT THROUGH EXTERIOR WALL. INSTALL AND SUPPORT VENT PER MANUFACTURER REQUIREMENTS. REMOTE THERMOSTAT FOR UNIT HEATER. M5
- RELEIF AIR LOUVER INLET WITH MOTORIZED TWO POISTION DAMPER, GREENHECK M6 ICD-44 WITH 120V ACTUATOR (OR SIMILAR). M7 RELIEF AIR VENTILATION FAN IN SIDEWALL WITH GRAVITY BACKDRAFT DAMPER. INTERLOCK FAN WITH LOUVER DAMPERS.



				ELE
		DESIGNATION SYMBOLS		POWER PLAN SYMBOLS
F		KEY NOTE TAG	0	JUNCTION BOX
		DETAIL REFERENCE BUBBLE DETAIL NUMBER		PUSH BUTTON STATION TRANSFORMER
		SHEET BEARING DETAIL	P	PUSH PLATE (FOR AUTOMATIC DOOR)
	EF		PB	PUSH BUTTON (FOR AUTOMATIC DOOR)
		EQUIPMENT TAG		277/480 SURFACE MOUNTED PANELBOARD
				277/480 FLUSH MOUNTED PANELBOARD 120/208 SURFACE MOUNTED PANELBOARD
		CONDUIT SYMBOLS		= 120/208 FLUSH MOUNTED PANELBOARD
		ONDUIT INSTALLED CONCEALED ABOVE CEILINGS, IN WALLS IN FINISHED REAS, OR EXPOSED IN UNFINISHED AREAS) (A) (A) (A) (A) (A) (A) (A) (A) (A) (A	AUTO SINK TOILET OUTLET WALL MOUNTED AUTO SINK TOILET OUTLET
		CONDUIT INSTALLED BELOW FINISHED FLOOR OR BELOW GRADE	┤ ┌───	
		CONDUIT TURNING UP	-	WIRING DEVICE SYMBOLS
	(CONDUIT STUBBED OUT WITH BUSHING	- -	120V, SINGLE RECEPTACLE OUTLET
		CONDUIT STUBBED OUT AND CAPPED		120V, SPECIAL MOUNTING HEIGHT SINGLE RECEPTACL 120V, DUPLEX RECEPTACLE OUTLET
E		ELEXIBLE CONDUIT WITH SINGLE POINT OF CONNECTION AT ELECTRICAL EQUIPMENT	- -	120V, SPECIAL MOUNTING HEIGHT DUPLEX RECEPTACE
	——G—— (GROUNDING CONDUCTOR		120V, CONTROLLED DUPLEX RECEPTACLE OUTLET
	B	ONDUIT HOMERUN; ROUTE TO PANELBOARD, CABINET, OR TERMINAL OARD INDICATED, AND TERMINATE CONDUCTORS TO CIRCUIT OVER		120V, 5MA GFCI DUPLEX RECEPTACLE OUTLET
	C	URRENT PROTECTIVE DEVICE		120V, SPECIAL MOUNTING HEIGHT 5MA GFCI DUPLEX R 120V, CONTROLLED 5MA GFCI DUPLEX RECEPTACLE O
		APPLICABLE CODES	-\$	120V, DOUBLE DUPLEX RECEPTACLE OUTLET
	- 2017 NFPA 70, N	JATIONAL ELECTRICAL CODE (NEC)		120V, SPECIAL MOUNTING HEIGHT DOUBLE DUPLEX RE
	- 2018 NFPA 101, - 2015 I-CODES (LIFE SAFETY CODE INTERNATIONAL CODES) ID STATE AMENDMENTS		120V, CONTROLLED DOUBLE DUPLEX RECEPTACLE OUT 120V, 5MA GFCI DOUBLE DUPLEX RECEPTACLE OUTLET
	- LOCAL CITT AN	D STATE AMENDMENTS		120V, SPECIAL MOUNTING HEIGHT 5MA GFCI DOUBLE D
				120V, CONTROLLED 5MA GFCI DOUBLE DUPLEX RECEP
	ELEC	TRICAL EQUIPMENT DESIGNATIONS		SPECIAL PURPOSE RECEPTACLE, VOLTAGE AND NEMA WALL MOUNTED EQUIPMENT CONNECTION
		PANEL DESIGNATION TAG	\bigcirc	EQUIPMENT CONNECTION
		H -480/277V		POKE THROUGH; SEE SPECIFICATIONS
D		L -208/120V		120V, DUPLEX RECEPTACLE OUTLET, FLOOR/ CEILING
		SINGLE LINE SYMBOLS		120V, DOUBLE DUPLEX RECEPTACLE OUTLET, FLOOR/ (POWER POLE CONNECTION TO MODULAR FURNITURE
				SURFACE RACEWAY - TYPE, OUTLETS, SPACING AND F
	30A		_	WIRING DEVICE DESIGNATIO
	30A 3P 25A	SWITCH $XX/XX/XX = AMP SWITCH/POLES/AMP ELISE$		
	□ 30/ 3P	HEAVY DUTY NON-FUSED DISCONNECT SWITCH SWITCH XX/XX = AMP SWITCH/POLES		= 22CIRCUIT NUMBER (WHERE SHOWN)
		MOTOR STARTER	-	TV - TELEVISION RECEPTACLE WP - WEATHERPROOF, IN-SERVICE TYPE C
		COMBINATION MOTOR STARTER	_	USB - USB RECEPTACLE
			_	
	VFD	VARIABLE FREQUENCY DRIVE	NOTES:	
	• •	AUTOMATIC TRANSFER SWITCH	A. ALL REG	CEPTACLES IN OFFICES, CORRIDORS, AND WAITING ROOM R-RESISTANT.
С			_	
		AUTOMATIC TRANSFER SWITCH WITH BY-PASS SWITCH		ELECTRICAL DRAWING INDE
	لمرما		E001 E010	ELECTRICAL COVER SHEET AND SPECIFICATIONS SCHEDULES, ONE-LINE DIAGRAM, AND LIGHTING COMPL
	Т	UTILITY TRANSFORMER	E200 E300	POWER PLANS LIGHTING PLANS
			_	
_		TRANSFORMER		
	<u> </u>		_	
	PANEL '1NL1'	PANELBOARD		
	225A MCB	TANLEBOARD		
	G	GENERATOR		
		STATIONARY CIRCUIT BREAKER; RATING AS SHOWN ON PLANS	_	
B	<i>∞ ∞</i>	DRAWOUT CIRCUIT BREAKER; RATING AS SHOWN ON PLANS	_	
		SWITCH AND FUSE; RATING AS SHOWN ON PLANS	_	
			_	
	++ +/	NORMALLY OPEN CONTACT NORMALLY CLOSED CONTACT		
	M	INLINE METER	_	
	EM	METER AND CTS	_	
		GROUND	_	
			-	
		BUS DUCT		
			- -	
		SINGLE LINE DIAGRAM LEGEND		
A		(E) - EXISTING TO REMAIN		
		(D) - DEMOLITION WORK		
		(N) - NEW WORK		
Σ		100NG FEEDER TAG		
022 3:34:16 PM			_	

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ELECTRICAL SYMBOL SCHEDULE

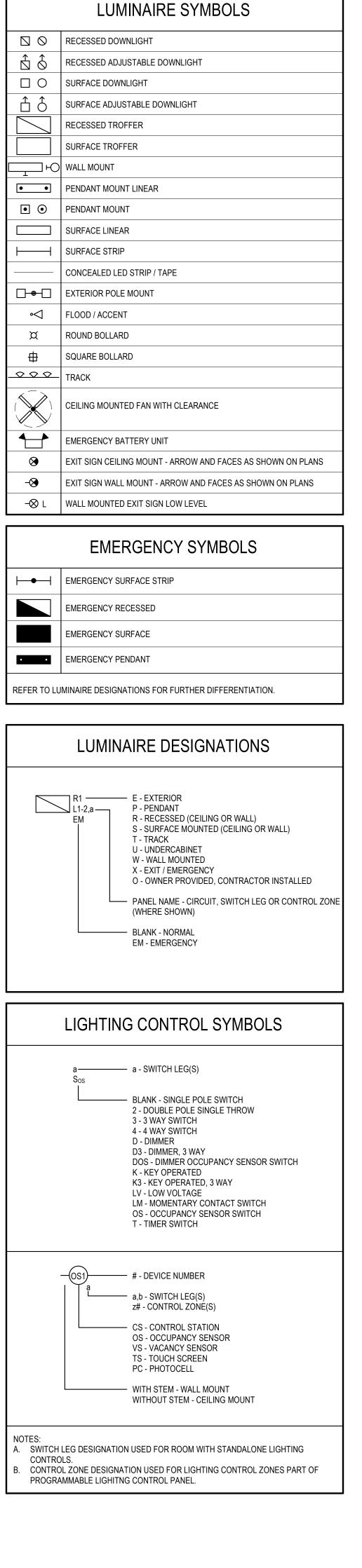
BOLS MBOLS RECEPTACLE OUTLET RECEPTACLE OUTLET DUTLET I DUPLEX RECEPTACLE OUTLE EPTACLE OUTLET DUPLEX RECEPTACLE OUTLET PTACLE OUTLET CLE OUTLET DOUBLE DUPLEX RECEPTACLE EX RECEPTACLE AND NEMA AS NOTED R/ CEILING MOUNTED T, FLOOR/ CEILING MOUNTED URNITURE CING AND FINISH AS NOTED NATIONS NN)

/ICE TYPE COVER

ITING ROOMS SHALL BE

G INDEX

TING COMPLIANCE



3

A, AMP	AMPERE	IG	ISOLATED GROUND.
AC	ALTERNATING CURRENT	НОА	HAND - OFF - AUTO
ACT	ABOVE COUNTER TOP	HP	HORSEPOWER
AIC	AMPERE INTERRUPTING CAPACITY	HPF	HIGH POWER FACTOR
AFF	ABOVE FINISHED FLOOR	LED	LIGHT EMITTING DIODE
AFG	ABOVE FINISHED GRADE	LLF	LIGHT LOSS FACTOR
ATS	AUTOMATIC TRANSFER SWITCH	LRC	LIGHTING RELAY CABINET
AF	FRAME RATING IN AMPERES	МСВ	MAIN CIRCUIT BREAKER
AS	SWITCH RATING IN AMPERES	MLO	MAIN LUGS ONLY
AT	TRIP RATING IN AMPERES	MCA	MINIMUN CIRCUIT AMPS
AWG	AMERICAN WIRE GAUGE	МОСР	MAXIMUM OVER CURRENT PROTECTION
AV	AUDIO VISUAL	(N)	NEW
С	CONDUIT	N	NEUTRAL
CFOI	CONTRACTOR FURNISHED OWNER INSTALLED	NC	NORMALLY CLOSED
СКТ	CIRCUIT	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
CLG	CEILING	NL	NIGHT LIGHT
CL	CONNECTED LOAD	NO	NORMALLY OPEN
ССТ	CORRELATED COLOR TEMPERATURE	NTS	NOT TO SCALE
CRI	COLOR RENDERING INDEX	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
(D)	DEMOLISH EXISTING	ос	OVER CURRENT
DF	DEMAND FACTOR	РВ	PULL BOX
DL	DESIGN LOAD	ØPH	PHASE
DC	DIRECT CURRENT	PNL	PANEL
DPDT	DOUBLE POLE, DOUBLE THROW	PVC	POLYVINYL CHLORIDE CONDUIT
DPST	DOUBLE POLE SINGLE THROW	Р	POLE
DIST	DISTRIBUTION	PWR	POWER
(E)	EXISTING TO REMAIN	(R)	RELOCATE EXISTING
EC	EMPTY CONDUIT	RCP	REFLECTED CEILING PLAN
ELEC	ELECTRICAL	RSC	RIGID STEEL CONDUIT
ELEV	ELEVATOR	SPDT	SINGLE POLE, DOUBLE THROW
E, EM	EMERGENCY	SPST	SINGLE POLE, SINGLE THROW
EMT	ELECTRO METALLIC TUBING	SWBD	SWITCHBOARD
EMS	EMERGENCY MANAGEMENT SYSTEM	SWGR	SWITCH GEAR
FA	FIRE ALARM	TB, TTB	TERMINAL BACKBOARD
FSD	FIRE SMOKE DAMPER	тс	TERMINAL CABINET
FVNR	FULL-VOLTAGE, NON-REVERSING	TEL	TELEPHONE
FVR	FULL-VOLTAGE, REVERSING	V	VOLT
FLA	FULL LOAD AMPS (NAME PLATE)	VD	VOLTAGE DROP
FLC	FULL LOAD CURRENT (NEC)	VFD	VARIABLE FREQUENCY DRIVE
(F)		VA	VOLT AMPERES
GFCI	GROUND FAULT CIRCUIT INTERRUPTING	W	WATT
G, GND	GROUND	W	WIRE
GEN	GENERATOR	XFMR	TRANSFORMER

4

ALL ELECTRICAL WORK SHALL COMPY WITH THE CURRENT APPROVED EDITION OF THE NATIONAL ELECTRICAL CODE, AS ACCEPTED AND AMENDED BY LOCAL ORDINANCES. WHERE GROUNDED CONDUCTORS OF DIFFERENT SYSTEMS ARE INSTALLED IN THE SAME RACEWAY, CABLE, BOX, AUXILIARY GUTTER, OR OTHER TYPE OF ENCLOSURE, EACH GROUNDED CONDUCTOR SHALL BE IDENTIFIED BY SYSTEM PER NEC ARTICLE 200.6 (D). MEANS OF IDENTIFICATION SHALL BE PERMANENTLY POSTED AT EACH BRANCH CIRCUIT PANELBOARD. PER NEC ART 210.5 (C), UNGROUNDED CONDUCTORS OF MORE THAN ONE NOMINAL VOLTAGE SYSTEM SHALL BE IDENTIFIED BY SYSTEM. PROVIDE MEANS OF IDENTIFICATION AS REQUIRED PER THIS ARTICLE. PER NEC ART 215.12, FEEDER IDENTIFICAITON IS REQUIRED WHEN MORE THAN

ONE NOMINAL VOLTAGE SYSTEM EXISTS. PROVIDE MEANS OF IDENTIFICATION AS REQUIRED PER THIS ARTICLE. VERIFY FINAL PLACEMENT AND CONNECTION REQUIREMENTS PRIOR TO ROUGHING IN EQUIPMENT UTILITIES. FINAL ACCEPTANCE OF WORK IN PLACE SHALL BE SUBJECT TO APPROVAL BY

OWNER'S REPRESENTATIVE. INSTALLATION APPROVAL SHALL BE BASED ON APPROVED SUBMITTAL, SHOP DRAWINGS AND LOCAL INSPECTIONS. SUBMIT RED-LINE RECORD DRAWINGS WITHIN TWO (2) WORK WEEKS OF DATE OF NOTIFICATION OF FINAL APPROVAL. ALL WORK SHOWN ON DRAWINGS IS IN PART SCHEMATIC, INTENDED TO CONVEY

SCOPE OF WORK AND GENERAL LAYOUT. VERIFY ALL EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS REQUIRED. ELECTRICAL DRAWINGS ARE LARGELY DIAGRAMMATIC AND, THEREFORE, REPRESENT INSTALLATION INTENT AND GUIDELINES; IT IS THE CONTRACTOR'S RESPONSIBILITY TO COVER ALL CONDITIONS ON THEIR PREPARED SHOP DRAWINGS. PROVIDE UP-TO-DATE, ACCURATE, AND LEGIBLE CIRCUIT DIRECTORY WHICH

APPLIES TO PANELBOARDS AND SWITCHBOARDS AS REQUIRED BY NEC ART. 408.4 DIRECTORY SHALL BE LOCATED ON THE FACE OR ON THE DOOR OF EACH PANELBOARD OR AT EACH SWITCH ON A SWITCHBOARD. WITHIN EACH PANELBOARD PRIOR TO FINAL ACCEPTANCE OF WORK IN PLACE. LABEL ALL WIRING DEVICES WITH SOURCE PANELBOARD AND CIRCUIT NUMBER ON COVER PLATE. SEE SPECIFICATIONS. LABEL ALL NEW PANELBOARDS, SWITCHBOARDS AND MOTOR CONTROL

CENTERS WITH ENGRAVED LAMINATED-PLASTIC NAMEPLATES MOUNTED WITH CORROSION-RESISTANT SCREWS. SEE SPECIFICATIONS. ALL INTERIOR OUTLET, JUNCTION AND PULL BOXES SHALL BE METALLIC, SIZED PER CODE FOR THE NUMBER OF CONDUCTORS THEREIN. . ALL ELECTRICAL RACEWAYS SHALL BE CONCEALED IN THE WALLS AND ABOVE SUSPENDED CEILING UNLESS OTHERWISE NOTED. ALL CONDUCTORS SHALL BE #12 AWG MINIMUM TYPE THHN/THWN UNLESS

OTHERWISE NOTED. ALL CEILING MOUNTED ELECTRICAL DEVICES SHALL BE SUPPORTED FROM THE CEILING GRID, NOT FROM CEILING TILE. LIGHTING SHALL BE SUPPORTED FROM STRUCTURE ABOVE. ELECTRICAL PLANS ARE MOSTLY DIAGRAMMATIC. CONTRACTOR SHALL PROVIDE CONNECTIONS BETWEEN FIXTURES AND LIGHTING CONTROL DEVICES SUCH AS

OCCUPANCY SENSORS, LIGHT SWITCHES, AND LIGHTING CONTROL PANEL TO PROVIDE AN OPERABLE LIGHTING SYSTEM. IN THE EVENT OF ANY INCONSISTENCY BETWEEN ITEMS INDICATED ON THE PLANS AND/OR THE SPECIFICATIONS, THE ONE WHICH PROVIDED THE MOST COMPLETE WORK OR HIGHER STANDARD SHALL PREVAIL. SUPPLY AND INSTALL ALL REQUIRED SUPPORTS AND BRACING OF EQUIPMEN AND CONDUITS FOR PROPER EQUIPMENT INSTALLATIONS AND CODE

COMPLIANCE. ALL EXPOSED CONDUITS SHALL BE INSTALLED AT RIGHT ANGLE TO ROOM OR STRUCTURE. EXPOSED CONDUITS SHALL BE SUPPORTED FROM BUILDING STRUCTURE USING APPROVED PIPE HANGERS. ALL CONDUITS SHALL BE SIZED AS PER NEC UNLESS LARGER SIZES ARE NOTED

ON THE DRAWINGS. ALL CUTTING, PATCHING AND PAINTING REQUIRED FOR THE CONCEALED INSTALLATION OF CONDUITS SHALL BE PROVIDED BY THE CONTRACTOR. DO NOT CUT OR DRILL STRUCTURAL MEMBERS WITHOUT WRITTEN APPROVAL FROM STRUCTURAL ENGINEER. ALL CUTTING AND PATCHING SHALL BE NEAT, AND PATCHING SHALL MATCH ADJACENT SURFACE AS TO TEXTURE AND FINISH. ALL PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS OR CEILINGS SHALL BE SEALED IN ACCORDANCE WITH A UL APPROVED SYSTEM THAT MAINTAINS THE INTEGRITY OF THE EXISTING FIRE RATING. PROVIDE AN ENCLOSURE OF EQUAL

FIRE RESISTANT RATING AROUND ALL FIXTURES AND EQUIPMENT INSTALLED IN OR PENETRATING FIRE RATED SEPARATIONS. V. ALL DATA CABLING TO BE PROVIDED BY THE OWNERS'S IT VENDOR. COORDINATE ROUGH-IN WORK WITH OWNER'S IT VENDOR.

4

	SPECIFICATIONS 260500 COMMON WORK RESULTS FOR ELECTRICAL	260553 IDENTIFICATION FOR ELECTRICAL SYSTEMS A. GENERAL: Label all junction boxes, terminal cabinets, etc., with the circuit number or low-voltage system
	 A. SCOPE OF WORK 1. Comply with the General Conditions of this contract. The requirements of this specification are in addition to the requirements of the General Conditions. 2. Provide all labor and material necessary to accomplish the work specified herein and as shown on 	contained within. B. EQUIPMENT NAMEPLATES: Shall be engraved in 1/16 inch thick phenolic letters a minimum of 3/16 inch high. Coloring shall be white letters on black background for normal equipment and white letters on red background for emergency equipment.
	 the drawings. Coordinate work with all other trades. Visiting the site and verifying existing conditions prior to submitting bid is encouraged. Refer to the Request for Bid Advertisements for the pre-bid walkthrough date. 	 260923 LIGHTING CONTROL DEVICES A. TOGGLE SWITCHES Approved Manufacturers: Cooper, Hubbell, P & S or Leviton. All part numbers refer to Hubbell. Switches, 120/277V, 20A
	 Remove all waste and rubbish from the site on a daily basis. WARRANTY: Workmanship and materials shall be guaranteed for a period of one year from the date of final acceptance by the Owner. Provide additional warranty for voice/data system as noted elsewhere. 	a. Single Pole: HBL1221b. Three Way: HBL1223c. Four Way: HBL1224
	 C. REGULATIONS 1. Electrical work shall comply with the following codes as presently applicable: a. National Electrical Code (NEC) b. Local City of Cortez and State codes and regulations 	 B. DIMMER SWITCHES 1. Approved Manufacturers: Lutron, Leviton or WattStopper. 2. Modular, full-wave, solid-state units with integral, quiet on-off, with audible frequency and EMI/RFI suppression filters.
	 Permits: Obtain and pay for all required permits. Safety Measures: Provide a safe environment to protect employees and all others from injury. Comply with "Safety and Health Regulations for Construction," Volume 36, No. 75, Part II, of the 	 Continuously adjustable slider with single-pole or three-way switching. Fluorescent and LED Lamp Dimmer Switches: Modular, compatible with dimmer ballasts and drivers. DEVICE PLATES: Thermoplastic, P&S/Sierra or approved equal.
	 Federal Register by the U.S. Department of Labor. D. SUBMITTAL AND SHOP DRAWINGS: Prior to installation, submit catalog data for panelboards, luminaires, and wiring devices in electronic PDF format. E. OPERATIONS AND MAINTENANCE MANUALS: Provide maintenance and operations data for all 	 General: Install devices level, plumb and square with building lines. INDOOR OCCUPANCY SENSORS Approved Manufacturers: Cooper, Hubbell, Leviton, Acuity, Lutron, WattStopper Wall Switch Sensor Light Switch: Switchbox-mounted, combination lighting-control sensor and
	 electrical equipment and signal and communications systems in electronic PDF format. F. RECORD DRAWINGS: Corrections and changes made during the progress of the work shall be neatly recorded as actually installed for as-built records. Submit to the Architect upon project completion. 	conventional switch lighting-control unit using dual (ultrasonic and passive infrared) technology complying with UL 20.Field selectable automatic on or manual on, automatic off with field adjustable off time delay 0-30 minutes.
	 G. CERTIFICATES OF INSPECTION: Submit signed-off permits from the Code Enforcing Agencies to the Owner upon project completion. H. PRODUCT LISTING OR LABELING: All electrical equipment shall be listed and labeled by Underwriters' Laboratories, Inc. 	 Ceiling Occupancy Sensors: Dual Technology type using both passive infrared and ultrasonic technology. 262726 WIRING DEVICES A. WIRING DEVICES
PROTECTION	 MATERIAL AND EQUIPMENT: All materials and equipment shall be new unless noted otherwise. Protect all materials and equipment from damage or corrosion. CUTTING AND PATCHING: Provide all required cutting and patching for the electrical work. PHASE ROTATION: Check connections to all new and existing three-phase equipment for proper phase rotation. Disconnect all devices that could be damaged by the application of voltage or reversed phase 	 Approved Manufacturers: Cooper, Hubbell, P & S or Leviton. All part numbers refer to Hubbell. Receptacle Color: White for normal power. Receptacle Orientation: a. Install receptacles vertically. b. Install receptacles with the ground pin up.
	sequence. L. REMOVAL AND REPLACEMENT OF EXISTING ACCESSIBLE CEILING PANELS, LIGHTING FIXTURES AND SPEAKERS: Remove and reinstall all necessary ceiling panels, lighting fixtures, speakers and other existing equipment in existing accessible ceilings as required to install the electrical	 B. RECEPTACLES 1. Duplex Receptacles: Specification-grade, 20-ampere, 125-volt, grounded type, HBL5352 series. 2. Double Duplex Receptacles: Specification-grade, 20-ampere, 125-volt, grounded type, HBL5352 series. 3. Ground Fault Interruption Receptacles: Specification-grade, 20-ampere, 125-volt, Class A, 5-
TION	work. M. FIRESTOPPING: Provide fire stopping for all penetrations through rated walls, ceilings, and floors. N. PAINTING: Paint all exposed raceways, except Surface Mounted Raceway (SMR), in finished areas to	milliampere sensitivity, GF5352 series. 4. Weather/Tamper-Resistant Receptacles: Specification-grade, 20-ampere, 125-volt, grounded type, GFR5362TR series.
	 match adjacent surfaces. O. INSTRUCTION: Contractor shall instruct the Owner in the use and operation of all systems installed under the scope of this contract. P. OWNER-FURNISHED EQUIPMENT: Provide complete electrical service and connection to all Owner- 	 C. DEVICE PLATES: Thermoplastic, P&S/Sierra or approved equal. 1. GENERAL: Install devices level, plumb and square with building lines. D. RECEPTACLE MOUNTING HEIGHT: +18" to the centerline of the box unless otherwise noted. 262416 PANELBOARDS
	furnished equipment. 260519 LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES A. WIRE AND CABLE:	A. RATING: 120/208-volt, 3-phase, 4-wire, copper bus bolt-on molded case, thermal magnetic type circuit breakers having a minimum interrupting rating of 10,000 amperes for 120/208-volt panels and 14,000 amperes for 277/480-volt panels.
	 Branch Circuits and Homeruns: Type THHN or THWN, 600-volt insulation, stranded or solid copper conductor. Minimum conductor size: Neutral: #12 AWG Ground: #12 AWG 	 B. ENCLOSURE: Where panelboards are to be installed indoors provide NEMA 1 enclosure and where they are to be installed outdoors provide NEMA 3R enclosure. C. SURGE PROTECTION DEVICE (SPD): Panelboards connected to the emergency power system shall include a factory installed SPD as an integral part of the panelboard, complying with UL 1449 SPD Type 2.
	 c. Phase conductors (more than six in a raceway): #10 AWG d. Phase conductors (six or less in a raceway): #12 AWG 2. Feeders: Feeders shall be sized as shown on the drawings and color-coded in accordance with list 	D. MOUNTING: Where panelboards are to be installed against plasterboard walls, provide separate support channels secured to blocking between steel studs. Coordinate blocking work with the gypsum wallboard contractor. Panels shall not be secured directly to gypsum wallboard material.
TIUC	 below. Make no splices unless shown on the plans. 3. Color Coding Requirements: 120/208 Volt, 3-Phase, 4-Wire Systems a. Phase A: Black b. Phase B: Red 	 EXISTING PANELBOARDS: Provide new branch circuit breakers, including associated mounting hardware to serve new loads. 262816 ENCLOSED SWITCHES AND CIRCUIT BREAKERS A. APPROVED MANUFACTURER'S: General Electric, Siemens, Cutler-Hammer or Square D.
	c. Phase C: Blue d. Neutral: White e. Ground: Green	 B. ENCLOSURE: Where installed indoors provide NEMA 1 enclosure and where they are to be installed outdoors provide NEMA 3R enclosure. C. SINGLE-PHASE MOTOR: Motors 1/3 HP or less provide with toggle-type, 20-amp, 120-volt rating, specification-
	 f. Travelers: Yellow (For 3- And 4-Way Switching) g. Controls: Black With Wire Numbers On Each Conductor 4. Splices and Terminations: Lighting and receptacle branch circuit conductors up to No. 10 AWG shall be spliced with Wing Nut type connectors. 	 grade disconnect switches. D. THREE-PHASE MOTOR: Motors 1/2 HP and larger provide with horsepower-rated, heavy-duty, 30 ampere minimum, 3-pole disconnect switches. E. EQUIPMENT DISCONNECTS: Shall be fused or non-fused as required by the equipment manufacturer, rated at
OW	 260526 GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS A. GENERAL: Provide through the entire electrical system. A separate green equipment grounding conductor shall be provided in all lighting and power raceways. 	 125 percent of full load nameplate amperage or rated horsepower, heavy-duty type. F. DISCONNECTS: Provide disconnects at all motors and other equipment items unless the equipment has a self- contained, Code approved disconnecting method. Equipment disconnects shall be fused or non-fused as required by
W	 BONDING: Insulated grounding bushings shall be installed to bond all feeder conduits to the switchboard ground bus or panel ground bus at both ends of feeder raceways. Insulated grounding bushings shall be installed to bond all feeder conduits to the ground bus or panel enclosures at both ends of the runs. C. RECEPTACLE GROUNDING: Connect the ground terminal of all receptacles by utilizing a separate 	the Equipment manufacturer. 262813 FUSES A. MANUFACTURES: Bussman, Ferrez Shawmut or Littlefuse. B. PROVIDE 200,000 AIC, CURRENT LIMITING, UL TIME DELAY FUSES AS FOLLOWS:
	grounding conductor between the receptacle grounding screw and the ground conductor provided in the branch circuit. Integral mounting straps within the receptacle connected to the device mounting straps are not approved as a grounding method.	 FEEDERS 600 AMPS AND LESS: Class RK-1, LPN-RK for 250-volt, dual element; Class RK-1, LPS- RK for 600-volt, dual element. MOTOR CIRCUIT 600 VOLTS AND BELOW: Class RK-1 or Class J sized at 125 percent FLC of motor.
	 D. FLEXIBLE CONDUIT GROUNDING: Provide a separate grounding conductor in all flexible conduit runs including watertight flexible conduit with integral grounding straps. Install ground conductor inside conduit with ungrounded conductors. E. GROUND CONNECTIONS: Ground connections to building steel, ground rods and cable taps shall utilize 	 270500 COMMON WORK RESULTS FOR COMMUNICATIONS A. Provide provisions only (conduit, backbox, pullstring) for communications and data devices shown on the plans. Cabling and faceplates shall be provided by others. B. All signal and communications cabling shall be plenum rated. Cabling shall be run open above the ceiling via
	an exothermic welding process. Cadweld, Erico Products, Inc., or approved equal. 260533 RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS A. RACEWAYS 1. RIGID METALLIC CONDUIT: Zinc-coated steel with full threaded connections.	 junction-hooks in accessible locations. Provide metallic raceways for cables installed in walls, above inaccessible ceilings, exposed or where subject to physical damage. Raceway fill shall not exceed 40 percent. Raceway size shall be 1 inch minimum. Provide STI EZ-PATH or equivalent fire rated pathway where cabling pathways cross fire-rated walls.
/E	 ELECTRICAL METALLIC TUBING (EMT): Zinc-coated steel. RIGID NONMETALLIC CONDUIT: Rigid PVC, schedule 40, UL listed for direct burial or concrete encasement. 	 283111 DIGITAL, ADDRESSABLE FIRE-ALARM SYSTEMS A. Provide a complete design/build fire alarm package in accordance with all codes, regulations and local AHJ. For existing fire alarm systems to remain provide a complete design/build package for the extension of the existing fire
	 FLEXIBLE METALLIC CONDUIT: Helically wound galvanized steel, securely interlocked, RWS (reduced wall steel) type. LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT: Helically wound, galvanized steel, interlocked, with integral ground conductor and overall PVC jacket. 	 alarm system in the project area. The existing fire alarm system must remain in operation at all times. Provide a "fire watch" if the existing fire alarm must be taken out of service. B. INTERIM LIFE SAFETY MEASURES (IN AREA OF WORK): In all areas of the existing building that are within the scope of the construction work:
	 B. FITTINGS 1. Rigid metallic conduit: a. Couplings: Threaded-metallic type of the same material as the conduit. b. Locknuts: Steel up to 2"inches, malleable iron for 2-1/2 inches and larger. c. Bushings: Bakelite or plastic up to 2", malleable iron with insulating collar for 2-1/2 inches and 	1. Maintain the existing fire alarm system in continuous operation at all times. Where it is necessary to remove existing fire alarm system components and wiring to accommodate demolition work, provide temporary systems. Temporary systems shall include fire alarm pull stations at exits from the existing building at each floor, heat detectors in construction or permanent corridors, notification devices within the area, and addressable interface modules and power supplies. Temporary fire alarm provisions shall be
	 larger. d. Unions: Zinc-plated malleable iron, three piece conduit coupling. 2. Electrical Metallic Tubing (EMT): Steel set-screw type. Fittings 2" and larger shall be steel and may 	 monitored by the existing fire alarm system. Maintain temporary systems in operation until permanent fire alarm equipment is installed and connected to the existing system and placed into operation. C. INTERIM LIFE SAFETY MEASURES (IN NEWLY CONSTRUCTED AREAS):
	 be setscrew type containing dual setscrews on each side of coupling. Rigid nonmetallic conduit: Slip-on, non-threaded type of same material as conduit. Flexible metallic conduit: Steel, one- or two-screw clamp type. Liquidtight flexible metallic conduit: Galvanized steel, compression type. 	 At such time that a physical connection is made between existing and new construction whereby the new construction becomes part of the existing building or when the fire separation between existing and new construction is removed, provide a temporary fire alarm system similar to that described above including pull stations, notification devices, heat detectors, monitor modules and power supplies. Temporary fire alarm
	 Conduit Straps: Heavy duty, two-hole pressed steel. OUTLET AND DEVICES BOXES Interior Surface-Mounted in Unfinished Areas: One-piece pressed steel, electro-galvanized, size and depth required by Code, except 4-inch square or 4-inch octagonal minimum. 	provisions shall be monitored by the existing fire alarm system. Maintain temporary systems in operation unti permanent fire alarm equipment is installed, connected to the existing system, and placed into operation. 2. Fire alarm conductors and cables shall be enclosed in metal conduit. Fire alarm conduit shall be identified by red paint.
	 Interior Flush-Mounted: Same as above except provide plaster ring extension to finished surface. Exterior Boxes: Cast-Metal JUNCTION AND PULL BOXES: 	 Audible notification appliances shall generate private mode sound pressure levels unless otherwise noted. Refer to mechanical, plumbing and fire protection drawings for duct detectors, smoke dampers, tamper
	 Interior: Steel, screw cover, code gauge and size. Large junction and pull boxes shall be fabricated sheet steel with baked enamel finish and return flange with screw retained cover. Exterior: Gasketed metal cover plate, listed and labeled for location and use. EXECUTION 	 switches, flow switches, pre-action or dry-type sprinkler systems required to be monitored or controlled by the fire alarm system. Provide duct-mounted smoke detectors as indicated on the mechanical documents. Provide ceiling mounted remote indicator at each duct detector.
	 General: Coordination: The Contractor shall review all drawings, details and elevations prior to rough-in. Where equipment is furnished by others, the Contractor shall ascertain the proper voltage, load 	6. Smoke dampers in corridor walls shall close upon signal from corridor smoke detectors in accordance with IBC 715.3.2.1, method 4. Smoke dampers in non-corridor walls shall close upon signal from duct mounted smoke detectors in accordance with IBC 715.3.2.1 method 1. See mechanical documents for
	 and connection requirements prior to rough-in. Materials: All materials of a specific type shall be provided by the same manufacturer throughout the project. Raceway Types: Install raceway types and sizes as listed below: 	 locations of dampers and duct mounted smoke detectors. Provide fire alarm connections to HVAC system controls and devices for proper operation, including shutdown. See mechanical documents for quantities, locations, and additional requirements. Upon detection of fire in any area of the building (smoke, heat, or sprinkler flow) the fire alarm system shall cause the air
	 a. Rigid Metallic Conduit: In concrete and masonry and exposed exteriors. b. Electrical Metallic Tubing (EMT): All areas other than above. May be used for feeders with integral green ground conductor. 	handler or air handlers serving the smoke compartment where the alarm initiated to shutdown, the exhaust fans associated with that smoke compartment to shut down, and all smoke dampers associated with those fans to close. Refer to architectural plans for the boundaries of smoke compartments, and refer to
	 c. Rigid Nonmetallic Conduit: Exterior underground installations. 90 degree elbows to be galvanized rigid steel. d. Flexible Metallic Conduit: Recessed fixture connections, interior concealed equipment connections, expansion joints and sound control. Not to be used exposed installations within 	 mechanical duct plans for which fans serve each space. See specifications for additional requirements for the sequence of operation of the fire alarm system. 8. Fire alarm control and monitoring, including air handler shutdown and damper closure shall be accomplished using supervised fire alarm wiring to within three feet of the device being controlled or
	 the building. e. Liquidtight Flexible Metallic Conduit: Exterior equipment connections. f. Minimum raceway size shall be 3/4 inch, except for raceways with no more than three #12 	monitored. For the purpose of this measurement on air handlers, the motor starter or VFD is the device being controlled. For the purpose of this measurement on dampers, the damper power circuit is the device being controlled, provided the dampers are self closing and held open electrically. Control signals shall also
	 AWG conductors which may be 1/2". 3. Raceway Installation: a. Concealment: All raceways shall be concealed in finished areas. Where existing wall surfaces are inaccessible, surface metal raceways for these exceptions may be provided when 	 be sent to the building control system (bas), but this does not satisfy the requirement for supervised fire alarm control of the devices. 9. Provide fire alarm system connection to security lock systems to unlock egress doors under alarm conditions.
	 approved. b. Exposed Raceways: Install exposed raceways as high as possible, above ductwork, parallel or at right angles to building lines. Bouting: All recovery chall be installed parallel or at right angles to the building construction. 	 Visual notification device mounting height shall be to center of lamp. Coordinate locations of ceiling mounted smoke detectors with mechanical systems. Detectors shall not be in direct air flow or within 3 feet of supply diffusers. Provide fire alarm connections to automatic operated doors to disable auto door opening under alarm
	 c. Routing: All raceways shall be installed parallel or at right angles to the building construction unless prohibited by a physical obstruction. d. Raceway Supports: Raceways shall be supported with heavy-duty, one-hole, pressed steel straps on interior surfaces. Support pendant-mounted raceways on 3/8-inch rod with pear- 	conditions, except for main vestibule doors or unless otherwise noted. END OF ELECTRICAL SPECIFICATIONS
	shaped hanger or trapeze-type hanger with 3/8-inch rod (minimum) and 1-5/8-inch square preformed channel and pipe clamps. Parallel, surface-mounted raceways shall be supported from 1-5/8-inch square preformed channel and pipe clamps. All fittings and supports shall be hot-dip galvanized in exterior areas.	
	e. Independent Support: Conduits shall not be supported from the ceiling suspension system, ducts, pipes or other systems foreign to the electrical installation. The entire electrical installation shall be kept independent from any other trade.	
	 f. Pull boxes with Covers: Shall be provided as shown on the drawings or as required by Code. All pull boxes shall be located so as to be accessible. g. Flexible Conduit: Shall be used only for lighting fixture pigtails in accessible ceilings, flush-mounted speaker pigtails in accessible ceilings, sound control, motor connections and at 	
	building expansion joints as specified. Any other proposed use of flexible conduit must be approved prior to installation.h. Penetrations: Raceways which pass through building roof, exterior walls of building above or	
	below grade and floor slabs on grade shall be sealed on the interior side of the building using non-hardening sealing compound after all conductors have been installed in the raceway. Sealing material shall be specifically designed for electrical wiring systems.	
	 i. Conduit Penetrating Membranes: All conduits penetrating walls or slabs with membranes shall be installed with approved membrane clamping devices in order to provide necessary seal. j. Exterior Walls: Conduits passing through exterior walls below grade and/or bridging an area which was previously excavated and backfilled shall be rigidly supported by a structurally 	
	reinforced concrete duct bank spanning between the building wall and a bearing surface on undisturbed earth. 4. Boxes and Fittings:	
	surfaces or support with trapeze hanger as described in Raceway Installation. Junction boxes shall not be used unless the number of bends, pulling length, or circuit requirements necessitates their installation. Junction or pull box openings must be accessible.	
	 Sound Control: Where boxes are mounted in a common wall, they shall wherever possible, be offset horizontally so that they are not mounted back-to-back. Connect offset boxes with flexible conduit not to exceed 18 inches in length. 	

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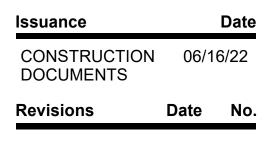
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Consultant(s)

MAZZETTI 1999 BROADWAY **SUITE 2205** DENVER, CO 80202 | USA (T) 720 644 5044 www.mazzetti.com Project Number: 004-600651





Project Information



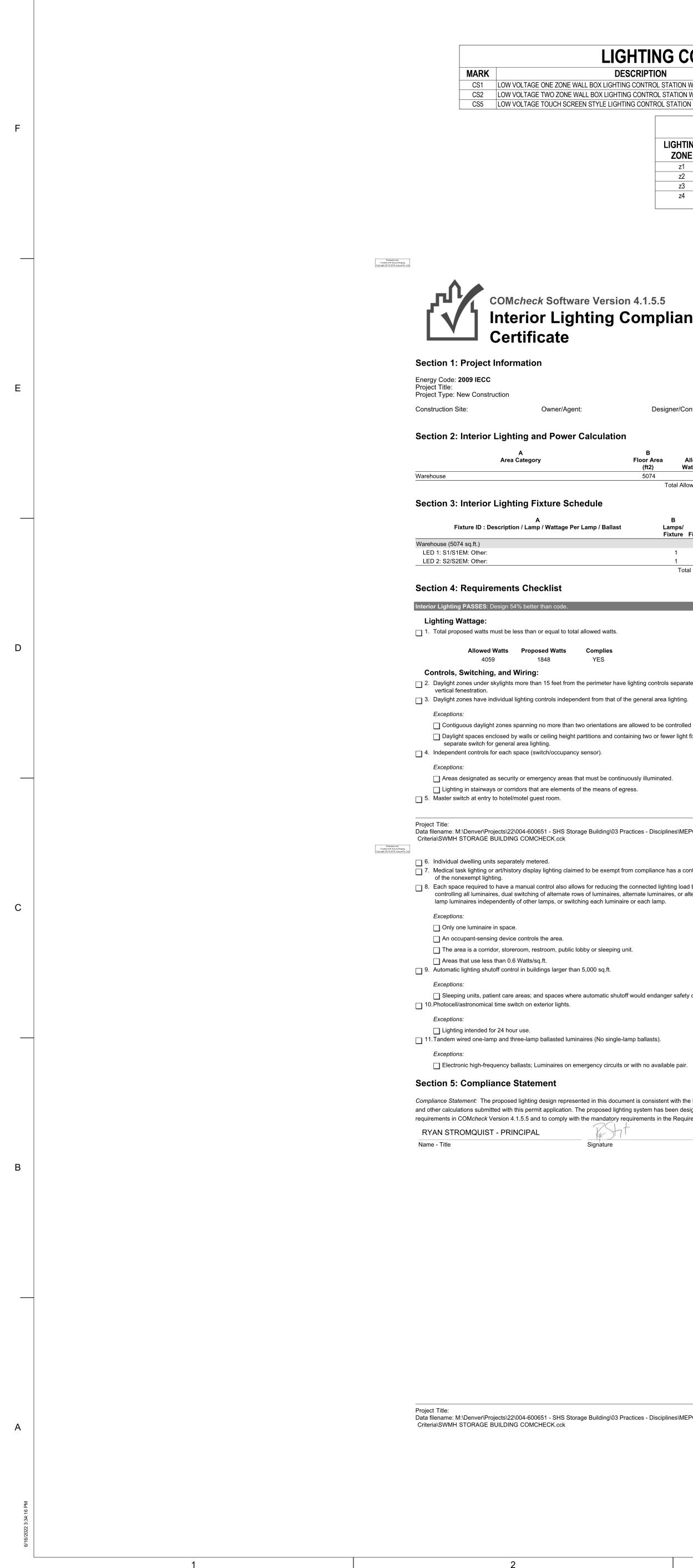


Sheet Information Sheet Title: ELECTRICAL COVER SHEET AND SPECIFICATIONS

Sheet Number:



DPA Project: ######.### YRIGHT © 2020 - DAVIS PARTNERSHIP. P.C.



LIGHTING CONTROL DEVICE SCHEDULE								
DESCRIPTIO	N		MANUFACTURER	MODEL	FINISH	VOLTS	NOTES	
OX LIGHTING CONTROL STATION WITH RAISE/ LOWER.			nLight	nPODMA DX	WHITE	120		
OX LIGHTING CONTROL STATION WITH RAISE/ LOWER.			nLight	nPODMA 2P DX	WHITE	120		
TYLE LIGHTING CONTROL STATION WITH INTEGRAL TIMECLOCK.			nLight	FRESCO	WHITE	120		
		LIGHTING	CONTROL		SCHE	DULE		
	LIGHTING							
	ZONE	ZONE NAME	CONT	CONTROL STRATEGY				
-	z1	LEVEL 1 LIGHTING	MANUAL ON/OFF			0-10V		

MEZZANINE LEVEL LIGHTING MANUAL ON/OFF

MEZZANINE LEVEL LIGHTING MANUAL ON/OFF

			LUMIN	AIRE S	CHE	DUL	Ε					
MARK	DESCRIPTION	MANUFACTURER	MODEL	LUMENS	WATTS	CCT	CRI	FINISH	DRIVER TYPE	DIMMING INTERFACE	VOLTS	NOTES
E1	LED EXTERIOR WALL PACK LUMINAIRE.	COOPER LIGHTING	ENC-SA1-A-835-U-T2-FINISH-CBP	2000	21 W	3500K	80	WHITE	INTEGRAL DRIVER	0-10V	120 V	CONFIRM FINISH WITH ARCI
E2	LED EXTERIOR WALL PACK LUMINAIRE.	COOPER LIGHTING	ENC-SA1-D-835-U-T2-FINISH	4131	44 W	3500K	80	WHITE	INTEGRAL DRIVER	0-10V	120 V	CONFIRM FINISH WITH ARCI
S1	LED STRIP LUMINAIRE.	METALUX	SNLED-4-LD5-41SL-LC-UNV	4269	31 W	3500K	90	WHITE	INTEGRAL DRIVER	0-10V	120 V	
S1EM	LED STRIP LUMINAIRE. PROVIDE WITH EMERGENCY BATTERY BACKUP.	METALUX	SNLED-4-LD5-41SL-LC-UNV	4269	31 W	3500K	90	WHITE	INTEGRAL DRIVER	0-10V	120 V	
S2	LED STRIP LUMINAIRE.	METALUX	SNLED-4-LD5-56SL-LC-UNV	5880	46 W	3500K	90	WHITE	INTEGRAL DRIVER	0-10V	120 V	
S2EM	LED STRIP LUMINAIRE. PROVIDE WITH EMERGENCY BATTERY BACKUP.	METALUX	SNLED-4-LD5-56SL-LC-UNV	5880	46 W	3500K	90	WHITE	INTEGRAL DRIVER	0-10V	120 V	
X1	LED EXIT SIGN	COOPER LIGHTING	APX7	NA	2 W	-	-	NA	INTEGRAL DRIVER	-	120 V	
			REVIATIONS DO NOT APPLY TO EQUIPI AND WIRING REQUIREMENTS WITH SU				ИEN	IT SC	HEDULI			

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EXTERIOR WALL PACKS ASTRONOMICAL TIME CLOCK ON/OFF WITH MANUAL

ON/OFF OVERRIDE



z4

Interior Lighting Compliance

Designer/Contractor:

	B Floor Area (ft2) 5074		C Allowed /atts / ft2 0.8	D Allowed Watts (B x C) 4059		
	Total Allow				059	
Schedule						
e Per Lamp / Ballast		B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)	
		1	24	31	744	
		1	24	46	1104	
		Tot	al Propose	ed Watts =	1848	

Complies YES

2. Daylight zones under skylights more than 15 feet from the perimeter have lighting controls separate from daylight zones adjacent to

Contiguous daylight zones spanning no more than two orientations are allowed to be controlled by a single controlling device. 🗌 Daylight spaces enclosed by walls or ceiling height partitions and containing two or fewer light fixtures are not required to have a

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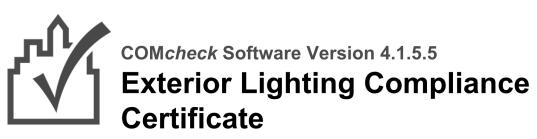
7. Medical task lighting or art/history display lighting claimed to be exempt from compliance has a control device independent of the control 8. Each space required to have a manual control also allows for reducing the connected lighting load by at least 50 percent by either controlling all luminaires, dual switching of alternate rows of luminaires, alternate luminaires, or alternate lamps, switching the middle

Signature

Sleeping units, patient care areas; and spaces where automatic shutoff would endanger safety or security.

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2009 IECC requirements in COMcheck Version 4.1.5.5 and to comply with the mandatory requirements in the Requirements Checklist. 06/16/2022

Date



0-10V

0-10V

0-10V

4

Section 1: Project Information

Energy Code: **2009 IECC** Project Title:

Project Type: New Construction Exterior Lighting Zone: 4 (High activity metropolitan commercial district (LZ4))

Construction Site: Owner/Agent: Designer/Contractor:

Section 2: Exterior Lighting Area/Surface Power Calculation

A Exterior Area/Surface	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B x C)	F Proposed Watts
Main entry	6 ft of door width	30	Yes	180	42
Other door (not main entry)	28 ft of door width	20	Yes	560	88
		Total Trac	dable Watts* =	740	130
		Total Al	lowed Watts =	740	
	Total Allow	ed Suppleme	ental Watts** =	1300	

* Wattage tradeoffs are only allowed between tradable areas/surfaces. ** A supplemental allowance equal to 1300 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Section 3: Exterior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Main entry (6 ft of door width): Tradable Wattage				
LED 1: E1: Other:	1	2	21	42
Other door (not main entry) (28 ft of door width): Tradable Wattage				
LED 2: E2: Other:	1	2	44	88
	Total Tradab	le Propose	130	

Section 4: Requirements Checklist

Lighting Wattage:

1. Within each non-tradable area/surface, total proposed watts must be less than or equal to total allowed watts. Across all tradable areas/surfaces, total proposed watts must be less than or equal to total allowed watts. Compliance: Passes.

Controls, Switching, and Wiring:

1. All exemption claims are associated with fixtures that have a control device independent of the control of the nonexempt lighting. 3. Lighting not designated for dusk-to-dawn operation is controlled by either a a photosensor (with time switch), or an astronomical time switch.

4. Lighting designated for dusk-to-dawn operation is controlled by an astronomical time switch or photosensor.

5. All time switches are capable of retaining programming and the time setting during loss of power for a period of at least 10 hours. Exterior Lighting Efficacy:

6. All exterior building grounds luminaires that operate at greater than 100W have minimum efficacy of 60 lumen/watt.

Project Title: Report date: 06/16/22 Data filename: M:\Denver\Projects\22\004-600651 - SHS Storage Building\03 Practices - Disciplines\MEPC\Elec\Codes and Design Criteria\SWMH STORAGE BUILDING COMCHECK.cck Page 3 of 4 Evaluation only. Created with Aspose Imaging. Copyright 2010-2019 Aspose Pty. Ltd.

Exceptions:

Lighting that has been claimed as exempt and is identified as such in Section 3 table above.

Lighting that is specifically designated as required by a health or life safety statue, ordinance, or regulation.

Emergency lighting that is automatically off during normal building operation.

Lighting that is controlled by motion sensor. Exterior Lighting PASSES: Design 94% better than code.

Section 5: Compliance Statement

O and line a Otata mante. The summary deviation lighting of		
Compliance Statement: The proposed exterior lighting de	0	0 1 / 1
and other calculations submitted with this permit application	ion. The proposed lighting system ha	s been designed to meet the 2009 IECC
requirements in COMcheck Version 4.1.5.5 and to compl	ly with the mandatory requirements in	the Requirements Checklist.
RYAN STROMQUIST - PRINCIPAL	RSht	06/16/2022
Name - Title	Signature	Date

Report date: 06/16/22 Data filename: M:\Denver\Projects\22\004-600651 - SHS Storage Building\03 Practices - Disciplines\MEPC\Elec\Codes and Design Page 2 of 4

Project Title: Data filename: M:\Denver\Projects\22\004-600651 - SHS Storage Building\03 Practices - Disciplines\MEPC\Elec\Codes and Design Criteria\SWMH STORAGE BUILDING COMCHECK.cck

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4

MARK	NO.		LOAD					DISCONNECT		POWER			
		DESCRIPTION	MCA	MOCP	KVA	VOLTS	POLES	SWITCH	FUSE	WIRING	COND.	PANEL	NOTE
D	1	MECHANICAL DAMPER			0.1	120	1	30A	20.00 A	(2) #12 + (1) #12G	3/4"	L1	
D	2	MECHANICAL DAMPER			0.1	120	1	30A	20.00 A	(2) #12 + (1) #12G	3/4"	L1	
RF	1	RETURN FAN			0.77	120	1	30A	20.00 A	(2) #12 + (1) #12G	3/4"	L1	
UH	1	GAS FIRED UNIT HEATER			0.1	120	1	30A	20.00 A	(2) #12 + (1) #12G	3/4"	L1	
UH	2	GAS FIRED UNIT HEATER			0.1	120	1	30A	20.00 A	(2) #12 + (1) #12G	3/4"	L1	

6

VOLTS (L-L): 208 V PHASE: 3 WIRES: 4 OPTIONS: SERVICE ENTRANCE RATED				PANEL TYPE: NORMAL MOUNTING: SURFACE ENCLOSURE: NEMA 3R						MCB: 100 A BUS RATING: 100A AIC RATING: 22,000 AIC SUPPLY FROM:							
СКТ	DESCRIPTION	LOAD CLASS	NOTES	AMPS	POLES		4	E	3	(C	POLES	AMPS		OAD LASS	DI	ESCRIPTION
1	REC - LEVEL 1 WEST	REC		20 A	1	0.72	0.37					1	20 A	I	LTG LTG	G - LEV	EL 1
3	REC - LEVEL 1 EAST	REC		20 A	1			0.54	0.13			1	20 A	I	LTG LTG	9 - BUII	DING EXTERIOR
5	REC - LEVEL 1 EAST	REC		20 A	1					0.72	0.37	1	20 A	I	LTG LTG	G - MEZ	ZANINE LEVEL
7	REC - MEZZANINE	REC		20 A	1	0.72	1.1					1	20 A	I	LTG LTG	G - MEZ	ZANINE LEVEL
9	DED. CKT. OVERHEAD DOOR	EQ		20 A	1			0.5	0			1	20 A		SPA	ARE	
11	DED. CKT. OVERHEAD DOOR	EQ		20 A	1					0.5	0	1	20 A		SP/	ARE	
13	REC - EXTERIOR BUILDING	REC		20 A	1	0.72	0					1	20 A		SPA	ARE	
15	UH-1	EQ		20 A	1			0.1	0			1	20 A		SP/	ARE	
17	RF-1	EQ		20 A	1					0.77	0	1	20 A		SP/	ARE	
19	UH-2	EQ		20 A	1	0.1	0					1	20 A		SP/	ARE	
21	MECHANICAL DAMPERS	EQ		20 A	1			0.2	0			1	20 A		SP/	ARE	
23	SPARE			20 A	1					0	0	1	20 A		SP/	ARE	
25	SPARE			20 A	1	0	0					1	20 A		SP/	ARE	
27	SPARE			20 A	1			0	0			1	20 A		SP/	ARE	
29	SPARE			20 A	1					0	0	1	20 A		SP/	ARE	
31	SPACE				1							1			SPA	ACE	
33	SPACE				1							1			SPA	ACE	
35	SPACE				1			-				1			SPA	ACE	
37	SPACE				1							1			SPA	ACE	
39	SPACE				1							1			SPA	ACE	
41	SPACE				1							1			SP/	ACE	
				TOT	AL LOAD:	3.74	kVA	1.47	kVA	2.36	kVA						
				тоти	AL AMPS:	32	2 A	12	2 A	21	A						
LOAD	CLASS	C	ONNECTE	D LOAD		DEMA	ND FACT	OR	ES	TIMATED [DEMAND				PANEL TO	TALS	
LTG			1978 V				25.00%			2472.5							
REC			3420 \				00.00%			3420 V					CONNECTED LOAD: 7.57 kVA		
EQ			2170 V	/Α		1	00.00%			2170 V	Ά			TOTAL ES			
														TAL CONNEC AL EST. DEM			

NOTES: CC = CONTROLLED CIRCUIT, H = HACR, G = GFCI, A = AFCI, G/A = COMBO GFCI/AFCI, L = BREAKER LOCK

SHORT CIRCUIT SCHEDULE

POINT	DESCRIPTION	SHORT CIRCUIT (Isc SYM RMS)	MULTIPLIE R (M)	F FACTOR (F)	CONSTANT (C x n)	LINE-LINE VOLTAGE (V)	LENGTH OF RUN (L)	CURRENT AVAILABLE (lavailable)	XFMR RATED (kVA)	XF
X1	AVAILABLE AT XFMR SECONDARY	13,000						L I		-
X2	PANELBOARD 'L1'	10,632	0.818	0.223	7,292	208	15	13,000		

THREE (3) PHASE LINE TO LINE SHORT CIRCUIT CALCULATIONS:

lsc = (lavailable)*M M = 1/(1+F)

F = (1.73 x L x lavailable)/(C x n x EL-L)C = VALUES FOUND IN BUSSMANN SPD HANDBOOK FOR CONDUCTORS AND BUSWAY

EL-L = LINE TO LINE VOLTAGE L = LENGTH OF RUN IN FEET

n = NUMBER OF CONDUCTORS PER PHASE

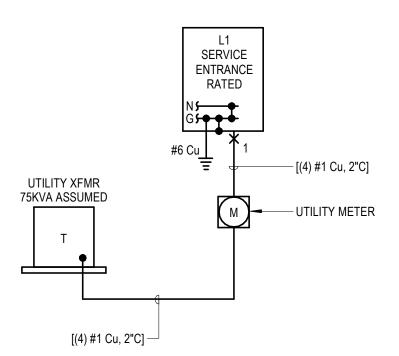
THE SAME CALCULATIONS FOR SINGLE (1) PHASE LINE TO LINE, F VALUE CHANGES: F = (2 x L x lavailable)/(C x n x EL-L)

F = (Isc,primary x Vprimary x 1.73 x %Z)/(100,000 x kVAxfmr)

5

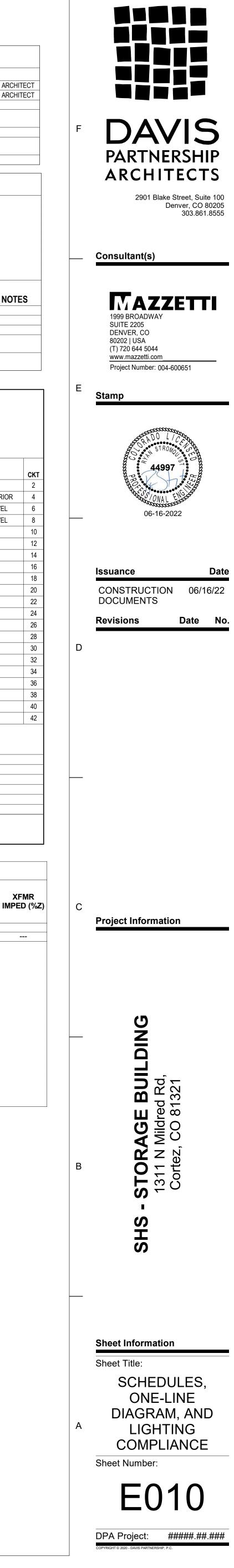
THE SAME CALCULATIONS FOR THE FAULT CURRENT AT THE SECONDARY SIDE OF THE TRANSFORMER, F VALUE CHANGES:

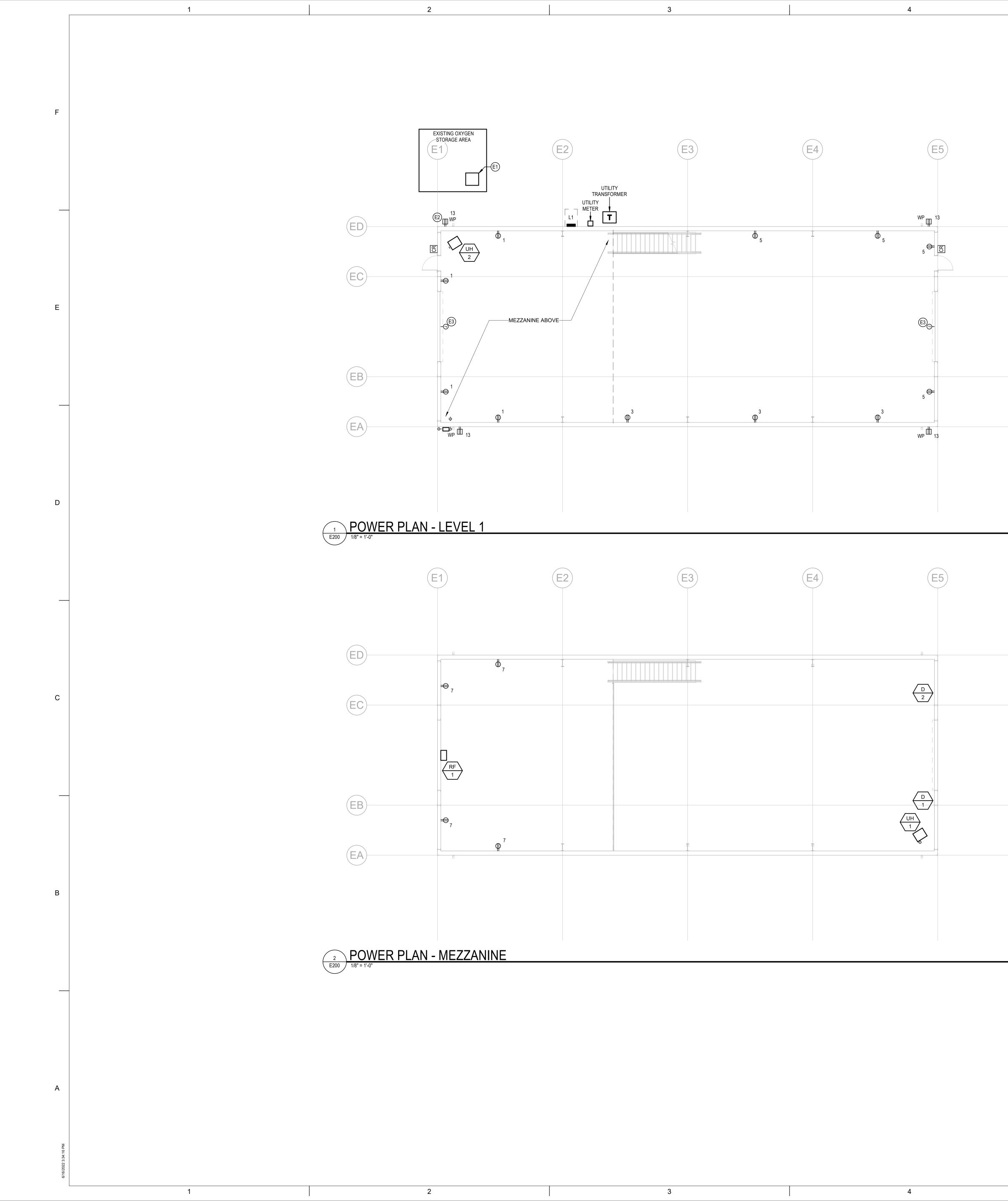
NOTE: SHORT CIRCUIT CALCULATIONS ARE BASED ON BUSSMAN POINT TO POINT METHOD



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SINGLE LINE DIAGRAM





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SHEET NOTES

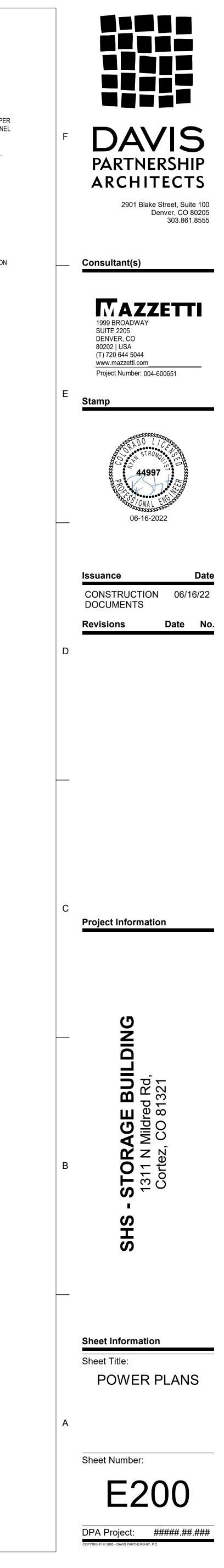
- A. ALL DEVICES SHOWN ARE NEW.
- B. COORDINATE EXACT LOCATION OF ALL MECHANICAL AND PLUMBING EQUIPMENT WITH MECHANICAL AND PLUMBING DRAWINGS PRIOR TO INSTALLATION. INSTALL PER MANUFACTURER RECOMMENDATIONS. REFER TO EQUIPMENT SCHEDULE AND PANEL SCHEDULES FOR MORE INFORMATION.
- C. CIRCUIT ALL DEVICES ON THIS SHEET TO PANEL "L1", UNLESS OTHERWISE NOTED. REFER TO PANEL SCHEDULES FOR MORE INFORMATION.
- D. WHERE EXPOSED CONDUIT IS NOTED, CONTRACTOR SHALL IDENTIFY ROUTING IN FIELD AND OBTAIN ARCHITECT'S APPROVAL OF ROUTING PRIOR TO ROUGH-IN. EXPOSED CONDUIT SHALL BE ROUTED TIGHT TO STRUCTURE.

KEYNOTES

 POTENTIAL LOCATION FOR POWER SERVICE TO BUILDING. ELECTRICAL CONTRACTOR TO COORDINATE WITH LOCAL UTILITY COMPANY FOR CONNECTION OF ELECTRICAL SERVICE.
 PROVIDE WEATHERPROOF RECEPTACLE AND COVER. TYPICAL OF ALL

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WEATHERPROOF RECEPTACLES (WP). E3 PROVIDE DEDICATED ELECTRICAL CIRCUIT TO POWER OVERHEAD DOOR. CONFIRM CIRCUIT SIZE WITH FINAL EQUIPMENT SELECTION.





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	E2		E	3) (E	E4) (E	5
S1EM L1-2 EM	S1 L1-2,z1	S1EM L1-2 EM			z1,z2 X1	E1 L1-4,z4
± ±	S1EM L1-2 EM S1 L1-2,z1	S1 L1-2,z1 S1EM L1-2 EM		LIGHTING SHOWN ON LEVEL ABOVE		E2 H L1-4,z4
S1 L1-2,z1	S1 L1-2,z1	S1 L1-2,z1				
/⊏1 1						

3

4

4

2

2

	E2			E3		E4		(E5)		
		z3 (m)								
S1 L1-6,z3	S1EM L1-6 EM	z3 (S1) X1 I S1EM L1-6 EM	S2EM L1-8 EM	S2EM L1-8 EM	S2EM L1-8 EM	S2 L1-8,z2	S2 L1-8,z2	S2EM L1-8 EM		
S1 L1-6,z3	S1EM L1-6 EM	S1 L1-6,z3	S2 L1-8,z2	↓ S2EM ↓ L1-8 ↓ EM	S2 L1-8,z2	S2 L1-8,z2	S2EM L1-8 EM	S2 L1-8,z2		
S1EM L1-6 EM	S1 L1-6,z2	S1 L1-6,z3	S2EM L1-8 EM	S2 L1-8,z2	S2 L1-8,z2	S2EM L1-8 EM	S2 L1-8,z2	S2EM L1-8 EM		
S1 L1-6,z3	S1EM L1-6 EM	S1 L1-6,z3	S2 L1-8,z2	S2EM L1-8 EM	S2 L1-8,z2	S2 L1-8,z2	S2EM L1-8 EM	S2 L1-8,z2		
ZZANIN	E									

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SHEET NOTES

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- A. REFER TO ARCHITECTURAL DRAWINGS FOR SCOPE OF WORK AREAS.
- B. ALL LUMINAIRES AND DEVICES SHOWN ARE NEW
- C. REFER TO LUMINAIRE SCHEDULE, LIGHTING CONTROL DEVICE SCHEDULE AND LIGHTING CONTROL ZONE SCHEDULE FOR MORE INFORMATION.
- D. CIRCUIT ALL NORMAL LUMINAIRES ON THIS SHEET TO PANEL 'L1', UNLESS OTHERWISE NOTED. REFER TO PANEL SCHEDULES FOR MORE INFORMATION.
- E. CIRCUIT ALL EXIT SIGNS TO ADJACENT LIFE SAFETY LIGHTING CIRCUIT AHEAD OF CONTROLS, UNLESS OTHERWISE NOTED.
- F. WHERE SHADED (EMERGENCY) LUMINAIRES ARE UN-SWITCHED THEY SHALL SERVE AS NIGHT LIGHTS AND BE LEFT ON AFTER HOURS FOR WAY FINDING. CIRCUIT AHEAD OF CONTROLS.
- G. WHERE EXPOSED CONDUIT IS NOTED, CONTRACTOR SHALL IDENTIFY ROUTING IN FIELD AND OBTAIN ARCHITECT'S APPROVAL OF ROUTING PRIOR TO ROUGH-IN. EXPOSED CONDUIT SHALL BE ROUTED TIGHT TO STRUCTURE.
- H. MINIMUM 0-10V CONTROL WIRE SIZE SHALL BE #16 AWG FOR RUNS LONGER THAN 400'. FOR RUNS SHORTER THAN 400', PROVIDE #18 AWG WIRE. PROVIDE 0-10V WIRING TO ALL DIMMABLE 0-10V LIGHTING FIXTURES.

