U.S. DEPARTMENT OF VETERANS AFFAIRS
ROYAL C. JOHNSON VETERANS MEMORIAL MEDICAL CENTER
Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance

BUILDING #5
Sioux Falls, South Dakota
VA #438-500
03/07/2019 - 100% BID SET RESUBMITTAL

GENERAL

5.GI001 COVER SHEET
5.GI002 GENERAL NOTES, LEGENDS AND ABBREVIATIONS
5.GI101 LIFE SAFETY PLAN AND CODE SUMMARY
5.GI102 OVERALL GROUND LEVEL LIFE SAFETY PLAN

CIVIL

5.CJ101 CIVIL GENERAL NOTES
5.CD101 EXISTING CONDITIONS & REMOVAL PLAN
5.CS101 DIMENSION PLAN
5.CG101 GRADING PLAN
5.CG102 ERSC PLAN
5.CU101 UTILITY PLAN
5.CK101 CIVIL DETAILS
5.CK102 CIVIL DETAILS

STRUCTURAL

5.SG001 STRUCTURAL GENERAL NOTES
5.SG002 IBC INSPECTION TABLES & COMMON ABBREVIATIONS
5.SG003 SNOW DRIFT & WIND UPLIFT PLANS
5.SB101 FOUNDATION & FLOOR SLAB PLAN
5.SB501 DETAILS
5.SB601 SCHEDULES & TYPICAL DETAILS
5.SF101 INTERSTITIAL FLOOR FRAMING PLAN
5.SF102 ROOF FRAMING PLAN
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5.AE311 WALL SECTIONS
5.AE312 WALL SECTIONS
5.AE401 INTERIOR ELEVATIONS
5.AE501 DETAILS
5.AE502 DETAILS
5.AE601 DOOR AND WINDOW SCHEDULES

FIRE PROTECTION

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MECHANICAL

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5.ET301 FIRST FLOOR ELECTRICAL COMMUNICATIONS PLAN
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5.EX200 LIGHTNING PROTECTION

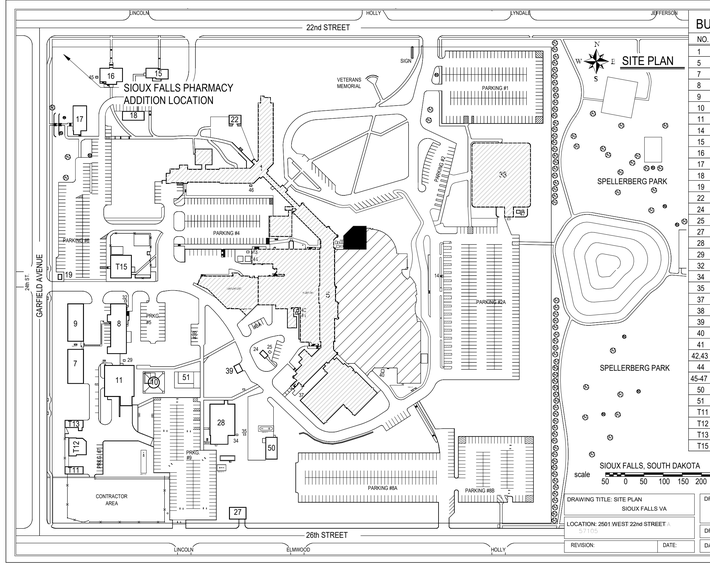
SYMBOLS LEGEND

BATT INSULATION
GYPSUM BOARD
EARTH
CONCRETE
RIGID INSULATION
EXISTING WALL
EXISTING CONSTRUCTION TO BE REMOVED
NEW CONSTRUCTION
WOOD ROUGH (CONTINUOUS)
WOOD ROUGH (SPACED)
PLYWOOD
BLOCK WALL/VENEER
ENGINEERED FILL
XX DRAWING TITLE XX=XX — DRAWING BLOCK TITLE

DETAIL INDICATOR (X / X-XX)
BUILDING SECTION INDICATOR (X / X-XX)
ELEVATION INDICATOR, EXTERIOR (X / X-XX)
ELEVATION INDICATOR, INTERIOR, (X / X-XX)
ELEVATION INDICATOR
CENTER LINE
NORTH ARROW (NORTH)

ROOM XXX — ROOM TAG
101 — DOOR TAG
WB — WINDOW TAG
A10 — INTERIOR PARTITION TYPES
? — FURNITURE, FIXTURE, & EQUIPMENT INDICATOR
— KEYNOTE TAG
1 — REVISION TAG
CG — CORNER GUARD
CJ — CONTROL JOINT
FEC — FIRE EXTINGUISHER CABINET
FE — FIRE EXTINGUISHER
CR PP — CARD READER
BREAK LINE
DIMENSION LINE

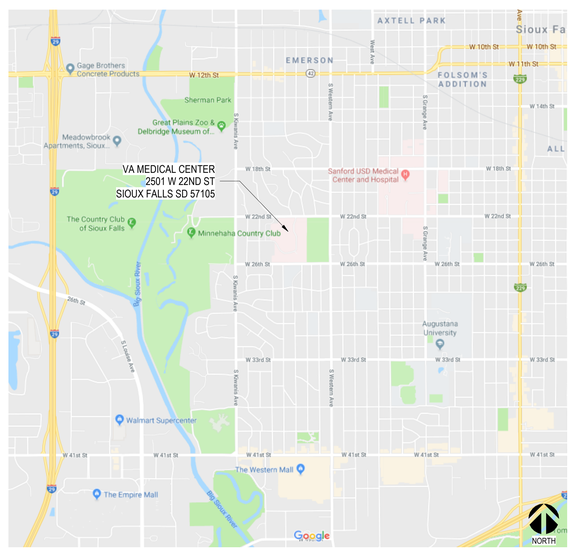
LOCATION MAP



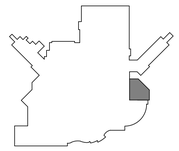
BUILDING SCHEDULE

NO.	BUILDINGS
1	HR/MH BUILDING
5	MAIN HOSPITAL
7	UTILITY SHOPS
8	LAUNDRY
9	STATION GARAGE
10	WATER TANK
11	BOILER PLANT
14	FLAGPOLE
15	UNION BUILDING
16	HBPC/LEGAL BUILDING
17	ENGINEERING BUILDING
18	GARAGE
19	GAS METER HOUSE
22	RECREATION SHELTER
24	AUXILIARY POWER UNIT
25	PAD MOUNT TRANSFORMER
27	ELECTRICAL SWITCHGEAR
28	RESEARCH BUILDING
29	PAD MOUNT TRANSFORMER
32	PAD MOUNT TRANSFORMER
34	PAD MOUNT TRANSFORMER
35	POWER J-BOX #1
37	A/C PAD - I.C.U.
38	REGIONAL OFFICE BUILDING
39	OXYGEN STORAGE PAD
40	PAD MOUNT TRANSFORMER
41	PAD MOUNT TRANSFORMER
42,43	PAD MOUNT TRANSFORMER
44	COOLING TOWER PAD
45-47	PAD MOUNT TRANSFORMER
50	GENERATOR BUILDING
51	EMERGENCY MANAGEMENT BUILDING
T11	STORAGE BUILDING
T12	STORAGE BUILDING
T13	STORAGE BUILDING
T15	CHILD DAYCARE

VICINITY MAP



KEYPLAN



NTS — NORTH

2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018
Revision#	Description	Date:

C:\...SGA Revit Local\181906_VA_PHARM_A19_Final_donisa.nelson.rvt

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STONE GROUP ARCHITECTS

STAMP

REGISTERED ARCHITECT — TODD STONE — SOUTH DAKOTA — 3-7-19

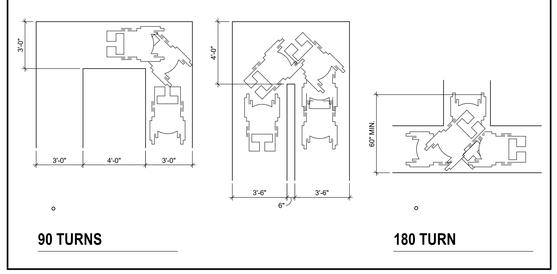
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: COVER SHEET
Phase: 100% BID SET RESUBMITTAL
Approved:
Project Title: Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number: VA #438-500 SGA #181906
Building Number: 5
Location: Sioux Falls, South Dakota
Issue Date: 03/07/2019
Checked: TRS
Drawn: DAN
Drawing Number: 5.GI001

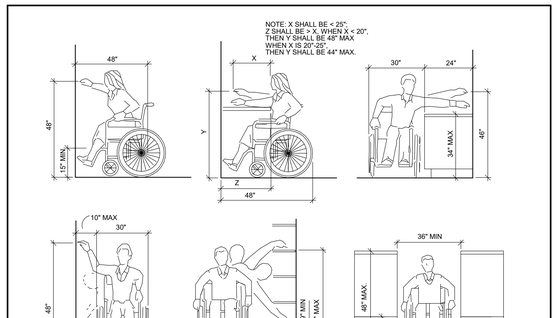
FULLY SPRINKLERED

VA FORM 08 - 6231



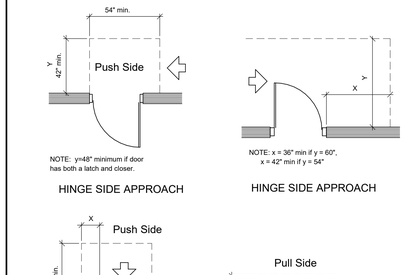
90 TURNS

180 TURN



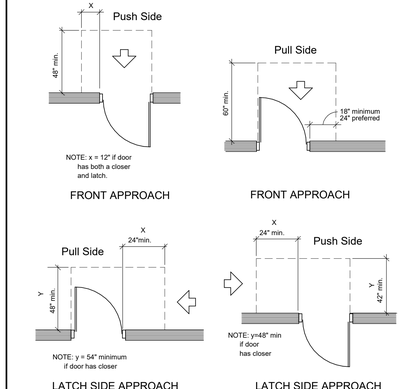
GENERAL REACH DIMENSIONS

NO SCALE



HINGE SIDE APPROACH

HINGE SIDE APPROACH



FRONT APPROACH

FRONT APPROACH

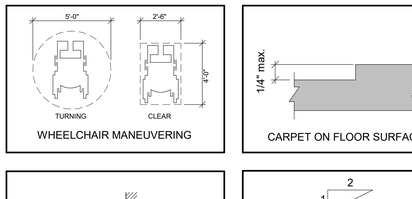
LATCH SIDE APPROACH

LATCH SIDE APPROACH

MANEUVERING CLEARANCES AT DOORS

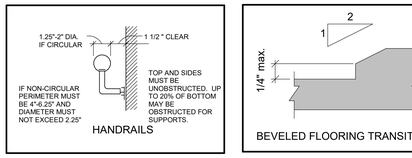
LAVATORY DIMENSIONS

NO SCALE



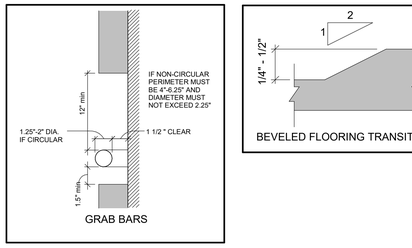
WHEELCHAIR MANEUVERING

CARPET ON FLOOR SURFACES



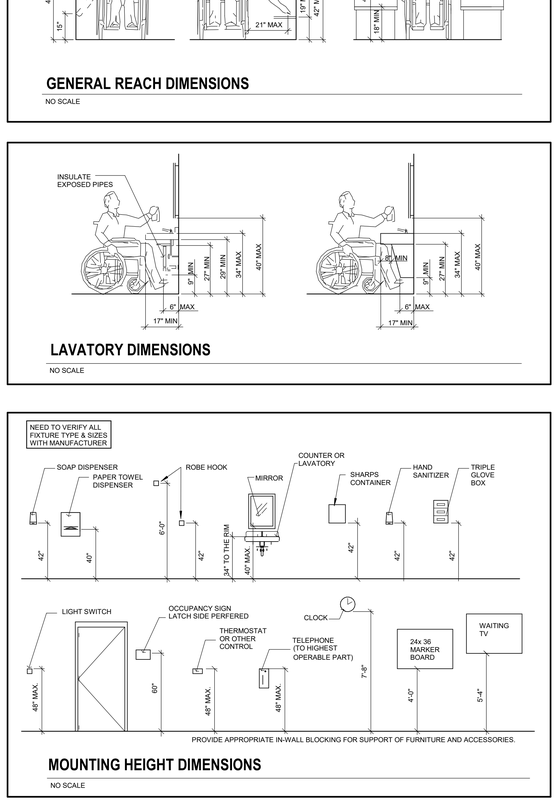
HANDRAILS

BEVELED FLOORING TRANSITIONS



GRAB BARS

BEVELED FLOORING TRANSITIONS



MOUNTING HEIGHT DIMENSIONS

NO SCALE

COMMON ABBREVIATIONS

SYMBOLS USED AS ABBREVIATIONS:

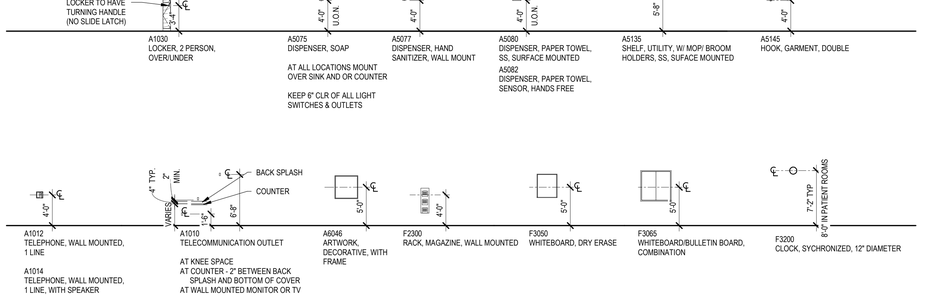
&	AND
L	ANGLE
LL	DOUBLE ANGLE
@	AT
d	PENNEY
#	POUND OR NUMBER
Ø	ROUND OR DIAMETER

ABBREVIATIONS:

A/E	ARCHITECT/ENGINEER
AB	ANCHOR BOLT/ROD
ABV	ABOVE
AC	ASPHALTIC CONCRETE/AIR CONDITIONER
ACC	ACCESSIBLE
ACM	ALUMINUM COMPOSITE MATERIAL
ACOUS	ACOUSTICAL
ACT	ACOUSTICAL CEILING TILE
ADA	AMERICANS WITH DISABILITIES ACT
ADD	ADDENDUM
ADH	ADHESIVE
ADJ	ADJUSTABLE, ADJACENT, ADJOINING
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AHJ	AUTHORITY HAVING JURISDICTION
ALT	ALTERNATE
ALUM	ALUMINUM
ANSI	AMERICANS NATIONAL STANDARDS INSTITUTE
APC	ACOUSTICAL PANEL CEILING
APPROX	APPROXIMATE
ARCH	ARCHITECT (URAL)
ASI	ARCHITECTURAL SUPPLEMENTAL INFORMATION
BD	BOARD
BEV	BEVELED
BFF	BELOW FINISH FLOOR
BL	BRICK LEDGE
BLDG	BUILDING
BLKG	BLOCK (ING)
BM	BEAM
BOT	BOTTOM
BO	BOTTOM OF
BOC	BOTTOM OF CONCRETE
BOF	BOTTOM OF FOOTING
BRG	BRAING
BRK	BRICK
BSMT	BASEMENT
BTWN	BETWEEN
BUR	BUILT-UP ROOFING
C	CHANNEL/CELSIUS
CAB	CABINET
CB	CERAMIC BASE
CC	CONTRACTOR
FURNISHED/CONTRACTOR	INSTALLED
CD	CONSTRUCTION DOCUMENTS
CEM	CEMENT
CF	CUBIC FEET OR FOOT
CG	CORNER GUARD
CIPC	CAST-IN-PLACE CONCRETE
CJ	CONTROL/CONSTRUCTION JOINT
CL	CENTER LINE
CLG	CEILING
CLKG	CAULKING
CLR	CLEAR, CLEARANCE
CMU	CONCRETE MASONRY UNIT
CO	CHANGE ORDER/CLEAN OUT
COL	COLUMN
COMB	COMBINATION
COMP	COMPOSITE/COMPOSITION
CONC	CONCRETE
CONN	CONNECT (ION)
CONST	CONSTRUCTION
CONT	CONTINUOUS, CONTINUE
CONTR	CONTRACT (OR)
COORD	COORDINATE
CORR	CORRUGATED/CORRIDOR
CPT	CARPET
CPPT	CARPET TILE
CSMT	CASEMENT
CT	CERAMIC TILE
CTB	CARPET TILE BASE
CTR	CENTER
D	DEPTH
DBL	DOUBLE
DEMO	DEMOLITION, DEMOLISH
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIV	DIVIDE, DIVISION
DISP	DISPENSER
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DW	DISHWASHER
DWG	DRAWING (S)
DWR	DRAWER
DWTR	DUMBWAITER
(E)	EXISTING
E	EAST
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
ENL	ENLARGED
EMER	EMERGENCY
ENGR	ENGINEER
EOP	EDGE OF PAVEMENT
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EPS	EXPANDED POLYSTYRENE BOARD
EPT	EPOXY PAINT
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
EST	ESTIMATE
ETC	ETCETERA
ETR	EXISTING TO REMAIN
EW	EACH WAY
EXIST	EXISTING
EXC	EXCAVATE/EXCAVATION
EXH	EXHAUST
EXP	EXPANSION/EXPOSED
EXT	EXTERIOR
EWC	ELECTRIC WATER COOLER
FA	FIRE ALARM
FAB	FABRICATE/FABRICATION
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDTN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISHED FLOOR
FFE	FINISH FLOOR ELEVATION
FIN	FINISH (ED)
FLOUR	FLUORESCENT
FLR	FLOOR (ING)
FO	FACE OF
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOF	FACE OF FINISH
FR	FIRE RESISTANT/FRAME
FRP	FIBERGLASS REINFORCED PANEL
FS	FLOOR SINK
FT	FOOT, FEET/FIRE TREATED
FTG	FOOTING
FURG	FURRING
FUT	FUTURE
GA	GAGE, GAUGE
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GI	GALVANIZED IRON
GL	GLASS
GLU LAM	GLUE LAMINATED (BEAM)
GWB	GYPSUM WALL BOARD
GYP	GYPSUM
HB	HOSE BIB
HC	HANDICAP / HOLLOW CORE
HD	HEAVY DUTY
HDBD	HARDBOARD
HDR	HEADER
HDWD	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
HVAC	HEATING, VENTILATION, AIR-CONDITIONING
IBC	INTERNATIONAL BUILDING CODE
ICC	INTERNATIONAL CODE COUNCIL
ID	INSIDE DIAMETER/DIMENSION
IFC	INTERNATIONAL FIRE CODE
IN	INCH(ES)
INCL	INCLUDE (D), INCLUDING
INFO	INFORMATION
INSP	INSPECTION
INSTR	INSTRUCTION(S)
INSUL	INSULATE (D), INSULATION
INT	INTERIOR
JAN	JANITOR
JST	JOIST
JT	JOINT
KCJ	KEYED CONSTRUCTION JOINT
KO	KNOCK OUT
L	LENGTH / ANGLE
LAB	LABORATORY
LAM	LAMINATE (ED)
LAV	LAVATORY
LB	POUND
LF	LINEAR FEET
LH	LEFT HAND
LKR	LOCKER
LOC	LOCATION
LONG	LONGITUDINAL
LT	LIGHT
LVR	LOUVER
LVT	LUXURY VINYL TILE
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MC	MEDICINE CABINET
MECH	MECHANICAL
MEMB	MEMBRANE
MEZZ	MEZZANINE
MFR	MANUFACTURE (R)
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MR	MIRROR
MTL	METAL
(N)	NEW
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OPP	OPPOSITE
OPG	OPENING
ORIG	ORIGINAL
ORD	OVERFLOW ROOF DRAIN
OZ	OUNCE
PAR	PARALLEL
PCF	POUNDS PER CUBIC FOOT
PED	PEDESTAL
PERF	PERFORATED
PERP	PERPENDICULAR
PL	PLATE
PLAM	PLASTIC LAMINATE
PLYWD	PLYWOOD
PNL	PANEL
PR	PAIR/PROPOSAL REQUEST
PRCST	PRECAST CONCRETE
PREFAB	PREFABRICATE
PSI	POUNDS PER SQUARE INCH
PSF	POUNDS PER SQUARE FOOT
PT	PAINT / PRESSURE TREATED
PTD	PAPER TOWEL DISPENSER
PTN	PARTITION
PTR	PAPER TOWEL RECEPTACLE
PVC	POLYVINYL CHLORIDE
QT	QUARRY TILE
R	RADIUS/RISER
RB	RUBBER BASE
RBR	RUBBER
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REBAR	REINFORCING BAR
REC	RECESSED
REF	REFERENCE/REFRIGERATOR
REINF	REINFORCE (D), (ING), (MENT)
REQ	REQUIRE
REQD	REQUIRED
RES	RESILIENT FLOORING
RET	RETURN
REV	REVISION (S), REVISED
RFI	REQUEST FOR INFORMATION
RFP	REQUEST FOR PROPOSAL
RH	RIGHT HAND
RL	RIDGE LINE
RM	ROOM
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RVS	REVERSE (SIDE)
RWL	RAIN WATER LEADER
S	SOUTH
SB	SPLASH BLOCK
SC	SOLID CORE
SCHED	SCHEDULE
SCR	SHOWER CURTAIN ROD
SCT	SECTION
SD	SOAP DISPENSER
SF	SQUARE FOOT
SHT	SHEET
SHTHG	SHEATHING
SIM	SIMILAR
SLDG	SLIDING
SLNT	SEALANT
SND	SANITARY NAPKIN DISPENSER
SNX	SANITARY NAPKIN DISPOSAL
SOG	SLAB ON GRADE
SPEC	SPECIFICATION (S)
SQ	SQUARE
SSM	SOLID SURFACE MATERIAL
SST	STAINLESS STEEL
ST	STREET
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SV	SHEET VINYL
SW	SHEARWALL
SYM	SYMMETRICAL
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TB	TOWEL BAR
TBD	TO BE DETERMINED
TEMP	TEMPORARY/TEMPERED
TER	TERRAZZO
TFE	TOP FOOTING ELEVATION
THD	THREAD (ED) (S)
THK	THICKNESS
THRU	THROUGH
TKBD	TACKBOARD
TL	TILE
TO	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE/CURB
TOD	TOP OF DECK
TOF	TOP OF FOOTING (FOUNDATION)
TOM	TOP OF MASONRY
TOP	TOP OF PIER
TOJ	TOP OF JOIST
TOS	TOP OF SLAB/STEEL
TOW	TOP OF WALL
TPD	TOILET PAPER DISPENSER
TPO	THERMOPLASTIC POLYOLEFIN
TPTN	TOILET PARTITION
TRANS	TRANSVERSE
TS	TUBE STEEL
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
UTIL	UTILITY
V	SHEAR
VAR	VARIES
VB	VAPOR BARRIER
VC	VA FURNISHED / CONTRACTOR INSTALLED
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VR	VAPOR RETARDER
VV	VA FURNISHED / VA INSTALLED
VWC	VINYL WALL COVERING
W	WEST/WIDTH
W/	WITH
W/O	WITHOUT
WA	WEDGE ANCHOR
WB	WOOD BASE
WC	WATER CLOSET
WD	WOOD/WOODWORK
WDW	WINDOW
WF (W)	WIDE FLANGE
WG	WALL GUARD
WH	WATER HEATER
WI	WROUGHT IRON
WL	WIND LOAD
WP	WATERPROOF (ING)
WR	WATER RESISTANT
WSCT	WAINSCOT
WT	WEIGHT/WINDOW TREATMENT
WWF	WELDED WIRE FABRIC

MEDICAL ABBREVIATIONS

ACPH	AIR CHANGES PER HOUR
BSC	BIOLOGICAL SAFETY CABINET
CACI	COMPUNDING ASEPTIC CONTAINER ISOLATOR
C-PEC	CONTAINMENT PRIMARY ENGINEERING CONTROL
C-SEC	CONTAINMENT SECONDARY ENGINEERING CONTROL
EPA	ENVIRONMENTAL PROTECTION AGENCY
HD	HAZARDOUS DRUG
HEPA	HIGH-EFFICIENCY PARTICULATE AIR
IV	INTRAVENEOUS
LAFW	LAMINAR AIRFLOW WORKBENCH
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINSTRATION
PPE	PERSONAL PROTECTIVE EQUIPMENT
SOP	STANDARD OPERATING PROCEDURE
UPS	UNINTERUPTED POWER SOURCE



EQUIPMENT MOUNTING DIAGRAM

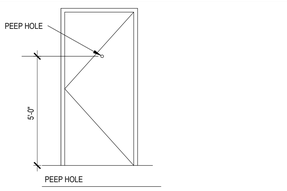
1/8" = 1'-0"

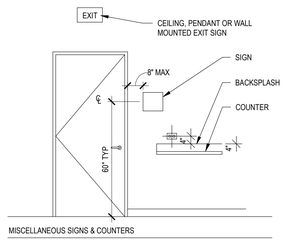
PROJECT GENERAL NOTES

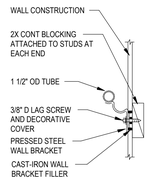
1. CONTRACTOR IS NOT AUTHORIZED TO SCALE CONSTRUCTION DOCUMENTS. ARCHITECT IS TO BE NOTIFIED IN THE EVENT A DISCREPANCY IS FOUND IN EITHER SPECIFICATIONS OR CONTRACT DOCUMENTS AT THE EARLIEST PRACTICAL OPPORTUNITY.
2. GENERAL CONTRACTOR SHALL OBSERVE ALL REGULATIONS IMPOSED BY GOVERNING BODIES.
3. CONSTRUCTION SHALL PROCEED IN AN ORDERLY AND CONTINUOUS FASHION IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODES AND ALL OTHER APPLICABLE CODES.
4. THE CONTRACTOR SHALL CONTAIN ALL CONSTRUCTION ACTIVITY, INCLUDING STORAGE OF MATERIAL AND EQUIPMENT, WITHIN THE CONSTRUCTION LIMITS. AT ALL TIMES BEING RESPONSIBLE FOR AND ABIDING BY RULES AND REGULATIONS OF THE OWNER.
5. GENERAL CONTRACTOR TO BE RESPONSIBLE FOR REPAIRING ANY AND ALL SURFACES DAMAGED BY HIMSELF OR SUBCONTRACTORS UNDER HIS CONTROL. REPAIRS ARE TO MATCH EXISTING MATERIALS AND MUST BE ACCEPTABLE TO OWNER.
6. ADEQUATELY PATCH/REPAIR TO MATCH ADJACENT CONSTRUCTION, ALL BUILDING STRUCTURES, COMPONENTS, AND UTILITIES WHICH ARE DISTURBED AND REQUIRE REPAIR AS A RESULT OF WORK PERFORMED UNDER THIS CONTRACT.
7. ALL FLOOR TRANSITIONS BETWEEN DIFFERENT MATERIALS SHALL BE SMOOTH AND FLUSH (MAXIMUM SLOPE = 1/8" PER FOOT).
8. GENERAL CONTRACTOR SHALL REMOVE ALL CONSTRUCTION DEBRIS FROM JOBSITE. ALL CONSTRUCTION DEBRIS SHALL BE CONTAINED INSIDE CONSTRUCTION LIMITS.
9. ALL WALLS WITH ITEMS SUCH AS GRAB BARS, TOILET ACCESSORIES, WOOD TRIM, SHELVING, CASEWORK, ETC. SHALL BE REINFORCED WITH CONCEALED, FIRE TREATED WOOD BLOCKING OR METAL STUD BLOCKING. (GENERAL CONTRACTOR TO INSTALL BLOCKING TYP.)
10. BUILDING 1 WILL REMAIN IN PARTIAL OCCUPANCY THROUGHOUT THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL TAKE EVERY NECESSARY PRECAUTION TO ENSURE THE UNINTERRUPTED OPERATION OF THE FACILITY. STAFF, PATIENTS AND VISITORS. DISRUPTION TO ADJACENT DEPARTMENTS AS WELL AS DEPARTMENTS ON FLOORS ABOVE OR BELOW SHALL BE COORDINATED WITH THE FACILITY CONTRACT OFFICER. THE CONTRACTOR SHALL COORDINATE ALL WORK, CONSTRUCTION, PATHWAYS, EQUIPMENT USAGE, AND UTILITY INTERRUPTION WITH THE OWNER.
11. CONTRACTOR TO EXERCISE ALL PRECAUTIONS TO PROVIDE FOR STAFF, PATIENTS, VISITORS, AND WORKMEN'S SAFETY DURING THE PERFORMANCE OF THIS CONTRACT PER EPA, OSHA, AND OTHER APPLICABLE CODES, STANDARDS, AND REGULATIONS.
12. THE CONTRACTOR SHALL MAINTAIN & KEEP BARRIER FREE THE EXISTING MEANS OF EGRESS.
13. ALL GYPSUM BOARD TO BE MOISTURE/MOLD RESISTANT TYPE X.
14. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF TEMPORARY PARTITIONS AND TEMPORARY VENTILATION SYSTEMS AS REQUIRED TO PREVENT THE SPREAD OF DUST FROM THE CONSTRUCTION AREA TO OCCUPIED AREAS OF THE BUILDING. OCCUPIED AREAS SHALL REMAIN DUST FREE THROUGHOUT THE CONSTRUCTION. THE CONTRACTOR SHALL MAINTAIN THE AFFECTED AREAS OF THE BUILDING (INCLUDING MATERIAL TRANSPORT ROUTES) CLEAN AND DUST FREE.
15. ALL WOOD USED IN WALL CONSTRUCTION SHALL BE FIRE-RETARDANT-TREATED LUMBER.
16. ALL WRITTEN CORRESPONDENCE WILL BE TRANSMITTED FROM SUBCONTRACTOR THROUGH GENERAL CONTRACTOR THROUGH ARCHITECT TO OWNER. ALL PARTIES CORRESPONDING AGREE TO RECEIVE WRITTEN AND SIGNED COPIES OF SUCH. NO VERBAL AGREEMENTS AFFECTING COST OR ALTERNATIVE CONSTRUCTION METHODS AND AGREEMENTS WILL BE CONSIDERED VALID OR BINDING, AND ARE THEREFORE, DISALLOWED.
17. GENERAL CONTRACTOR SHALL COMPLY WITH ALL DIRECTIVES OF THE OWNER. IF CONFLICTS BETWEEN DRAWINGS, SPECIFICATIONS AND REQUIREMENTS OF BUILDING OWNER AND/OR OPERATORS ARISE, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY.
18. THE HVAC, PLUMBING AND ELECTRICAL CONTRACTORS SHALL COORDINATE THEIR WORK WITH THE WORK OF OTHER TRADES TO ASSURE THAT THE WORK CAN BE INSTALLED IN A WORKMAN-LIKE MANNER. EACH CONTRACTOR SHALL BE EXPECTED TO COOPERATE WITH OTHER CONTRACTORS IN THE PLACEMENT OF WORK TO AVOID CONFLICTS AND MAINTAIN JOB PROGRESS.
19. IT IS THE INTENT OF THESE DRAWINGS THAT A COMPLETE JOB IS TO BE ACCOMPLISHED IN PREPARING THE BID. THE BIDDER SHALL MAKE ALLOWANCES FOR DETAILS WHICH MIGHT HAVE BEEN INADVERTENTLY OMITTED FROM THE DRAWINGS.
20. ALL EXISTING DUCTWORK, ELECTRICAL OR PIPING IS NOT NECESSARILY SHOWN ON THE DRAWINGS.
21. BEFORE CONTRACTOR(S) BID THE JOB, IT IS IMPERATIVE THEY VISIT THE JOBSITE AND FIELD VERIFY THE EXACT LOCATION OF ALL EXISTING EQUIPMENT, DUCTWORK, ETC. IT WILL BE PART OF THE CONTRACTOR'S RESPONSIBILITY TO DESIGN AND RELOCATE ANY EXISTING OBSTACLES WHICH WILL INTERFERE WITH THE CONTRACTOR'S ABILITY TO INSTALL ALL NEW OR RELOCATED WORK ON HIS CONTRACT.

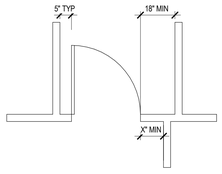
CONTRACTOR NOTES

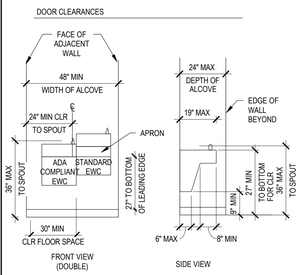
1. ALL EXISTING DUCTWORK, ELECTRICAL OR PIPING IS NOT NECESSARILY SHOWN ON THE DRAWINGS.
2. BEFORE CONTRACTOR(S) BID THE JOB, IT IS IMPERATIVE THEY VISIT THE JOBSITE AND FIELD VERIFY THE EXACT LOCATION OF ALL EXISTING EQUIPMENT, DUCTWORK, ETC. IT WILL BE PART OF THE CONTRACTOR'S RESPONSIBILITY AND COST TO ENGINEER AND RELOCATE ANY EXISTING OBSTACLES WHICH WILL INTERFERE WITH THE CONTRACTOR'S ABILITY TO INSTALL ALL NEW OR RELOCATED WORK ON HIS CONTRACT.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD AND NOTIFY PROJECT ENGINEER OF ALL DISCREPANCIES IF ANY, FOUND PRIOR TO PLACEMENT OF ANY COMPONENTS
4. THE CONTRACTOR WILL TAKE ALL NECESSARY PRECAUTIONS INCLUDING THE BUILDING AND MAINTENANCE OF DUST TIGHT PARTITIONS, DAILY VACUUMING, SWEEPING, AND PROVISION OF CLEAN FLOOR MATS AT THE PROJECT ENTRANCES, TO PREVENT THE INFILTRATION OF DIRT AND DUST FROM THE CONSTRUCTION AREAS INTO THE OWNER OCCUPIED AREAS.
5. PATCH ALL FINISHES WHERE DISTURBED BY THE WORK AND WHERE UNFINISHED SURFACES HAVE BEEN EXPOSED BY DEMOLITION. PATCHING MUST MATCH ADJACENT MATERIALS, COLORS, AND FINISHES. WALL SURFACES THAT ARE PATCHED SHALL HAVE THE FINISHES (PAINT, VINYL WALL COVERING, ETC.) REPLACED FROM CORNER TO CORNER AND FLOOR TO CEILING.
6. UNLESS OTHERWISE INDICATED INSTALL ALL NEW FRAMES AND PARTITIONS TO MATCH SURROUNDING. NEW HOLLOW METAL DOORS SHALL BE PAINTED SAME COLOR AS FRAMES. EXISTING PARTITIONS RECEIVING NEW DOOR FRAMES THAT HAVE VINYL WALL COVERING (VWC) SHALL HAVE THE VWC COMPLETELY REMOVED AND REPLACED WITH NEW VWC OF MATCHING TEXTURE AND COLOR
7. PAINT ALL EXPOSED NEW AND EXISTING PIPING, CONDUIT, WIRE MOLD, ELECTRICAL PANELS, ACCESS PANELS, ETC.,TO MATCH WALL FINISH UNLESS OTHERWISE NOTED.
8. CORRIDOR WALLS AND PLUMBING PARTITIONS SHALL BE CONSIDERED 1 HOUR FIRE RATED WALLS AND NEW OR EXISTING PENETRATIONS MUST BE SEALED ACCORDINGLY WITH APPROVED FIRESTOPPING MATERIAL THE SAME DAY THE PENETRATION IS MADE. IN DISCONNECTED AREAS, ALL FLOOR SLABS, VERTICAL SHAFTS AND STAIRWELLS SHALL BE CONSIDERED 2 HOUR RATED PARTITIONS AND BE SEALED ACCORDINGLY. THE MANNER LISTED SHALL BE COORDINATED WITH THE FACILITY CONTRACT OFFICER. THE CONTRACTOR SHALL COORDINATE ALL WORK, CONSTRUCTION, PATHWAYS, EQUIPMENT USAGE, AND UTILITY INTERRUPTION WITH THE OWNER.
9. ALL NEW VERTICAL AND HORIZONTAL DUCTS, PIPES, CONDUITS, ETC.,IN FINISHED ROOMS OR AREAS THROUGHOUT BUILDING, NOT ENCASED IN MASONRY OR CONCRETE CONSTRUCTION, SHALL BE FURRED IN. THE FURRING FINISHED TO MATCH THE ROOM FINISH.
10. WHENEVER EXISTING EQUIPMENT, PIPING, DUCTS, ETC., ARE REQUIRED TO BE REMOVED, SUCH REMOVAL SHALL INCLUDE ALL HANGERS, SUPPORTS, FOUNDATIONS, ETC., UNLESS NOTED OTHERWISE. AFTER REMOVAL; FLOORS, WALLS, AND CEILINGS SHALL BE FINISHED TO MATCH ADJOINING SURFACES.
11. UTILITY WORK THAT WILL REQUIRE A SHUTDOWN OF EXISTING SERVICE(S) WILL BE DONE AFTER NORMAL WORKING HOURS (NIGHTS, WEEKENDS, HOLIDAYS, ETC.) AT NO ADDITIONAL COST TO THE GOVERNMENT. WORK MUST BE SCHEDULED WITH THE V.A. PROJECT ENGINEER.
12. WORK THAT MUST OCCUR IN OCCUPIED AREAS, SUCH AS PUBLIC CORRIDORS, OF THE MEDICAL CENTER OR DISRUPT A MEDICAL CENTER FUNCTION WILL BE DONE AT TIMES OTHER THAN NORMAL WORKING HOURS (NIGHTS, WEEKENDS, HOLIDAYS, ETC.) AT NO ADDITIONAL COST TO THE GOVERNMENT. WORK MUST BE SCHEDULED WITH THE V.A. PROJECT ENGINEER.
13. ALL ELECTRICAL CIRCUITRY TO BE CONCEALED UNLESS OTHERWISE SPECIFIED. CIRCUITING FOR ELECTRIC DOOR HOLD OPENS IN MASONRY WALLS SHALL BE SURFACE RACEWAY.
14. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS TO ELIMINATE CONFLICTS AND/OR INTERFERENCES. THE CONTRACTOR SHALL PROVIDE ALL OFFSETS, FITTINGS, TRANSITIONS, EXTENSIONS, ETC., REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM.
15. DRAWINGS ARE DIAGRAMMATIC AND SHOW ONLY THE GENERAL ARRANGEMENT OF EACH SYSTEM. BECAUSE OF SMALL SCALE OF DRAWINGS IT IS NOT POSSIBLE TO SHOW OR INDICATE ALL BRANCHES, OFFSETS, FITTINGS, BOXES, AND ACCESSORIES WHICH MAY BE REQUIRED. CONTRACTOR MUST CAREFULLY INVESTIGATE STRUCTURAL AND FINISH CONDITIONS AFFECTING ALL WORK, FURNISHING SUCH FITTINGS, TRAPS, VALVES, BOXES, ACCESSORIES, ETC., AS MAY BE REQUIRED.
16. LOCATIONS OF NEW EQUIPMENT, PIPING, AND ASSOCIATED ITEMS SHOWN ON THE DRAWINGS ARE SCHEMATIC ONLY. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND ELEVATION FOR ALL WORK, INCLUDING CONNECTIONS TO EXISTING WORK. ALL OFFSETS, FITTINGS, TRANSITIONS, EXTENSIONS, ETC., REQUIRED FOR A COMPLETE AND FUNCTIONAL SYSTEM SHALL BE PROVIDED AT NO ADDITIONAL COST.
17. ALL EXISTING DUCTWORK, ELECTRICAL OR MECHANICAL PIPING, CABLE TRAYS, ETC., IS NOT NECESSARILY SHOWN ON THE DRAWINGS. BEFORE CONTRACTOR PLACES A BID IT IS IMPERATIVE THEY VISIT THE JOBSITE AND FIELD VERIFY THE EXACT LOCATION OF ALL EXISTING EQUIPMENT, DUCTWORK, PIPING, ETC. IT WILL BE PART OF THE CONTRACTOR'S RESPONSIBILITY AND THE CONTRACTOR WILL BEAR THE COST TO ENGINEER AND RELOCATE ANY EXISTING OBSTACLES WHICH WILL INTERFERE WITH THE CONTRACTOR'S ABILITY TO INSTALL ALL NEW OR RELOCATED WORK IN THIS PROJECT.
18. CONTRACTOR SHALL NOT INSTALL CONDUIT, PIPING, LIGHTING, OR OTHER OBSTRUCTIONS UNDER OR ADJACENT TO HVAC EQUIPMENT THAT WILL ELIMINATE OR OBSTRUCT ACCESS TO COILS, MOTORS, VALVES, SWITCHES, PANELS, ETC.
19. BEFORE THE CONTRACTOR BEGINS WORK HE SHALL RECOR

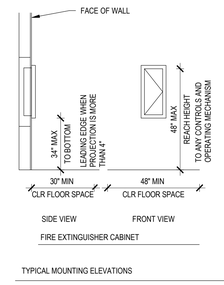






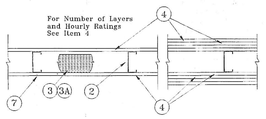






F1 ACCESSIBILITY DETAILS
NTS

Design No. U419
Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr (See Items 3 & 4)



1. **Floor and Ceiling Runners —** (Not shown) — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.
2. **Steel Studs —** Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width as indicated under Item 4, min 1-1/4 in. flanges and 1/4 in. return, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
3. **Batts and Blankets* —** (Required as indicated under Item 4) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 4. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.

3A. **Batts and Blankets* —** (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See **Batts and Blankets (BKNV or BZJZ) Categories** for names of Classified companies.

4. **Gypsum Board* —** Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Wallboard Protection on Each Side of Wall

Rating	Min Stud Depth	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 3)
1	3-1/2	1 layer, 5/8 in. thick	Optional
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	2 layers, 3/4 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	2-1/2	2 layers, 3/4 in. thick	2 in.

CANADIAN GYPSUM COMPANY—1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Type IP-X3, ULTRACODE, ULTRACODE SHC or ULTRACODE WRC.

UNITED STATES GYPSUM CO—1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SHX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR; 3/4 in. thick Type IP-X3, ULTRACODE, ULTRACODE SHC or ULTRACODE WRC.

USG MEXICO S A DE C V—1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Type IP-X3, ULTRACODE, ULTRACODE SHC or ULTRACODE WRC.

4A. **Gypsum Board* —** (As an alternate to Item 4) — 5/8 in. thick, 2 ft. wide, tongue and groove edge, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 5. Joint covering (Item 7) not required.
CANADIAN GYPSUM COMPANY — Type SHX.
UNITED STATES GYPSUM CO —Type SHX.
USG MEXICO S A DE C V — Type SHX.

5. **Fasteners —** (Not shown) — Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 6). **Single layer systems:** 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. Two layer systems: First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer.**Three-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. **Four-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

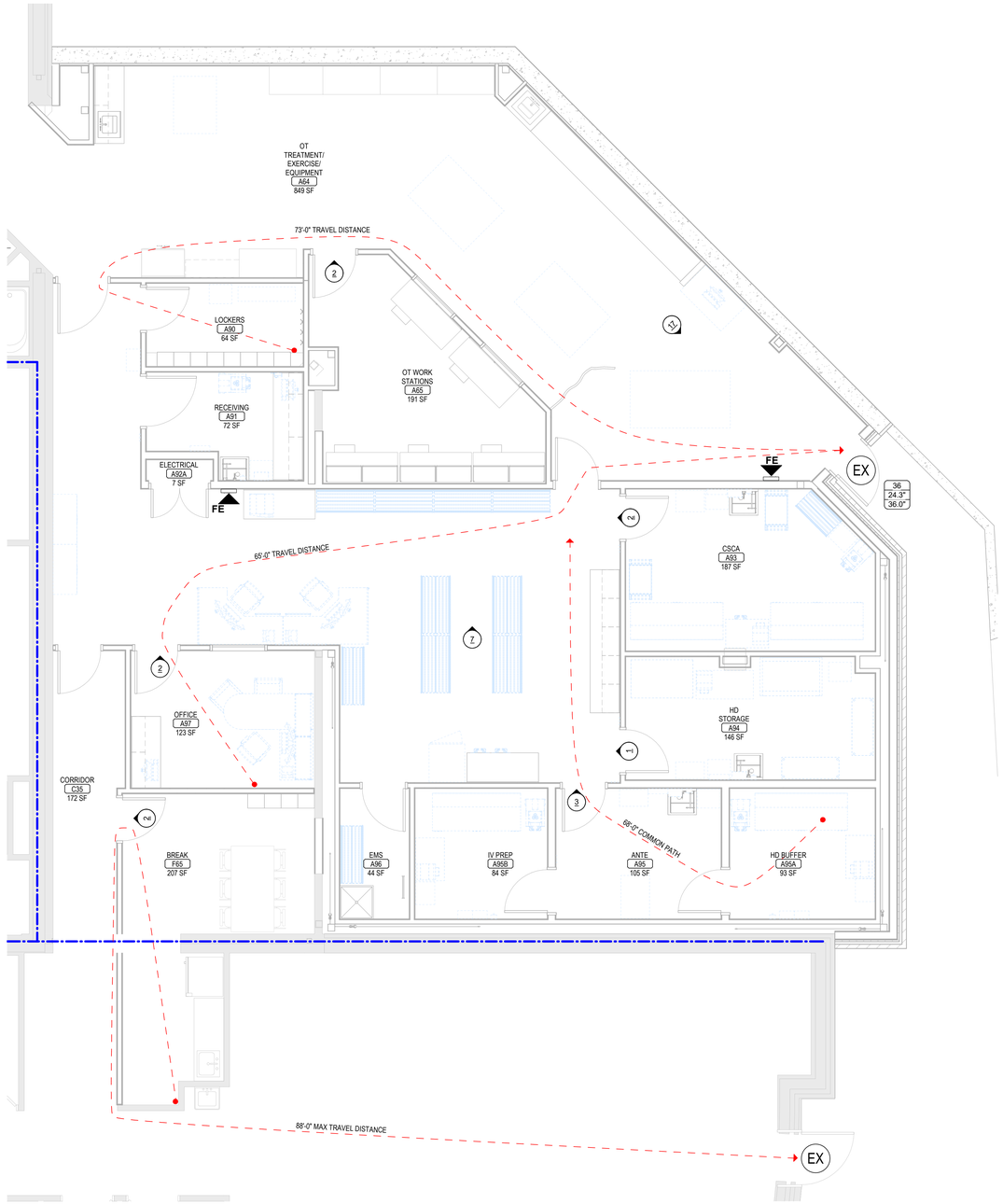
6. **Furring Channels —** (Optional, not shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 4A.

6A. **Steel Framing Members (Not Shown)* —** (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 6, furring channels and Steel Framing Members as described below:
   a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 5. Not for use with Item 4A.
   b. **Steel Framing Members* —** Used to attach furring channels (Item 6a) to studs (Item 2). Clips spaced max. 48 in. OC., and secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.
   PAC INTERNATIONAL INC—Type RSIC-1.

7. **Joint Tape and Compound —** Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.
8. **Siding, Brick or Stucco —** (Optional, not shown) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.
9. **Caulking and Sealants* —** (Optional, not shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.
UNITED STATES GYPSUM CO —Type AS

*Bearing the UL Classification Mark

F2 UL ASSEMBLY - U419
1/4" = 1'-0"



F5 1ST LEVEL LIFE SAFETY PLAN
1/4" = 1'-0"

BUILDING CODES, GUIDES, MANUALS

NOTE: ALL WORK IS TO BE PERFORMED TO THE LATEST EDITION OF THE FOLLOWING CODES, ORDINANCES, AND LAWS WHICH INCLUDE, BUT ARE NOT LIMITED TO:

- VA DIRECTIVES, DESIGN MANUALS, MASTER SPECIFICATIONS, VA NATIONAL CAD STANDARD APPLICATION GUIDE, AND OTHER GUIDANCE INFORMATION ON THE TECHNICAL INFORMATION LIBRARY (TIL)
- INTERNATIONAL BUILDING CODE (IBC) (ONLY WHEN SPECIFICALLY REFERENCED IN VA DESIGN DOCUMENTS)
- NFPA 101 LIFE SAFETY CODE
- NFPA NATIONAL FIRE CODES WITH THE EXCEPTION OF NFPA 5000 AND NFPA 900
- OCCUPATIONAL, SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS
- VA SEISMIC DESIGN REQUIREMENTS, H-18-8
- NATIONAL ELECTRICAL CODE (NEC)
- INTERNATIONAL PLUMBING CODE (IPC)
- ASME BOILER AND PRESSURE VESSEL CODE
- ASME CODE FOR PRESSURE PIPING
- ARCHITECTURAL BARRIER ACT ACCESSIBILITY STANDARDS (ABAAS) INCLUDING VA SUPPLEMENT, BARRIER FREE DESIGN GUIDE (PG-18-13)
- BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, AMERICAN CONCRETE INSTITUTE AND COMMENTARY (ACI 318)
- MANUAL OF STEEL CONSTRUCTION, LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)
- ENERGY POLICY ACT OF 2005 (EPACT)
- DOE INTERIM FINAL RULE: ENERGY CONSERVATION STANDARDS FOR NEW FEDERAL, COMMERCIAL AND MULTI-FAMILY HIGH-RISE RESIDENTIAL BUILDINGS AND NEW LOW-RISE RESIDENTIAL BUILDINGS, 10 CFR PARTS 433, 434, AND 435.
- FEDERAL LEADERSHIP IN HIGH PERFORMANCE AND SUSTAINABLE BUILDINGS: MEMORANDUM OF UNDERSTANDING (MOU)
- EXECUTIVE ORDER 13423: STRENGTHENING FEDERAL ENVIRONMENT, ENERGY, AND TRANSPORTATION MANAGEMENT.
- THE PROVISIONS FOR CONSTRUCTION AND SAFETY SIGNS, STATED IN THE GENERAL REQUIRMENTS SECTION 01010 IF THE VA MASTER CONSTRUCTION SPECIFICATION.
- VENTILATION FOR THE ACCEPTABLE INDOOR AIR QUALITY – ASHRAE STANDARD 62.1 – 2004.
- SAFETY STANDARD FOR REFRIGERATION SYSTEMS – ASHRAE STANDARD 15 – 2007.

PHARMACY DESIGN GUIDES

- USP 800
- USP 797 - PROPOSED
- USP 795
- VA PHARMACY SERVICE DESIGN GUIDE (PG-18-12) DATED: APRIL 1, 2018

LIFE SAFETY LEGEND

- 2FB — 2HR FIRE BARRIER
- 1FB — 1HR FIRE BARRIER
- 1SB — 1HR SMOKE BARRIER
- EX — EXIT
- FE — FIRE EXTINGUISHER LOCATION
- 200'-0" — TOTAL PATH OF TRAVEL (FEET)
- 0 — OCCUPANTS
- 0.0" — REQUIRED WIDTH
- 0.0" — PROVIDED WIDTH
- 1 — OCCUPANT LOAD

CODE INFORMATION

PROJECT INFORMATION:

1. CONSTRUCTION PURPOSE: RENOVATION/ADDITION

2. REASON FOR SUBMITTAL: NEW CONSTRUCTION

3. I CERTIFY THAT TO THE BEST OF OUR KNOWLEDGE THESUBMITTED PLANS FOR THE ABOVE-REFERENCED PROJECT COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING:
2015 INTERNATIONAL BUILDING CODE (IBC)
NFPA 101
2014 INTERNATIONAL MECHANICAL CODE (IMC)
2014 INTERNATIONAL PLUMBING CODE (IPC)
2014 NATIONAL ELECTRICAL CODE (NFPA-70)
2018 LIFE SAFETY CODE (NFPA-101)
2015 ABA ACCESSIBILITY STANDARDS
BARRIER FREE DESIGN

4. LOCATION OF ANY ANTICIPATED FUTURE ADDITIONS: UNKNOWN

5. OWNER:
DEPARTMENT OF VETERANS AFFAIRS
OFFICE OF CONSTRUCTION AND FACILITIES MANAGEMENT
ROYAL C. JOHNSON VETERANS MEMORIAL MEDICAL CENTER
2501 W 22ND STREET
PO BOX 5046
SIOUX FALLS SD 57117-5046

6. DESIGN TEAM:

ARCHITECT:
STONE GROUP ARCHITECTS
319 N MAIN AVE, SUITE 2
SIOUX FALLS, SD 57104
605-271-1144
CONTACT: TODD STONE
TODD.STONE@STONEGROUPARCHITECTS.COM

DESIGN CONSULTANTS:
WEST PLAINS ENGINEERING
4609 SOUTH TECHLINK CIRCLE
SIOUX FALLS, SD 57106
605-362-3753
CONTACT:
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605-343-9606
CONTACT:
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SIOUX FALLS, SD 57104
605-553-6788
CONTACT:
KELLY EVANS (INTERIOR DESIGN)
KELLY@LENAEDESIGN.COM

7. ARCHITECTS SEAL: SEE STAMP AT BOTTOM

8. FIRE SERVICE: CITY OF SIOUX FALLS FIRE DEPARTMENT

9. INSPECTION: VISN SAFETY OFFICER

10. OCCUPANCY GROUP TYPE:
OCCUPANCY - BUSINESS (B) (EXISTING)

11. CONSTRUCTION TYPE: TYPE II-B

12. STRUCTURAL CODE REQUIREMENTS - NFPA-101, IBC 2015

A. ALLOWABLE FLOOR AREA FROM NFPA-101

ACTUAL FLOOR AREA:
EXISTING: 128,091 SF
NEW: 2,300 SF
TOTAL:130,391

B. ALLOWABLE HEIGHT CALCULATIONS

OCCUPANCY - I2-HEALTHCARE AND B-BUISINESS (1ST FLOOR OF HOSPITAL)
TYPE OF CONSTRUCTION: TYPE II-B
ALLOWABLE STORIES: N/A
ALLOWABLE HEIGHT: N/A
ACTUAL STORIES: MULTIPLE (EXISTING) SINGLE STORY ADDITION (2,300 SF)
ACTUAL HEIGHT: 72'-6" (EXISTING) 18'-6" ADDITION
NO HEIGHT MODIFICATIONS REQUIRED

C. FIRE-RESISTANCE RATING FOR BUILDING ELEMENTS: (TYPE II-B)

BEARING WALLS (EXTERIOR): 0 HR
BEARING WALLS INTERIOR: 0 HR
NONBERING WALLS (EXTERIOR): 0 HR
PARTITIONS: 0 HR
SMOKE BARRIERS BERTWEEN SMOKE COMPARTMENTS: 1 HR
STRUCTURAL FRAME:
FLOOR AND FLOOR/CEILING: 0 HR
ROOF AND ROOF/CEILING: 0 HR
SHAFT ENCLOSURES: 1 HR
STAIRWAY CONSTRUCTION: 1 HR

13. ACTIVE FIRE SAFETY SYSTEMS

(a) SMOKE DETECTORS THROUGHOUT
(b) GENERATOR POWERED EMERGENCY LIGHTING
(c) BATTERY POWERED EXIT LIGHTING
(d) HOOD SUPPRESSION SYSTEM
(e) PORTABLE EXTINGUISHERS
(f) AUTOMATIC AIR-HANDLING SHUT-DOWN
(g) FIRE ALARM SYSTEM

14. WATER SUPPLY: CITY OF SIOUX FALLS

15. SEWAGE TREATMENT: CITY OF SIOUX FALLS

16. HANDICAP PROVISIONS:
ACCESSIBLE ROUTE, LAVATORIES AND SIGNAGE

17. MECHANICAL CODE: ASHRAE STANDARD 62.1 (2004)
ASHRAE STANDARD 15 (2007)

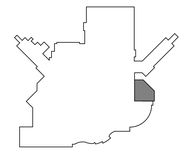
18. OCCUPANT LOAD:
BUSINESS: 100 SF/PERSON GROSS
STORAGE: 300 SF/PERSON GROSS

EGRESS CAPACITY:
STAIRWAY: .3 IN./PERSON
DOOR: .2 IN./PERSON

DEAD END CORRIDORS: NOT TO EXCEED 50 FT

TRAVEL DISTANCE TO EXIT: 300 FT

SMOKE COMPARTMENTS: (USING HEALTHCARE OCCUPANCY BASIS)
(18.3.7.1(2)) AT LEAST 2 PER FLOOR
(18.3.7.1(3)) NOT TO EXCEED 22,500 SF EACH



KEYPLAN
NTS
NORTH

Revision#	Description	Date:
1	100% Bid Set	12/21/2018

CONSULTANTS

STRUCTURAL:
Albertson Engineering Inc.
Albertson Engineering, Inc.
315 N Main Ave, Suite 200
Sioux Falls, South Dakota 57104
Phone: 605-343-9606

MECHANICAL / ELECTRICAL / PLUMBING:
West Plains Engineering, Inc.
1750 Rand Road
Rapid City, South Dakota 57702
Phone: 605-348-7455

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Phone: 605-339-7215

INTERIOR DESIGN:
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ARCHITECT OF RECORD

A/E:
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319 N Main Ave Suite 2
Sioux Falls, SD 57104
Phone: 605-271-1144
Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP

REGISTERED ARCHITECT — TODD R. STONE — SOUTH DAKOTA

Office of Construction and Facilities Management

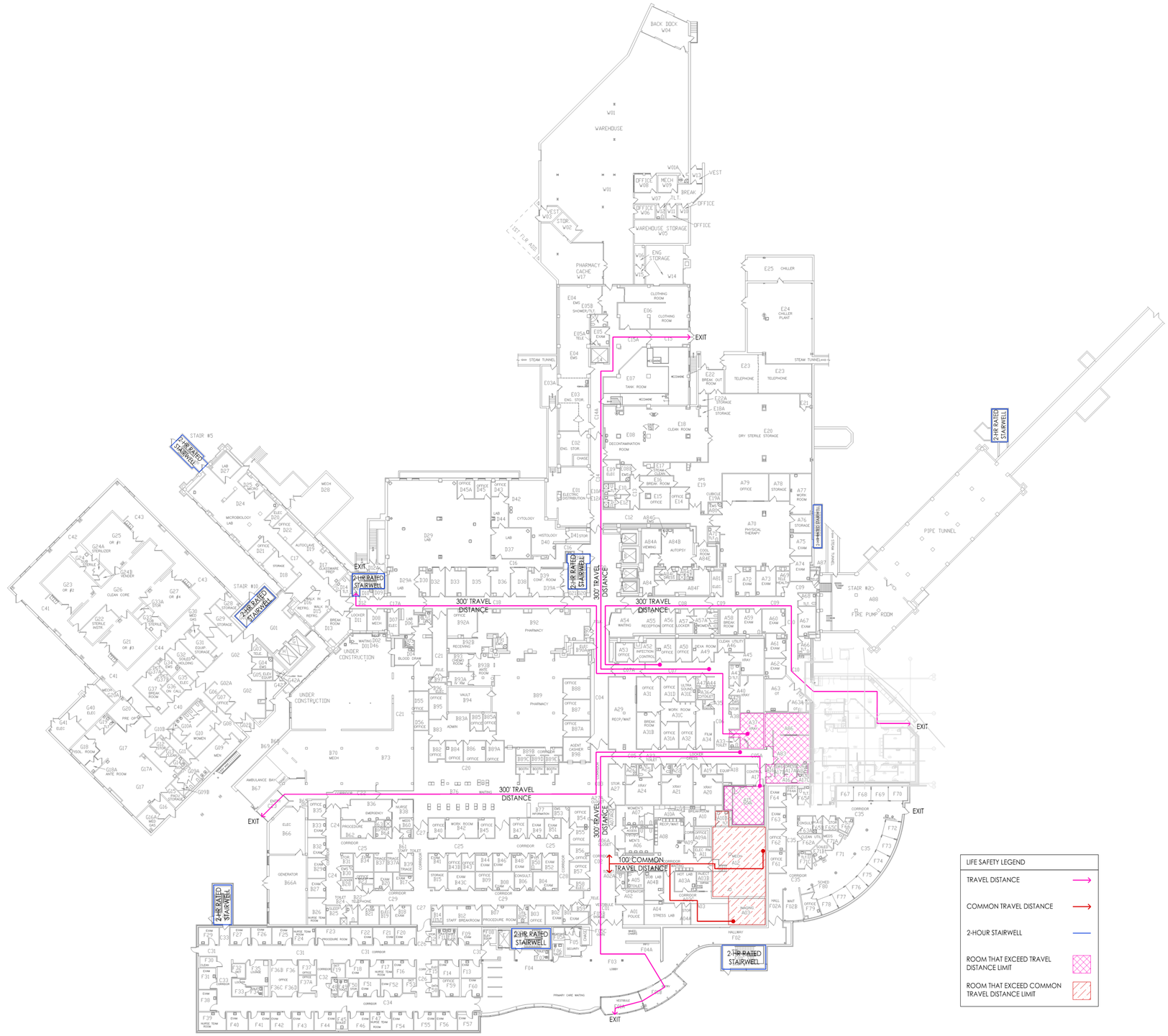
VA U.S. Department of Veterans Affairs

Drawing Title LIFE SAFETY PLAN AND CODE SUMMARY	**Phase** 100% BID SET RESUBMITTAL	**Project Title** Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance	**Project Number** VA #438-500 SGA #181906
			Building Number 5
Approved:	FULLY SPRINKLERED	**Location** Sioux Falls, South Dakota	**Drawing Number** 5.GI101
		Issue Date 03/07/2019 / **Checked** TRS / **Drawn** DAN	

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VA FORM 08 - 6231



1	100% Bid Set	12/21/2018
Revision#	Description	Date:

CONSULTANTS

STRUCTURAL:
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Phone: 605-271-1144
Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP

REGISTERED ARCHITECT — STATE OF SOUTH DAKOTA — 5771

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: OVERALL GROUND LEVEL LIFE SAFETY PLAN

Approved:

Phase: 100% BID SET RESUBMITTAL

FULLY SPRINKLERED

Project Title: Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance

Location: Sioux Falls, South Dakota

Issue Date: 03/07/2019 | **Checked:** TRS | **Drawn:** DAN

Project Number: VA #438-500 SGA #181906

Building Number: 5

Drawing Number: 5.GI102

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot
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VA FORM 08 - 6231

1. SPECIFICATIONS TO BE USED

The most current edition of the City of Sioux Falls (City) General Conditions for Public Improvements and Supplemental Standard Specifications, together with the most current edition of the South Dakota Department of Transportation (SD DOT or DOT) Standard Specifications for Roads and Bridges with Supplemental Specifications and Errata, City and DOT Standard Plates and Required Provisions, Supplemental Specifications, and/or Special Provisions as included in the Project Manual (if any) are hereby made a part of these specifications in its entirety unless otherwise revised, deleted, or supplemented herein.

There standards and/or specifications are in conflict, the most stringent shall take precedence unless there is specific language explaining that a weaker standard is to take precedence over the more stringent. The mere appearance of a weaker standard in these plans does not construe its supremacy over the more stringent standard.

Questions regarding precedence of standards and specifications or their meaning may be submitted in email form.

CONTACT: DAMIAN GREBLE, EHRHART GRIFFIN & ASSOCIATES EMAIL: DAMIAN@EGASF.COM

Copies of government produced standards and specifications are available for download from those governments via their respective web sites.

2. PLANS AND ELECTRONIC FILES

The contractor shall ensure all subcontractors and trades have with them, or available to them while they are on site, the most current approved plan set in paper, DWF, or PDF formats. Requests for the most recent plan set in DWF or PDF format may be made to the developer/project manager and/or the engineer via email. "Plan set" shall mean all plans, addendums, change orders, and supplemental information that are part of the contract document, or the consultant's portion there of.

Requests for electronic design files (DWG, DXF, or LandXML only) shall be made to both the develeoper/project manager and the engineer, and may be approved at the discretion of developer/project manager, subject to the following conditions:

A. Electronic design files are provided for reference only. In the event of a discrepancy between the electronic design files and the contract documents, the contract document shall prevail unless specifically noted in the electronic file or in the associated correspondence.
B. The electronic design files for distribution may be limited to existing survey line work, existing ground model, proposed utility design, surfacing line work, and finished ground surface model. Additional information may be distributed at the engineer's discretion.
C. The electronic design files will not include any modifications due to addendum or previous field changes unless specifically noted in the electronic file or associated correspondence.

Requests for the electronic design files should be made by email simultaneously to both the developer/project manage and the engineer unless another procedure is specified elsewhere in the contract documents. Requesters should allow two (2) business days from the approval of request for the file(s) to be furnished. An electronic file release may be required at the engineer's discretion before the electronic files are released.

3. EXISTING UTILITY LOCATIONS

Existing utilities are shown on the drawings are approximate and are as located by utility companies or their representatives at the time of the survey. There is no guarantee that all utilities have been located or that the locations as shown are exact. The contractor shall be responsible for notifying S.D. ONE-CALL SYSTEM (1-800-781-7474) to have each and every utility field located prior to commencement of work. The contractor shall record and preserve utility markings.

The contractor shall safeguard all utilities and coordinate their efforts to coincide with utility work by others in order to minimize inconvenience to the public and utility companies. Any damage caused to the utilities due to contractor carelessness shall be repaired at the contractor's expense to the satisfaction of the utility owner.

4. UTILITY COORDINATION

Private utility companies and public utilities may be making adjustments and/or improvements to their facilities coincidental to or because of this project. Utility alignment and grade adjustments shall be coordinated with the utilities owner/companies by the contractor. Private utility companies and public utilities with infrastructure within the project limits or otherwise impacted by the project shall be invited to all pre-construction and construction meetings to facilitate coordination.

5. NOISE PERMIT

The contractor shall obtain a noise permit from the City of Sioux Falls Health Department (MARK SCHUTTLOFFEL 367-8783) if working between 10:00 pm to 6:00 am. The contractor shall submit a request in writing to the engineer for approval 24 hours in advance when nighttime work is to occur.

6. CONTRACTOR SUPERINTENDENT

Contractor shall designate a qualified and experienced construction superintendent who shall be present at the job site when any significant or controlling work is being accomplished. Superintendent shall be responsible for coordinating and directing the work of all subcontractors. Superintendent and all subcontractors shall be equipped with a set of project plans and specifications when present on the job site.

7. DAMAGE TO PRIVATE PROPERTY

Care shall be taken by the contractor such that private property located adjacent to construction limits is not damaged during construction operations. Damage to private property caused by the carelessness of the contractors forces shall be repaired or replaced at the Contractors expense and to the satisfaction of the engineer and the private property owner.

8. DRAINAGE

Drainage is the Contractor's responsibility. Contractor shall be aware of existing drainage conditions and facilities, and shall provide for drainage during all phases of construction. Damage caused by improper temporary drainage facilities shall be repaired at the Contractor's expense and to the satisfaction of the engineer.

9. DEWATERING

It shall be the responsibility of the Contractor to discharge and dispose of the water in an approved manner. No water shall be allowed to enter the sanitary sewer. The Contractor shall dispose of water in a suitable manner without damage to adjacent property. The water shall be filtered using an approved method to remove sand and fine-sized soil particles before disposal into any drainage system. Discharge from dewatering operations shall be controlled to prevent erosion and scour.

The Contractor is responsible for obtaining a temporary water use permit from the SD DENR prior to commencing dewatering operations. Prior to excavating, the Contractor shall submit for review a dewatering plan to be approved by the Engineer.

10. SAW EXISTING ASPHALT

Asphalt sawing shall be performed at all locations shown on the plans or as directed by the Engineer during construction. The pavement shall be sawed full depth. The Contractor shall exercise particular care to ensure that the adjacent surface is left intact and undamaged when removing the sawed out portion.

Where new surfacing is placed adjacent to existing asphalt concrete, a joint shall be sawed in the existing bituminous material prior to placing new materials.

11. SAW EXISTING PORTLAND CEMENT CONCRETE PAVEMENT

Concrete sawing shall be performed at all locations shown on the plans or as directed by the engineer during construction. The pavement shall be sawed full depth. The Contractor shall exercise particular care to ensure that the adjacent surface is left intact and undamaged when removing the sawed out portion. Sawing of Portland Cement Concrete (PCC) shall be paid for once at each location.

Where new PCC pavement is to be placed adjacent to existing PCC pavement, the existing PCC pavement shall be sawed full depth to a true line with a vertical face.

12. GRADE STAKES, BENCHMARKS AND MONUMENTS

All stakes, stones, and monuments now in place and marking lines and corners of boundaries which are likely to be affected by the work herein provided for shall be carefully preserved by the Contractor. In no case shall any excavation be made within five feet (5') of any such stake, stone or monument until they have been properly reset, witnessed, or otherwise cared for by the Engineer and permission given to proceed with the work.

All lines, grade stakes, and benchmarks set by the engineer in connection with the work herein provided for shall be carefully preserved by the Contractor and shall not be disturbed nor moved from the exact position and elevation as set by the Engineer. No excavated material shall be thrown over or against said stakes and, except where necessary to remove the stakes as the work progresses, all stakes shall be carefully preserved in the original position and elevation until the work has passed final inspection and been accepted. Stakes which must be removed as the work progresses shall be so removed only upon the order of the Engineer.

All stakes, stones, monuments, and benchmarks disturbed or removed through carelessness or without proper authority will be reset at the expense of the Contractor.

13. REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

Portland Cement Concrete (PCC) pavement work consists of constructing pavement in accordance with typical sections and paving sheets which illustrate construction limits and joint layout (if provided).

PCC pavement shall conform to Section 380 of the SD DOT Standard Specifications for Roads and Bridges 2015 Edition. Exceptions and additions to this section are written in the following notes.

The course aggregate shall be CRUSHED LEDGE ROCK and shall constitute a MINIMUM OF 55% of total aggregate by weight.

The fine aggregate may require screening as determined by the engineer.

The maximum water to cement ratio is 0.42.

The concrete for the nonreinforced PCC shall be of an approved job mix. The mix design shall be submitted THREE (3) weeks prior to and approved prior to any concrete placement. The design mix shall meet a MINIMUM 4000 PSI compressive strength in 28 days.

Concrete used in Portland Cement Concrete placement shall have a minimum combined cement & fly ash content of 600 pounds per cubic yard; fly ash may constitute as much as 20% to 25% of this content. Fly ash shall be Class F or Class C and shall meet the requirements of Section 605 of the SD DOT Standard Specifications for Roads and Bridges 2015 Edition.

The contractor may elect not to use fly ash in the concrete for pavement. The concrete shall then have minimum cement content of 600 pounds per cubic yard. Any additional costs associated with this or other mix designs shall be at the expense of the Contractor. Any changes from the original submitted and approved mix design, shall be approved by the Engineer prior to it's use.

The surface tolerance shall be 1/4" in ten feet instead of 1/8" in ten feet as per standard specification. The surface shall be free from a noticeable "chatter" or "ripple or washboard" ride. Failure to meet these specifications may result in the Contractor being required to diamond grind to a satisfactory ride and/or could be subject to a payment adjustable as deemed reasonable by the Engineer. A metal tine finish will not be required.

In lieu of an automatic subgrade operating from a present line, a motorgrader or other suitable equipment may be used to bring the gravel cushion to final grade prior to placement of concrete.

There will be no direct payment for trimming of the gravel cushion for PCC pavement. The trimming will be considered incidental to the related items required for PCC pavement.

PCC pavement shall be sawed to prevent random cracking. Joints shall be spaced no further than 12' apart (8' apart for 4" pavement) in both directions. Contractor may be required to submit jointing plan to Engineer near the time of construction; Contractor jointing plan shall be submitted not less then 2 business days before construction. PCC pavement jointing plans are to be consistent with American Concrete Pavement Association (ACPA) or American Concrete Institute (ACI) guidelines.

All joints shall be winded and sealed with hot poured elastic joint sealant conforming to specifications for ASTM 3405M Hot Poured Modified.

A construction joint will be sawed whenever new concrete pavement is placed adjacent to existing pavement. Construction joints shall be made at transverse contraction joints. Longitudinal tie bars and bars required for construction joints (transverse joints) are considered incidental to the bid items.

14. ASPHALT CONCRETE COMPOSITE

Placement of Asphalt Concrete (A.C.) shall be by self-propelled pavers. A.C. pavement placement and compaction equipment and methods shall meet requirements as set forth in SD DOT Standard Specifications Section 320 and the following notes.

Compaction of asphalt concrete shall be by the Specified Density Method. The minimum density requirement is 92% (Rice Method) of specified density in accordance with SD DOT Standard Specifications Section 321.3(b) or to the satisfaction of the Engineer.

Asphalt Concrete Composite shall conform to the SD DOT Specifications for Class G, Asphalt Concrete; Section 320. the top lift shall conform to Class G-2 for the mineral aggregate specifications. All lower lift(s) shall conform to Class G-1 or G-2 for the mineral aggregate specifications unless otherwise noted or by direction of the engineer. The surface course shall not exceed 2-in. in thickness when laid and compacted.

The Supplier is required to run daily production control samples on the aggregate material. All production control test results shall be made available to the City upon request.

A maximum of 20% (by weight) of Recycled Asphalt Pavement (RAP) will be allowed in the asphalt concrete composite mix. RAP stockpiles containing concrete chunks, grass, dirt, wood, metal, coal tar, or other foreign or environmentally restricted materials shall not be used. no other recycled materials will be allowed. Representative RAP samples shall be shall be sent to a laboratory who work has bee accepted by the City of Sioux Falls for material classification. The laboratory shall provide to the project manager Asphalt Binder Content, gradation, and G*mm (Maximum Specific Gravity) for each RAP sample.

The Asphalt Cement used in the mixture shall be performance graded AASHTO designation PG58-28 for new surfacing on streets and parking lots, overlays, patching, small paving areas. The asphalt cement shall conform to the current SDDOT specifications. Certificates of compliance will be required on the performance graded asphalt binder. The ratio of added new asphalt binder to total asphalt binder (including binder from rap) shall be 70% or greater.

Warm Mix Asphalt shall be considered an equivalent equal and may be furnished in place of Hot Mix Asphalt.

Warm Mix

Warm mix asphalt may be produced by one or a combination of several asphalt technologies involving asphalt plant foaming process and equipment, mineral additives, or chemicals. The target mix production temperatures shall be within the range of 185°F to 275°F. Warm mix asphalt technology and processes should be included with the job mix formula.

Plant modifications may include additional plan instrumentation, the installation of asphalt binder foaming systems, and/or warm mix asphalt additive delivery systems, tuning the plant burner, and adjusting the flights in order to operate at lower production temperatures and/or reduced tonnage.

Job mix formula should include the proposed warm mix asphalt technology and/or additive information, technology manufacturer's established recommendation for usage, temperature range for mixing, and temperature for compacting. The contractor shall provide documentation of compliance with the manufacturer's recommendations for incorporating additives and technologies into the mix. The storage and delivery of additives shall comply with the manufacturer's requirements.

Hot Mix

Hot mix asphalt production shall conform to the current SDDOT Specifications.

The supplier shall furnish a job mix formula for approval prior to asphalt production. All job mix designs shall have a laboratory designation number that can be printed on all weight tickets that correspond to the type of asphalt concrete mix. The Engineer may accept the mixture on the basis of the certificate of compliance, job mix formula and visual inspection or may test the mixture for specification compliance. All production processes and materials supplied on this contract shall be subject to inspection by City staff. Materials mot meeting specification will be rejected and replace at the supplier's expense.

Tack Coat (SS-1H OR CSS-1H) shall be applied between each lift of asphalt and along existing concrete and asphalt faces and any areas as determined by the Engineer at the rate of 0.05 gal/sq.yd. Payment for this work shall be incidental to the unit price for asphalt.

Intermediate and/or top lifts shall not be placed until the underlying layer has cooled to 175 degrees Fahrenheit or below. Also, if the contractor's paving operation is damaging the underlying asphalt, paving shall be suspended until the asphalt can withstand the paving operation or an alternate paving operation which does not cause damage is determined.

Longitudinal Joints:
1. Rolling operations for confined edges, the first pass adjacent to the confined edge, the compaction equipment shall be entirely on the hot mat 6" from the longitudinal joint.
2. Rolling operations for un-confined edges, the compaction equipment shall extend 6" beyond the edge of the mat.
3. Longitudinal joints of succeeding lifts should be offset approximately 6".
4. Longitudinal joints should be on the lane lines in the top lift. A paving plan will be required from the contractor.

Seasonal Limitations:
1. Asphalt concrete composite will not be laid if the underling surface is wet or frozen.
2. Temperature for lower lifts shall be, at minimum, 35 degrees Fahrenheit, with a forecast of holding or rising temperatures.
3. Temperatures for top lift shall be, at minimum, 40 degrees Fahrenheit, with a forecast of holding or rising temperatures.
4. The Engineer may require tarping of loads during cool or windy conditions.

15. AGGREGATE BASE COURSE

Aggregate Base Course shall be in accordance with SDDOT Standard Specifications Section 260. Material for base course shall meet requirements set forth in SDDOT Standard Specifications Section 882.

Aggregate base course shall be compacted with pneumatic rollers and shall continue on each lift of the base course until the surface is firm and unyielding, and attains a density of 97% of the maximum dry density as determined by SD 104, Method 4 and SD 105 or SD 114. If used as an alternative, crushed concrete shall be compacted to a minimum standard proctor density of 95% and shall be the same gradation as standard aggregate base course as found in the SDDOT Standard Specifications for Roads and Bridges.

Aggregate base course and crushed concrete base course used for surfacing shall be furnished by the contractor and placed according to the specifications to depths indicated on the typical sections.

16. WASTE DISPOSAL SITE

All material generated from this project for disposal must be disposed of at a state-permitted solid waste disposal site. Depending on what material is generated and whether it is contaminated or uncontaminated will determine which permitted facility can accept it. Permitted facilities include construction and demolition debris sites, restricted use sites, and regional landfills. The contractor can contact SD DENR WASTE MANAGEMENT PROGRAM at (605) 773-3153 to identify locally permitted disposal sites for various categories of contaminated and uncontaminated materials.

17. GENERAL MAINTENANCE OF TRAFFIC

The contractor shall furnish and maintain all necessary traffic control devises and flaggers. Installation of traffic control shall conform the current Manual on Uniform Traffic Control Devices (MUTCD) unless otherwise modified in the plans.

The contractor shall notify the city 7 days prior the to start of construction and before any substantial traffic control change. The contractor shall notify the city to move, adjust, reset, or maintain existing stop signs or other signs in their jurisdiction when necessary. A minimum of 48 hours notice will be required for all other traffic control changes. The contractor shall coordinate all temporary and permanent traffic control with the city with sufficient notice to the City.

The contractor shall designate an employee or subcontractor whose responsibility is the maintenance of traffic, 24 hours a day and 7 days a week. The person so designated must have training and experience in the field of construction traffic control and be knowledgeable about the MUTCD. The designated employee or designated traffic control subcontractor shall ensure the adequacy, legibility, and reflectivity of each sign and device.

Certified flaggers, properly attired, and preceded by a W20-7A Flagger Symbol Signs are required where work activity and/or equipment presents a hazard to the workers, a hazard to the through traffic, or encroaches into a lane open to traffic.

Any damage to public or private property caused by the contractor's signing shall be repaired at the contractor's expense.

18. TRAFFIC CONTROL DEVICES

Traffic control devices shall conform to the requirements of the Manual of Uniform Traffic Control Devices issued by the Federal Highway Administration and the City of Sioux Falls Traffic Control Manual. Work included in this item shall comply with Section 634 of the SD DOT Standard Specifications, current edition. Traffic control devices listed in these are the minimum requirements and, depending on exact construction sequences, may not be a complete inventory of all signs, barricades and devices required.

Contractor shall adequately barricade closed streets during construction. Streets shall not be closed without notification and approval of the Engineer and the City of Sioux Falls Public Works Department.

Traffic Control Devices shall meet the crash worthy requirements of the National Cooperative Highway Research Program Report 350 (NCHRP 350) for Category I, II and III Devices:

A. Category I Traffic Control Devices include low mass, single piece traffic cones, tubular markers, single piece drums, and delineators. Auxiliary lights or signs shall not be attached to these devices, unless approved has been granted by Federal Highway Administration (FHWA). These devices may be certified as being nchrp 350 crash worthy by the manufacturer.

B. Category II Traffic Control Devices include those which are larger than the Category I devices and may weigh up to 100 pounds. This includes plastic barricades and portable sign supports. Acceptable Category II devices are those which have been crash tested and have received an acceptance letter from the FHWA.

C. Category III Traffic Control Devices include barriers or other fixed or high mass devices including portable sign trailers. Portable sign trailers must be crash tested and have received an acceptable letter from the FHWA. It is the responsibility of the contractor to ensure that all devices meet the applicable NCHRP 350 requirements.

The following traffic control devices: reflectorized drums, cones, tubular markers and detour signs (M4-8, M4-9, OR M4-10 Series) shall be sheeted with micro-cube corner prismatic material. Orange colored material shall be fluorescent.

All signs mounted on fixed supports which are wider than 36 inches or larger than 10 square feet in area shall be mounted on two posts.

Signs and barricades are periodically required to be moved due to construction operations. They shall be placed at locations where they give sufficient warning to motorists and pedestrians of the condition ahead and shall be relocated as needed to keep signing current at required locations.

Spacing of channeling devices should not exceed 50' in tangent sections and 15' in taper sections.

The contractor shall remove or cover all non-applicable existing traffic signs along the detour route. When the detour signing is removed, the contractor shall uncover or reinstall the signs to their original location.

During non-working hours, non-applicable traffic control signs and/or devices shall be removed from view and stored a minimum distance of 30' from the driving lanes.

The contractor shall protect and restrict all pedestrians from work areas. A-frame barricades shall protect pedestrians from open excavations and other hazards.

The exact location of all traffic control devices shall be determined at the site.

19. WATER MAIN CONSTRUCTION

All work and materials shall conform to the City of Sioux Falls Design Standards and Supplemental Specifications for Water Main Construction.

All water main continuation connections shall be to an existing bell end, fitting, or appurtenance unless the City Engineering Department has approved the use of a Mechanical Joint Couple Fitting during the plan review process.

All valve operation will be done by the City of Sioux Falls Water Department.

20. SANITARY SEWER CONSTRUCTION

Sanitary sewer-water separation shall be in conformance with the "Ten State Standards" for water and sewage works.

When connections are made to existing manholes, stubs must be removed and connection shall be made with a full section of pipe.

When upstream connections are made to an existing sanitary sewer main for the purpose of continuing the main, all such connections shall be made to a downstream bell end of the existing sanitary sewer main only. This may require removal of existing sanitary main.

Existing sewers shall be kept in service at all times during construction of this project.

All sewer stubs shall be installed per City of Sioux Falls Design Standards.

All sewer pipe shall be bedded in accordance with the bedding details as shown on the plans.

The contractor shall backfill completed and accepted portions of constructed sewer at the end of each day.

21. SIDEWALKS

Sidewalk joints shall be spaced equally to the width of the walk unless otherwise noted and shall be consistent with ACPA or ACI guidelines. the typical sidewalk section will be 4" of PCC on a 2" gravel cushion unless otherwise noted. Refer to local standards where available and follow the most stringent specification.

Any pedestrian pathways or sidewalks installed on or adjacent to this site development shall be fully ADA compliant. The City will be inspecting new sidewalk installations for compliance. After sidewalk installation is complete, contractor should contact the City Engineer's Office at 367-8601 to schedule an inspection. Any sections of sidewalk found to be out of compliance will be removed and replaced by the permit holder. There are no construction tolerances on maximum or minimum grades. For example, the contractor may want to set sidewalk forms at a 1.5% cross slope to fall under the 2% maximum sidewalk cross slope.

Existing sidewalk along the public right of way has been/will be inventoried by the City. Non compliant sidewalk and driveway approaches shall be removed and replaced or otherwise be made fully ADA compliant by the permit holder per the inventory.

22. DETECTABLE WARNING PANELS

The contractor shall supply detectable warning panels which conform to the list of approved products shown below. If the contractor wants to substitute a product not shown on the list, a written request must be submitted to the engineer prior to construction for approval. In no case will the stamping of concrete be allowed as a method of creating the domes on the tactile warning panels.

APPROVED PRODUCTS
MANUFACTURER: ARMOR-TILE, INC.
TYPE: CAST-IN-PLACE TACTILE/DETECTABLE WARNING SURFACE TILE
LOCAL SUPPLIER: STAN HOUSTON

MANUFACTURER: ADA SOLUTIONS, INC.
TYPE: CAST-IN-PLACE TACTILE/DETECTABLE WARNING TILE
LOCAL SUPPLIER: DAKOTA SUPPLY GROUP / STAN HOUSTON / BIERSCHBACH

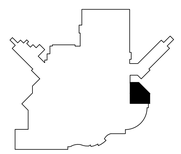
MANUFACTURER: ARMOR-TILE, INC.
TYPE: REPLACEABLE CAST-IN-PLACE TACTILE SYSTEM
LOCAL SUPPLIER: BROCK WHITE

23. GENERAL NOTES

1. SEVERABILITY: The provisions of these plans and attached documents are severable, and if any provision of these documents, or the application of any provision of these documents to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of these documents shall not be affected thereby.
2. The contractor shall keep all said water, gas and existing sewers and their appurtenances free of debris and operable at all times during construction.
3. The contractor shall notify the City Engineer's Office upon completion of water main, sanitary sewer, and/or storm sewer work separately and prior to paving. Inspection of the specific completed utility will be made by the City Engineer's Office with the contractor and all discrepancies will be noted. If deficiencies are identified they shall be corrected. Paving shall not begin until deficiencies have been corrected to the City's satisfaction.
4. The contractor shall perform air and water leakage tests and sewer televising in accordance with the City of Sioux Falls Supplemental Standards. Cost of tests and televising shall be considered incidental to the project.
5. All manhole/inlet stationing shown are to the center of the manhole/inlet. All sanitary pipe lengths shown are from the center of the structure. All storm pipe lengths shown are from the inside wall of the structure.
6. Any discontinued extensions or services not to be used shall be disconnected, at the owners expense, at the city main at the City Engineer's discretion.
7. Protect, by whatever means required, all mailboxes, fences, signs, structures, drives, sidewalks, streets, poles, bushes, trees, etc. which are not designated for removal or are outside the construction limits. The contractor shall keep all vehicles, equipment, materials and construction activities outside the limits of the canopies of all trees. Any mailboxes in conflict with proposed utilities shall be moved temporarily during construction operations and reset in or near their original locations upon completion of construction.
8. All dimensions and elevations marked with an asterisk (*) shall be field verified prior to construction. Notify the engineer of any conflicts with the drawings prior to construction.
9. Paving dimensions are as shown on the civil & architectural plans. A difference in the site layout and the civil plans shall be brought to the attention of the engineer.
10. The contractor shall construct all pavements to conform with the correct cross sections, lines, and finish grades as indicated on the plans. No ponding of water shall be allowed.
11. Curb backfilling shall be completed within 4 to 7 working days after curb placement.
12. The excess soil resulting from earthwork activities, if any, shall become the property of the contractor who shall be responsible for its legal removal from the site.
13. Ehrhart Griffin & Associates (EGA) shall perform all construction staking for the project. Construction staking will be performed one time only. Any reworking or restaking required shall be at the expense of the contractor and provided at EGA's hourly rate. Construction staking shall include paving top of curb hubs at 50' each side of the centerline on tangent sections, and 25' each side of the centerline on curves at offsets as requested. Storm sewer staking shall include a nail at the center of each manhole, and hub offsets (as requested) at the beginning of structure (or pipe), 50' station from structure and 100' stations thereafter. Inlets will be positioned by offset hubs aligned with the back of curb and graded to the top of curb. Sanitary sewers will be staked out with a nail at the center of each manhole, hub offsets (as requested) at beginning of each structure, 50' station from structure and 100' stations thereafter. The percent of grade of pipe will be marked at each manhole offset. Sanitary sewer laterals will be marked with a 4' wooden lath on the center line of end point of the lateral at the property line.

Civil Sheet List Table

Sheet Number	Sheet Title
5.CJ101	Civil General Notes
5.CD101	Existing Conditions & Removal Plan
5.CS101	Dimension Plan
5.CG101	Grading Plan
5.CG102	ERSC Plan
5.CU101	Utility Plan
5.CK101	Civil Details
5.CK102	Civil Details



KEYPLAN
NTS
NORTH

EGA# SD181135

Revision#	Description	Date:
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1	100% Bid Set	12/21/18

CONSULTANTS

STRUCTURAL:
Albertson Engineering Inc.
Albertson Engineering, Inc.
3202 W. Main St. #C
Rapid City, South Dakota 57702
Phone: 605-343-9606

MECHANICAL / ELECTRICAL / PLUMBING:
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Rapid City, South Dakota 57702
Phone: 605-348-7455

CIVIL:
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Phone: 605-339-7215

INTERIOR DESIGN:
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ARCHITECT OF RECORD

A/E:
Stone Group Architects
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Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP



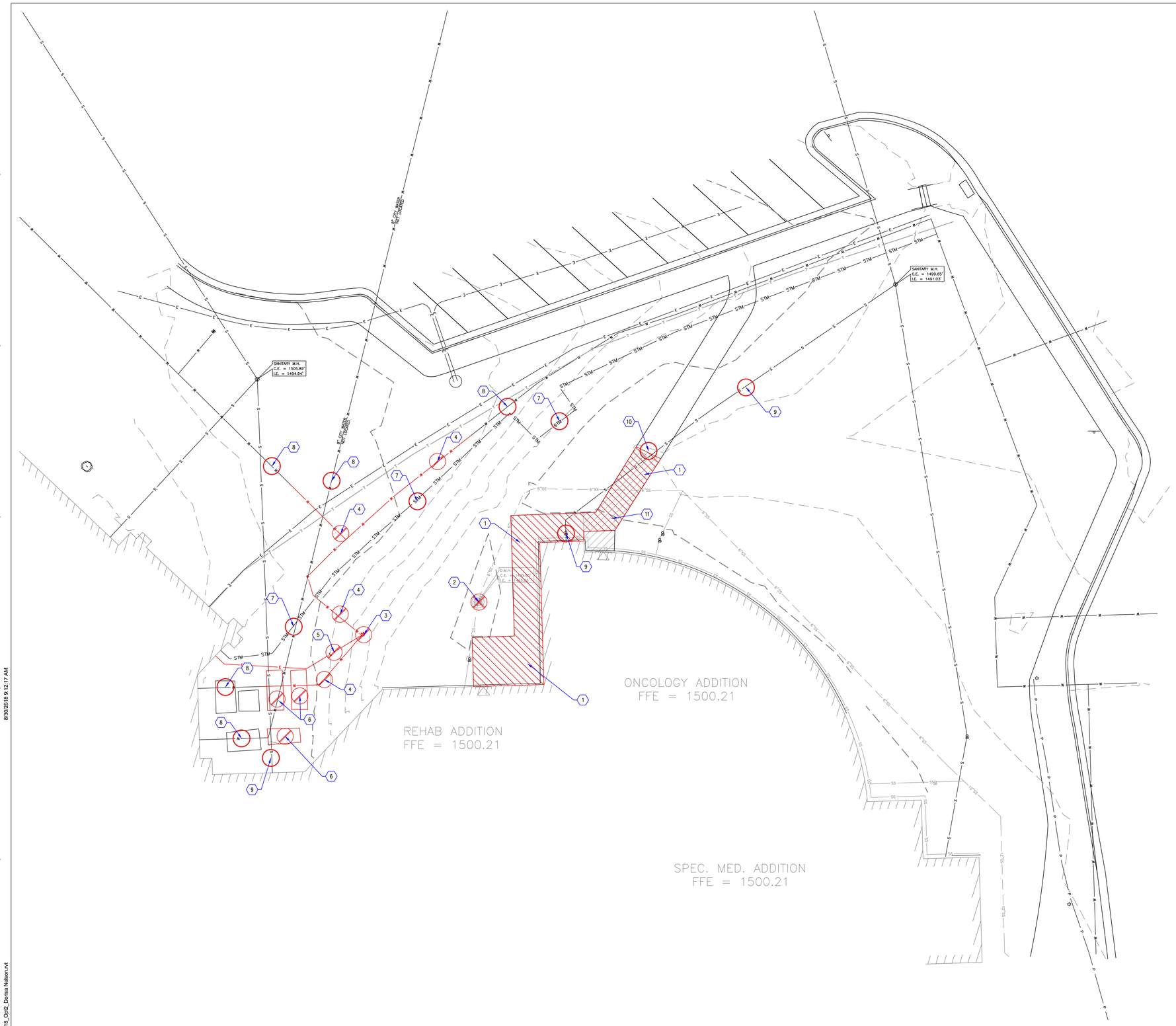
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	Civil General Notes
Phase	100% Bid Set
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 SGA #181906
Building Number	5
Approved:	
Location	Sioux Falls, South Dakota
Issue Date	12/21/2018
Checked	DFG
Drawn	GBG
Drawing Number	5.CJ101

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NORTH

SCALE 1" = 10'

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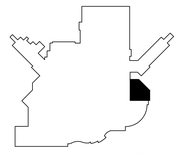
- EXISTING LOT LINE
- PROPOSED LOT LINE
- SETBACK
- EXISTING EASEMENT
- REMOVE
- PROTECT
- SALVAGE AND RELOCATE
- EGRESS PATHWAY

KEYNOTES

1. REMOVE EXISTING SIDEWALK CONCRETE.
2. REMOVE EXISTING STORM SEWER MANHOLE AND PIPE. COORDINATE CONNECTION TO INTERNAL ROOF DRAIN WITH ARCHITECTS PLANS FOR PROPOSED ADDITION.
3. REMOVE AND RELOCATE WATER PIV. COORDINATE RELOCATION WITH VA.
4. REMOVE AND RELOCATE WATER LINE. COORDINATE RELOCATION WITH VA.
5. REMOVE AND RELOCATE ELECTRIC LINE. COORDINATE RELOCATION WITH VA.
6. REMOVE EXISTING MECHANICAL STRUCTURE AND CONCRETE PAD. COORDINATE RELOCATION AND AMOUNT TO REMOVE WITH MECHANICAL ENGINEERS.
7. PROTECT AND VERIFY ELEVATION OF EXISTING STEAM LINE.
8. PROTECT EXISTING WATER LINE.
9. PROTECT EXISTING SANITARY SEWER STRUCTURE AND PIPE.
10. PROTECT EXISTING CONCRETE SIDEWALK.
11. MAINTAIN AN EMERGENCY EGRESS PATHWAY OF CONCRETE OR GRAVEL DURING CONSTRUCTION FROM THE EMERGENCY EXIT DOOR TO EXISTING SIDEWALK.

GENERAL NOTES

1. ALL CIVIL DRAWINGS REFERENCE A FINISHED GROUND FLOOR ELEVATION FOR THE EXISTING BUILDING AND THE NEW ADDITION OF 1500.21'.
2. ALL UTILITIES SHOWN ARE EXISTING AND PROVIDED BY FIELD LOCATES AND AVAILABLE AS BUILT DRAWINGS. THE STRUCTURE LOCATIONS MAY VARY DUE TO POSSIBLE INACCURACIES IN THE SURVEY.
3. THE CONTRACTOR SHALL VERIFY THE RE-ROUTE OF THE WATER LINE, STEAM LINE AND ANY OTHER EXISTING UTILITY WITH THE VA.
4. MAINTAIN 4' OF COVER OVER ALL EXISTING UTILITIES. THE STEAM LINE ELEVATION SHALL BE VERIFIED AND RE-ROUTED IF DETERMINED BY THE VA.



KEYPLAN
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Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP

REGISTERED PROFESSIONAL ENGINEER REG. NO. 9809 DARRIAN F. GRIFFIN 12/21/18 SOUTH DAKOTA

Office of Construction and Facilities Management

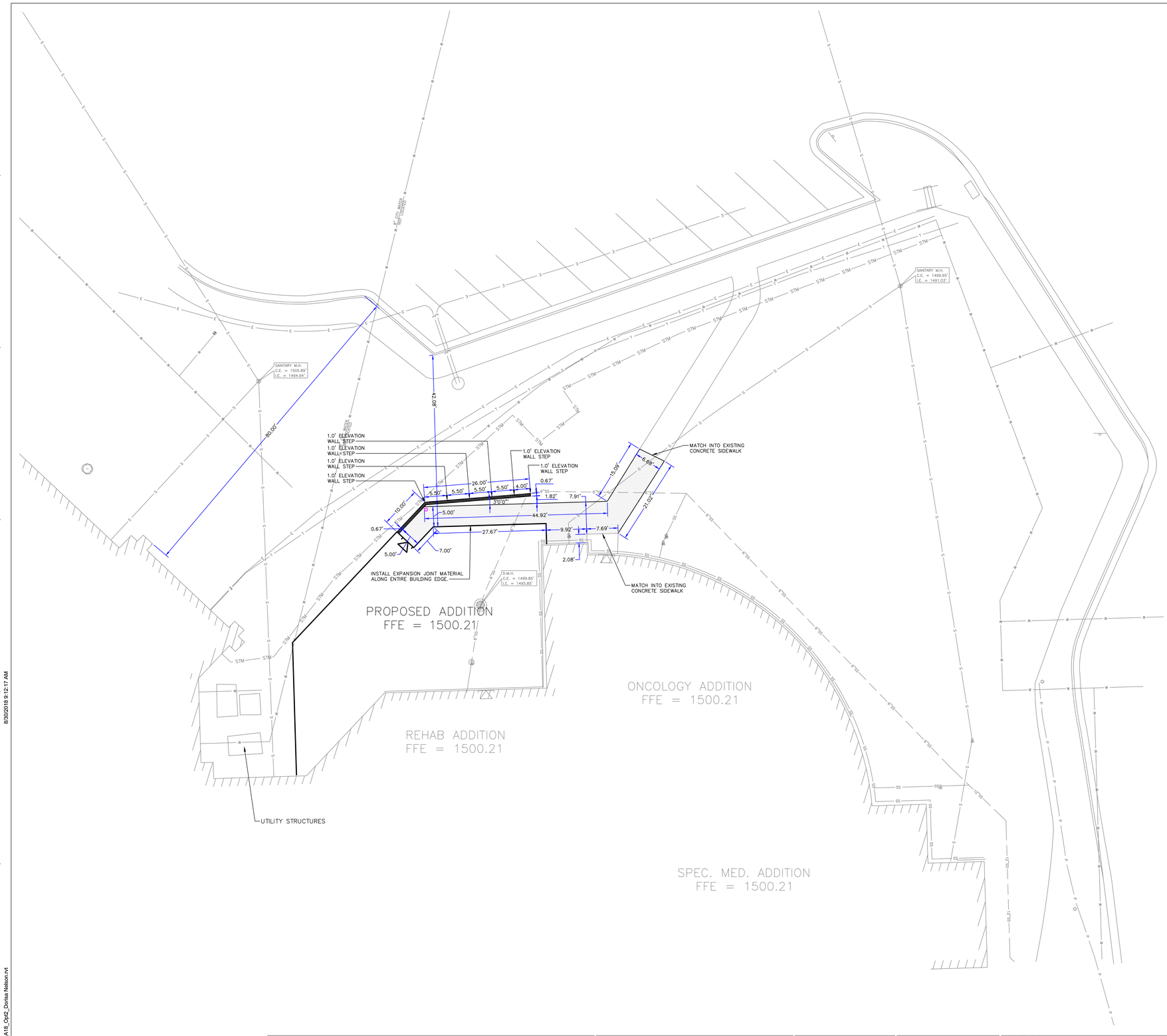
U.S. Department of Veterans Affairs

Drawing Title: Existing Conditions & Removal Plan	Phase: 100% Bid Set
Approved:	FULLY SPRINKLERED

Project Title: Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance	Project Number: VA #438-500 SGA #181906
	Building Number: 5
Location: Sioux Falls, South Dakota	Drawing Number: 5.CD101
Issue Date: 12/21/2018 / Checked: DFG / Drawn: GBG	

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NORTH

SCALE 1" = 10'

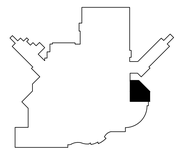
10 0 10 20 30 FT.

LEGEND

- EXISTING LOT LINE
- PROPOSED LOT LINE
- SETBACK
- EXISTING EASEMENT
- PROPOSED 4" P.C.C. SIDEWALK
- PROPOSED P.C.C. SECTION
- PROPOSED ASPHALT SECTION

GENERAL NOTES

1. ALL DIMENSIONS ARE TO THE BACK OF CURB (WHERE APPLICABLE) UNLESS NOTED OTHERWISE.
2. PROVIDE A ½" EXPANSION JOINT BETWEEN ALL CONCRETE PAVEMENTS AND THE BUILDING AND ALL OTHER STRUCTURES OR INTRUSIONS.
3. ANY PEDESTRIAN PATHWAYS OR SIDEWALKS INSTALLED ON OR ADJACENT TO THIS SITE DEVELOPMENT SHALL BE FULLY ADA COMPLIANT. THE CITY WILL BE INSPECTING NEW SIDEWALK INSTALLATIONS FOR COMPLIANCE. AFTER SIDEWALK INSTALLATION IS COMPLETE, CONTRACTOR SHOULD CONTACT THE CITY ENGINEER'S OFFICE AT 367-8601 TO SCHEDULE AN INSPECTION. ANY SECTIONS OF SIDEWALK FOUND TO BE OUT OF COMPLIANCE WILL BE REMOVED AND REPLACED BY THE PERMIT HOLDER. THERE ARE NO CONSTRUCTION TOLERANCES ON MAXIMUM OR MINIMUM GRADES. FOR EXAMPLE, THE CONTRACTOR MAY WANT TO SET SIDEWALK FORMS AT A 1.5% CROSS SLOPE TO FALL UNDER THE 2% MAXIMUM SIDEWALK CROSS SLOPE.
4. REFER TO STRUCTURAL FOR RETAINING WALL.



KEYPLAN NTS

NORTH

EGA# SD181135

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Todd Stone, AIA

STONE GROUP ARCHITECTS

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REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR REG. NO. 8662 DARRIAN F. GRIFFIN 12/21/18 SOUTH DAKOTA

Office of Construction and Facilities Management

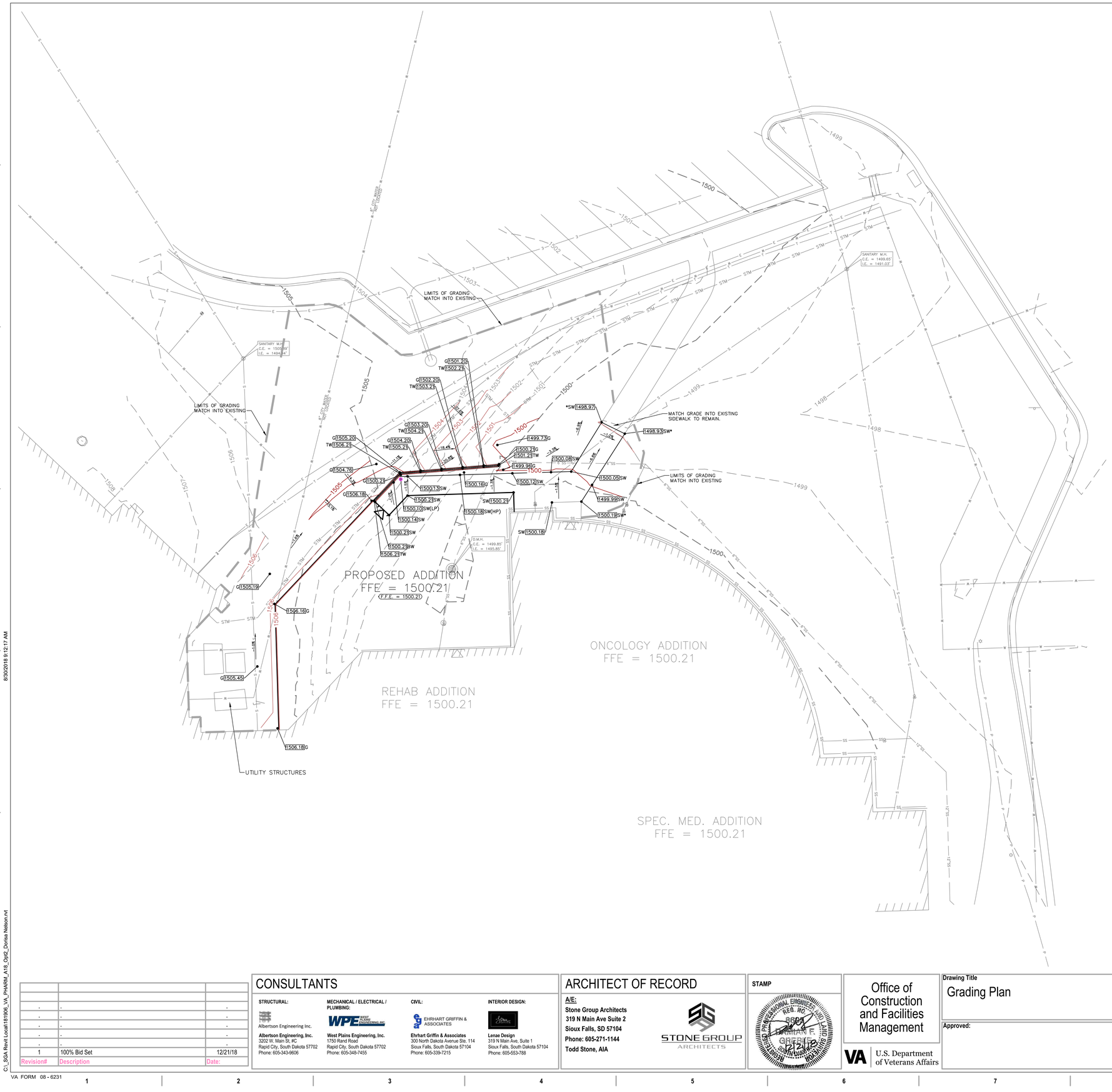
VA U.S. Department of Veterans Affairs

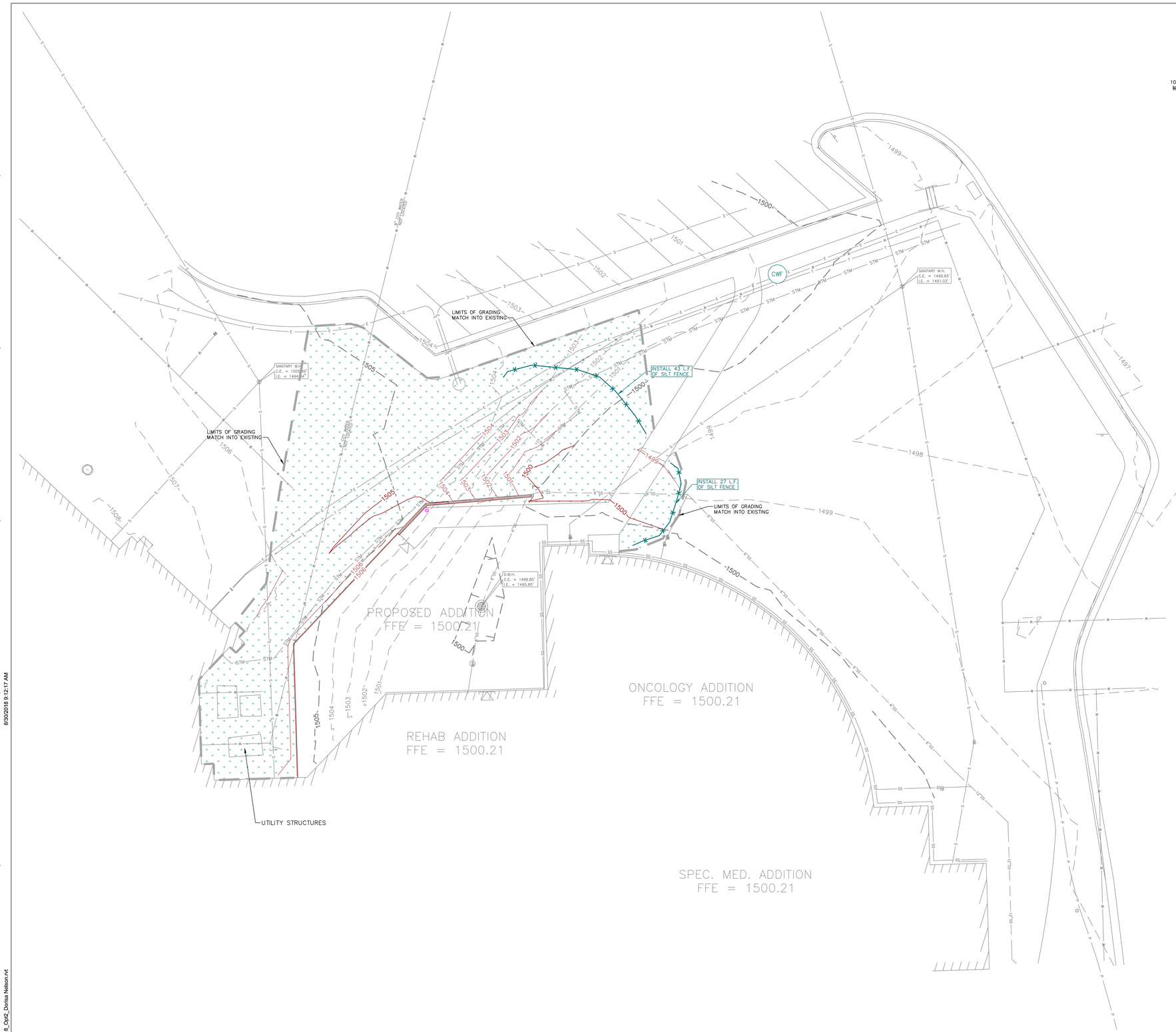
Drawing Title Dimension Plan	**Phase** 100% Bid Set	**Project Title** Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance	**Project Number** VA #438-500 SGA #181906
Approved:	FULLY SPRINKLERED	**Location** Sioux Falls, South Dakota	**Building Number** 5
		Issue Date 12/21/2018 / **Checked** DFG / **Drawn** GBG	**Drawing Number** 5.CS101

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LIMITS OF GRADING
MATCH INTO EXISTING
LIMITS OF GRADING
MATCH INTO EXISTING
MATCH GRADE INTO EXISTING
SIDEWALK TO REMAIN.
LIMITS OF GRADING
MATCH INTO EXISTING
SANITARY M.H.
C.E. = 1500.89'
I.E. = 1494.4"
SANITARY M.H.
C.E. = 1499.65'
I.E. = 1491.03'
D.M.H.
C.E. = 1499.85'
I.E. = 1495.85'
PROPOSED ADDITION
FFE = 1500.21
(F.F.E. = 1500.21)
ONCOLOGY ADDITION
FFE = 1500.21
REHAB ADDITION
FFE = 1500.21
SPEC. MED. ADDITION
FFE = 1500.21
UTILITY STRUCTURES
6" DTO WATER
(UNDER)
1499
1500
1501
1502
1503
1504
1505
1506
1507
1508
STM
SS
W
G
TW
SW
HP
LP
G[1501.20]
TW[1502.23]
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TW[1503.23]
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TW[1504.23]
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1506.16 G
1506.18 G
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1498.93 SW*
1499.73 G
1500.23 G
1501.23 TW
1499.98 G
1500.08 SW
1500.09 SW
1499.99 SW
1500.19 SW*
1500.12 SW
1500.16 G
1500.13 SW
1500.21 SW
1500.10 SW(LP)
1500.14 SW
1500.23 SW
1500.23 BW
1506.23 TW
SW 1500.23
1500.18 SW(HP)
SW 1500.18
-18.4%
-11.1%
-2.5%
-5.6%
-14.6%
-2.1%
-2.0%
-1.8%
-1.5%
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10.5%
10.6%



NORTH

SCALE 1" = 10'

10 0 10 20 30 FT.

LEGEND

- 1490 – EXISTING MINOR CONTOUR
- 1490 – EXISTING MAJOR CONTOUR
- 1491 – PROPOSED MINOR CONTOUR
- 1490 – PROPOSED MAJOR CONTOUR
- EXISTING LOT LINE
- PROPOSED LOT LINE
- SETBACK (DD)
- EXISTING EASEMENT (SF)
- LIMITS OF GRADING (0.18 ACRES) (LP)
- VEHICLE TRACKING CONTROL: (S.F. S.P. 734.02) (VTC)
- PROPOSED DIVERSION DIKE: (S.F. S.P. 734.04)
- PROPOSED SILT FENCE: (S.F. S.P. 734.09)
- INLET PROTECTION: (S.F. S.P. 734.16)
- PROPOSED SILT DITCH: (S.F. S.P. 734.22) (SD)
- PROPOSED HORSESHOE FILTER: (S.F. S.P. 734.23) (SB)
- CONCRETE WASHOUT FACILITY: (S.F. S.P. 734.28) (CWF)
- SEDIMENT CONTROL WATTLE: (S.F. S.P. 734.29) (W)
- ROLLED EROSION CONTROL PRODUCT
- TURF REINFORCEMENT MAT
- RIP RAP
- SEED, MULCH & FERTILIZE

GENERAL NOTES

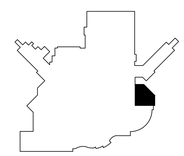
1. EXISTING CONCRETE TO THE NORTH AND EAST OF THE EXISTING BUILDING IS TO BE REMOVED AND REPLACED MATCHING EXISTING GRADES AND DRAINING TO EXISTING STORM SEWER STRUCTURES.
2. EXISTING ASPHALT PARKING LOT SOUTH OF THE EXISTING BUILDING IS TO BE MILLED 2-IN AND REPLACED WITH ASPHALT MATCHING THE EXISTING GRADE AND DRAINING TOWARDS THE EXISTING STORM SEWER STRUCTURES.
3. TOTAL DISTURBED AREA IS ±0.18 ACRES, NO SWPPP REQUIRED.
4. PRIOR TO COMMENCING CONSTRUCTION THE CONTRACTOR SHALL INSPECT THE SITE AND NOTE TO THE OWNER EXISTING EROSION PROBLEM AREAS.
5. INSTALL VEHICLE TRACKING CONTROL (VTC) AT EVERY CONSTRUCTION ENTRANCE. ZERO (0) VTC SHOWN.
6. THE CONTRACTOR SHALL INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES TO THE SATISFACTION OF THE OWNER AND THE CITY.
7. WHENEVER SEDIMENT IS TRANSPORTED ONTO PUBLIC ROAD OR OTHER PAVED AREA OUTSIDE THE CONSTRUCTION AREA, THE ROAD OR PAVED AREA SHALL BE CLEANED AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED BY SHOVELING OR SWEEPING WITH DUST CONTROL MEASURES AND BE TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA. WASHING SHALL NOT BE ALLOWED UNTIL AFTER SEDIMENT IS REMOVED IN THIS MANNER.
8. INSTALL, MAINTAIN, REPAIR AND REPLACE, AS NEEDED, SILT FENCE AT THE STOCKPILE LOCATIONS. STOCKPILE LOCATIONS SHALL BE AT THE DIRECTION OF THE OWNER OR PROJECT MANAGER.
9. MAINTENANCE OF EROSION AND SEDIMENT CONTROL DEVICES PER DETAILED NOTES AND AS REQUIRED BY INSPECTION OF FACILITIES SHALL BE PERFORMED BY THE CONTRACTOR.
10. AT ALL TIMES DURING GRADING OPERATIONS PROVIDE POSITIVE DRAINAGE TO EROSION AND SEDIMENT CONTROL DEVICES.
11. REFER TO THE GEOTECHNICAL REPORT INCLUDED IN THE PLANS AND SPECIFICATIONS.
12. THE EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION UPON COMPLETION OF THIS CONTRACT BY THE CONTRACTOR.
13. ALL STOCKPILE AREAS SHALL BE STABILIZED (SEEDED, MULCHED, FERTILIZED) PER TABLE 12.1.
14. CONTRACTOR WILL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ALL EROSION CONTROL AND STABILIZATION MEASURES DAMAGED OR OTHERWISE IMPACTED BY CONSTRUCTION ACTIVITIES.
15. THE CONTRACTOR SHALL INSTALL SEED, MULCH, AND FERTILIZE FOR PERMANENT STABILIZATION PER LANDSCAPING PLAN.

TABLE 12.1
MAXIMUM TIME LIMITS OF LAND EXPOSURES FOR SELECTION OF EROSION CONTROLS

EROSION CONTROL METHOD	MAXIMUM ALLOWABLE PERIOD OF EXPOSURE (MONTHS)
SURFACE ROUGHENING*	1
MULCHING	12
TEMPORARY REVEGETATION	12-24
PERMANENT REVEGETATION	24 OR MORE
SOIL STOCKPILE REVEGETATION	2
EARLY APPLICATION OF ROAD BASE	1

*THE SURFACE-ROUGHENING EROSION CONTROL METHOD MAY BE EXTENDED UP TO THE MAXIMUM OF THREE MONTHS ON A CASE-BY-CASE BASIS IF THE CITY HAS DETERMINED THAT THE SITE DEMONSTRATES THE FOLLOWING:
A. APPROPRIATE SOIL CONDITIONS EXIST FOR THIS METHOD OF CONTROL.
B. DISTURBED AREAS WILL BE SEEDED AND MULCHED WITHIN THREE MONTHS.
C. SEASONAL PLANTING LIMITATIONS EXIST.
D. SOIL STABILIZATION METHOD HAS DEMONSTRATED ITS EFFECTIVENESS.

WHEN THE SITE HAS BEEN STRIPPED AND THE SOIL STOCKPILE AREA WILL BE IDLE FOR 14 DAYS OR MORE THE STOCKPILE AREA SHALL BE SEEDED WITH A TEMPORARY GRASS COVER.



KEYPLAN
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NORTH

EGA# SD181135

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STONE GROUP ARCHITECTS

STAMP

PROFESSIONAL ENGINEER REG. NO. 9604 DARRIAN F. GRIFFITH 12/21/18 SOUTH DAKOTA

Office of Construction and Facilities Management

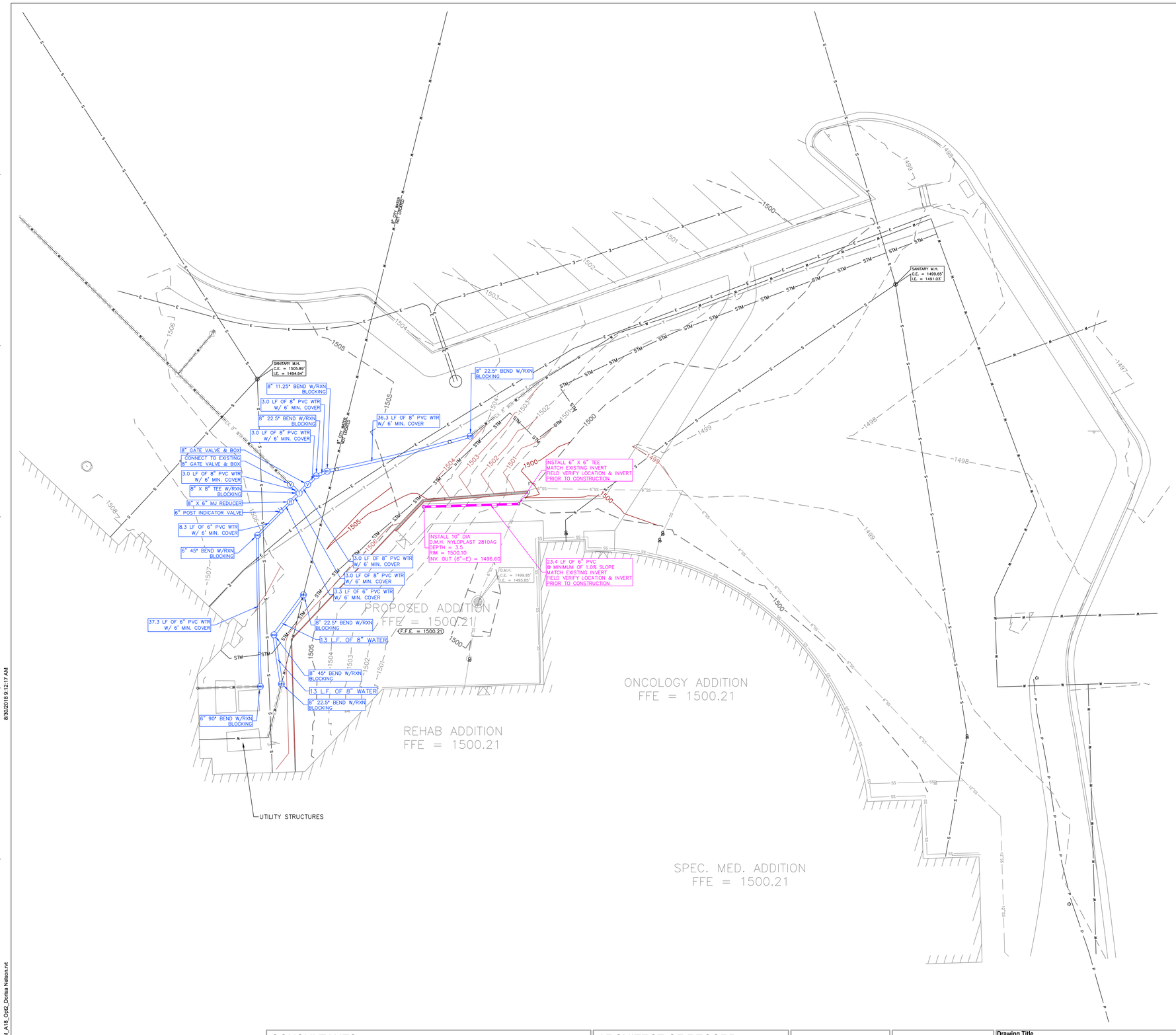
VA U.S. Department of Veterans Affairs

Drawing Title	ERSC Plan
Approved:	
Phase	100% Bid Set
	FULLY SPRINKLERED
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Location	Sioux Falls, South Dakota
Issue Date	12/21/2018
Checked	DFG
Drawn	GBG
Project Number	VA #438-500 SGA #181906
Building Number	5
Drawing Number	5.CG102

8/30/2018 9:12:17 AM

C:_SGA Revit Local\181906_VA_PHARM_A18_Opt2_Dottsa Nelson.rvt

VA FORM 08 - 6231



NORTH

SCALE 1" = 10'

10 0 10 20 30 FT.

LEGEND

- 8"SAN — SANITARY SEWER & SIZE
- 8"WTR — WATER MAIN & SIZE
- 24"SS — STORM SEWER & SIZE
- SANITARY MANHOLE
- STORM STRUCTURE
- FIRE HYDRANT
- GATE VALVE & BOX
- POST INDICATOR VALVE
- WATER SERVICE SHUTOFF
- TEE
- CROSS
- BEND (90°, 45°, 22.5°, 11.25°)
- REDUCER
- STREET LIGHT
- SANITARY SEWER SERVICE
- SANITARY SEWER SERVICE RISER
- WATER SERVICE W/SHUTOFF
- SUMP SERVICE
- EXISTING SANITARY SEWER
- EXISTING WATER MAIN
- EXISTING STORM SEWER
- EXISTING SANITARY MANHOLE
- EXISTING STORM STRUCTURE
- EXISTING FIRE HYDRANT
- EXISTING GATE VALVE & BOX
- EXISTING TEE
- EXISTING CROSS
- EXISTING BEND (90°, 45°, 22.5°, 11.25°)

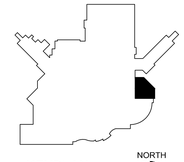
GENERAL NOTES

1. ALL CIVIL DRAWINGS REFERENCE A FINISHED GROUND FLOOR ELEVATION FOR THE EXISTING BUILDING AND THE NEW ADDITION OF 1500.21'.
2. ALL UTILITIES SHOWN ARE EXISTING AND PROVIDED BY FIELD LOCATES AND AVAILABLE AS BUILT DRAWINGS. THE STRUCTURE LOCATIONS MAY VARY DUE TO POSSIBLE INACCURACIES IN THE SURVEY.
3. THE CONTRACTOR SHALL VERIFY THE RE-ROUTE OF THE WATER LINE, STEAM LINE AND ANY OTHER EXISTING UTILITY WITH THE VA.
4. SUFFICIENT COVER SHALL BE MAINTAINED OVER ALL EXISTING UTILITIES. THE STEAM LINE ELEVATION SHALL BE VERIFIED AND RE-ROUTED IF DETERMINED BY THE VA.
5. ALL WATER LINES SHALL HAVE A MINIMUM COVER OF 6-FT.
6. SITE GRADING AND CONSTRUCTION OF THE NEW ADDITION WILL DISTURB EXISTING LAWN IRRIGATION SYSTEMS. THE CONTRACTOR SHALL OBTAIN BIDS FROM THE LIST OF OWNER APPROVED LAWN IRRIGATION CONTRACTORS GIVEN BELOW. THE LAWN IRRIGATION CONTRACTOR SHALL RECONFIGURE THE IRRIGATION SYSTEM TO ACCOMMODATE THE NEW SITE FEATURES AND GRADING. THE CONTRACTOR SHALL PROVIDE A COMPLETE AND OPERABLE LAWN IRRIGATION SYSTEM, UTILIZING RAIN BIRD COMMERCIAL GRADE PIPE, FITTINGS AND COMPONENTS. THE CONTRACTOR SHALL SUBMIT A PLAN FOR RECONFIGURATION OF THE IRRIGATION SYSTEM TO THE OWNER FOR APPROVAL.

   OWNER APPROVED LAWN IRRIGATION CONTRACTORS

   A&M UNDERGROUND IRRIGATION
   (605) 743 - 5616

   YELLOW JACKET IRRIGATION AND LANDSCAPING
   (605) 231 - 0717
7. INSTALL U-TYPE INSULATION OVER EXISTING STEAM PIPE WHERE HORIZONTAL AND VERTICAL COVER IS LESS THAN 4FT ALONG FOUNDATION AND RETAINING WALL. SEE SIOUX FALLS STANDARD DETAIL PLAT 900.14 ON SHEET C-502.
8. FOR ALL CONNECTIONS TO EXISTING UTILITIES, THE CONTRACTOR SHALL VERIFY AND MATCH LOCATION AND INVERT ELEVATION.



KEYPLAN
NTS

NORTH

EGA# SD181135

Revision#	Description	Date:
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.	.	.
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.	.	.
.	.	.
1	100% Bid Set	12/21/18

CONSULTANTS

STRUCTURAL:
Albertson Engineering Inc.

MECHANICAL / ELECTRICAL / PLUMBING:
WPE West Plains Engineering, Inc.

CIVIL:
EHRHART GRIFFIN & ASSOCIATES

INTERIOR DESIGN:

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3202 W. Main St. #C
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Phone: 605-339-7215

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Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP

PROFESSIONAL ENGINEER AND LAND SURVEYOR — REG. NO. 9604 — DARRIAN F. GRIFFIN — 12/21/18 — SOUTH DAKOTA

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: Utility Plan

Phase: 100% Bid Set

Approved:

FULLY SPRINKLERED

Project Title: Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance

Location: Sioux Falls, South Dakota

Issue Date: 12/21/2018 | **Checked:** DFG | **Drawn:** GBG

Project Number: VA #438-500 SGA #181906

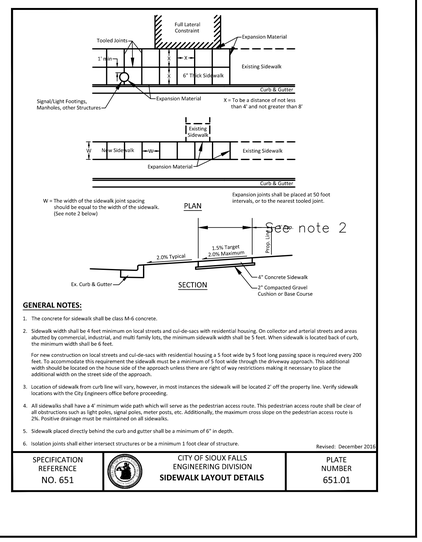
Building Number: 5

Drawing Number: 5.CU101

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VA FORM 08 - 6231



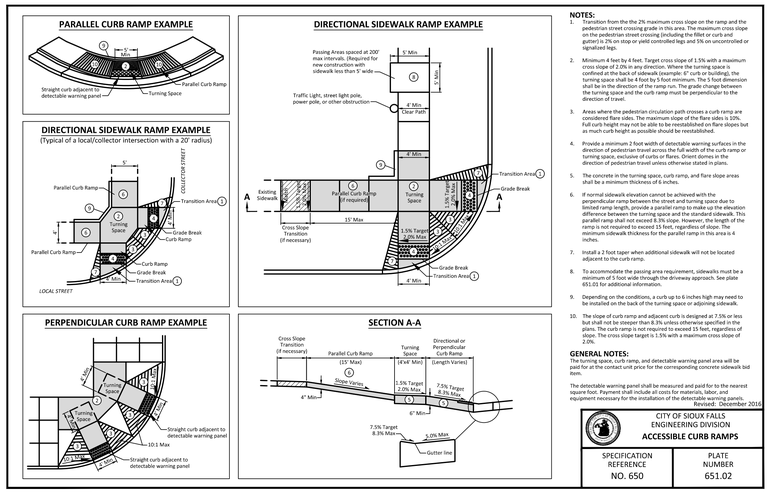
GENERAL NOTES:

1. The concrete for sidewalk shall be class M-6 concrete.
2. Sidewalk width shall be 4 feet minimum on local streets and cul-de-sacs with residential housing. On collector and arterial streets and areas abutted by commercial, industrial, and multi family lots, the minimum sidewalk width shall be 5 feet. When sidewalk is located back of curb, the minimum width shall be 6 feet.

   For new construction on local streets and cul-de-sacs with residential housing a 5 foot wide by 5 foot long passing space is required every 200 feet. To accommodate this requirement the sidewalk must be a minimum of 5 foot wide through the driveway approach. This additional width should be located on the house side of the approach unless there are right of way restrictions making it necessary to place the additional width on the street side of the approach.
3. Location of sidewalk from curb line will vary, however, in most instances the sidewalk will be located 2' off the property line. Verify sidewalk locations with the City Engineers office before proceeding.
4. All sidewalks shall have a 4' minimum wide path which will serve as the pedestrian access route. This pedestrian access route shall be clear of all obstructions such as light poles, signal poles, meter posts, etc. Additionally, the maximum cross slope on the pedestrian access route is 2%. Positive drainage must be maintained on all sidewalks.
5. Sidewalk placed directly behind the curb and gutter shall be a minimum of 6" in depth.
6. Isolation joints shall either intersect structures or be a minimum 1 foot clear of structure.

Revised: December 2016

SPECIFICATION REFERENCE	CITY OF SIOUX FALLS ENGINEERING DIVISION	PLATE NUMBER
NO. 651	**SIDEWALK LAYOUT DETAILS**	651.01



NOTES:

1. Transition from the the 2% maximum cross slope on the ramp and the pedestrian street crossing grade in this area. The maximum cross slope on the pedestrian street crossing (including the fillet or curb and gutter) is 2% on stop or yield controlled legs and 5% on uncontrolled or signalized legs.
2. Minimum 4 feet by 4 feet. Target cross slope of 1.5% with a maximum cross slope of 2.0% in any direction. Where the turning space is confined at the back of sidewalk (example: 6" curb or building), the turning space shall be 4 foot by 5 foot minimum. The 5 foot dimension shall be in the direction of the ramp run. The grade change between the turning space and the curb ramp must be perpendicular to the direction of travel.
3. Areas where the pedestrian circulation path crosses a curb ramp are considered flare sides. The maximum slope of the flare sides is 10%. Full curb height may not be able to be reestablished on flare slopes but as much curb height as possible should be reestablished.
4. Provide a minimum 2 foot width of detectable warning surfaces in the direction of pedestrian travel across the full width of the curb ramp or turning space, exclusive of curbs or flares. Orient domes in the direction of pedestrian travel unless otherwise stated in plans.
5. The concrete in the turning space, curb ramp, and flare slope areas shall be a minimum thickness of 6 inches.
6. If normal sidewalk elevation cannot be achieved with the perpendicular ramp between the street and turning space due to limited ramp length, provide a parallel ramp to make up the elevation difference between the turning space and the standard sidewalk. This parallel ramp shall not exceed 8.3% slope. However, the length of the ramp is not required to exceed 15 feet, regardless of slope. The minimum sidewalk thickness for the parallel ramp in this area is 4 inches.
7. Install a 2 foot taper when additional sidewalk will not be located adjacent to the curb ramp.
8. To accommodate the passing area requirement, sidewalks must be a minimum of 5 foot wide through the driveway approach. See plate 651.05 for additional information.
9. Depending on the conditions, a curb up to 6 inches high may need to be installed on the back of the turning space or adjoining sidewalk.
10. The slope of curb ramp and adjacent curb is designed at 7.5% or less but shall not be steeper than 8.3% unless otherwise specified in the plans. The curb ramp is not required to exceed 15 feet, regardless of slope. The cross slope target is 1.5% with a maximum cross slope of 2.0%.

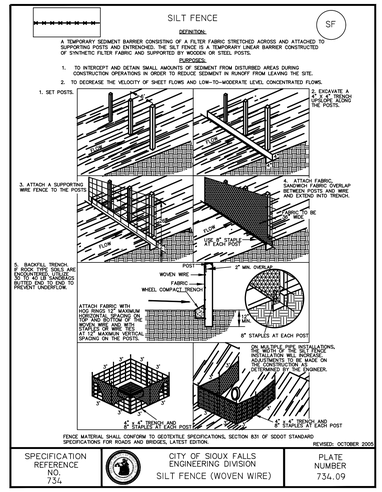
GENERAL NOTES:

The turning space, curb ramp, and detectable warning panel area will be paid for at the contact unit price for the corresponding concrete sidewalk bid item.

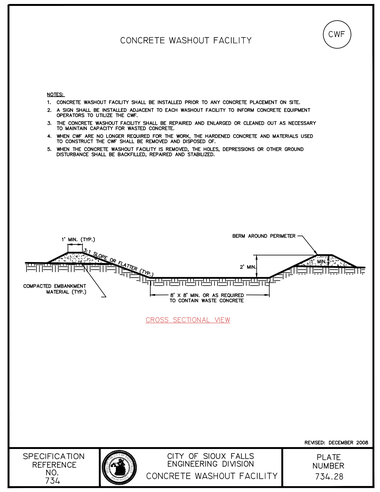
The detectable warning panel shall be measured and paid for to the nearest square foot. Payment shall include all costs for materials, labor, and equipment necessary for the installation of the detectable warning panels.

Revised: December 2016

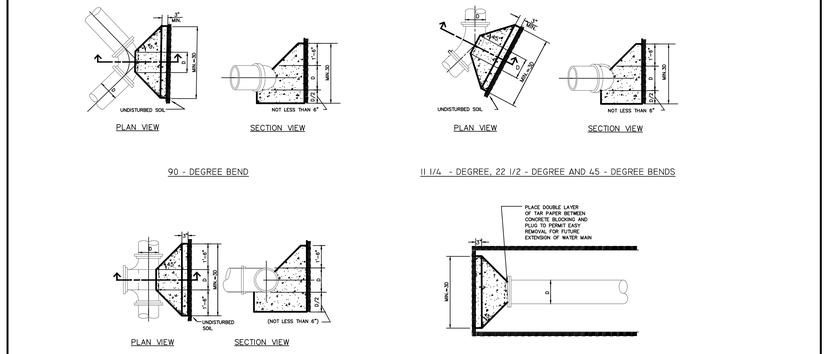
SPECIFICATION REFERENCE	CITY OF SIOUX FALLS ENGINEERING DIVISION	PLATE NUMBER
NO. 650	**ACCESSIBLE CURB RAMPS**	651.02



SPECIFICATION REFERENCE NO. 734	CITY OF SIOUX FALLS ENGINEERING DIVISION	PLATE NUMBER
	SILT FENCE (WOVEN WIRE)	734.09

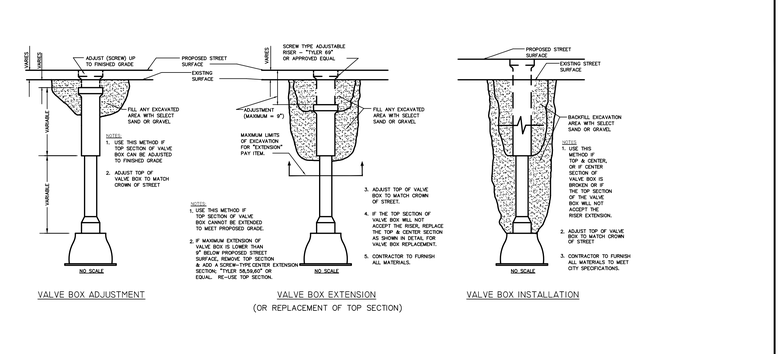


SPECIFICATION REFERENCE NO. 734	CITY OF SIOUX FALLS ENGINEERING DIVISION	PLATE NUMBER
	CONCRETE WASHOUT FACILITY	734.28



REVISED: AUGUST 2014

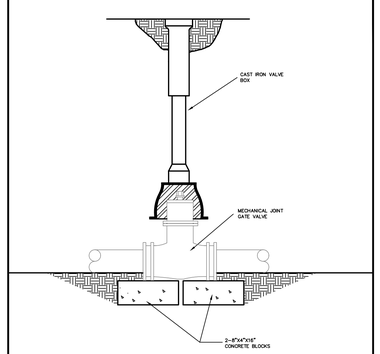
	CITY OF SIOUX FALLS ENGINEERING DIVISION	
SPECIFICATION REFERENCE NO. 900	CONCRETE THRUST BLOCK	PLATE NUMBER 900.01



REVISED: NOVEMBER 2004

	CITY OF SIOUX FALLS ENGINEERING DIVISION	
SPECIFICATION REFERENCE NO. 900	VALVE BOX ADJUSTMENT/ REPLACEMENT	PLATE NUMBER 900.02

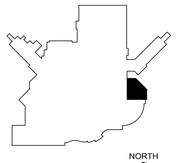
VALVE BOX ADJUSTMENT / REPLACEMENT



PVC GATE VALVE INSTALLATION
NO SCALE

REVISED: JANUARY 1999

SPECIFICATION REFERENCE NO. 900	CITY OF SIOUX FALLS ENGINEERING DIVISION	PLATE NUMBER
	PVC GATE VALVE INSTALLATION	900.08



KEYPLAN
NTS
NORTH

EGA# SD181135

Revision#	Description	Date:
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.	.	.
.	.	.
.	.	.
1	100% Bid Set	12/21/18

CONSULTANTS

STRUCTURAL:
Albertson Engineering Inc.

MECHANICAL / ELECTRICAL / PLUMBING:
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Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP

REG. NO. 8604 — DANIAN R. GREULE — 12/21/18 — SOUTH DAKOTA

Office of Construction and Facilities Management

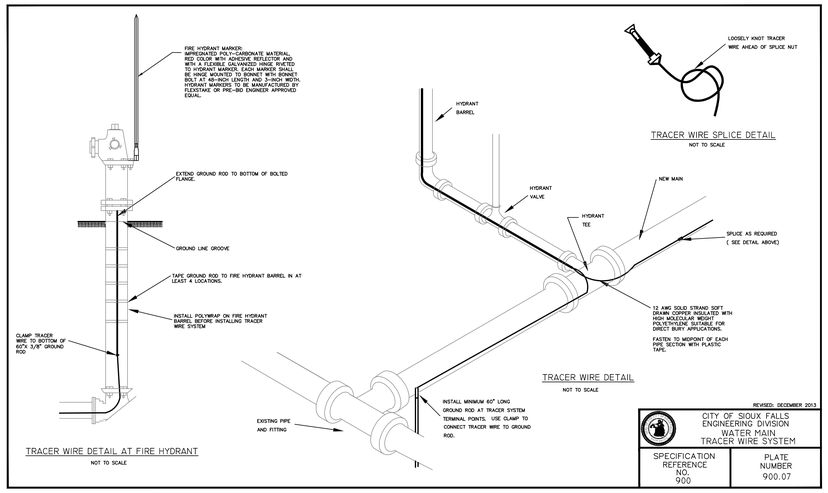
VA U.S. Department of Veterans Affairs

Drawing Title Civil Details	**Phase** 100% Bid Set	**Project Title** Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance	**Project Number** VA #438-500 SGA #181906
Approved:	FULLY SPRINKLERED	**Location** Sioux Falls, South Dakota	**Building Number** 5
		Issue Date 12/21/2018 / **Checked** DFG / **Drawn** GBG	**Drawing Number** 5.CK101

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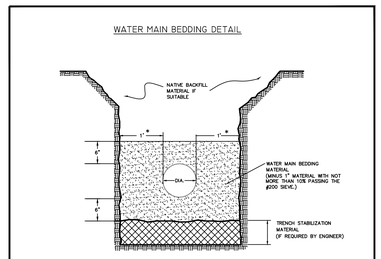
VA FORM 08 - 6231



REVISED: DECEMBER 2013

CITY OF SIOUX FALLS ENGINEERING DIVISION
WATER MAIN TRACER WIRE SYSTEM

SPECIFICATION REFERENCE NO.	PLATE NUMBER
900	900.07

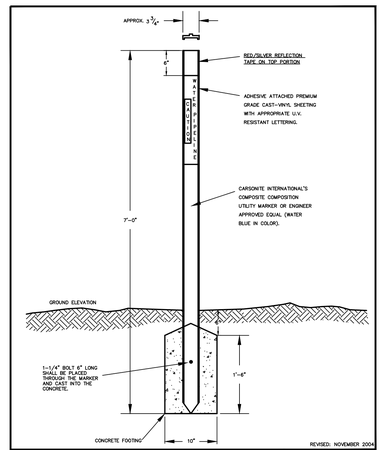


PIPE SIZE DIAMETER	TRENCH WIDTH	TRENCH HEIGHT	TRENCH AREA	PIPE AREA	WATER MAIN BEDDING MAT. AREA	WATER MAIN BEDDING MAT. TONS/LF
4"	28"	16"	3.11 SQ.FT.	.09 SQ.FT.	3.02 SQ.FT.	0.21
6"	30"	18"	3.75 SQ.FT.	.20 SQ.FT.	3.55 SQ.FT.	0.25
8"	32"	20"	4.44 SQ.FT.	.35 SQ.FT.	4.10 SQ.FT.	0.28
10"	34"	22"	5.19 SQ.FT.	.55 SQ.FT.	4.65 SQ.FT.	0.33
12"	36"	24"	6.00 SQ.FT.	.79 SQ.FT.	5.22 SQ.FT.	0.37
16"	40"	28"	7.78 SQ.FT.	1.40 SQ.FT.	6.38 SQ.FT.	0.45
20"	44"	32"	9.78 SQ.FT.	2.18 SQ.FT.	7.60 SQ.FT.	0.53
24"	48"	36"	12.00 SQ.FT.	3.14 SQ.FT.	8.86 SQ.FT.	0.62
30"	60"	42"	17.50 SQ.FT.	4.91 SQ.FT.	12.59 SQ.FT.	0.88

* IF 3.00" USE DIA./2 ON EACH SIDE OF WATER MAIN PIPE.
* LENGTH BASED ON ONE (1) FOOT OF MAIN.

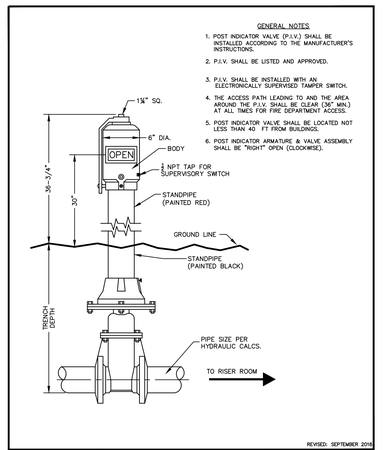
REVISED: MAY 2007

SPECIFICATION REFERENCE NO.	CITY OF SIOUX FALLS ENGINEERING DIVISION WATER MAIN BEDDING DETAIL	PLATE NUMBER
900		900.12



REVISED: NOVEMBER 2004

SPECIFICATION REFERENCE NO.	CITY OF SIOUX FALLS ENGINEERING DIVISION VALVE BOX MARKER	PLATE NUMBER
900		900.15



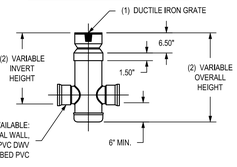
REVISED: SEPTEMBER 2016

SPECIFICATION REFERENCE NO.	CITY OF SIOUX FALLS ENGINEERING DIVISION POST INDICATOR VALVE (P.I.V.)	PLATE NUMBER
900		900.15

2808AG_ _X

8" CUSTOM DRAIN BASIN

GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
STANDARD	LIGHT DUTY	0599CGS	7001-110-194
SOLID COVER	LIGHT DUTY	0599CGC	7001-110-195
BRONZE	N/A	0599CGB	7001-110-196
DOME	N/A	0599CGD	7001-110-197
DROP IN GRATE	LIGHT DUTY	0801DI	7001-110-019

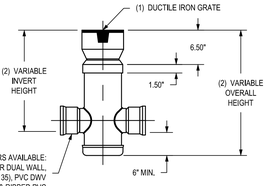


(3,4) VARIOUS TYPES OF INLET & OUTLET ADAPTERS AVAILABLE:
4" - 8" FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL, ADS/HANCOR SINGLE WALL), PVC SEWER (EX: SDR 35), PVC DWV (EX: SCH 40), PVC C900/C905, CORRUGATED & RIBBED PVC

2810AG_ _X

10" CUSTOM DRAIN BASIN

GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
STANDARD	LIGHT DUTY	1099CGS	7001-110-198
SOLID COVER	LIGHT DUTY	1099CGC	7001-110-199
BRONZE	N/A	1099CGB	7001-110-200
DOME	N/A	1099CGD	7001-110-201
DROP IN GRATE	LIGHT DUTY	1001DI	7001-110-020



(3,4) VARIOUS TYPES OF INLET & OUTLET ADAPTERS AVAILABLE:
4" - 10" FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL, ADS/HANCOR SINGLE WALL), PVC SEWER (EX: SDR 35), PVC DWV (EX: SCH 40), PVC C900/C905, CORRUGATED & RIBBED PVC

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05. WITH THE EXCEPTION OF THE BRONZE GRATE.
2 - CUSTOM DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-005
3 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
4 - STANDARD DRAIN BASIN HAS FIXED ADAPTER LOCATIONS OF 0° & 180°, CUSTOM DRAIN BASIN ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
5 - DIMENSIONS ARE FOR REFERENCE ONLY ACTUAL DIMENSIONS MAY VARY

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DRAWN BY	AWA	MATERIAL	
DATE	8-11-00		
REVISED BY	EBC	PROJECT NO./NAME	
DATE	3-18-10		
DWG SIZE	A	SCALE NTS SHEET 1 OF 1	

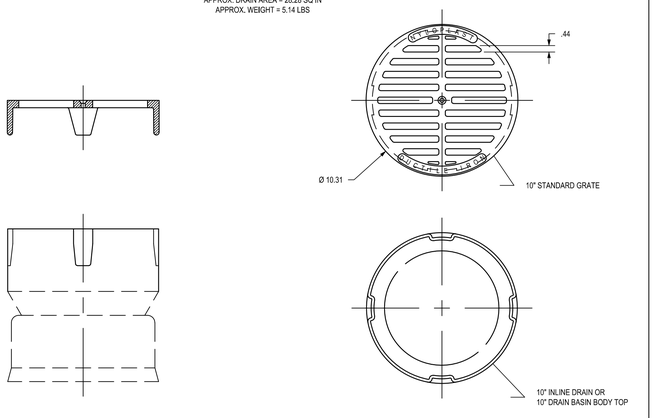
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplastusa.com

TITLE: 8 IN & 10 IN DRAIN BASIN DESIGN DETAILS

DWG NO. 7001-110-045 REV G

1099CGS

APPROX. DRAIN AREA = 28.28 SQ IN
APPROX. WEIGHT = 5.14 LBS



DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
GRATE HAS LIGHT DUTY RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
SIZE OF OPENING MEETS REQUIREMENTS OF AMERICAN DISABILITY ACT AS STATED IN FEDERAL REGISTER PART III, DEPARTMENT OF JUSTICE, 28 CFR PART 36.
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-041

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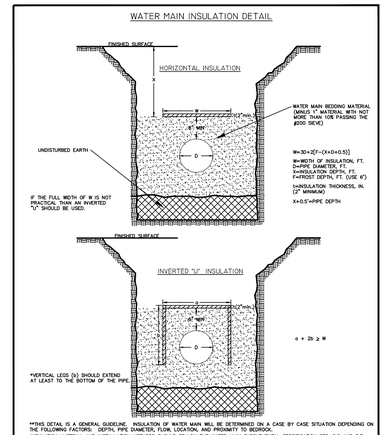
DRAWN BY	EBC	MATERIAL	DUCTILE IRON
DATE	3-3-06		
REVISED BY	EBC	PROJECT NO./NAME	
DATE	3-13-10		
DWG SIZE	A	SCALE 1:5 SHEET 1 OF 1	

3130 VERONA AVE
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TITLE: 10 IN STANDARD GRATE ASSEMBLY

DWG NO. 7001-110-198 REV B

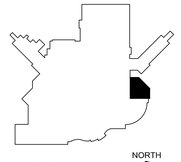
WATER MAIN INSULATION DETAIL



**THIS DETAIL IS A GENERAL GUIDELINE. INSULATION OF WATER MAIN WILL BE DETERMINED ON A CASE BY CASE SITUATION DEPENDING ON THE FOLLOWING FACTORS: DEPTH, PIPE DIAMETER, FLOW, LOCATION, AND PROXIMITY TO BEDROCK. INSULATION MATERIAL AND INSTALLATION METHODS SHOULD FOLLOW THE WATER MAIN SUPPLEMENTAL SPECIFICATION SEC. 2.8 AND 3.7.

REVISED: SEPTEMBER 2005

SPECIFICATION REFERENCE NO.	CITY OF SIOUX FALLS ENGINEERING DIVISION WATER MAIN INSULATION DETAIL	PLATE NUMBER
900		900.14



KEYPLAN
NTS
NORTH

EGA# SD181135

Revision#	Description	Date:
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1	100% Bid Set	12/21/18

CONSULTANTS

STRUCTURAL:
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MECHANICAL / ELECTRICAL / PLUMBING:
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ARCHITECT OF RECORD

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Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP



Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: Civil Details

Phase: 100% Bid Set

Approved:

FULLY SPRINKLERED

Project Title: Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance

Location: Sioux Falls, South Dakota

Issue Date: 12/21/2018

Checked: DFG

Drawn: GBG

Project Number: VA #438-500 SGA #181906

Building Number: 5

Drawing Number: 5.CK102

C:_SGA Revit Local\181906_VA_PHARM_A18_Opt2_Dorlas Nelson.rvt

8/30/2018 9:12:17 AM

VA FORM 08 - 6231

GENERAL STRUCTURAL NOTES

GENERAL NOTES:

1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR SLEEVES, DEPRESSIONS AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.
2. ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
3. THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING (AND ACCOMPANYING FOOTINGS), GUYS OR TIE-DOWNS.
4. ADDITIONAL OBSERVATIONS AS A RESULT OF REJECTION OF WORK COMPLETED AND/OR ADDITIONAL OBSERSVATIONS DUE TO THE DEFICIENCIES IN WORK OBSERVED WILL BE AT THE EXPENSE OF THE CONTRACTOR.
5. ALL STRUCTURAL SHOP DRAWINGS TO BE REVIEWED BY JOB SUPERINTENDENT IN ADDITION TO ALL PERSONNEL DEEMED NECESSARY BY CONTRACTOR PRIOR TO SUBMITTAL TO ENGINEER FOR APPROVAL.
6. ALL SHOP DRAWINGS TO BE REVIEWED BY ALBERTSON ENGINEERING, INC. SHALL HAVE ELECTRONIC COPIES PROVIDED TO ALBERTSON ENGINEERING, INC. FOR REVIEW. AN ELECTRONIC MARKED SET OF THOSE DRAWINGS WILL BE RETURNED TO THE CONTRACTOR. NO ADDITIONAL HARD COPIES OF THE SHOP DRAWINGS NEED TO BE PROVIDED TO ALBERTSON ENGINEERING, INC., ALTHOUGH OTHER PARTIES MAY REQUIRE HARD COPIES OF THE MARKED UP DRAWINGS. THESE REQUIREMENTS ARE IN ADDITION TO THE TYPICAL PROJECT SHOP DRAWING SUBMITTAL REQUIREMENTS STATED IN THE PROJECT SPECIFICATIONS.
7. THE DESIGN OF THE STRUCTURE SHOWN IN THESE CONSTRUCTION DOCUMENTS IS FOR THE ONE-TIME USE AT THE SPECIFIC SITE REFERENCED IN THE GEOTECHNICAL RECOMMENDATIONS COVER SHEET.

DESIGN CODES AND GUIDELINES:

- 2015 INTERNATIONAL BUILDING CODE.
- ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY.
- AISC 360-10 SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS.
- SJI 100-2015 STANDARD SPECIFICATIONS, LOAD TABLES, AND WEIGHT TABLES FOR STEEL JOISTS & JOIST GIRDERS.
- ANSI/SDI RD-2010 STANDARD FOR STEEL ROOF DECK.
- AISI S200-12 NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING - GENERAL PROVISIONS.

DESIGN LOADS:

THE STRUCTURAL SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED WITH THE FOLLOWING SUPERIMPOSED LOADINGS:

ROOF:

SNOW LOAD (I = 1.2)	36 PSF + DRIFT
GROUND SNOW LOAD	40 PSF
DEAD LOAD	20 PSF

WIND:

ULTIMATE WIND SPEED	120 MPH
EXPOSURE CATEGORY	B
RISK CATAGORY	IV
INTERNAL PRESSURE COEFFICIENT	0.18
COMPONENT AND CLADDING PRESSURES	SEE TABLE ON SHEET S-003

SEISMIC:

RISK CATAGORY	IV
SEISMIC DESIGN CATAGORY	A
SITE CLASSIFICATION	D
SEISMIC IMPORTANCE FACTOR	1.5
MAPPED SPECTRAL RESPONSE COEFFICIENTS	
Ss = 0.096	
S1 = 0.061	
SEISMIC FORCE RESISTING SYSTEM	
SIMPLE DIAPHRAGM (METAL ROOF DECK), STEEL ORDINARY CONCENTRICALLY BRACE FRAMES, AND LIGHT FRAMED WALLS (COLD FORMED STEEL) SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE.	
DESIGN BASE SHEAR	0.01W
SEISMIC RESPONSE COEFFICIENT	0.044
RESPONSE MODIFICATION COEFFICIENTS (R)	
STEEL ORDINARY CONCENTRICALLY BRACED FRAMES	3.25
LIGHT FRAMED WALLS (COLD FORMED STEEL) SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE	6.5
ANALYSIS PROCEDURE	
EQUIVALENT FORCE PROCEDURE	

FOUNDATIONS:

1. SEE THE FOLLOWING RECOMMENDATIONS FOR COMPLETE GEOTECHNICAL RECOMMENDATIONS AND INSTALLATION PROCEDURES. SITE PREPARATION AND FOUNDATION SHALL COMPLY WITH THE FOLLOWING:

   PREPARED BY: TWIN CITY TESTING

   TITLE: SUBSURFACE EXPLORATION
   PROPOSED VA HOSPITAL ADDITION / REMODELING
   SIOUX FALLS, SD
   TCT #66-8574

   DATE: OCTOBER 29, 1982

2. KNOWLEDGE OF THE SPECIFIC BUILDING TYPE, CONSTRUCTION TYPE, AND LIKELY LOADS SHOWN ON THE CONSTRUCTION DOCUMENTS. ALL STRUCTURAL DESIGNS WERE BASED UPON STAYING WITHIN THE LIMITS GIVEN WITHIN THE GEOTECHNICAL RECOMMENDATIONS FOR THE LOADS PRESCRIBED BY THE BUILDING CODE REFERENCED IN THE DESIGN CODES SECTION OF THESE STRUCTURAL NOTES.
3. DESIGNS BASED UPON A MODIFIED ALLOWABLE BEARING CAPACITY OF 1,500 PSF. SEE GEOTECHNICAL RECOMMENDATIONS AND SPECIFICATIONS FOR ALL REQUIREMENTS RELATED TO THE CONSTRUCTION OF THE SLAB AND FOOTINGS ON GRANULAR ENGINEERED FILL MATERIAL. BEFORE CONSTRUCTION BEGINS, SOIL BEARING CAPACITY AND SUBGRADE PREPARATION SHALL BE VERIFIED BY GEOTECHNICAL ENGINEER.

PLUMBING SLEEVES:

MINIMUM SLEEVE SPACING SHALL BE TWO DIAMETERS CENTER TO CENTER TO THE LARGER SLEEVE OR 6" CLEAR BETWEEN SLEEVES, WHICHEVER IS GREATER. PRIOR TO CONSTRUCTION SLEEVE LOCATIONS AND SIZES SHALL BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

CHEMICAL ANCHORS:

SHALL BE A POLYMER INJECTION SYSTEM SUCH AS "HILTI HY-200 HIGH STRENGTH EPOXY", OR APPROVED EQUAL, INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. INSTALLERS SHALL BE TRAINED BY THE MANUFACTURER'S REPRESENTATIVE.

ANCHOR BOLTS:

1. SHALL BE A36 THREADED ROD. PROVIDE HOT DIP GALVANIZE FINISH ON ALL ANCHOR BOLTS PERMANENTLY EXPOSED TO EXTERIOR OR IN CONTACT WITH PRESSURE TREATED LUMBER.
2. THREADED ROD EMBEDMENT DEPTH SPECIFIED IN THE DRAWINGS SHALL BE FROM THE TOP OF CONCRETE TO THE TOP OF DOUBLE NUT.

CONCRETE TESTING:

1. CONCRETE TESTING SHALL BE PAID FOR BY THE OWNER. TESTING LABORATORY SHALL PERFORM THE FOLLOWING TEST ON CAST-IN-PLACE CONCRETE:

   A) ASTM C143 - "STANDARD TEST METHOD FOR SLUMP OF PORTLAND CEMENT CONCRETE."

   B) ASTM C39 - "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS. A SEPARATE TEST SHALL BE CONDUCTED FOR EACH CLASS, FOR EVERY 50 CUBIC YARDS (OR FRACTION THEREOF), PLACED PER DAY. REQUIRED CYLINDER(S) QUANTITIES AND TEST AGE AS FOLLOWS:
   a. AT 7 DAYS
   b. AT 28 DAYS

   C) PROVIDE ONE ADDITIONAL RESERVE CYLINDER TO BE TESTED UNDER THE DIRECTION OF THE ENGINEER, IF REQUIRED. IF 28 DAY STRENGTH IS ACHIEVED, THE ADDITIONAL CYLINDER(S) MAY BE DISCARDED.

PENETRATIONS:

NO PENETRATIONS SHALL BE MADE IN ANY STRUCTURAL MEMBERS OTHER THAN THOSE LOCATED ON THESE DRAWINGS WITHOUT PREVIOUS APPROVAL OF THE CONTRACTING OFFICER.

CONCRETE MIX DESIGN:

1. SHALL BE MIX DESIGNED BY A RECOGNIZED TESTING LABORATORY TO ACHIEVE A STRENGTH AT 28 DAYS AS LISTED BELOW WITH A PLASTIC AND WORKABLE MIX:
   3,000 PSI - FOUNDATION WALLS & FOOTINGS
   4,000 PSI - INTERIOR SLABS-ON-GRADE
   4,000 PSI - ALL OTHER CONCRETE
2. SUBMIT PROPOSED MIX DESIGN WITH RECENT FIELD CYLINDER OR LAB TESTS FOR REVIEW PRIOR TO USE. MIX SHALL BE UNIQUELY IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. CONCRETE SHALL COMPLY WITH ALL THE REQUIREMENTS OF ASTM STANDARD C94 FOR MEASURING, MIXING, TRANSPORTING, ETC. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN CONCRETE IS BATCHED. THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1-1/2) HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY THAN STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE WITH THE ABOVE. ALL SLABS SHALL BE CURED USING CURING COMPOUND MEETING ASTM STANDARD C309 TYPE 1 AND SHALL HAVE A FUGITIVE DYE. THE COMPOUND SHALL BE PLACED AS SOON AS THE FINISHING IS COMPLETED OR AS SOON AS THE WATER HAS LEFT THE UNFINISHED CONCRETE. ALL SCUFFED OR BROKEN AREAS IN THE CURING MEMBRANE SHALL BE RECOATED DAILY. CALCIUM CHLORIDES SHALL NOT BE UTILIZED; OTHER ADMIXTURES MAY BE USED ONLY WITH THE APPROVAL OF THE CONTRACTING OFFICER.

CONCRETE MIX DESIGN (CONT):

3. CONCRETE SHALL UTILIZE TYPE I/II CEMENT.
4. THE CONCRETE STRENGTHS SHOWN IN THE SECTION ABOVE AND IN THE SPECIFICATIONS ARE MINIMUM COMPRESSIVE STRENGTHS. THE ENGINEER SHALL DETERMINE IF THE CONCRETE IS ACCEPTABLE, OR TO BE REMOVED, OR TO RECEIVE SPECIAL CURING IF THE COMPRESSIVE STRENGTHS ARE LESS THAN SPECIFIED.

   A. COMPLIANCE WITH THE NON-REACTIVE REQUIREMENTS OF ACI 302.1 SHALL NOT BE PROVIDED FOR BY THE PROVISION OF ACI 302.1 (SUBSECTION 7.3) THAT EXCLUDES THE AGGREGATES BEING CLASSIFIED AS DELETERIOUSLY REACTIVE WHEN ALKALI-SILICA REACTIVITY HAS A SATISFACTORY SERVICE RECORD EVALUATION OR WITH THE ADDITION OF A MATERIAL THAT HAS SHOWN TO PREVENT HARMFUL EXPANSION DUE TO ALKALI-AGGREGATE REACTION.

   B. CONCRETE MIX DESIGN SHALL INCLUDE TEST RECORDS OF THE COMPLIANCE OF THE AGGREGATE MEETING THE REQUIREMENTS OF ASTM C1260, AND THAT THE EXPANSION OF THE MORTAR SAMPLE SHALL NOT EXCEED 0.10% WHEN TESTED IN ACCORDANCE WITH ASTM C1260 AT 14 DAYS. USE OF ADMIXTURES THAT MITIGATE THE EFFECT OF THE REACTIVE AGGREGATE TO BE PROPOSED IN CONCRETE MIX SHOP DRAWING MAY BE AN APPROVED APPROACH BY THE ENGINEER TO ALLOW FOR THE USE OF OTHERWISE REACTIVE AGGREGATES. IF SUCH MITIGATING MEASURES ARE PROPOSED, THEY MUST BE INCLUDED WITHIN MIX DESIGN SUBMITTAL. THE ENGINEER IS GIVEN DISCRETION AS TO WHETHER OR NOT TO ACCEPT MITIGATING MEASURES OR TO MAINTAIN REQUIREMENTS THAT NONREACTIVE AGGREGATES MUST BE USED. AT A MINIMUM, SUCH DOCUMENTATION MUST SHOW THAT REACTIVE AGGREGATES USED IN COMBINATION WITH A GIVEN AMOUNT OF ADMIXTURE RESULTS IN THE EXPANSION OF THE MORTAR SAMPLE BEING LESS THAN 0.10% WHEN TESTED IN ACCORDANCE WITH ASTM C1567 AT 14 DAYS. LIABILITY OF THE PERFORMANCE OF THE CONCRETE MIX REMAINS SOLELY WITH GENERAL CONTRACTOR.

   C. IF CONCRETE MIXES ARE APPROVED BY THE CONTRACTING OFFICER THAT CONTAIN EITHER FINE OR COARSE AGGREGATE, THAT EITHER SEPARATELY OR IN COMBINATION EXCEED THE 0.10% EXPANSION WHEN TESTED ACCORDING TO ASTM C1260, SPECIAL CONSIDERATIONS MUST BE GIVEN TO SLAB CURING (SLABS ON GRADE AND ELEVATED SLABS). IN SUCH INSTANCES SLABS SHALL BE CURED USING EITHER A WET BURLAP OR CONTINUOUS WETTING/FOGGING METHOD FOR SLABS FOR AT LEAST 10 DAYS. USE OF CURING AND/OR SEALING COMPOUNDS IS NOT ACCEPTABLE UNTIL THE SLAB HAS CURED A MINIMUM OF 28 DAYS AND THE CONDITIONS FOR THE APPLICATION OF THE CURING COMPOUND ON THE CONCRETE SLAB SET BY THE MANUFACTURER'S RECOMMENDATIONS HAVE BEEN MET.

   D. CONTRACTING OFFICER HAS SOLE DISCRETION IN DETERMINING ACCEPTABILITY OF A CONCRETE SLAB THAT IS EXHIBITING ALKALI-SILICA REACTION. FOR SLABS SHOWING AN ALKALI SILICA REACTION SOLELY WITHIN THE FINE AGGREGATE: A SLAB SHOWING AN AVERAGE DENSITY OF POPOUTS GREATER THAN 1 PER 8 SQUARE FEET OVER ANY CONTIGUOUS AREA OF 100 SQUARE FEET OR LARGER, OR ANY AREA WITH A DENSITY OF 1 POPOUTS PER 2 SQUARE FEET WITHIN ANY AREA UP TO 100 SQUARE FEET WOULD BE CONSIDERED AS A BASIS FOR THE REJECTION OF THE SLAB FROM WHICH THOSE SAMPLE AREAS ARE INCLUDED. FOR AN ALKALI SILICA REACTION WITHIN THE COARSE AGGREGATE: THE POPOUT DENSITIES CONSIDERED FOR REJECTION OF THE CONCRETE SLAB SHALL BE ½ OF THE DENSITIES GIVEN FOR FINE AGGREGATE. THE EXTENT OF REJECTED SLAB TO BE DETERMINED BY ENGINEER. THE TIME FRAME FOR OBSERVATION OF ALKALI SILICA REACTIONS AND DETERMINATION OF REJECTION OF THE CONCRETE SLAB SHALL BE AT LEAST 56 DAYS FROM THE DATE OF POUR.

5. ALL CONCRETE EXPOSED TO WEATHER OR EARTH SHALL BE AIR ENTRAINED TO 4.5% TO 7.5%.
6. WATER REDUCING AGENTS MAY BE USED IN THE CONCRETE MIX. PLASTICIZERS AND SUPER-PLASTICIZERS MAY BE USED ONLY WHEN WRITTEN PERMISSION OF THE ENGINEER IS GIVEN.
7. NO SALTS OF ANY KIND MAY BE USED IN CONCRETE BEFORE OBTAINING THE CONTRACTING OFFICER'S WRITTEN PERMISSION FOR THEIR USE.
8. AIR CONTENT OF TROWEL FINISHED FLOOR SLABS SHALL NOT EXCEED 3%.
9. MAXIMUM WATER TO CEMENTITIOUS MATERIAL FOR ALL CONCRETE SHALL NOT EXCEED 0.45 UNLESS NOTED OTHERWISE.

CONCRETE AND REINFORCING PLACEMENT:

1. ALL CONCRETE SHALL BE PLACED IN ACCORDANCE WITH ACI 301 AND ACI 117 EXCEPT AS MODIFIED BELOW:

   A. ACI 117 ITEM 4.3.1.1 ELEVATIONS OF SLABS-ON-GRADE TOP OF SLAB ELEVATION SHALL BE WITHIN A 3/8" ENVELOPE EITHER SIDE OF THE THEORETICAL DESIGN SURFACE.

   B. ACI 117 ITEM 4.5.7 FLOOR FINISH TOLERANCES AS MEASURED BY PLACING A FREESTANDING (UNLEVELED) 10 FT. STRAIGHTEDGE ANYWHERE ON THE SLAB AND ALLOWING IT TO REST UPON TWO HIGH SPOTS WITHIN 28 DAYS AFTER SLAB CONCRETE PLACEMENT. THE GAP AT ANY POINT BETWEEN THE STRAIGHT EDGE AND THE FLOOR SHALL NOT EXCEED 1/4".

2. ALL REINFORCING STEEL TO BE ASTM A615, GRADE 60 (#4 AND LARGER), EXCEPT WHERE NOTED OTHERWISE. REINFORCING SHALL NOT BE WELDED.
3. WELED WIRE FABRIC TO CONFROM TO ASTM A185 AND SHALL BE FREE FROM OIL, SCALE, AND RUST. PLACE WWF IN ACCORDANCE WITH THE TYPICAL PLACING DETAILS OF ACI STANDARDS AND THE SPECIFICATIONS. MINIMUM LAPS SHALL BE ONE SPACE PLUS 2"
4. ALL REINFORCING STEEL BARS TO BE DETAILED AND PLACED IN ACCORDANCE WITH THE LATEST ACI MANUALS.
5. LAP ALL REINFORCING SPLICES IN CONCRETE A MINIMUM OF 48 BAR DIAMETERS OR 24 INCHES, WHICHEVER IS GREATER, UNLESS NOTED OTHERWISE ON DRAWINGS (CLASS B SPLICE).
6. PROVIDE CORNER BARS OF SAME BAR DIAMETER AS SPECIFIED FOR THE WALL BEAM ON FOOTING. PROVIDE MINIMUM OF 40 BAR DIAMETER LAP FOR ALL CORNER BARS, UNLESS NOTED OTHERWISE.
7. PROVIDE FOUNDATION DOWELS AS SHOWN. MINIMUM SIZE DOWELS TO BE #4, UNLESS OTHERWISE NOTED. ALL VERTICAL REINFORCING STEEL IN COLUMNS AND PIERS, OR VERTICAL REINFORCING IN WALLS, SHALL BE DOWELED INTO THE FOOTINGS WITH SAME SIZE AND QUANTITY DOWEL AS THE VERTICAL REINFORCING.
8. WHERE SHOWN ON THE DRAWINGS, PROVIDE WELD PLATES, WELDMENTS, OR CONCRETE INSERTS FOR FASTENING AND SECURING OTHER COMPONENTS. CONCRETE INSERTS SHALL BE FURNISHED BY THE CONTRACTOR REQUIRING THEM AND INSTALLED BY THE CONTRACTOR CASTING THE CONCRETE AROUND THEM. CLIP ANGLES SHALL BE FURNISHED BY THE CONTRACTOR REQUIRING THEM.
9. REINFORCING STEEL SHALL RECEIVE CONCRETE COVER AS FOLLOWS:

DESCRIPTION	MINIMUM COVER
CAST AGAINST & PERMANENTLY EXPOSED TO EARTH	3"
EXPOSED TO EARTH OR WEATHER	
#6 THROUGH #18 BARS	2"
#5 BARS OR SMALLER	1 1/2"
NOT EXPOSED TO EARTH OR WEATHER OR IN CONTACT WITH THE GROUND, SLABS AND WALLS	
#11 BARS OR SMALLER	3/4"
#14 AND #18	1 1/2"
BEAMS AND COLUMNS	1 1/2"
SHELLS, FOLDED PLATE MEMBERS:	
NO. 6 BAR AND LARGER	3/4"
NO. 5 BAR	1/2"

10. PROVIDE TWO (2) #5'S, ONE AT EACH FACE, UNLESS NOTED OTHERWISE, AROUND ALL OPENINGS GREATER THAN 12"x12" IN CAST-IN-PLACE CONCRETE. EXTEND REINFORCING 2'-0" BEYOND OPENING IN BOTH DIRECTIONS. CONTACT CONTRACTING OFFICER FOR ALL OPENINGS GREATER THAN 12"x12" FOR DESIGN.
11. COLD WEATHER AND HOT WEATHER PROVISIONS OF ACI 306 AND 305 (CURRENT EDITIONS), RESPECTIVELY, SHALL BE MAINTAINED.
12. UNLESS NOTED OTHERWISE ALL UNDER SLAB VAPOR RETARDERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM 1745 CLASS A AND SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.

STRUCTURAL STEEL:

1. STEEL SHALL CONFORM TO ASTM A992 (Fy=50 KSI) FOR ALL W-SHAPES, AND ASTM A36 (Fy=36 KSI) FOR ALL OTHER MISCELLANEOUS SHAPES AND PLATES. STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B (Fy=46 KSI). STRUCTURAL PIPE SHALL CONFORM TO ASTM A53, GRADE B, TYPE "E" OR "S" (Fy=35 KSI).
2. STEEL SHALL CONFORM TO THE LATEST EDITION OF AISC SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS.
3. ALL SHOP CONNECTIONS TO BE WELDED (UTILIZING E70XX ELECTRODES) AND FIELD CONNECTIONS TO BE BOLTED, UNLESS OTHERWISE NOTED. STEEL TO RECEIVE ONE SHOP COAT AND ONE FIELD TOUCH UP COAT OF APPROVED PAINT, EXCEPT WHERE GALVANIZED IS INDICATED ON THE DRAWINGS.
4. WELDS FOR ALL EXPOSED STRUCTURAL STEEL SHALL BE GROUND SMOOTH, UNLESS NOTED OTHERWISE.
5. ALL BOLTED CONNECTIONS SHALL CONSIST OF 3/4" DIA. (MIN.) ASTM A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. BEAM CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR TO SUPPORT AND END REACTION OF W/2L KIPS IN ACCORDANCE WITH PART 2 - "BEAM AND GIRDER DESIGN" OF THE MANUAL OF STEEL CONSTRUCTION (9th EDITION). BUT CONNECTIONS SHALL NOT HAVE LESS THAN (2) ROWS OF BOLTS. SEE ALSO DOUBLE ANGLE AND SHEAR TAB CONNECTION SCHEDULE(S) WHERE APPLICABLE.
6. CONTRACTOR SHALL MAINTAIN ERECTION TOLERANCES OF STRUCTURAL STEEL AND ARCHITECTURALLY EXPOSED STRUCTURAL STEEL WITHIN ASSC'S CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.
7. ANCHOR BOLT HOLES IN STRUCTURAL STEEL SHALL BE OVERSIZED NO MORE THAN 1/8" MAX, UNLESS NOTED OTHERWISE.

   A. BOLTS SHALL BE TWIST OFF BOLTS.

   B. FAILURE OF A BOLT OR NUT DURING THE INSTALLATION PROCESS RESULTING IN A CRACK IN BOLT OR NUT SHALL BE GROUNDS FOR REJECTION OF ALL THE FAILED BOLTS OR NUTS COMING FROM THE SAME LOT. IF DOCUMENTATION OF LOT ORIGIN WHICH BOLTS OR NUTS COME FROM IS NOT AVAILABLE, ALL OF THE BOLTS OR NUTS SHALL BE ASSUMED TO HAVE COME FROM LOT CONTAINING FAILED NUTS OR BOLTS.

STEEL JOISTS:

1. STEEL JOISTS SHALL BE THE SIZE AND SPACING AS SHOWN ON THE STRUCTURAL DRAWINGS. JOISTS SHALL BE DESIGNED, FABRICATED, INSTALLED AND BRIDGED IN ACCORDANCE WITH THE STEEL JOIST INSTITUTE (SJI) SPECIFICATIONS.
2. STEEL ROOF JOISTS SHALL BE DESIGNED TO WITHSTAND NET UPLIFT AS SHOWN ON THE STRUCTURAL DRAWINGS.
3. STEEL ROOF JOISTS HAVE BEEN DESIGNED FOR SNOW DRIFT LOADS BY EQUIVALENT MOMENT / SHEAR METHOD (WHERE APPLICABLE). JOIST FABRICATOR SHALL VERIFY ADEQUACY FOR SNOW DRIFT LOADS AS INDICATED ON THE STRUCTURAL DRAWINGS. DRIFT LOADS INDICATED ON DRAWINGS ARE IN ADDITION TO UNIFORM SNOW LOADS.
4. ENDS OF ALL BRIDGING LINES TERMINATING AT WALLS OR BEAMS SHALL BE ANCHORED THERETO AT TOP AND BOTTOM CHORDS. BRIDGING SHALL BE WELDED OR BOLTED AT ALL POINTS OF CONTACT. CROSS BRIDGING SHALL BE WELDED OR BOLTED AT ITS CENTER POINT. WELDS FOR BRIDGING SHALL BE IN ACCORDANCE WITH FABRICATOR'S SHOP DRAWINGS AND SHALL NOT DAMAGE JOISTS.
5. UNLESS NOTED OTHERWISE, JOISTS SHALL BEAR A MINIMUM OF 2 1/2" (K-SERIES) OR 4" (LH-SERIES) ON STEEL BEAMS. WHERE STEEL BEAMS SUPPORT FRAMING FROM ONE SIDE ONLY, OR WHERE JOISTS FROM ONE SIDE OF BEAM ARE 30% LONGER THAN JOISTS ON THE OPPOSITE SIDE OF BEAM, JOISTS SHALL BEAR FULL WIDTH OF STEEL BEAM. WELD JOISTS TO STEEL BEAM PER SJI SPECIFICATIONS.
6. ALL NON-DECKING ITEMS SUPPORTED BY BAR JOISTS OR JOIST GIRDERS SHALL BE SUPPORTED AT PANEL POINTS IN BAR JOIST / JOIST GIRDERS OR HAVE ADDITIONAL STRUTS ADDED PER TYPICAL HANGER SECTIONS. CONTRACTOR RESPONSIBLE FOR ENSURING THAT THEY AND ALL SUBCONTRACTORS FOLLOW THESE REQUIREMENTS.
7. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWING SUBMITTAL SHALL INCLUDE LAYOUT, COMPONENT DESIGNATION, BRIDGING AND PERTINENT SECTIONS AND DETAILS. SUBMITTALS FOR JOISTS SHALL BEAR THE SIGNATURE AND SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF SOUTH DAKOTA.
8. BOTTOM CHORDS OF BAR JOISTS SHALL BE DESIGNED TO SUPPORT A HANGING LOAD OF 200 LBS. APPLIED AT ANY LOCATION.

STEEL ROOF DECK:

1. STEEL ROOF DECK SHALL BE 1 1/2" DEEP, 22 GAUGE PAINTED WIDE RIBBED STEEL ROOF DECK (1.5B-22GA.) AND SHALL CONFORM TO THE PROVISIONS OF THE STEEL DECK INSTITUTE (SDI) SPECIFICATIONS FOR STEEL ROOF DECK.
2. STEEL ROOF DECKS ARE DESIGNED AS HORIZONTAL DIAPHRAGMS AND SHALL BE ATTACHED TO SUPPORTS IN SDI PATTERNS AS INDICATED ON THE DRAWINGS.
3. DECKING SHALL HAVE MINIMUM OF (3) SPANS.

COLD FORMED LIGHT GAUGE STRUCTURAL STEEL:

1. STEEL STUD, TRACK AND LINTEL MEMBERS SHALL BE OF THE TYPE SHOWN ON THE DRAWINGS AND IN THE SPECIFICATIONS AND SHALL CONFORM TO ASTM A653 STRUCTURAL QUALITY GRADE 33 FOR 18 GAUGE THICKNESS OR LESS, ASTM A653 STRUCTURAL QUALITY GRADE 50 CLASS 1 FOR 16 GAUGE OR GREATER. MEMBERS SHALL HAVE HOT DIPPED GALVANIZED COATING CONFORMING TO ASTM A924, CLASS G90.
2. METAL STUD AND JOIST MEMBERS SHALL CONFORM TO THE FOLLOWING MINIMUM AISI SECTIONS:

3 5/8"x16 GA.	:	362 S 162-54
3 5/8"x14 GA.	:	362 S 162-68
6"x18 GA.	:	600 S 162-54
6"x14 GA.	:	600 S 162-68

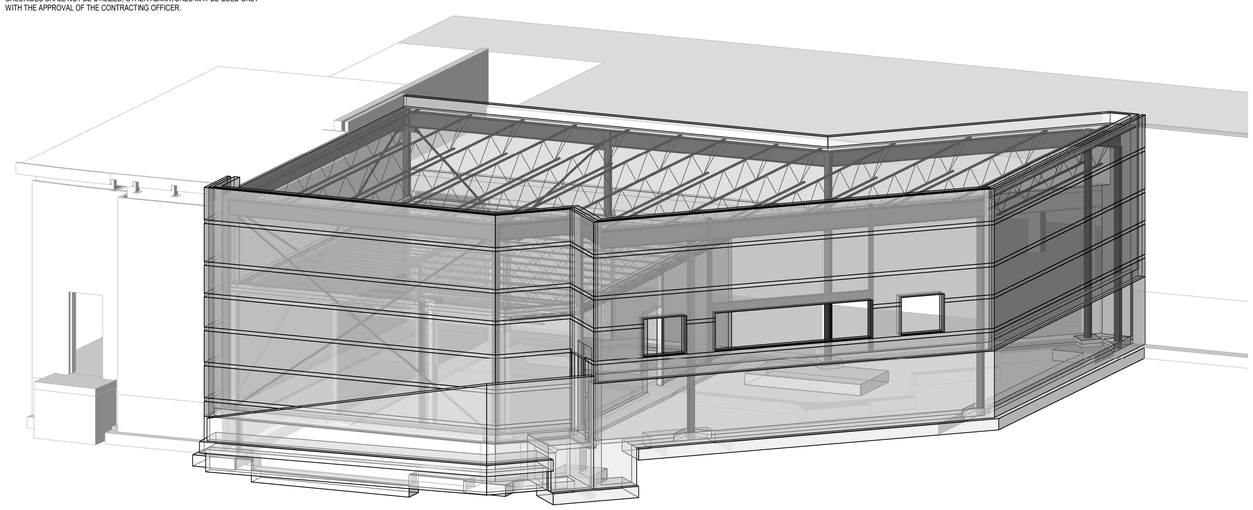
3. ALL FRAMING MEMBERS SHALL BE CUT SQUARELY OR AT AN ANGLE AS REQUIRED TO FIT SQUARELY AGAINST ABUTTING MEMBERS. MEMBERS SHALL BE HELD FIRMLY IN PLACE UNTIL PROPERLY JOINED.
4. JOINING OF STRUCTURAL MEMBERS SHALL BE MADE WITH SELF-DRILLING SCREWS OR WELDED. WIRE TYING OF FRAMING MEMBERS IN STRUCTURAL APPLICATIONS SHALL NOT BE PERMITTED.
5. ATTACHMENT OF COLLATERAL MATERIALS TO STEEL MEMBERS SHALL BE MADE WITH SELF-DRILLING SCREWS OR HARDENED SCREW SHANK NAILS. METAL LATH MAY ALSO BE CONNECTED TO STEEL BY STAPLES OR OTHER FASTENERS, IF APPROVED BY LOCAL BUILDING CODES.
6. STUDS SHALL SIT SQUARELY IN THE TOP AND BOTTOM RUNNER TRACK WITH ABUTMENT AGAINST TRACK WEBS. STUDS SHALL BE ALIGNED OR PLUMBED AND SECURELY FASTENED TO THE FLANGES OF BOTH TOP AND BOTTOM RUNNER TRACKS.
7. VERTICAL SLIP CONNECTORS TO ALLOW THE VERTICAL MOVEMENT OF THE SUPPORTING STRUCTURE RELATIVE TO THE STUD SHALL BE VERTICLIP SLAB CONNECTORS OR APPROVED EQUAL. CONNECTOR MANUFACTURER RESPONSIBLE FOR PROVIDING DOCUMENTATION THAT CONNECTOR HAS ADEQUATE CAPACITY FOR INSTALLATIONS IN WHICH THEY ARE TO BE INSTALLED, AS WELL AS SPECIFYING THE CONNECTION OF THEIR CONNECTOR TO BOTH THE METAL STUD AND SUPPORTING STRUCTURE.

WOOD SHEATHING:

1. PLYWOOD WALL SHEATHING SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 23 OF THE INTERNATIONAL BUILDING CODE.
2. SHEATHING SHALL BE FASTENED IN ACCORDANCE WITH PLANS SHOWN, SPECIAL NAILING REQUIREMENTS, AND WITH THE APPROPRIATE SCHEDULE IN CHAPTER 23, UNLESS NOTED OTHERWISE.
3. IN GENERAL, SHEETS SHALL BE 4'-0" x 8'-0" AND SHALL BE LAID WITH FACE PLIES ACROSS FRAMING MEMBERS AND WITH END JOINTS STAGGERED 4'-0". NO PANEL SHALL BE USED WHICH IS LESS THAN 24" IN WIDTH ON FLOORS AND ROOFS. SHEATHING SHALL BE CONTINUOUS ACROSS 2 SPANS, MINIMUM.

SPECIAL INSPECTION AND TESTING:

SEE DETAILED INSPECTION AND TESTING REQUIREMENTS AS INDICATED ON SHEETS S.5002.



SYMBOLS LEGEND

SHEAR WALL INDICATOR (SW#)

PIER TAG CALLOUT INDICATOR (XX" X XX-X" / XX-X")

STEP TOP OF FOOTING IDENTIFIER

CUT SECTION INDICATOR (B)

TRUE NORTH INDICATOR (N)

PLAN NORTH ORIENTED 90° TO THE SHEET W/ MAGNETIC NORTH (OPTIONAL)

MATCH LINE INDICATOR (MATCH LINE / SEE XN/XXNNN)

ELEVATION INDICATOR

COLUMN INDICATOR(S) (HSS x x)

REVISION SYMBOL (X)

FOOTING/PIER IDENTIFIER (F1 / A)

BEAM INDICATOR(S) (W--x-- (XXX'-XX") / B1)

PC SPAN IDENTIFIER (PC SPAN)

20GA TYPE 'W3' MTL DECK

DECK INDICATOR

XN XXNNN

EXT ELEVATION INDICATOR

DETAIL BUBBLE INDICATOR (XXX' - XX" / TOx)

COLUMN/FND GRID INDICATOR (C1)

SLAB JOINT INDICATOR (S J)

SECTION INDICATOR

ELEVATION INDICATOR

XN SCALE: FULL 0" 1/2" 1" 2"

DETAIL/SECTION/PLAN BLOCK TITLE INDICATOR

HOLDOWN INDICATOR (Hx)

CORNER REINF INDICATOR (C1)

MASONRY PIER INDICATOR (P1)

WALL REINFORCING INDICATOR (R1)

KEYNOTE IDENTIFIER (X)

SLOPE INDICATOR (5:12)

LINTEL INDICATOR (Hx)

MOMENT INDICATOR

RAFTER INDICATOR (R1)

ROOF SLOPE INDICATOR (12 / 4)

WORK POINT INDICATOR

ASTERISK INDICATOR

STEP INDICATOR

CONTINUOUS BEAM INDICATOR (CONT)

STEP TOP OF WALL INDICATOR

STRUCTURAL HATCH PATTERNS

- NATIVE UNDISTURBED SOIL
- BACKFILL/FILL
- ENGINEERED FILL
- DRAINAGE COURSE
- CONCRETE
- BRICK
- WD- GLUED /LAMINATED
- PLYWOOD/OSB /PARTICLE BD
- GYPSUM BOARD
- WOOD- BLKG OR SHIM
- WOOD- CONTINUOUS FRAMING
- INSUL/FIRE SAFING
- CMU
- MORTAR
- GROUT
- RIGID INSULIC/F/SIP /EIFS SYSTEMS
- METAL FLOOR GRATING
- METALS
- CONC WALL HOLDOWN (BLOCKOUT)
- ROUGH LOG WALL
- WOOD STUD BRG WALL
- STONE/ ROCK WALL

INDEX TO STRUCTURAL SHEETS

STRUCTURAL SHEET INDEX

| SHEET NO. | SHEET NAME | 30% DESIGN - ISSUED 09/10/2018 | 60%

IBC TESTING SCHEDULES

REQUIRED SPECIAL INSPECTION & TESTING OF CONCRETE CONSTRUCTION

IBC 2015 (TABLE 1705.3)

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE	REQUIRED ON PROJECT
1. INSPECTION REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT		X	ACI 318 CH 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4	YES
2. REINFORCING BAR WELDING: A. CERTIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706.		X	AWS D1.4, ACI 318: 26.6.4		NO
B. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16".		X			
C. INSPECT ALL OTHER WELDS	X				
3. INSPECTION OF ANCHORS CAST IN CONCRETE.		X	ACI 318: 17.8.2		YES
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS. A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X		ACI 318: 17.8.2.4, ACI 318: 17.8.2		NO
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.		X			YES
5. VERIFYING USE OF REQUIRED DESIGN MIX.		X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3	YES
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X		ASTM C 172, ASTM C 31, ACI 318: 26.4, 26.12	1908.10	YES
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X		ACI 318: 26.5	1908.6, 1908.7, 1908.8	YES
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.		X	ACI 318: 26.5.3-26.5.5	1908.9	YES
9. INSPECT OF PRESTRESSED CONCRETE: A. APPLICATION OF PRESTRESSING FORCES.	X		ACI 318: 26.10		NO
B. GROUTING OF BONDED PRESTRESSING TENDONS.	X				
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.		X	ACI 318: CH. 26.8		NO
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE & PRIOR TO REMOVAL OF SHORES & FORMS FROM BEAMS & STRUCTURAL SLABS.		X	ACI 318: 26.11.2		NO
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.		X	ACI 318: 26.11.1.2(b)		YES

REQUIRED SPECIAL INSPECTIONS OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS

IBC 2015 TABLE 1705.2.3

INSPECTION TASKS	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD	REQUIRED ON PROJECT
1. INSTALLATION OF OPEN WEB STEEL JOISTS AND JOIST GIRDERS. A. END CONNECTIONS - WELDING OR BOLTED.		X	SJI SPECIFICATIONS LISTED IN 2207.1	YES
B. BRIDGING - HORIZONTAL OR DIAGONAL.				YES
2. STANDARD BRIDGING.		X	SJI SPECIFICATIONS LISTED IN 2207.1	YES
3. BRIDGING THAT DIFFERS FROM THE SJI SPECIFICATIONS LISTED IN SECTION 2207.1		X		YES

STANDARD FOR QUALITY CONTROL AND QUALITY ASSURANCE FOR THE INSTALLATION OF STEEL DECK

INSPECTION OR EXECUTION TASKS PRIOR TO DECK PLACEMENT

INSPECTION TASKS PRIOR TO DECK PLACEMENT	QC	QA
VERIFY COMPLIANCE OF MATERIALS (DECK AND ALL DECK ACCESSORIES) WITH CONSTRUCTION DOCUMENTS, INCLUDING PROFILES, MATERIAL PROPERTIES, AND BASE METAL THICKNESS	PERFORM	PERFORM
DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACESSORIES	PERFORM	PERFORM

INSPECTION OR EXECUTION TASKS AFTER DECK PLACEMENT

INSPECTION TASKS AFTER DECK PLACEMENT	QC	QA
VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION WITH CONSTRUCTION DOCUMENTS	PERFORM	PERFORM
VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS	N/A	PERFORM
DOCUMENT ACCEPTANCE OR REJECTION OF INSTALLATION OF DECK AND DECK ACCESSORIES	PERFORM	PERFORM

INSPECTION OR EXECUTION TASKS PRIOR TO WELDING

INSPECTION PRIOR TO WELDING	QC	QA
WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE	OBSERVE	OBSERVE
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	OBSERVE	OBSERVE
MATERIAL IDENTIFICATION (TYPE/GRADE)	OBSERVE	OBSERVE
CHECK WELDING EQUIPMENT	OBSERVE	OBSERVE

INSPECTION OR EXECUTION TASKS DURING WELDING

INSPECTION DURING WELDING	QC	QA
USE OF QUALIFIED WELDERS	OBSERVE	OBSERVE
CONTROL AND HANDLING OF WELDING CONSUMABLES	OBSERVE	OBSERVE
ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE)	OBSERVE	OBSERVE
WPS FOLLOWED	OBSERVE	OBSERVE

INSPECTION OR EXECUTION TASKS AFTER WELDING

INSPECTION AFTER WELDING	QC	QA
VERIFY SIZE & LOCATION OF WELDS, INCLUDING SUPPORT, SIDELAP, & PERIMETER WELDS	PERFORM	PERFORM
WELDS MEET VISUAL ACCEPTANCE CRITERIA	PERFORM	PERFORM
VERIFY REPAIR ACTIVITIES	PERFORM	PERFORM
DOCUMENT ACCEPTANCE OR REJECTION OF WELDS	PERFORM	PERFORM

INSPECTION OR EXECUTION TASKS PRIOR TO MECHANICAL FASTENING

INSPECTION PRIOR TO MECHANICAL FASTENING	QC	QA
MANUFACTURER INSTALLATION INSTRUCTIONS AVAILABLE FOR MECHANICAL FASTENERS	OBSERVE	OBSERVE
PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATION	OBSERVE	OBSERVE
PROPER STORAGE FOR MECHANICAL FASTENERS	OBSERVE	OBSERVE

INSPECTION OR EXECUTION TASKS DURING MECHANICAL FASTENING

INSPECTION TASKS DURING MECHANICAL FASTENING	QC	QA
FASTENERS ARE POSITIONED AS REQUIRED	OBSERVE	OBSERVE
FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS	OBSERVE	OBSERVE

INSPECTION OR EXECUTION TASKS AFTER MECHANICAL FASTENING

INSPECTION TASKS AFTER MECHANICAL FASTENING	QC	QA
CHECK SPACING, TYPE, AND INSTALLATION OF SUPPORT FASTENERS	PERFORM	PERFORM
CHECK SPACING, TYPE, AND INSTALLATION OF SIDELAP FASTENERS	PERFORM	PERFORM
CHECK SPACING, TYPE, AND INSTALLATION OF PERIMETER FASTENERS	PERFORM	PERFORM
VERIFY REPAIR ACTIVITIES	PERFORM	PERFORM
DOCUMENT ACCEPTANCE OR REJECTION OF MECHANICAL FASTENERS	PERFORM	PERFORM

NOTE:
- QUALITY CONTROL (QC) SHALL BE PROVIDED BY THE INSTALLER
- QUALITY ASSURANCE (QA) SHALL BE PROVIDED BY THE CERTIFIED TESTING AGENCY

STEEL CONSTRUCTION

INSPECTION TASKS PRIOR TO WELDING

AISC 360-10 TABLE N5.4-1

INSPECTION TASKS PRIOR TO WELDING	INSPECTION INTERVAL	REQUIRED ON PROJECT
WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	P	YES
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	P	YES
MATERIAL IDENTIFICATION (TYPE/GRADE)	O	YES
WELDER IDENTIFICATION SYSTEM[1]	O	YES
FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY) • JOINT PREPARATION • DIMENSIONS (ALIGNMENT, GAPS AT ROOT) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION)	O	YES
CONFIGURATION AND FINISH OF ACCESS HOLES	O	YES
FIT-UP OF FILLET WELDS • DIMENSIONS (ALIGNMENT, GAPS AT ROOT) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION)	O	YES
CHECK WELDING EQUIPMENT	O	YES

[1] THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE.

INSPECTION TASKS DURING WELDING

AISC 360-10 TABLE N5.4-2

INSPECTION TASKS DURING WELDING	INSPECTION INTERVAL	REQUIRED ON THIS PROJECT
USE OF QUALIFIED WELDERS	O	YES
CONTROL AND HANDLING OF WELDING CONSUMABLES • PACKAGING • EXPOSURE CONTROL	O	YES
NO WELDING OVER CRACKED TACK WELDS	O	YES
ENVIRONMENTAL CONDITIONS • WIND SPEED WITHIN LIMITS • PRECIPITATION AND TEMPERATURE	O	YES
WPS FOLLOWED • SETTINGS ON WELDING EQUIPMENT • TRAVEL SPEED • SELECTED WELDING MATERIALS • SHIELDING GAS TYPE/FLOW RATE • PREHEAT APPLIED • INTERPASS TEMPERATURE MAINTAINED (MIN/MAX) • PROPER POSITION (F, V, H, OH)	O	YES
WELDING TECHNIQUES • INTERPASS AND FINAL CLEANING • EACH PASS WITHIN PROFILE LIMITATIONS • EACH PASS MEETS QUALITY REQUIREMENTS	O	YES

INSPECTION TASKS AFTER WELDING

AISC 360-10 TABLE N5.4-2

INSPECTION TASKS AFTER WELDING	INSPECTION INTERVAL	REQUIRED ON PROJECT
WELDS CLEANED	O	YES
SIZE, LENGTH AND LOCATION OF WELDS	P	YES
WELDS MEET VISUAL ACCEPTANCE CRITERIA: • CRACK PROHIBITION • WELD/BASE-METAL FUSION • CRATER CROSS SECTION • WELD PROFILES • WELD SIZE • UNDERCUT • POROSITY	P	YES
ARC STRIKES	P	YES
k-AREA[2]	P	YES
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	P	YES
REPAIR ACTIVITIES	P	YES
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	P	YES

[2] WHEN WELDING OF DOUBLE PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE k-AREA, VISUALLY INSPECT THE WEB k-AREA FOR CRACKS WITHIN 3" (75 mm) OF THE WELD.

INSPECTION TASKS PRIOR TO BOLTING

AISC 360-10 TABLE N5.6-1

INSPECTION TASKS PRIOR TO BOLTING	INSPECTION INTERVAL	REQUIRED ON PROJECT
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	O	YES
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	O	YES
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO EXCLUDED FROM SHEAR PLANE)	O	YES
PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	O	YES
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	O	YES
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	P	YES
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	O	YES

INSPECTION TASKS DURING BOLTING

AISC 360-10 TABLE N5.6-2

INSPECTION TASKS DURING BOLTING	INSPECTION INTERVAL	REQUIRED ON THIS PROJECT
FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	O	YES
JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	O	YES
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	O	YES
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	O	YES

INSPECTION TASKS AFTER BOLTING

AISC 360-10 TABLE N5.6-3

INSPECTION TASKS AFTER BOLTING	INSPECTION INTERVAL	REQUIRED ON PROJECT
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	P	YES

- O-OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS. P-PERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER.
- OBSERVATION OF WELDING OPERATIONS AND VISUAL INSPECTION OF IN-PROCESS AND COMPLETED WELDS SHALL BE THE PRIMARY METHOD TO CONFIRM THAT THE MATERIALS, PROCEDURES AND WORKMANSHIP ARE IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS.
- FOR STRUCTURAL STEEL, ALL PROVISIONS OF AWS D1.1/D1.1M SHALL APPLY.
- FOR STRUCTURES IN RISK CATEGORY IIIV (ASCE/SEI 7, TABLE 1.5-1), ULTRASONIC TESTING SHALL BE PERFORMED ON ALL COMPLETE-JOINT-PENETRATION GROOVE WELDS SUBJECT TO TRANSVERSELY APPLIED TENSION LOADING IN BUTT, T- AND CORNER JOINTS, IN MATERIALS 5/16" (8 MM) THICK OR GREATER.
- ALL NONDESTRUCTIVE TESTING OF WELDED JOINTS SHALL BE DOCUMENTED.
- SEE AISC360-10 CHAPTER N FOR ADDITIONAL WELD INSPECTION REQUIREMENTS.
- SEE AISC360-10 CHAPTER N FOR ADDITIONAL BOLT INSPECTION REQUIREMENTS.
- INSPECTION SHALL OCCUR DURING THE PLACEMENT OF ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS, INCLUDING DIAMETER, GRADE, TYPE AND LENGTH OF THE ANCHOR ROD OR EMBEDDED ITEM, AND THE EXTENT OR DEPTH OF EMBEDMENT INTO THE CONCRETE.
- FABRICATED STEEL AND ERECTED STEEL FRAMES, AS APPROPRIATE, SHALL BE INSPECTED FOR COMPLIANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION DOCUMENTS, INCLUDING BRACES, STIFFENERS, MEMBER LOCATIONS AND PROPER JOINT DETAIL APPLICATION.

MOST COMMONLY USED STRUCTURAL ABBREVIATIONS

SYMBOLS USED AS ABBREVIATIONS:

&	AND
L	ANGLE
LL	DOUBLE ANGLE
@	AT
CL	CENTER LINE
//	PARALLEL
d	PENNY (NAIL)
⊥	PERPENDICULAR
PL	PLATE
#	POUND OR NUMBER
Ø	ROUND OR DIAMETER

ABBREVIATIONS:

(A)----------	
A/E	ARCHITECT/ENGINEER
AB	ANCHOR BOLT/ROD
ABV	ABOVE
ADDL	ADDITIONAL
ADDM	ADDENDUM
ADH	ADHESIVE
ADJ	ADJUSTABLE, ADJACENT, ADJOINING
AFF	ABOVE FINISH FLOOR
AGGR	AGGREGATE
AHR	ANCHOR, ANCHORAGE
ALT	ALTERNATE
APPROX	APPROXIMATE
**AR	ANCHOR ROD
ARCH	ARCHITECT (URAL)
(B)----------	
BEV	BEVELED
BFF	BELOW FINISH FLOOR
**BL	BRICK LEDGE
BLDG	BUILDING
BLW	BELOW
**BLK	BLOCK (ING)
BM	BEAM
BOT	BOTTOM
**BO	BOTTOM OF
**BOC	BOTTOM OF CONCRETE
**BOF	BOTTOM OF FOOTING
BRG	BEARING
**BRK	BRICK
BSMT	BASEMENT
BTWN	BETWEEN
BU	BUILT-UP
(C)----------	
C	CHANNEL
CAM*(C+)	CAMBER
CB	CARRIAGE BOLT
CU FT	CUBIC FEET OR FOOT
CHFR	CHAMFER
CIP	CAST-IN-PLACE
**CIPC	CAST-IN-PLACE CONCRETE
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR, CLEARANCE
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECT (ION)
CONSTR	CONSTRUCTION
CONT	CONTINUOUS, CONTINUE
CONTR	CONTRACT (OR)
COORD	COORDINATE
CTR	CENTER
CU	CUBIC
CU YD	CUBIC YARD
(D)----------	
D	DEEP, DEPTH, PENNY (NAIL)
DBL	DOUBLE
DEMO	DEMOLITION, DEMOLISH
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL, DIAGRAM
DIM	DIMENSION
DIR	DIRECTION
DIV	DIVIDE, DIVISION
**DKG	DECKING
DL	DEAD LOAD
DOUG FIR	DOUGLAS FIR
DR	DRAIN
DT	DRAIN TILE
DWG	DRAWING (S)
(E)----------	
**(E)	EXISTING (SEE EXIST)
EA	EACH
**EAB	EPOXY ANCHOR BOLT
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
**EMB	EMBED (ED)
EPS	EXPANDED POLYSTYRENE
EQ	EQUAL
EQUIP	EQUIPMENT
EST	ESTIMATE
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION, EXPOSED
EXP BT	EXPANSION BOLT
EXT	EXTERIOR, EXTERNAL
(F)----------	
FD	FLOOR DRAIN
**FND	FOUNDATION
FF EL	FINISH FLOOR ELEVATION
FIN	FINISH (ED)
FLG	FLANGE
FLR	FILLER, FLOOR (ING)
**FO	FACE OF
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
**FOW	FACE OF WALL
FS	FAR SIDE
FT	FOOT, FEET
FTG	FOOTING
FRMG	FRAMING
FUT	FUTURE
(G)----------	
GA	GAGE, GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
**GL	GLUE LAMINATED (BEAM)
GLU LAM	GLU LAMINATED (BEAM)
GR BM	GRADE BEAM
GRTG	GRATING
GYP	GYPSUM
GYP BD	GYPSUM BOARD
(H)----------	
H	HIGH
**HAB	HEADED ANCHOR BOLT
**HAS	HEADED ANCHOR STUD
HC	HOLLOW CORE
HDR	HEADER
HGR	HANGER
HORIZ	HORIZONTAL
HS	HIGH STRENGTH
**HSB	HIGH STRENGTH BOLT
**HSS	HOLLOW STRUCTURAL SHAPE
HT	HEIGHT
(I)----------	
ID	INSIDE DIAMETER
INCL	INCLUDE (D), INCLUDING
INFO	INFORMATION
INSUL	INSULATE (D), INSULATION
INT	INTERIOR
INV EL	INVERT ELEVATION
(J)----------	
**JST	JOIST
**JT	JOINT
(K)----------	
K	THOUSAND (KIP)
**KCJ	KEYED CONSTRUCTION JOINT
KIP	THOUSAND POUND
KLF	KIPS PER LINEAR FOOT
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
(L)----------	
L	ANGLE
LAM	LAMINATE (ED)
**LB	POUND
LF	LINEAR FEET
**LGR	LEDGER
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LONG	LONGITUDINAL
**LSL	LAMINATED STRAND LUMBER
LT WT	LIGHTWEIGHT
**LVL	LAMINATED VENEER LUMBER
LVR	LOUVER
(M)----------	
MACH	MACHINE
MB	MACHINE BOLT
MATL	MATERIAL
MAX	MAXIMUM
MBR	MEMBER
**MC	MISCELLANEOUS CHANNEL
MECH	MECHANICAL
MEZZ	MEZZANINE
MFD	MANUFACTURED
MFR	MANUFACTURER
MFR REC	MANUFACTURER'S RECOMMENDATION
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
(N)----------	
**(N)	NEW
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NS	NEAR SIDE
NTS	NOT TO SCALE
(O)----------	
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH DR	OVERHEAD DOOR
OPNG	OPENING
OPP	OPPOSITE
**OSB	ORIENTED STRAND BOARD
**OVS	OVERSIZED
(P)----------	
**PAF	POWDER ACTUATED FASTENER
PAR	PARALLEL
PCF	POUNDS PER CUBIC FOOT
PED	PEDESTAL
PERF	PERFORATED
PERP	PERPENDICULAR
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PLYWD	PLYWOOD
PNL	PANEL
PR	PAIR, PIPE RAIL
PRCST	PRECAST CONCRETE
PREFAB	PREFABRICATE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
**PSL	PARALLEL STRAND LUMBER
PT	POST TENSION (ED), PRESSURE TREATED
PVC	POLYVINYL CHLORIDE
(R)----------	
R	RADIUS/RISE (R)
RCP	REINFORCED CONCRETE PIPE
REF	REFERENCE
REINF	REINFORCE (D), (ING)
REQ	REQUIRE
REQD	REQUIRED
REV	REVISION (S), REVISED
RO	ROUGH OPENING
RS	ROUGH SAWN
RVS	REVERSE (SIDE)
(S)----------	
SCHED	SCHEDULE
SECT	SECTION
SHT	SHEET
SHTHG	SHEATHING
SIM	SIMILAR
**SL	SNOW LOAD
SLNT	SEALANT
SLV	SLEEVE
**SOG	SLAB-ON-GRADE
SPEC	SPECIFICATION (S)
SQ	SQUARE
**SSL	SHORT SLOTTED (HOLE)
**SSLT	SHORT SLOTTED (HOLE)
SST	STAINLESS STEEL
STD	STANDARD
STIF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL
SUB FL	SUBFLOOR
SUSP	SUSPENDED
**SW	SHEAR WALL
SYMM	SYMMETRY, SYMMETRICAL
(T)----------	
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
**TBD	TO BE DETERMINED
THD	THREAD (ED) (S)
THK	THICKNESS
THRU	THROUGH
**TL	TOTAL LOAD
TO	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOM	TOP OF MASONRY
TOP	TOP OF PIER
TO PAR	TOP OF PARAPET
TOS	TOP OF STEEL, SLAB
TO SHTHG	TOP OF SHEATHING
TO SUB FL	TOP OF SUBFLOOR
TOW	TOP OF WALL
**TRANS	TRANSVERSE
TRTD	TREATED
TS	TUBE STEEL
TYP	TYPICAL
(U)----------	
UNO	UNLESS NOTED OTHERWISE
(V)----------	
**V	SHEAR
VERT	VERTICAL
VIF	VERIFY IN FIELD
VR	VAPOR RETARDER
VRFY	VERIFY
(W)----------	
W	WIDTH
W/	WITH
W/O	WITHOUT
**WA	WEDGE ANCHOR
WD	WOOD
WF (W)	WIDE FLANGE
WL	WIND LOAD
WLD	WELD (ED)
WP	WATERPROOFING, WORKING POINT
**WS	WALL STEP
WT	WEIGHT
WWF	WELDED WIRE FABRIC
(X)----------	
XPS	EXTRUDED POLYSTYRENE
(Y)----------	
YD	YARD

** NOT LISTED IN THE NCS MANUAL

SPECIAL INSPECTION AND TESTING:

1. SPECIAL INSPECTION AND MINIMUM TESTING SHALL BE PERFORMED IN ACCORDANCE WITH 2015 IBC AND ALL REFERENCED MATERIALS AND TABLES.
2. INSPECTION SHALL BE PROVIDED BY AN INDEPENDENT TESTING AGENCY HIRED AT THE CONTRACTOR'S EXPENSE. AGENCY INSPECTION PERSONNEL SHALL MEET THE INSPECTOR QUALIFICATIONS FOR EACH MATERIAL ITEM AS INDICATED IN THE SPECIFICATIONS.
3. ANY MATERIAL OR PLACEMENT DEVIATIONS FROM MINIMUMS SHOWN ON THE DRAWINGS OR IN SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER.
4. TESTING - ANY FAILED FIELD TEST SHALL BE REPORTED TO THE CONTRACTING OFFICER.

REQUIRED VERIFICATION AND INSPECTION OF SOILS

IBC 2015 TABLE 1705.6

VERIFICATION AND INSPECTION TASKS	FREQUENCY OF INSPECTION: CONTINUOUS DURING TASK LISTED	FREQUENCY OF INSPECTION: PERIODICALLY DURING TASK LISTED	REQUIRED ON PROJECT
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.		X	YES
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.		X	YES
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.		X	YES
VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X		YES
PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.		X	YES

Revision#	Description	Date:
2	100% BID SET RESUBMITTAL	03/07/2019
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STAMP
REGISTERED PROFESSIONAL ENGINEER REG. NO. 11022 ANTON HARTMAN JOHNSON 03/07/19

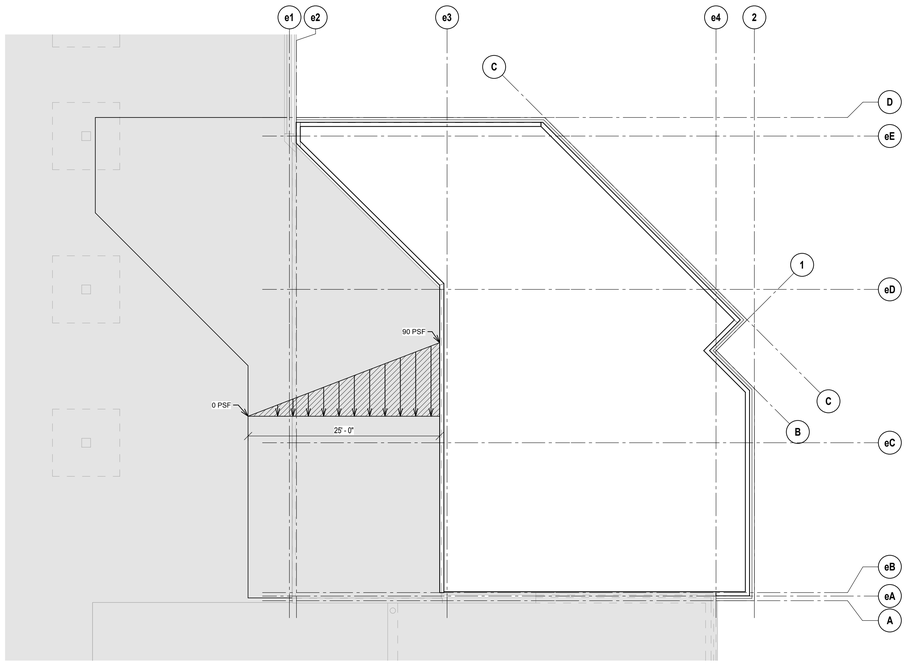
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	IBC INSPECTION TABLES & COMMON ABBREVIATIONS
Phase	100% BID SET
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 SGA #181906
Building Number	5
Location	Sioux Falls, SD
Drawing Number	5.SG002
Approved:	
Issue Date	03/07/2019
Checked	AH
Drawn	MDB

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three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



NORTH

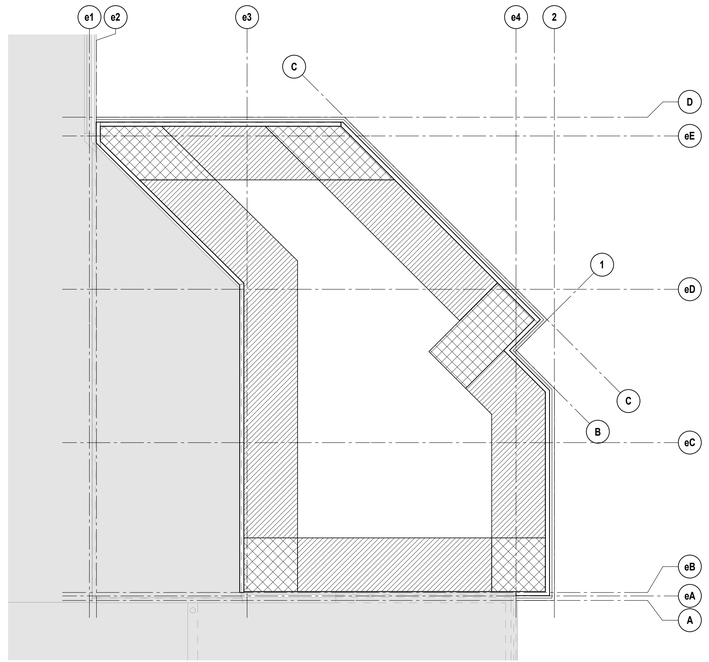
C4
5.SG003

SNOW DRIFT PLAN

SCALE: NTS

SNOW DRIFT PLAN NOTES

- SNOW DRIFT LOADS SHOWN ARE IN ADDITION TO UNIFORM SNOW LOADS INDICATED ON SHEET 5.S001.
- ONLY NEW SNOW DRIFT LOADS ON EXISTING ROOFS ARE SHOWN. CONSULT ORIGINAL DRAWINGS FOR EXISTING SNOW DRIFT LOADS.



NORTH

F4
5.SG003

WIND UPLIFT PLAN

SCALE: NTS

WIND UPLIFT SCHEDULE

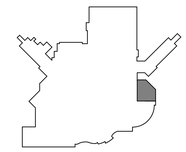
HATCH	WIDTH (a)	PRESSURE (PSF) EFFECTIVE WIND AREA (SQUARE FEET) 0 - 20	20 - 50	50 - 100	>100
	REMAINDER	26	25	24	24
	7'-0"	43	39	32	28
	7'-0"	65	54	39	28

NOTE:
WIND UPLIFT PRESSURES SHOWN ARE GROSS PRESSURES FOR DESIGN OF COMPONENTS AND CLADDING (ULTIMATE). FOR JOIST DESIGN, SUBTRACT 8 PSF FROM THE TABLE ABOVE (INCLUDES JOIST SELF WEIGHT).

WIND COMPONENTS & CLADDING SCHEDULE (WALLS)

ZONE		PRESSURE (PSF) EFFECTIVE WIND AREA (SQUARE FEET) 0 - 20	20 - 50	50 - 100	>100
ZONE 4	PRESSURE	26	25	23	22
	SUCTION	28	27	25	24
ZONE 5	PRESSURE	26	25	23	22
	SUCTION	35	32	29	27

NOTE:
WIND UPLIFT PRESSURES SHOWN ARE GROSS PRESSURES FOR DESIGN OF COMPONENTS AND CLADDING (ULTIMATE).



KEYPLAN
NTS

NORTH

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STONE GROUP ARCHITECTS

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REGISTERED PROFESSIONAL ENGINEER REG. NO. 11022 AARON HARTMAN SOUTH DAKOTA 03/07/19

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: SNOW DRIFT & WIND UPLIFT PLANS

Approved:

Phase: 100% BID SET

Project Title: Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance

Location: Sioux Falls, SD

Issue Date: 03/07/2019 | **Checked:** AH | **Drawn:** MDB

Project Number: VA #438-500 SGA #181906

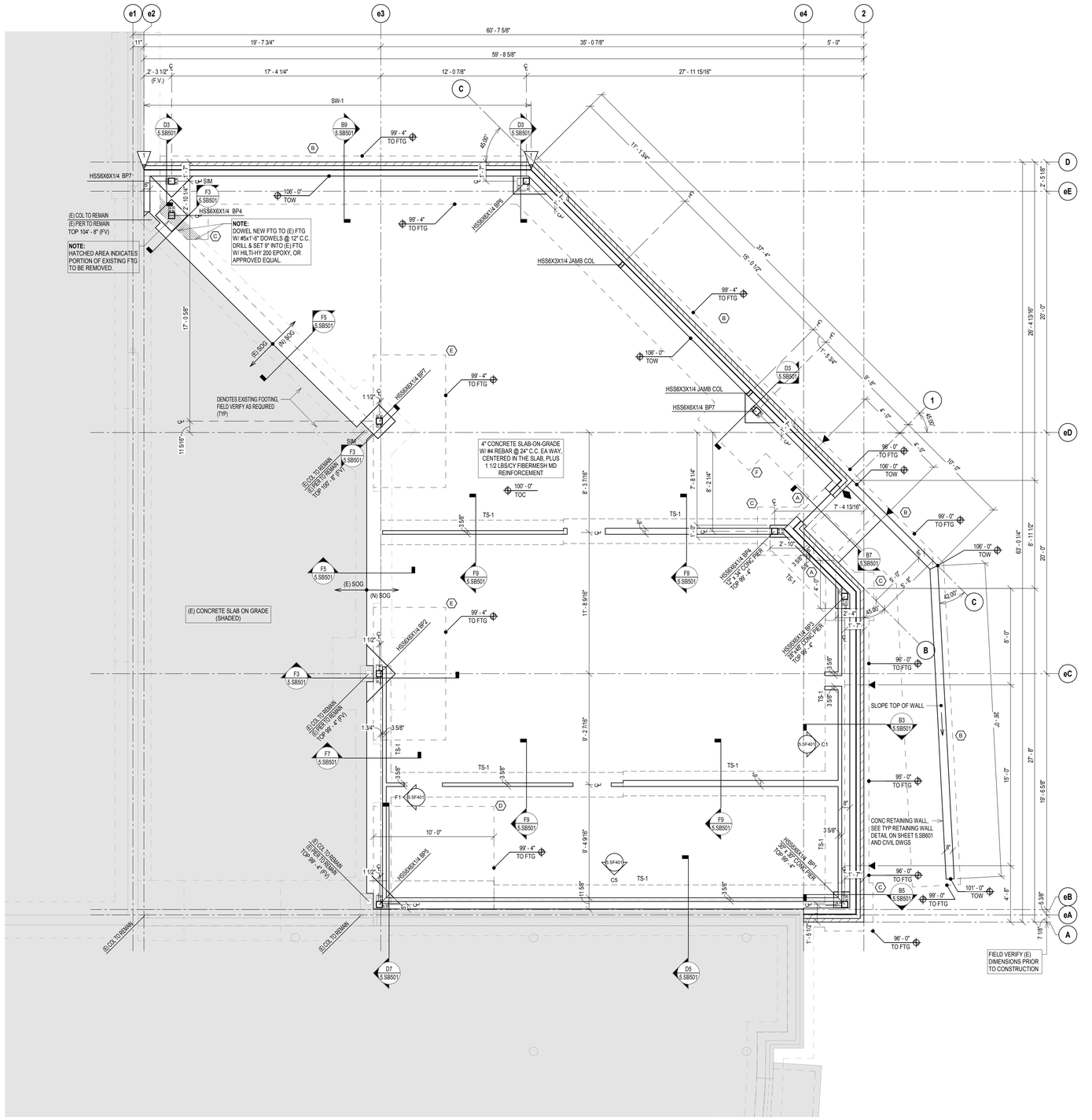
Building Number: 5

Drawing Number: 5.SG003

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1 5.SB101 **FOUNDATION AND FLOOR SLAB PLAN**

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

NORTH

STRUCTURAL SHEET NOTES

FOUNDATION & FLOOR SLAB PLAN NOTES

- SEE SHEET S-001 FOR GENERAL STRUCTURAL NOTES.
- VERIFY ALL DIMENSIONS & ELEVATIONS WITH ARCHITECTURAL DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- ELEVATIONS ON THE STRUCTURAL DRAWINGS REFER TO THE TOP OF CONCRETE REFERENCE ELEVATION SET AT 100'-0" = CIVIL ELEVATION 1500.21'
- SLAB ON GRADE CONTROL JOINTS SHALL BE TOOLED OR SAWCUT. THE JOINT PATTERN SHALL BE APPROXIMATELY SQUARE AND LIMITED TO AN AREA NOT TO EXCEED 225 S.F. JOINTS SHALL BE CUT WITHIN 8 HRS OF PLACING THE SLAB.
- PROVIDE #3 x36" DOWELS @ 18" C.C. ALONG ALL SLAB CONSTRUCTION JOINTS.
- SEE ARCHITECTURAL & MECHANICAL DRAWINGS FOR SLOPES, DROPS, AND DRAIN LOCATIONS IN FLOOR SLAB.
- CENTERLINE OF FOOTING SHALL COINCIDE WITH THE FOUNDATION WALL & COLUMN CENTERLINE, UNLESS SHOWN OTHERWISE.
- BACKFILL & COMPACT BOTH SIDES OF FOUNDATION WALLS SIMULTANEOUSLY.
- CENTER STOOPS ON OPENINGS UNLESS SHOWN OTHERWISE. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF DOOR OPENINGS.
- SEE ARCHITECTURAL DRAWINGS FOR ALL VERTICAL AND HORIZONTAL RIGID INSULATION REQUIREMENTS.
- TYPICAL EXTERIOR STUD WALLS SHALL BE 6"-14 GAUGE METAL STUDS (600S162-68) @ 16" C.C., UNLESS OTHERWISE NOTED OR DETAILED.
- ▶ INDICATES STEP IN TOP OF FOOTING. SEE TYPICAL FOOTING STEP DETAIL ON SHEET S-601.
- ◆ INDICATES STEP IN TOP OF FOUNDATION WALL.
- SEE SHEET S-601 FOR TYPICAL FOUNDATION RELATED DETAILS INCLUDING BUT NOT LIMITED TO TYPICAL FOOTING STEP, AND TYPICAL PIPE CROSSING DETAIL.
- SW1 INDICATES METAL STUD SHEAR WALL. SEE SHEAR WALL SCHEDULE THIS SHEET.
- L INDICATES SHEAR WALL HOLD-DOWN DEVICE. SEE HOLD DOWN SCHEDULE THIS SHEET.

FOOTING SCHEDULE

MARK	FOOTING SIZE	REINFORCING	REMARKS
A	2'-0" x 1'-0" x CONT	(3) #5 CONT	BOTTOM
B	4'-0" x 1'-0" x CONT	(5) #5 CONT (LONG) #5 @ 18" CC (TRANS)	BOTTOM
C	4'-0" x 4'-0" x 1'-0"	(5) #5 EA WAY	BOTTOM
D	10'-0" x 8'-0" x 1'-0"	(9) #6 EA WAY	TOP & BOTTOM
E	11'-0" x 6'-0" x 1'-0"	(11) #6 EA WAY	BOTTOM
F	6'-0" x 6'-0" x 1'-0"	(7) #5 EA WAY	BOTTOM
TS-1	2'-0" x 1'-0" x CONT	(3) #5 CONT	BOTTOM

HOLD DOWN SCHEDULE

MARK	HOLD DOWN	FASTENERS		POST (# STUDS)	MIN EMBED DEPTH	REMARKS
		SILL	POST			
H1	S/HDU6	7/8"Ø ANCHOR BOLT	(27) #14 TEK SCREWS	(2)	24"	DOUBLE NUT TOP & BOTTOM

ADDITIONAL REMARKS:

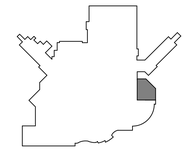
- HOLD DOWNS INDICATED ARE SIMPSON STRONG-TIE® OR APPROVED EQUAL..
- AT HOLD DOWNS WITH MULTIPLE STUDS, ATTACH SHEATHING TO EACH STUD AS PER CORRESPONDING EDGE NAILING. SEE PLAN AND SHEAR WALL SCHEDULE.
- HOLD DOWNS ARE TO BE LOCATED AT EACH END OF WALL OR AT EDGE OF OPENING, UNLESS NOTED OTHERWISE.
- ANCHOR BOLTS ARE TO BE ASTM F1554 - GRADE 36 THREADED ROD.
- ANCHORS OF TYPE INDICATED MUST BE CAST-IN-PLACE. DRILLED AND EPOXIED THREADED ROD ANCHORS SHALL NOT BE ACCEPTED.

SHEARWALL (SW) SCHEDULE

MARK	SHTHG	SIDES	PANEL FASTENING		BLOCKED	FASTENER PENETRATION	SILL PLATE FASTENING
			EDGE	FIELD			
SW1	7/16" OSB	2	4" C.C.	12" C.C.	YES	1 3/8"	(2) HILTI X-U PAF @ 16" C.C.

ADDITIONAL REMARKS:

- WHERE PANEL EDGES ARE APPLIED ON BOTH FACES OF A SHEARWALL AND FASTENER SPACING IS LESS THAN 6" C.C. ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS.
- WHERE OSB SHEATHING IS USED, FASTEN WITH #8 TEK SCREWS.
- SHEAR WALLS MUST HAVE A MINIMUM OF (2) SILL PLATE FASTENERS.



KEYPLAN NTS NORTH

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2	100% BID SET RESUBMITTAL	03/07/2019
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REGISTERED PROFESSIONAL ENGINEER REG. NO. 11122 AARON HARTMAN 03/07/19

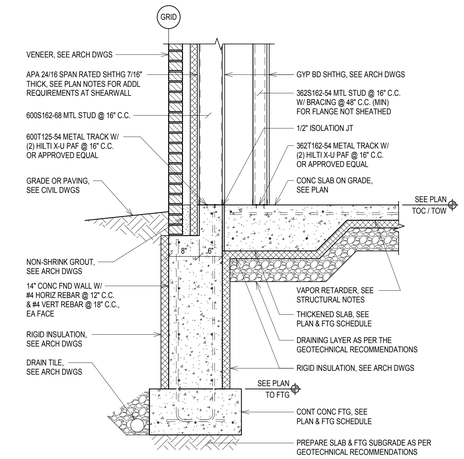
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title FOUNDATION & FLOOR SLAB PLAN	**Phase** 100% BID SET
Approved:	

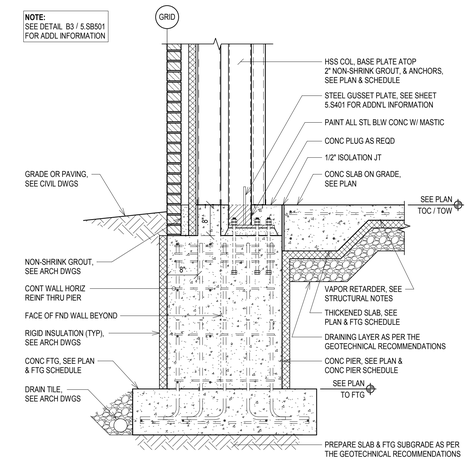
Project Title Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance	**Project Number** VA #438-500 SGA #181906
	Building Number 5
Location Sioux Falls, SD	**Drawing Number** 5.SB101
Issue Date 03/07/2019 / **Checked** AH / **Drawn** MDB	

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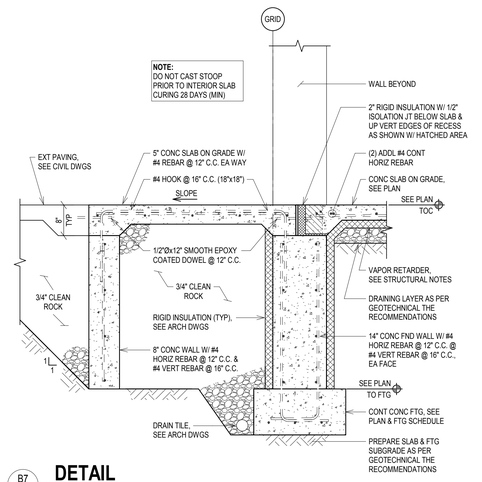
B3 5.SB501 **DETAIL**

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



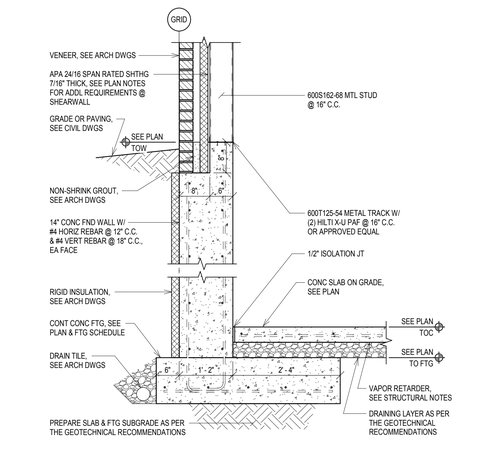
B5 5.SB501 **DETAIL**

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



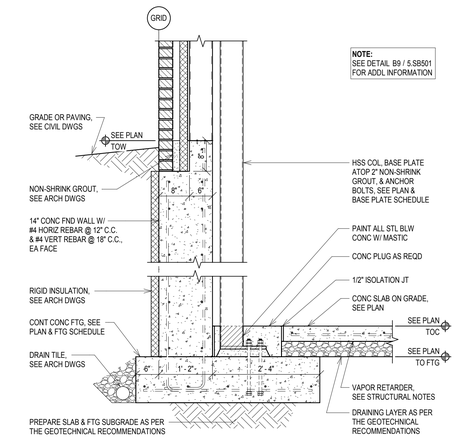
B7 5.SB501 **DETAIL**

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



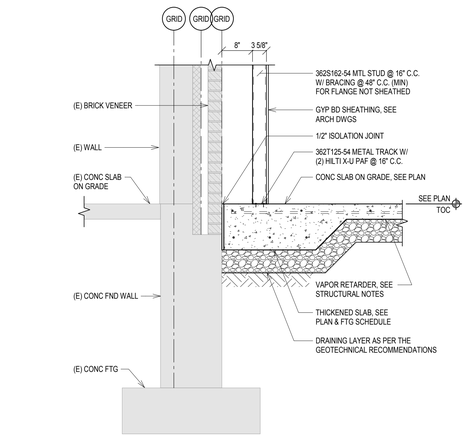
B9 5.SB501 **DETAIL**

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



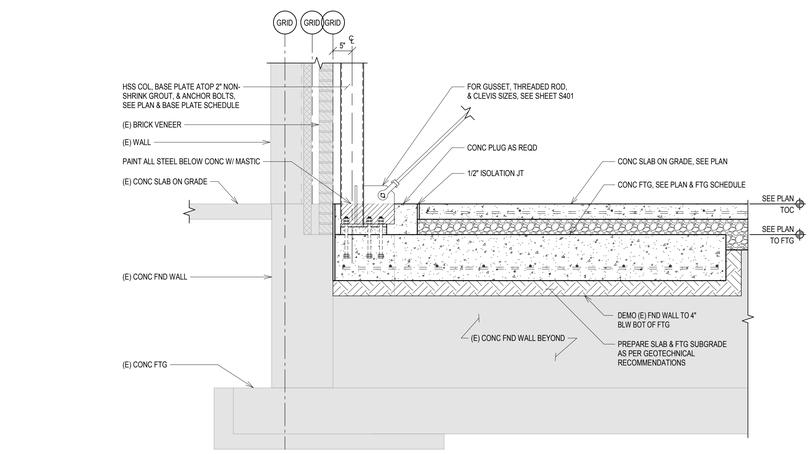
D3 5.SB501 **DETAIL**

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



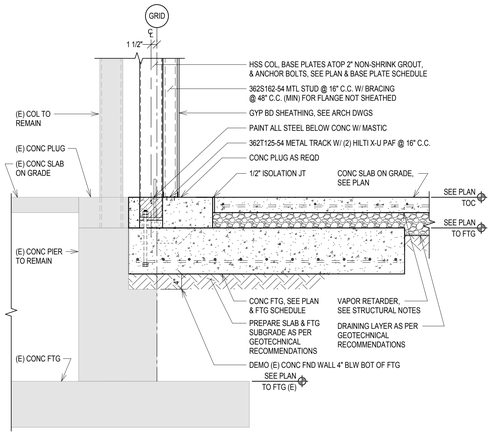
D5 5.SB501 **DETAIL**

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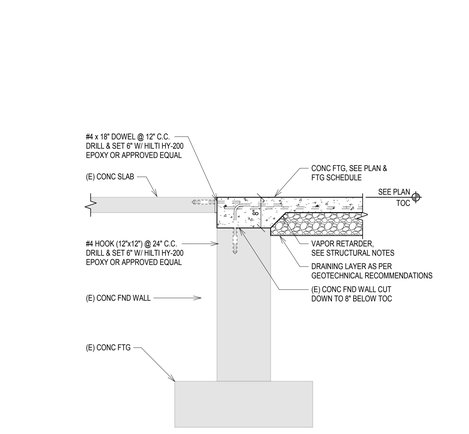
D7 5.SB501 **DETAIL**

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



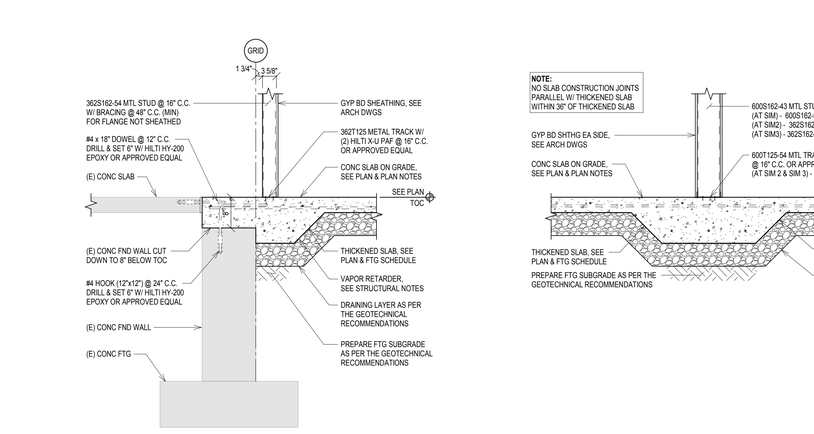
F3 5.SB501 **DETAIL**

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



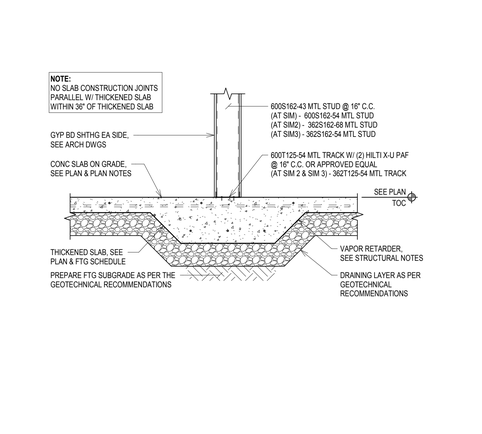
F5 5.SB501 **DETAIL**

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



F7 5.SB501 **DETAIL**

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



F9 5.SB501 **DETAIL**

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

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STONE GROUP ARCHITECTS

STAMP

REGISTERED PROFESSIONAL ENGINEER — REG. NO. 11027 — AARON J. HABERMAN — 03/07/19

Office of Construction and Facilities Management

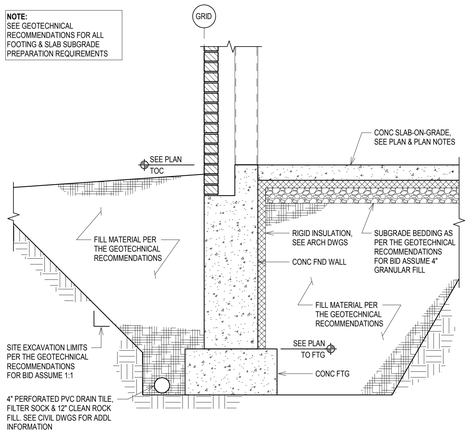
VA U.S. Department of Veterans Affairs

Drawing Title DETAILS	**Phase** 100% BID SET
Approved:	

Project Title Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance			**Project Number** VA #438-500 SGA #181906
			Building Number 5
Location Sioux Falls, SD			**Drawing Number** 5.SB501
Issue Date 03/07/2019	**Checked** AH	**Drawn** MDB	

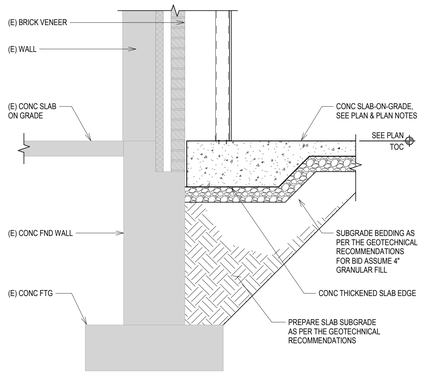
VA FORM 08 - 6231

C:\Users\Mike\Documents\REVIT PROJECTS\2018-204 S-MODEL R18_mikeIPXFAZ.rvt
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three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



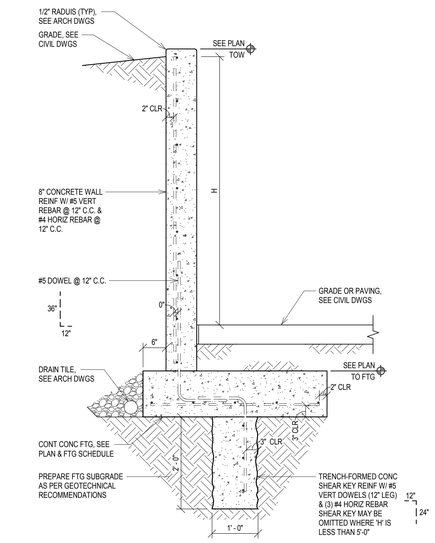
TYP FTG EXCAVATION - EXTERIOR

SCALE: NTS



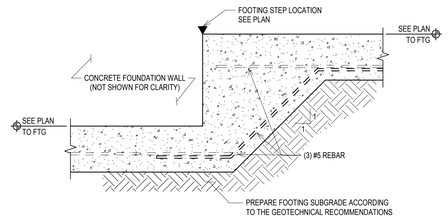
TYP FTG EXCAVATION - ALONG EXISTING

SCALE: NTS



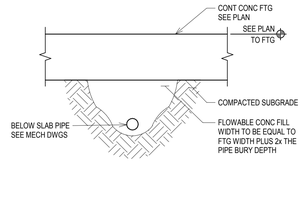
TYP RETAINING WALL DETAIL

SCALE: NTS



TYP FTG STEP

SCALE: NTS



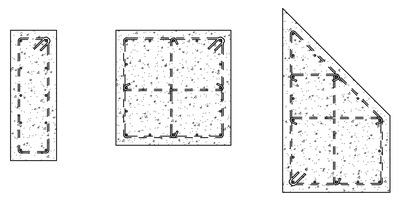
TYP PIPE BLW FTG

SCALE: NTS

CONCRETE PIER SCHEDULE			
SIZE	REINFORCEMENT		REMARKS
	VERT REINF	TIE SIZE & SPACING	
12" x 34"	(10) #6	#3 @ 12" C.C.	TIE DETAIL 1
30" x 30"	(16) #6	#3 @ 12" C.C.	TIE DETAIL 2
28" x 48"	(16) #6	#3 @ 12" C.C.	TIE DETAIL 3

ADDITIONAL REMARKS:

- PROVIDE (3) #3 TIES WITHIN TOP 5" OF CONCRETE PIERS THAT RECEIVE THREADED ROD ANCHOR BOLTS.



TIE DETAIL 1 TIE DETAIL 2 TIE DETAIL 3

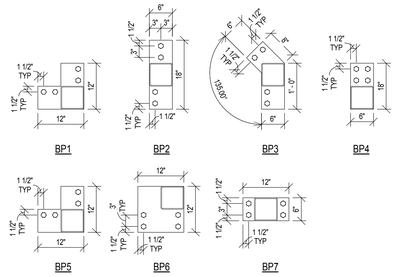
CONCRETE PIER SCHEDULE & DIAGRAMS

SCALE: NTS

BASE PLATE SCHEDULE		
MARK	BASE PLATE SIZE	ANCHOR BOLTS
BP1	12"x12"x3/4"	(4) 3/4"Ø THREADED ROD ANCHOR BOLTS W/ DBL NUT T&B (EMBED 9")
BP2	18"x6"x3/4"	(4) 3/4"Ø THREADED ROD ANCHOR BOLTS W/ DBL NUT T&B (EMBED 9")
BP3	8"x12"x3/4"	(4) 3/4"Ø THREADED ROD ANCHOR BOLTS W/ DBL NUT T&B (EMBED 9")
BP4	18"x6"x3/4"	(4) 3/4"Ø THREADED ROD ANCHOR BOLTS W/ DBL NUT T&B (EMBED 7")
BP5	12"x12"x3/4"	(4) 3/4"Ø THREADED ROD ANCHOR BOLTS W/ DBL NUT T&B (EMBED 7")
BP6	12"x12"x3/4"	(4) 3/4"Ø THREADED ROD ANCHOR BOLTS W/ DBL NUT T&B (EMBED 7")
BP7	12"x12"x3/4"	(4) 3/4"Ø THREADED ROD ANCHOR BOLTS W/ DBL NUT T&B (EMBED 7")

ADDITIONAL REMARKS:

- PROVIDE 2" NON-SHRINK GROUT BELOW BASE PLATES.
- (*) PROVIDE (4) 1 1/2"Ø THREADED ROD ANCHOR BOLTS WITH 42" MINIMUM EMBEDMENT AND DOUBLE NUT TOP AND BOTTOM.



BASE PLATE SCHEDULE & DIAGRAMS

SCALE: NTS

Revision#	Description	Date:
2	100% BID SET RESUBMITTAL	03/07/2019
1	100% BID SET	12/21/2018

CONSULTANTS

STRUCTURAL:
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Albertson Engineering, Inc.
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Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP

REGISTERED PROFESSIONAL ENGINEER REG. NO. 11022 AARON M. HARTMAN 03/07/19

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	SCHEDULES & TYPICAL DETAILS
Approved:	
Phase	100% BID SET
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Location	Sioux Falls, SD
Issue Date	03/07/2019
Checked	AH
Drawn	MDB
Project Number	VA #438-500 SGA #181906
Building Number	5
Drawing Number	5.SB601

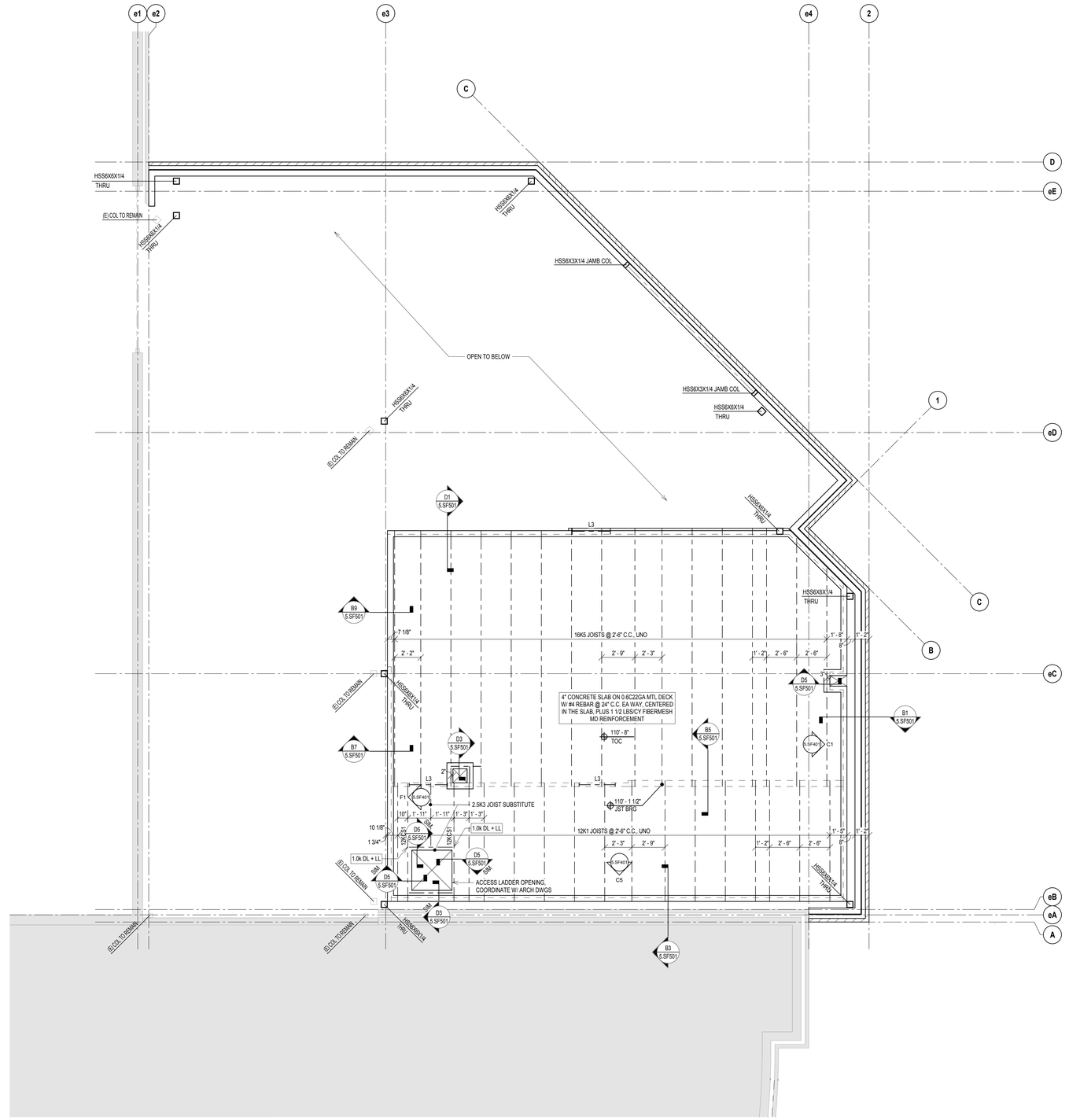
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VA FORM 08 - 6231

STRUCTURAL SHEET NOTES

MECHANICAL PLATFORM FRAMING PLAN NOTES

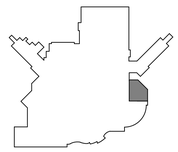
- SEE SHEET S-001 FOR GENERAL STRUCTURAL NOTES.
- VERIFY ALL DIMENSIONS & ELEVATIONS WITH ARCHITECTURAL DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- ELEVATIONS ON THE STRUCTURAL DRAWINGS REFER TO THE TOP OF CONCRETE REFERENCE ELEVATION SET AT 100'-0" = CIVIL ELEVATION 1500.21'
- FLOOR DECKING SHALL BE 0.622GA CONFORM DECK ATTACHED TO SUPPORTS W/ 5/8"Ø PUDDLE WELDS IN A SDI 36/4 STANDARD PATTERN W/ (2) TEK SCREW SIDELAP FASTENERS PER SPAN, UNO.
- SLAB ON METAL DECK CONTROL JOINTS SHALL BE TOOLED OR SAWCUT. THE JOINT PATTERN SHALL BE APPROXIMATELY SQUARE AND LIMITED TO AN AREA NOT TO EXCEED 225 S.F. ALIGN JOINTS WITH INTERIOR BEARING WALLS, WHERE THEY OCCUR. JOINTS SHALL BE CUT WITHIN 8 HOURS OF POURING THE SLAB.
- SEE ARCHITECTURAL & MECHANICAL DRAWINGS FOR OPENINGS IN FLOOR FRAMING. ALL OPENINGS LARGER THAN 12" SHALL BE ENCLOSED WITH EDGE FRAMING. SEE "TYPICAL OPENING METAL DECK" DETAIL ON SHEET S.5601.



F3 / 5.SF101 **EQUIPMENT PLATFORM FRAMING PLAN**

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

NORTH



KEYPLAN NTS

NORTH

Revision#	Description	Date:
2	100% BID SET RESUBMITTAL	03/07/2019
1	100% BID SET	12/21/2018

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Todd Stone, AIA

STONE GROUP ARCHITECTS

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REGISTERED PROFESSIONAL ENGINEER REG. NO. 11027 ALBERTSON HARLAN D. 03/07/19

Office of Construction and Facilities Management

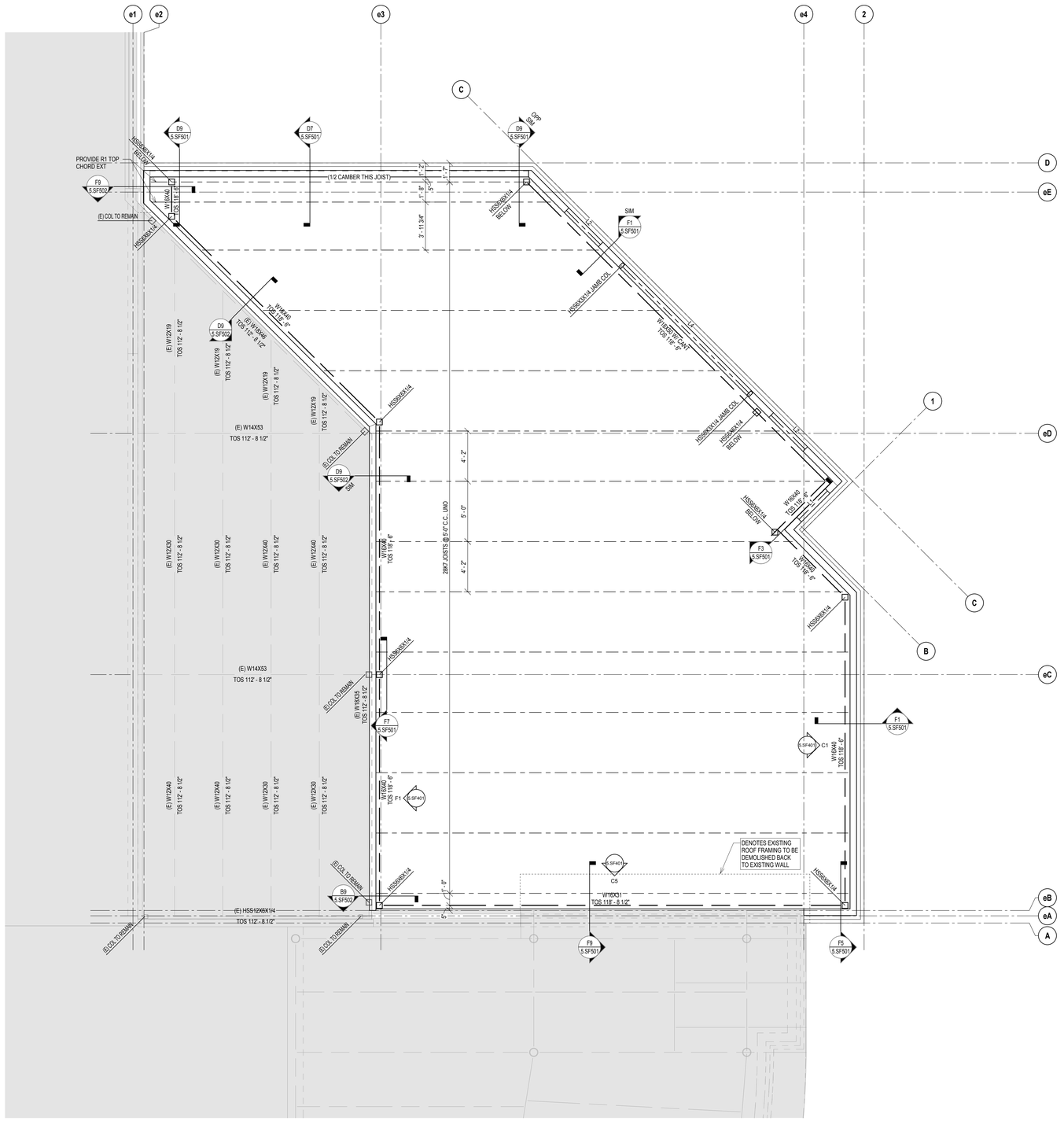
VA U.S. Department of Veterans Affairs

Drawing Title	EQUIPMENT PLATFORM FRAMING PLAN
Phase	100% BID SET
Approved:	
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Location	Sioux Falls, SD
Issue Date	03/07/2019
Checked	AH
Drawn	MDB
Project Number	VA #438-500 SGA #181906
Building Number	5
Drawing Number	5.SF101

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NORTH

F3 5.SF102

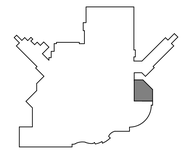
ROOF FRAMING PLAN

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

STRUCTURAL SHEET NOTES

ROOF FRAMING PLAN NOTES

- SEE SHEET S-001 FOR GENERAL STRUCTURAL NOTES.
- VERIFY ALL DIMENSIONS & ELEVATIONS WITH ARCHITECTURAL DRAWINGS BEFORE CONSTRUCTION COMMENCES.
- ELEVATIONS ON THE STRUCTURAL DRAWINGS REFER TO THE TOP OF CONCRETE REFERENCE ELEVATION SET AT 100'-0" = CIVIL ELEVATION 1500.21'
- JOIST MANUFACTURER SHALL PROVIDE DIAGONAL AND HORIZONTAL JOIST BRIDGING AS PER SJI SPECIFICATIONS.
- ROOF DECKING SHALL BE 1.5B22GA PAINTED METAL ROOF DECK ATTACHED TO SUPPORTS WITH #14 TEK SCREWS IN A SDI 3&4 STANDARD PATTERN WITH (2) TEK SCREW SIDELAP FASTENERS PER SPAN.
- SEE ARCHITECTURAL & MECHANICAL DRAWINGS FOR OPENINGS IN FLOOR FRAMING. ALL OPENINGS LARGER THAN 12" SHALL BE ENCLOSED WITH EDGE FRAMING. SEE "TYPICAL OPENING METAL DECK" DETAIL ON SHEET S-601.
- ALL ADDITIONAL FRAMING MEMBERS REQUIRED TO TRANSFER LOADS FROM NON-STRUCTURAL ITEMS TO PRIMARY STRUCTURE ARE THE RESPONSIBILITY OF THE CONTRACTOR INSTALLING THE NON-STRUCTURAL ITEMS.
- AT DECK EDGE ANGLE SPLICE LOCATIONS, A 3/16" FULL LENGTH FILLET WELD SHALL BE PROVIDED.



KEYPLAN

NTS

Revision#	Description	Date:
2	100% BID SET RESUBMITTAL	03/07/2019
1	100% BID SET	12/21/2018

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STONE GROUP ARCHITECTS

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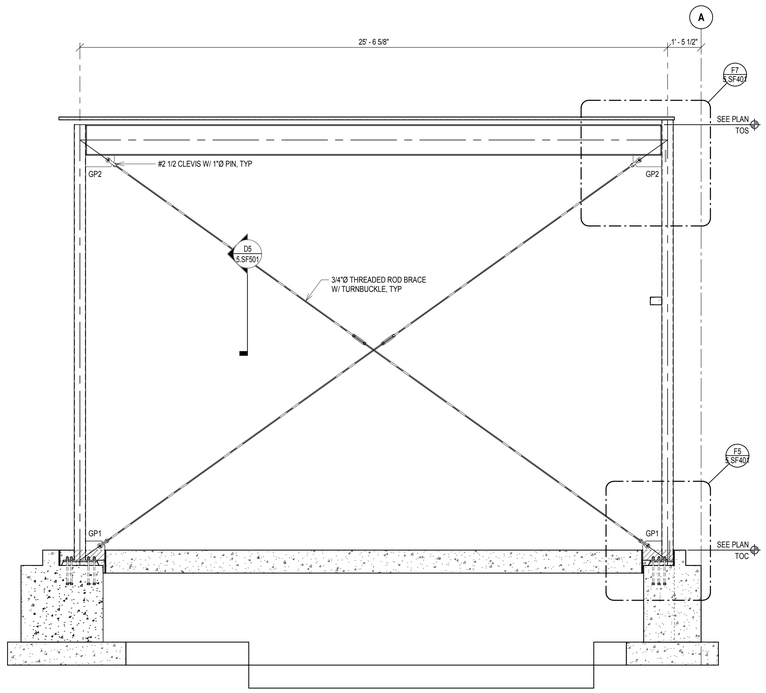
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 11022
AARON HARRIS
12/21/18

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

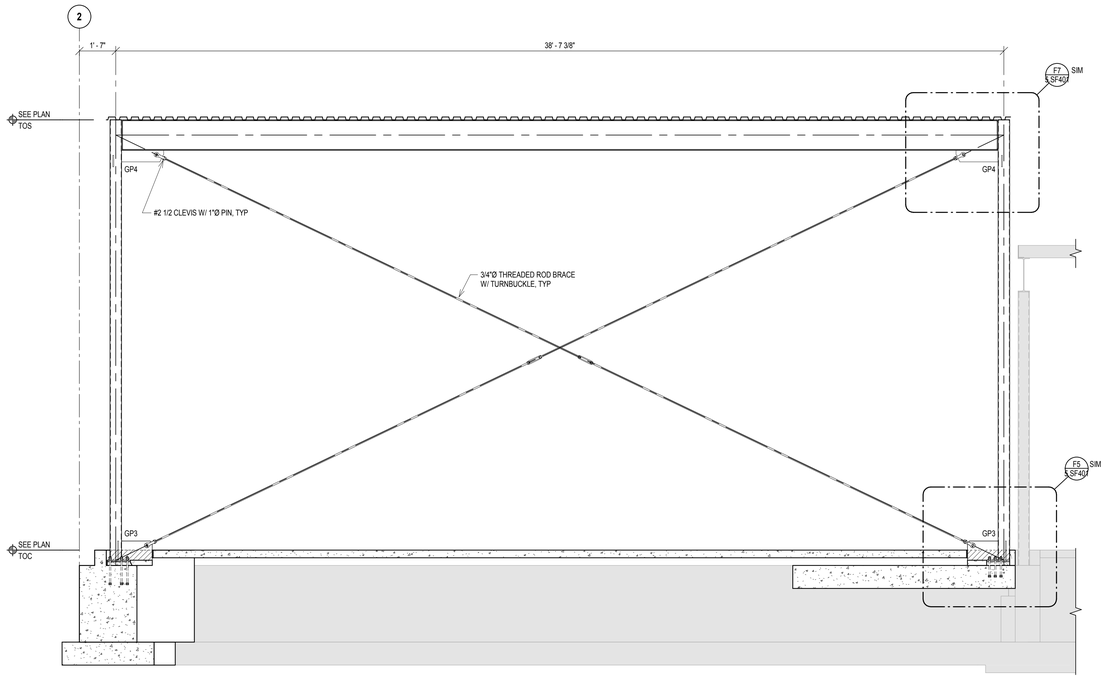
Drawing Title ROOF FRAMING PLAN	**Phase** 100% BID SET	**Project Title** Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance	**Project Number** VA #438-500 SGA #181906
Approved:			**Building Number** 5
		Location Sioux Falls, SD	**Drawing Number** 5.SF102
		Issue Date 03/07/2019 / **Checked** AH / **Drawn** MDB	

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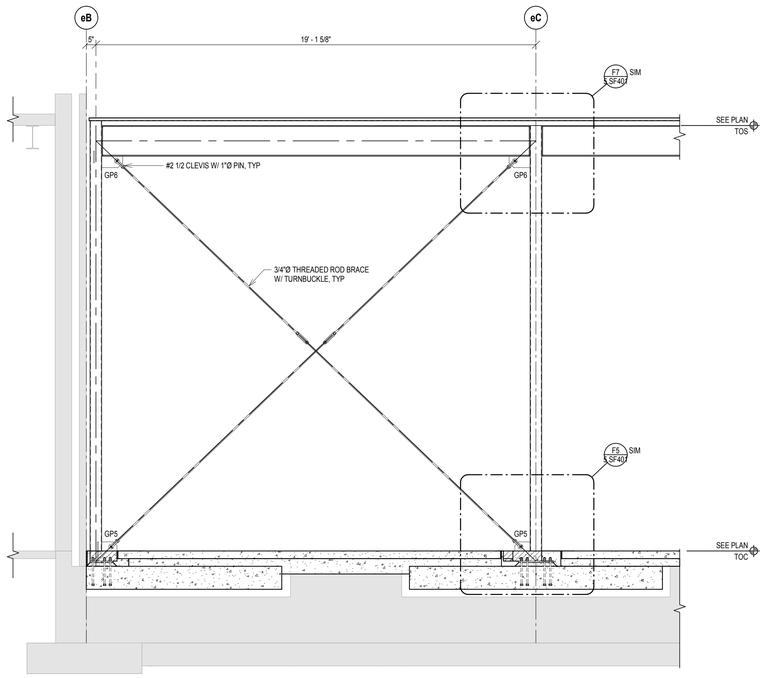
C1 5.SF401 **LATERAL BRACE - LB1**

SCALE: 3/8" = 1'-0"



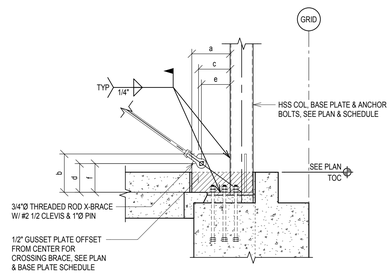
C5 5.SF401 **LATERAL BRACE - LB2**

SCALE: 3/8" = 1'-0"



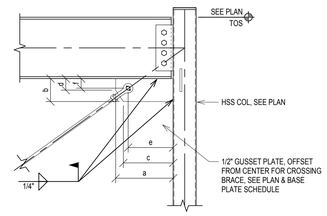
F1 5.SF401 **LATERAL BRACE - LB3**

SCALE: 3/8" = 1'-0"



F5 5.SF401 **LATERAL BRACE DETAIL**

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



F7 5.SF401 **LATERAL BRACE DETAIL**

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

GUSSET PLATE SCHEDULE

SCALE: NTS

MARK	PLATE DIMENSIONS					
	a	b	c	d	e	f
GP1	10"	10"	8 1/4"	7 1/2"	7 1/2"	7 1/2"
GP2	15"	6"	13"	3"	11 3/4"	2 1/2"
GP3	16"	10"	15"	8"	13 1/4"	7 3/4"
GP4	22"	6"	20"	2"	18 1/4"	2 1/4"
GP5	8"	10"	6"	8"	5"	7 1/2"
GP6	11"	6"	8 1/2"	3 1/2"	8"	2 1/2"

Revision#	Description	Date:
2	100% BID SET RESUBMITTAL	03/07/2019
1	100% BID SET	12/21/2018

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Todd Stone, AIA

STONE GROUP ARCHITECTS

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REGISTERED PROFESSIONAL ENGINEER
REG. NO. 11002
AARON HABERMAN
SOUTH DAKOTA
03/07/19

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: LATERAL BRACE FRAMING ELEVATIONS AND DETAILS

Approved:

Phase: 100% BID SET

Project Title: Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance

Location: Sioux Falls, SD

Issue Date: 03/07/2019 | **Checked:** AH | **Drawn:** MDB

Project Number: VA #438-500 SGA #181906

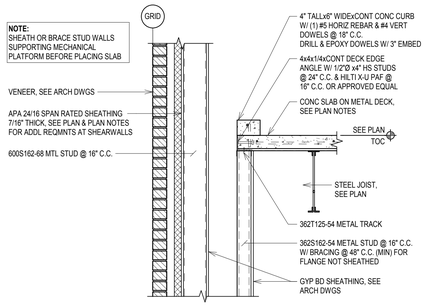
Building Number: 5

Drawing Number: 5.SF401

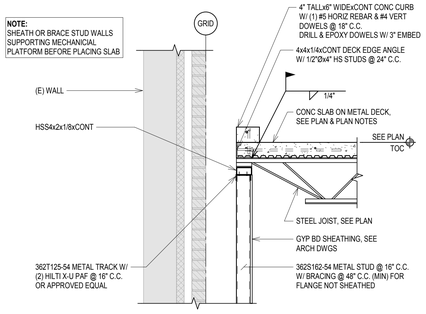
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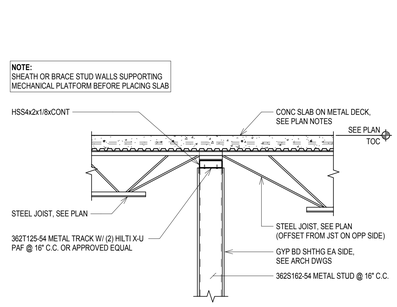
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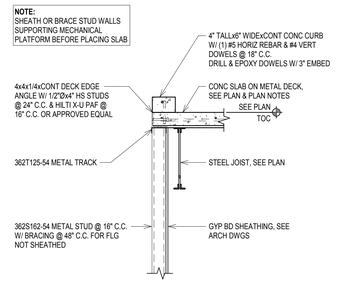
B1 5.SF501 **DETAIL**
SCALE: 3/4" = 1'-0"



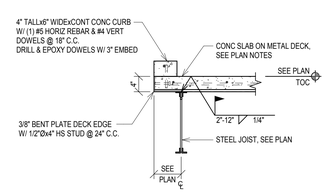
B3 5.SF501 **DETAIL**
SCALE: 3/4" = 1'-0"



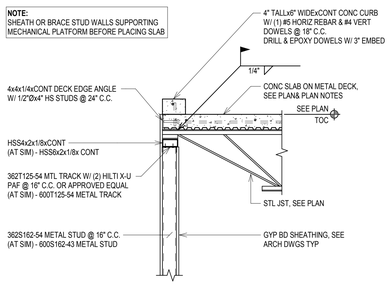
B5 5.SF501 **DETAIL**
SCALE: 3/4" = 1'-0"



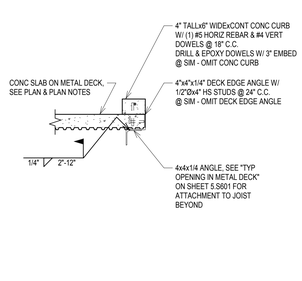
B7 5.SF501 **DETAIL**
SCALE: 3/4" = 1'-0"



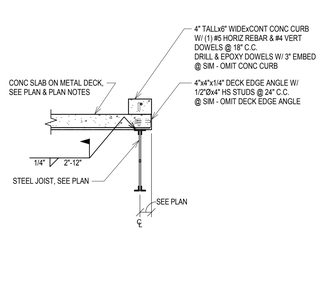
B9 5.SF501 **DETAIL**
SCALE: 3/4" = 1'-0"



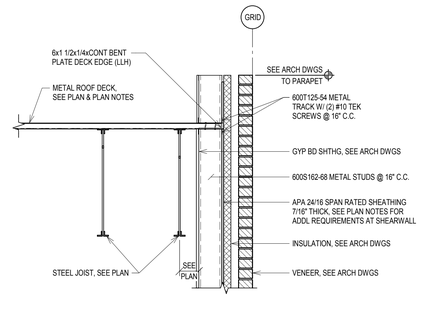
D1 5.SF501 **DETAIL**
SCALE: 3/4" = 1'-0"



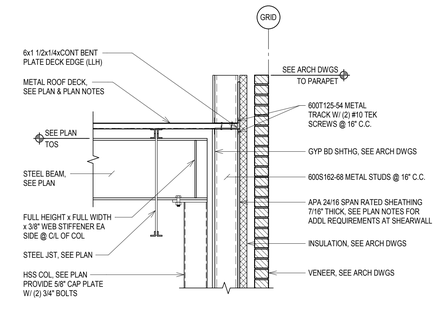
D3 5.SF501 **DETAIL**
SCALE: 3/4" = 1'-0"



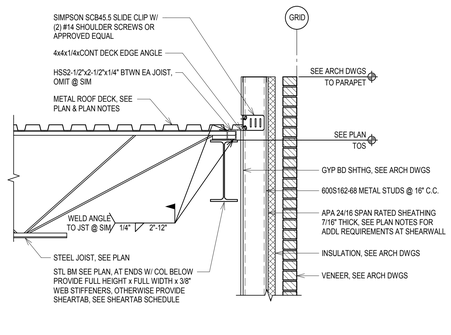
D5 5.SF501 **DETAIL**
SCALE: 3/4" = 1'-0"



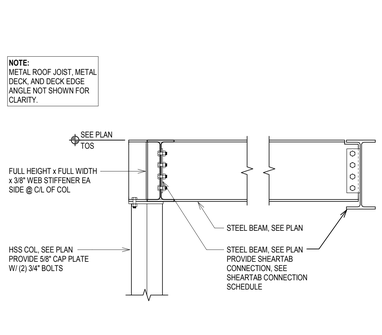
D7 5.SF501 **DETAIL**
SCALE: 3/4" = 1'-0"



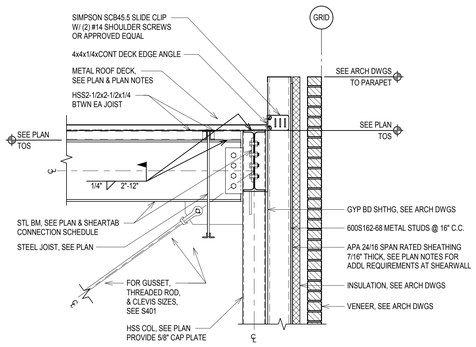
D9 5.SF501 **DETAIL**
SCALE: 3/4" = 1'-0"



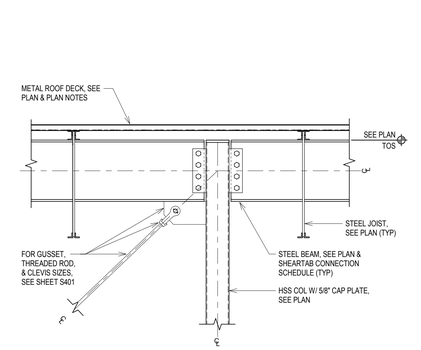
F1 5.SF501 **DETAIL**
SCALE: 3/4" = 1'-0"



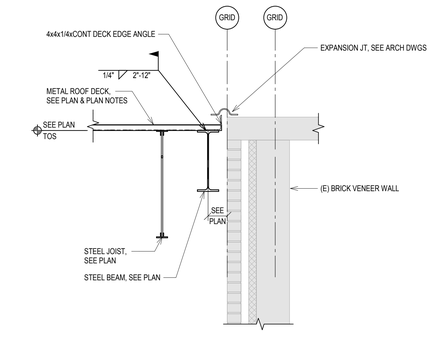
F3 5.SF501 **DETAIL**
SCALE: 3/4" = 1'-0"



F5 5.SF501 **DETAIL**
SCALE: 3/4" = 1'-0"



F7 5.SF501 **DETAIL**
SCALE: 3/4" = 1'-0"



F9 5.SF501 **DETAIL**
SCALE: 3/4" = 1'-0"

Revision#	Description	Date:
2	100% BID SET RESUBMITTAL	03/07/2019
1	100% BID SET	12/21/2018

CONSULTANTS

STRUCTURAL:
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Todd Stone, AIA

STONE GROUP ARCHITECTS

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REGISTERED PROFESSIONAL ENGINEER
REG. NO.
11922
AARON HARTMAN
DAKOTA
03/07/19

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title DETAILS	**Phase** 100% BID SET
Approved:	

Project Title
Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance

Project Number
VA #438-500
SGA #181906

Building Number
5

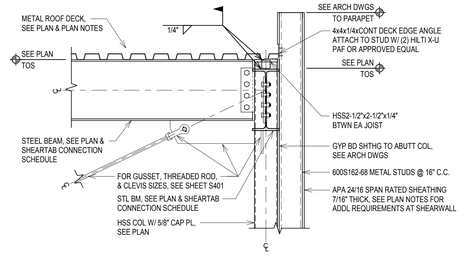
Location
Sioux Falls, SD

Issue Date	Checked	Drawn
03/07/2019	AH	MDB

Drawing Number
5.SF501

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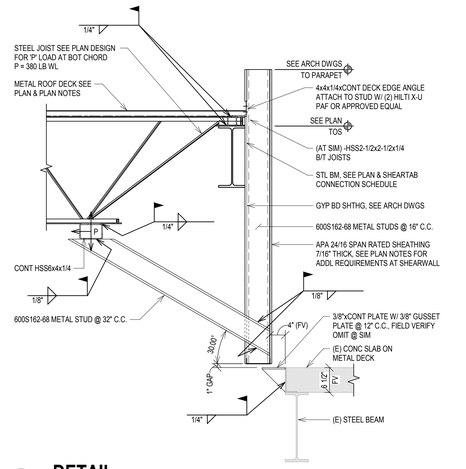
VA FORM 08 - 6231



B9 / 5.SF502

DETAIL

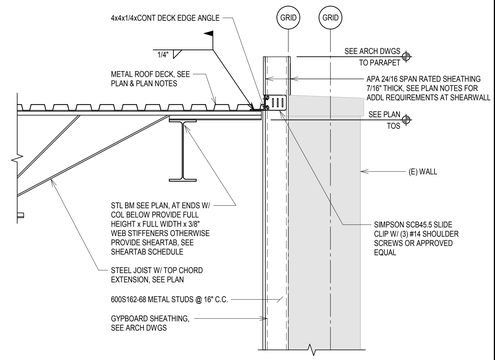
SCALE: 3/4" = 1'-0"



D9 / 5.SF502

DETAIL

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



F9 / 5.SF502

DETAIL

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

Revision#	Description	Date:
2	100% BID SET RESUBMITTAL	03/07/2019
1	100% BID SET	12/21/2018

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Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP

REGISTERED PROFESSIONAL ENGINEER
11122
AARON HARTMAN
NORTH DAKOTA
03/07/19

Office of Construction and Facilities Management

VA | U.S. Department of Veterans Affairs

Drawing Title	DETAILS
Approved:	
Phase	100% BID SET
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Location	Sioux Falls, SD
Issue Date	03/07/2019
Checked	AH
Drawn	MDB
Project Number	VA #438-500 SGA #181906
Building Number	5
Drawing Number	5.SF502

VA FORM 08 - 6231

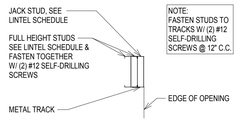
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three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

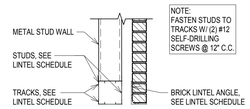
METAL STUD LINTEL SCHEDULE								
WALL TYPE	HORIZONTAL LINTEL BOTTOM OF OPENING		HORIZONTAL LINTEL TOP OF OPENING		VERTICAL MEMBERS EACH SIDE OF OPENING		BRICK LINTEL	REMARKS
	STUDS	TRACKS	STUDS	TRACKS	JACK	FULL HEIGHT		
L1	-	N/A	(2) 600S162-68	(2) 600T125-54	(1) 600S162-68	(3) 600S162-68	GALV L4"x4"x1/4"	SEE LINTEL SECTION L1 SEE JAMB SECTION J1
L2	(2) 600S162-68	(2) 600T125-54	(2) 600S162-68	(2) 600T125-54	(1) 600S162-68	(3) 600S162-68	N/A	SEE LINTEL SECTION L1 SEE JAMB SECTION J1
L3	-	N/A	(2) 362S162-68	(2) 362T125-54	(1) 362S162-68	(2) 362S162-68	N/A	SEE LINTEL SECTION L1 SEE JAMB SECTION J1
L4	(2) 600S162-68	(2) 600T125-54	HSS8x6x1/4 LLV	N/A	N/A	HSS6x3x1/4	GALV 6"x8"x3/8" BENT PLATE LLH	SEE LINTEL SECTION L2 SEE NOTES 4, 5, & 6

USE FOR ALL MECH OPENINGS IN EXTERIOR WALL LESS THAN 4'-0" WIDE

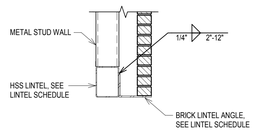
NOTE:
1. PROVIDE UN-PUNCHED MATERIAL FOR LINTEL BEAMS.
2. SEE LINTEL ELEVATION FOR LINTEL TO STUD CONNECTION.
3. BRICK LINTEL ANGLES SHALL BEAR 8" ON EACH SIDE OF OPENING.
4. WELD BOTTOM OF JAMB COL TO METAL TRACK W/ 1/8" FILLET WELD EACH SIDE. PROVIDE (2) PAF IN TRACK TO FND WALL WITHIN 6" OF JAMB, EACH SIDE.
5. ATTACH TOP OF JAMB COL TO DECK EDGE ANGLE SHOWN IN DETAIL F1/S.SF501.
6. WELD LINTEL TUBE TO JAMB COL W/ 1/4" FILLET WELD ALL AROUND.



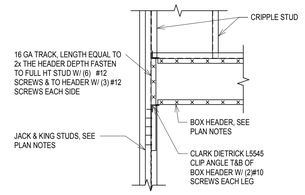
MTL STUD JAMB SECTION
J1



MTL STUD LINTEL SECTION
L1



HSS LINTEL SECTION
L2

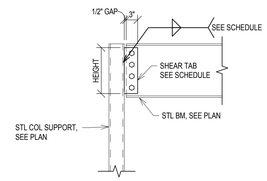


LINTEL ELEVATION

METAL STUD LINTEL SCHEDULE & DIAGRAMS

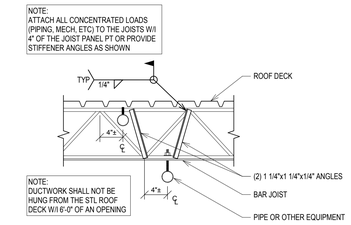
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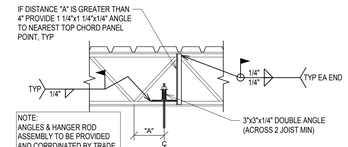
SHEAR TAB CONNECTION SCHEDULE				
BEAM	HEIGHT	THICKNESS	3/4"Ø A325N BOLTS	WELD SIZE TO COL
W16	11 1/2"	3/8"	4	5/16" FILLET
W18	14 1/2"	3/8"	5	5/16" FILLET



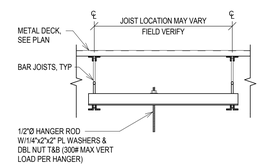
SHEAR TAB CONNECTION SCHEDULE & DIAGRAM

SCALE: NTS



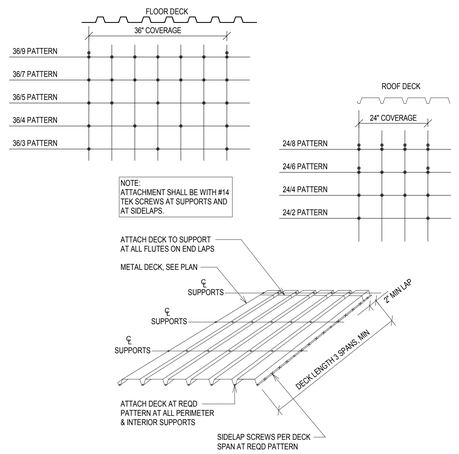


SECTION A-A



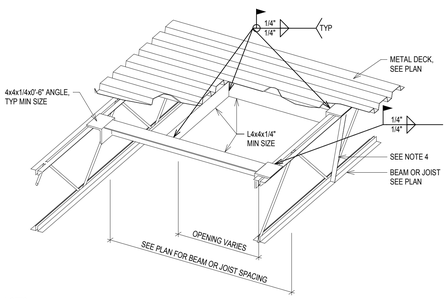
TYPICAL PIPE SUPPORT

SCALE: NTS



TYP HANGER ROD

SCALE: NTS



NOTES:
1. VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH ARCH, MECH, AND ELEC DRAWINGS AND EQUIPMENT SUPPLIERS PRIOR TO SUBMITTING SHOP DRAWINGS
2. NO ADDED FRAMING IS REQUIRED AT OPENINGS CUTTING ONLY ONE DECK FLUTE, UNLESS OTHERWISE NOTED.
3. FASTEN DECK FLUTES TO ANGLE FRAMING ALL SIDES PER ROOF DECK ATTACHEMENT SPECIFIED IN THE PLAN NOTES.
4. IF ANGLE TAB DOES NOT FALL W/I 3" OF JOIST PANEL POINT, ADD (2) ANGLES 1 1/4"x1 1/4"x1/4" FROM TAB LOCATION TO BOTTOM CHORD PANEL POINT, (1) EA SIDE OF JOIST, WELD INTO PLACE.

TYPICAL METAL DECK ATTACHMENT PATTERNS

SCALE: NTS

TYPICAL OPENING IN METAL DECK

SCALE: NTS

Revision#	Description	Date:
2	100% BID SET RESUBMITTAL	03/07/2019
1	100% BID SET	12/21/2018

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Todd Stone, AIA

STONE GROUP ARCHITECTS

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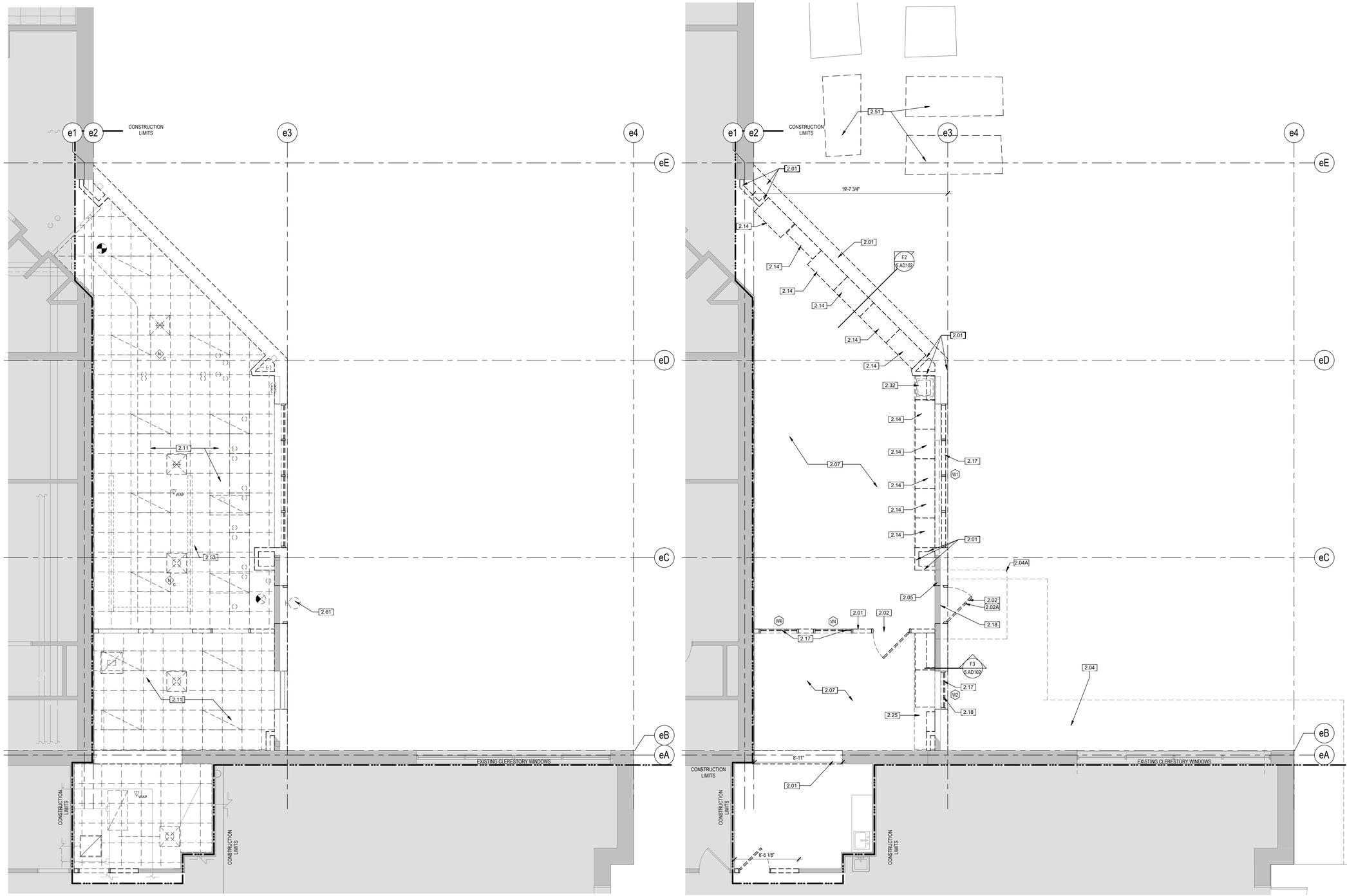
REGISTERED PROFESSIONAL ENGINEER
REG. NO.
11922
AARON HARTMAN
DAKOTA
03/07/19

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	SCHEDULES & TYPICAL DETAILS
Approved:	
Phase	100% BID SET
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Location	Sioux Falls, SD
Issue Date	03/07/2019
Checked	AH
Drawn	MDB
Project Number	VA #438-500 SGA #181906
Building Number	5
Drawing Number	5.SF601

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1ST LEVEL REFLECTED CEILING DEMOLITION PLAN

F1 — 1/4" = 1'-0"

NORTH

1ST LEVEL DEMOLITION PLAN

F5 — 1/4" = 1'-0"

NORTH

DEMOLITION PLAN GENERAL NOTES

A. COORDINATE DEMOLITION WITH PHASING PLANS AND OWNER'S SCHEDULE FOR OCCUPANCY.

B. TEMPORARY PARTITIONS SHOULD BE SECURE AND WATERTIGHT.

C. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS WHICH ARE TO MATCH EXISTING CONSTRUCTION. CONTACT A/E WITH DISCREPANCIES.

D. REMOVE EXISTING FLOORING AND PREPARE FLOOR TO RECIEVE NEW FINISHES.

E. ALL SURFACES DAMAGED DURING DEMOLITION SHALL BE REPAIRED FOR APPLICATION OF NEW FINISHES OR PATCHED TO MATCH EXISTING. INDEPENDENT TRADES ARE RESPONSIBLE FOR THEIR RESPECTIVE CUT AND PATCH.

F. PATCH ALL HOLES EXISTING SLAB LEFT FROM REMOVAL OF FIXTURES.

G. RETURN ALL SIGNAGE AFFECTED BY CONSTRUCTION TO OWNER.

H. GC TO PROVIDE STORAGE OF SALVAGED EQUIPMENT AND FURNITURE DURING PHASES OF CONSTRUCTION. VERIFY WITH COR FOR FINAL EXTENT OF SALVAGED ITEMS.

SHEET KEYNOTES

Key Value	Keynote Text
2.01	REMOVE EXISTING WALL IN ITS ENTIRETY.
2.02	REMOVE EXISTING DOOR AND FRAME.
2.02A	REUSE NEEDED HARDWARE (SEE SCHED.) RETURN DOOR AND REMAINING DOOR HARDWARE TO OWNER
2.04	DEMO EXISTING CONCRETE SIDEWALK. SEE CIVIL.
2.04A	REMOVE STOOP FOOTING. SEE STRUCTURAL.
2.05	EXISTING WALL TO REMAIN.
2.07	REMOVE EXISTING FLOORING AND PREPARE FOR SURFACE TO RECEIVE NEW FINISHES.
2.11	REMOVE EXISTING CEILING (ACT).
2.14	REMOVE AND SALVAGE EXISTING CASEWORK IN ITS ENTIRETY FOR REINSTALLATION.
2.17	REMOVE AND SALVAGE EXISTING WINDOW FOR REINSTALLATION.
2.18	EXISTING OPENINGS TO BE REMOVED. FILL WITH METAL STUD AND GYP.
2.25	REMOVE AND SALVAGE EXISTING CASEWORK TO OWNER.
2.32	REMOVE AND SALVAGE EXISTING PLUMBING FIXTURES FOR REINSTALLATION. COORDINATE W/ MECHANICAL.
2.51	REMOVE AND RELOCATE MECHANICAL UNITS. SEE MECH.
2.53	REMOVE EXISTING LIFT. SALVAGE TO OWNER
2.61	REMOVE EXISTING LIGHT AND SALVAGE FOR REINSTALLATION

DEMOLITION PLAN LEGEND

- EXISTING ITEMS TO REMAIN
- DEMOLITION ITEMS
- TEMPORARY PARTITION AND DOORS
- CONSTRUCTION LIMITS
- RAD — STEAM RADIATOR LOCATIONS
- DEMO CEILING
- AREA NOT IN CONTRACT

KEYPLAN

NTS

NORTH

Revision#	Description	Date:
1	100% Bid Set	12/21/2018

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Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP

REGISTERED ARCHITECT — SOUTH DAKOTA — 3-7-19

Office of Construction and Facilities Management

VA | U.S. Department of Veterans Affairs

Drawing Title	FIRST FLOOR DEMOLITION/ RCP DEMOLITION PLANS
Phase	100% BID SET RESUBMITTAL
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 SGA #181906
Building Number	5
Approved:	
Location	Sioux Falls, South Dakota
Drawing Number	5.AD101
Issue Date	03/07/2019
Checked	TRS
Drawn	DAN

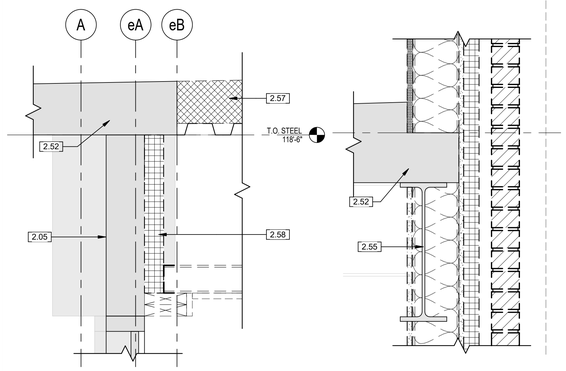
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VA FORM 08 - 6231

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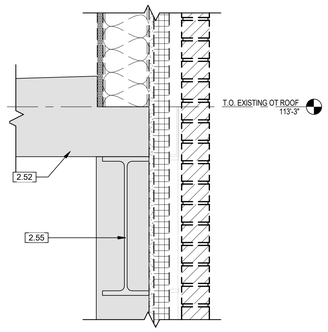
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three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

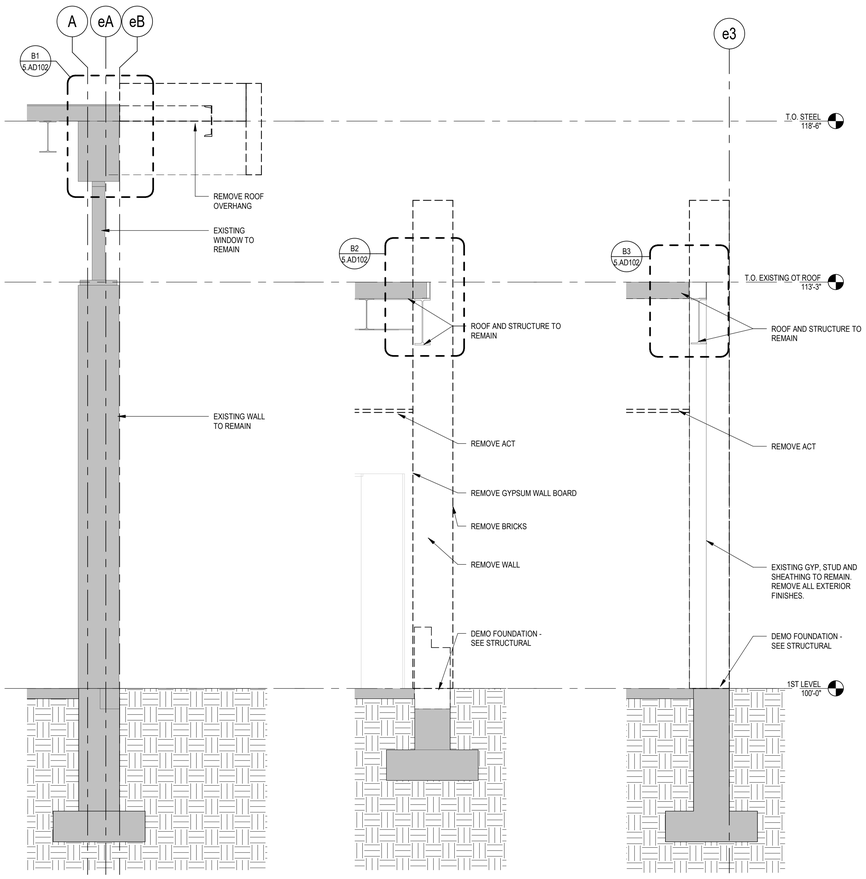


B1 SECTION DETAIL - DEMO 1
1 1/2" = 1'-0"

B2 SECTION DETAIL - DEMO 2
1 1/2" = 1'-0"



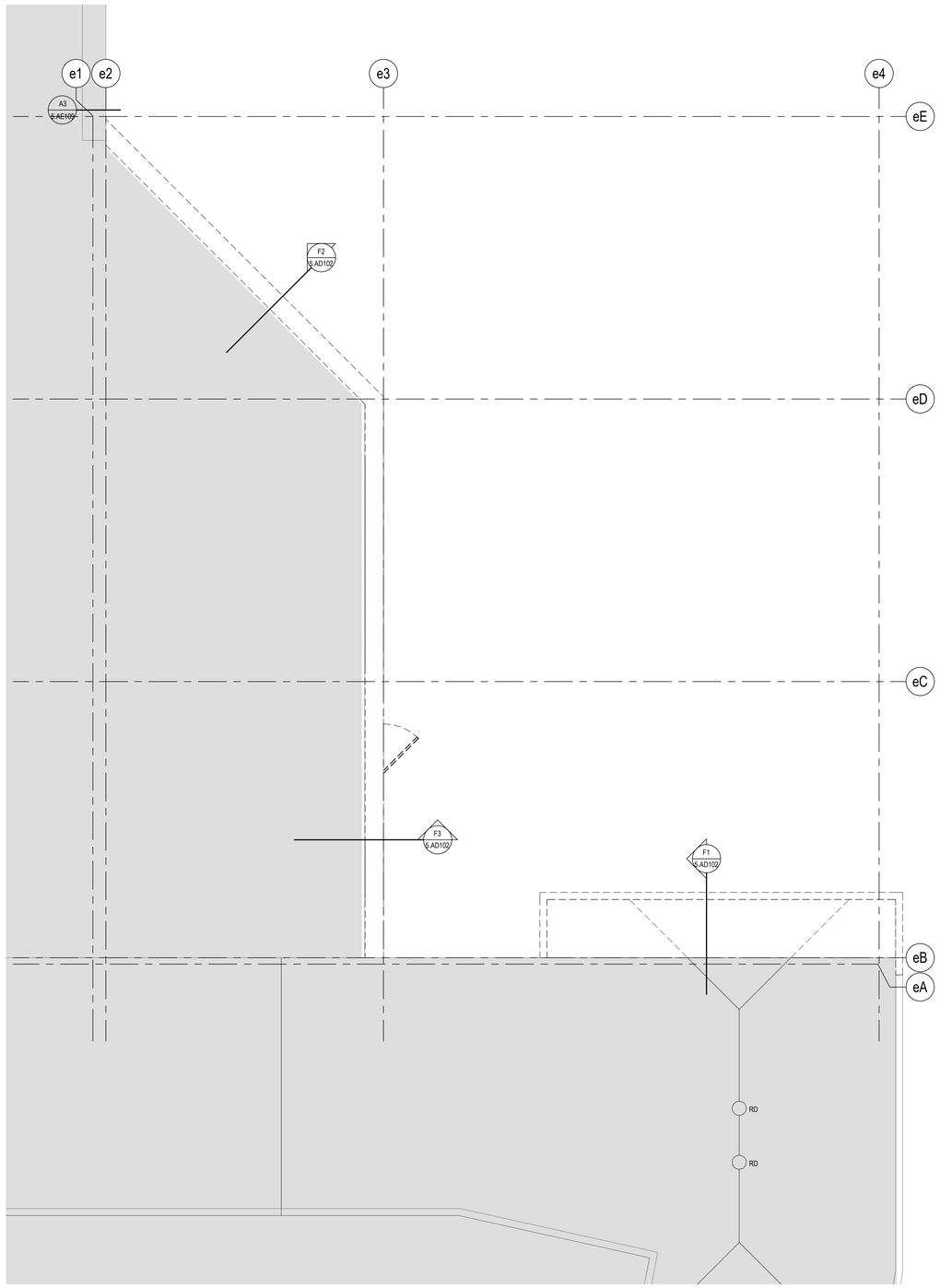
B3 SECTION DETAIL - DEMO 3
1 1/2" = 1'-0"



F1 DEMO WALL SECTION 1
1/2" = 1'-0"

F2 DEMO WALL SECTION 2
1/2" = 1'-0"

F3 DEMO WALL SECTION 3
1/2" = 1'-0"



NORTH

F5 ROOF DEMOLITION PLAN
1/4" = 1'-0"

DEMOLITION PLAN GENERAL NOTES

A. COORDINATE DEMOLITION WITH PHASING PLANS AND OWNER'S SCHEDULE FOR OCCUPANCY.

B. TEMPORARY PARTITIONS SHOULD BE SECURE AND WATERTIGHT.

C. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS WHICH ARE TO MATCH EXISTING CONSTRUCTION. CONTACT A/E WITH DISCREPANCIES.

D. REMOVE EXISTING FLOORING AND PREPARE FLOOR TO RECIEVE NEW FINISHES.

E. ALL SURFACES DAMAGED DURING DEMOLITION SHALL BE REPAIRED FOR APPLICATION OF NEW FINISHES OR PATCHED TO MATCH EXISTING. INDEPENDENT TRADES ARE RESPONSIBLE FOR THEIR RESPECTIVE CUT AND PATCH.

F. PATCH ALL HOLES EXISTING SLAB LEFT FROM REMOVAL OF FIXTURES.

G. RETURN ALL SIGNAGE AFFECTED BY CONSTRUCTION TO OWNER.

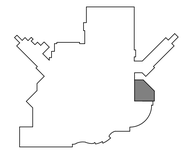
H. GC TO PROVIDE STORAGE OF SALVAGED EQUIPMENT AND FURNITURE DURING PHASES OF CONSTRUCTION. VERIFY WITH COR FOR FINAL EXTENT OF SALVAGED ITEMS.

SHEET KEYNOTES

Key Value	Keynote Text
2.05	EXISTING WALL TO REMAIN.
2.52	EXISTING ROOF TO REMAIN.
2.55	EXISTING STEEL STRUCTURE TO REMAIN. REF STRUCTURAL.
2.57	DEMO EXISTING ROOF. FIELD VERIFIED BY CONTRACTOR.
2.58	REMOVE EXISTING RIGID INSULATION.

DEMOLITION PLAN LEGEND

- EXISTING ITEMS TO REMAIN
- DEMOLITION ITEMS
- TEMPORARY PARTITION AND DOORS
- CONSTRUCTION LIMITS
- RAD — STEAM RADIATOR LOCATIONS
- DEMO CEILING
- AREA NOT IN CONTRACT



KEYPLAN NTS — NORTH

Revision#	Description	Date:
1	100% Bid Set	12/21/2018

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STAMP
REGISTERED ARCHITECT — TODD R. STONE — SOUTH DAKOTA

Office of Construction and Facilities Management

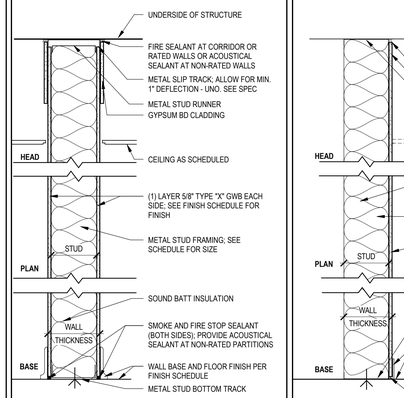
VA U.S. Department of Veterans Affairs

Drawing Title	ROOF DEMOLITION PLAN
Phase	100% BID SET RESUBMITTAL
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 SGA #181906
Building Number	5
Approved:	
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	TRS
Drawn	DAN
Drawing Number	5.AD102
	FULLY SPRINKLERED

VA FORM 08 - 6231

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot
3/8/2019 12:07:05 PM
C:_SGA Revit Local\181906_VA_PHARM_A18_Final_donisa.nelson.rvt

TYPE A - FULL HEIGHT

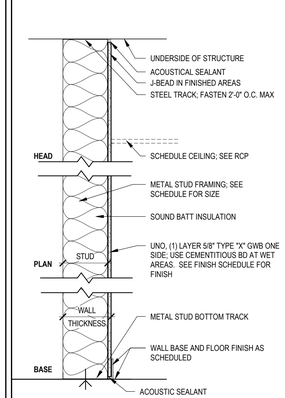


TYPE A - PARTITION SCHEDULE

TYPE	STUD SIZE	WALL THICKNESS	MIN. STC	HEIGHT	UL #
A3	3 5/8"	4 7/8"	45		
A3h	3 5/8"	4 7/8"	45	48"	
A3u	3 5/8"	4 7/8"	45		U419*
A6	6"	7 1/4"	45		
A6u	6"	7 1/4"	45		U419*

* U419 DETAILS SEE F2/5.GI101

TYPE D - SINGLE SIDED

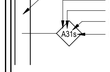


TYPE D - PARTITION SCHEDULE

TYPE	STUD SIZE	WALL THICKNESS	MIN. STC	HEIGHT	COMMENTS
D2	3 5/8"	3 1/8"	NA		
D3	3 5/8"	4 1/4"	NA		
D6	3 5/8"	6 5/8"	NA		TYPE "X" GYP

PARTITION TYPE SYMBOL

SEE SHEET 5.AE101 FOR ASSEMBIES



PARTITION GROUP DESIGNATOR

A = FULL HEIGHT M.S. WALL, (1) LAYER GYP BD BOTH SIDES
D = FULL HEIGHT M.S. WALL, SINGLE SIDE GYP BD
F = FULL HEIGHT M.S. WALL AT EXTER PIPE CHASE, SINGLE SIDE GYP BD
G = FULL HEIGHT M.S. WALL AT EXTER WALL FURRING, SINGLE SIDE GYP BD

STUD SIZE DESIGNATOR

1 = 1 5/8" METAL STUDS
2 = 2 1/2" METAL STUDS
3 = 3 5/8" METAL STUDS
6 = 6" METAL STUDS

PARTITION MODIFIERS

s = SMOKE BARRIER
p = SMOKE PARTITION
h = WALL HEIGHT 42"
u = U412

PARTITION TYPE NOTES

REFER TO LIFE SAFETY PLAN FOR REQUIRED PARTITION FIRE RATINGS.

REFER TO SPECIFICATIONS FOR VERTICAL PARTITION SPAN CRITERIA AND METAL STUD GAGES; UNO

GYPSUM BOARD SHALL BE FIRE RATED 5/8" TYPE 'X', UNO

STEEL STUDS SHALL BE 20 GAGE, 16" O.C., UNO

FIRE-RESISTANCE-RATED AND STC-RATED PARTITIONS SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF THE TESTED ASSEMBLY UNLESS MORE STRINGENT REQUIREMENTS ARE DESIGNATED BY DETAIL.

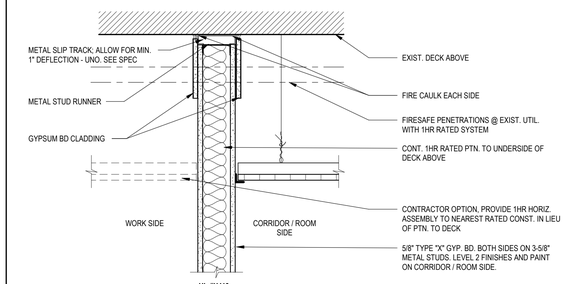
FIRESTOP SHALL BE USED AT CORRIDOR WALLS OR FIRE RATED PARTITIONS. ALL RECESSED JUNCTION BOXES SHALL BE SEALED, AND RUNNERS SHALL BE SET IN 2 BEADS OF SEALANT OR AS REQUIRED BY MANUFACTURER.

STC-RATED PARTITION CONSTRUCTION SHALL HAVE ALL PENETRATIONS AND INTERSECTIONS SEALED AIR TIGHT WITH ACOUSTICAL SEALANT.

VERTICAL SURFACES TO RECEIVE TILE FINISH, PROVIDE (1) LAYER 5/8" CEMENTITIOUS BACKER UNIT IN PLACE OF THE OUTSIDE LAYER OF GYPSUM BOARD ON THE SCHEDULED PARTITION.

COORDINATE PARTITION CONSTRUCTION WITH FINISH PLANS.

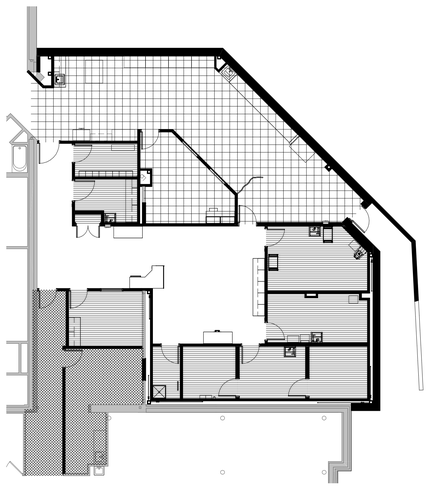
PROVIDE METAL BACKING PLATES FOR WALL-MOUNTED ACCESSORIES AND CONSTRUCTION.



UL #U419

NOTE: AS A CONTRACTOR OPTION, RECONFIGURE EXISTING SPRINKLER SYSTEMS TO PROVIDE UPRIGHT HEADS FOR FULL SPRINKLER COVERAGE OF THE CONSTRUCTION AREA IN LIEU OF RATED TEMPORARY SEPARATIONS UNTIL NEW CEILING FINISHES ARE INSTALLED.

D1 TEMPORARY PARTITION - FIRE RATED
1 1/2" = 1'-0"



SPACE ALLOCATION

OCCUPATIONAL THERAPY
PHASE 1

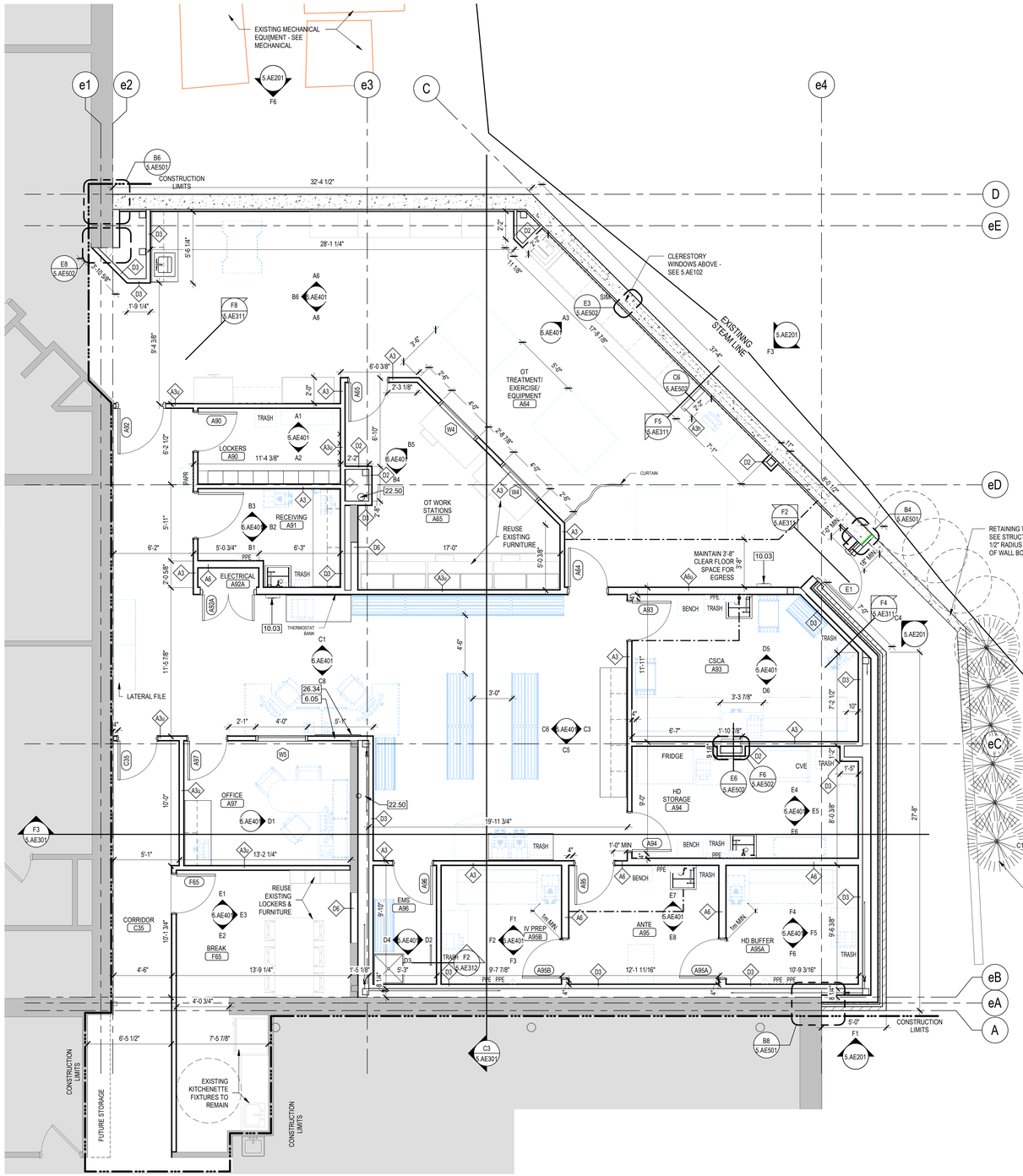
ONCOLOGY
PHASE 2

PHARMACY
PHASE 2

TOTAL REMODEL: 1160 SF
TOTAL ADDITION: 2270 SF

DEPARTMENT SCHEDULE

	1112 SF
OCCUPATIONAL THERAPY	1040 SF
ONCOLOGY	379 SF
PHARMACY	926 SF
	3457 SF



NORTH

F4 1ST LEVEL FLOOR PLAN
1/4" = 1'-0" 100'-0" = 1500.21' F.F.E.

GENERAL NOTES - FLOOR PLANS

A. ANY DISCREPANCIES OR CONFLICTS FOUND IN THE VARIOUS PARTS OF THE CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND THE OWNER BEFORE PROCEEDING WITH THE WORK.

B. ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS SHALL BE FIRE CAULKED TO COMPLY WITH THE BUILDING CODE AND NFPA.

C. PROVIDE BLOCKING AT PARTITIONS AS REQUIRED FOR MOUNTING OF FURNISHED AND NON-FURNISHED WALL MOUNTED ITEMS.

D. ALIGN FINISHED FACE OF CONTINUOUS PARTITIONS THAT CHANGE PARTITION TYPES ALONG A STRAIGHT RUN.

E. INTERIOR DOOR FRAMES TO BE FRAMED 5" FROM ADJACENT WALL TO HINGE, UNLESS NOTED OTHERWISE.

F. ALL INTERIOR WALL DIMENSIONS ARE TO FACE OF GYPSUM BOARD, CMU, BRICK, OR CONCRETE; UNLESS NOTED OTHERWISE.

G. ALL PARTITIONS ARE TO BE TYPE 'A3' UNLESS NOTED OTHERWISE. REFER TO SHEET AE501 FOR PARTITION TYPES.

H. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL PARTITION TYPES AND DIMENSIONS.

I. PROVIDE CONTROL JOINTS IN DRYWALL EVERY 30'-0"

J. ALL EQUIPMENT OWNER PROVIDED, CONTRACTOR INSTALED.

K. ALL WALLS TO STRUCTURE ABOVE UNLESS NOTED OTHERWISE.

SHEET KEYNOTES

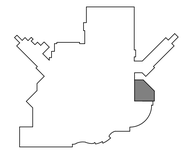
Key Value	Keynote Text
6.05	WOOD BLOCKING.
9.41	ELASTOMERIC COATING ON RETAINING WALL
10.03	SEMI-RECESSED MOUNTED F.E.C.
22.50	ROOF DRAIN.
26.34	VIDEO SURVEILLANCE/PRESSURE MONITORS - REF. ELEC.

FLOOR PLAN LEGEND

NAME 101 — ROOM TAG
101 — DOOR TAG
E10 — EQUIPMENT TAG
— KEYNOTE TAG
C1 — CONTROL JOINT
FE — FIRE EXTINGUISHER
FEC — FIRE EXTINGUISHER CABINET
CR — CARD READER
PP — PUSH PAD FOR DOOR
WALL RATINGS
AREA NOT IN CONTRACT
GOVERNMENT FURNISHED AND INSTALLED OR EXISTING EQUIPMENT RELOCATED.
FLOOR EXPANSION JOINT

ACQUISITION CODE LEGEND: (Acq/Ins)

CC - CONTRACTOR FURNINSHED AND INSTALLED
VC - GOVERNMENT FURNISHED, CONTRACTOR INSTALLED
VV - GOVERNMENT FURNISHED AND INSTALLED
EX - EXISTING ITEM RELOCATED BY CONTRACTOR



KEYPLAN
NTS
NORTH

Revision#	Description	Date:
1	100% Bid Set	12/21/2018

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Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP

REGISTERED ARCHITECT — TODD A. STONE — SOUTH DAKOTA — 3-7-19

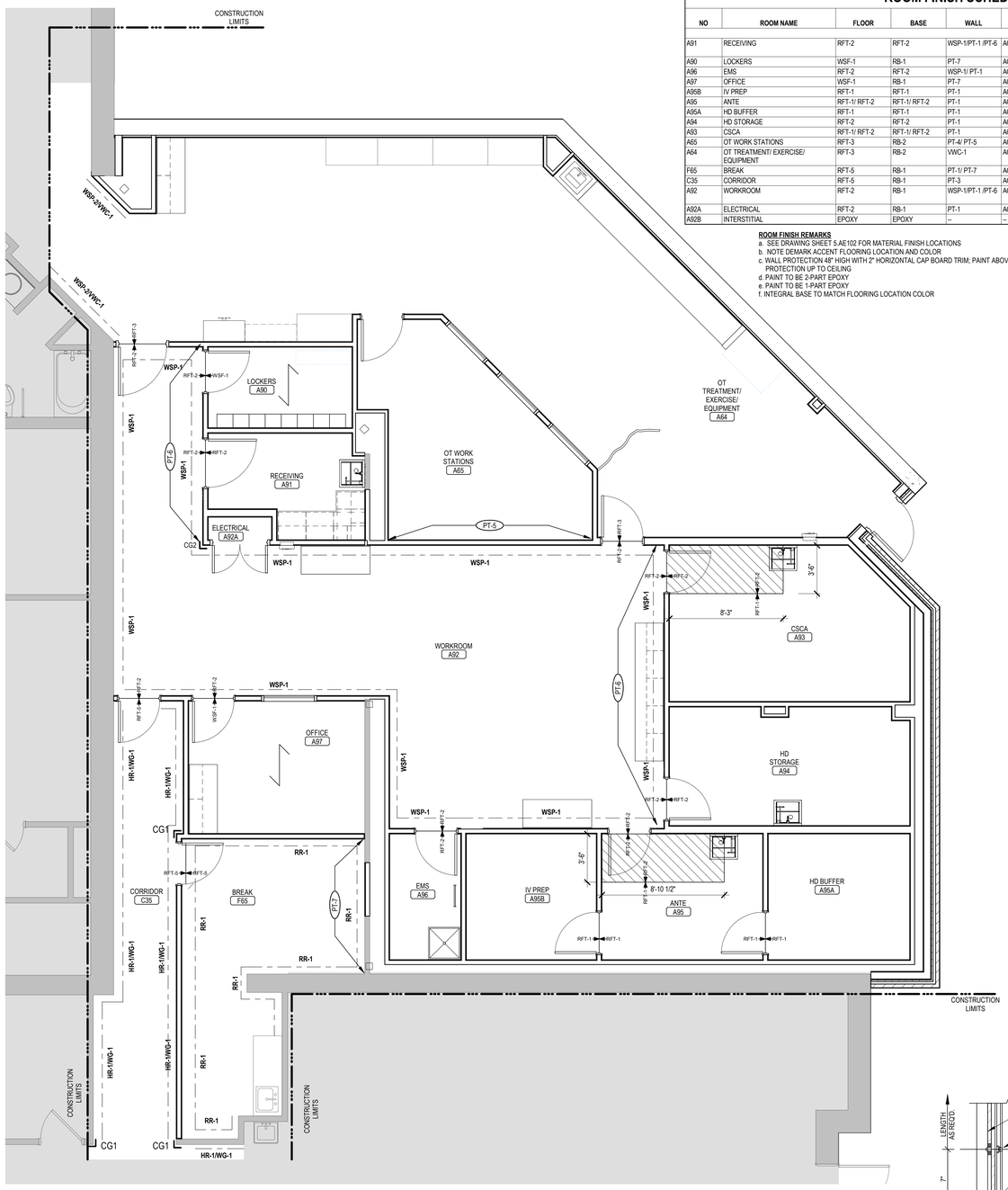
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: FIRST LEVEL FLOOR PLAN	Phase: 100% BID SET RESUBMITTAL
Approved:	FULLY SPRINKLERED

Project Title: Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance	Project Number: VA #438-500 SGA #181906
	Building Number: 5
Location: Sioux Falls, South Dakota	Drawing Number: 5.AE101
Issue Date: 03/07/2019	Checked: TRS
	Drawn: DAN

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VA FORM 08 - 6231



F4 **1ST LEVEL FINISH PLAN**
1/4" = 1'-0"

NORTH

ROOM FINISH SCHEDULE

NO	ROOM NAME	FLOOR	BASE	WALL	CEILING	CASEWORK		REMARKS
						CABINET	COUNTERTOP	
A91	RECEIVING	RFT-2	RFT-2	WSP-1/PT-1 /PT-6	ACT-1	PL-2	STAINLESS STEEL	a. & c.
A90	LOCKERS	WSF-1	RB-1	PT-7	ACT-1			
A96	EMS	RFT-2	RFT-2	WSP-1/ PT-1	ACT-1			
A97	OFFICE	WSF-1	RB-1	PT-7	ACT-1			a. & c.
A95B	IV PREP	RFT-1	RFT-1	PT-1	ACT-1			a. & d.
A95	ANTE	RFT-1/ RFT-2	RFT-1/ RFT-2	PT-1	ACT-1			a. b. d. & f.
A95A	HD BUFFER	RFT-1	RFT-1	PT-1	ACT-1			a. & d.
A94	HD STORAGE	RFT-2	RFT-2	PT-1	ACT-1			a. & e.
A93	CSCA	RFT-1/ RFT-2	RFT-1/ RFT-2	PT-1	ACT-1			a. b. e. & f.
A65	OT WORK STATIONS	RFT-3	RB-2	PT-4/ PT-5	ACT-2			
A64	OT TREATMENT/ EXERCISE/ EQUIPMENT	RFT-3	RB-2	VWC-1	ACT-2	PL-1	SS-1	a.
F65	BREAK	RFT-5	RB-1	PT-1/ PT-7	ACT-2			a. & c.
C35	CORRIDOR	RFT-5	RB-1	PT-3	ACT-2			
A92	WORKROOM	RFT-2	RB-1	WSP-1/PT-1 /PT-6	ACT-1	PL-2	STAINLESS STEEL	a. & c.
A92A	ELECTRICAL	RFT-2	RB-1	PT-1	ACT-1			
A92B	INTERSTITIAL	EPOXY	EPOXY	--	--			

ROOM FINISH REMARKS
a. SEE DRAWING SHEET 5.AE102 FOR MATERIAL FINISH LOCATIONS
b. NOTE DEMARK ACCENT FLOORING LOCATION AND COLOR
c. WALL PROTECTION 48" HIGH WITH 2" HORIZONTAL CAP BOARD TRIM; PAINT ABOVE WALL PROTECTION UP TO CEILING
d. PAINT TO BE 2-PART EPOXY
e. PAINT TO BE 1-PART EPOXY
f. INTEGRAL BASE TO MATCH FLOORING LOCATION COLOR

FINISH ABBREVIATIONS

ACT	ACOUSTIC CEILING TILE
CG	CORNER GAURD
CPT	CARPET TILE
EX	EXISTING
EXP	EXPOSED
GWB	GYPSUM WALL BOARD
HR	HANDRAIL
PT	PAINT
PLAM	PLASTIC LAMINATE
RB	RUBBER BASE
RFT	RUBBER FLOOR TILE
RR	RUB RAIL
SS	SOLID SURFACE MATERIAL
VWC	VINYL WALL COVERING
WD	WOOD
WG	WALL GUARD
WP	WALL PROTECTION
WSF	WELDED RESILIENT SHEET FLOORING
WSP	WALL SHEET PROTECTION

GENERAL TRANSITION STRIPS

CONCRETE : RUBBER/RESILIENT



FLOOR FINISH - GENERAL NOTES

A. ANY DISCREPANCIES OR CONFLICTS FOUND IN THE VARIOUS PARTS OF THE CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND THE OWNER BEFORE PROCEEDING WITH THE WORK.

B. FINISH SCHEDULES DENOTE FINISHES THROUGHOUT THE PROJECT. FOR LOCATIONS REFER TO THE FINISH FLOOR PLAN, ROOM FINISH SCHEDULES, REFLECTED CEILING PLANS, AND INTERIOR ELEVATIONS.

C. ALL FINISH WORK SHALL BE PERFORMED IN COMPLIANCE WITH DRAWINGS AND SPECIFICATIONS. SHOP DRAWINGS, SAMPLES AND PRODUCT DATA SHALL BE SUBMITTED TO THE ARCHITECT FOR THEIR REVIEW PRIOR TO BEGINNING WORK.

D. ALL HOLLOW METAL DOOR FRAMES TO BE PAINTED PT-2.

E. EXTEND ALL FLOORING UNDER FURNITURE, DESKS, COUNTERS ADN ETC. (UON)

F. PROVIDE TRANSITION STRIPS AT ALL LOCATIONS THAT HAVE A CHANGE IN FLOORING MATERIALS. REFER TO TYPICAL TRANSITION STRIP DETAILS FOR APPROVED TRANSITION STRIPS. ALL TRANSITIONS TO BE CENTERED UNDER DOORS IN A CLOSED POSITION, (UON). CONTRACTOR IS RESPONSIBLE FOR VERIFYING APPROPRIATE SIZES OF TRANSITION STRIPS BASED ON MATERIAL TYPES.

G. FLOOR FINISH LEGEND HATCHES INDICATE FLOORING TYPES, NOT ACTUAL FLOORING PATTERN AND LAYOUT. (UON)

H. FOR FLOOR PATTERN INSTALL DIRECTION REFER TO THE INSTALLATION SYMBOL.

J. LOCKERS TO HAVE FILLER PANELS TO MATCH LOCKER MATERIAL AND COLOR.

K. CORNER GUARDS TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.

L. IF EXISTING CORNER GUARDS ARE DAMAGED DURING CONSTRUCTION, REPLACE WITH NEW CORNER GUARDS.

M. ALL VENTS, GRILLES, AND OTHER MISCELLANEOUS MECHANICAL AND ELECTRICAL DEVICES IN WALLS AND CEILINGS SHALL BE PAINTED TO MATCH TEH SURFACE WHICH THEY APPEAR, UNLESS OTHERWISE NOTED.

N. COORDINATE WITH OWNER RE-USE OF ANY EXISTING SIGNAGE - NEW SIGNAGE TO MATCH EXISTING AND INSTALLED BY G.C.

FINISH PLAN LEGEND

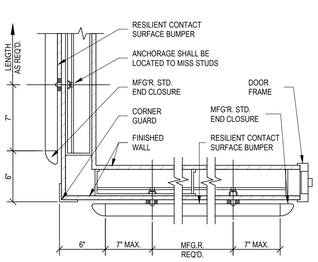
NAME / 101	ROOM TAG
PT	ACCENT WALL FINISH
	DEMARK FLOORING LOCATION
	DIRECTION OF FLOORING INSTALL
WSF ▶◀ RFT	MATERIAL CHANGE LOCATION
HR / WSP	ACCENT WALL ACCESSORY

VA PHARMACY, SIO...

MATERIALS FINISH LEGEND

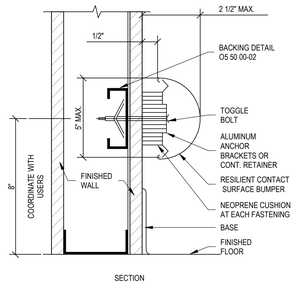
12.10.2018

TYPE	CODE	MFR	STYLE/PATTERN	STYLE #	COLOR	COLOR #	REMARKS
CORNER GUARD	CG-1	Inpro	160DBN		Chamois	234	2", Velvet Finish. Install directly above base. Floor to Ceiling.
	CG-2	Inpro			Stainless Steel	430	Standard Grade, Install directly above base. Floor to Ceiling.
HANDRAIL	HR-1	Inpro	1200 Series		Chamois	234	Oncology, Match Existing install
RUB RAIL (CHAIR RAIL)	RR-1	Inpro	700 Wall Guard		Slate	237	Velvet Finish. Install 27" off floor to bottom of rail.
PAINT	PT-1	Diamond Vogel			Hidden Cove	210	field paint at Pharmacy Remodel
	PT-2	Diamond Vogel			Drifting Sand	218	Hollow metal door frames
	PT-3	Diamond Vogel			October Harvest	266	Oncology walls; C35
	PT-4	Diamond Vogel			Golden Weave	888	Room: A64, A65
	PT-5	Diamond Vogel			Fair Maiden	456	Room: A65, A64 accent
	PT-6	Diamond Vogel			Thistle Gray	197	accent paint at Pharmacy Remodel
	PT-7	Diamond Vogel			Corn Chowder	876	accent paint at Pharmacy Remodel
PLASTIC LAMINATE	PL-1	Wilsonart			Shaker Cherry	7935	Cabinets Rehabilitation, Matte Finish
	PL-2	Wilsonart			Skyline Walnut	7964	Cabinets Pharmacy, Matte Finish
RESILIENT BASE	RB-1	Johnsonite	Traditional Wall Base		Pebble	32	4" coved base
	RB-2	Johnsonite	Traditional Wall Base		Fawn	80	4" coved base
	RFT-1	Nora Systems, Inc.	Norament XP		Orion	5109	(clean spaces) 39.53" x 39.53" x 3.5 mm Tile, 4" integral base with trim cap , welded seams
	RFT-2	Nora Systems, Inc.	Norament XP		Ara	5109	(dirty spaces) 39.53" x 39.53" x 3.5 mm Tile, 4" integral base with trim cap; A93 & A95 demark accent, welded seams
	RFT-3	Nora Systems, Inc.	Noraplan Environcare		Russian Cypress	2786	24"x 24" 3mm tile. Room: A64 and A65. welded seams
	RFT-4	NOT USED					
	RFT-5	Nora Systems, Inc.	Noraplan Sentica		Down Feathers	6504	48" WIDE x 3 mm rolled goods, welded seams
WELDED SHEET FLOORING	WSF-1	TeknoFlor	Forestscapes		Abacoa	52210	Rolled Good, Heat welded seams to match
SOLID SURFACE	SS-1	LG Hi-Macs			Relieve	R530	Countertops Rehabilitation
VINYL WALLCOVERING	VWC-1	D.L. Couch	Lanark - Boardwalk		Salt Water Taffy	R2-BK-09	Type II, 20 oz/LY 53/54" width; osnaburg backing non-reversible with a straight across match; A64
WALL GUARD	WG-1	Inpro	1600 Series		Chamois	#234	Oncology. 6" high at floor. Velvet Finish
WALL SHEET PROTECTION	WSP-1	Inpro			Slate	237	48" high provide 2" trim cap, inside and outside corners as needed avoid seams. Velvet Finish. .060 NPN High Impact Wall
	WSP-2	Inpro			Chamois	234	48" high provide 2" trim cap, inside and outside corners as needed avoid seams. Velvet Finish. .060 NPN High Impact Wall
ACOUSTICAL TILE CEILING	ACT-1	CertainTeed	Vinylrock	306806	White		1/2"x24"x24" CRF Vinyl
	ACT-2	Armstrong	Cortega	704A	White (WH)		24"x24"x5/8" angled tegular; 15/16" prelude suspension system
DOOR	D-1	CS Acrovyn			Burmese Teak	#1312	Doors
INTERIOR SIGNAGE		2/90 Sign Sytems	2/90 FAI	99.3	728	Earth	9"X9", Frame Style AB, 4" flag watermark direct print window

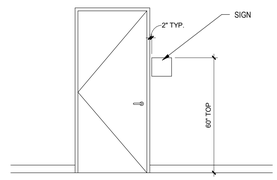


PLAN

E9 **102600-01_WALL GUARDS**
NTS

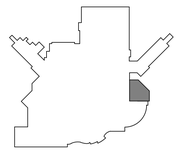


SECTION



MISCELLANEOUS SIGNS

E10 **SIGNAGE DETAIL**
12" = 1'-0"



KEYPLAN
NTS

NORTH

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

CONSULTANTS

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Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP

PRELIMINARY NOT FOR CONSTRUCTION

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: FIRST LEVEL FINISH, WALL PROTECTION, SIGNAGE PLAN

Approved:

Phase: 100% BID SET resubmittal

FULLY SPRINKLERED

Project Title: Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance

Location: Sioux Falls, South Dakota

Issue Date: 03/07/2019 | **Checked:** TRS | **Drawn:** KJE

Project Number: VA #438-500 SGA #181906

Building Number: 5

Drawing Number: 5.AE102

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Interiors_detached_detached.rvt

VA FORM 08 - 6231

GENERAL NOTES - FLOOR PLANS

A. ANY DISCREPANCIES OR CONFLICTS FOUND IN THE VARIOUS PARTS OF THE CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND THE OWNER BEFORE PROCEEDING WITH THE WORK.

B. ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS SHALL BE FIRE CAULKED TO COMPLY WITH THE BUILDING CODE AND NFPA.

C. PROVIDE BLOCKING AT PARTITIONS AS REQUIRED FOR MOUNTING OF FURNISHED AND NON-FURNISHED WALL MOUNTED ITEMS.

D. ALIGN FINISHED FACE OF CONTINUOUS PARTITIONS THAT CHANGE PARTITION TYPES ALONG A STRAIGHT RUN.

E. INTERIOR DOOR FRAMES TO BE FRAMED 5" FROM ADJACENT WALL TO HINGE, UNLESS NOTED OTHERWISE.

F. ALL INTERIOR WALL DIMENSIONS ARE TO FACE OF GYPSUM BOARD, CMU, BRICK, OR CONCRETE; UNLESS NOTED OTHERWISE.

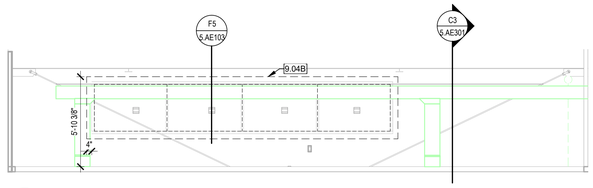
G. ALL PARTITIONS ARE TO BE TYPE 'A3' UNLESS NOTED OTHERWISE. REFER TO SHEET AE501 FOR PARTITION TYPES.

H. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL PARTITION TYPES AND DIMENSIONS.

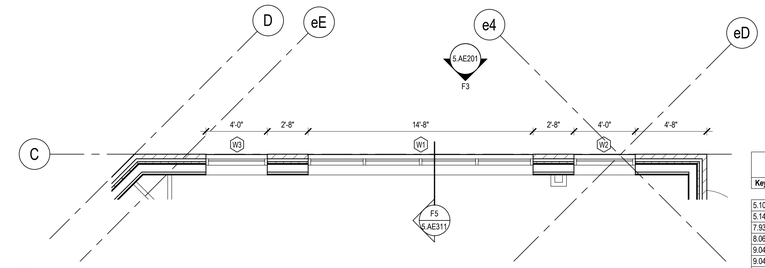
I. PROVIDE CONTROL JOINTS IN DRYWALL EVERY 30'-0"

J. ALL EQUIPMENT OWNER PROVIDED, CONTRACTOR INSTALED.

K. ALL WALLS TO STRUCTURE ABOVE UNLESS NOTED OTHERWISE.



C4 **ONCOLOGY WINDOW ACCESS**
1/4" = 1'-0"

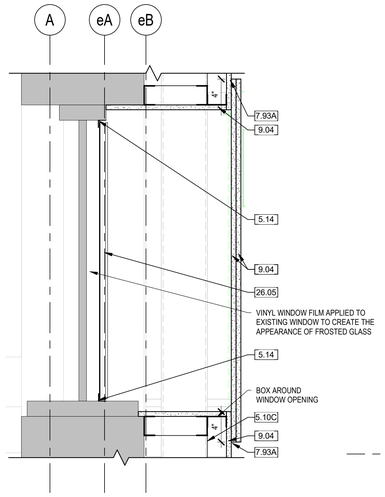


NORTH

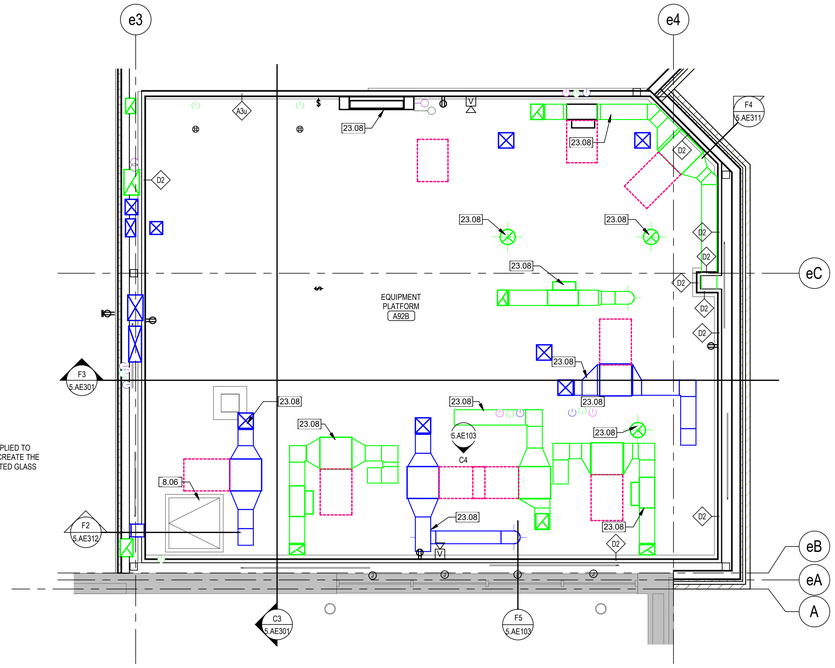
C7 **CLERESTORY WINDOW PLAN**
1/4" = 1'-0"

SHEET KEYNOTES

Key Value	Keynote Text
5.10C	3 5/8" STEEL STUDS - REF STRUCT.
5.14	FRAMING ANGLE
7.93A	FIRE RATED SEALANT AT JOINTS
8.06	BILCO ACCESS HATCH
9.04	5/8" TYPE 'X' GYPSUM WALL BOARD
9.04B	2 LAYERS TYPE 'X' GYPSUM WALL BOARD
23.08	MECHANICAL ELEMENT - REF MECH.
26.05	LIGHT TILE ADHERED TO 26 GAUGE PRE-FINISHED WHITE LINER PANEL- REF ELEC.

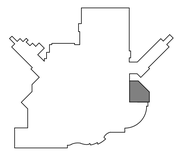


F5 **ONCOLOGY WINDOW LIGHTING**
1 1/2" = 1'-0"



NORTH

F7 **EQUIPMENT PLATFORM FLOOR PLAN**
1/4" = 1'-0"



KEYPLAN NORTH
NTS

Revision#	Description	Date:
1	100% Bid Set	12/21/2018

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STONE GROUP ARCHITECTS

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REGISTERED ARCHITECT

Office of Construction and Facilities Management

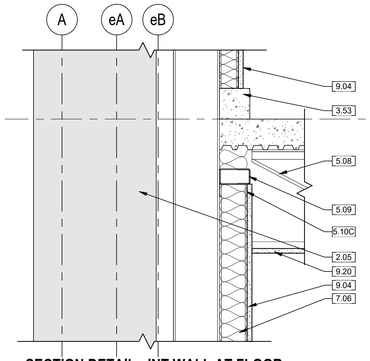
VA U.S. Department of Veterans Affairs

Drawing Title	EQUIPMENT PLATFORM FLOOR PLAN
Phase	100% BID SET RESUBMITTAL
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 SGA #181906
Building Number	5
Approved:	
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	TRS
Drawn	DAN
Drawing Number	5.AE103

FULLY SPRINKLERED

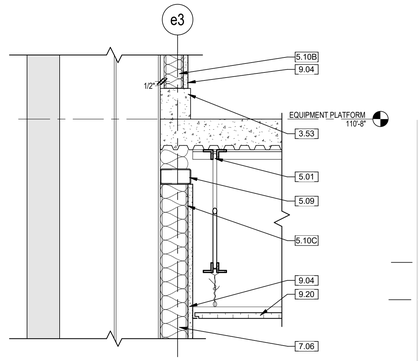
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VA FORM 08 - 6231



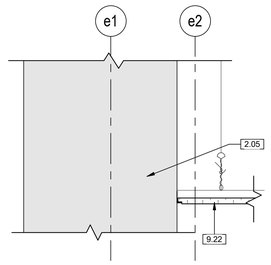
B1 SECTION DETAIL - INT WALL AT FLOOR EDGE & CEILING

1 1/2" = 1'-0"



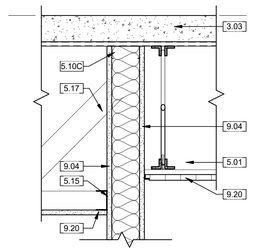
B3 SECTION DETAIL - OFFSET INT WALL

1 1/2" = 1'-0"



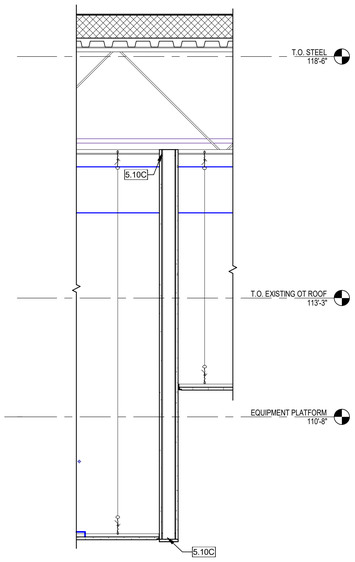
C1 SECTION DETAIL - EXISTING WALL & NEW CEILING

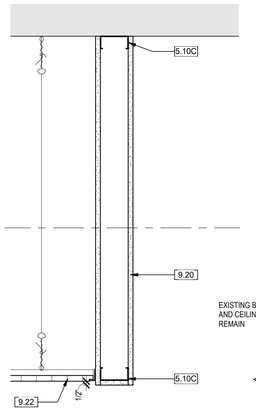
1 1/2" = 1'-0"



C3 SECTION DETAIL - INT WALL AT CEILING

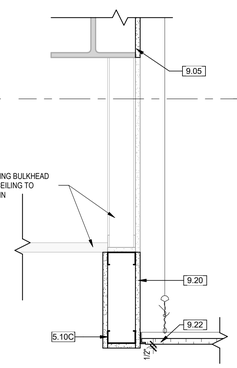
1 1/2" = 1'-0"





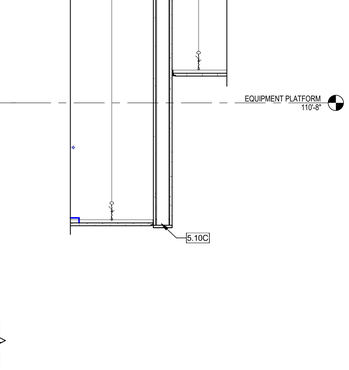
F1 SECTION DETAIL - ONCOLOGY BULKHEAD

1 1/2" = 1'-0"



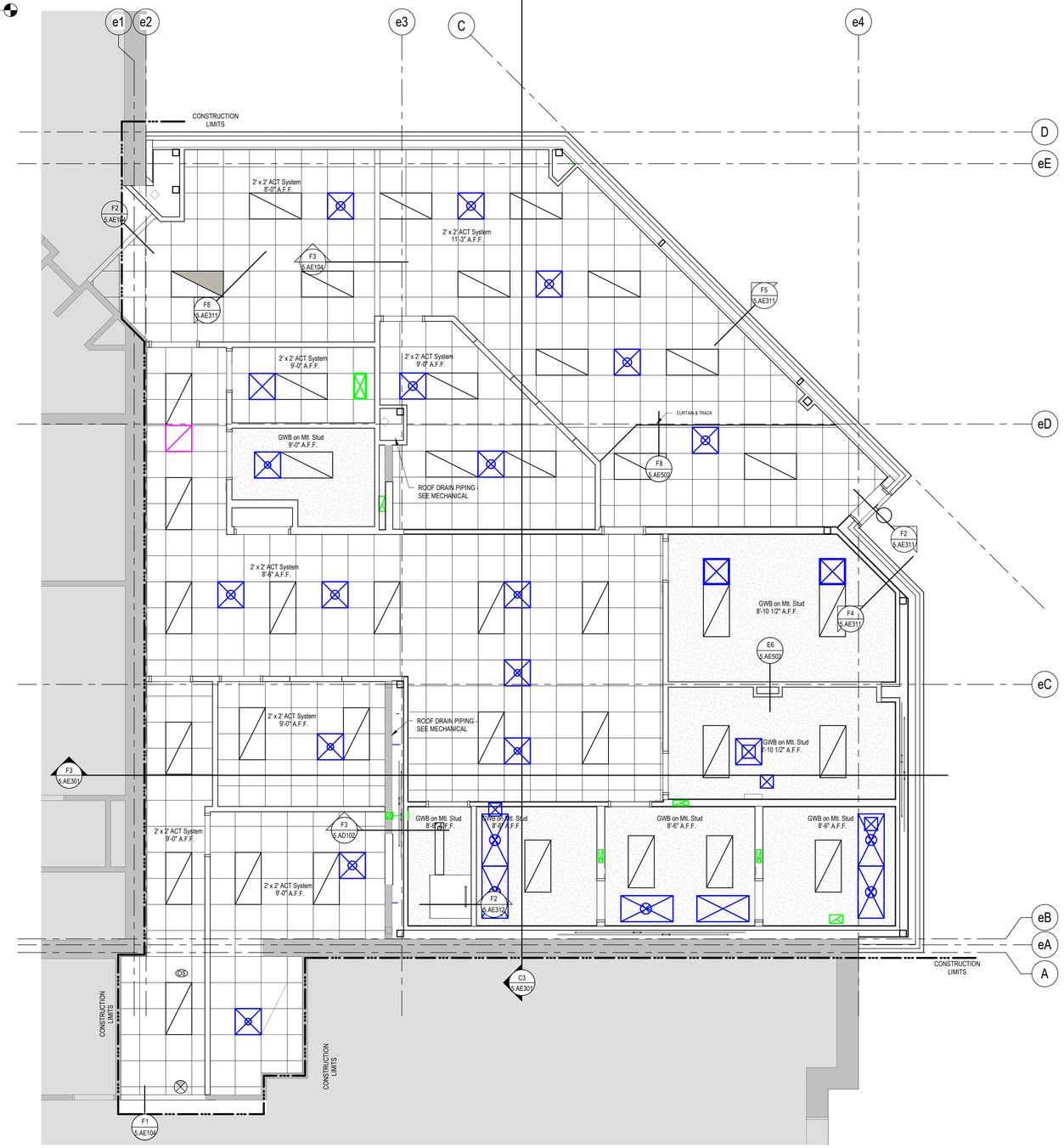
F2 SECTION DETAIL - SOFFIT

1 1/2" = 1'-0"



F3 SECTION DETAIL - OT BULKHEAD

3/4" = 1'-0"



NORTH

F4 1ST LEVEL REFLECTED CEILING PLAN

1/4" = 1'-0"

GENERAL NOTES - CEILING PLANS

A. ALL SURFACES DAMAGED DURING DEMOLITION SHALL BE REPAIRED FOR APPLICATION OF NEW FINISHES OR PATCHED TO MATCH EXISTING.

B. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS WHICH ARE TO MATCH EXISTING CONSTRUCTION. CONTACT A/E WITH DISCREPANCIES.

C. GENERAL CONTRACTOR TO COORDINATE ALL CEILING MOUNTED EQUIPMENT SUPPORT REQUIREMENTS, LOCATIONS, DIMENSIONS, ETC, WITH EQUIPMENT SUPPLIER AND OWNER, PRIOR TO INSTALLATION.

D. ALL CEILING MOUNTED ITEMS SUCH AS LIGHT FIXTURES, GRILLES, DIFFUSERS, SPEAKERS, EXIT LIGHTS ETC, SHALL BE LOCATED IN THE CENTER OF ACT PANELS, GYP BD SOFFITS AND/OR PLASTER SOFFIT BAYS, UNLESS NOTED OTHERWISE. COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS.

E. SEE MECHANICAL DRAWINGS FOR SPRINKLER HEAD TYPES AND LOCATIONS. CENTER ALL HEADS IN ACT, UNLESS NOTED OTHERWISE.

F. WHERE SURFACE MOUNTED CUBICLE CURTAIN AND/OR IV TRACKS CROSS REVEAL EDGE ACT PROVIDE SPACERS AT CEILING TEES FOR TRUE ALIGNMENT. COLOR TO MATCH SUSPENSION SYSTEM.

G. ACCESS PANELS TO RECEIVE PAINT TO MATCH ADJACENT CEILING SURFACE.

H. AT RCP SECTIONS REFER TO REFLECTED CEILING PLAN FOR CEILING/SOFFIT ELEVATIONS.

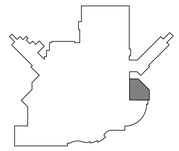
I. EQUIPMENT CURBS BY MECHANICAL.

SHEET KEYNOTES

Key Value	Keynote Text
2.05	EXISTING WALL TO REMAIN.
3.03	CONCRETE SLAB. REF STRUCTURAL.
3.53	CONCRETE CURB - SEE STRUCTURAL
5.01	STEEL JOIST - REF STRUCT.
5.08	STEEL TRUSS (REF STRUCTURAL)
5.09	STEEL TUBE (REF STRUCTURAL)
5.10B	2 1/2" STEEL STUDS - REF STRUCT.
5.10C	3 5/8" STEEL STUDS - REF STRUCT.
5.15	SUSPENDED FRAMING SYSTEM
5.17	METAL STUD KICKER AS NEEDED FOR STABILITY
7.06	BATT INSULATION
9.04	5/8" TYPE 'X' GYPSUM WALL BOARD
9.05	ADD/PATCH 5/8" GYPSUM WALL BOARD AS NEEDED
9.20	CEILING (REFERENCE CEILING PLAN).
9.22	ACOUSTICAL CEILING TILE. REF ROOM FINISH SCHEDULE.

CEILING PLAN LEGEND

- LIGHT FIXTURE
- CEILING EXIT SIGN, SINGLE OR DOUBLE FACE. REF ELEC
- SPEAKER RECESSED IN CEILING
- NURSE CALL LIGHT, REF ELECTRICAL.
- SUPPLY REGISTER OR DIFFUSER
- EXHAUST OR RETURN REGISTER
- SMOKE DETECTOR
- SECURITY CAMERA
- FIRE ALARM HORN / VISUAL
- SLOT DIFFUSER
- OCCUPANCY SENSOR
- AP — ACCESS PANEL
- CEILING TRACK
- GYPSUM BOARD CEILING
- LAY-IN CEILING SYSTEM
- 9'-0" — CEILING HEIGHT ELEVATION TAG
- EXP — EXPOSED STRUCTURE
- E10 — EQUIPMENT TAG



KEYPLAN NTS

NORTH

Revision#	Description	Date:
1	100% Bid Set	12/21/2018

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STONE GROUP ARCHITECTS

STAMP

REGISTERED ARCHITECT — TODD A. STONE — SOUTH DAKOTA — 3-7-19

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: FIRST LEVEL REFLECTED CEILING PLAN

Phase: 100% BID SET RESUBMITTAL

Approved:

FULLY SPRINKLERED

Project Title: Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance

Location: Sioux Falls, South Dakota

Project Number: VA #438-500 SGA #181906

Building Number: 5

Drawing Number: 5.AE104

Issue Date: 03/07/2019

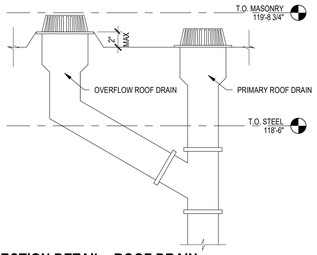
Checked: TRS

Drawn: DAN

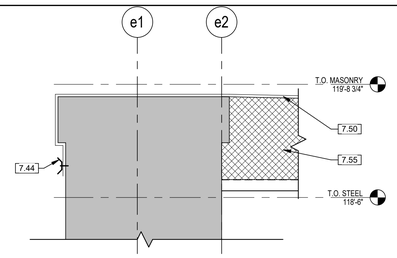
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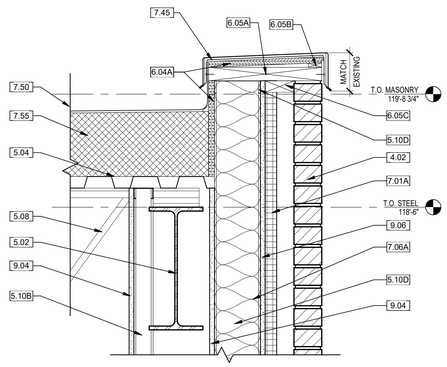
VA FORM 08 - 6231



A1 SECTION DETAIL - ROOF DRAIN
1 1/2" = 1'-0"

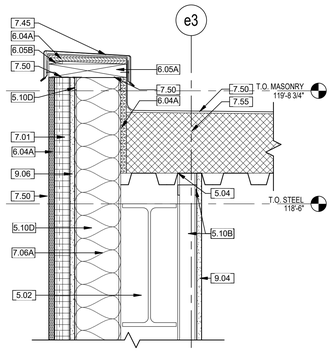


A3 SECTION DETAIL - FLASHING TO OT WALL
1 1/2" = 1'-0"



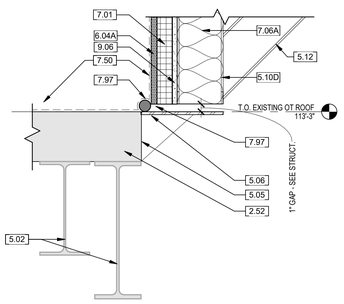
C1 SECTION DETAIL - EXT WALL AT ROOF
1 1/2" = 1'-0"

C3 SECTION DETAIL - EXISTING WALL & NEW ROOF
1 1/2" = 1'-0"

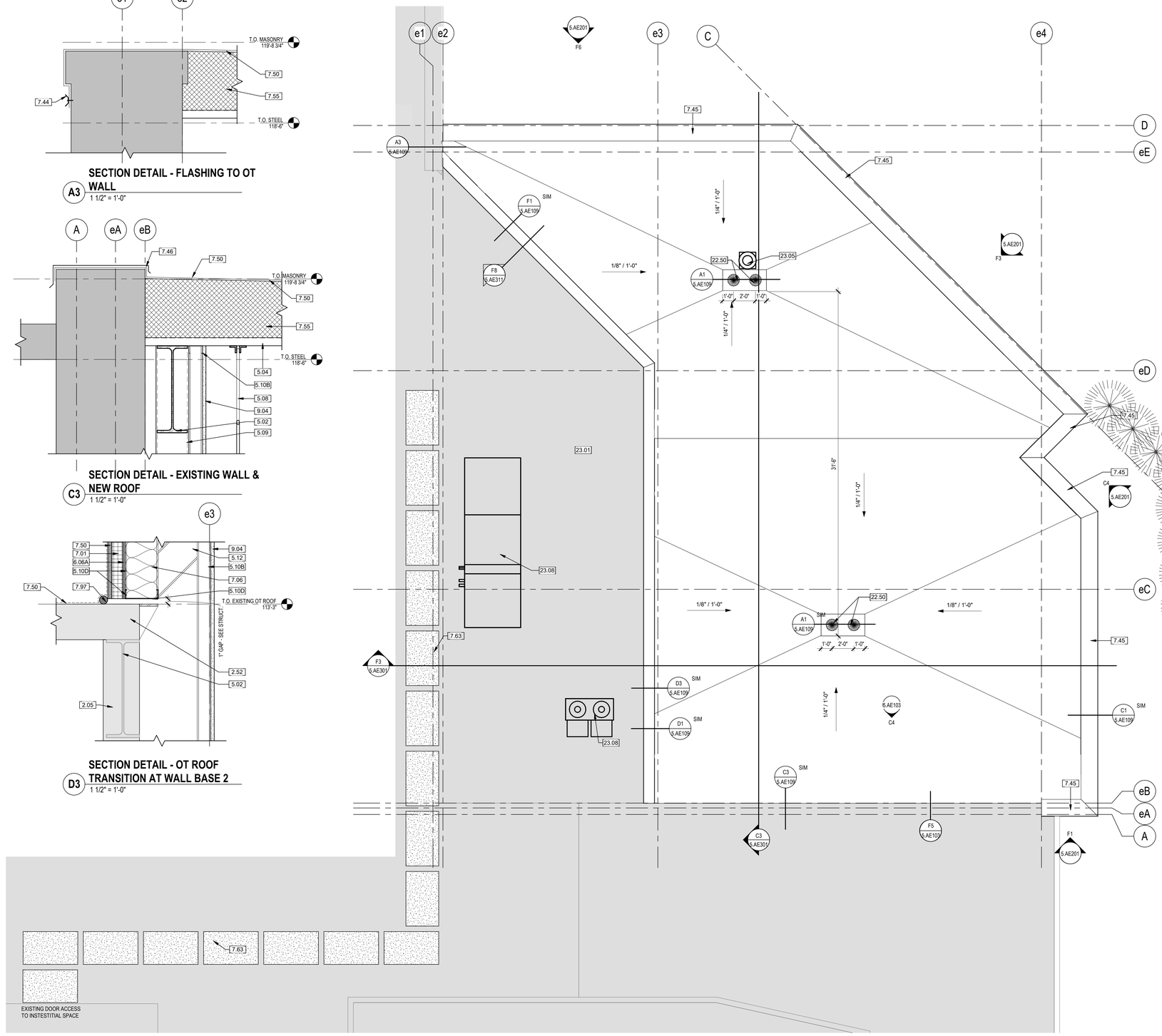


D1 SECTION DETAIL - OT ROOF TRANSITION AT WALL CAP
1 1/2" = 1'-0"

D3 SECTION DETAIL - OT ROOF TRANSITION AT WALL BASE 2
1 1/2" = 1'-0"



F1 SECTION DETAIL - OT ROOF TRANSITION AT WALL BASE 1
1 1/2" = 1'-0"



F3 ROOF PLAN
1/4" = 1'-0"

NORTH

GENERAL NOTES - ROOF PLAN

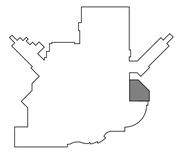
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B. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS WHICH ARE TO MATCH EXISTING CONSTRUCTION. CONTACT A/E WITH DISCREPANCIES.

C. MODIFICATIONS TO EXITING ROOF TO BE DONE BY CERTIFIED INSTALLER TO AVOID WARRANTY ISSUES.

SHEET KEYNOTES

Key Value	Keynote Text
2.05	EXISTING WALL TO REMAIN.
2.52	EXISTING ROOF TO REMAIN.
4.02	BRICK TO MATCH EXISTING ONCOLOGY WALL.
5.02	STEEL BEAM - REF STRUCT.
5.04	METAL DECKING - REF STRUCT.
5.05	STEEL ANGLE - REF STRUCT.
5.06	STEEL PLATE - REF STRUCT.
5.08	STEEL TRUSS (REF STRUCTURAL)
5.09	STEEL TUBE (REF STRUCTURAL)
5.10B	2 1/2" STEEL STUDS - REF STRUCT.
5.10D	6" STEEL STUDS - REF STRUCT.
5.12	BRACING - REF STRUCT.
6.04A	3/4" TREATED PLYWOOD.
6.05A	2x BLOCKING.
6.05B	1x BLOCKING.
6.05C	2x BLOCKING AS REQ'D
6.06A	7/16" OSB
7.01	RIGID INSULATION (2").
7.01A	RIGID INSULATION (1 1/2").
7.06	BATT INSULATION
7.06A	6" BATT INSULATION
7.44	REGLET
7.45	NEW PARAPET CAP. MATCH EXISTING.
7.46	REMOVE AND MODIFY EXISTING FLASHING AS REQ'D, REINSTALL
7.50	ROOF MEMBRANE.
7.55	RIGID ROOFING INSULATION.
7.63	ROOF WALKWAY SAFETY PADS
7.97	EXPANSION BULB.
9.04	5/8" TYPE 'X' GYPSUM WALL BOARD
9.06	5/8" FIBERGLASS MAT-FACED GYPSUM CORE PANEL. U.N.O. BY STRUCT.
22.50	ROOF DRAIN.
23.05	EXHAUST FAN. REF MECH.
23.08	MECHANICAL ELEMENT - REF MECH.



KEYPLAN
NTS
NORTH

Revision#	Description	Date:
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Todd Stone, AIA
STONE GROUP ARCHITECTS

STAMP
REGISTERED ARCHITECT TODD STONE SOUTH DAKOTA

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title	ROOF PLAN
Phase	100% BID SET RESUBMITTAL
Approved:	
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 SGA #181906
Building Number	5
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	TRS
Drawn	DAN
Drawing Number	5.AE109

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VA FORM 08 - 6231

GENERAL NOTES - EXT ELEVATIONS

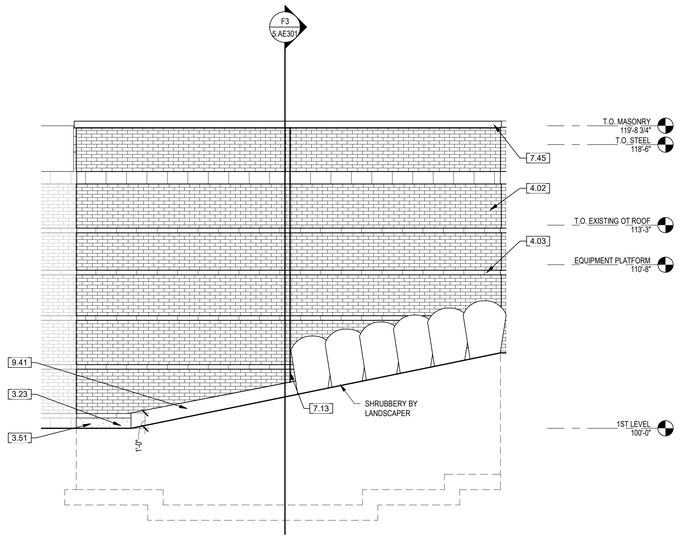
A. APPLY SEALANT AND BACKER ROD TO ALL JOINTS BETWEEN DISSIMILAR MATERIALS.

B. ALL SURFACES DAMAGED DURING DEMOLITION SHALL BE REPAIRED FOR APPLICATION OF NEW FINISHES OR PATCHED TO MATCH EXISTING.

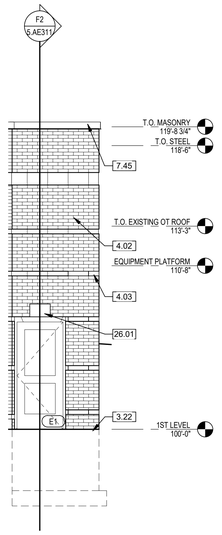
C. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS WHICH ARE TO MATCH EXISTING CONSTRUCTION. CONTACT A/E WITH DISCREPANCIES.

SHEET KEYNOTES

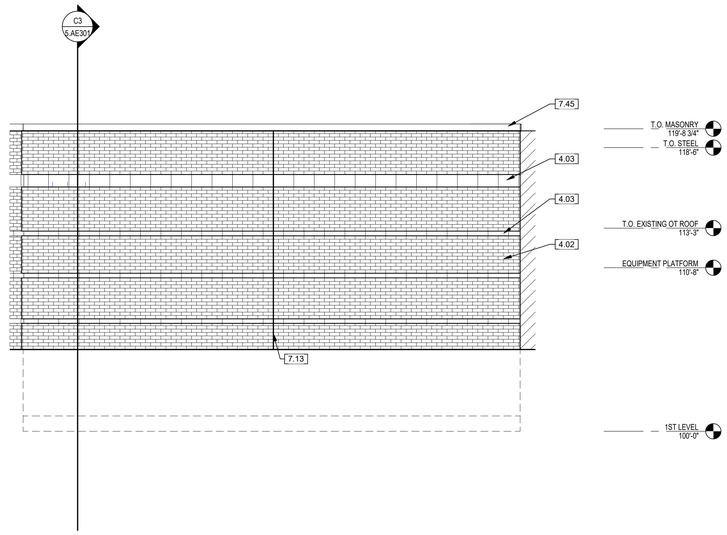
Key Value	Keynote Text
3.22	STOOP - SEE STRUCTURAL
3.23	SIDEWALK - SEE STRUCTURAL
3.51	PRECAST CONCRETE BASE
4.02	BRICK TO MATCH EXISTING ONCOLOGY WALL.
4.03	PRECAST CONCRETE REVEAL TO MATCH EXISTING ONCOLOGY WALL.
7.13	EXPANSION JOINT.
7.45	NEW PARAPET CAP. MATCH EXISTING.
9.41	ELASTOMERIC COATING ON RETAINING WALL
26.01	LIGHT FIXTURE - REF ELEC.



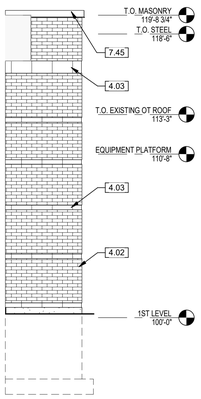
C1 EAST ELEVATION
1/4" = 1'-0"



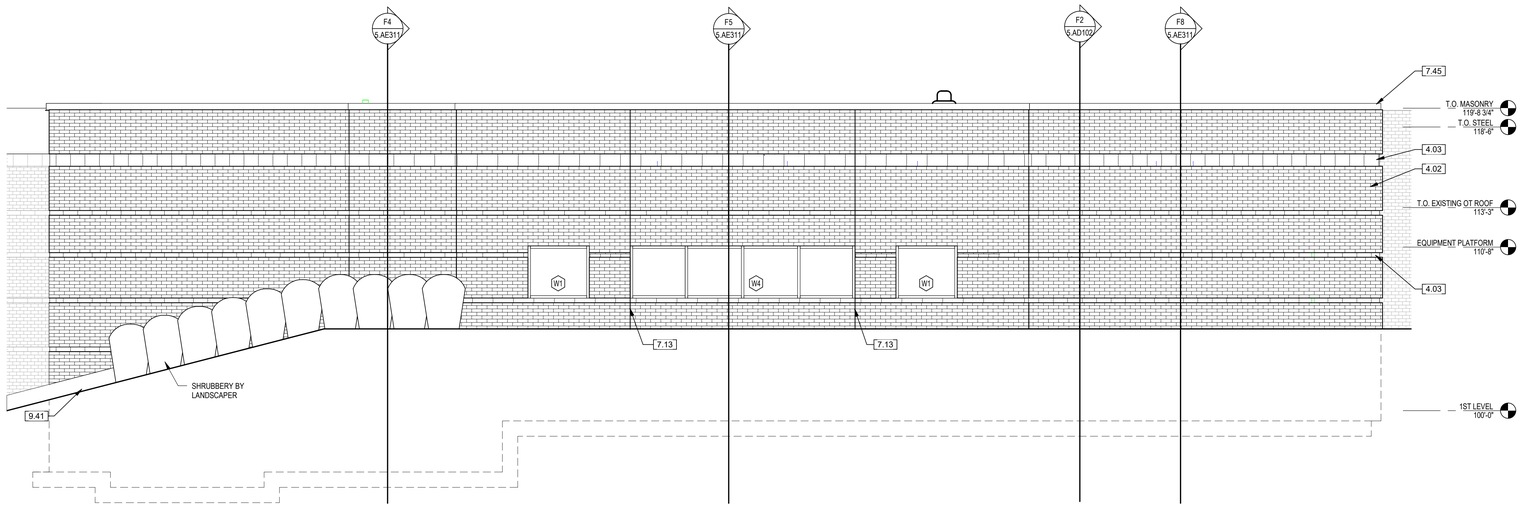
C4 NORTHEAST ELEVATION
1/4" = 1'-0"



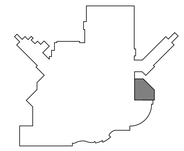
F6 WEST ELEVATION
1/4" = 1'-0"



F1 SOUTH ELEVATION
1/4" = 1'-0"



F3 NORTHWEST ELEVATION
1/4" = 1'-0"



KEYPLAN
NTS
NORTH

Revision#	Description	Date:
1	100% Bid Set	12/21/2018

CONSULTANTS

STRUCTURAL:
Albertson Engineering Inc.
Albertson Engineering, Inc.
315 N Main Ave, Suite 200
Sioux Falls, South Dakota 57104
Phone: 605-343-9606

MECHANICAL / ELECTRICAL / PLUMBING:
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Rapid City, South Dakota 57702
Phone: 605-348-7455

CIVIL:
EHRHART GRIFFIN & ASSOCIATES
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ARCHITECT OF RECORD

A/E:
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Sioux Falls, SD 57104
Phone: 605-271-1144
Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP

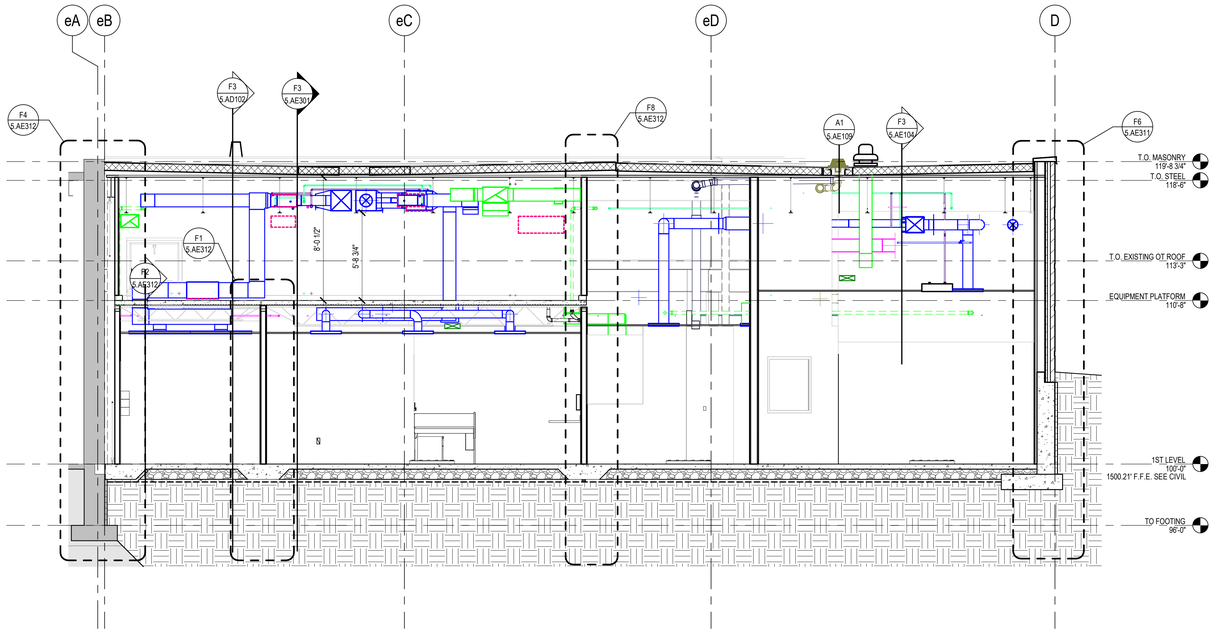
REGISTERED ARCHITECT — TODD R. STONE — SOUTH DAKOTA

Office of Construction and Facilities Management

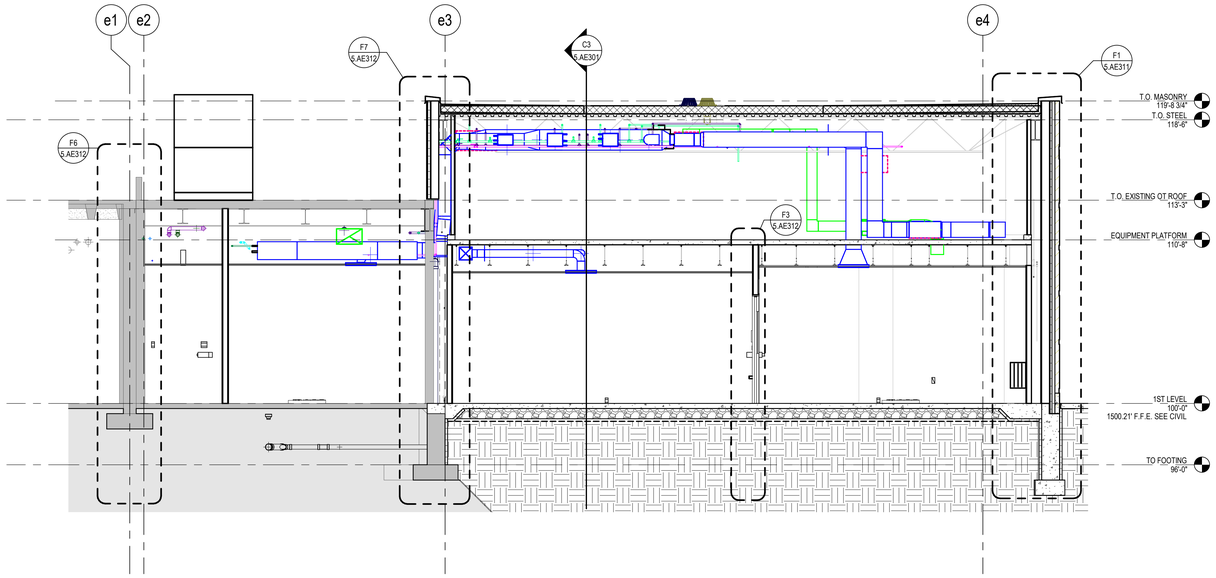
VA U.S. Department of Veterans Affairs

Drawing Title	EXTERIOR ELEVATIONS
Phase	100% BID SET RESUBMITTAL
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 SGA #181906
Building Number	5
Approved:	
	FULLY SPRINKLERED
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	TRS
Drawn	DAN
Drawing Number	5.AE201

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot
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C3 E/W BUILDING SECTION
1/4" = 1'-0" 100'-0" = 1500.21'



F3 N/S BUILDING SECTION
1/4" = 1'-0" 100'-0" = 1500.21'

GENERAL NOTES

A. ANY DISCREPANCIES OR CONFLICTS FOUND IN THE VARIOUS PARTS OF THE CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND THE OWNER BEFORE PROCEEDING WITH THE WORK.

B. FURNITURE IS PROVIDED AND INSTALLED BY OTHERS.

C. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE DRAWINGS.

D. CONTRACTOR & SUBCONTRACTORS TO VERIFY ALL EXISTING CONDITIONS AT THE PROJECT SITE.

E. ALL MATERIALS & EQUIPMENT SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS.

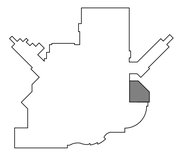
F. DETAILS SHOWN ARE TYPICAL UNLESS OTHERWISE NOTED. SIMILAR DETAILS APPLY IN SIMILAR CONDITIONS.

G. PROVIDE WOOD BACKING FOR ALL BATH ACCESSORIES, HANDRAILS, OR OTHER ITEMS ATTACHED TO BUILDING WALLS.

H. GYPSUM USED IN RESTROOMS SHALL BE WATER RESISTANT GYPSUM BOARD. USE DURAROCK @ ALL PORCELAIN & CERAMIC TILE LOCATIONS.

J. PROVIDE ADA COMPLIANT SIGNAGE FOR ALL REQUIRED AREAS, ROOMS, & ACCESSIBLE PATHS.

K. HEIGHT OF OPERATIONAL OR DISPENSING PORTION OF ACCESSORIES & FIXTURES NOT TO EXCEED 48" A.F.F.



KEYPLAN
NTS
NORTH

Revision#	Description	Date:
1	100% Bid Set	12/21/2018

CONSULTANTS

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ARCHITECT OF RECORD

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Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP

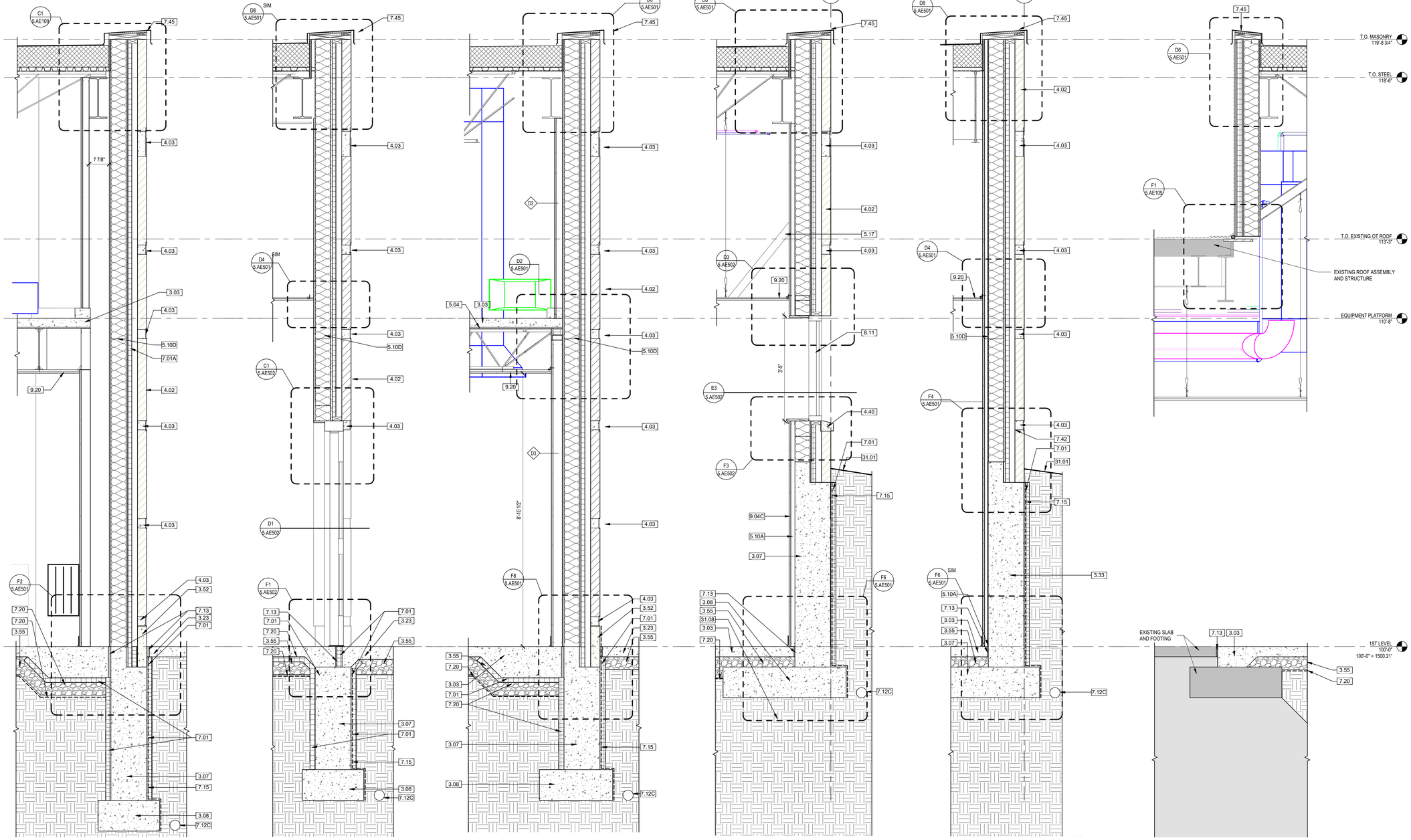
REGISTERED ARCHITECT — TODD R. STONE — SOUTH DAKOTA

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	BUILDING SECTIONS
Phase	100% BID SET RESUBMITTAL
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 SGA #181906
Building Number	5
Approved:	
	FULLY SPRINKLERED
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	TRS
Drawn	DAN
Drawing Number	5.AE301

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G. PROVIDE WOOD BACKING FOR ALL BATH ACCESSORIES, HANDRAILS, OR OTHER ITEMS ATTACHED TO BUILDING WALLS.

H. GYPSUM USED IN RESTROOMS SHALL BE WATER RESISTANT GYPSUM BOARD. USE DURAROCK @ ALL PORCELAIN & CERAMIC TILE LOCATIONS.

J. PROVIDE ADA COMPLIANT SIGNAGE FOR ALL REQUIRED AREAS, ROOMS, & ACCESSIBLE PATHS.

K. HEIGHT OF OPERATIONAL OR DISPENSING PORTION OF ACCESSORIES & FIXTURES NOT TO EXCEED 48" A.F.F.

SHEET KEYNOTES

Key Value	Keynote Text
3.03	CONCRETE SLAB. REF STRUCTURAL.
3.07	CONCRETE WALL. REF STRUCTURAL.
3.08	CONCRETE FOOTING. REF STRUCTURAL.
3.23	SIDEWALK - SEE STRUCTURAL
3.33	FOUNDATION WALL - SEE STRUCT.
3.52	PRECAST CONCRETE SILL
3.55	GRAVEL
4.02	BRICK TO MATCH EXISTING ONCOLOGY WALL.
4.03	PRECAST CONCRETE REVEAL TO MATCH EXISTING ONCOLOGY WALL.
4.40	NEW CUT STONE SILL TO MATCH EXISTING.
5.04	METAL DECKING - REF STRUCT.
5.10A	1 1/2" FURRING CHANNEL
5.10D	6" STEEL STUDS - REF STRUCT.
5.17	METAL STUD KICKER AS NEEDED FOR STABILITY
7.01	RIGID INSULATION (2").
7.01A	RIGID INSULATION (1 1/2").
7.12C	DRAIN TILE. REF STRUCT.
7.13	EXPANSION JOINT.
7.15	WATERPROOF MEMBRANE AND DRAINAGE COVER BOARD
7.20	VAPOR BARRIER.
7.42	THRU-WALL FLASHING.
7.45	NEW PARAPET CAP. MATCH EXISTING.
8.11	ALUM WDW SYSTEM.
9.04C	5/8" GYPSUM WALL BOARD
9.20	CEILING (REFERENCE CEILING PLAN).
31.01	APPROXIMATE GRADE. REF CIVIL.
31.08	EARTH.

F1 WALL SECTION - NORTH
3/4" = 1'-0"

F2 WALL SECTION - EXT DOOR
3/4" = 1'-0"

F4 WALL SECTION - WEST PHARMACY WALL
3/4" = 1'-0"

F5 WALL SECTION - WINDOW
3/4" = 1'-0"

F6 WALL SECTION - WEST
3/4" = 1'-0"

F8 WALL SECTION - OT ROOF TRANSITION
3/4" = 1'-0"

Revision#	Description	Date:
1	100% Bid Set	12/21/2018

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one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

VA FORM 08 - 6231

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Todd Stone, AIA

STONE GROUP ARCHITECTS

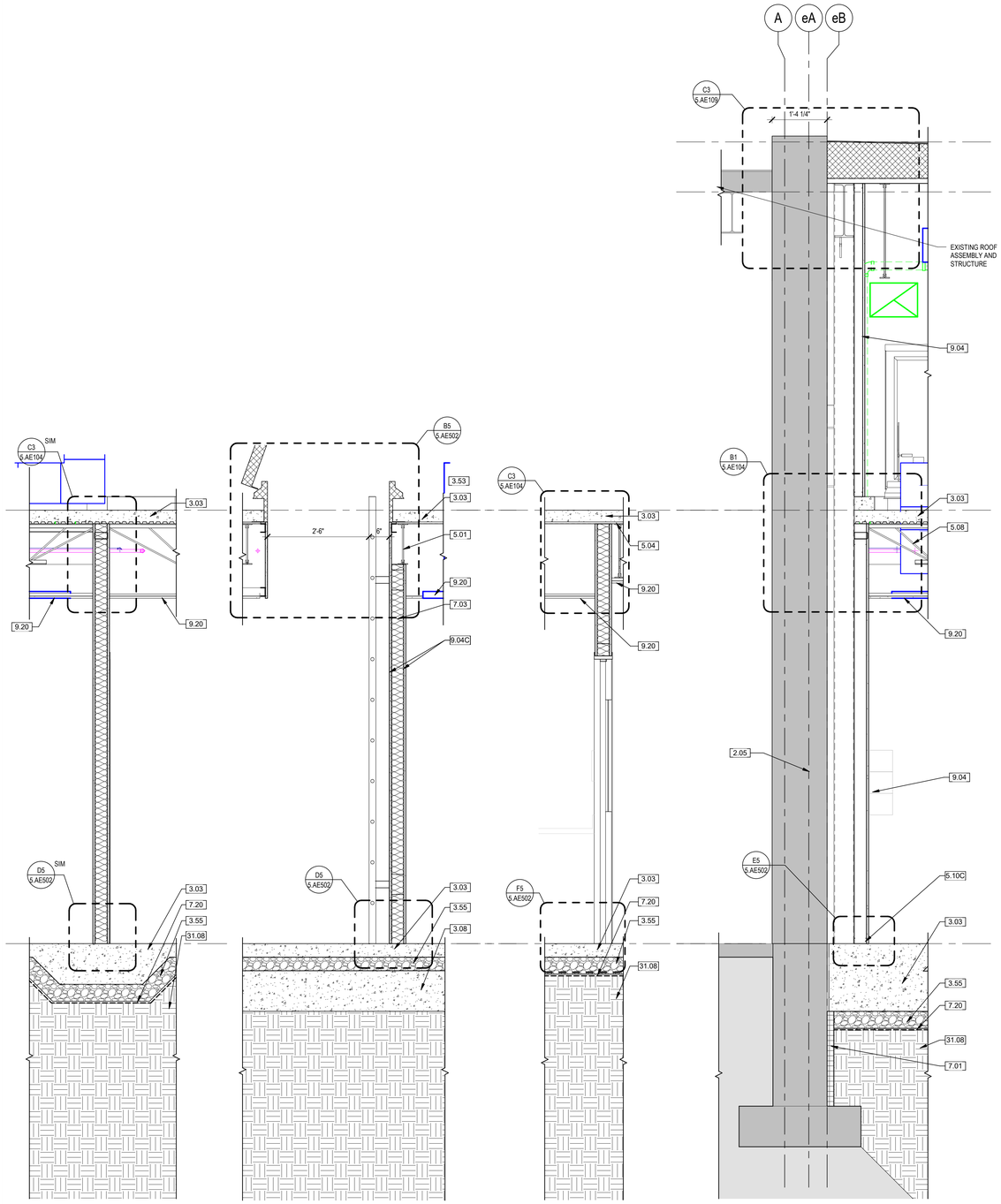
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REGISTERED ARCHITECT — TODD R. STONE — SOUTH DAKOTA — 3-7-19

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	WALL SECTIONS
Approved:	
Phase	100% BID SET RESUBMITTAL
	FULLY SPRINKLERED
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	TRS
Drawn	DAN
Project Number	VA #438-500 SGA #181906
Building Number	5
Drawing Number	5.AE311

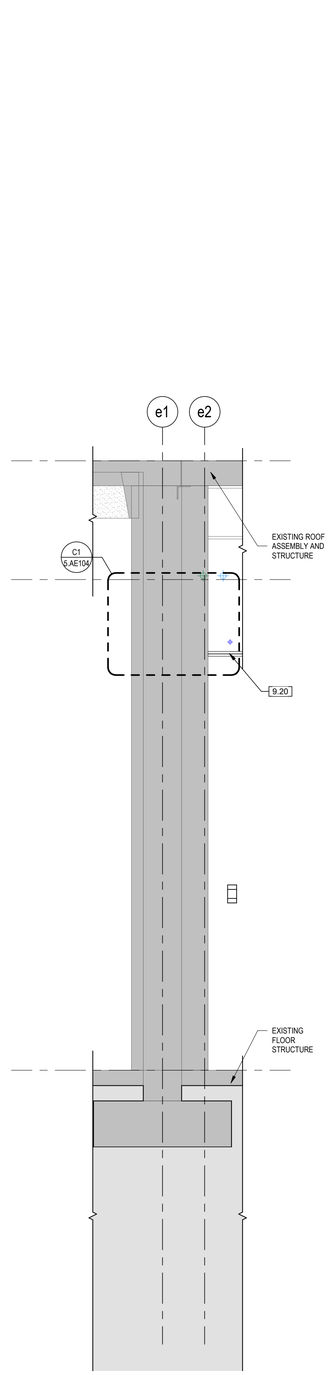


F1 **WALL SECTION - INT WALL 2**
3/4" = 1'-0"

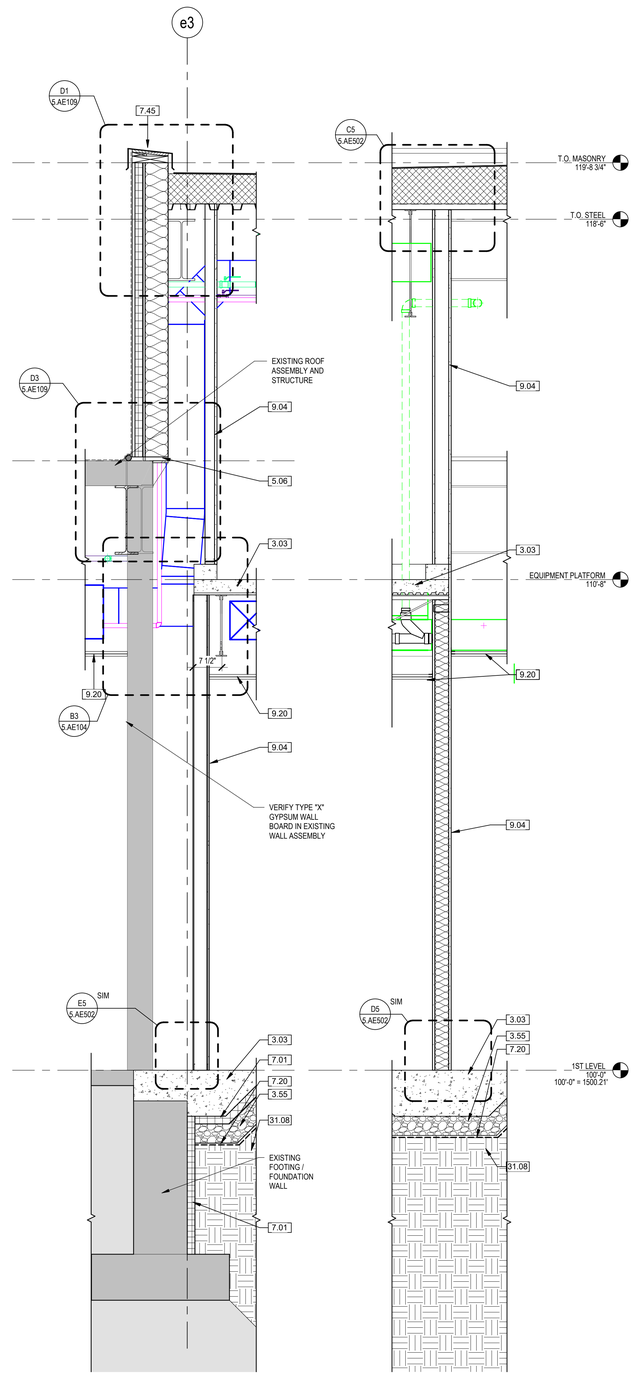
F2 **WALL SECTION - ACCESS HATCH**
3/4" = 1'-0"

F3 **WALL SECTION - INT DOOR**
3/4" = 1'-0"

F4 **WALL SECTION - EXISTING EAST WALL**
3/4" = 1'-0"



F6 **WALL SECTION - EXISTING SOUTH LOW WALL**
3/4" = 1'-0"



F7 **WALL SECTION - EXISTING SOUTH HIGH WALL**
3/4" = 1'-0"

F8 **WALL SECTION - INT WALL 1**
3/4" = 1'-0"

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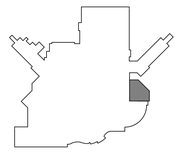
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SHEET KEYNOTES

Key Value	Keynote Text
2.05	EXISTING WALL TO REMAIN.
3.03	CONCRETE SLAB. REF STRUCTURAL.
3.08	CONCRETE FOOTING. REF STRUCTURAL.
3.55	GRAVEL
5.01	STEEL JOIST - REF STRUCT.
5.04	METAL DECKING - REF STRUCT.
5.06	STEEL PLATE - REF STRUCT.
5.08	STEEL TRUSS (REF STRUCTURAL)
5.10C	3 5/8" STEEL STUDS - REF STRUCT.
7.01	RIGID INSULATION (2").
7.03	SOUND INSULATION.
7.20	VAPOR BARRIER
7.45	NEW PARAPET CAP. MATCH EXISTING.
9.04	5/8" TYPE 'X' GYPSUM WALL BOARD
9.04C	5/8" GYPSUM WALL BOARD
9.20	CEILING (REFERENCE CEILING PLAN).
31.08	EARTH.



KEYPLAN
NTS
NORTH

Revision#	Description	Date:
1	100% Bid Set	12/21/2018

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REGISTERED ARCHITECT — 3-7-19

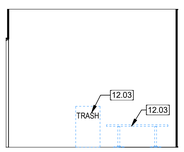
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

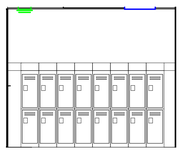
Drawing Title	WALL SECTIONS
Phase	100% BID SET RESUBMITTAL
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 SGA #181906
Building Number	5
Approved:	
Location	Sioux Falls, South Dakota
	FULLY SPRINKLERED
Issue Date	03/07/2019
Checked	TRS
Drawn	DAN
Drawing Number	5.AE312

VA FORM 08 - 6231

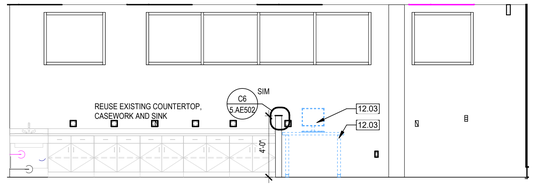
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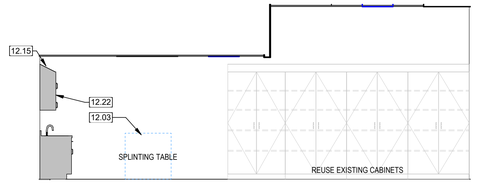
A1 **LOCKERS - NORTH**
1/4" = 1'-0"



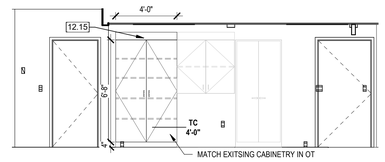
A2 **LOCKERS - EAST**
1/4" = 1'-0"



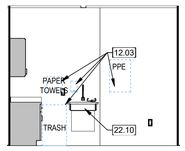
A3 **OT - NORTHWEST**
1/4" = 1'-0"



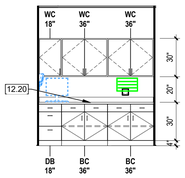
A6 **OT - WEST**
1/4" = 1'-0"



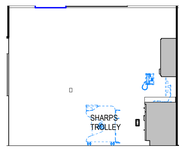
A8 **OT - EAST**
1/4" = 1'-0"



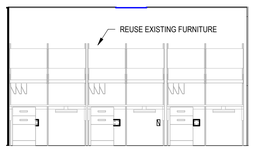
B1 **RECEIVING EAST**
1/4" = 1'-0"



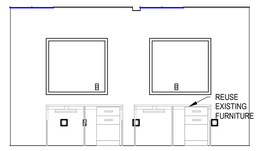
B2 **RECEIVING NORTH**
1/4" = 1'-0"



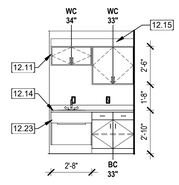
B3 **RECEIVING WEST**
1/4" = 1'-0"



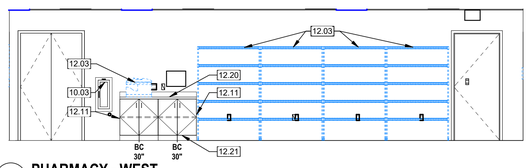
B4 **OT WORK EAST**
1/4" = 1'-0"



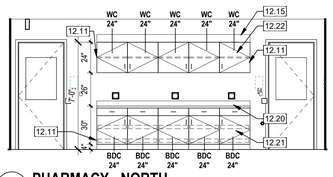
B5 **OT WORK NW**
1/4" = 1'-0"



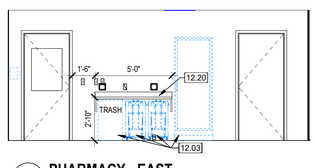
B6 **OT-SOUTH**
1/4" = 1'-0"



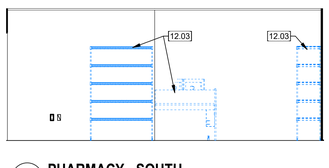
C1 **PHARMACY - WEST**
1/4" = 1'-0"



C3 **PHARMACY - NORTH**
1/4" = 1'-0"



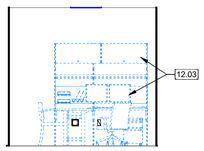
C5 **PHARMACY - EAST**
1/4" = 1'-0"



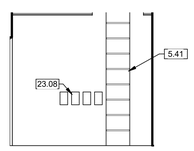
C6 **PHARMACY - SOUTH**
1/4" = 1'-0"



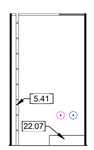
C8 **PHARMACY - WORK STATIONS**
1/4" = 1'-0"



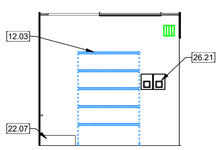
D1 **OFFICE - EAST**
1/4" = 1'-0"



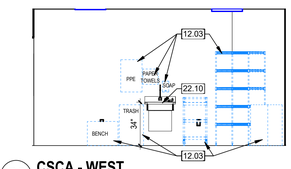
D2 **EMS NORTH**
1/4" = 1'-0"



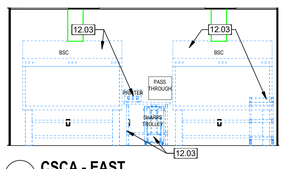
D3 **EMS EAST**
1/4" = 1'-0"



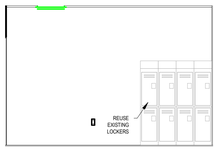
D4 **EMS SOUTH**
1/4" = 1'-0"



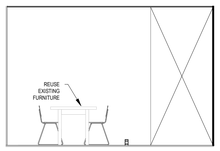
D5 **CSCA - WEST**
1/4" = 1'-0"



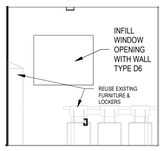
D6 **CSCA - EAST**
1/4" = 1'-0"



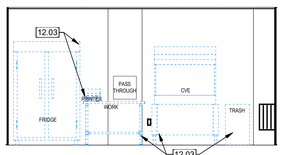
E1 **BREAK - NORTH**
1/4" = 1'-0"



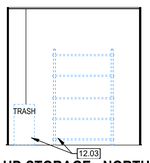
E2 **BREAK - SOUTH**
1/4" = 1'-0"



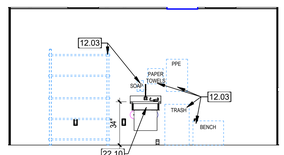
E3 **BREAK - EAST**
1/4" = 1'-0"



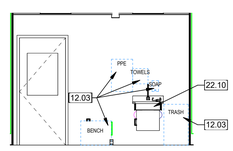
E4 **HD STORAGE - WEST**
1/4" = 1'-0"



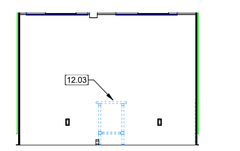
E5 **HD STORAGE - NORTH**
1/4" = 1'-0"



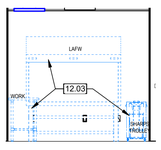
E6 **HD STORAGE - EAST**
1/4" = 1'-0"



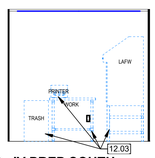
E7 **ANTE - WEST**
1/4" = 1'-0"



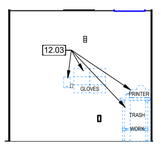
E8 **ANTE - EAST**
1/4" = 1'-0"



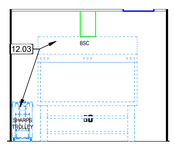
F1 **IV PREP WEST**
1/4" = 1'-0"



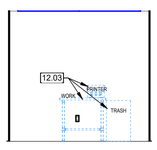
F2 **IV PREP SOUTH**
1/4" = 1'-0"



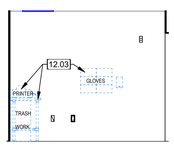
F3 **IV PREP EAST**
1/4" = 1'-0"



F4 **HD BUFFER - WEST**
1/4" = 1'-0"



F5 **HD BUFFER - NORTH**
1/4" = 1'-0"



F6 **HD BUFFER - EAST**
1/4" = 1'-0"

GENERAL NOTES - INTERIOR ELEV

A. PROVIDE BLOCKING AT PARTITIONS AS REQUIRED FOR MOUNTING OF FURNISHED AND NON-FURNISHED WALL MOUNTED ITEMS.

B. INTERIOR DOOR FRAMES TO BE FRAMED 5" FROM ADJACENT WALL TO HINGE, UNLESS NOTED OTHERWISE.

C. ALL INTERIOR WALL DIMENSIONS ARE TO FACE OF GYPSUM BOARD, OR CONCRETE; UNLESS NOTED OTHERWISE.

D. ALL PARTITIONS ARE TO BE TYPE 'A30' UNLESS NOTED OTHERWISE.

E. PROVIDE FINISHED END PANELS AT ALL EXPOSED MILLWORK SURFACES. ALL HDPL CABINETS TO HAVE PVC EDGES. MATCH PVC EDGE TO HDPL.

F. PROVIDE FILLER PANELS & SCRIBE STRIPS WHERE NEEDED FOR COMPLETE INSTALLATION.

G. VERIFY ALL GROMMET LOCATIONS AND COUNT WITH OWNER.

H. ALL WALL CABINETS AND LOCKERS WILL HAVE SLOPED TOPS UNLESS NOTED OTHERWISE.

I. CABINET DEPTH (NOT INCLUDING DOORS) U.N.O.
WALL CABINET = 14"
BASE CABINET = 24"

SHEET KEYNOTES

Key Value	Keynote Text
5.41	ACCESS LADDER
10.03	SEMI-RECESSED MOUNTED F.E.C.
12.03	EQUIPMENT/FURNITURE N.I.C.
12.11	FINISHED END.
12.14	SOLID SURFACE COUNTERTOP.
12.15	SLOPED TOP ON WALL CABINETS.
12.20	STAINLESS STEEL COUNTERTOP
12.21	BASE CABINET
12.22	WALL CABINET
12.23	ADA COMPLIANT SINK APRON
22.07	MOP SINK - REF PLUMBING.
22.10	HANDS-FREE STAINLESS STEEL SINK W/ EYEWASH
23.08	MECHANICAL ELEMENT - REF MECH.
26.21	ENLARGED ELEVATION LEGEND
26.34	VIDEO SURVEILLANCE/PRESSURE MONITORS - REF. ELEC.

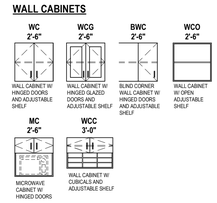
E10 EQUIPMENT TAG

GOVERNMENT FURNISHED AND INSTALLED OR EXISTING EQUIPMENT RELOCATED.

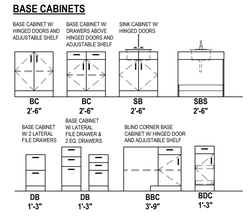
CABINET KEY (SEE DETAILS ON 5.AE401)

INDICATES UNIT TYPE → WC 3'-0" ← INDICATES UNIT WIDTH
INDICATES UNIT DEPTH (OTHER THAN STANDARD) → 1'-6"D

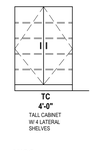
WALL CABINETS



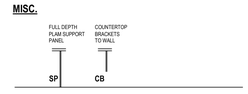
BASE CABINETS

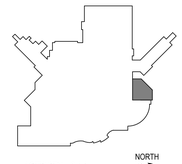


TALL CABINETS



MISC.





KEYPLAN
NTS
NORTH

1	100% Bid Set	12/21/2018
Revision#	Description	Date:

CONSULTANTS

STRUCTURAL:
Albertson Engineering Inc.
Albertson Engineering, Inc.
315 N Main Ave, Suite 200
Sioux Falls, South Dakota 57104
Phone: 605-343-9606

MECHANICAL / ELECTRICAL / PLUMBING:
WPE
West Plains Engineering, Inc.
1750 Rand Road
Rapid City, South Dakota 57702
Phone: 605-348-7455

CIVIL:
EHRHART GRIFFIN & ASSOCIATES
Ehrhart Griffin & Associates
300 North Dakota Avenue Ste. 114
Sioux Falls, South Dakota 57104
Phone: 605-339-7215

INTERIOR DESIGN:
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319 N Main Ave, Suite 1
Sioux Falls, South Dakota 57104
Phone: 605-595-2557

ARCHITECT OF RECORD
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Stone Group Architects
319 N Main Ave Suite 2
Sioux Falls, SD 57104
Phone: 605-271-1144
Todd Stone, AIA
STONE GROUP ARCHITECTS

STAMP
REGISTERED ARCHITECT
TODD A. STONE
20171

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title INTERIOR ELEVATIONS	**Phase** 100% BID SET RESUBMITTAL	**Project Title** Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance	**Project Number** VA #438-500 SGA #181906
			Building Number 5
Approved:	FULLY SPRINKLERED	**Location** Sioux Falls, South Dakota	**Drawing Number** 5.AE401
		Issue Date 03/07/2019 / **Checked** TRS / **Drawn** DAN	

C:_SGA Revit Local\181906_VA_PHARM_A18_Final_dortiea.nelson.rvt
3/8/2019 12:08:39 PM
three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot
VA FORM 08 - 6231

three inches = one foot
one and one half inches = one foot
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three eighths inch = one foot
one quarter inch = one foot
one half inch = one foot
one eighth inch = one foot
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C:\...SGA Revit Local\181906_VA_PHARM_A19_Final_dsteia.nelson.rvt

GENERAL NOTES

A. ANY DISCREPANCIES OR CONFLICTS FOUND IN THE VARIOUS PARTS OF THE CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND THE OWNER BEFORE PROCEEDING WITH THE WORK.

B. FURNITURE IS PROVIDED AND INSTALLED BY OTHERS.

C. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE DRAWINGS.

D. CONTRACTOR & SUBCONTRACTORS TO VERIFY ALL EXISTING CONDITIONS AT THE PROJECT SITE.

E. ALL MATERIALS & EQUIPMENT SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS.

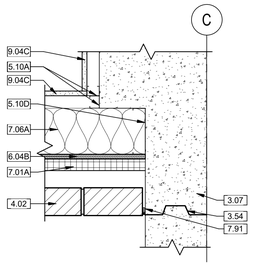
F. DETAILS SHOWN ARE TYPICAL UNLESS OTHERWISE NOTED. SIMILAR DETAILS APPLY IN SIMILAR CONDITIONS.

G. PROVIDE WOOD BACKING FOR ALL BATH ACCESSORIES, HANDRAILS, OR OTHER ITEMS ATTACHED TO BUILDING WALLS.

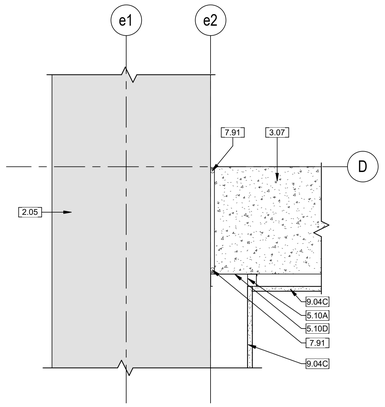
H. GYPSUM USED IN RESTROOMS SHALL BE WATER RESISTANT GYPSUM BOARD. USE DURAROCK @ ALL PORCELAIN & CERAMIC TILE LOCATIONS.

J. PROVIDE ADA COMPLIANT SIGNAGE FOR ALL REQUIRED AREAS, ROOMS, & ACCESSIBLE PATHS.

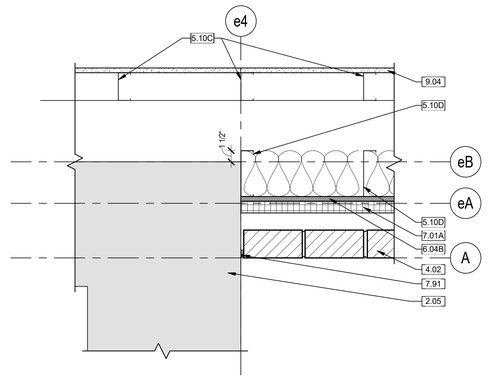
K. HEIGHT OF OPERATIONAL OR DISPENSING PORTION OF ACCESSORIES & FIXTURES NOT TO EXCEED 48" A.F.F.



B4 PLAN DETAIL - WALL TO FOUNDATION WALL
1 1/2" = 1'-0"

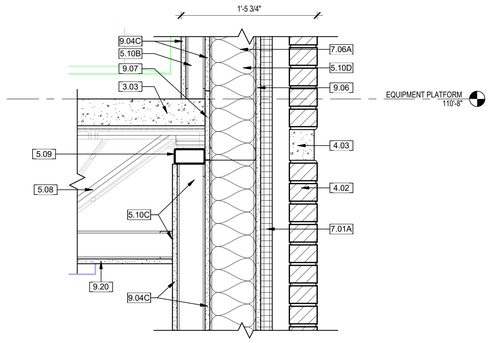


B6 PLAN DETAIL - OT CONNECTION
1 1/2" = 1'-0"

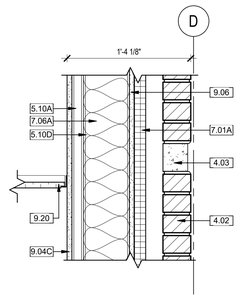


B8 PLAN DETAIL - ONCOLOGY CONNECTION
1 1/2" = 1'-0"

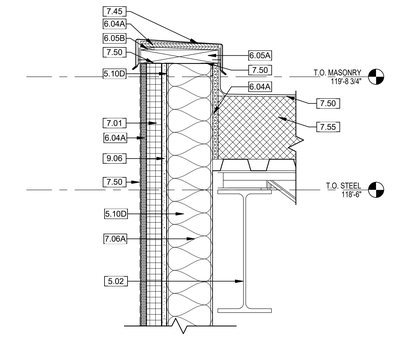
SHEET KEYNOTES	
Key Value	**Keynote Text**
2.05	EXISTING WALL TO REMAIN.
3.03	CONCRETE SLAB. REF STRUCTURAL.
3.07	CONCRETE WALL. REF STRUCTURAL.
3.08	CONCRETE FOOTING. REF STRUCTURAL.
3.54	KEYWAY
4.02	BRICK TO MATCH EXISTING ONCOLOGY WALL.
4.03	PRECAST CONCRETE REVEAL TO MATCH EXISTING ONCOLOGY WALL.
4.04	MORTAR NET.
4.05	MASONRY WEEP
5.02	STEEL BEAM - REF STRUCT.
5.04	METAL DECKING - REF STRUCT.
5.08	STEEL TRUSS (REF STRUCTURAL)
5.09	STEEL TUBE (REF STRUCTURAL)
5.10A	1 1/2" FURRING CHANNEL
5.10B	2 1/2" STEEL STUDS - REF STRUCT.
5.10C	3 5/8" STEEL STUDS - REF STRUCT.
5.10D	6" STEEL STUDS - REF STRUCT.
6.04A	3/4" TREATED PLYWOOD.
6.04B	5/8" PLYWOOD.
6.05A	2x BLOCKING.
6.05B	1x BLOCKING.
6.05C	2x BLOCKING AS REQ'D
7.01	RIGID INSULATION (2").
7.01A	RIGID INSULATION (1 1/2").
7.06	BATT INSULATION
7.06A	6" BATT INSULATION
7.12C	DRAIN TILE. REF STRUCT.
7.13	EXPANSION JOINT.
7.14	VAPOR BARRIER.
7.15	WATERPROOF MEMBRANE AND DRAINAGE COVER BOARD
7.42	THRU-WALL FLASHING.
7.45	NEW PARAPET CAP. MATCH EXISTING.
7.50	ROOF MEMBRANE.
7.55	RIGID ROOFING INSULATION.
7.91	BACKER ROD AND SEALANT.
9.01	WALL BASE. REF ROOM FINISH SCHEDULE.
9.04	5/8" TYPE 'X' GYPSUM WALL BOARD
9.04C	5/8" GYPSUM WALL BOARD
9.06	5/8" FIBERGLASS MAT-FACED GYPSUM CORE PANEL. U.N.O. BY STRUCT.
9.07	MOISTURE RESISTANT GYPSUM WALL BOARD WHERE IN CONTACT WITH CONCRETE.
9.20	CEILING (REFERENCE CEILING PLAN).
31.03	DRAINAGE FILL.
31.08	EARTH.



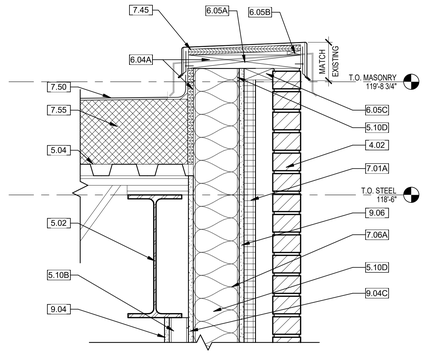
D2 SECTION DETAIL - EXT WALL AT FLOOR
1 1/2" = 1'-0"



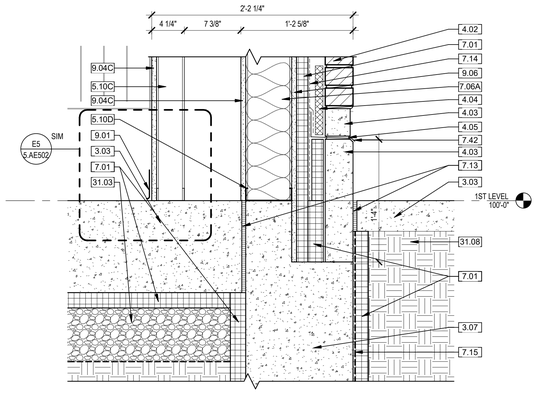
D4 SECTION DETAIL - EXT WALL AT CEILING
1 1/2" = 1'-0"



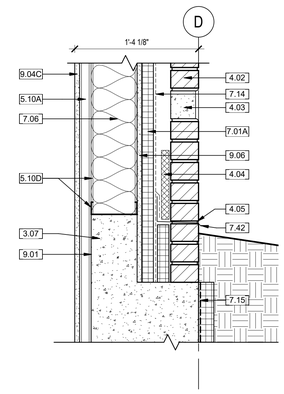
D6 OT ROOF TRANSITION DETAIL - TYP.
1 1/2" = 1'-0"



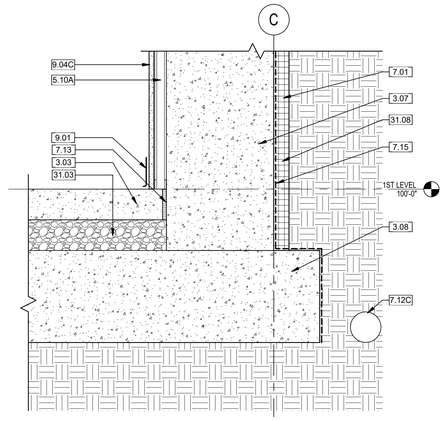
D8 SECTION DETAIL - EXT WALL AT ROOF - TYP.
1 1/2" = 1'-0"



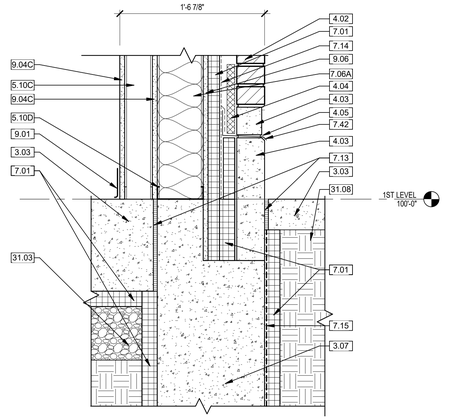
F2 SECTION DETAIL - EXT WALL BASE
1 1/2" = 1'-0"



F4 SECTION DETAIL - EXT WALL BASE ABOVE LEVEL
1 1/2" = 1'-0"



F6 SECTION DETAIL - CONCRETE WALL AT FOUNDATION
1 1/2" = 1'-0"



F8 SECTION DETAIL - EXT WALL BASE
1 1/2" = 1'-0"

Revision#	Description	Date:
1	100% Bid Set	12/21/2018

CONSULTANTS

STRUCTURAL:
Albertson Engineering Inc.

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STONE GROUP ARCHITECTS

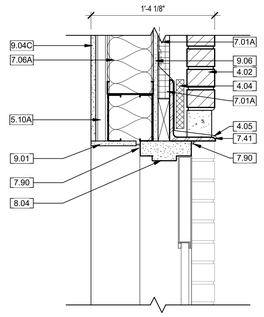
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REGISTERED ARCHITECT — TODD R. STONE — SOUTH DAKOTA — 3-7-19

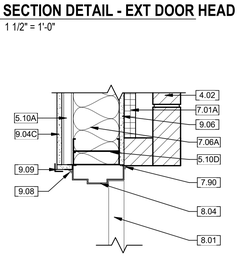
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

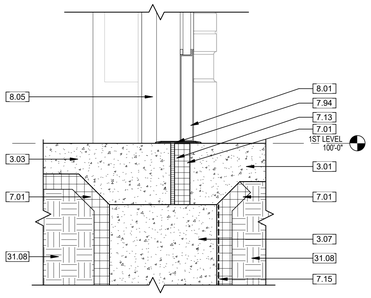
Drawing Title	DETAILS
Approved:	
Phase	100% BID SET RESUBMITTAL
	FULLY SPRINKLERED
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	TRS
Drawn	DAN
Project Number	VA #438-500 SGA #181906
Building Number	5
Drawing Number	5.AE501



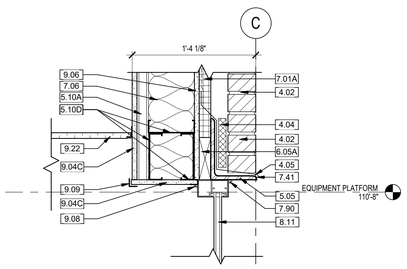
C1 SECTION DETAIL - EXT DOOR HEAD
1 1/2" = 1'-0"



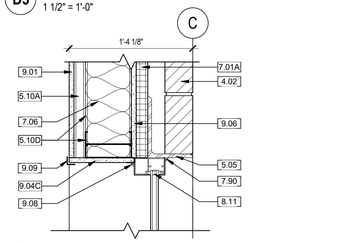
D1 PLAN DETAIL - EXT DOOR JAMB
1 1/2" = 1'-0"



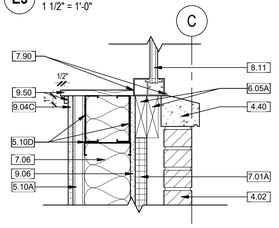
F1 SECTION DETAIL - EXT DOOR THRESHOLD
1 1/2" = 1'-0"



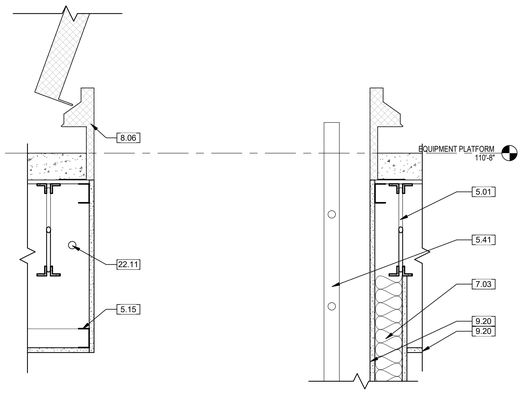
D3 SECTION DETAIL - WINDOW HEAD
1 1/2" = 1'-0"



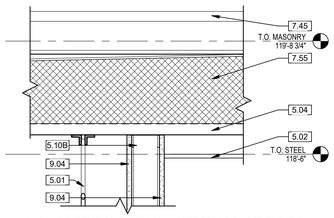
E3 PLAN DETAIL - WINDOW JAMB
1 1/2" = 1'-0"



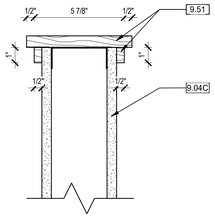
F3 SECTION DETAIL - WINDOW SILL
1 1/2" = 1'-0"



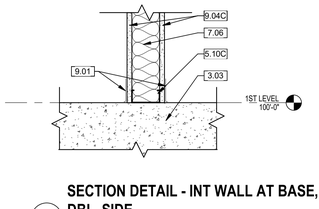
B5 SECTION DETAIL - ACCESS HATCH
1 1/2" = 1'-0"



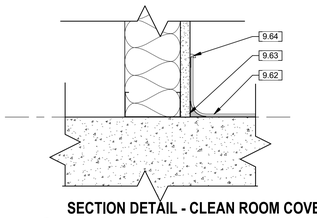
C5 SECTION DETAIL - INT WALL AT ROOF
1 1/2" = 1'-0"



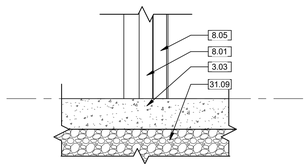
C6 SECTION DETAIL - WALL CAP
3" = 1'-0"



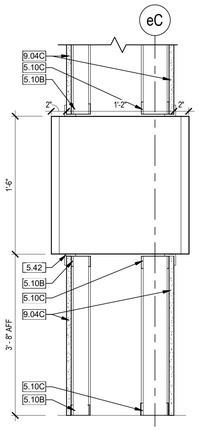
D5 SECTION DETAIL - INT WALL AT BASE, DBL. SIDE
1 1/2" = 1'-0"



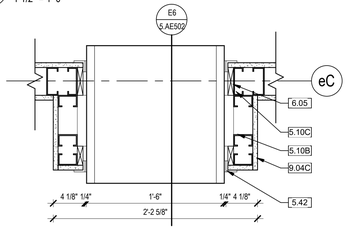
E5 SECTION DETAIL - CLEAN ROOM COVE BASE DETAIL
3" = 1'-0"



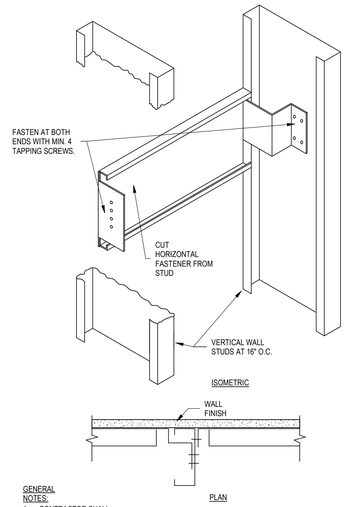
F5 SECTION DETAIL - INT DOOR SILL
1 1/2" = 1'-0"



E6 SECTION DETAIL - PASS THROUGH
1 1/2" = 1'-0"

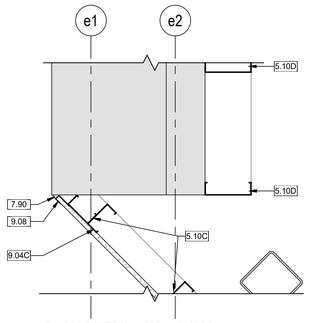


F6 PLAN DETAIL - PASS THROUGH
1 1/2" = 1'-0"

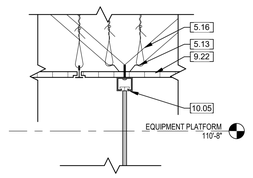


GENERAL NOTES:
1. CONTRACTOR SHALL COORDINATE LOCATIONS OF HORIZONTAL FASTENERS.

055000-02 ANCHORAGE - GRAB BARS AND CABINETS
C8 1/2" = 1'-0"



E8 PLAN DETAIL - HALLWAY CONNECTION
1 1/2" = 1'-0"



F8 SECTION DETAIL - CURTAIN
1 1/2" = 1'-0"

GENERAL NOTES

A. ANY DISCREPANCIES OR CONFLICTS FOUND IN THE VARIOUS PARTS OF THE CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND THE OWNER BEFORE PROCEEDING WITH THE WORK.

B. FURNITURE IS PROVIDED AND INSTALLED BY OTHERS.

C. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE DRAWINGS.

D. CONTRACTOR & SUBCONTRACTORS TO VERIFY ALL EXISTING CONDITIONS AT THE PROJECT SITE.

E. ALL MATERIALS & EQUIPMENT SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS.

F. DETAILS SHOWN ARE TYPICAL UNLESS OTHERWISE NOTED. SIMILAR DETAILS APPLY IN SIMILAR CONDITIONS.

G. PROVIDE WOOD BACKING FOR ALL BATH ACCESSORIES, HANDRAILS, OR OTHER ITEMS ATTACHED TO BUILDING WALLS.

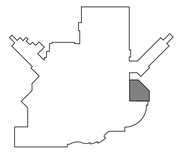
H. GYPSUM USED IN RESTROOMS SHALL BE WATER RESISTANT GYPSUM BOARD. USE DURAROCK @ ALL PORCELAIN & CERAMIC TILE LOCATIONS.

J. PROVIDE ADA COMPLIANT SIGNAGE FOR ALL REQUIRED AREAS, ROOMS, & ACCESSIBLE PATHS.

K. HEIGHT OF OPERATIONAL OR DISPENSING PORTION OF ACCESSORIES & FIXTURES NOT TO EXCEED 48" A.F.F.

SHEET KEYNOTES

Key Value	Keynote Text
3.01	EXISTING CONCRETE COLUMN.
3.03	CONCRETE SLAB. REF STRUCTURAL.
3.07	CONCRETE WALL. REF STRUCTURAL.
4.02	BRICK TO MATCH EXISTING ONCOLOGY WALL.
4.04	MORTAR NET.
4.05	MASONRY WEEP
4.40	NEW CUT STONE SILL TO MATCH EXISTING.
5.01	STEEL JOIST - REF STRUCT.
5.02	STEEL BEAM - REF STRUCT.
5.04	METAL DECKING - REF STRUCT.
5.05	STEEL ANGLE - REF STRUCT.
5.10A	1 1/2" FURRING CHANNEL
5.10B	2 1/2" STEEL STUDS - REF STRUCT.
5.10C	3 5/8" STEEL STUDS - REF STRUCT.
5.10D	6" STEEL STUDS - REF STRUCT.
5.13	BRACED CONTINUOUS SUSPENDED FURRING CHANNEL
5.15	SUSPENDED FRAMING SYSTEM
5.16	METAL STRUT TO RESIST TORQUE ON CURTAIN TRACK
5.41	ACCESS LADDER
5.42	SS MOUNTING BRACKETS BY PASS-THROUGH MFR - BOTH SIDES AND ALL AROUND CHAMBER
6.05	WOOD BLOCKING.
6.05A	2x BLOCKING.
7.01	RIGID INSULATION (2").
7.01A	RIGID INSULATION (1 1/2").
7.03	SOUND INSULATION.
7.06	BATT INSULATION
7.06A	6" BATT INSULATION
7.13	EXPANSION JOINT.
7.15	WATERPROOF MEMBRANE AND DRAINAGE COVER BOARD
7.41	PREFINISHED METAL FLASHING.
7.45	NEW PARAPET CAP. MATCH EXISTING.
7.55	RIGID ROOFING INSULATION.
7.90	SEALANT.
7.94	FLOOR EXPANSION JOINT COVER.
8.01	DOOR - REF SCHED.
8.04	HOLLOW METAL DOOR FRAME. REF SCHEDULE.
8.05	DOOR FRAME - REF SCHED.
8.06	BILCO ACCESS HATCH
8.11	ALUM WDW SYSTEM.
9.01	WALL BASE. REF ROOM FINISH SCHEDULE.
9.04	5/8" TYPE 'X' GYPSUM WALL BOARD
9.04C	5/8" GYPSUM WALL BOARD.
9.06	5/8" FIBERGLASS MAT-FACED GYPSUM CORE PANEL. U.N.O. BY STRUCT.
9.08	J MOLD AND SEALANT
9.09	CORNER BEAD
9.20	CEILING (REFERENCE CEILING PLAN).
9.22	ACOUSTICAL CEILING TILE. REF ROOM FINISH SCHEDULE.
9.50	SOLID SURFACE WINDOW SILL
9.51	SOLID SURFACE WALL CAP
9.62	FLOOR BASE
9.63	COVE STICK
9.64	FINISHING EDGE
10.05	CURTAIN TRACK AND CURTAIN - SUPPORT/BLOCKING PER MFRS REQ
22.11	PIPE - REF PLUMBING.
31.08	EARTH.
31.09	ENGINEERED FILL.



KEYPLAN
NTS
NORTH

Revision#	Description	Date:
1	100% Bid Set	12/21/2018

CONSULTANTS

STRUCTURAL:
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MECHANICAL / ELECTRICAL / PLUMBING:
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CIVIL:
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Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP

REGISTERED ARCHITECT — TODD STONE — SOUTH DAKOTA

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

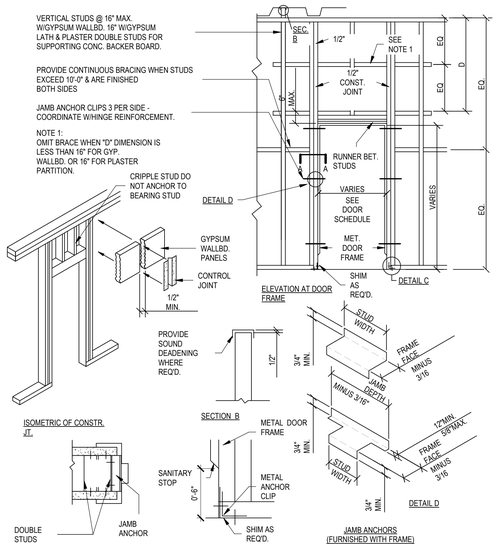
Drawing Title	DETAILS
Phase	100% BID SET RESUBMITTAL
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 SGA #181906
Building Number	5
Approved:	
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	TRS
Drawn	DAN
Drawing Number	5.AE502

FULLY SPRINKLERED

3/8/2019 12:08:55 PM

C:_SGA Revit Local\181906_VA_PHARM_A18_Final_dorisa.nelson.rvt

VA FORM 08 - 6231



081113-01_PARTITION FRAMING FOR DOORS

1/2" = 1'-0"

DOOR SCHEDULE

DOOR #	DOOR SIZE VA SIZE	WIDTH	HEIGHT	THICK	DOOR MATL	DOOR PANEL TYPE	DOOR PANEL 2 TYPE	DOOR GLAZ	FRAME MATL	FRAME TYPE	FRAME GLAZ	FIRE RATING	HDWR	REMARKS
A64		3'-0"	7'-0"	1 3/4"	WD	F			HM	1		1 HR	1	
A65		3'-0"	7'-0"	1 3/4"	WD	F			HM	1			2	
A90		3'-0"	7'-0"	1 3/4"	WD	F			HM	1			3	
A92		3'-6"	7'-0"	1 3/4"	WD	F			HM	1		1 HR	5	
A92A		4'-0"	7'-0"	1 3/4"	WD	F	F		HM	1			6	
A92I		3'-0"	1'-0 19/32"											ACCESS HATCH
A92J		3'-6"	7'-0"	1 3/4"	WD	G		T	HM	1			4	
A93		3'-0"	7'-0"	1 3/4"	WD	G		T	HM	1			3	
A94		3'-0"	7'-0"	1 3/4"	WD	G		T	HM	1			3	
A95		3'-0"	7'-0"	1 3/4"	WD	G		T	HM	1			7	
A95A		3'-0"	7'-0"	1 3/4"	WD	G		T	HM	1			7	
A95B		3'-0"	7'-0"	1 3/4"	WD	G		T	HM	1			7	
A96		3'-0"	7'-0"	1 3/4"	WD	F			HM	1			3	
A97		3'-0"	7'-0"	1 3/4"	WD	F			HM	1			2	
C35		3'-0"	7'-0"	1 3/4"	WD	F			HM	1		1 HR	8	
E1		3'-0"	7'-0"	2"	STL	FG			HM	2			10	
F65		3'-0"	7'-0"	1 3/4"	WD	F			HM	1			9	

DOOR SCHEDULE REMARKS

1. EXISTING DOOR AND FRAME. PAINT EXIST FRAME.
2. EXISTING FRAME TO BE REUSED PROVIDE NEW DOOR PANEL AND HARDWARE. PAINT EXIST FRAME.
3. CARD READER. REF ELECTRICAL.
4. AUTOMATIC DOOR OPENER. REF ELECTRICAL.
5. ELECTRIC HOLD OPEN. REF ELECTRICAL.
6. 3'-9" CLEARANCE AUTO-OPENER ICU/CCU DOOR WITH TOUCHLESS WALL PLATE.
7. CLOSER REQUIRED.
8. MECH SEAL FOR LIGHT PROOF & SOUND RETARDING DOOR.
9. VISION CONTROL GLASS WITH BLINDS BETWEEN GLASS IN DOOR PANEL
10. UNDERCUT DOOR 3/4".
11. 3'-9" CLEARANCE MANUAL ICU/CCU DOOR

** CORRIDOR DOORS NOT LISTED WITH A SPECIFIC RATING SHALL BE CONSTRUCTED TO RESIST THE PASSAGE OF SMOKE IN ACCORDANCE TO LIFE SAFETY CODE NFPA, PARAGRAPH 18.3.6.3.1

GLAZING LEGEND

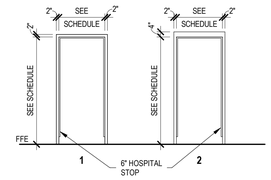
T - 1/4" TEMPERED GLASS
A - 1/4" LAMINATED GLASS
F - FIRE RATED GLASS - SEE SCHEDULE
G - 1" INSULATED SAFETY GLASS



F - FLUSH
L - LOUVERED
V - VISION LITE
N - NARROW VISION
G - HALF GLASS
GL - HALF GLASS & LOUVERED
FG - FULL GLASS - WIDE STILE ALUMINUM

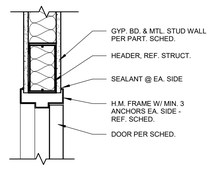
DOOR PANEL TYPE LEGEND

BASED ON SDI-106-99

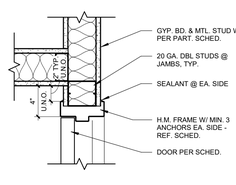


FRAME TYPES

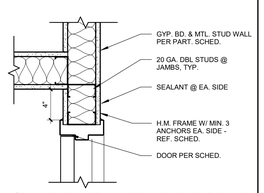
1/4" = 1'-0"



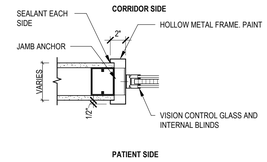
D8 HM DOOR HEAD
1 1/2" = 1'-0"



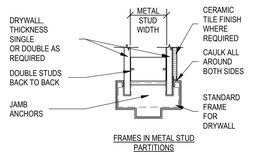
D9 HM DOOR JAMB
1 1/2" = 1'-0"



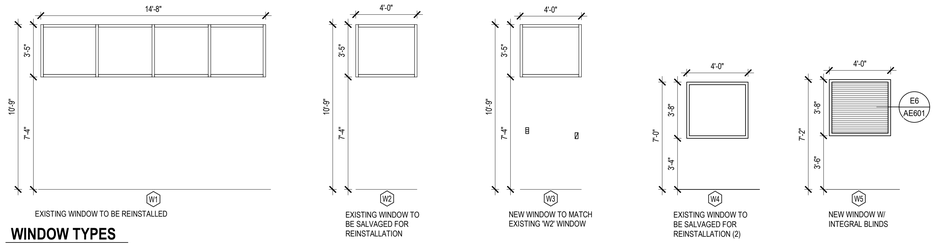
D10 HM DOOR JAMB - CLEAN ROOMS
1 1/2" = 1'-0"



E6 WDW - INT JAMB W/BLINDS
1 1/2" = 1'-0"

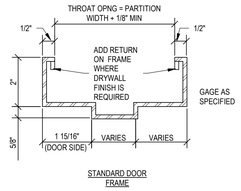


FRAMES IN METAL STUD PARTITIONS



WINDOW TYPES

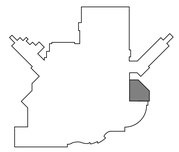
1/4" = 1'-0"



STANDARD DOOR FRAME

081113-02_INTERIOR DOOR FRAMES

1/2" = 1'-0"



KEYPLAN

NTS

NORTH

Revision#	Description	Date:
1	100% Bid Set	12/21/2018

CONSULTANTS

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Albertson Engineering, Inc.
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Rapid City, South Dakota 57702
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CIVIL:
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INTERIOR DESIGN:
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Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP

REGISTERED ARCHITECT — TODD R. STONE — SOUTH DAKOTA

Office of Construction and Facilities Management

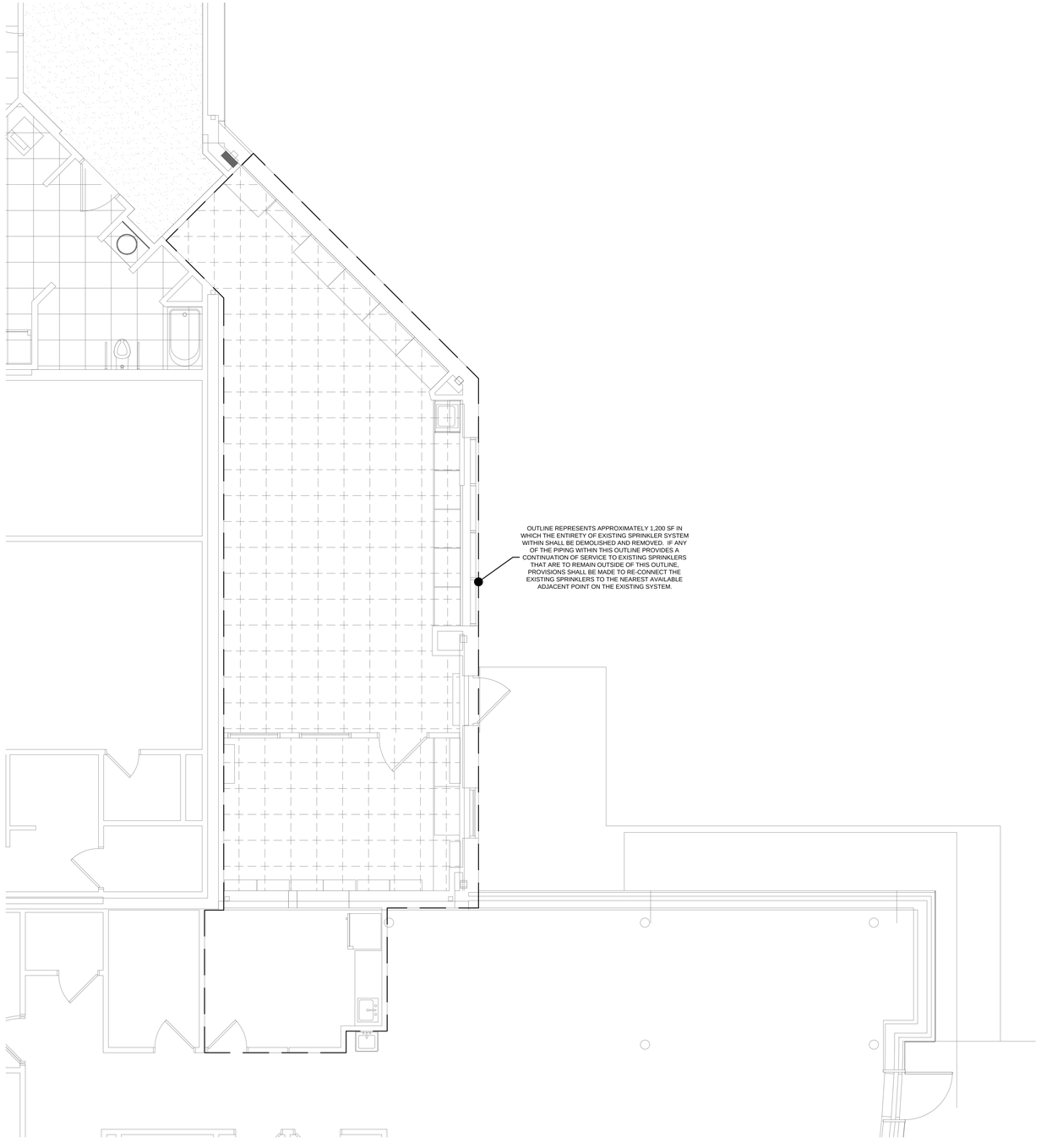
VA U.S. Department of Veterans Affairs

Drawing Title	DOOR AND WINDOW SCHEDULES
Phase	100% BID SET RESUBMITTAL
Approved:	
	FULLY SPRINKLERED
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	TRS
Drawn	DAN
Project Number	VA #438-500 SGA #181906
Building Number	5
Drawing Number	5.AE601

3/8/2019 12:09:00 PM

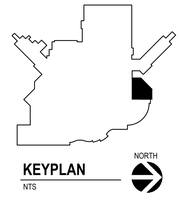
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VA FORM 08 - 6231



NORTH

F1 1ST LEVEL DEMOLITION PLAN - FIRE PROTECTION
1/4" = 1'-0"



KEYPLAN
NTS

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

CONSULTANTS

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MECHANICAL / ELECTRICAL / PLUMBING:
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4609 South Techlink Circle
Sioux Falls, South Dakota 57106
Phone: 605-362-3753

FIRE PROTECTION:
Fire Engineering, Inc.
47185 Wild Clover Circle, Suite 200
Sioux Falls, South Dakota 57107
Phone: 605-543-5170

INTERIOR DESIGN:
Lenae Design
319 N Main Ave, Suite 1
Sioux Falls, South Dakota 57104
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Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP

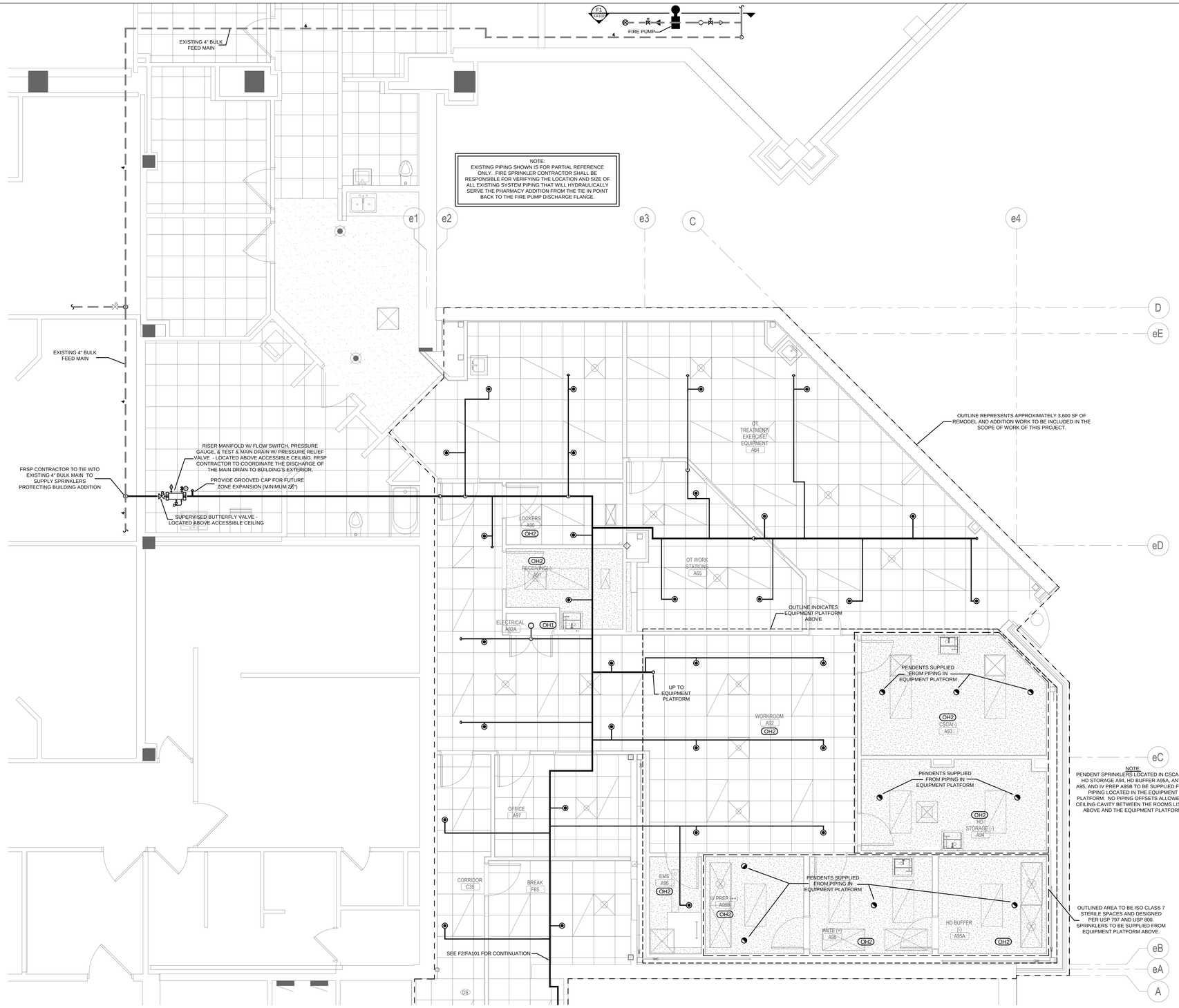
REGISTERED PROFESSIONAL ENGINEER — CERTIFICATION NUMBER 10403 — CRAIG R. FISCHNER — MY RENEWAL 7-19 — SOUTH DAKOTA

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

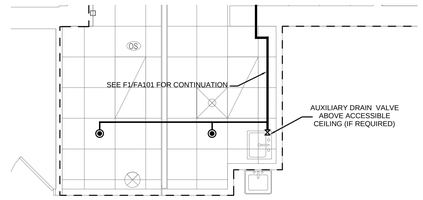
Drawing Title	FIRE PROTECTION PLAN - BASEMENT FLOOR
Approved:	
Phase	100% BID SET
	FULLY SPRINKLERED
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	CRT
Drawn	MED
Project Number	VA #438-500 FEI #182.282
Building Number	5
Drawing Number	5.FD101

VA FORM 08 - 6231



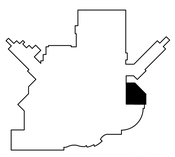
NORTH

F1 1ST LEVEL FLOOR PLAN - FIRE PROTECTION
1/4" = 1'-0"



NORTH

F2 1ST LEVEL FLOOR PLAN - FIRE PROTECTION
1/4" = 1'-0"



KEYPLAN
NTS

NORTH

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

CONSULTANTS

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STONE GROUP ARCHITECTS

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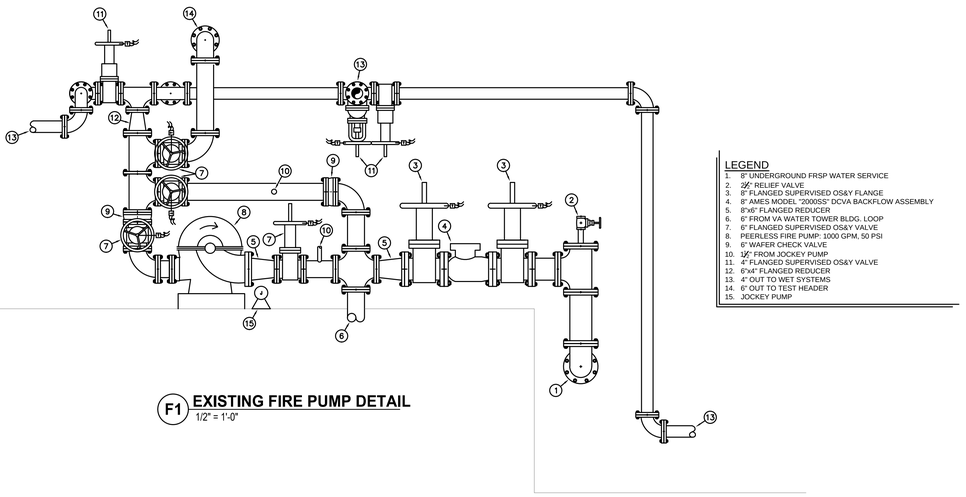
REGISTERED PROFESSIONAL ENGINEER
CERTIFICATION NUMBER
10403
CRAIG R. PASCHNER
12-7-18
SOUTH DAKOTA

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	DEMOLITION FIRE PROTECTION PLAN - BASEMENT FLOOR
Approved:	
Phase	100% BID SET
	FULLY SPRINKLERED
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	CRT
Drawn	MED
Project Number	VA #438-500 FEI #182.282
Building Number	5
Drawing Number	5.FA101

VA FORM 08 - 6231



LEGEND

1. 8" UNDERGROUND FRSP WATER SERVICE
2. 2½" RELIEF VALVE
3. 8" FLANGED SUPERVISED OS&Y FLANGE
4. 8" AMES MODEL "2000SS" DCVA BACKFLOW ASSEMBLY
5. 8"x6" FLANGED REDUCER
6. 6" FROM VA WATER TOWER BLDG. LOOP
7. 6" FLANGED SUPERVISED OS&Y VALVE
8. PEERLESS FIRE PUMP: 1000 GPM, 50 PSI
9. 6" WAFER CHECK VALVE
10. 1½" FROM JOCKEY PUMP
11. 4" FLANGED SUPERVISED OS&Y VALVE
12. 6"x4" FLANGED REDUCER
13. 4" OUT TO WET SYSTEMS
14. 6" OUT TO TEST HEADER
15. JOCKEY PUMP

F1 EXISTING FIRE PUMP DETAIL
1/2" = 1'-0"

SYM	POSITION	FINISH	TEMP	K	NPT	SIN	MFG.	MODEL#	NOTES	ESCUTCHEON
○	UPRIGHT	BRASS	200	5.6	1/2"	RA1425	RELIABLE	F1FR QR	1, 2, 4	N/A
◉	PENDENT	CHROME	155	5.6	1/2"	RA1414	RELIABLE	F1FR QR	1, 2, 3	RECESSED
◔	PENDENT	BRASS	155	5.6	1/2"	RA3415	RELIABLE	G5-56 QR GASKET	1, 2, 5	CONCEALED
⊗	EXISTING SPRINKLER TO REMAIN									

1. OR EQUAL
2. INTERMEDIATE TEMPERATURE RATED HEADS IN ELEVATOR SHAFTS, ELEVATOR MACHINE ROOMS, MECHANICAL AND ELECTRICAL ROOMS. HIGH TEMPERATURE RATED IN GENERATOR ROOMS.
3. STANDARD COVERAGE OR EXTENDED COVERAGE SPRINKLERS MAY BE USED AT THE CONTRACTOR'S OPTION WHERE PROVEN HYDRAULICALLY
4. HEADS ELEVATED BELOW 7'-0" TO BE INSTALLED WITH SPRINKLER GUARDS.
5. SPRINKLER TO BE PROVIDED WITH A STAINLESS STEEL CLAD FLAT COVER PLATE & SEALING GASKET.

F2 SPRINKLER HEAD LEGEND
NO SCALE

GENERAL NOTES:

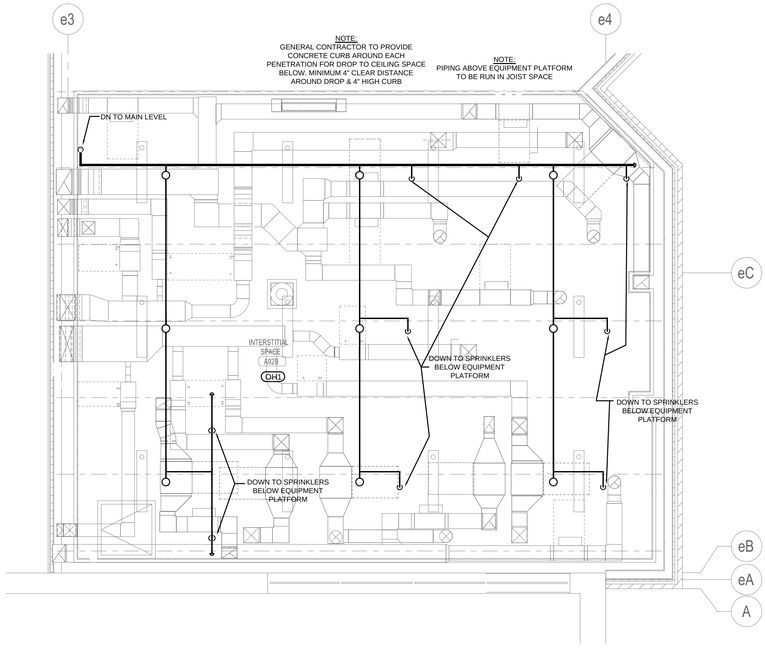
1. THIS PROJECT INCLUDES THE DESIGN AND INSTALLATION OF WET FIRE SPRINKLER SYSTEM(S) FOR REMODELED AND ADDITION AREAS TO THE EXISTING BUILDING PER NFPA 13 (2016 ed.), LOCAL BUILDING CODES, AND THE VA FIRE PROTECTION DESIGN MANUAL (SEVENTH ed.). THE FIRE SPRINKLER SYSTEMS ARE SUPPLIED BY AN EXISTING 8" UNDERGROUND WATER SERVICE SUPPLIED BY THE CITY WATER SYSTEM THAT IS SUPPLEMENTED BY AN EXISTING FIRE PUMP.
2. FINAL PIPE SIZING AND LOCATION IS TO BE DETERMINED BY THE FIRE SPRINKLER CONTRACTOR AND IS SUBJECT TO APPROVAL BY THE ENGINEER. NOT ALL REQUIRED PIPING IS SHOWN.
3. REFER TO SPECIFICATION SECTIONS 21 00 60 & 21 13 13 FOR ADDITIONAL FIRE SPRINKLER SYSTEM INFORMATION.
4. ALL SPRINKLERS IN LIGHT HAZARD OCCUPANCIES ARE TO BE OF THE QUICK RESPONSE TYPE.
5. ALL SPRINKLER SHALL BE UL LISTED AND FM APPROVED PER THE VA FIRE PROTECTION DESIGN MANUAL.
6. SPRINKLERS ARE REQUIRED TO BE PROTECTED DURING PAINTING.
7. SPRINKLERS SHALL BE LOCATED IN THE CENTER POINT OF SQUARE CEILING TILES AND ALLOWED TO BE IN THE QUARTER AND/OR CENTER POINTS OF RECTANGULAR CEILING TILES.
8. HEAD GUARDS ARE TO BE INSTALLED ON ALL EXPOSED SPRINKLERS ELEVATED BELOW 7'-0". SIDEWALL SPRINKLERS LOCATED BELOW OVERHEAD DOORS, AND THROUGHOUT AREAS WHERE SPRINKLERS ARE EXPOSED TO INTERFERENCE DAMAGE.
9. ALL SYSTEMS PIPING AND FITTINGS SHALL MEET THE REQUIREMENTS OF NFPA 13.
10. REQUIRED SYSTEM TESTING IS THE RESPONSIBILITY OF THE FIRE SPRINKLER CONTRACTOR PER NFPA 25.
11. NOT ALL REQUIRED SPRINKLERS AND PIPING ARE SHOWN. CONSIDERATION OF ADDITIONAL SPRINKLERS, PIPING, AND FITTINGS DUE TO INTERFERENCE WITH OTHER TRADES, OBSTRUCTIONS, IMPROVED AESTHETICS, OR OWNER/AHJ REQUESTS SHALL BE MADE PRIOR TO BID BY THE FIRE SPRINKLER CONTRACTOR.
12. FIRE SPRINKLER CONTRACTOR TO PROVIDE ALL NECESSARY MATERIAL, INCLUDING BUT NOT LIMITED TO, SPRINKLERS, PIPING, VALVES, AND LABOR TO PROVIDE COMPLETE SYSTEM(S) TO COMPLY WITH NFPA 13, LOCAL BUILDING CODES, AND THE VA FIRE PROTECTION DESIGN MANUAL. ALL HYDRAULIC CALCULATIONS AND PIPE SIZING ARE THE RESPONSIBILITY OF THE FIRE SPRINKLER CONTRACTOR. ANY AND ALL CLARIFICATIONS TO BID DOCUMENTS SHALL BE MADE PRIOR TO BID.
13. UPRIGHT SPRINKLERS TO HAVE A BRASS FINISH THROUGHOUT.
14. ALL PIPING 2-1/2" AND LARGER SHALL BE GROOVED SCHEDULE 10 STEEL PIPING WITH ROLL GROOVES ONLY.
15. ALL PIPING 2" AND SMALLER SHALL BE THREADED SCHEDULE 40 BLACK STEEL PIPING.
16. ALL THREADED FITTINGS SHALL BE DUCTILE IRON.
17. ALL PIPING THAT PENETRATES AN EXTERIOR WALL SHALL BE GALVANIZED SCHEDULE 40.
18. LISTED FLEX PIPING TO PENDENT HEADS IN CEILINGS IS ALLOWED FOR THIS PROJECT WHERE PROVEN HYDRAULICALLY.
19. CPVC IS NOT ALLOWED FOR THIS PROJECT.
20. ALL MATERIAL BEING INSTALLED MUST BE NEW AND LISTED FOR USE.
21. THE FIRE SPRINKLER CONTRACTOR SHALL VERIFY LOCATIONS AND ROUTING OF PIPE PRIOR TO BID. NO ALLOWANCES FOR EXTRA FITTINGS, PIPING, SPRINKLERS, ETC. WILL BE ALLOWED AFTER AWARD OF CONTRACT.
22. PIPING SHOWN ON THESE PLANS IS CONCEPTUAL BUT IS TO BE CLOSELY FOLLOWED BY THE FIRE SPRINKLER CONTRACTOR. ANY MAJOR CHANGES TO WHAT IS BEING INDICATED ON THESE PLANS SHALL FIRST BE APPROVED BY THE ARCHITECT AND ENGINEER.
23. ALL ARCHITECTURAL, STRUCTURAL, MECHANICAL, & ELECTRICAL FEATURES INDICATED ON THE FP SHEETS SHALL BE VERIFIED BY CONSULTING THE A/S/M&E SHEETS.
24. ALL SPRINKLERS LOCATED NEAR HEAT PRODUCING DEVICES SHALL BE PROVIDED WITH THE APPROPRIATE TEMPERATURE RATING PER THE REQUIREMENTS OF NFPA 13.
25. THE FIRE SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING SPRINKLER SYSTEM COMPONENTS SHOWN ON THESE PLANS PRIOR TO BID.
26. SHOULD ANY EXISTING SYSTEM DEFICIENCIES NOT INDICATED ON THESE PLANS BE DISCOVERED AS PART OF CONDUCTING THE WORK INCLUDED IN THIS SCOPE, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
27. THESE PLANS SHALL BE USED AS A GENERAL GUIDE IN THE GENERATION OF THE FIRE SPRINKLER CONTRACTOR'S BID AND ARE NOT INTENDED TO INDICATE THE ENTIRE EXTENT OF SPRINKLER PROTECTION REQUIRED. ANY AREAS REQUIRED TO BE PROTECTED PER NFPA 13 THAT MAY OR MAY NOT BE SHOWN WITH PROTECTION ON THESE PLANS SHALL BE INCLUDED IN THE CONTRACTOR'S BID. NO ALLOWANCES FOR EXTRAS WILL BE ALLOWED AFTER AWARD OF CONTRACT.
28. FIRE SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND RE-INSTALLING OF EXISTING CEILING TILE AND WALLS NOT REMOVED BY THE GENERAL CONTRACTOR FOR THE DEMOLITION OF EXISTING FIRE PROTECTION PIPING, SPRINKLER HEADS, ETC. ANY CEILING OR WALL COMPONENTS DAMAGED SHALL BE REPLACED OR PATCHED WITH NEW BY THIS CONTRACTOR.

OCCUPANCY HAZARD CLASSIFICATIONS:

- SEE PLAN FOR HAZARD NOTATIONS. ALL AREAS TO BE DESIGNED AS LIGHT HAZARD UNLESS NOTED OTHERWISE.
- LIGHT HAZARD OCCUPANCIES
  - 0.10 GPM/SQ.FT PER MOST DEMANDING 1500 SQ.FT.

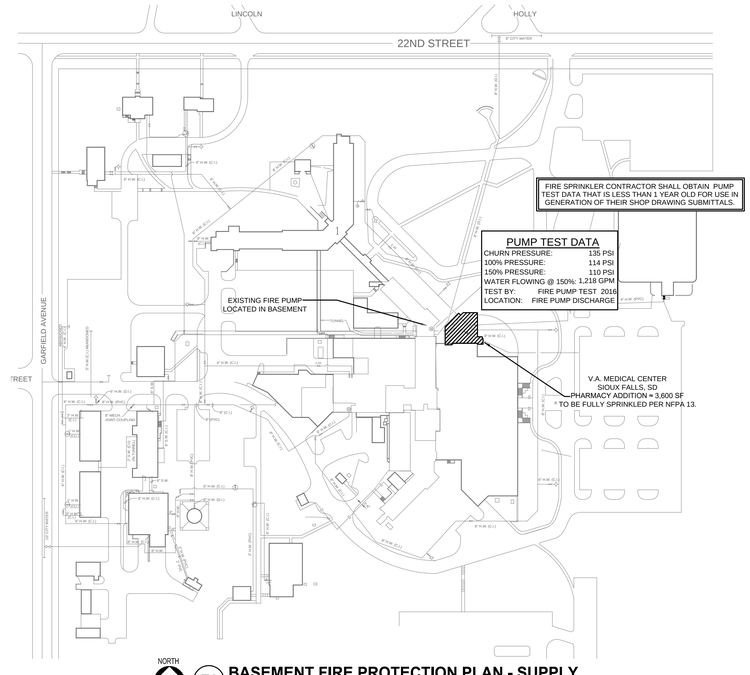
(OH1) - ORDINARY HAZARD GROUP 1 OCCUPANCIES
  - 0.15 GPM/SQ.FT PER MOST DEMANDING 1500 SQ.FT.

(OH2) - ORDINARY HAZARD GROUP 2 OCCUPANCIES
  - 0.20 GPM/SQ.FT PER MOST DEMANDING 1500 SQ.FT.
- REMOTE AREA REDUCTIONS WILL BE ALLOWED PER NFPA 13
- REMOTE AREA INCREASES SHALL BE APPLIED WHERE REQUIRED BY NFPA 13
- HOSE ALLOWANCES SHALL BE APPLIED AS PER NFPA 13
- CALCULATED DEMAND INCLUDING HOSE STREAM REQUIREMENTS SHALL FALL NO LESS THAN 10% BELOW THE AVAILABLE WATER SUPPLY CURVE.



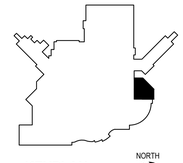
NORTH

F3 EQUIPMENT PLATFORM PLAN - FIRE PROTECTION
1/4" = 1'-0"



NORTH

F2 BASEMENT FIRE PROTECTION PLAN - SUPPLY
1" = 120'-0"



KEYPLAN
NTS
NORTH

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

CONSULTANTS

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Phone: 605-343-9606

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Todd Stone, AIA

STONE GROUP ARCHITECTS

STAMP

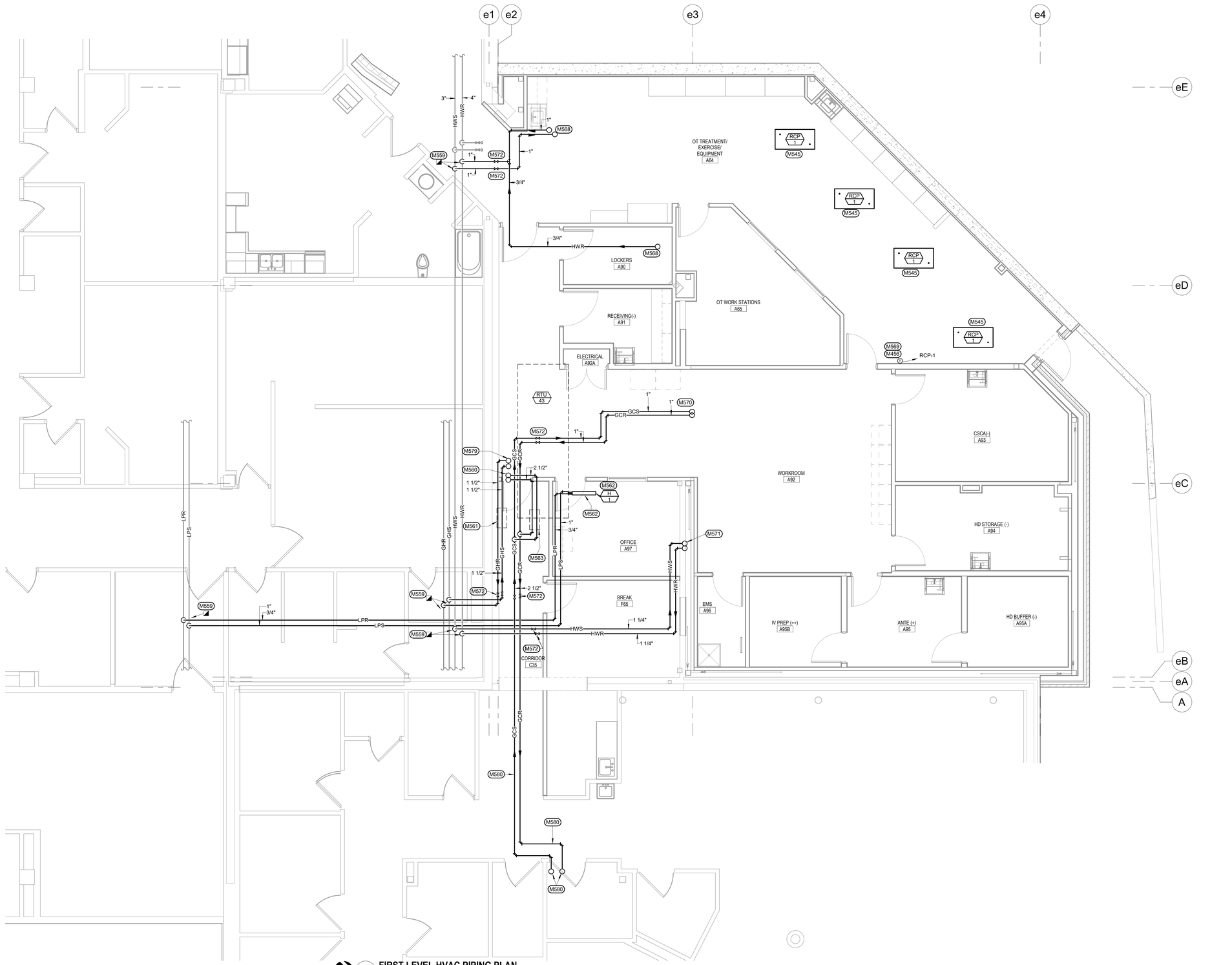
REGISTERED PROFESSIONAL ENGINEER — CERTIFICATION NUMBER 10403 — CRAIG R. PASCHNER — NO. 7-10 — SOUTH DAKOTA

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	FIRE PROTECTION PLAN - BASEMENT FLOOR
Approved:	
Phase	100% BID SET
	FULLY SPRINKLERED
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	CRT
Drawn	MED
Project Number	VA #438-500 FEI #182.282
Building Number	5
Drawing Number	5.FA102

VA FORM 08 - 6231



1 **FIRST LEVEL HVAC PIPING PLAN**
1/4" = 1'-0"
NORTH

HVAC PIPING MISCELLANEOUS NOTES

A DRAWINGS ARE SCHEMATIC IN NATURE BASED ON EXISTING DRAWINGS AND FIELD OBSERVATIONS. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ENGINEER.

B DO NOT ROUTE PIPING ABOVE OR IN FRONT OF ELECTRICAL GEAR. MAINTAIN CODE REQUIRED CLEARANCES.

C COORDINATE ANY OUTAGES WITH OWNER A MINIMUM OF 48 HOURS IN ADVANCE, OR AS REQUESTED BY OWNER.

D COORDINATE PIPING LAYOUTS WITH ALL EXISTING CONDITIONS. PROVIDE OFFSET AS REQUIRED TO AVOID CONFLICT.

E COORDINATE CUTTING AND PATCHING OF ALL SURFACES WITH GENERAL CONTRACTOR.

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J SEAL OFF AREAS WHERE CONSTRUCTION IS TO OCCUR FROM UNDISTURBED AREAS TO CONTAIN DUST AND DEBRIS WITHIN CONSTRUCTION AREA.

K COORDINATE LOCATION OF ALL UNDER FLOOR PIPING WITH GENERAL CONTRACTOR BEFORE FLOOR IS POURED.

L NO BUGGIES WILL BE ALLOWED TO RUN OVER INFLOOR PIPING WHILE FLOOR IS BEING POURED.

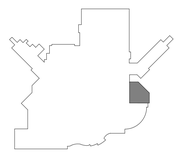
M CONTRACTOR SHALL PROVIDE AN AUTOCAD OR ELECTRONIC PIPING LAYOUT TO ENGINEER FOR APPROVAL BEFORE ANY PIPING IS INSTALLED.

N MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS –BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.

O ALL PIPING PENETRATIONS THROUGH INTERSTITIAL FLOOR SHALL BE PROVIDED WITH 4" HIGH PAD AT PENETRATION.

MECHANICAL SPECIFIC NOTES

#	
M456	BAS SPACE TEMPERATURE AND HUMIDITY SENSOR ON WALL AT LOCATION SHOWN. SENSORS FOR TEMPERATURE AND HUMIDITY SHALL BE INTEGRAL TO THE DEVICE.
M544	AUTOMATIC FLOW CONTROL VALVE AND BALANCING VALVE FOR BANK OF RADIANT CEILING PANELS. BALANCE BANK TO 0.5 GPM.
M545	SEE DETAILS FOR CONNECTION OF HWS/R TO RADIANT CEILING PANELS.
M559	CONNECT NEW PIPING TO EXISTING PIPING AT LOCATION SHOWN.
M560	ROUTE 2-1/2" GCS/R PIPING UP THROUGH ROOF TO COIL CONNECTION INSIDE RTU. SEE EQUIPMENT PLATFORM LEVEL HVAC PIPING PLAN FOR CONTINUATION.
M561	OUTLINE DENOTES INSTALLATION LOCATION, ABOVE CEILING, FOR HEATING COIL ACCESSORIES FOR RTU, INCLUDING SHUTOFF VALVES, STRAINERS, CONTROL VALVES, ETC. SEE DETAILS FOR COIL PIPING SCHEMATIC.
M562	INSTALL HUMIDIFIER GRID DISTRIBUTOR IN DUCTWORK AT LOCATION SHOWN. PROVIDE LPS AND LPR PIPING CONNECTIONS TO DISTRIBUTOR AS SHOWN. SEE DETAILS FOR ADDITIONAL INFORMATION.
M563	OUTLINE DENOTES INSTALLATION LOCATION, ABOVE CEILING, FOR COOLING COIL ACCESSORIES FOR RTU, INCLUDING SHUTOFF VALVES, STRAINERS, CONTROL VALVES, ETC. SEE DETAILS FOR COIL PIPING SCHEMATIC.
M568	ROUTE HWS/R PIPING UP AT LOCATION SHOWN. SEE EQUIPMENT PLATFORM HVAC PIPING PLAN FOR CONTINUATION.
M569	BAS SPACE TEMPERATURE AND HUMIDITY SENSOR AT LOCATION SHOWN SHARED WITH VAV BOX. SEE FIRST FLOOR HVAC PLANS FOR VAV BOX.
M570	ROUTE 1" GCS/R PIPING UP THROUGH INTERSTITAL FLOOR SLAB AT LOCATION SHOWN. SEE EQUIPMENT PLATFORM HVAC PIPING PLAN FOR CONTINUATION.
M571	ROUTE 1-1/4" HWS/R PIPING UP THROUGH INTERSTITAL FLOOR SLAB AT LOCATION SHOWN. SEE EQUIPMENT PLATFORM HVAC PIPING PLAN FOR CONTINUATION.
M572	INSTALL ISOLATION SHUTOFF VALVE ON PIPING MAINS AT ACCESSIBLE LOCATION AS SHOWN.
M579	ROUTE 1-1/2" GHS/R PIPING UP THROUGH ROOF TO COIL CONNECTION INSIDE RTU. SEE EQUIPMENT PLATFORM LEVEL HVAC PIPING PLAN FOR CONTINUATION.
M580	ROUTE NEW PIPING ABOVE EXISTING ACT CEILINGS AT LOCATION SHOWN. HVAC PIPING CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REINSTALLATION OF EXISTING CEILINGS IN ORDER TO PERFORM WORK.



Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

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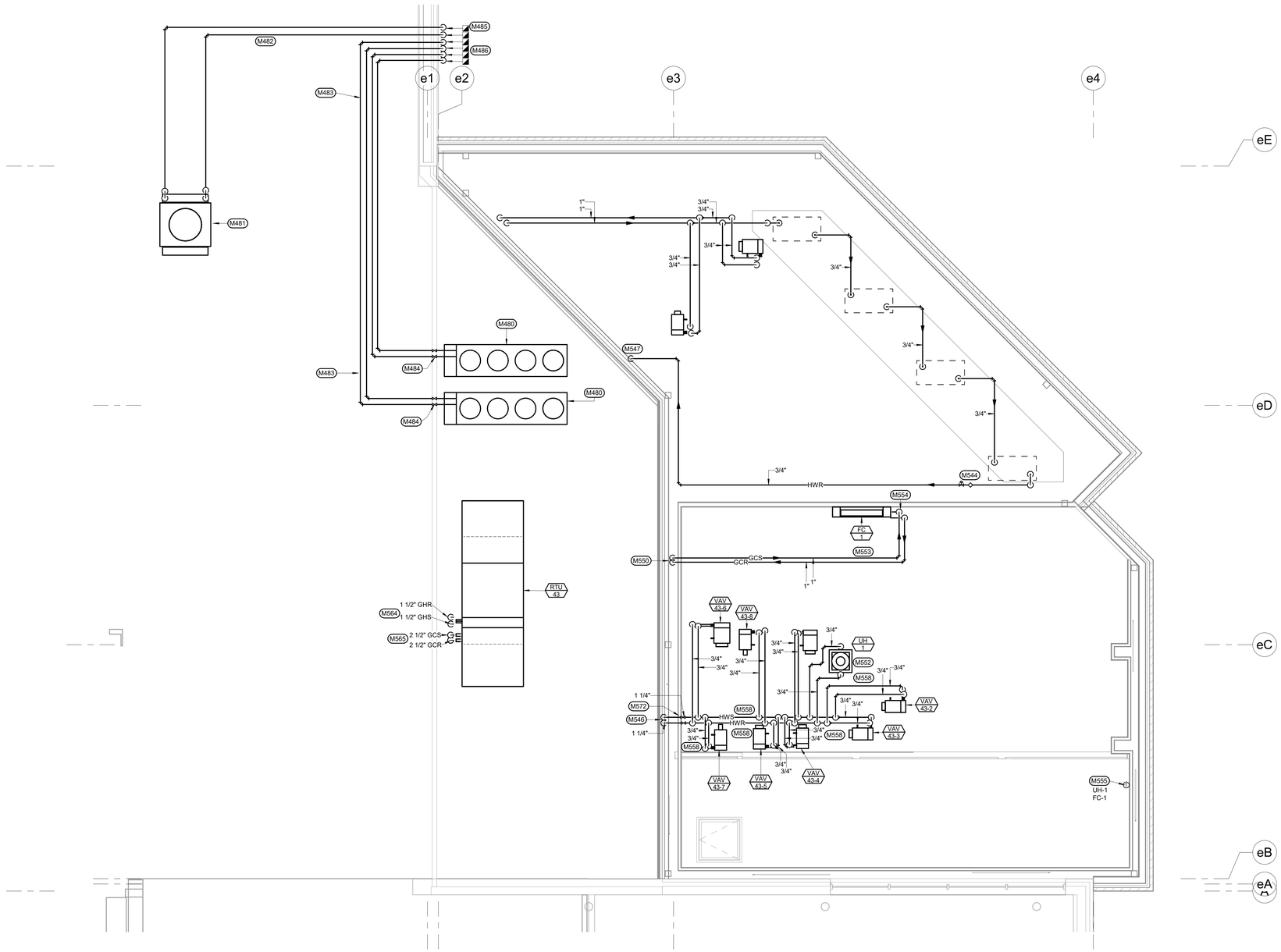
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9573
JEFFREY M. OSTER
SOUTH DAKOTA

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	FIRST LEVEL HVAC PIPING PLAN
Phase	100% BID SET
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 WPE #BS18069
Building Number	5
Approved:	
	FULLY SPRINKLERED
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	SO
Drawn	ASA
Drawing Number	5.HP101

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three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot
VA FORM 08 - 6231



1 EQUIPMENT PLATFORM HVAC PIPING PLAN

1/4" = 1'-0"

NORTH

HVAC PIPING MISCELLANEOUS NOTES

A DRAWINGS ARE SCHEMATIC IN NATURE BASED ON EXISTING DRAWINGS AND FIELD OBSERVATIONS. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ENGINEER.

B DO NOT ROUTE PIPING ABOVE OR IN FRONT OF ELECTRICAL GEAR. MAINTAIN CODE REQUIRED CLEARANCES.

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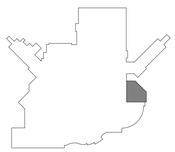
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MECHANICAL SPECIFIC NOTES

#	
M441	PROVIDE 3'-0" CLEARANCE ON SIDE OF VAV BOX CONTROL ENCLOSURE AT LOCATION SHOWN.
M480	RELOCATE EXISTING MRI WATER CHILLER FROM ON GRADE TO NEW LOCATION ON ROOF, AT APPROXIMATE LOCATION SHOWN. PROVIDE 4X4 WOOD SUPPORTS UNDER LONG SIDE OF UNIT.
M481	RELOCATE EXISTING LIEBERT DX CONDENSING UNIT FROM ON GRADE TO NEW LOCATION ON ROOF, AT APPROXIMATE LOCATION SHOWN. PROVIDE 4X4 WOOD SUPPORTS UNDER LONG SIDE OF UNIT.
M482	ROUTE NEW REFRIGERANT PIPING ON ROOF AT LOCATION SHOWN FROM RELOCATED CONDENSING UNIT. PROVIDE 4X4 WOODEN BLOCK SUPPORTS AT LOCATION SHOWN BELOW PIPING.
M483	ROUTE NEW CHILLED WATER SUPPLY AND RETURN PIPING ON ROOF AT LOCATION SHOWN FROM RELOCATED MRI WATER CHILLER. PROVIDE 4X4 WOODEN BLOCK SUPPORTS AT LOCATION SHOWN BELOW PIPING. PIPING SIZE SHALL BE SAME SIZE AS EXISTING PIPING.
M484	PROVIDE ISOLATION VALVES ON CHILLED WATER SUPPLY AND RETURN PIPING CONNECTIONS TO MRI WATER CHILLER.
M485	ROUTE REFRIGERANT PIPING DOWN ALONG WALL AND CONNECT TO EXISTING PIPING ON GRADE.
M486	ROUTE CHILLED WATER SUPPLY AND RETURN PIPING DOWN ALONG WALL AND CONNECT TO EXISTING PIPING ON GRADE. PIPING SIZE SHALL BE SAME AS EXISTING PIPING.
M542	2-1/2" GCS/R UP TO CHILLED WATER COIL IN AIR HANDLING UNIT ABOVE. AIR HANDLING UNIT HAS SINGLE COIL. SEE COIL DETAIL FOR ADDITIONAL INFORMATION.
M544	AUTOMATIC FLOW CONTROL VALVE AND BALANCING VALVE FOR BANK OF RADIANT CEILING PANELS. BALANCE BANK TO 0.5 GPM.
M546	DROP 1-1/4" HWS/R PIPING AT LOCATION SHOWN AND DOWN THROUGH FLOOR. SEE FIRST FLOOR HVAC PIPING PLAN FOR CONTINUATION.
M547	DROP HWS/R PIPING DOWN AT LOCATION SHOWN. SEE FIRST FLOOR HVAC PIPING PLAN FOR CONTINUATION.
M550	DROP 1" GCS/R PIPING AT LOCATION SHOWN AND DOWN THROUGH FLOOR. SEE FIRST FLOOR HVAC PIPING PLAN FOR CONTINUATION.
M552	INSTALL UNIT HEATER AT LOCATION SHOWN BETWEEN JOISTS, WITH BOTTOM OF UNIT FLUSH WITH BOTTOM OF JOISTS.
M553	ROUTE 1" GCS/R TO FAN COIL UNIT. SEE DETAILS FOR ADDITIONAL INFORMATION.
M554	ROUTE 1" GCS/R PIPING DOWN TIGHT TO WALL AND EXPOSED TO WALL MOUNTED FAN COIL UNIT. ALL COIL ACCESSORIES SHALL BE MOUNTED EXPOSED AND ACCESSIBLE IN THE VERTICAL PIPING DOWN TO UNIT.
M555	BAS SPACE TEMPERATURE SENSOR ON WALL AT LOCATION SHOWN, SERVING BOTH PIECES OF EQUIPMENT INDICATED. MOUNT AT 48" AFF.
M558	ROUTE HWS/R MAINS AND BRANCHES IN AND THROUGH JOINT SPACES. ONLY VERTICAL DROPS TO VAV BOXES OR TO BELOW INTERSTITIAIAL FLOOR SHALL BE BELOW STRUCTURE.
M564	1-1/2" GHS/R PIPING TO CONNECTION TO (1) HEATING COIL INSIDE RTU. PIPING SHALL BE ROUTED INSIDE INSULATED PIPE CHASE ENCLOSURE TO BE PROVIDED BY THE RTU MANUFACTURER. ROUTE PIPING DOWN THROUGH ROOF. NO COIL ACCESSORIES SHALL BE INSTALLED WITHIN THE PIPE CHASE ENCLOSURE.
M565	2-1/2" GCS/R PIPING TO CONNECTION TO (1) HEATING COIL INSIDE RTU. PIPING SHALL BE ROUTED INSIDE INSULATED PIPE CHASE ENCLOSURE TO BE PROVIDED BY THE RTU MANUFACTURER. ROUTE PIPING DOWN THROUGH ROOF. NO COIL ACCESSORIES SHALL BE INSTALLED WITHIN THE PIPE CHASE ENCLOSURE.
M572	INSTALL ISOLATION SHUTOFF VALVE ON PIPING MAINS AT ACCESSIBLE LOCATION AS SHOWN.



KEYPLAN

NTS

NORTH

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

CONSULTANTS

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REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9779
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3/7/2019

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	EQUIPMENT PLATFORM HVAC PIPING PLAN
Phase	100% BID SET
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 WPE #BS18069
Approved:	
Location	Sioux Falls, South Dakota
Building Number	5
	FULLY SPRINKLERED
Issue Date	03/07/2019
Checked	SO
Drawn	ASA
Drawing Number	5.HP102

VA FORM 08 - 6231

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three quarters inch = one foot

one half inch = one foot

three eighths inch = one foot

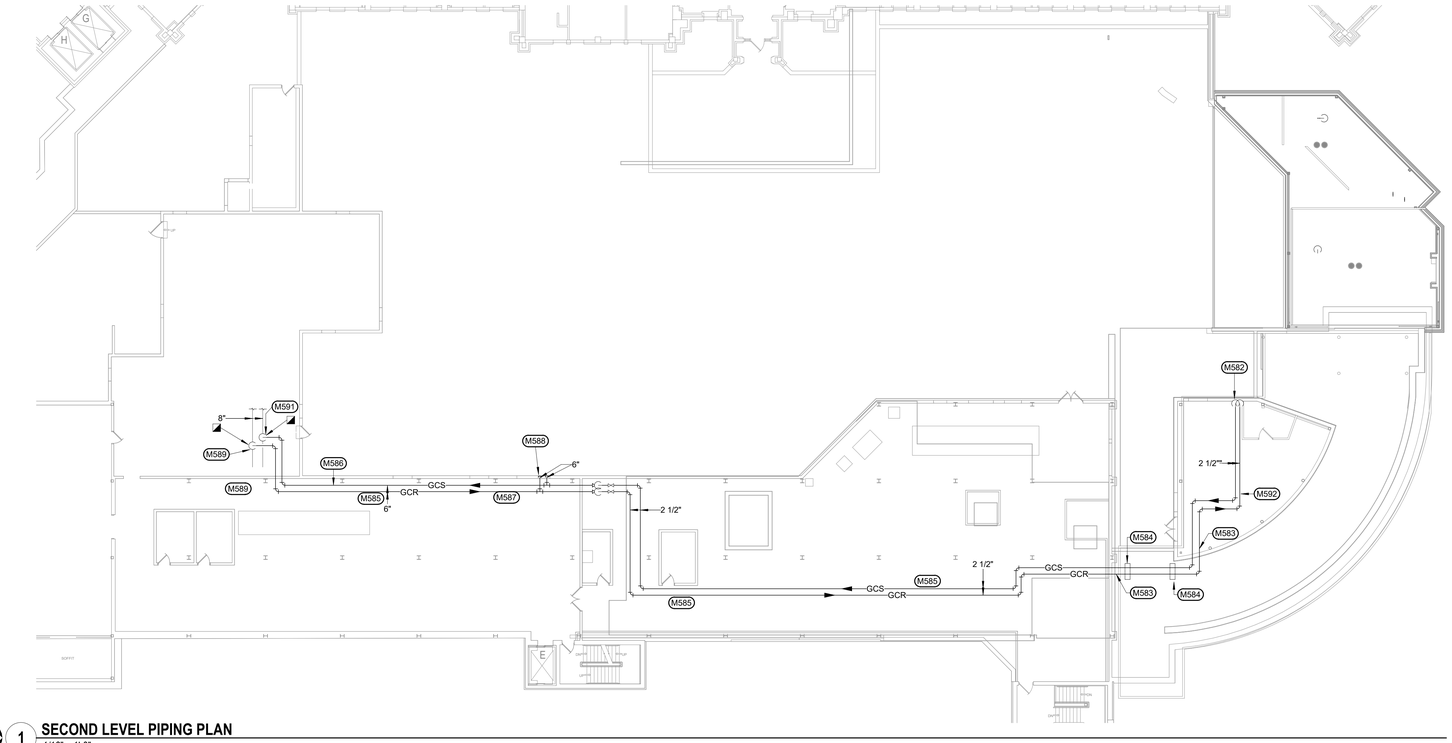
one quarter inch = one foot

one eighth inch = one foot

one and one half inches = one foot

one inch = one foot

three inches = one foot



1 **SECOND LEVEL PIPING PLAN**
1/16" = 1'-0"
NORTH

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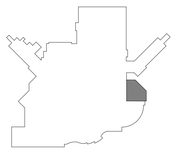
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MECHANICAL SPECIFIC NOTES

#	
M582	ROUTE 2-1/2" GCS/R PIPING DOWN THROUGH EXISTING FLOOR AND INTO CEILING SPACE BELOW. SEE SHEET 5.HP101 FOR CONTINUATION. PROVIDE 4" HIGH CONCRETE PAD AROUND FLOOR PENETRATIONS.
M583	ROUTE 2-1/2" GCS/R PIPING HIGH THROUGH EXISTING EXTERIOR WALL AT LOCATION SHOWN. SEAL PIPING PENETRATION WATERTIGHT.
M584	ROUTE 2-1/2" GCS/R PIPING ON ROOF AT LOCATION SHOWN. PROVIDE 4X4 TREATED WOOD BLOCK SUPPORTS BELOW PIPING AS SHOWN.
M585	ROUTE GCS/R PIPING THROUGH EXISTING EQUIPMENT PLATFORM SPACE AT LOCATION SHOWN.
M586	ROUTE GCS/R PIPING AT LOCATION SHOWN STACKED HIGH AND TIGHT TO COLUMNS.
M587	ROUTE GCS/R PIPING AT LOCATION SHOWN STACKED ON FLOOR AND TIGHT TO COLUMNS. PROVIDE UNISTRUT FLOOR SUPPORTS FOR PIPING BETWEEN COLUMNS.
M588	PROVIDE VALVED AND CAPPED 6" GCS/R PIPING AT LOCATION SHOWN FOR FUTURE CONNECTION TO LAB PROJECT.
M589	CONNECT NEW 6" GCS PIPING TO EXISTING 8" GCS MAIN IN MECHANICAL ROOM AT LOCATION SHOWN.
M591	CONNECT NEW 6" GCR PIPING TO EXISTING 8" GCR MAIN IN MECHANICAL ROOM AT LOCATION SHOWN.
M592	ROUTE 2-1/2" GCS/R PIPING HORIZONTALLY OVERHEAD IN EXISTING MECHANICAL PENTHOUSE.



KEYPLAN NTS
NORTH

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

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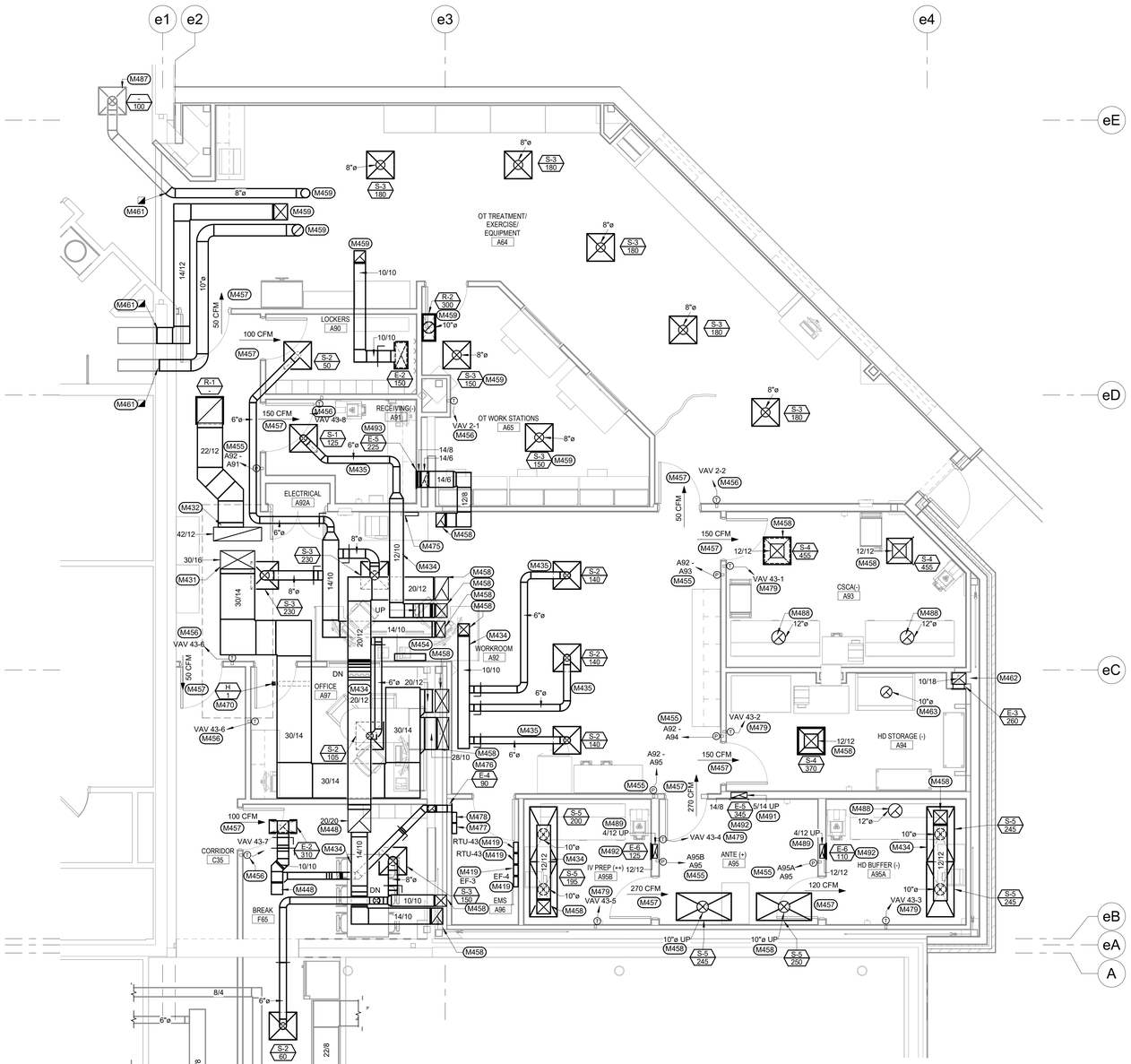
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12-21-2018

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: SECOND LEVEL HVAC PIPING PLAN	Phase: 100% BID SET	Project Title: Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance	Project Number: VA #438-500 WPE #BS18069
Approved:	FULLY SPRINKLERED	Location: Sioux Falls, South Dakota	Building Number: 5
		Issue Date: 03/07/2019 / Checked: SO / Drawn: ASA	Drawing Number: 5.HP103

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1 **FIRST LEVEL HVAC VENTILATION PLAN**
1/4" = 1'-0"

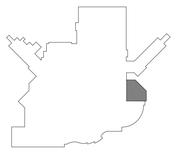
NORTH

MECHANICAL SPECIFIC NOTES

#	
M419	VARIABLE FREQUENCY DRIVE FOR FAN INDICATED TO BE PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR AND WIRED BY THE ELECTRICAL CONTRACTOR.
M431	ROUTE SUPPLY AIR DUCTWORK UP THROUGH ROOF TO CONNECTION ON RTU ABOVE. PROVIDE FLEXIBLE DUCTWORK AT CONNECTION TO EQUIPMENT.
M432	ROUTE RETURN AIR DUCTWORK UP THROUGH ROOF TO CONNECTION ON RTU ABOVE. PROVIDE FLEXIBLE DUCTWORK AT CONNECTION TO EQUIPMENT.
M434	ROUTE DUCTWORK AT LOCATION SHOWN BETWEEN JOISTS.
M435	ROUTE ROUND DUCTWORK THROUGH JOIST WEBBING AT LOCATION SHOWN.
M448	ROUTE EXHAUST DUCTWORK UP THROUGH ROOF TO FAN ON ROOF AT LOCATION SHOWN.
M454	PROVIDE CENTRAL MONITORING STATION WITH VISUAL DISPLAY FOR FOLLOWING SPACE PRESSURE RELATIONSHIPS: 1. SPACE A91 TO A92, 2. SPACE A92 TO A93, 3. SPACE A92 TO A93, 4. SPACE A92 TO A95, 5. SPACE A95 TO A95A, 6. SPACE A95 TO A95B.
M455	PROVIDE ROOM PRESSURE DIFFERENTIAL MONITOR AND DISPLAY ON WALL AT LOCATION SHOWN, INDICATING PRESSURE RELATIONSHIP BETWEEN SPACES INDICATED.
M456	BAS SPACE TEMPERATURE AND HUMIDITY SENSOR ON WALL AT LOCATION SHOWN. SENSORS FOR TEMPERATURE AND HUMIDITY SHALL BE INTEGRAL TO THE DEVICE.
M457	ARROW INDICATES DIRECTION AIRFLOW QUANTITY BELOW THE DOOR AT LOCATION SHOWN.
M458	ROUTE DUCTWORK UP THROUGH EQUIPMENT PLATFORM FLOOR AT LOCATION SHOWN. SEE EQUIPMENT PLATFORM LEVEL HVAC PLAN FOR CONTINUATION.
M459	ROUTE DUCTWORK UP AT LOCATION SHOWN. SEE EQUIPMENT PLATFORM LEVEL HVAC PLAN FOR CONTINUATION.
M460	ROUTE DUCTWORK UP THE EXHAUST FAN ON ROOF AT LOCATION SHOWN. SEE EQUIPMENT PLATFORM LEVEL HVAC PLAN FOR LOCATION.
M461	CONNECT NEW DUCTWORK TO EXISTING DUCTWORK AT LOCATION SHOWN.
M462	ROUTE DUCTWORK UP THROUGH EQUIPMENT PLATFORM LEVEL FLOOR AT LOCATION SHOWN. SEE EQUIPMENT PLATFORM LEVEL HVAC PLAN FOR CONTINUATION. ROUTE DUCTWORK DOWN IN CHASE TO 12" AFF AND TERMINATE WITH GRILLE ON WALL AS SHOWN.
M463	CONNECT 10" DIAMETER EXHAUST DUCTWORK TO OWNER PROVIDED HOOD AT LOCATION SHOWN. ROUTE DUCTWORK STRAIGHT UP THROUGH EQUIPMENT PLATFORM FLOOR AS SHOWN. SEE EQUIPMENT PLATFORM LEVEL HVAC PLAN FOR CONTINUATION.
M470	INSTALL HUMIDIFIER DISTRIBUTOR IN SUPPLY AIR DUCTWORK AT LOCATION SHOWN. INSTALL STAINLESS STEEL DUCTWORK 7'-0" UPSTREAM AND DOWNSTREAM OF HUMIDIFIER.
M473	REINSTALL EXISTING BAS SPACE TEMPERATURE SENSOR ON EXISTING WALL AT LOCATION SHOWN. SEE MECHANICAL DEMOLITION PLANS FOR EXISTING LOCATION.
M475	BANK OF BAS TEMPERATURE/HUMIDITY LCD DISPLAYS AND USER INTERFACES ABOVE COUNTER FOR TEMPERATURE/HUMIDITY SENSORS IN THE FOLLOWING ROOMS: A91, A93, A94, A95, A95A, AND A95B.
M476	DROP 6/6 DUCTWORK DOWN IN CHASE TO EXHAUST GRILLE MOUNTED ON WALL IN A96. INSTALL GRILLE AT 7'-6" AFF TO BOTTOM AS SHOWN.
M477	TEMPERATURE CONTROL PANEL FOR EMERGENCY POWER CONTROL COMPONENTS TO BE PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR. THE FOLLOWING EQUIPMENT AND DEVICES WILL BE ON EMERGENCY POWER: SPACE TEMPERATURE/HUMIDITY SENSORS FOR ALL VAVS ON RTU-43, EXHAUST VAVS ON EF-3 AND EF-4, SPACE DIFFERENTIAL PRESSURE SENSORS AND MONITORS IN PHARMACY AREA, ALARM CONTROL PANEL IN PHARMACY AREA, EF-3 FAN, VFD, AND RELATED CONTROL COMPONENTS, EF-4 FAN, VFD, AND RELATED CONTROL COMPONENTS, RTU-43 FANS, DESICCANT WHEEL, AND RELATED CONTROL COMPONENTS, ALL VAVS ON RTU-43 AND RELATED CONTROL COMPONENTS.
M478	TEMPERATURE CONTROL PANEL FOR NON-EMERGENCY POWER CONTROL COMPONENTS TO BE PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR.
M479	REMOTE BAS SPACE AND HUMIDITY SENSOR ON WALL WITH STAINLESS STEEL COVER PLATE. SENSOR ONLY. TIE SENSOR TO LCD DISPLAYS AT LOCATION INDICATED IN NOTE M475.
M487	REBALANCE AIRFLOW FROM EXISTING DIFFUSER TO CFM NOTED.
M488	CONNECT 12" DIAMETER EXHAUST DUCTWORK TO OWNER PROVIDED HOOD AT LOCATION SHOWN. ROUTE DUCTWORK STRAIGHT UP THROUGH EQUIPMENT PLATFORM FLOOR AS SHOWN. SEE EQUIPMENT PLATFORM LEVEL HVAC PLAN FOR CONTINUATION.
M489	ROUTE 12/4 EXHAUST DUCTWORK DOWN IN WALL BETWEEN STUDS THAT ARE 16" O.C. ROUTE DUCTWORK STRAIGHT UP THROUGH EQUIPMENT PLATFORM FLOOR AS SHOWN. SEE EQUIPMENT PLATFORM LEVEL HVAC PLAN FOR CONTINUATION.
M491	ROUTE 14/5 EXHAUST DUCTWORK DOWN IN WALL BETWEEN STUDS THAT ARE 16" O.C. ROUTE DUCTWORK STRAIGHT UP THROUGH EQUIPMENT PLATFORM FLOOR AS SHOWN. SEE EQUIPMENT PLATFORM LEVEL HVAC PLAN FOR CONTINUATION.
M492	INSTALL REGISTER ON WALL APPROXIMATELY 8" AFF TO BOTTOM OF DEVICE AT LOCATION SHOWN.
M493	INSTALL REGISTER ON WALL APPROXIMATELY 8" ABOVE COUNTERTOP AT LOCATION SHOWN.

HVAC VENTILATION MISCELLANEOUS NOTES

A	DRAWINGS ARE SCHEMATIC IN NATURE BASED ON EXISTING DRAWINGS AND FIELD OBSERVATIONS. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT AND ENGINEER.
B	DO NOT ROUTE DUCTWORK ABOVE OR IN FRONT OF ELECTRICAL GEAR. MAINTAIN CODE REQUIRED CLEARANCES.
C	COORDINATE ANY OUTAGES WITH OWNER A MINIMUM OF 48 HOURS IN ADVANCE, OR AS REQUESTED BY OWNER.
D	COORDINATE DUCTWORK LAYOUTS WITH ALL EXISTING CONDITIONS. PROVIDE OFFSET AS REQUIRED TO AVOID CONFLICT.
E	COORDINATE CUTTING AND PATCHING OF ALL SURFACES WITH GENERAL CONTRACTOR.
F	OBTAIN AND COORDINATE ALL "HOT WORK PERMITS" WITH OWNER FOR ALL WORK WHICH REQUIRES SAID PERMIT.
G	PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE ODORS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.
H	ITEMS INDICATED AS LIGHT ARE EXISTING AND ITEMS INDICATED AS DARK ARE NEW.
J	FLEXIBLE DUCTWORK SHALL BE LIMITED TO 3'-0" MAXIMUM LENGTH.
K	SEAL OFF AREAS WHERE CONSTRUCTION IS TO OCCUR FROM UNDISTURBED AREAS TO CONTAIN DUST AND DEBRIS WITHIN CONSTRUCTION AREA.
L	ALL EXISTING SUPPLY AND RETURN DUCTWORK SHALL BE INTERNALLY CLEANED, SEALED, AND REINSULATED. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
M	NO FLEXIBLE DUCTWORK IS ALLOWED ON THE RETURN AIR DUCTWORK.
N	TEMPERATURE CONTROL CONTRACTOR SHALL PROVIDE ALL LOW VOLTAGE AND LINE VOLTAGE CONTROL WIRING AS REQUIRED FOR COMPLETE OPERATION OF ALL MECHANICAL EQUIPMENT.
O	MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS –BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.
P	ALL DUCTWORK WHICH NOT LOCATED COMPLETELY WITHIN BUILDING SHALL BE CONSTRUCTED AND INSULATED AS PER SPECIFICATIONS FOR DUCTWORK EXPOSED TO OUTDOORS.
Q	DUCTWORK ELBOWS SHALL BE OF RADIUS BEND UNLESS SPACE PROHIBITS AS PER SPECIFICATIONS.
R	ALL DUCTWORK PENETRATIONS THROUGH INTERSITITAL FLOOR SLAB SHALL BE PROVIDED WITH 2" HIGH HOUSEKEEPING PAD MIN. 6" WIDER IN ALL DIMENSIONS OF DUCT.



KEYPLAN
NTS
NORTH

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

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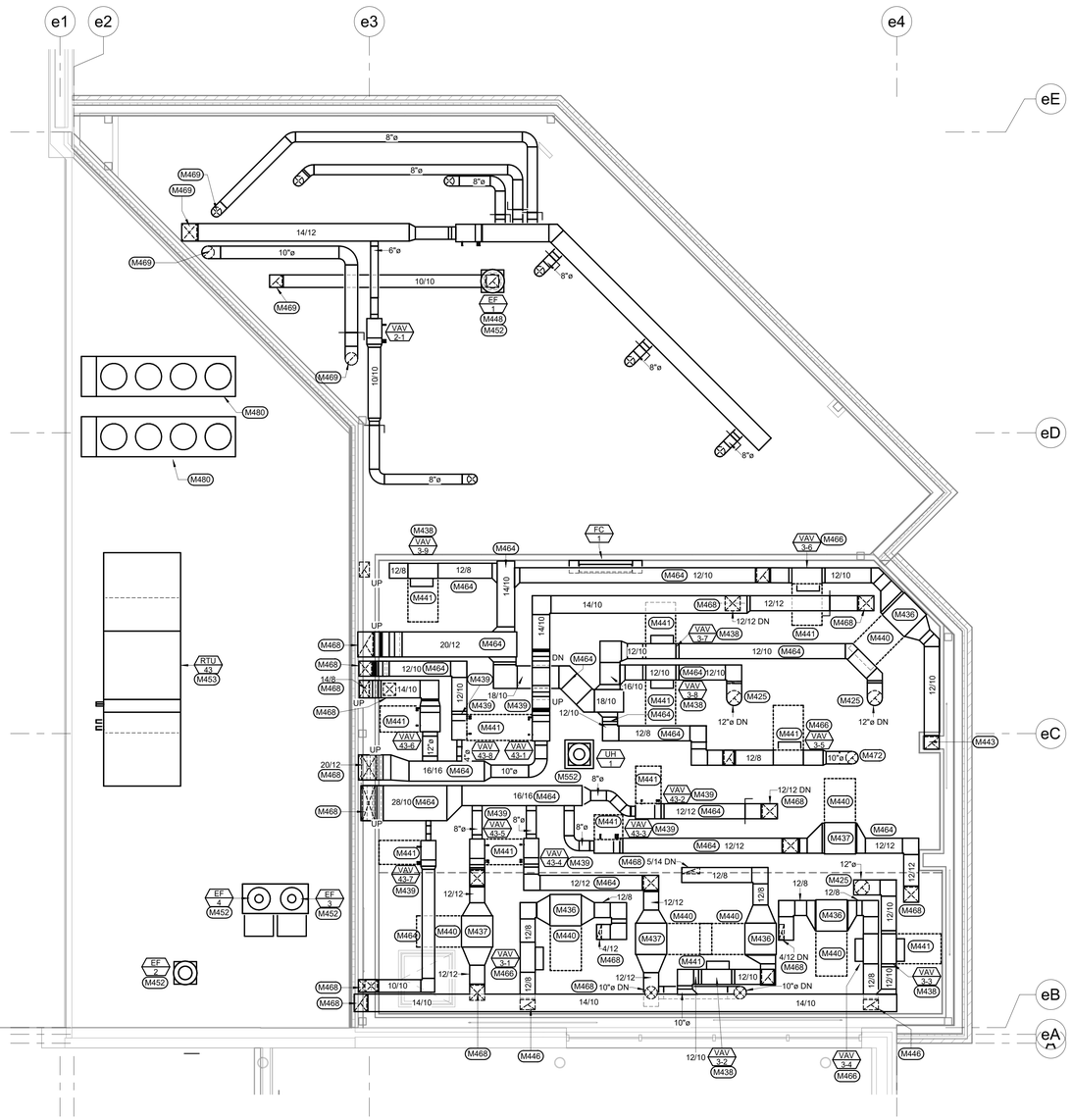
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Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: FIRST LEVEL HVAC VENTILATION PLAN	Phase: 100% BID SET	Project Title: Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance	Project Number: VA #438-500 WPE #BS18069
			Building Number: 5
Approved:	FULLY SPRINKLERED	Location: Sioux Falls, South Dakota	Drawing Number: 5.HV101
		Issue Date: 03/07/2019 / Checked: SO / Drawn: ASA	

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one inch = one foot
three quarter inch = one foot
one half inch = one foot
three eighths inch = one foot
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one eighth inch = one foot
VA FORM 08 - 6231



1 **EQUIPMENT PLATFORM HVAC VENTILATION PLAN**
1/4" = 1'-0"
NORTH

#	MECHANICAL SPECIFIC NOTES
M425	ROUTE 12" DIAMETER EXHAUST DUCTWORK DOWN THROUGH EQUIPMENT PLATFORM FLOOR TO OWNER PROVIDED HOOD BELOW. SEE FIRST FLOOR HVAC PLAN FOR CONTINUATION
M436	MOUNT HEPA FILTER HOUSING (EXHAUST) ON FLOOR OF EQUIPMENT PLATFORM SPACE AT LOCATION SHOWN. INSTALL ON 2" HIGH HOUSEKEEPING PAD TO BE PROVIDED BY THE GENERAL CONTRACTOR. COORDINATE LOCATION WITH THE GENERAL CONTRACTOR.
M437	MOUNT HEPA FILTER HOUSING (SUPPLY) ON FLOOR OF EQUIPMENT PLATFORM SPACE AT LOCATION SHOWN. INSTALL ON 2" HIGH HOUSEKEEPING PAD TO BE PROVIDED BY THE GENERAL CONTRACTOR. COORDINATE LOCATION WITH THE GENERAL CONTRACTOR.
M438	EXHAUST AIR VAV TERMINAL TO BE INSTALLED IN ACCESSIBLE LOCATION AS SHOWN. INSTALL BETWEEN JOISTS, DO NOT INSTALL BELOW JOISTS.
M439	SUPPLY AIR VAV BOX TO BE INSTALLED IN ACCESSIBLE LOCATION AS SHOWN. INSTALL BETWEEN JOISTS, DO NOT INSTALL BELOW JOISTS.
M440	PROVIDE 3'-0" CLEARANCE ON SIDE OF HEPA FILTER HOUSING AT LOCATION SHOWN.
M441	PROVIDE 3'-0" CLEARANCE ON SIDE OF VAV BOX CONTROL ENCLOSURE AT LOCATION SHOWN.
M443	ROUTE EXHAUST DUCTWORK DOWN THROUGH FLOOR AND INTO CHASE IN SPACE BELOW.
M446	TAKEOFF DUCTWORK FROM BOTTOM OF MAIN AT LOCATION SHOWN.
M448	ROUTE EXHAUST DUCTWORK UP THROUGH ROOF TO FAN ON ROOF AT LOCATION SHOWN.
M449	CONNECT NEW SUPPLY AIR DUCTWORK TO EXISTING DUCTWORK AT APPROXIMATE LOCATION SHOWN.
M450	CONNECT NEW RETURN AIR DUCTWORK TO EXISTING DUCTWORK AT APPROXIMATE LOCATION SHOWN.
M452	INSTALL EXHAUST FAN ON MANUFACTURER'S INSULATED CURB ON ROOF AT LOCATION SHOWN.
M453	INSTALL ROOFTOP UNIT ON ROOF CURB TO BE PROVIDED BY THE GENERAL CONTRACTOR. COORDINATE LOCATION OF EQUIPMENT WITH THE GENERAL CONTRACTOR.
M464	ROUTE DUCTWORK MAINS THROUGH EQUIPMENT PLATFORM SPACE BETWEEN AND THROUGH JOISTS UNLESS NOTED OTHERWISE.
M466	INSTALL VAV BOX DIRECTLY ABOVE EQUIPMENT PLATFORM FLOOR AT LOCATION SHOWN, AT SAME ELEVATION AS CONNECTED HEPA FILTER HOUSING.
M468	DROP DUCTWORK DOWN THROUGH EQUIPMENT PLATFORM FLOOR AT LOCATION SHOWN. SEE FIRST FLOOR HVAC PLAN FOR CONTINUATION.
M469	DROP DUCTWORK DOWN AT LOCATION SHOWN. SEE FIRST FLOOR HVAC PLAN FOR CONTINUATION.
M472	ROUTE 10" DIAMETER EXHAUST DUCTWORK DOWN THROUGH EQUIPMENT PLATFORM FLOOR TO OWNER PROVIDED HOOD BELOW. SEE FIRST FLOOR HVAC PLAN FOR CONTINUATION.
M480	RELOCATE EXISTING MRI WATER CHILLER FROM ON GRADE TO NEW LOCATION ON ROOF, AT APPROXIMATE LOCATION SHOWN. PROVIDE 4X4 WOOD SUPPORTS UNDER LONG SIDE OF UNIT.
M552	INSTALL UNIT HEATER AT LOCATION SHOWN BETWEEN JOISTS, WITH BOTTOM OF UNIT FLUSH WITH BOTTOM OF JOISTS.

HVAC VENTILATION MISCELLANEOUS NOTES

A. DRAWINGS ARE SCHEMATIC IN NATURE BASED ON EXISTING DRAWINGS AND FIELD OBSERVATIONS. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT AND ENGINEER.

B. DO NOT ROUTE DUCTWORK ABOVE OR IN FRONT OF ELECTRICAL GEAR. MAINTAIN CODE REQUIRED CLEARANCES.

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D. COORDINATE DUCTWORK LAYOUTS WITH ALL EXISTING CONDITIONS. PROVIDE OFFSET AS REQUIRED TO AVOID CONFLICT.

E. COORDINATE CUTTING AND PATCHING OF ALL SURFACES WITH GENERAL CONTRACTOR.

F. OBTAIN AND COORDINATE ALL "HOT WORK PERMITS" WITH OWNER FOR ALL WORK WHICH REQUIRES SAID PERMIT.

G. PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE ODORS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.

H. ITEMS INDICATED AS LIGHT ARE EXISTING AND ITEMS INDICATED AS DARK ARE NEW.

J. FLEXIBLE DUCTWORK SHALL BE LIMITED TO 3'-0" MAXIMUM LENGTH.

K. SEAL OFF AREAS WHERE CONSTRUCTION IS TO OCCUR FROM UNDISTURBED AREAS TO CONTAIN DUST AND DEBRIS WITHIN CONSTRUCTION AREA.

L. ALL EXISTING SUPPLY AND RETURN DUCTWORK SHALL BE INTERNALLY CLEANED, SEALED, AND REINSULATED. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

M. NO FLEXIBLE DUCTWORK IS ALLOWED ON THE RETURN AIR DUCTWORK.

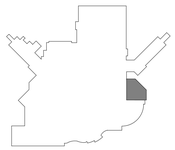
N. TEMPERATURE CONTROL CONTRACTOR SHALL PROVIDE ALL LOW VOLTAGE AND LINE VOLTAGE CONTROL WIRING AS REQUIRED FOR COMPLETE OPERATION OF ALL MECHANICAL EQUIPMENT.

O. MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS –BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.

P. ALL DUCTWORK WHICH NOT LOCATED COMPLETELY WITHIN BUILDING SHALL BE CONSTRUCTED AND INSULATED AS PER SPECIFICATIONS FOR DUCTWORK EXPOSED TO OUTDOORS.

Q. DUCTWORK ELBOWS SHALL BE OF RADIUS BEND UNLESS SPACE PROHIBITS AS PER SPECIFICATIONS.

R. ALL DUCTWORK PENETRATIONS THROUGH INTERSITITAL FLOOR SLAB SHALL BE PROVIDED WITH 2" HIGH HOUSEKEEPING PAD MIN. 6" WIDER IN ALL DIMENSIONS OF DUCT.



KEYPLAN NORTH
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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	EQUIPMENT PLATFORM HVAC VENTILATION PLAN
Phase	100% BID SET
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 WPE #BS18069
Building Number	5
Approved:	
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	SO
Drawn	ASA
Drawing Number	5.HV102

FULLY SPRINKLERED

VA FORM 08 - 6231

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PIPING SYMBOLS

HPS	HIGH PRESSURE STEAM (60 PSIG AND ABOVE)
HPR	HIGH PRESSURE STEAM CONDENSATE RETURN
MPS	MEDIUM PRESSURE STEAM (16 PSIG THRU 59 PSIG)
MPR	MEDIUM PRESSURE STEAM CONDENSATE RETURN
LPS	LOW PRESSURE STEAM (15 PSIG AND BELOW)
LPR	LOW PRESSURE STEAM CONDENSATE RETURN
PC	CONDENSATE PUMP DISCHARGE
HWS	HOT WATER HEATING SUPPLY
HWR	HOT WATER HEATING RETURN
GHS	GLYCOL-WATER HEATING SUPPLY
GHR	GLYCOL-WATER HEATING RETURN
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
RHG	REFRIGERANT HOT GAS
CHS	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
GCS	CHILLED GLYCOL-WATER SUPPLY
GCR	CHILLED GLYCOL-WATER RETURN
D	DRAIN LINE
V	VENT LINE
X	EXISTING PIPE TO BE REMOVED

PIPING SYMBOLS

A	COMPRESSED AIR
CW	COLD WATER (CITY WATER)
SW	SOFTENED WATER
HW	HOT WATER

* TYPE NUMBERS REFER TO MANUFACTURER'S STANDARDIZATION SOCIETY STANDARD PRACTICE SP-58

GENERAL PIPING SYMBOLS

- DIRECTION OF PIPE PITCH (DOWN)
- DIRECTION OF FLOW
- ANCHOR
- REDUCER OR INCREASER
- ECCENTRIC REDUCER
- TOP CONNECTION, 45° OR 90°
- BOTTOM CONNECTION, 45° OR 90°
- SIDE CONNECTION
- CAPPED OUTLET
- RISE OR DROP IN PIPE
- UNION
- PIPE UP
- PIPE DOWN
- INVERTED BUCKET TRAP SET INCLUDING PIPING ACCESSORIES SEE DETAIL
- FLOAT & THERMOSTATIC TRAP SET INCLUDING PIPING ACCESSORIES SEE DETAIL
- THERMOSTATIC TRAP SET INCLUDING PIPING ACCESSORIES SEE DETAIL
- THERMOMETER
- PRESSURE GAGE
- FE — FLOW ELEMENT
- REFRIGERANT SIGHT GLASS
- TEST PLUG (PRESSURE/TEMPERATURE)
- AV — AUTOMATIC AIR VENT
- MV — MANUAL AIR VENT
- QUICK-COUPLE HOSE CONNECTOR

VALVE SYMBOLS

- GATE VALVE - THREADED/FLANGED
- GLOBE VALVE - THREADED/FLANGED
- GATE VALVE WITH 3/4" HOSE ADAPTER
- CHECK VALVE
- WYE STRAINER (WITH BALL VALVE & HOSE CONNECTION)
- WYE STRAINER WITH VALVED DRAIN AND QUICK-COUPLE HOSE CONNECTOR
- FLEXIBLE CONNECTION
- ANGLE GLOBE VALVE
- BALL VALVE
- MODULATING CONTROL VALVE
- TWO POSITION CONTROL VALVE
- THREE-WAY MODULATING CONTROL VALVE
- THREE-WAY TWO POSITION CONTROL VALVE
- PRESSURE REGULATING VALVE
- PRESSURE SAFETY VALVE
- AUTOMATIC BALANCING CONTROL VALVE
- WATER BALANCE DEVICE
- CIRCUIT SETTER VALVE
- GATE VALVE WITH GLOBE-VALVED BYPASS
- PLUG VALVE
- CONTROL VALVE (CV) - FLOAT-OPERATED
- PRESSURE REDUCING VALVE (PRV)
- WATER LEVEL CONTROLLER
- FLOW METER

CONTROLS SYMBOLS

T	ROOM THERMOSTAT/TRANSMITTER - WALL MOUNT
M	ROOM HUMIDISTAT (MOISTURE)/TRANSMITTER - WALL MOUNT
TT	TEMPERATURE TRANSMITTER
TT	TEMPERATURE TRANSMITTER, AVERAGING ELEMENT
MT	MOISTURE (HUMIDITY) TRANSMITTER
PT	PRESSURE TRANSMITTER
SPS	STATIC PRESSURE SENSOR
FT	FLOW TRANSMITTER
IT	CURRENT TRANSMITTER
CT	CONDUCTIVITY TRANSMITTER
SD	SMOKE DETECTOR
PDT	PRESSURE DIFFERENTIAL TRANSMITTER
PDS	PRESSURE DIFFERENTIAL SWITCH
HS	HAND SWITCH (HAND-OFF-AUTO SWITCH)
ZC	VALVE OR DAMPER POSITION CONTROLLER
KR	LOCAL RECORDING TIME CLOCK (RUNTIME)
TSL	TEMPERATURE SWITCH, LOW (FREEZESTAT)
TSH	TEMPERATURE SWITCH, HIGH (FREEZESTAT)
LC	LEVEL CONTROLLER
LT	LEVEL TRANSMITTER

CONTROLS SYMBOLS

PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW
EPT	ELECTRONIC TO PNEUMATIC TRANSDUCER
AT CO2	CARBON DIOXIDE TRANSMITTER
AT CO	CARBON MONOXIDE TRANSMITTER
AT OC	OCCUPANCY SENSOR
LTCP	LOCAL TEMPERATURE CONTROL PANEL
HVAC	HVAC CONTROL PANEL
VSMC	VARIABLE SPEED MOTOR CONTROLLER
ECC	INTEGRATE CONTROL POINT ON REMOTE GRAPHICS WORKSTATION AT ENERGY CONTROL CENTER
TC	TEMPERATURE CONTROLLER. SEE SEQUENCE OF OPERATION
PC	PRESSURE CONTROLLER. SEE SEQUENCE OF OPERATION
SC	SPEED CONTROLLER. SEE SEQUENCE OF OPERATION
FC	FLOW CONTROLLER. SEE SEQUENCE OF OPERATION
FSH	FLOW SWITCH HIGH
FSL	FLOW SWITCH LOW
KC	TIME CLOCK CONTROLLING EQUIPMENT ON A SCHEDULE

CONTROLS SYMBOLS

- TEMPERATURE SENSING ELEMENT FOR TRANSMITTING TEMPERATURE TO EMCS (PROVIDE 12 INCHES [200mm] MINIMUM LENGTH IN DUCT WHEN SPACE PERMITS.)
- A — SENSOR WITH AVERAGING ELEMENT TO TRANSMIT TEMPERATURE TO EMCS
- MOTOR STARTER
- M — ELECTRIC OPERATED CONTROL DAMPER/OR VALVE

AIR TERMINAL SYMBOLS

- TERMINAL UNIT WITH REHEAT COIL

TERMINAL UNIT SYMBOLS

- CONVECTOR OR RADIATOR (RECESSED)
- CONVECTOR OR RADIATOR (WALL HUNG)
- A FCU — FLOOR MOUNTED VERTICAL RECESSED FAN COIL UNIT. LETTER INDICATES UNIT SIZE.
- A FCU — FLOOR MOUNTED VERTICAL CABINET FAN COIL UNIT. LETTER INDICATES UNIT SIZE.

DUCTWORK SYMBOLS

- MANUAL SPLITTER DAMPER
- 45° SUPPLY — STANDARD BRANCH SUPPLY OR RETURN, NO SPLITTER (45° TAP)
- 45° RETURN
- DUCT MOUNTED COIL (HOT WATER OR STEAM COIL)

DUCTWORK SYMBOLS

- FC — FLEXIBLE CONNECTION, EQUIPMENT, VIBRATION, OR SEISMIC
- VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)
- VANED ELBOW (SHORT RADIUS)
- STANDARD RADIUS ELBOW (LONG RADIUS)
- 10x8 — NEW DUCT (INSIDE DIMENSIONS: WIDTH x DEPTH)
- EXISTING DUCT TO REMAIN
- EXISTING DUCT TO BE REMOVED
- LOUVER (LOUVER SPECIFIED IN ARCHITECTURAL SECTION.)
- FLEXIBLE DUCTWORK (INSULATED)
- DUCT WITH SOUND LINING
- VD — MANUAL VOLUME DAMPER
- FD — FIRE DAMPER
- BDD — BACK DRAFT DAMPER

DUCTWORK SYMBOLS

- UP / DN — SUPPLY DUCT (UP & DOWN)
- UP / DN — EXHAUST DUCT (UP & DOWN)
- UP / DN — RETURN DUCT (UP & DOWN)
- ROUND AND SQUARE 4-WAY CEILING DIFFUSERS
- SQUARE 3-WAY CEILING DIFFUSERS
- SQUARE 2-WAY CEILING DIFFUSERS
- SQUARE 1-WAY CEILING DIFFUSERS
- LINEAR SLOT DIFFUSER
- SUPPLY TOP REGISTER OR GRILLE (WALL TYPE)
- EXHAUST OR RETURN CEILING REGISTER OR GRILLE
- EXHAUST OR RETURN BOTTOM REGISTER OR GRILLE (WALL TYPE)
- EXHAUST OR RETURN REGISTER OR TOP GRILLE (WALL TYPE)
- VANED ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF
- CONNECT NEW DUCT TO EXISTING DUCT
- R — INCLINED RISE, IN DIRECTION OF AIR FLOW
- D — INCLINED DROP, IN DIRECTION OF AIR FLOW
- LIMIT OF DEMOLITION

DRAWING SYMBOLS

- 2 / H14 — DETAIL NUMBER / DRAWING NUMBER WHERE DRAWN
- A / H7 — SECTION LETTER / DRAWING NUMBER WHERE SHOWN
- 26-SF 3 — BUILDING NO. WHERE EQUIPMENT IS LOCATED. / EQUIPMENT ABBREVIATION (SUPPLY FAN) / SUPPLY FAN NO. 3 IN BUILDING NO. 26 / TYPICAL UNIT NO.
- 26-TU-I-I — BUILDING NO. WHERE EQUIPMENT IS LOCATED / ITEM (TERMINAL UNIT SHOWN) / ITEM NUMBER (TERMINAL UNIT NO. 1) / SERVED BY AIR HANDLER UNIT NO. 1

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	MECHANICAL SYMBOLS SHEET
Phase	100% BID SET
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 WPE #BS18069
Building Number	5
Approved:	
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	SO
Drawn	ASA
Drawing Number	5.M001

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ABBREVIATIONS

A/E ARCHITECT / ENGINEER
AAHX AIR TO AIR HEAT EXCHANGER
AB AIR BLENDER
AAV AUTOMATIC AIR VENT
ACC AIR COOLED CONDENSER
ACCH AIR COOLED CHILLER
ACCU AIR-COOLED CONDENSING UNIT
ACU AIR CONDITIONING UNIT
ACD AUTOMATIC CONTROL DAMPER,MODULATING
ACD-TP AUTOMATIC CONTROL DAMPER,TWO POSITION
AD ACCESS DOOR
AF AFTER FILTER
AFCV AIR FLOW CONTROL VALVE
AFF ABOVE FINISHED FLOOR
AFMD AIR FLOW MEASURING DEVICE
AFW AIR FOIL WHEEL (FAN)
AHU AIR-HANDLING UNIT
AMP AMPERGE
AP ACCESS PANEL
APD AIR PRESSURE DROP
ARI AIR CONDITIONING AND REFRIGERATION INSTITUTE
AS AIR SEPARATOR
ASME AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AW AIR WASHER
AXF AXIAL FLOW

B BOILER
BD BUTTERFLY DAMPER
BDD BACKDRAFT DAMPER
BDR BASE BOARD RADIATOR
BFP BACKFLOW PREVENTER
BFT BOILER PLANT FIRE TUBE
BG BOTTOM GRILLE
BHP BRAKE HORSEPOWER
BHW HOT WATER HEATING BOILER
BHX BOILER BLOWDOWN HEAT EXCHANGER
BIW BACKWARD INCLINED WHEEL (FAN)
BMT BONE MARROW TRANSPLANT
BR BOTTOM REGISTER
BSC BIOLOGICAL SAFETY CABINETS
BT BLOWOFF TANK
BTC BLOWOFF TANK CONTROL VALVE
BTU BRITISH THERMAL UNIT
BTUH BRITISH THERMAL UNIT PER HOUR
BWT BOILER PLANT WATER TUBE

C CENTIGRADE (CELCIUS)
CC COOLING COIL
CCD COOLING COIL CONDENSATE DRAIN
CD CEILING DIFFUSER
CD-1 CONSTRUCTION DOCUMENTS (SUBMISSION1)
CD-2 CONSTRUCTION DOCUMENTS (SUBMISSION2)
CENT CENTRIFICAL
CFH CUBIC FEET PER HOUR
CFM CUBIC FEET PER MINUTE
CFT CUBIC FEET
CFP CHEMICAL FEED PUMP
CG CEILING GRILLE
CH CHILLER
CHP CHILLED WATER PUMP
CHW CHILLER WATER
CHR CHILLED WATER RETURN
CHS CHILLED WATER SUPPLY
CI CAST IRON
CM CARBON MONOXIDE
CM CUBIC METER
CM/S CUBIC METER PER SECOND
CO CLEAN OUT
CO2 CARBON DIOXODE
COMP COMPRESSOR UNIT
COP COEFFICIENT OF PERFORMANCE
CP CONDENSATE PUMP
CR CEILING REGISTER
CS CONDENSATE STORAGE TANK
CSG CLEAN STEAM GENERATOR
CT COOLING TOWER
CU CONDENSING UNIT
CUH CABINET UNIT HEATER
CV CONSTANT VOLUME
CW COLD WATER (POTABLE)
CWCC CHILLED WATER COOLING COIL
CWP CONDENSER WATER PUMP
CWR CONDENSER WATER RETURN (TO COOLING TOWER)
CWS CONDENSER WATER SUPPLY (FROM COOLING TOWER)

D DAMPER - AUTOMATIC
D-1 OUTDOOR AIR DAMPER
D-2 RETURN AIR DAMPER
D-3 RELIEF AIR DAMPER
DB DECIBELS
Db DRY-BULB TEMPERATURE
DD-1 DESIGN DEVELOPMENT (SUBMISSION1)
DD-2 DESIGN DEVELOPMENT (SUBMISSION2)
DDC DIRECT DIGITAL CONTROLS
DEG DEGREE
DF DIFFUSER
DIA DIAMETER
DIW DEIONIZED WATER
DP DEW POINT TEMPERATURE
DP DIFFUSER PLATE
DPA DIFFERENTIAL PRESSURE ASSEMBLY
DPS DIFFERENTIAL PRESSURE SENSOR
DX DIRECT EXPANSION
DXCC DIRECT EXPANSION COOLING COIL

EA EXHAUST AIR
EAT ENTERING AIR TEMPERATURE
EC EVAPORATIVE COOLER
ECC ENGINEERING CONTROL CENTER
ECU EVAPORATIVE CONDENSER UNIT
EDH ELECTRIC DUCT HEATER
EER ENERGY EFFICIENCY RATIO
EF EXHAUST FAN
EG EXHAUST GRILLE
EGS EMERGENCY GAS SHUTOFF
EGT ENTERING GLYCOL TEMPERATURE
EH EXHAUST HOOD
EJ EXPANSION JOINT
EMD END OF MAIN DRIP (STEAM)
ENT ENTERING
ER EXHAUST REGISTER
ERC ELECTRIC REHEAT COIL
ERP ELECTRIC RADIANT PANEL
ESP EXTERNAL STATIC PRESSURE
ET EXPANSION TANK
ETO ETHYLENE OXIDE
EUH ELECTRIC UNIT HEATER
EWC EVAPORATIVE WATER COOLER
EWT ENTERING WATER TEMPERATURE
EX. EXISTING

F FAHRENHEIT
F&T FLOAT AND THERMOSTATIC
F/SDPR COMBINATION FIRE SMOKE DAMPER
FA FREE AREA
FC FLEXIBLE CONNECTION
FCU FAN COIL UNIT (4 PIPE)
FCUC FAN COIL UNIT COOLING ONLY
FCUH FAN COIL UNIT HEATING ONLY
FCW FORWARD CURVED WHEEL (FAN)
FD FLOOR DRAIN
FD FIRE DAMPER
FF FINAL FILTER
FHX FLUE GAS/FEEDWATER HEAT EXCHANGER
FM FLOW METER
FOP FUEL OIL PUMP
FOT FUEL OIL TANK
FOHX FUEL OIL HEAT EXCHANGER
FPM FEET PER MINUTE
FPS FEET PER SECOND
FPTU FAN POWERED TERMINAL UNIT
FR FLOOR REGISTER
FRP FIBER REINFORCED POLYESTER
FS FLOW SWITCH
FSTAT FREEZESTAT
FT FEET
FT-LB FOOT-POUND
FTR FIN TUBE RADIATION
FV FACE VELOCITY

GA GAUGE
GAL GALLONS
GH GRAVITY HOOD
GPD GALLONS PER DAY
GPH GALLONS PER HOUR
GPM GALLONS PER MINUTE
GPR GAS PRESSURE REGULATOR
GS GALVANIZED STEEL

H HUMIDIFER
H&CW HOT & COLD WATER
HAC HOUSEKEEPING AID CLOSET
HB HOSE BIBB
HC HEATING COIL
HD HEAD
HD HOOD
HOA HAND/OFF/AUTOMATIC
HP HEAT PUMP
HP HORSEPOWER
HPDT HIGH PRESSURE DRIP TRAP
HPR HIGH PRESSURE RETURN (STEAM CONDENSATE)
HPS HIGH PRESSURE SUPPLY (STEAM)
HRC HEAT RECOVERY COIL
HRD HEAT RECOVERY DEVICE
HRP HYDRONIC RADIANT (CEILING) PANEL
HRW HEAT RECOVERY WHEEL
HSTAT HUMIDISTAT
HTM HUMIDIFIER TERMINAL
HUM HUMIDIFIER UNIT MOUNTED
HVU HEATING AND VENTILATING UNIT
HW HOT WATER
HWC HOT WATER COIL
HWHC HOT WATER HEATING COIL
HWP HEATING HOT WATER PUMP
HWR HEATING HOT WATER RETURN
HWS HEATING HOT WATER SUPPLY
HWUH HOT WATER UNIT HEATER
HVD HOISTWAY VENT DAMPER
HX HEAT EXCHANGER
HZ HERTZ

I/O INPUT/OUTPUT
IAQ INDOOR AIR QUALITY
IBT INVERTED BUCKET TRAP
ICF IN-LINE CENTRIFUGAL FAN
ICU INTENSIVE CARE UNIT
ID INSIDE DIAMETER
IFB INTEGRAL FACE AND BYPASS
IN INCHES
IN HG INCHES OF MERCURY
IN WC INCH WATER COLUMN
IN WG INCH WATER GAUGE
IN-LB INCH-POUND
IPLV INTERGRATED PART LOAD VALUE
IRH INTRARED HEATER
IS INSECT SCREEN
IU INDUCTION UNIT
IV INLET VANES

J INTENTIALLY LEFT BLANK

kg KILOGRAM
kg/HR KILOGRAM PER HOUR
kPa KILOPASCAL
kW KILOWATT
kWh KILOWATT HOUR
L LITER
L/h LITERS PER HOUR (OR LITERS/HOUR)
L/m LITERS PER MINUTE (OR LITERS/MINUTE)
L/s LITERS PER SECOND (OR LITERS/SECOND)
LAT LEAVING AIR TEMPERATURE
LBS/HR POUNDS PER HOUR
LF LINEAR FOOT (FEET)
LGT LEAVING GLYCOL TEMPERATURE
LH LATENT HEAT
LPG LIQUID PROPANE GAS
LPR LOW PRESSURE RETURN (STEAM CONDENSATE)
LPRC LOW PRESSURE STEAM RETURN (CLEAN)
LLHX LIQUID TO LIQUID HEAT EXCHANGER
LPS LOW PRESSURE STEAM
LPSC LOW PRESSURE STEAM (CLEAN)
LSD LINEAR SLOT DIFFUSER
LTCP LOCAL TEMPERATURE CONTROL PANEL
LVG LEAVING
LVR LOUVER
LWT LEAVING WATER TEMPERATURE

M METER, SI UNIT
M/s METERS PER SECOND (OR METERS/SECOND)
MA MIXED AIR
MAT MIXED AIR TEMPERATURE
MAU MAKE-UP AIR UNIT
MAV MANUAL AIR VENT
MAX MAXIMUM
MB MIXING BOX
MBH 1000 BTUH
MCA MINIMUM BRANCH CIRCUIT AMPACITY
MER MECHANICAL EQUIPMENT ROOM
MERV MINIMUM EFFICIENCY REPORTING VALUE
MH MANHOLE
MHP MOTOR HORSEPOWER
MIN MINIMUM
MM MILLIMETER
MOV MOTOR OPERATED VALVE
MPR MEDIUM PRESSURE RETURN (STEAM CONDENSATE)
MPS MEDIUM PRESSURE STEAM
MRI MAGNETIC RESONANCE IMAGING
MTD MEAN TEMPERATURE DIFFERENCE
MVU MANUAL VOLUME DAMPER
MZ MULTI-ZONE

NA NOT APPLICABLE
NC NOISE CRITERIA
NC NORMALLY CLOSED
NG NATURAL GAS
NGFM NATURAL GAS FLOWMETER
NO NORMALLY OPEN
NOAA NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION
NOM NOMINAL
NPLV NON-STANDARD PART LOAD VALUE
NPSH NET POSITIVE SUCTION HEAD
NTS NOT TO SCALE

OA OUTSIDE AIR
OAG OUTSIDE AIR GRILLE
OAI OUTSIDE AIR INTAKE
OD OUTSIDE DIAMETER
OFM OIL FLOWMETER
OR OPERATING ROOM

P PUMP
PA PASCAL
PC PUMPED CONDENSATE
PCF POUNDS PER CUBIC FOOT (FEET)
PD PRESSURE DROP
PEF PROPELLER (TYPE) EXHAUST FAN
PF PRE-FILTER
PG PRESSURE GAGE
PGW PROPYLENE GLYCOL-WATER (SOLUTION)
PHC PREHEAT COIL
PPM PARTS PER MILLION
PRS PRESSURE REGULATING (VALVE) STATION
PRV PRESSURE REGULATING VALVE
PSI POUNDS PER SQUARE INCH
PSIA POUNDS PER SQUARE INCH – ABSOLUTE
PSIG POUNDS PER SQUARE INCH – GAGE
PSS PRIMARY SECONDARY SYSTEM
PSV PRESSURE SAFETY VALVE
PTAC PACKAGED TERMINAL AIR CONDITIONER

R/E RETURN OR EXHAUST
RA RETURN AIR
RAD REFRIGERANT AIR DRYER
RAF RADIO FREQUENCY
RAHX ROTARY AIR HEAT EXCHANGER
RAT RETURN AIR TEMPERATURE
RCCH REMOTE CONDENSER CHILLER
RCU RECIPROCATING CHILLER UNIT
RD REFRIGERANT DISCHARGE
RDS ROOM DATA SHEETS
REA RELIEF AIR
RF RETURN FAN
RG RETURN GRILLE
RH RELATIVE HUMIDITY
RHC REHEAT COIL
RHG REFRIGERANT HOT GAS
RL REFRIGERANT LIQUID LINE
RLA RUN LOAD AMPERE
RO REVERSE OSMOSIS
RPM REVOLUTIONS PER MINUTE
RR RETURN REGISTER
RS REFRIGERANT SUCTION
RTU ROOF TOP UNIT
RV RELIEF VALVE

SA SUPPLY AIR
SAD SOUND ATTENUATING DEVICE
SAT SUPPLY AIR TEMPERATURE
SC SHADING COEFFICIENT
SCFM STANDARD CUBIC FEET PER MINUTE
SCI SPINAL CODE INJURY
SCR SILICON CONTROLLED RECTIFIER
SD SMOKE DETECTOR
SD SUPPLY AIR DIFFUSER
SD-1 SCHEMATIC DESIGN (SUBMISSION1)
SD-2 SCHEMATIC DESIGN (SUBMISSION2)
SDFR SMOKE DAMPER
SDR SMOKE DAMPER (RETURN)
SDS SMOKE DAMPER (SUPPLY)
SEN SENSIBLE HEAT
SF SUPPLY FAN
SG SUPPLY AIR GRILLE
SH STEAM HUMIDIFIER
SHC STEAM HEATING COIL
SI SQUARE INCHES
SP STATIC PRESSURE
SP GR SPECIFIC GRAVITY
SPD SUPPLY PROCESS AND DISTRIBUTION
SPRV STEAM PRESSURE REDUCING VALVE
SPS STATIC PRESSURE SENSOR
SQ FT SQUARE FOOT (FEET)
SR SUPPLY AIR REGISTER
SS STAINLESS STEEL
SSHX STEAM TO STEAM HEAT EXCHANGER
SSR SOLID SEPARATOR
ST STEAM TRAP
SUH STEAM UNIT HEATER
SV STEAM PRESSURE REDUCING VALVE
SVS STEAM VENT SILENCER
SWHX STEAM TO WATER HEAT EXCHANGER

T & PCV TEMPERATURE AND PRESSURE CONTROL VALVE
TAB TESTING, ADJUSTING, BALANCE
TD TEMPERATURE DIFFERENCE
TDH TOTAL DYNAMIC HEAD
TDS TOTAL DISSOLVED SOLIDS
TG TRANSFER GRILLE
TP TRAP
TR TOP REGISTER
TSP TOTAL STATIC PRESSURE
TSTAT THERMOSTAT
TU TERMINAL UNIT
TWU THRU-WALL UNIT

UC UNDER CUT
UC UNIT COOLER
UH UNIT HEATER
UL UNDERWRITERS LABORATORY
URV UPBLAST UNIT VENTILATOR

V VALVE
VAF VANE-AXIAL FAN
VAV VARIABLE AIR VOLUME
VD VOLUME DAMPER (MANUAL OPPOSED BLADE)
VFD VARIABLE FREQUENCY DRIVE
VHA VETERANS HEALTH ADMINISTRATION
VI VIBRATION ISOLATOR
VIV VARIABLE INLET VANES
VP VACUUM PUMP
VPS VARIABLE PRIMARY SYSTEM
VR VACUUM (STEAM CONDENSATE) RETURN
VSD VARIABLE SPEED DRIVE
VUH VERTICAL UNIT HEATER

W WATTS
WAG WASTE ANETHESIA GAS
Wb WET-BULB (TEMPERATURE)
WC WATER COOLED
WCCH WATER COOLED CHILLER
WCCU WATER COOLED CONDENSING UNIT
WCHP WATER COOLED HEAT PUMPS
WCPU WATER COOLED PACKAGED UNIT
WEF WALL EXHAUST FAN
WF WATER FILTER
WFCV WATER FLOW CONTROL VALVE
WFM WATER FLOWMETER
WFMD WATER FLOW MEASURING DEVICE
WG WATER GAGE
WPD WATER SIDE PRESSURE DROP

YR YEAR

GENERAL NOTES

1. ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE GYPSUM BOARD OR ACOUSTIC CEILING
2. THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED. DUCT SIZES ARE NET INSIDE DIMENSIONS.
3. ACCESS PANELS IN HARD SUSPENDED CEILINGS ARE REQUIRED FOR ALL VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. ACCESS PANELS SHALL BE FURNISHED AND INSTALLED UNDER THE ARCHITECTURAL SPECIFICATIONS.
4. TOTAL STATIC PRESSURE NOTED IN THE SCHEDULES INCLUDES DUCT SYSTEM, TERMINAL UNITS, FILTERS, COILS, ETC.
5. FOR TYPICAL STEAM AND WATER PIPING CONNECTIONS TO EQUIPMENT, SEE STANDARD EQUIPMENT DETAILS.
6. DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLANS ARE NECK SIZES.
7. WATER PIPE CONNECTIONS TO AIR HEATING AND COOLING COILS SHALL BE MADE TO PROVIDE COUNTER FLOW BETWEEN WATER AND AIR.
8. WALL TYPE EXHAUST REGISTERS NOTED AS "BR" ON DRAWINGS ARE TO BE INSTALLED WITH BOTTOM ELEVATION OF REGISTER AT 4" [101mm] ABOVE FINISHED FLOOR.
9. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
MECHANICAL ABBREVIATIONS AND GENERAL NOTES

Phase
100% BID SET

Project Title
Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance

Project Number
VA #438-500
WPE #BS18069

Building Number
5

Approved:

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Sioux Falls, South Dakota

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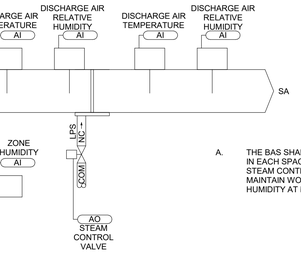
VA FORM 08 - 6231

MECHANICAL SYMBOLS

—CW— COLD WATER PIPE	—HW— HOT WATER PIPE	—RHW— CIRCULATING HOT WATER PIPE
-CW- UNDERGROUND COLD WATER PIPE	-HW- UNDERGROUND HOT WATER PIPE	-RHW- UNDERGROUND CIRCULATING HOT WATER PIPE
—SAN— UNDERFLOOR WASTE PIPE	—SAN— ABOVE FLOOR WASTE PIPE	—V— VENT PIPE
—ST— UNDERFLOOR STORM PIPE	—ST— ABOVE FLOOR STORM PIPE	
—OST— UNDERFLOOR OVERFLOW STORM PIPE	—OST— ABOVE FLOOR OVERFLOW STORM PIPE	
—PD— PUMP DISCHARGE	—PD— PUMP DISCHARGE	
—AW— UNDERFLOOR ACID WASTE PIPE	—AW— ABOVE FLOOR ACID RESISTANT WASTE PIPE	—AV— ACID RESISTANT VENT PIPE
—S— COLD SOFT WATER PIPE	—SHW— SOFT HOT WATER PIPE	—SRHW— SOFT CIRCULATING HOT WATER PIPE
—CA— COMPRESSED AIR PIPE	—LS— LAWN SPRINKLER PIPE	CA COMPRESSED AIR OUTLET
—HPS— HIGH PRESSURE STEAM	—MPS— MEDIUM PRESSURE STEAM	—LPS— LOW PRESSURE STEAM
—HPR— HIGH PRESSURE RETURN	—MPR— MEDIUM PRESSURE RETURN	—LPR— LOW PRESSURE RETURN
—PC— PUMPED CONDENSATE PIPE		
—G— NATURAL GAS	—LP— LIQUEFIED PETROLEUM GAS	
—HWS— HOT WATER HEATING SUPPLY	—HWR— HOT WATER HEATING RETURN	
—CWS— CHILLED WATER SUPPLY PIPE CONDENSER WATER SUPPLY	—CWR— CHILLED WATER RETURN PIPE CONDENSER WATER RETURN	
—CS— PIPE	—CR— PIPE	
—HPWS— HEAT PUMP WATER SUPPLY	—HPWR— HEAT PUMP WATER RETURN	
—GLWS— GROUND LOOP WATER SUPPLY	—GLWR— GROUND LOOP WATER RETURN	
—FOS— FUEL OIL SUPPLY	—FOR— FUEL OIL RETURN	
—FOV— FUEL OIL VENT	—FOG— FUEL OIL GAUGE	
—RL— REFRIGERANT LIQUID PIPE	—RS— REFRIGERANT SUCTION PIPE	—HG— HOT GAS
—O— OXYGEN PIPE	—VAC— CLINICAL AND LAB VACUUM	—GE— GAS EVACUATION PIPE
—NO— NITROUS OXIDE PIPE	—N— NITROGEN PIPE	—A— CLINICAL AND LAB AIR PIPE
OA OXYGEN OUTLET	CLINICAL AND LAB VACUUM OUTLET	GAS EVACUATION OUTLET
NOA NITROUS OXIDE OUTLET	NA NITROGEN OUTLET	CA CLINICAL AIR OUTLET
—D— EQUIPMENT DRAIN	DS DOWN SPOUT	FDH FIRE DEPT. HOSE VALVE
—F— FIRE SPRINKLER PIPE	SP STAND PIPE	
—○— PENDANT TYPE SPRINKLER HEAD	—○— UPRIGHT SPRINKLER HEAD	—⊙— RECESSED SPRINKLER HEAD
—●— CONCEALED SPRINKLER HEAD	—⋈— POST INDICATOR VALVE	—⊿— FLOW ALARM
—⊣⊢— PIPE CONNECTION	—⊼— AIR VENT	—⋋— PRESSURE/TEMPERATURE TAP
—⊂— ELBOW DOWN	—⊏— FLOW MEASURING DEVICE	—⊙— PRESSURE GAUGE
—○— ELBOW UP	—⊏⊐— EXPANSION JOINT, PIPE GUIDE	—⊢— CAPPED OUTLET	—⊡— STATIC PRESSURE SENSOR
—⊃— TEE DOWN	—◇— BALANCING VALVE	—⊞— THERMOMETER
—⌒— PIPE PITCH DOWN	—⋈— CONTROL VALVE	—⊣— STRAINER
—►— DIRECTION OF FLOW	—⋈— 3-WAY CONTROL VALVE	—⊗— STEAM TRAP
—×— PIPE ANCHOR	—⋈— PRESSURE REDUCING VALVE	—▷◁— BACK FLOW PREVENTER
—▷— REDUCER OR INCREASER	—⋈— PRESSURE RELIEF VALVE	—▷◁— FLOW CONTROL VALVE
—⊣⊢— UNION	—⋈— DOMESTIC WATER TEMPERING VALVE	—▷◁— STRAINER VALVE
—⊟— FLEXIBLE PIPE CONNECTION	—⋈— CHECK VALVE	—⋀⋁⋀— PRESSURE SENSOR DIFFERENTIAL
WH WALL HYDRANT	—⊖— CURB STOP	T THERMOSTAT
HB HOSE BIB	RD ROOF DRAIN	TN NIGHT THERMOSTAT THERMOSTAT W/LOCKABLE COVER
CO CLEAN OUT ABOVE FLOOR	ORD OVERFLOW ROOF DRAIN	TL
WCO WALL CLEAN OUT	AD AREA DRAIN	HS HUMIDISTAT
CO CLEAN OUT IN FLOOR	CONNECT TO EXIST. SERVICE	FS FLOW SWITCH
FD FLOOR DRAIN		DEMOLITION HATCHING
FS FLOOR SINK		
RADIATION ELEMENT		
RAD-1 5'-0" #TYPE ELEMENTS LENGTH RADIATION DESIGNATION		

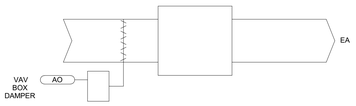
VENTILATION SYMBOLS

SUPPLY DUCT (UP & DOWN)	MANUAL VOLUME DAMPER
RETURN DUCT (UP & DOWN)	BRANCH DUCT INTO SIDE OF MAIN DUCT
EXHAUST DUCT (UP & DOWN)	DUCT RISE OR DROP IN DIRECTION OF AIR FLOW
STANDARD RADIUS ELBOW R EQUAL W (MINIMUM)	DUCT DIMENSION- WIDTH x DEPTH
DUCT TURN WITH TURN VANES	DUCT INSULATION (SEE SPECIFICATION)
FLEXIBLE DUCT CONNECTION	DUCT TURN AND AIR SPLIT TYPE TAKEOFF (NON-ADJUSTABLE)
SPIRAL DUCTWORK	GRILLE, REGISTER & DIFFUSER DESIGNATION SUPPLY, RETURN, EXHAUST, & TRANSFER
LOW PRESURE DUCTWORK MAX 2" W. G. PRESSURE	EQUIPMENT DESIGNATION
MEDIUM PRESSURE DUCTWORK 2"-6" W.G. PRESSURE	FLEX DUCT (5' MAXIMUM)
F - FIRE DAMPER M - MOTORIZED DAMPER S - SMOKE DAMPER B - BACKDRAFT DAMPER C - COMBINATION FIRE SMOKE DAMPER	



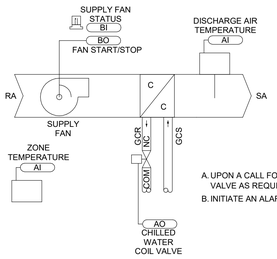
A. THE BAS SHALL MONITOR THE RELATIVE HUMIDITY IN EACH SPACE AND MODULATE THE HUMIDIFIER STEAM CONTROL VALVE AS REQUIRED TO MAINTAIN WORST CASE SPACE RELATIVE HUMIDITY AT MINIMUM OF 30%.

10 HUMIDIFIER
NO SCALE



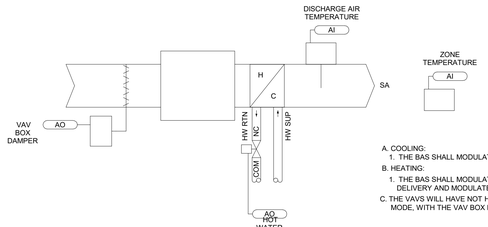
A. THE BAS SHALL MODULATE THE VAV DAMPER OPEN AS REQUIRED TO MAINTAIN CONSTANT AIRFLOW EXTRACTION.

5 VAV BOXES - EA - PHARMACY
NO SCALE



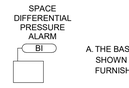
A. UPON A CALL FOR COOLING, THE BAS SHALL CYCLE THE SUPPLY FAN AND MODULATE THE COOLING CONTROL VALVE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE SET POINT.
B. INITIATE AN ALARM AT THE BAS WHENEVER THE FAN FAILS TO OPERATE WHEN CALLED UPON TO DO SO.

6 FAN COIL UNITS
NO SCALE



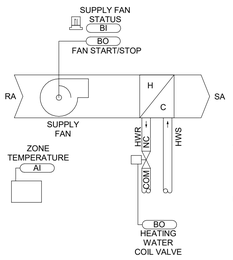
A. COOLING:
1. THE BAS SHALL MODULATE THE VAV DAMPER OPEN AS REQUIRED TO MAINTAIN CONSTANT AIRFLOW DELIVERY.
B. HEATING:
1. THE BAS SHALL MODULATE THE VAV DAMPER OPEN AS REQUIRED TO MAINTAIN CONSTANT AIRFLOW DELIVERY AND MODULATE THE HEATING COIL VALVE OPEN AS REQUIRED TO MAINTAIN SPACE HEATING SET POINT.
C. THE VAVS WILL HAVE NOT HAVE OCCUPIED/UNOCCUPIED SCHEDULING, BUT WILL ALWAYS BE IN OCCUPIED MODE, WITH THE VAV BOX DAMPER MODULATED TO MAINTAIN CONSTANT AIRFLOW DELIVERY.

7 VAV BOXES - SA - PHARMACY
NO SCALE



A. THE BAS SHALL MONITOR THE ALARM FROM EACH SPACE DIFFERENTIAL PRESSURE MONITOR AT LOCATIONS SHOWN ON PLAN. THE DIFFERENTIAL PRESSURE MONITORING, DISPLAYS, AND ALARMS WILL BE LOCAL AND FURNISHED BY THE MECHANICAL CONTRACTOR. THE BAS SHALL INTERFACE WITH EACH MONITOR FOR ALARMS.

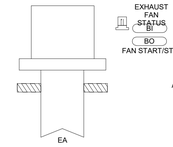
8 SPACE DIFFERENTIAL PRESSURE MONITORING
NO SCALE



A. UPON A CALL FOR HEATING, THE BAS SHALL CYCLE THE SUPPLY FAN AND FULLY OPEN THE HEATING CONTROL VALVE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE SET POINT. ONCE SET POINT IS SATISFIED, FULLY CLOSE VALVE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE SET POINT. ONCE SET POINT IS SATISFIED, FULLY CLOSE HEATING COIL CONTROL VALVE AND CYCLE OFF FAN.

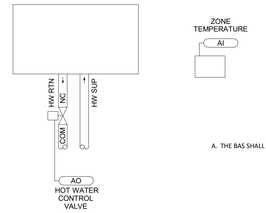
B. INITIATE AN ALARM AT THE BAS WHENEVER THE FAN FAILS TO OPERATE WHEN CALLED UPON TO DO SO.

9 UNIT HEATERS
NO SCALE



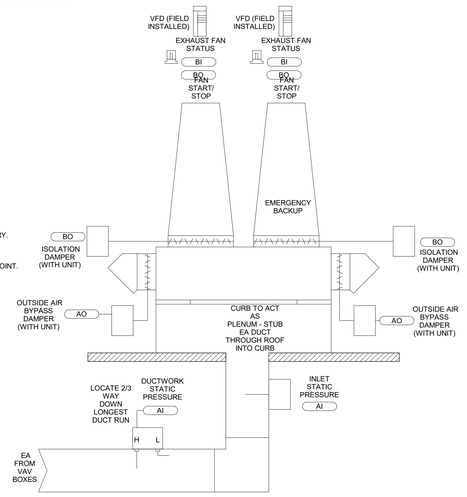
A. DURING OCCUPIED OPERATION, THE BAS SHALL INDEX THE EXHAUST FAN TO RUN CONTINUOUSLY. PROVIDE CURRENT SWITCH ON FAN AND ALARM BAS WORKSTATION WHEN THE FAN FAILS TO OPERATE WHEN CALLED UPON TO DO SO. THESE FANS WILL BE STARTED/STOPPED BY THE BAS WITH SCHEDULING.

1 EF-1-2
NO SCALE



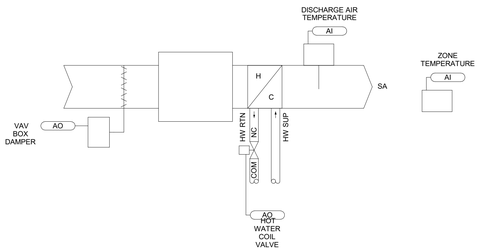
A. THE BAS SHALL MODULATE THE HEATING PANEL CONTROL VALVE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE SET POINT.

2 RADIANT CEILING PANELS
NO SCALE



A. EXHAUST FAN WILL BE SCHEDULED ON A 24 HOURS RUN TIME.
B. THE LEAD EXHAUST FAN SHALL RUN AND THE BAS SHALL MODULATE THE BYPASS DAMPER TO MAINTAIN DUCTWORK STATIC PRESSURE SET POINT TO THE EXHAUST FAN.
C. WHENEVER THE EXHAUST FAN IS OPERATING, THE BAS SHALL FULLY OPEN ITS CORRESPONDING ISOLATION DAMPER.
D. THE BAS SHALL MONITOR THE STATUS OF EACH FAN WITH A CURRENT SENSOR. WHENEVER EITHER FAN FAILS TO OPERATE WHEN CALLED UPON TO DO SO, AN ALARM SHALL BE GENERATED AT THE BAS OPERATOR WORKSTATION AND THE EMERGENCY FAN SHALL BE STARTED.
E. THE BAS WILL MAINTAIN THE VOLUMETRIC OFFSET IN EACH LABORATORY SPACE WITH THE SUPPLY AND EXHAUST VAV BOXES SERVING THE SPACES.

3 EF-3,4
NO SCALE



COOLING:
1. DURING UNOCCUPIED/OCCUPIED OPERATION, THE BAS SHALL MODULATE THE VAV DAMPER OPEN AS REQUIRED TO MAINTAIN SPACE TEMPERATURE COOLING SET POINT. IN UNOCCUPIED MODE, THE VAV DAMPER SHALL BE FULLY CLOSED UNTIL THE SPACE VAV SERVES CALLS FOR COOLING.

A. HEATING:
1. DURING OCCUPIED/UNOCCUPIED OPERATION, THE BAS SHALL OPEN THE VAV BOX DAMPER TO MINIMUM HEATING CFM AND MODULATE THE HEATING COIL VALVE OPEN AS REQUIRED TO MAINTAIN SPACE HEATING SET POINT. IF A 90 DEGREE F VAV BOX DISCHARGE AIR TEMPERATURE IS REACHED, THE VAV BOX DAMPER IS AT MINIMUM POSITION, AND ADDITIONAL HEATING IS REQUIRED, OPEN THE VAV BOX DAMPER AND HEATING COIL CONTROL VALVE TOGETHER TO MAINTAIN 90 DEGREE F DISCHARGE TEMPERATURE UNTIL SPACE HEATING SET POINT IS SATISFIED.

C. FOR VAV TERMINALS SHARING SPACE SENSOR WITH RADIANT CEILING PANELS:
1. DURING OCCUPIED OPERATION, THE BAS SHALL OPEN THE VAV BOX DAMPER TO MINIMUM HEATING CFM AND MODULATE THE HEATING COIL VALVE AND RADIANT CEILING CONTROL VALVE IN PARALLEL AS REQUIRED TO MAINTAIN SPACE HEATING SET POINT. IF A 90 DEGREE F VAV BOX DISCHARGE AIR TEMPERATURE IS REACHED, THE VAV BOX DAMPER IS AT MINIMUM POSITION, AND ADDITIONAL HEATING IS REQUIRED, OPEN THE VAV BOX DAMPER AND HEATING COIL CONTROL VALVE TOGETHER (ALONG WITH RADIANT CEILING PANEL CONTROL VALVE IN PARALLEL) TO MAINTAIN 90 DEGREE F DISCHARGE TEMPERATURE UNTIL SPACE HEATING SET POINT IS SATISFIED.
2. DURING UNOCCUPIED OPERATION, THE BAS SHALL KEEP THE VAV BOX DAMPER CLOSED, THE HEATING COIL CONTROL VALVE CLOSED, AND FIRST MODULATE THE RADIANT CEILING PANEL CONTROL VALVE TO MAINTAIN SPACE HEATING TEMPERATURE SET POINT. IF THE RADIATION CONTROL VALVE IS FULLY OPEN AND THE HEATING SET POINT CANNOT BE SATISFIED, THE BAS SHALL OPEN THE VAV BOX DAMPER TO MINIMUM HEATING CFM AND MODULATE THE HEATING COIL VALVE (WHILE MAINTAINING RADIANT CEILING PANEL CONTROL VALVE FULLY OPEN) AS REQUIRED TO MAINTAIN SPACE HEATING SET POINT. IF A 90 DEGREE F VAV BOX DISCHARGE AIR TEMPERATURE IS REACHED, THE VAV BOX DAMPER IS AT MINIMUM POSITION, AND ADDITIONAL HEATING IS REQUIRED, OPEN THE VAV BOX DAMPER AND HEATING COIL CONTROL VALVE TOGETHER (WHILE MAINTAINING RADIANT CEILING PANEL CONTROL VALVE FULLY OPEN) TO MAINTAIN 90 DEGREE F DISCHARGE TEMPERATURE UNTIL SPACE HEATING SET POINT IS SATISFIED.

4 VAV BOXES - SA - OT
NO SCALE

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

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REGISTERED PROFESSIONAL ENGINEER — REG. NO. 9713 — QUALTER M. OSTER — SOUTH DAKOTA

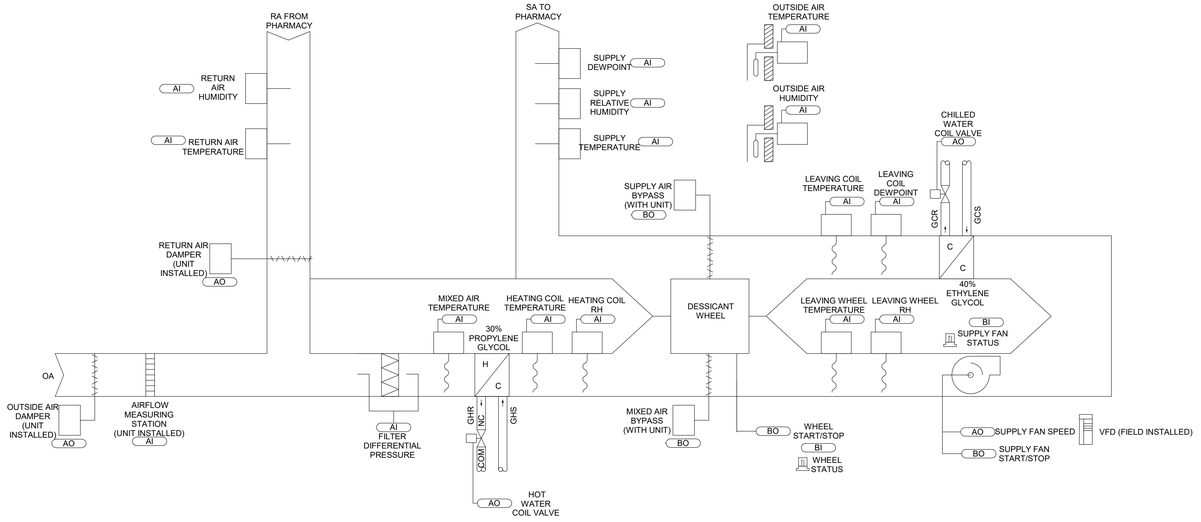
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title MECHANICAL DETAILS	**Phase** 100% BID SET	**Project Title** Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance	**Project Number** VA #438-500 WPE #BS18069
			Building Number 5
Approved:	FULLY SPRINKLERED	**Location** Sioux Falls, South Dakota	**Drawing Number** 5.M401
		Issue Date 03/07/2019 · **Checked** SO · **Drawn** ASA	

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VA FORM 08 - 6231



1 RTU-43
NO SCALE

A. DURING OCCUPIED OPERATION, THE BAS SHALL INDEX THE SUPPLY FAN IN THE RTU TO RUN CONTINUOUSLY. PROVIDE CURRENT SWITCH ON FANS AND ALARM BAS WORKSTATION WHEN THE FAN FAILS TO OPERATE WHEN CALLED UPON TO DO SO.

B. THE BAS SHALL UTILIZE THE FAN INLET AIRFLOW MEASURING STATION ON THE SUPPLY FAN TO MAINTAIN DESIGN AIRFLOW IN ALL OPERATING MODES DESCRIBED BELOW.

C. DEHUMIDIFICATION:

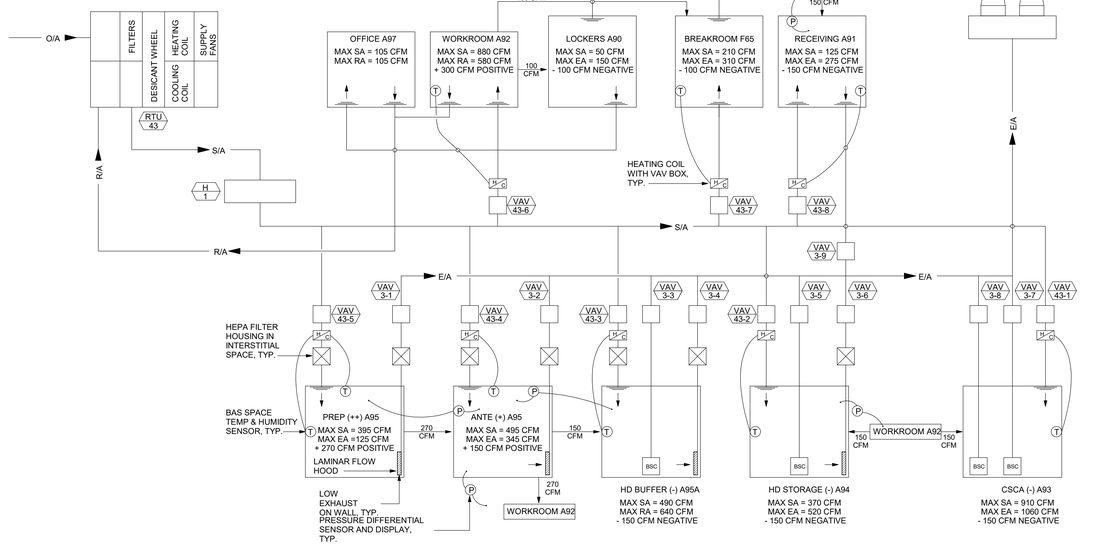
1. IN DEHUMIDIFICATION MODE THE OUTSIDE AIR DAMPER SHALL MODULATE TO MAINTAIN MINIMUM OUTSIDE AIR VOLUME AS MEASURED WITH THE OUTSIDE AIR MEASURING STATION, THE RETURN AIR DAMPER SHALL BE CLOSED PROPORTIONALLY TO THE OUTSIDE AIR DAMPER, THE DESICCANT DEHUMIDIFICATION WHEEL SHALL BE ENABLED, AND THE COOLING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE SUPPLY AIR TEMPERATURE DEW-POINT SET POINT IF THE FOLLOWING CONDITIONS ARE TRUE.
   a. THE ENTHALPY OF THE OUTSIDE AIR IS GREATER THAN THE ENTHALPY OF THE RETURN AIR. ENTHALPY OF THE RETURN AIR IS A CALCULATED POINT FROM MEASURING RETURN AIR TEMPERATURE AND HUMIDITY. ENTHALPY OF THE OUTSIDE AIR IS A CALCULATED POINT FROM MEASURING OUTSIDE AIR TEMPERATURE AND HUMIDITY.
   b. THE DEW-POINT TEMPERATURE OF THE OUTSIDE AIR IS GREATER THAN THE TARGET DEW-POINT TEMPERATURE OF THE SUPPLY AIR. DEW POINT OF THE OUTSIDE AIR IS A CALCULATED POINT FROM MEASURING OUTSIDE AIR TEMPERATURE AND HUMIDITY.

D. MECHANICAL COOLING:

1. IN COOLING MODE THE OUTSIDE AIR DAMPER SHALL BE OPEN TO ITS MINIMUM OUTSIDE AIR FLOW POSITION, THE RETURN AIR DAMPER SHALL BE CLOSED INVERSELY PROPORTIONAL TO THE OUTSIDE AIR DAMPER, THE DESICCANT DEHUMIDIFICATION WHEEL SHALL BE DISABLED, AND THE COOLING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE SUPPLY AIR TEMPERATURE DRY BULB SET POINT IF THE FOLLOWING CONDITIONS ARE TRUE.
   a. THE DEW POINT TEMPERATURE OF THE OUTSIDE AIR IS LESS THAN THE TARGET DEW POINT TEMPERATURE OF THE SUPPLY AIR. DEW POINT OF THE OUTSIDE AIR IS A CALCULATED POINT FROM MEASURING OUTSIDE AIR TEMPERATURE AND HUMIDITY.
   b. THE DRY BULB TEMPERATURE OF THE OUTSIDE AIR IS LESS THAN THE DRY BULB TEMPERATURE OF THE OUTSIDE AIR BUT GREATER THAN THE SUPPLY AIR DRY BULB TEMPERATURE SET POINT.

E. HEATING:

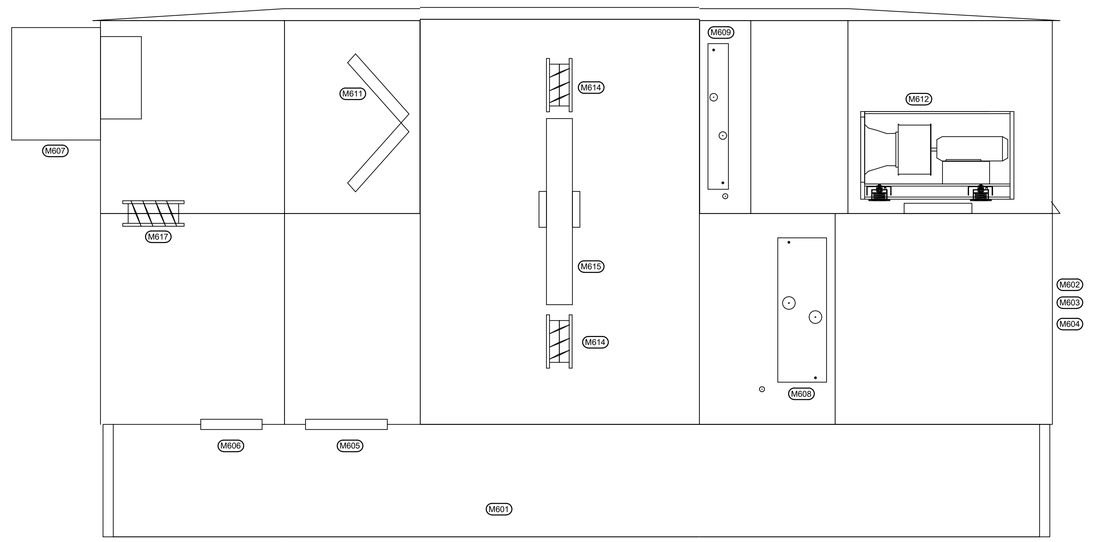
1. IN HEATING MODE THE OUTSIDE AIR DAMPER SHALL BE OPEN TO ITS MINIMUM OUTSIDE AIR FLOW POSITION, THE RETURN AIR DAMPER SHALL BE CLOSED INVERSELY PROPORTIONAL TO THE OUTSIDE AIR DAMPER, THE DESICCANT DEHUMIDIFICATION WHEEL SHALL BE DISABLED, AND THE HEATING COIL CONTROL VALVE MODULATED TO MAINTAIN THE SUPPLY AIR DRY BULB SET POINT IF THE FOLLOWING CONDITIONS ARE TRUE.
   a. THE DEW POINT TEMPERATURE OF THE OUTSIDE AIR IS LESS THAN THE TARGET DEW POINT TEMPERATURE OF THE SUPPLY AIR. DEW POINT OF THE OUTSIDE AIR IS A CALCULATED POINT FROM MEASURING OUTSIDE AIR TEMPERATURE AND HUMIDITY.
   b. THE DRY BULB TEMPERATURE OF THE OUTSIDE AIR IS LESS THAN THE DRY BULB TEMPERATURE OF THE SUPPLY AIR DRY BULB TEMPERATURE SET POINT.



2 RTU-43 AIRFLOW SCHEMATIC
NO SCALE

#	MECHANICAL SPECIFIC NOTES
M601	INSTALL UNIT ON 14" HIGH INSULATED ROOF CURB TO BE PROVIDED BY THE GENERAL CONTRACTOR.
M602	MAXIMUM OVERALL TOTAL UNIT HEIGHT MAY NOT EXCEED 6'-10", NOT INCLUDING THE CURB.
M603	MAXIMUM UNIT OVERALL LENGTH MAY NOT EXCEED 15'-7".
M604	MAXIMUM UNIT OVERALL WIDTH MAY NOT EXCEED 5'-2".
M605	SUPPLY AIR OPENING ON BOTTOM OF UNIT.
M606	RETURN AIR OPENING ON BOTTOM OF UNIT.
M607	OUTSIDE AIR OPENING AND INTEGRAL MOTORIZED DAMPER ON REAR OF MIXING BOX SECTION. PROVIDE DAMPER WITH INTEGRAL AIRFLOW MEASURING STATION. PROVIDE FACTORY INSTALLED ACTUATOR FOR DAMPER. PROVIDE SCREENED WEATHERHOOD OVER OPENING.
M608	CHILLED WATER COOLING COIL. SEE SCHEDULES FOR CAPACITY. PROVIDE DOUBLE SLOPED STAINLESS STEEL DRAIN PAN BELOW COIL.
M609	HEATING WATER COIL. SEE SCHEDULES FOR CAPACITY. PROVIDE DOUBLE SLOPED STAINLESS STEEL DRAIN PAN BELOW COIL.

#	MECHANICAL SPECIFIC NOTES
M611	ANGLED FILTER BANK WITH 2" PLEATED MERV 8 FILTERS. PROVIDE MAGNEHELIC PRESSURE GAGE ACROSS FILTER BANK AND LOCATED GAUGE ON OUTSIDE OF UNIT.
M612	SUPPLY AIR FAN (QUANTITY OF 2): PROVIDE WITH NEMA PREMIUM EFFICIENCY CENTRIFUGAL PLENUM FAN MOTORS. PREWIRED TO DISCONNECT SWITCH ON THE OUTSIDE OF THE FAN COMPARTMENT. VFD FOR FAN TO BE FIELD PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR. PROVIDE WITH FAN INLET AIRFLOW MEASURING STATION FOR CONNECTION TO THE BAS. PROVIDE FACTORY INSTALLED SHAFT GROUNDING KIT ON EACH FAN.
M614	BYPASS OPENINGS WITH INTEGRAL MOTORIZED DAMPERS AROUND DESSICANT WHEEL. PROVIDE FACTORY INSTALLED ACTUATORS FOR DAMPERS.
M615	DESICCANT DEHUMIDIFICATION WHEEL. SEE SCHEDULES FOR CAPACITY. PREWIRE WHEEL TO DISCONNECT SWITCH ON OUTSIDE OF UNIT CABINET.
M617	RETURN AIR RECIRCULATION DAMPER ON BOTTOM OF MIXING BOX SECTION. PROVIDE FACTORY INSTALLED ACTUATOR FOR DAMPER.



3 RTU-43 SECTION VIEW
NO SCALE

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

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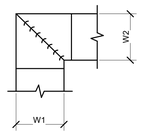
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REGISTERED PROFESSIONAL ENGINEER REG. NO. 9538 STUART M. OSTER

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	MECHANICAL DETAILS
Phase	100% BID SET
Approved:	FULLY SPRINKLERED
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	SO
Drawn	ASA
Project Number	VA #438-500 WPE #BS18069
Building Number	5
Drawing Number	5.M402

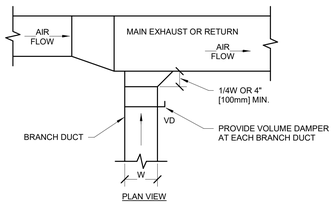
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three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot
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NOTES:

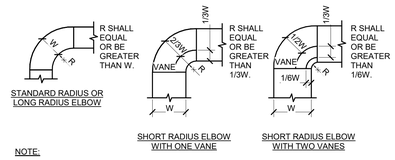
1. ALL VANE ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
2. WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE THICKNESS VANE TYPE REGARDLESS OF W DIMENSION.
3. ALL SINGLE THICKNESS VANES SHALL HAVE A 2" RADIUS, 1 1/2" MAXIMUM SPACE BETWEEN VANES AND A 3/4" TRAILING EDGE.
4. WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" VANES SHALL BE DOUBLE VANE TYPE.

1 DUCTWORK SQUARE VANE ELBOWS
NO SCALE



PLAN VIEW

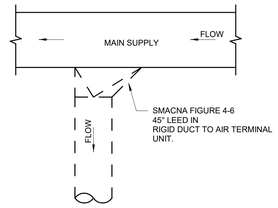
2 EXHAUST OR RETURN BRANCH DUCTWORK
NO SCALE



NOTE:

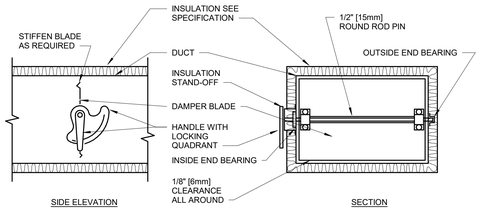
1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
2. ALL STANDARD RADIUS ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

3 DUCTWORK RADIUS ELBOWS
NO SCALE



PLAN VIEW

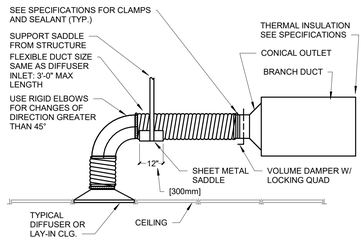
4 ALTERNATE SUPPLY DUCT TAKEOFF - AIR TERMINAL UNITS
NO SCALE



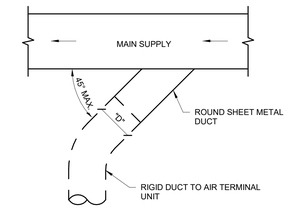
NOTE:

1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.

5 VOLUME DAMPER DETAIL
NO SCALE

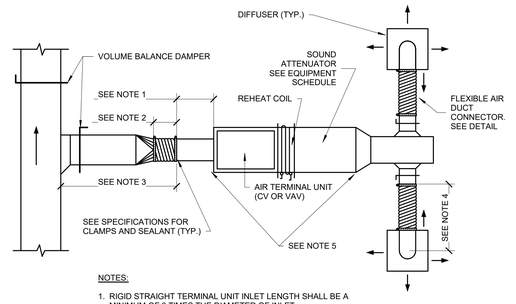


6 FLEXIBLE AIR DUCT CONNECTOR
NO SCALE



PLAN VIEW

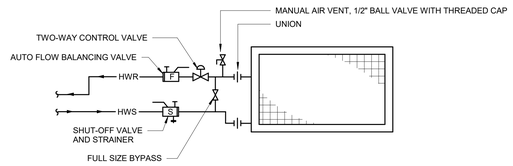
7 SUPPLY DUCT TAKEOFF - AIR TERMINAL UNIT
NO SCALE



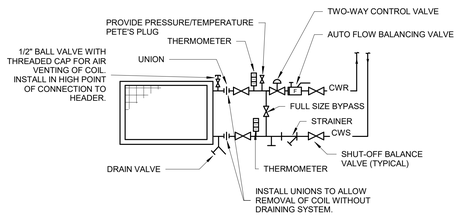
NOTES:

1. RIGID STRAIGHT TERMINAL UNIT INLET LENGTH SHALL BE A MINIMUM OF 3 TIMES THE DIAMETER OF INLET
2. A BRANCH DUCT SERVING AN INDIVIDUAL BOX MAY BE THE SAME SIZE AS THE BOX INLET, PROVIDED THE EQUIVALENT LENGTH OF THE BRANCH DUCT, AS SHOWN, DOES NOT EXCEED 10 FEET. FOR LONGER LENGTHS, INCREASE THE DUCT SIZE AND PROVIDE A DUCT TRANSITION TO MAINTAIN THE DUCT STATIC PRESSURE DROP AT OR BELOW 0.2"/100' [1.64Pa/m].
3. FLEXIBLE AIR DUCT CONNECTORS, WHEN USED FROM TERMINAL UNIT SUPPLY AIR DUCT TO DIFFUSER, SHALL NOT EXCEED 3'-0". USE RIGID ELBOWS FOR CHANGE OF DIRECTION GREATER THAN 45°.
4. COMPONENT ARRANGEMENT MAY VARY BY MANUFACTURER. PROVIDE INSULATION W/VAPOR BARRIER FOR CONNECTING DUCT SECTIONS.

8 DUCT CONNECTIONS - AIR TERMINAL UNITS
NO SCALE



9 REHEAT COIL PIPING DETAIL
NO SCALE



10 CHILLED/HEATING WATER COIL PIPING DETAIL
NO SCALE

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	FULLY SPRINKLERED
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	SO
Drawn	ASA
Project Number	VA #438-500 WPE #BS18069
Building Number	5
Drawing Number	5.M403

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ROOFTOP UNIT SCHEDULE

					SUPPLY FAN							COOLING COIL												PRE HEAT HEATING COIL											DESSICANT WHEEL									
																																		SUPPLY AIR				REGENERATION AIR					
																EAT		LAT																EAT		LAT		EAT		LAT			
UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	LOCATION	CFM	MIN O.A. CFM	E.S.P.	RPM	TYPE	HP	VOLTAGE	TYPE	ROWS	FPF	GPM	DB	WB	DB	WB	APD	BTUH	EWT	LWT	WPD	% PROPYLENE GLYCOL	FACE VELOCITY	TYPE	ROWS	FPF	GPM	CFM	EAT	APD	BTUH	EWT	LWT	WPD	FACE VELOCITY	DB	WB	DB	DEWPOINT	DB	WB	DB	WB	MCA	COMMENTS
RTU	43	TRANE	CSAA010	ROOF	4030	3425	4 in-wg	4222	AF PLENUM	5	480 V	CHILLED	8	138	64	88.3 °F	73.7 °F	53.0 °F	52.9 °F	0.80 in-wg	283920	45 °F	55 °F	20.5 ftH2O	40%	450 FPM	HEAT WATER	1	164	20	3950	-5.0 °F	0.12 in-wg	280000	180 °F	150 °F	1.45 FT	430 FPM	53.0 °F	52.9 °F	58.0 °F	46.0 °F	91.9 °F	72.7 °F	86.8 °F	73.4 °F	0.4	1,2,3,4,5,6

COMMENTS:

1 SEE UNIT DETAILS FOR UNIT CONFIGURATION AND REQUIREMENTS.
2 PREHEAT HEATING PERFORMANCE BASED ON 40% PROPYLENE GLYCOL IN SYSTEM.
3 CHILLED WATER COOLING PERFORMANCE BASED ON 40% PROPYLENE GLYCOL IN SYSTEM.
4 PROVIDE WITH (2) SUPPLY FANS AND MOTORS. PREWIRE EACH SUPPLY FAN TO DISCONNECT SWITCH ON EXTERIOR OF FAN COMPARTMENT. VFD FOR FAN TO BE PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR. MOTOR FOR EACH FAN SHALL BE PREMIUM EFFICIENT AND SHALL BE PROVIDED WITH FACTORY INSTALLED SHAFT GROUNDING KIT.
5 HP SHOWN IS PER FAN. THERE ARE (2) FANS.
6 DISSICANT WHEEL MCA DATA BASED ON 480/3/60 POWER. WIRE MOTOR TO DISCONNECT SWITCH ON EXTERIOR OF UNIT.

FAN SCHEDULE

UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	LOCATION	SERVICE	CFM	S.P.D.	VOLTAGE	HP	SONES	PHASES	COMMENTS
EF	1	LOREN COOK COMPANY	ACE-D 90	ROOF	GENERAL EXHAUST	150	0.60 in-wg	120	0.125	6.5	1	7,8,9,10,11
EF	2	LOREN COOK COMPANY	ACE-D 90	ROOF	GENERAL EXHAUST	400	0.60 in-wg	120	0.125	6.5	1	7,8,9,10,11
EF	3	GREENHECK	VEKTOR-H-18	ROOF	COMPOUNDING EXHAUST	2965	3.50 in-wg	480	5	0	3	1,2,3,4,5,6,7,11
EF	4	GREENHECK	VEKTOR-H-18	ROOF	COMPOUNDING EXHAUST	2965	3.50 in-wg	480	5	0	3	1,2,3,4,5,6,7,11

COMMENTS:

1 PROVIDE WITH 24V MOTORIZED ISOLATION DAMPER AT THE BASE OF FAN, PREWIRED WITH THE UNIT. PROVIDE TRANSFORMER WITH THE FAN.
2 FAN TO BE PROVIDED ON A COMMON INLET PLENUM WITH MOTORIZED 24V BYPASS DAMPER WITH WEATHERHOOD.
3 PROVIDE DISCHARGE NOZZLE WITH EXIT VELOCITY OF 3,000 FPM.
4 BELT DRIVE FAN MOTOR.
5 PROVIDE WITH FACTORY INSTALLED NEMA 3R DISCONNECT SWITCH FOR FAN MOTOR.
6 PROVIDE PREMIUM EFFICIENCY FAN MOTOR WITH FACTORY INSTALLED SHAFT GROUNDING KIT.
7 PROVIDE WITH INSULATED ROOF CURB.
8 DIRECT DRIVE FAN MOTOR. PROVIDE WITH FACTORY INSTALLED FAN SPEED CONTROLLER FOR AIR BALANCING.
9 DOWNBLAST ROOF VENTILATOR.
10 PROVIDE WITH FACTORY INSTALLED THERMAL OVERLOAD AND NEMA 3R DISCONNECT SWITCH
11 FAN TO BE CONTROLLED BY THE BUILDING AUTOMATION SYSTEM.

VARIABLE AIR VOLUME BOX SCHEDULE

				COOLING					COOLING				HEATING				REHEAT SECTION								
									OCCUPIED CFM		UNOCCUPIED CFM		OCCUPIED CFM		UNOCCUPIED CFM										
UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	MAX	MIN	HEATING MAXIMUM	INLET STATIC	INLET CONNECTION	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	GPM	BTUH	EWT/LWT	ROWS	WPD	APD	NC	COMMENTS
VAV	2-1	KRUEGER	LMHS 6	300	100	300	1.50 in-wg	6"	300	100	300	100	300	100	300	100	2	17400	180/150	2	0.44	0.17 in-wg	20	1,2,3,4,6,7,8
VAV	2-2	KRUEGER	LMHS 10	900	300	900	1.50 in-wg	10"	900	300	900	300	900	300	900	300	1	25200	180/150	1	0.12	0.30 in-wg	18	1,2,3,4,6,7,8
VAV	3-1	TITUS	DEXV 6	125	125	0	3.50 in-wg	12"	125	125	125	125	125	125	125	125							35	3,5,6
VAV	3-2	TITUS	DEXV 6	345	345	0	3.50 in-wg	12"	345	345	345	345	345	345	345	345							35	3,5,6
VAV	3-3	TITUS	DEXV 8	530	530	0	3.50 in-wg	12"	530	530	530	530	530	530	530	530							35	3,5,6
VAV	3-4	TITUS	DEXV 6	110	110	0	3.50 in-wg	12"	110	110	110	110	110	110	110	110							35	3,5,6
VAV	3-5	TITUS	DEXV 6	390	390	0	3.50 in-wg	12"	390	390	390	390	390	390	390	390							35	3,5,6
VAV	3-6	TITUS	DEXV 8	520	130	0	3.50 in-wg	12"	520	130	520	130	520	130	520	130							35	3,5,6
VAV	3-7	TITUS	DEXV 8	530	530	0	3.50 in-wg	12"	530	530	530	530	530	530	530	530							35	3,5,6
VAV	3-8	TITUS	DEXV 8	530	530	0	3.50 in-wg	12"	530	530	530	530	530	530	530	530							35	3,5,6
VAV	3-9	TITUS	DEXV 6	275	275	0	3.50 in-wg	12"	275	275	275	275	275	275	275	275							35	3,5,6
VAV	43-1	KRUEGER	LMHS 10	910	910	910	3.50 in-wg	10"	910	910	910	910	910	910	910	910	1	17500	180/150	1	0.14	0.17 in-wg	29	1,2,3,4,6,7,8
VAV	43-2	KRUEGER	LMHS 8	370	370	370	3.50 in-wg	8"	370	370	370	370	370	370	370	370	1	11800	180/150	1	0.56	0.07 in-wg	31	1,2,3,4,6,7,8
VAV	43-3	KRUEGER	LMHS 8	490	490	490	3.50 in-wg	8"	490	490	490	490	490	490	490	490	1	12300	180/150	1	0.56	0.08 in-wg	32	1,2,3,4,6,7,8
VAV	43-4	KRUEGER	LMHS 8	495	495	495	3.50 in-wg	8"	495	495	495	495	495	495	495	495	1	13100	180/150	1	0.56	0.12 in-wg	33	1,2,3,4,6,7,8
VAV	43-5	KRUEGER	LMHS 8	395	395	395	3.50 in-wg	8"	395	395	395	395	395	395	395	395	1	12100	180/150	1	0.56	0.08 in-wg	31	1,2,3,4,6,7,8
VAV	43-6	KRUEGER	LMHS 12	1035	1035	1035	3.50 in-wg	12"	1035	1035	1035	1035	1035	1035	1035	1035	1	21200	180/150	1	0.18	0.11 in-wg	29	1,2,3,4,6,7,8
VAV	43-7	KRUEGER	LMHS 4	210	210	210	3.50 in-wg	4"	210	210	210	210	210	210	210	210	1	8100	180/150	1	0.43	0.23 in-wg	33	1,2,3,4,6,7,8
VAV	43-8	KRUEGER	LMHS 4	125	125	125	3.50 in-wg	4"	125	125	125	125	125	125	125	125	1	6400	180/150	1	0.43	0.08 in-wg	23	1,2,3,4,6,7,8

COMMENTS:

1 HEATING CAPACITY BASED ON NO GLYCOL IN HEATING WATER SYSTEM.
2 HEATING CAPACITY BASED ON 55 DEG. EAT.
3 PROVIDE WITH STERILINER INSULATION.
4 SUPPLY AIR VAV BOX.
5 EXHAUST AIR VAV BOX.
6 PROVIDE WITH CONTROL ENCLOSURE FOR INSTALLATION OF CONTROLLERS IN FIELD BY THE BAS CONTRACTOR.
7 PROVIDE WITH HINGED AND LOCKABLE ACCESS DOOR ON BOTTOM OF CABINET.
8 NC BASED ON 0.5" DOWNSTREAM STATIC PRESSURE DROP.

RADIANT PANEL SCHEDULE

UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	BTUH	GPM	AVERAGE WATER TEMPERATURE	AIR TEMPERATURE	PANEL LENGTH	PANEL WIDTH	COMMENTS
RCP	1	AIRTEX	HPH2448L PANEL	1500		170 °F	70 °F	2' - 0"	4' - 0"	1,2,3,4

COMMENTS:

1 PROVIDE WITH FACTORY SUPPLIED RETURN BENDS FOR FIELD INSTALLATION.
2 NO GLYCOL. FLOW RATES ARE PER PANEL.
3 EXTRUDED ALUMINUM MODULAR PANEL WITH COPPER TUBING, FACTORY WHITE PANEL COLOR.
4 PROVIDE 1" THICK FIBERGLASS INSULATION OF TOP OF PANEL.

FAN COIL UNIT SCHEDULE

						ELECTRIC			COOLING COIL									
UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	CFM	HP	VOLTAGE	PHASES	MCA	BTUH	GPM	WPD	EAT DB	EAT WB	LAT DB	LAT WB	EWT	LWT	% GLYCOL	COMMENTS
FC	1	TRANE	FVJ-08	600	0.22	120	1	4 A	12000	3	5.9 ftH2O	78 °F	65 °F	59 °F	58 °F	45 °F	55 °F	40%	1,2,3,4,5,6

COMMENTS:

1 FLOOR MOUNTED VERTICAL FAN COIL UNIT WITH STAMPED FRONT BAR INLET GRILLE AND SLOPED TOP BAR GRILLE OUTLET. ARCHITECT TO SELECT CABINET COLOR.
2 PROVIDE WITH DIRECT DRIVE ECM FAN MOTOR.
3 PROVIDE WITH 1" THICK MERV 8 THROWAWAY FILTERS.
4 DISCONNECT FOR UNIT TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
5 UNIT SHALL BE CONTROLLED WITH THE BUILDING AUTOMATION SYSTEM. DO NOT PROVIDE UNIT WITH FACTORY CONTROLS.
6 PROVIDE WITH STAINLESS STEEL COOLING COIL DRAIN PAN.

HYDRONIC UNIT HEATER SCHEDULE

						HEATING					MOTOR				
UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	LOCATION	CFM	BTU/H	GPM	EWT	WPD	% GLYCOL	HP	RPM	VOLTAGE	PHASES	COMMENTS
UH	1	TRANE	P-42	INTERSTITIAL	595	16700	1	60 °F	0.10 ftH2O	0	0.02	1550	120	1	1,2

COMMENTS:

1 VERTICAL PROPELLER TYPE HYDRONIC UNIT HEATER.
2 PROVIDE WITH FACTORY INSTALLED POWER DISCONNECT AND MOTOR STARTER.

HUMIDIFIER SCHEDULE

UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	LOCATION	CAPACITY LBS/HR	ABSORPTION DISTANCE	COMMENTS
H	1	ARMSTRONG	AM 91-M2	OFFICE A97	73	7' - 0"	1,2,3,4,5,6

COMMENTS:

1 PROVIDE A STAINLESS STEEL DISTRIBUTOR FOR STEAM DISPERSION IN DUCT. DUCT SIZE SHALL BE 30"W X 14" HIGH.
2 PROVIDE AIRFLOW PROVING SWITCH.
3 STEAM CONTROL VALVE FOR HUMIDIFIER TO BE PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR.
4 PROVIDE WITH STAINLESS STEEL MANIFOLD.
5 PERFORMANCE BASED ON 10# STEAM PRESSURE.
6 PERFORMANCE BASED ON 3,670 CFM, 60F AND 6% RH EAT, 60F AND 42.5% RH LAT.

REGISTER GRILLES AND DIFFUSER SCHEDULE

				NOMINAL SIZE			THROAT SIZE							
UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	WIDTH	LENGTH	DIA.	WIDTH	LENGTH	DIA.	MAX CFM	S.P.D.	NC	FRAME	COMMENTS
E	2	KRUEGER	EGC5	12"	24"		10"	22"	0"	500	0.02 in-wg	15	LAY-IN	1,3
E	3	KRUEGER	S5480	20"	12"		18"	10"		520	0.05 in-wg	22	SURFACE	1,2,6
E	4	KRUEGER	S580	8"	8"		6"	6"		100	0.06 in-wg	12	SURFACE	1,2,5
E	5	KRUEGER	S5480	16"	10"		14"	8"		350	0.08 in-wg	27	SURFACE	1,2,6
E	6	KRUEGER	S5480	14"	14"		12"	12"		150	0.01 in-wg	15	SURFACE	1,2,6
R	1	KRUEGER	EGC5	24"	24"		22"	22"		1800	0.05 in-wg	25	LAY-IN	1,3
R	2	KRUEGER	EGC5	12"	24"		10"	22"	6"	500	0.02 in-wg	15	LAY-IN	1,3
S	1	KRUEGER	51400	24"	24"				6"	125	0.04 in-wg	15	SURFACE	1,2,7
S	2	KRUEGER	51400	24"	24"				6"	140	0.05 in-wg	15	LAY-IN	1,7
S	3	KRUEGER	51400	24"	24"				8"	235	0.06 in-wg	15	LAY-IN	1,7
S	4	KRUEGER	51100	24"	24"		22"	22"		455	0.05 in-wg	27	LAY-IN	1,2,8
S	5	KRUEGER	5000	24"	48"				10"	250	0.08 in-wg	21	SURFACE	2,4

COMMENTS:

1 FACTORY WHITE STANDARD BAKED ENAMEL COLOR.
2 PROVIDE WITH ALUMINUM NECK MOUNTED OPPOSED BLADE DAMPER.
3 1/2"X1/2"X1/2" ALUMINUM EGGCRATE GRILLE.
4 LAMINAR FLOW, NON ASPIRATED DIFFUSER WITH ALUMINUM FACE AND BACK PAN. PROVIDE WITH ANTIMICROBIAL FINISH. MAXIMUM FACE OPEN FREE AREA SHALL BE 15%.
5 3/4" BLADE SPACING, SINGLE DEFLECTION ALUMINUM REGISTER. BLADES AT 30 DEGREE DEFLECTION.
6 HEAVY DUTY ALUMINUM GRILLE, 1/2" BLADE SPACING, 30 DEGREE DEFLECTION.
7 LOUVERED ALUMINUM DIFFUSER.
8 ALUMINUM PERFORATED DIFFUSER. PROVIDE WITH 12X12 NECK.

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

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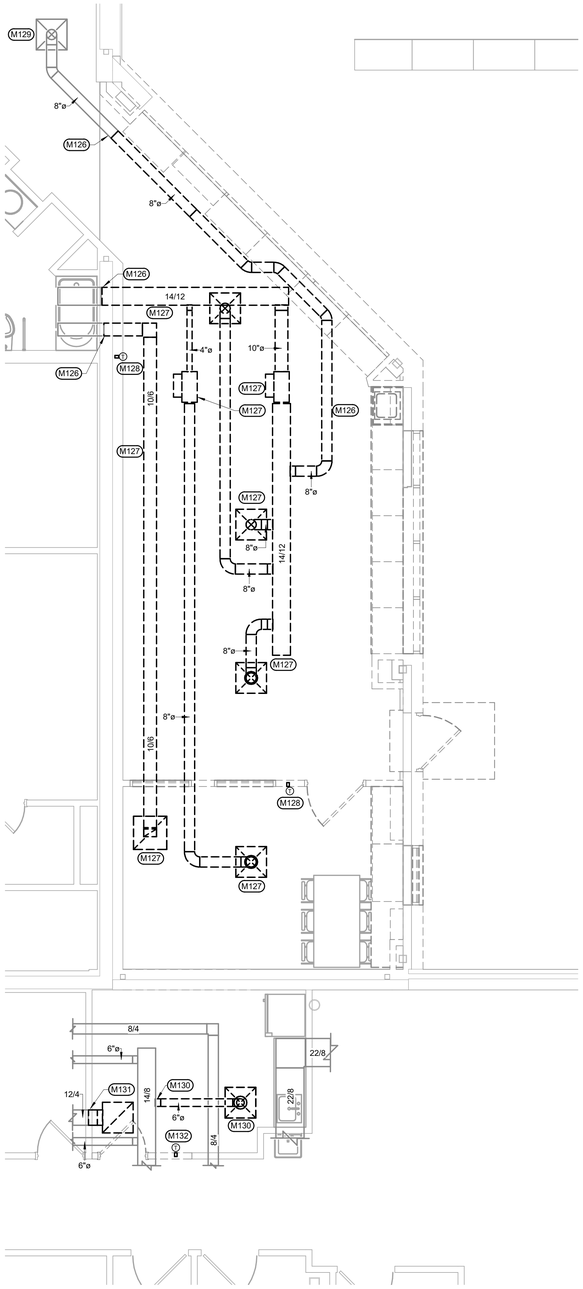
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

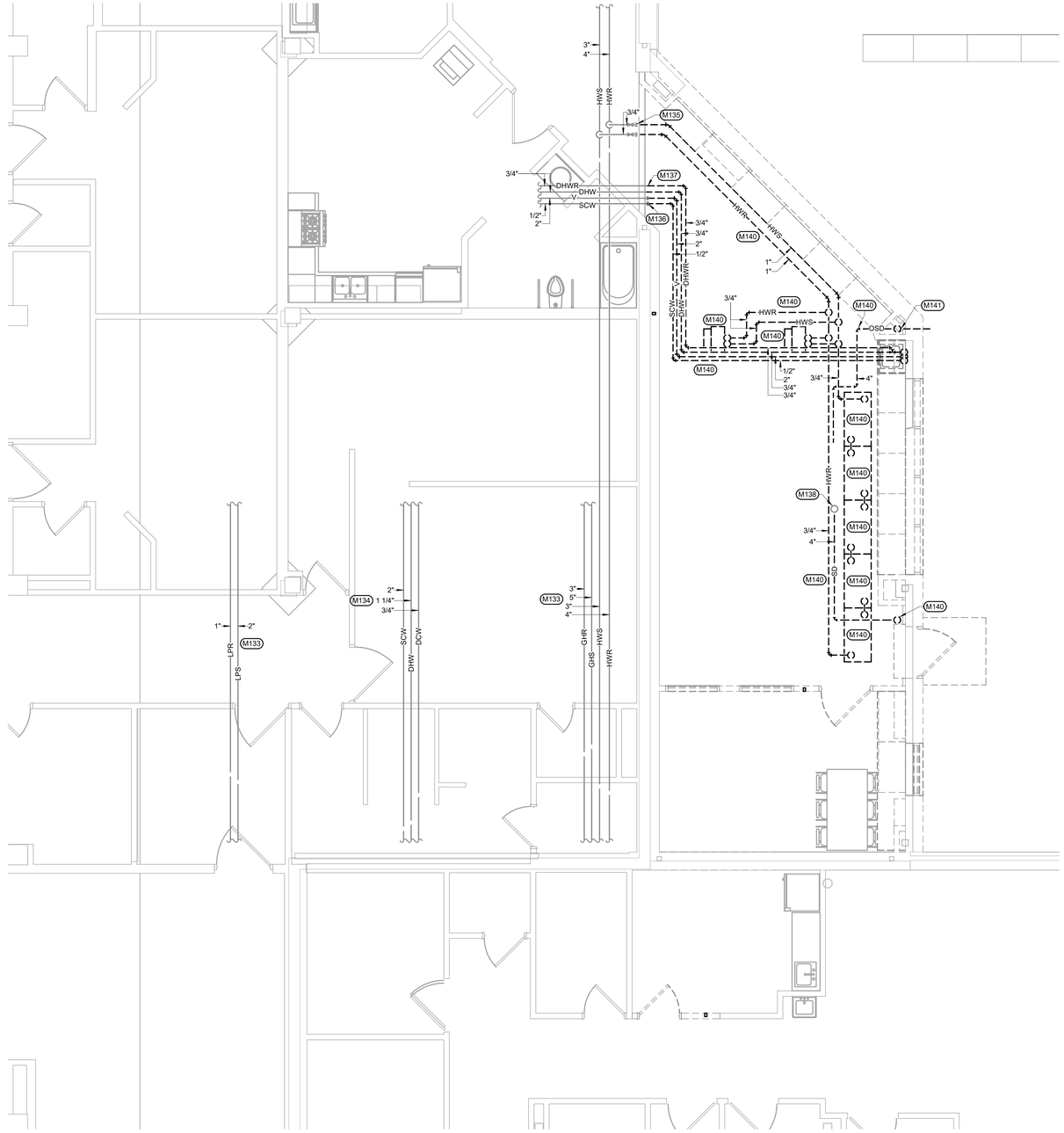
Drawing Title	MECHANICAL SCHEDULES
Phase	100% BID SET
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 WPE #BS18069
Approved:	
	FULLY SPRINKLERED
Location	Sioux Falls, South Dakota
Building Number	5
Issue Date	03/07/2019
Checked	SO
Drawn	ASA
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2 **FIRST FLOOR HVAC DEMOLITION PLAN**
NORTH 1/4" = 1'-0"



1 **FIRST FLOOR PLUMBING DEMOLITION PLAN**
NORTH 1/4" = 1'-0"

MECHANICAL DEMOLITION MISCELLANEOUS NOTES

A DRAWINGS ARE SCHEMATIC IN NATURE BASED ON EXISTING DRAWINGS AND FIELD OBSERVATIONS. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ ENGINEER.

B COORDINATE ANY OUTAGES WITH OWNER A MINIMUM OF 48 HOURS IN ADVANCE, OR AS REQUESTED BY OWNER.

C OWNER SHALL HAVE FIRST SALVAGE RIGHTS OF ALL MATERIALS AND EQUIPMENT. CONTRACTOR SHALL DISPOSE OF ANY MATERIAL OR EQUIPMENT NOT TO BE SALVAGED BY OWNER AT NO ADDITIONAL COST TO THE PROJECT.

D REMOVE EXISTING EQUIPMENT AS INDICATED ON PLANS. MECHANICAL CONTRACTOR SHALL RECLAIM REFRIGERANT AS REQUIRED BY STATE AND LOCAL AUTHORITY HAVING JURISDICTION.

E COORDINATE CUTTING AND PATCHING OF ALL SURFACES WITH GENERAL CONTRACTOR.

F ITEMS INDICATED AS DASHED ARE TO BE REMOVED, ITEMS INDICATED AS LIGHT ARE TO REMAIN. ITEMS INDICATED AS DARK ARE NEW.

G SEAL OFF AREAS WHERE DEMOLITION IS TO OCCUR FROM UNDISTURBED AREAS TO CONTAIN DUST AND DEBRIS WITHIN THE DEMOLITION AREA.

H PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE ODORS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.

J MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS –BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.

MECHANICAL SPECIFIC NOTES

M126 REMOVE EXISTING DUCTWORK BACK TO LOCATION SHOWN AND PREPARE EXISTING DUCTWORK FOR EXTENSION OF NEW AS SHOWN ON THE HVAC PLANS.

M127 REMOVE DUCTWORK, DIFFUSERS, GRILLES, AND EQUIPMENT INDICATED AS DASHED AT LOCATIONS SHOWN.

M128 REMOVE EXISTING BAS SPACE TEMPERATURE SENSOR ON WALL AT LOCATION SHOWN. DO NOT REUSE.

M129 EXISTING DIFFUSER TO REMAIN AT LOCATION SHOWN.

M130 REMOVE DIFFUSER AND CONNECTED DUCTWORK BACK TO MAIN AS SHOWN. CAP OPENING IN MAIN AIRTIGHT.

M131 REMOVE CEILING EXHAUST GRILLE AT LOCATION SHOWN. REMOVE CONNECTED DUCTWORK TO WALL AND CAP DUCTWORK AIRTIGHT AT WALL PENETRATION.

M132 REMOVE EXISTING BAS SPACE TEMPERATURE SENSOR ON WALL AT LOCATION SHOWN. RELOCATE TO LOCATION SHOWN ON HVAC PLANS.

M133 EXISTING HVAC PIPING MAINS ABOVE EXISTING CEILINGS TO REMAIN AND BE REUSED AT LOCATIONS SHOWN. REFER TO HVAC PIPING PLANS FOR CONNECTION POINTS OF NEW PIPING ON EXISTING MAINS.

M134 EXISTING PLUMBING PIPING MAINS ABOVE EXISTING CEILINGS TO REMAIN AND BE REUSED AT LOCATIONS SHOWN. REFER TO HVAC PIPING PLANS FOR CONNECTION POINTS OF NEW PIPING ON EXISTING MAINS.

M135 REMOVE EXISTING HWS/R PIPING TO EXISTING VALVES AT LOCATION SHOWN AND CAP PIPING WATERTIGHT AT DISCHARGE OF VALVE.

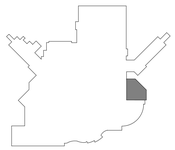
M136 REMOVE 1/2" SCW AND 2"V PIPING BACK TO POINT SHOWN AT WALL PENETRATION AND CAP PIPING WATERTIGHT.

M137 REMOVE 3/4" DHW AND 3/4" DHWR PIPING BACK TO POINT SHOWN AT WALL PENETRATION. SEE PLUMBING PLANS FOR CONNECTION AND EXTENSION OF NEW PIPING FROM THESE LOCATIONS.

M138 REMOVE 4" SD PIPING UP TO EXISTING ROOF DRAIN AT LOCATION SHOWN. RESUE EXISTING ROOF DRAIN AND PREPARE FOR CONNECTION AND EXTENSION OF NEW PIPING AS SHOWN ON THE PLUMBING PLANS.

M140 REMOVE HVAC AND PLUMBING PIPING, VALVES, AND EQUIPMENT INDICATED AS DASHED AT LOCATIONS SHOWN.

M141 REMOVE 4" OSD PIPING DOWN IN CHASE AND OUT TO DOWNSPOUT NOZZLE ABOVE GRADE.



KEYPLAN NTS NORTH

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: MECHANICAL DEMOLITION PLAN	Phase: 100% BID SET	Project Title: Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance	Project Number: VA #438-500 WPE #BS18069
			Building Number: 5
Approved:	FULLY SPRINKLERED	Location: Sioux Falls, South Dakota	Drawing Number: 5.MD101
		Issue Date: 03/07/2019 / Checked: SO / Drawn: ASA	

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PLUMBING ABBREVIATIONS

A/E	ARCHITECT / ENGINEER
AD	AREA DRAIN/ACCESS DOOR
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AG	AIR GAP
AP	ACCESS PANEL
AS	AUTOMATIC SPRINKLER
ASD	ADJUSTABLE SPEED DRIVES
ASD	AUTOMATIC SPRINKLER DRAIN
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AIR CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY OF ECHANICAL ENGINEERS
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS
ASR	AUTOMATIC SPRINKLER RISER
AV	ACID VENT
AW	ACID WASTE
BFP	REDUCED PRESSURE BACKFLOW PREVENTER
BHP	BREAK HORSEPOWER
BSP	BLACK STEEL PIPE
BT	BATHTUB
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
C	CELSIUS
CA	COMPRESSED AIR
CGA	COMPRESSED GAS ASSOCIATION
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
CO	CLEANOUT
CS	CLINICAL SINK
CV	CONTROL VALVE
DCW	DOMESTIC COLD WATER
DFU	DRAINAGE FIXTURE UNITS
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RETURN
DHWS	DOMESTIC HOT WATER SUPPLY
DI	DEIONIZED WATER
DN	DOWN
DOE	DEPARTMENT OF ENERGY
DS	DOWNSPOUT
DW	DISHWASHER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWR	DRINKING WATER RETURN
DWS	DRINKING WATER SUPPLY
DWV	DRAIN WASTE VENT
DSN	DOWNSPOUT NOZZLE

PLUMBING ABBREVIATIONS

EL	ELEVATION
EMCS	ENERGY MONOSERRAT AND CENTRAL SYSTEM
EPA	ENVIROMENTAL PROTECTION AGENCY
EPACT	ENERGY POLICY ACT
ESC	ESCUTCHEON
ESH	EMERGENCY SHOWER
ET	EXPANSION TANK
EWH	ELECTRIC WATER HEATER
EWS	EYE WASH STATION
EWS/SH	EYE WASH/DRENCH SHOWER
EX	EXISTING
F	FAHRENHEIT
FC	FAN COIL
FCO	FLOOR CLEANOUT
FCW	FILTERED COLD WATER
FD	FLOOR DRAIN
FDC (HOSE)	FIRE DEPARTMENT CONNECTION
FM	FLOW METER
FOP	FUEL OIL PUMP
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL VENT
FS	FLOOR SINK
FS	FLOW SWITCH
FU	FIXTURE UNITS

PLUMBING ABBREVIATIONS

GAL	GALLON
GCO	GRADE CLEANOUTS
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPR	GAS PRESSURE REGULATOR
GRS	GAS REGULATOR STATION
GT	GREASE TRAP
GVTR	GAS VENT THROUGH ROOF
GWH	GAS FIRED WATER HEATER
H&CW	HOT AND COLD WATER
HB	HOSE BIBB
HD	HUB DRAIN
HEX	HEAT EXCHANGER
HP	HORSEPOWER
HS	HAND SINK
HST	HOT WATER STORAGE TANK (DOMESTIC)
HWB	HOT WATER BOILER
HWCP	HOT WATER CIRCULATING PUMP
HWP	HOT WATER PUMP
HYD	HYDRANT
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
ICW	INDUSTRIAL COLD WATER
IHW	INDUSTRIAL HOT WATER
INV	INVERT
IPC	INTERNATIONAL PLUMBING CODE
IRW	IRRIGATION WATER
IW	INDIRECT WASTE
IWH	INSTANTANEOUS WATER HEATER
IWR	INDUSTRIAL WATER RETURN
IWS	INDUSTRIAL WATER SUPPLY
KW	KILOWATT
KWH	KILOWATT-HOUR
L/S	LITER PER SECOND
LA	LABORATORY AIR
LAV	LAVATORY
LBS/HR	POUNDS PER HOUR
LCW	LABORATORY COLD WATER
LHW	LABORATORY HOT WATER
LNG	LIQUID NATURAL GAS
LOX	LIQUID OXYGEN
LV	LABORATORY VACUUM
LW	LOW WATER

PLUMBING ABBREVIATIONS

M	METER
MA	MEDICAL AIR
MAV	MANUAL AIR VENT
MBH	1000 BTUH
MED	MEDICAL
MER	MECHANICAL EQUIPMENT ROOM
MH	MANHOLE
MOU	MEMORANDUM OF UNDERSTADING
MSB	MOP SERVICE BASIN
MV	MEDICAL VACUUM
N2	NITROGEN
N20	NITROUS OXIDE
NC	NORMALLY CLOSED
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM.	NOMINAL
NPW	NON POTABLE WATER
NTS	NOT TO SCALE
O2	OXYGEN
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFD	OVERFLOW DRAIN
OR	OPERATING ROOM
OSD	OVERFLOW STORM DRAIN
OVFL	OVERFLOW

PLUMBING ABBREVIATIONS

IPC	INTERNATIONAL PLUMBING CODE
PA	PASCAL
PD	PRESSURE DROP OR DIFFERENCE
PDI	PLUMBING AND DRAINAGE INSTITUTE
PG	PRESSURE GAGE
PP	PLUMBING PUMP
PPM	PARTS PER MILLION
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ATMOSPHERE
PSIG	POUNDS PER SQUARE INCH GAGE
PTRV	PRESSURE TEMPERATURE RELIEF VALVE
PW	POTABLE WATER
RD	ROOF DRAIN
RDL	ROOF DRAIN LEADER
RL	ROOF LEADER
RP	RECIRCULATION PUMP
RO	REVERSE OSMOSIS WATER
RWL	RAIN WATER LEADER
SAN	SANITARY SEWER
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SCFM	STANDARD CUBIC FOOT/MINUTE
SCW	SOFTENED COLD WATER
SDMH	STORM DRAIN MANHOLE
SMH	SANITARY MANHOLE
SP	SUMP PUMP
SPR	SPRINKLER LINE
SQFT/SF	SQUARE FEET
SS	STAINLESS STEEL
SD	STORM DRAIN
SW	STORM WATER
TCV	TEMPERATURE CONTROL VALVE
TD	TEMPERATURE DIFFERENCE
TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TEMP	TEMPERATURE
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
TSTAT	THERMOSTAT
TWR	TEMPERED WATER RETURN
TWS	TEMPERED WATER SUPPLY
TYP	TYPICAL
V	VENT
VAC	VACUUM
VB	VACUUM BREAKER
VCO	VACUUM CLEANER OUTLET
VP	VACUUM PUMP
VS	VENT STACK
VSD	VARIABLE SPEED DRIVE
VTR	VENT THROUGH ROOF
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WG	WATER GAGE
WH	WALL HYDRANT
WH	WATER HEATER
WHA	WATER HAMMER ARRESTER
WL	WATER LINE
WM	WATER METER
WPD	WATER PRESSURE DROP
WS	WASTE STACK
WSFU	WATER SUPPLY FIXTURE UNITS
YCO	YARD CLEANOUT
YH	YARD HYDRANT

PLUMBING PIPING SYMBOLS

	DOMESTIC COLD WATER, COLD WATER
	DOMESTIC HOT WATER, HOT WATER
	DOMESTIC HOW WATER RETURN, HOT WATER RETURN
MA MA MA	MEDICAL AIR
MV MV MV	MEDICAL VACUUM
LA LA LA	LABORATORY AIR
LV LV LV	LABORATORY VACUUM
OA OA OA	ORAL EVACUATION
IA IA IA	INDUSTRIAL AIR
D D D	DRAIN
SAN SAN SAN	SANITARY SEWER
SS SS SS	SANITARY SEWER (OPTIONAL)
SAN SAN SAN	SANITARY SEWER, BELOW GRADE
SD SD SD	STORM WATER
SD SD SD	STORM WATER, BELOW GRADE
OSD OSD OSD	OVERFLOW STORM WATER
SCW SCW SCW	SOFTEN COLD WATER
FCW FCW FCW	FILTERED COLD WATER
DWS DWS DWS	DRINKING WATER SUPPLY
DWR DWR DWR	DRINKING WATER RETURN
TWS TWS TWS	TEMPERED WATER SUPPLY
TWR TWR TWR	TEMPERED WATER RETURN
N_2O N_2O N_2O	NITROUS OXIDE
O O O	OXYGEN
N_2 N_2 N_2	NITROGEN
NG NG NG	NATURAL GAS
NG NG NG	NATURAL GAS, BELOW GRADE
FOD FOD FOD	FUEL OIL DISCHARGE
FOS FOS FOS	FUEL OIL SUPPLY
FOV FOV FOV	FUEL OIL VENT
FOR FOR FOR	FUEL OIL RETURN

GENERAL PLUMBING SYMBOLS

- DIRECTION OF PIPE PITCH (DOWN)
- DIRECTION OF FLOW
- ANCHOR
- REDUCER OR INCREASER
- ECCENTRIC REDUCER
- TOP CONNECTION, 45° OR 90°
- BOTTOM CONNECTION, 45° OR 90°
- SIDE CONNECTION
- CAPPED OUTLET
- RISE OR DROP IN PIPE
- UNION
- PIPE UP
- PIPE DOWN
- POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK
- LIMIT OF DEMOLITION
- INVERTED BUCKET TRAP SET INCLUDING PIPING ACCESSORIES
- FLOAT & THERMOSTATIC TRAP SET INCLUDING PIPING ACCESSORIES
- STRAINER
- THERMOMETER
- PRESSURE GAGE
- FE — FLOW ELEMENT
- CO — CLEAN OUT
- HOSE BIB

PLUMBING VALVE SYMBOLS

- GATE VALVE
- GLOBE VALVE
- GATE VALVE WITH 3/4 " HOSE ADAPTER
- CHECK VALVE
- ANGLE GLOBE VALVE
- BUTTERFLY VALVE
- BALL VALVE
- MODULATING CONTROL VALVE
- TWO POSITION CONTROL VALVE
- THREE-WAY MODULATING CONTROL VALVE
- THREE-WAY TWO POSITION CONTROL VALVE
- PRESSURE REGULATING VALVE
- AUTOMATIC FLOW CONTROL VALVE
- PRESSURE RELIEF VALVE
- MANUAL AIR VENT
- TEST PLUG (PRESSURE/TEMPERATURE)
- AV — AUTOMATIC AIR VENT

DRAWING SYMBOLS

- 2 / H4 — DETAIL NUMBER; DRAWING NUMBER WHERE DRAWN
- A / H7 — SECTION LETTER; DRAWING NUMBER WHERE SHOWN
- 26-SF 3 — BUILDING NO. WHERE EQUIPMENT IS LOCATED; EQUIPMENT ABBREVIATION (SUPPLY FAN); SUPPLY FAN NO. 3 IN BUILDING NO. 26; TYPICAL UNIT NO.
- 26-TU-I-I — BUILDING NO. WHERE EQUIPMENT IS LOCATED; ITEM (TERMINAL UNIT SHOWN); ITEM NUMBER (TERMINAL UNIT NO. 1); SERVED BY AIR HANDLER UNIT NO. 1

2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018
Revision#	Description	Date:

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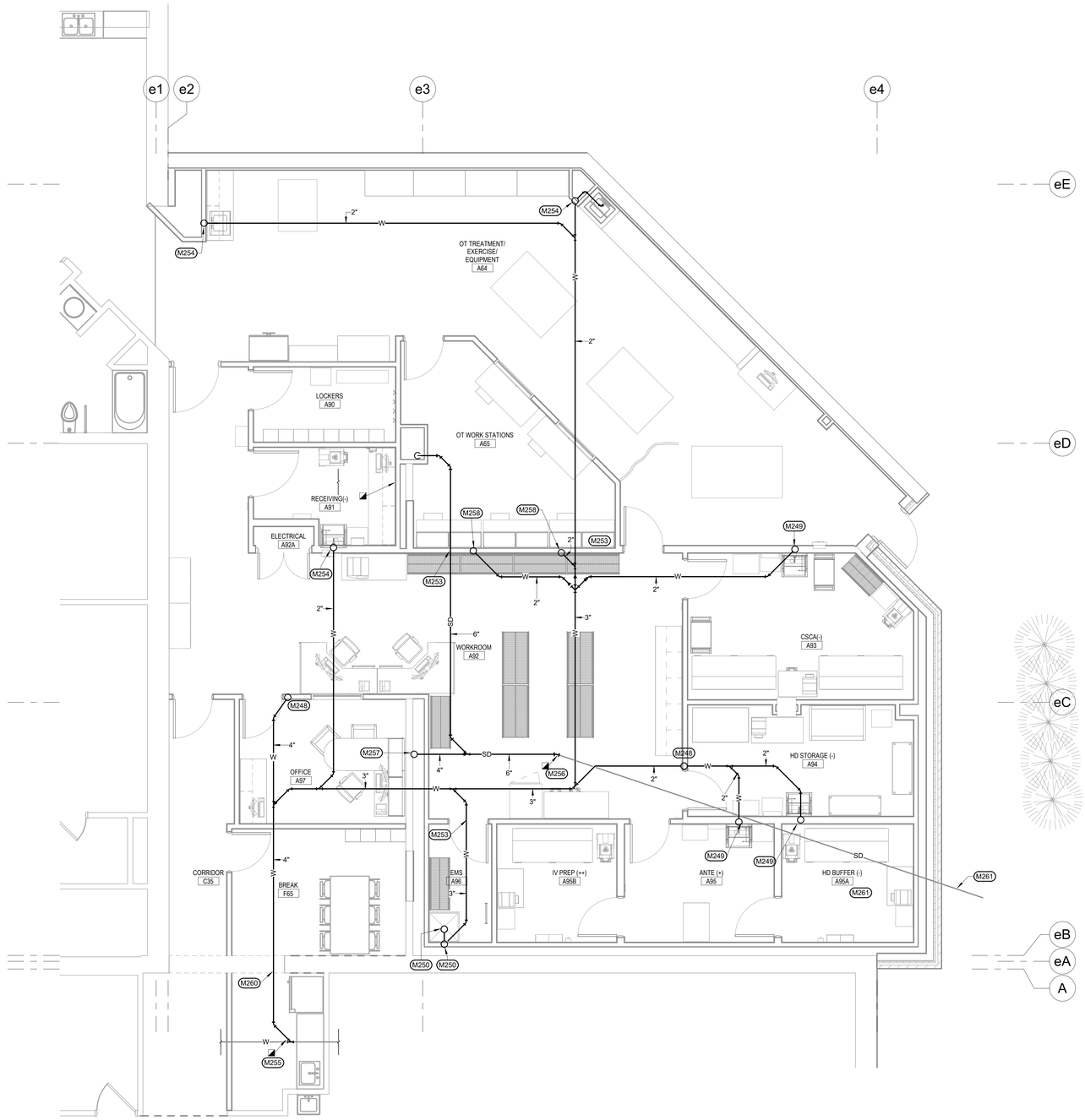
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	MECHANICAL PLUMBING SYMBOLS AND ABBREVIATIONS
Phase	100% BID SET
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 WPE #BS18069
Building Number	5
Approved:	
	FULLY SPRINKLERED
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	SO
Drawn	ASA
Drawing Number	5.P001

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UNDERFLOOR PLUMBING PLAN

1/4" = 1'-0"

NORTH

UNDERFLOOR PLUMBING MISCELLANEOUS NOTES

A. DRAWINGS ARE SCHEMATIC IN NATURE BASED ON EXISTING DRAWINGS AND FIELD OBSERVATIONS. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ ENGINEER.

B. COORDINATE ALL UNDERGROUND PIPING WITH FOOTING, FOUNDATION, AND ALL OTHER TRADES. PROVIDE SLEEVES AND OFFSETS AS REQUIRED TO AVOID CONFLICT.

C. COORDINATE ANY OUTAGES WITH OWNER A MINIMUM OF 48 HOURS IN ADVANCE, OR AS REQUESTED BY OWNER.

D. PROVIDE CLEANOUTS AS REQUIRED BY CODE AND AUTHORITY HAVING JURISDICTION.

E. OBTAIN AND COORDINATE ALL "HOT WORK PERMITS" WITH OWNER FOR ALL WORK WHICH REQUIRES SAID PERMIT.

F. PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE ODORS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.

G. ITEMS INDICATED AS LIGHT ARE EXISTING AND ITEMS INDICATED AS DARK ARE NEW.

H. SEAL OFF AREAS WHERE CONSTRUCTION IS TO OCCUR FROM UNDISTURBED AREAS TO CONTAIN DUST AND DEBRIS WITHIN CONSTRUCTION AREA.

J. SEE SHEET MXX FOR WASTE & VENT RISER DIAGRAMS.

K. COORDINATE LOCATIONS OF ALL SERVICES WITH SITE CONTRACTOR.

L. MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS –BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.

MECHANICAL SPECIFIC NOTES

M248 LINE SIZED WASTE UP TO CLEANOUT WALL. 4" MAXIMUM.

M249 2" WASTE UP IN WALL TO SINK. ROUTE VERTICAL PIPING THROUGH SLEEVE IN THICKENED FLOOR SLAB BELOW WALL. COORDINATE SLEEVE LOCATION WITH THE CONCRETE SUBCONTRACTOR.

M250 3" WASTE UP TO MOP SINK. ROUTE 2" VENT UP IN WALL AS SHOWN. MAKE TRAP AS HIGH AS POSSIBLE BELOW FOOTING. ROUTE 3" WASTE UP THROUGH FOOTING IN SLEEVE TO SINK CONNECTION. ROUTE 2" VENT UP THROUGH FOOTING IN SLEEVE AND INTO WALL. COORDINATE SLEEVE LOCATIONS WITH THE CONCRETE SUBCONTRACTOR.

M253 ROUTE PIPING AS HIGH AS POSSIBLE BELOW THICKENED FLOOR SLAB AT LOCATION SHOWN.

M254 2" WASTE UP IN WALL TO SINK.

M255 CONNECT NEW 4" WASTE TO EXISTING 4" WASTE WASTE LINE BELOW FLOOR IN EXISTING BREAKROOM AT LOCATION SHOWN.

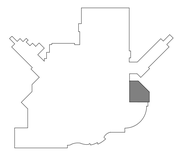
M256 AT LOCATION SHOWN, REMOVE EXISTING AREA DRAIN ON EXTERIOR OF BUILDING. CONNECT NEW 6" SD PIPING TO EXISTING 6" STORM SERVICE PIPING BELOW FLOOR AND OUT OF BUILDING AS SHOWN.

M257 4" STORM DRAIN PIPING UP THROUGH FLOOR AND INTO CHASE ABOVE.

M258 2" WASTE UP IN WALL. ROUTE VERTICAL PIPING THROUGH SLEEVE IN THICKENED FLOOR SLAB BELOW WALL. COORDINATE SLEEVE LOCATION WITH THE CONCRETE SUBCONTRACTOR.

M260 ROUTE PIPING THROUGH EXISTING FOUNDATION WALL AT LOCATION SHOWN, ABOVE TOP OF EXISTING FOOTING.

M261 AT LOCATION SHOWN, TEMPORARILY REMOVE EXISTING 6" STORM DRAIN PIPING 5'-0" FROM EACH SIDE OF NEW FOUNDATION WALL TO ALLOW FOUNDATION TO BE INSTALLED. ONCE FOUNDATION WALL IS INSTALLED, REINSTALL PIPING THROUGH FOUNDATION AND RECONNECT TO EXISTING PIPING ON EACH SIDE OF FOUNDATION.



KEYPLAN

NTS

NORTH

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

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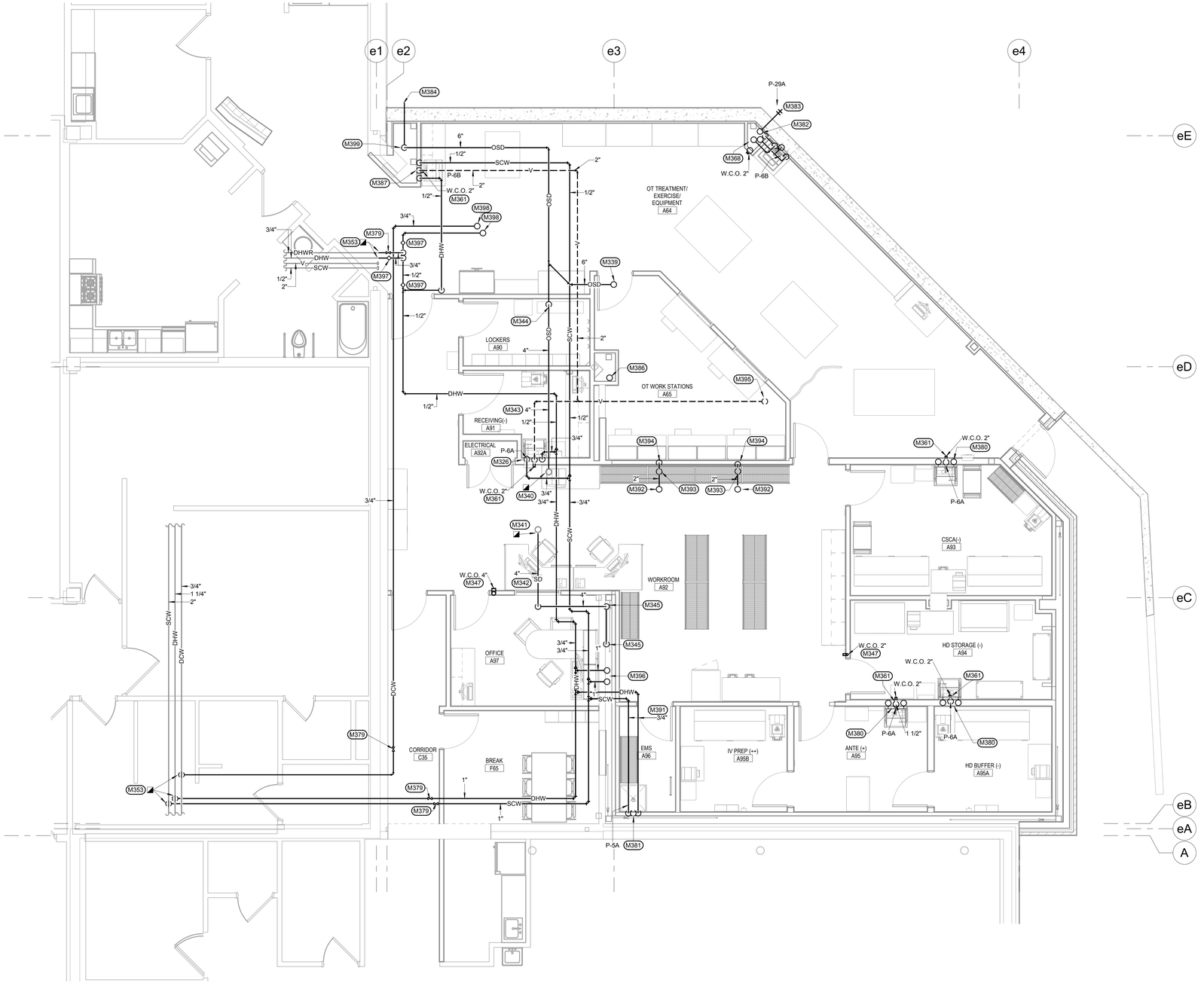
Drawing Title	UNDERFLOOR PLUMBING PLAN
Phase	100% BID SET
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 WPE #BS18069
Building Number	5
Approved:	
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	SO
Drawn	ASA
Drawing Number	5.P101
	FULLY SPRINKLERED

VA FORM 08 - 6231

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three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



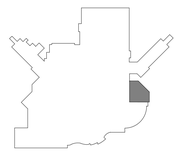
1 **FIRST LEVEL PLUMBING PLAN**
1/4" = 1'-0"
NORTH

PLUMBING MISCELLANEOUS NOTES

A	DRAWINGS ARE SCHEMATIC IN NATURE BASED ON EXISTING DRAWINGS AND FIELD OBSERVATIONS. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ENGINEER.
B	DO NOT ROUTE PIPING ABOVE OR IN FRONT OF ELECTRICAL GEAR. MAINTAIN CODE REQUIRED CLEARANCES.
C	COORDINATE ANY OUTAGES WITH OWNER A MINIMUM OF 48 HOURS IN ADVANCE, OR AS REQUESTED BY OWNER.
D	COORDINATE PIPING LAYOUTS WITH ALL EXISTING CONDITIONS. PROVIDE OFFSET AS REQUIRED TO AVOID CONFLICT.
E	COORDINATE CUTTING AND PATCHING OF ALL SURFACES WITH GENERAL CONTRACTOR.
F	OBTAIN AND COORDINATE ALL "HOT WORK PERMITS" WITH OWNER FOR ALL WORK WHICH REQUIRES SAID PERMIT.
G	PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE ODORS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.
H	ITEMS INDICATED AS LIGHT ARE EXISTING AND ITEMS INDICATED AS DARK ARE NEW.
J	SEAL OFF AREAS WHERE CONSTRUCTION IS TO OCCUR FROM UNDISTURBED AREAS TO CONTAIN DUST AND DEBRIS, WITHIN CONSTRUCTION AREA.
K	PROVIDE AND INSTALL INDIVIDUAL SHUT OFF VALVES TO ALL WALL HYDRANTS AND HOSE BIBS. INSTALL SHUT OFF VALVES IN AN ACCESSIBLE LOCATION.
L	SEE SHEET MXX FOR DOMESTIC RISER DIAGRAMS.
M	MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS –BUILT' CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.
N	COORDINATE LOCATIONS OF ALL SERVICES WITH SITE CONTRACTOR.

MECHANICAL SPECIFIC NOTES

#	
M326	3/4" SCW, 3/4" DHW, 2" VENT DOWN IN WALL FOR SINK.
M339	6" OSD UP INTO EQUIPMENT PLATFORM SPACE. SEE EQUIPMENT PLATFORM PLUMBING PLANS FOR CONTINUATION.
M340	CONNECT NEW 4" OSD PIPING TO EXISTING 4" ORD AT LOCATION SHOWN.
M341	CONNECT NEW 4" SD PIPING TO EXISTING 4" ORD AT LOCATION SHOWN.
M342	ROUTE NEW 4" SD PIPING THROUGH EXISTING JOISTS AT LOCATION SHOWN.
M343	ROUTE NEW 4" OSD PIPING THROUGH EXISTING JOISTS AT LOCATION SHOWN.
M344	DROP 4" OSD PIPING TO BELOW BEAM AT LOCATION SHOWN. ROUTE TIGHT TO UNDERSIDE OF BEAM.
M345	DROP 4" SD PIPING IN CHASE TO BELOW NEW DUCTWORK DROPS. BELOW DUCTWORK DROPS, ROUTE PIPING HORIZONTALLY IN CHASE AND DROP PIPING THROUGH FLOOR. SEE UNDERFLOOR PLUMBING PLANS FOR CONTINUATION. COORDINATE ROUTING WITH THE HVAC CONTRACTOR.
M347	PROVIDE WALL CLEANOUT 18" ABOVE FLOOR. SEE UNDERFLOOR PLUMBING PLAN FOR CONTINUATION. PROVIDE CHROME PLATED ACCESS COVER ON WORKROOM A92 SIDE OF WALL.
M353	CONNECT NEW PIPING TO EXISTING PIPING MAINS ABOVE EXISTING CEILING AT APPROXIMATE LOCATION SHOWN.
M361	PROVIDE WCO ON 2" WASTE PIPING FROM SINK DOWN THROUGH FLOOR. PROVIDE CLEANOUT ON SIDE OF WALL INDICATED WITH CHROME PLATED COVER.
M368	1/2" SCW, 1/2" DHW, 1-1/2" VENT UP/DOWN IN WALL TO SINK. ROUTE PIPING UP IN WALL TO EQUIPMENT PLATFORM ABOVE. SEE EQUIPMENT PLATFORM PLUMBING PLANS FOR CONTINUATION. FROM SINK, ROUTE 2" PIPING DOWN IN WALL TO BELOW SLAB. SEE UNDERFLOOR PLUMBING PLAN FOR CONTINUATION. PROVIDE 2" WALL CLEANOUT 18" ABOVE FLOOR WHERE WASTE PIPING PENETRATES FLOOR. PROVIDE CHROME PLATED ACCESS COVER ON WALL.
M378	1/2" SCW, 1/2" DHW, 1-1/2" VENT DOWN DOWN IN CHASE FOR SINK.
M379	INSTALL ISOLATION VALVES ABOVE ACCESSIBLE CEILING AT LOCATION SHOWN.
M380	3/4" SCW, 3/4" DHW, 1-1/2" VENT UP/DOWN IN WALL TO SINK. ROUTE PIPING UP IN WALL TO EQUIPMENT PLATFORM SPACE ABOVE. SEE EQUIPMENT PLATFORM PLUMBING PLANS FOR CONTINUATION.
M381	3/4" SCW, 3/4" DHW, 2" VENT UP/DOWN IN WALL TO MOP SINK. ROUTE ONLY VENT PIPING UP TO EQUIPMENT PLATFORM SPACE ABOVE. SEE EQUIPMENT PLATFORM PLUMBING PLANS FOR CONTINUATION OF VENT PIPING.
M382	3/4" DCW UP IN CHASE TO EQUIPMENT PLATFORM SPACE ABOVE. SEE EQUIPMENT PLATFORM PLUMBING PLANS FOR CONTINUATION.
M383	INSTALL WALL HYDRANT AT 18" ABOVE FINISHED GRADE AT LOCATION SHOWN.
M384	INSTALL DOWNSPOUT NOZZLE AT 18" ABOVE FINISHED GRADE AT LOCATION SHOWN.
M386	6" SD UP/DOWN IN CHASE. ROUTE UP INTO EQUIPMENT PLATFORM SPACE AND DOWN THROUGH FLOOR.
M387	1/2" SCW, 1/2" DHW, 2" VENT DOWN IN WALL FOR SINK.
M391	ROUTE SCW AND DHW PIPING AT LOCATION SHOWN THROUGH JOISTS ABOVE CEILING IN EMS ROOM, AND BELOW EQUIPMENT PLATFORM FLOOR.
M392	2"W UP TO FLOOR DRAIN IN EQUIPMENT PLATFORM FLOOR. SEE EQUIPMENT PLATFORM PLUMBING PLANS FOR LOCATION.
M393	1-1/2"V UP THROUGH EQUIPMENT PLATFORM FLOOR. SEE EQUIPMENT PLATFORM PLUMBING PLANS FOR CONTINUATION.
M394	2"W DOWN IN WALL TO BELOW FLOOR. SEE UNDERFLOOR PLUMBING PLANS FOR CONTINUATION.
M395	2"V UP INTO EQUIPMENT PLATFORM SPACE. SEE EQUIPMENT PLATFORM PLUMBING PLANS FOR CONTINUATION.
M396	1" SCW AND 1" DHW UP THROUGH EQUIPMENT PLATFORM FLOOR. SEE EQUIPMENT PLATFORM PLUMBING PLANS FOR CONTINUATION.
M397	INSTALL DOMESTIC HOT WATER MANUAL BALANCING VALVES ABOVE ACCESSIBLE CEILING AT LOCATION SHOWN. BALANCE VALVE TO 0.5 GPM.
M398	1/2" DHWR AND 3/4" DCW UP INTO EQUIPMENT PLATFORM SPACE. SEE EQUIPMENT PLATFORM PLUMBING PLANS FOR CONTINUATION.
M399	6" OSD DOWN IN CHASE AT LOCATION SHOWN TO DOWNSPOUT NOZZLE.



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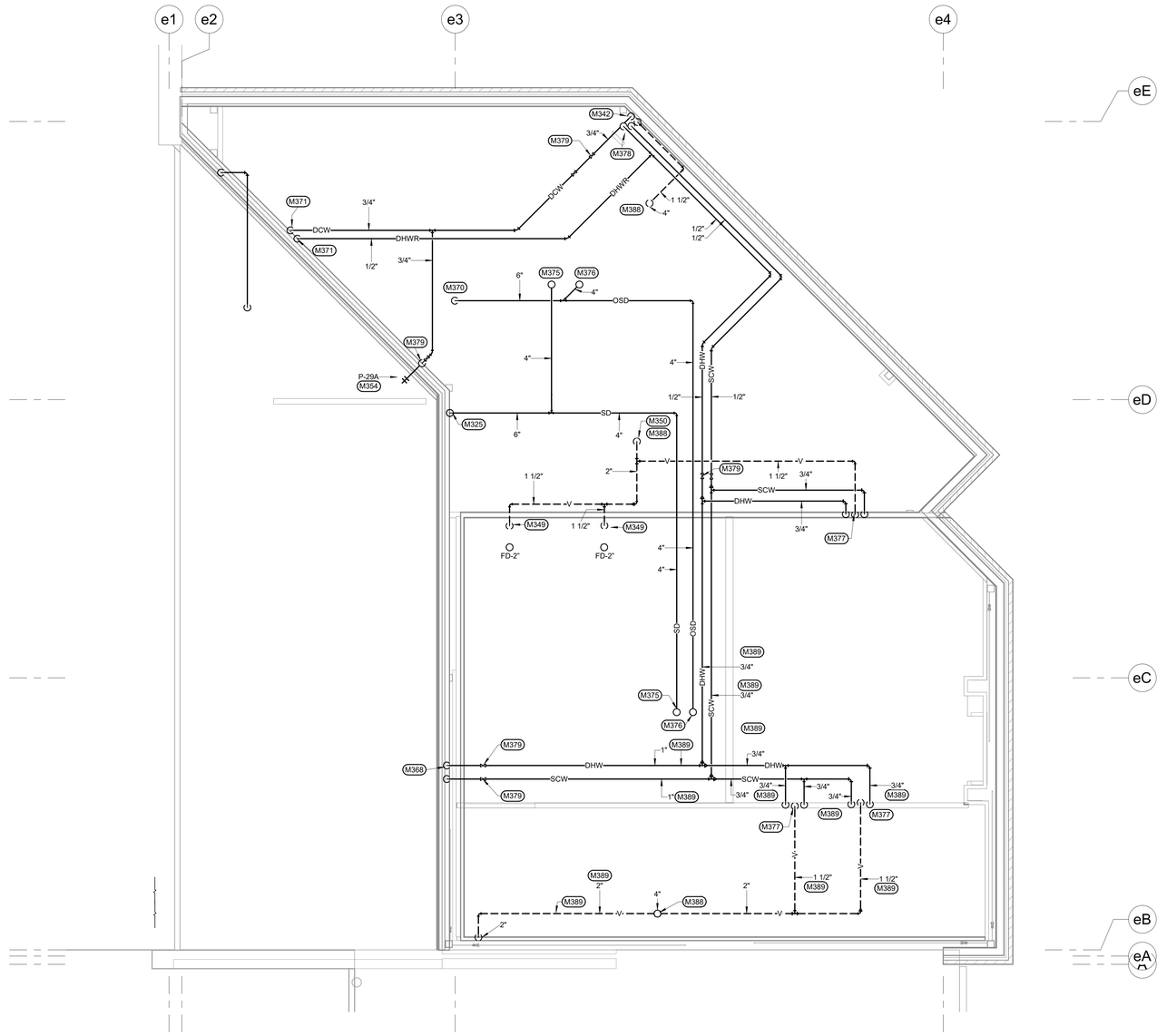
REGISTERED PROFESSIONAL ENGINEER REG. NO. 9713 MATTHEW L. OSTER SOUTH DAKOTA

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title FIRST LEVEL PLUMBING PLAN	**Phase** 100% BID SET	**Project Title** Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance	**Project Number** VA #438-500 WPE #BS18069
			Building Number 5
Approved:	FULLY SPRINKLERED	**Location** Sioux Falls, South Dakota	**Drawing Number** 5.P102
		Issue Date 03/07/2019 / **Checked** SO / **Drawn** ASA	

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1 **EQUIPMENT PLATFORM PLUMBING PLAN**
1/4" = 1'-0"

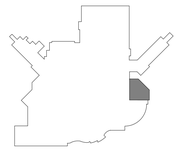
NORTH

PLUMBING MISCELLANEOUS NOTES

A	DRAWINGS ARE SCHEMATIC IN NATURE BASED ON EXISTING DRAWINGS AND FIELD OBSERVATIONS. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS BEFORE BEGINNING WORK. REPORT DISCREPANCIES TO ARCHITECT/ENGINEER.
B	DO NOT ROUTE PIPING ABOVE OR IN FRONT OF ELECTRICAL GEAR. MAINTAIN CODE REQUIRED CLEARANCES.
C	COORDINATE ANY OUTAGES WITH OWNER A MINIMUM OF 48 HOURS IN ADVANCE, OR AS REQUESTED BY OWNER.
D	COORDINATE PIPING LAYOUTS WITH ALL EXISTING CONDITIONS. PROVIDE OFFSET AS REQUIRED TO AVOID CONFLICT.
E	COORDINATE CUTTING AND PATCHING OF ALL SURFACES WITH GENERAL CONTRACTOR.
F	OBTAIN AND COORDINATE ALL "HOT WORK PERMITS" WITH OWNER FOR ALL WORK WHICH REQUIRES SAID PERMIT.
G	PROVIDE ADEQUATE VENTILATION AS PER OWNER AND OSHA TO PROPERLY REMOVE ODORS AND FUMES FROM SPACES WHERE WORK IS BEING PERFORMED TO OUTDOORS.
H	ITEMS INDICATED AS LIGHT ARE EXISTING AND ITEMS INDICATED AS DARK ARE NEW.
J	SEAL OFF AREAS WHERE CONSTRUCTION IS TO OCCUR FROM UNDISTURBED AREAS TO CONTAIN DUST AND DEBRIS, WITHIN CONSTRUCTION AREA.
K	PROVIDE AND INSTALL INDIVIDUAL SHUT OFF VALVES TO ALL WALL HYDRANTS AND HOSE BIBS. INSTALL SHUT OFF VALVES IN AN ACCESSIBLE LOCATION.
L	SEE SHEET MXX FOR DOMESTIC RISER DIAGRAMS.
M	MAINTAIN CURRENT AND ACCURATE FIELD DRAWINGS OF "AS –BUILT" CONDITIONS. THESE DRAWINGS SHALL BE REVIEWED AT EACH CONSTRUCTION PROGRESS MEETING.
N	COORDINATE LOCATIONS OF ALL SERVICES WITH SITE CONTRACTOR.

MECHANICAL SPECIFIC NOTES

#	
M325	DROP 6" SD PIPING DOWN AT LOCATION SHOWN. SEE FIRST FLOOR PLUMBING PLAN FOR CONTINUATION.
M333	2" VENT DOWN THROUGH FLOOR AND INTO WALL BELOW FOR MOP SINK.
M342	ROUTE NEW 4" SD PIPING THROUGH EXISTING JOISTS AT LOCATION SHOWN.
M344	DROP 4" OSD PIPING TO BELOW BEAM AT LOCATION SHOWN. ROUTE TIGHT TO UNDERSIDE OF BEAM.
M349	ROUTE 1-1/2" VENT PIPING DOWN TIGHT AND EXPOSED ON WALL AT LOCATION SHOWN FOR FLOOR DRAIN ON EQUIPMENT PLATFORM FLOOR SLAB.
M350	DROP 2" V PIPING DOWN AT LOCATION SHOWN. SEE FIRST FLOOR PLUMBING PLAN FOR CONTINUATION.
M354	INSTALL WALL HYDRANT AT 24" ABOVE ADJOINING LOW ROOF AT LOCATION SHOWN.
M368	1/2" SCW, 1/2" DHW, 1-1/2" VENT UP/DOWN IN WALL TO SINK. ROUTE PIPING UP IN WALL TO EQUIPMENT PLATFORM ABOVE. SEE EQUIPMENT PLATFORM PLUMBING PLANS FOR CONTINUATION. FROM SINK, ROUTE 2" PIPING DOWN IN WALL TO BELOW SLAB. SEE UNDERFLOOR PLUMBING PLAN FOR CONTINUATION. PROVIDE 2" WALL CLEANOUT 18" ABOVE FLOOR WHERE WASTE PIPING PENETRATES FLOOR. PROVIDE CHROME PLATED ACCESS COVER ON WALL.
M370	DROP 6" OSD PIPING DOWN AT LOCATION SHOWN. SEE FIRST FLOOR PLUMBING PLAN FOR CONTINUATION.
M371	DROP 3/4" DCW AN 1/2" DWHR PIPING DOWN AT LOCATION SHOWN. SEE FIRST FLOOR PLUMBING PLAN FOR CONTINUATION.
M375	6" SD UP TO ROOF DRAIN.
M376	6" OSD UP TO OVERFLOW ROOF DRAIN.
M377	3/4" SCW, 3/4" DHW, 1-1/2" VENT DOWN THROUGH FLOOR AND INTO WALL BELOW FOR SINK.
M378	1/2" SCW, 1/2" DHW, 1-1/2" VENT DOWN DOWN IN CHASE FOR SINK.
M379	INSTALL ISOLATION VALVES ABOVE ACCESSIBLE CEILING AT LOCATION SHOWN.
M388	ROUTE 4" VENT THROUGH ROOF AT LOCATION SHOWN. SEE DETAILS FOR ADDITIONAL INFORMATION.
M389	ROUTE DOMESTIC WATER AND VENT PIPING MAINS AND BRANCHES IN AND THROUGH JOINT SPACES WITHIN EQUIPMENT PLATFORM SPACE. ONLY VERTICAL DROPS TO BELOW INTERSTIAL FLOOR SHALL BE BELOW STRUCTURE.



KEYPLAN
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Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

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REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9939
JONATHAN M. OSTER
SOUTH DAKOTA
3/7/2019

Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: EQUIPMENT PLATFORM PLUMBING PLAN	Phase: 100% BID SET	Project Title: Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance	Project Number: VA #438-500 WPE #BS18069
			Building Number: 5
Approved:	FULLY SPRINKLERED	Location: Sioux Falls, South Dakota	Drawing Number: 5.P103
		Issue Date: 03/07/2019 / Checked: SO / Drawn: ASA	

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PLUMBING FIXTURE SCHEDULE

UNIT TYPE	UNIT NUMBER	MANUFACTURER	MODEL	FIXTURE TYPE	WASTE	VENT	SUPPLY CW	SUPPLY HW	TRIM/REMARKS
P	5A	ZURN	Z1996-24	SERVICE SINK 24"X24"	3"	2"	3/4"	3/4"	1
P	6A	JUST	JPH-ADA-2224-CT	ADA WALL MOUNTED STAINLESS STEEL SINK, 24"X22", SENSOR OPERATED LAMINAR FLOW GOOSENECK FAUCET, SWINGDOWN EYEWASH	2"	1 1/2"	1/2"	1/2"	2
P	6B	ELKAY	LRADQ191965PD	SINGLE COMPARTMENT SINK 22"X19"X6-1/2", 1.5 GPM LAMINAR FLOW, ADA	2"	1 1/2"	1/2"	1/2"	3
P	29A	WOODFORD	67	WALL HYDRANT			3/4"		4

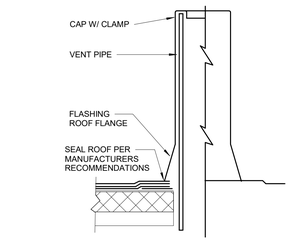
COMMENTS:

1 ZURN Z843M1-RC, (BS) STAINLESS STEEL BUMPER GAURD, (HH) HOSE AND HOSE BRACKET, (SDL) 3" STAINLESS STEEL DRAIN WITH DOME STRAINER, (WG) STAINLESS STEEL WALL GUARD.

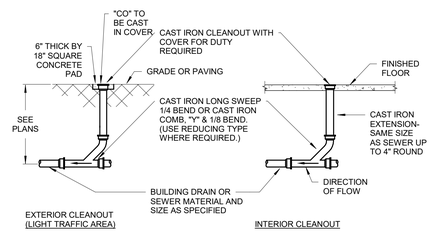
2 STAINLESS STEEL WALL MOUNTED HANDWASHING SINK. PROVIDE WITH HARDWIRED SENSOR POWERED LAMINAR FLOW FAUCET WITH GROUNDED PLUG. PROVIDE MANUFACTURER'S TEMPERATURE MIXING VALVES FOR FAUCET AND EYEWASH. PROVIDE WITH 17 GAUGE CHROME PLATED P-TRAP, STRAINER, AND LA12K SUPPLY KIT WITH KEYED ANGLED STOP VALVE AND TUBE RISERS.

3 SINGLE COMPARTMENT STAINLESS STEEL COUNTERTOP SINK, REAR CENTER DRAIN OUTLET, HOLE DRILLING CONFIGURATION 3 (3 HOLES AT 4" O.C.). PROVIDE WITH ZURN Z871B4-XL 5-3/8" CHROME PLATED RIGID GOOSENECK FAUCET WITH 4" WRIST BLADE HANDLES AND VANDAL RESISTANT 1.5 GPM LAMINAR LOW OUTLET. PROVIDE WITH 17 GAUGE CHROME PLATED P-TRAP, STRAINER, AND LA12K SUPPLY KIT WITH KEYED ANGLED STOP VALVE AND TUBE RISERS. SEE ARCHITECTURAL PLANS FOR COUNTERTOP ELEVATIONS. COORDINATE SINK OPENING WITH COUNTERTOP MILLWORK. ADA COMPLIANT

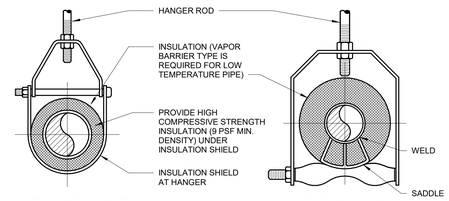
4 FREEZE RESISTANT, SELF DRAINING WITH INTEGRAL BACKFLOW PREVENTOR, REMOVABLE KEY.

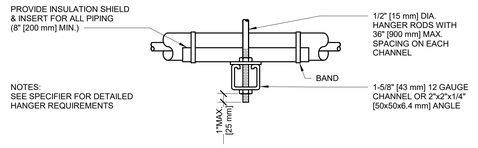


NORTH 1 **PLUMBING VENT DETAIL**
NO SCALE



NORTH 2 **CLEANOUTS DETAIL**
NO SCALE





MAXIMUM PIPE/TUBING SUPPORT SPACING																	
NOM. SIZE	FT. [mm]	THRU 3/4 THRU [20]	1 [25]	1 1/4 [32]	1 1/2 [40]	2 [50]	2 1/2 [65]	3 [75]	4 [100]	5 [125]	6 [150]	8 [200]	10 [250]	12 [300]	14 [350]	16 [400]	18 [450]	20 [500]	24 [600]
PIPE	FT. [mm]	7 [2100]	7 [2100]	7 [2100]	9 [2700]	10 [3000]	11 [3400]	12 [3700]	14 [4100]	16 [4900]	17 [5200]	19 [5800]	22 [6700]	23 [7000]	25 [7600]	27 [8200]	28 [8500]	30 [9100]	32 [9600]
TUBING	FT. [mm]	5 FT [1500]	6 [1800]	7 [2100]	8 [2400]	8 [2400]	9 [2700]	10 [3000]	12 [3700]	13 [4000]	14 [4100]	16 [4900]	- -	- -	- -	- -	- -	- -	- -
NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.																			

NORTH 3 **PIPE HANGERS**
NO SCALE

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

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REGISTERED PROFESSIONAL ENGINEER REG. NO. 9819 JEFFREY M. OSTER SOUTH DAKOTA

Office of Construction and Facilities Management

U.S. Department of Veterans Affairs

Drawing Title
PLUMBING DETAILS AND SCHEDULES

Approved:

Phase
100% BID SET

FULLY SPRINKLERED

Project Title
Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance

Location
Sioux Falls, South Dakota

Issue Date 03/07/2019 | **Checked** SO | **Drawn** ASA

Project Number VA #438-500 WPE #BS18069

Building Number 5

Drawing Number 5.P401

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NORTH

1 FIRST LEVEL POWER/SIGNAL DEMOLITION PLAN

1/8" = 1'-0"

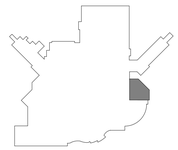
ELECTRICAL MISCELLANEOUS NOTES

A ELECTRICAL ITEMS SHOWN IN DASHED LINES INDICATE EXISTING TO BE REMOVED. ELECTRICAL ITEMS SHOWN IN LIGHT SHADE ARE EXISTING TO REMAIN. ELECTRICAL ITEMS SHOWN IN DARK SOLID LINES ARE NEW.

(#) ELECTRICAL SPECIFIC NOTES

E104 EXISTING NURSE CALL DEVICES SHALL BE REMOVED AND REINSTALLED. SEE NEW FLOOR PLAN FOR REVISED NURSE CALL LOCATIONS. EXISTING CONDUCTORS MAY BE REUSED PROVIDED THEY ARE LONG ENOUGH TO SERVE EQUIPMENT IN NEW LOCATIONS. OTHERWISE PROVIDE NEW TO MATCH EXISTING.

E516 PROVIDE A NEW BRANCH-CIRCUIT LIGHTING AND APPLIANCE PANEL TO REPLACE THE EXISTING PANEL REMOVED. PROVIDE JUNCTION BOXES AND WIRE AS REQUIRED TO EXTEND THE EXISTING CIRCUITS TO THE NEW PANEL LOCATION. THE NEW BRANCH CIRCUIT PANEL LSE3 MAY BE INSTALLED IN THE SAME LOCATION AS THE PANEL REMOVED. THE NEW BRANCH CIRCUIT PANEL LC34 MAY BE INSTALLED DIRECTLY ADJACENT TO EXISTING PANEL QL-ADP.



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2	100% Bid Set Resubmittal	03/07/2019
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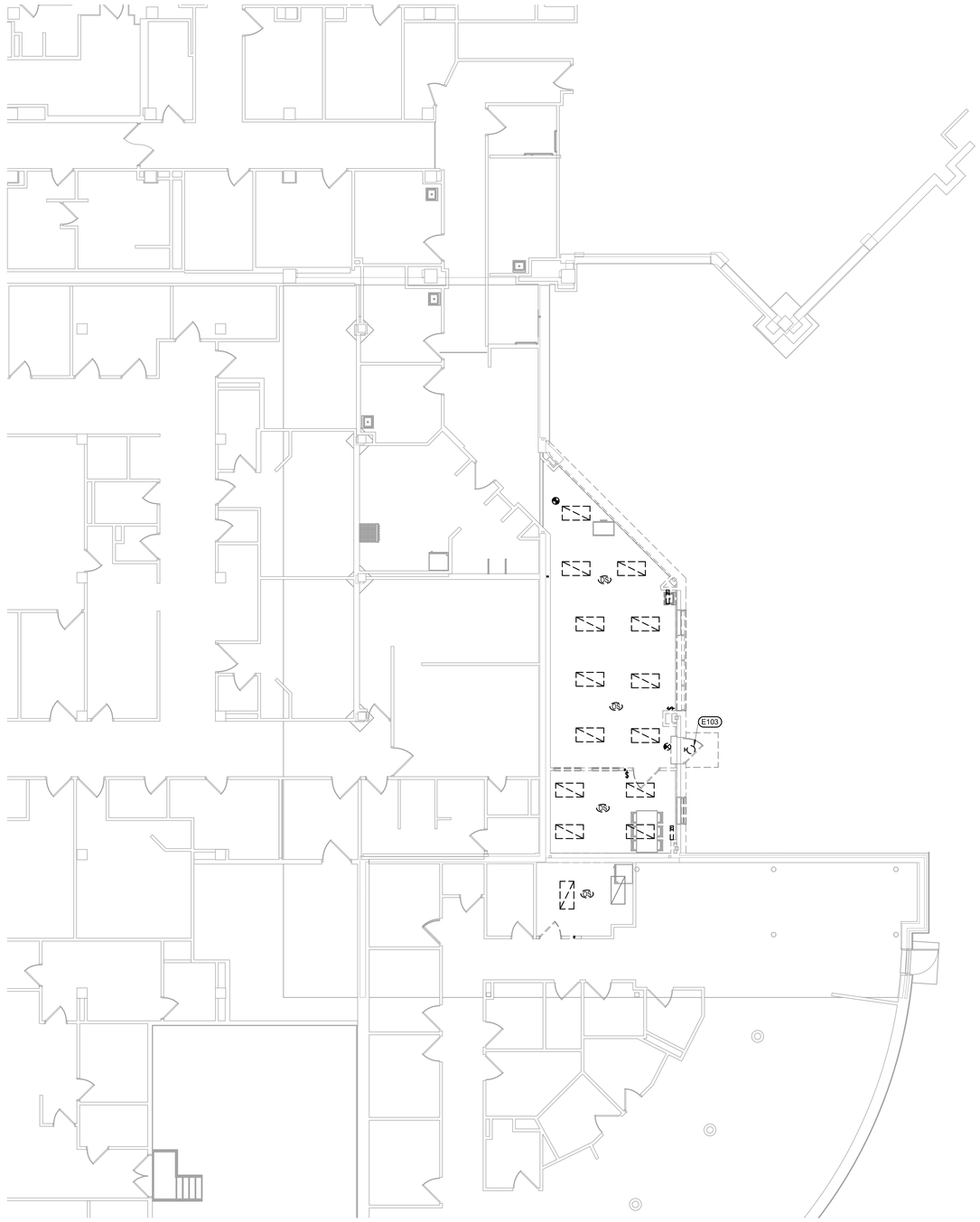
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 12457
JONATHAN N. KENNEDY
SOUTH DAKOTA

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

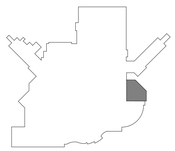
Drawing Title	FIRST LEVEL POWER/SIGNAL DEMOLITION PLAN
Phase	100% BID SET
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 WPE #BS18069
Building Number	5
Approved:	
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	SO
Drawn	ASA
Drawing Number	5.ED101

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1 **FIRST LEVEL LIGHTING DEMOLITION PLAN**
1/8" = 1'-0"

NORTH



KEYPLAN
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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
FIRST LEVEL LIGHTING DEMOLITION PLAN

Phase
100% BID SET

Project Title
Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance

Project Number
VA #438-500
WPE #BS18069

Building Number
5

Approved:

FULLY SPRINKLERED

Location
Sioux Falls, South Dakota

Issue Date 03/07/2019 | **Checked** SO | **Drawn** ASA

Drawing Number
5.ED102

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three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

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1 FIRST LEVEL ELECTRICAL LIGHTING PLAN
1/4" = 1'-0"

NORTH

ELECTRICAL MISCELLANEOUS NOTES

A ELECTRICAL ITEMS SHOWN IN DASHED LINES INDICATE EXISTING TO BE REMOVED. ELECTRICAL ITEMS SHOWN IN LIGHT SHADE ARE EXISTING TO REMAIN. ELECTRICAL ITEMS SHOWN IN DARK SOLID LINES ARE NEW.

(#) ELECTRICAL SPECIFIC NOTES

E409 CONNECT NEW LIGHT FIXTURES TO EXISTING LIGHTING CIRCUIT PREVIOUSLY SERVING FIXTURES IN THIS AREA.

E410 REINSTALL EXISTING EXTERIOR FIXTURE REMOVED DURING DEMOLITION. CONNECT TO LIFE SAFETY CIRCUIT PREVIOUSLY SERVING THE OUTDOOR FIXTURE IN THIS AREA.

E412 PROVIDE A DIMMER SWITCH FOR CONTROL OF CLERESTORY WINDOW LED TILE BACKLIGHTING. LABEL SWITCH "WINDOW BACKLIGHTS".

LIGHTING FIXTURE SCHEDULE

FIXTURE MARK	FIXTURE TYPE	FIXTURE DIFFUSER	VOLTAGE	LAMP NUMBER AND WATTS	LAMP TYPE	MOUNTING TYPE	MOUNTING HEIGHT	MANUFACTURER	MODEL	COMMENTS
A	2 X 4 TROFFER	ACRYLIC PRISMATIC .125"	120	4000K, 5,500 LUMEN	LED, 45.8W	RECESS	CEILING	METALUX OR EQUAL	24C2-L0S-S5-U NV-L840-CD	0-10V DIMMING DRIVER
B	2 X 4 TROFFER	ACRYLIC PRISMATIC .125"	120	4300K, 14052 LUMENS	LED, 190W	RECESS	CEILING	KENALL OR EQUAL	CSEDI24-165C 43K-DCC-DV	DIMMING DRIVER; DRYWALL FLANGE KIT
F	LENSED LED STRIPLIGHT	ACRYLIC	120	4000K, 4760 LUMENS	LED, 44W	SURFACE	CEILING	METALUX OR EQUAL	4SLSTP404D D	SURFACE LENSED STRIPLIGHT
X1	EXIT SIGN SINGLE FACE	RED	UNIV.	LED	LED	UNIV.	PER PLANS	LIGHTALARMS OR EQUAL	1XDCBRA	CAST ALUMINUM, INTERNAL BATTERY
X2	EXIT SIGN DOUBLE FACE	RED	UNIV.	LED	LED	UNIV.	PER PLANS	LIGHTALARMS OR EQUAL	2XDCBRA	CAST ALUMINUM, INTERNAL BATTERY

KEYPLAN NTS NORTH

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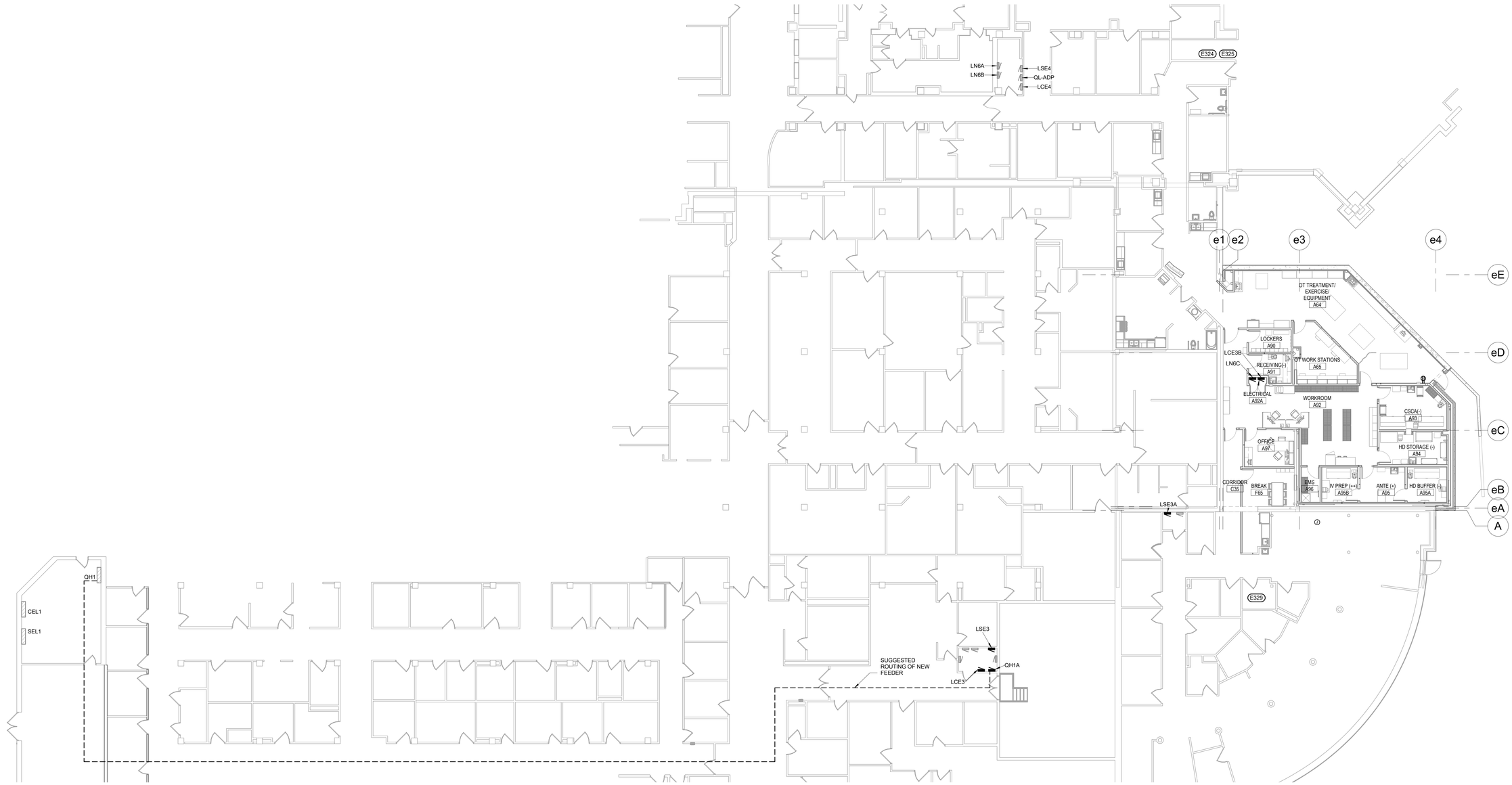
REGISTERED PROFESSIONAL ENGINEER — REG. NO. 12457 — JONATHAN N. KENNEDY — SOUTH DAKOTA

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	FIRST LEVEL ELECTRICAL LIGHTING PLAN
Phase	100% BID SET
Approved:	
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	SO
Drawn	ASA
Project Number	VA #438-500 WPE #BS18069
Building Number	5
Drawing Number	5.EL101

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one inch = one foot
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one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot
VA FORM 08 - 6231



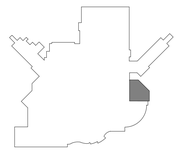
1 FIRST LEVEL OVERALL ELECTRICAL POWER PLAN

3/32" = 1'-0"

NORTH

ELECTRICAL SPECIFIC NOTES

#	
E324	EXISTING OVERHEAD PAGING AMPLIFIER LOCATION IN THIS TELECOM CLOSET.
E325	CONNECT ALL VOICE AND DATA CABLING IN THE PT/OT SPACE TO PATCH PANELS LOCATED IN AN EXISTING DATA RACK LOCATION IN THIS TELECOM CLOSET.
E329	CONNECT ALL VOICE AND DATA CABLING IN THE PHARMACY AREA TO NEW PATCH PANELS IN AN EXISTING DATA RACK IN THE EQUIPMENT PLATFORM SPACE DATA CLOSET.



KEYPLAN

NTS

NORTH

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

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STONE GROUP ARCHITECTS

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REGISTERED PROFESSIONAL ENGINEER
REG. NO. 12457
JONATHAN N. KENNEDY
SOUTH DAKOTA

Office of Construction and Facilities Management

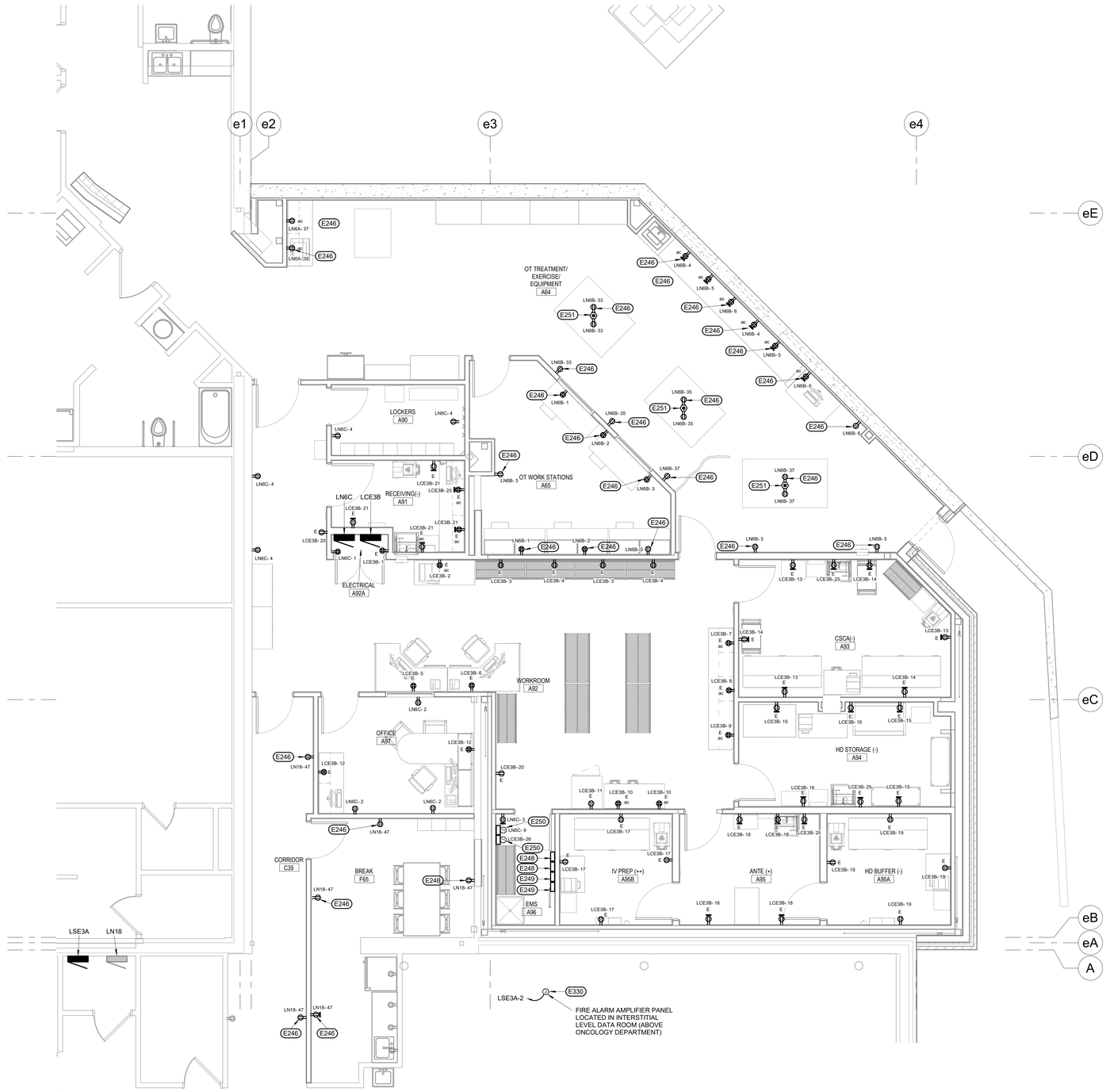
VA U.S. Department of Veterans Affairs

Drawing Title	FIRST LEVEL OVERALL ELECTRICAL POWER PLAN
Phase	100% BID SET
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 WPE #BS18069
Building Number	5
Approved:	
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	SO
Drawn	ASA
Drawing Number	5.EP200

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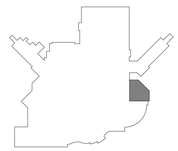
1 **FIRST LEVEL ELECTRICAL POWER PLAN**
1/4" = 1'-0"

NORTH

ELECTRICAL MISCELLANEOUS NOTES

A ELECTRICAL ITEMS SHOWN IN DASHED LINES INDICATE EXISTING TO BE REMOVED. ELECTRICAL ITEMS SHOWN IN LIGHT SHADE ARE EXISTING TO REMAIN. ELECTRICAL ITEMS SHOWN IN DARK SOLID LINES ARE NEW.

#	ELECTRICAL SPECIFIC NOTES
E246	CONNECT TO A SPARE 20A, 1-POLE CIRCUIT BREAKER IN EXISTING PANEL.
E248	VFD'S FOR CONTROL OF AIR HANDLING UNIT AHU-43. VFD FURNISHED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR.
E249	VFD'S FOR CONTROL OF EXHAUST FAN EF-3 AND EF-4 MOTORS. VFD'S FURNISHED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR.
E250	PROVIDE AN ELECTRICAL CONNECTION TO TEMPERATURE CONTROL PANELS.
E251	PROVIDE A FULLY-RECESSED, FOUR-COMPARTMENT FLOOR BOX WITH METALLIC COVER AND SPACE FOR TWO DUPLEX RECEPTACLES, ONE SINGLE-GANG DATA PLATE, AND ONE FUTURE DEVICE. PROVIDE RACEWAY FROM ALL FOUR COMPARTMENTS TO AN ACCESSIBLE LOCATION ABOVE THE SUSPENDED CEILING. LABEL CONDUITS AND MARK LOCATIONS ON AS-BUILT DRAWINGS.
E330	PROVIDE A NEW FIRE ALARM VOICE AMPLIFIER PANEL AND INSTALL IN THE INTERSTITIAL LEVEL DATA ROOM LOCATED DIRECTLY ABOVE THE ONCOLOGY AREA. CONNECT THIS PANEL TO A 20A, 1-POLE CIRCUIT BREAKER IN LIFE SAFETY PANEL LSE3A. CIRCUIT ALL FIRE ALARM VOICE CIRCUITS TO THIS NEW PANEL. CONNECT THE NEW FIRE ALARM VOICE AMPLIFIER PANEL TO THE EXISTING SWITCHBOARD ANNUNCIATOR PANEL. WIRING BETWEEN THE TWO PANELS SHALL BE FURNISHED BY THE FIRE ALARM SUPPLIER AND INSTALLED BY THE CONTRACTOR.



KEYPLAN NTS NORTH

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

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3/7/19

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	FIRST LEVEL ELECTRICAL POWER PLAN
Phase	100% BID SET
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 WPE #BS18069
Building Number	5
Approved:	
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	SO
Drawn	ASA
Drawing Number	5.EP201

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STARTER DISCONNECT SCHEDULE

UNIT TYPE	UNIT NUMBER	KW	MOTOR HP	MOTOR MCA	VOLTAGE	PHASES	STARTER TYPE	STARTER NEMA SIZE	STARTER ENCLOSURE TYPE	STARTER KEY FEATURES	CONTROL	DISCONNECT SWITCH SIZE	DISCONNECT FUSE SIZE	COMMENTS
AHU	43		5 hp	22 A	480 V	3	VFD BY DIV 23				BY DIV 23	BY DIV 23		1
EF	1		0.125 hp		120 V	1	INTEGRAL	-	-	-	BY DIV 23	INTEGRAL		
EF	2		0.125 hp		120 V	1	INTEGRAL	-	-	-	BY DIV 23	INTEGRAL		
EF	3		5 hp		480 V	3	VFD BY DIV 23	-	-	-	BY DIV 23	INTEGRAL	-	
EF	4		5 hp		480 V	3	VFD BY DIV 23	-	-	-	BY DIV 23	INTEGRAL	-	
FC	1			4 A	120 V	1	INTEGRAL	-	-	-	BY DIV 23	MOTOR RATED SWITCH	20A	
UH	1		0.02 hp		120 V	1	INTEGRAL	-	-	-	BY DIV 23	MOTOR RATED SWITCH	20A	

ELECTRICAL MISCELLANEOUS NOTES

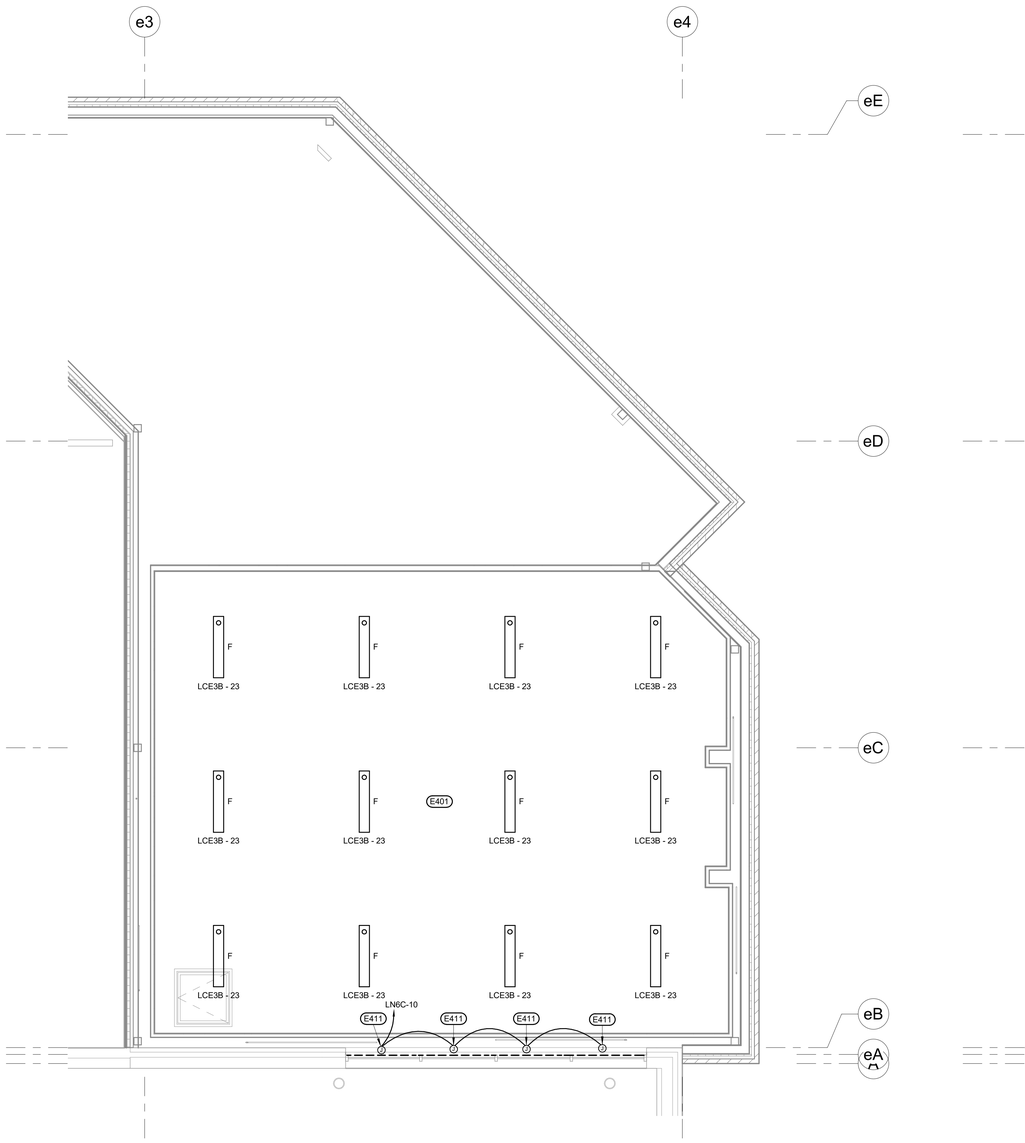
A ELECTRICAL ITEMS SHOWN IN DASHED LINES INDICATE EXISTING TO BE REMOVED. ELECTRICAL ITEMS SHOWN IN LIGHT SHADE ARE EXISTING TO REMAIN. ELECTRICAL ITEMS SHOWN IN DARK SOLID LINES ARE NEW.

ELECTRICAL SPECIFIC NOTES

E246 CONNECT TO A SPARE 20A, 1-POLE CIRCUIT BREAKER IN EXISTING PANEL.

E401 COORDINATE WITH ALL TRADES & EQUIPMENT BEFORE INSTALLING LIGHT FIXTURES. INSTALL FIXTURES TO BEST FIT SPACE WITH ALL OTHER TRADES WORK & EQUIPMENT INSTALLED TO BEST ILLUMINATE SPACE. FIELD COORDINATE THE INSTALLATION OF LIGHTING IN THE SPACE AS THE LAYOUT SHOWN IS A SUGGESTED LAYOUT.

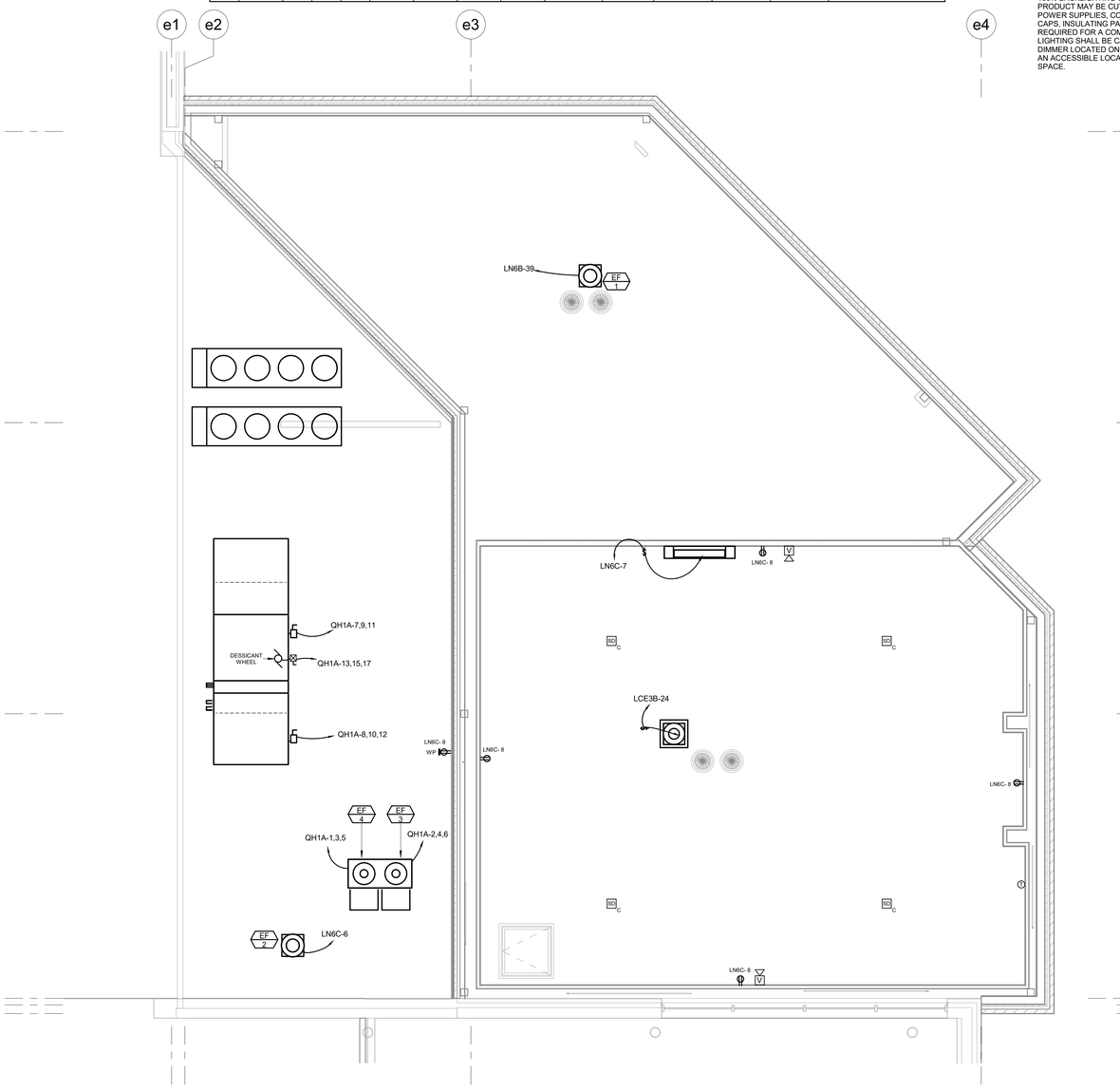
E411 PROVIDE LED TILE LIGHTING TO BACKLIGHT EXISTING CLERESTORY WINDOWS. PRODUCT: COOLEDGE TILE INTERIOR, 5700K, 600 LUMENS PER SQUARE FOOT, INPUT POWER 5.0 WATTS PER SQUARE FOOT. ADHERE TO BACKBOARD PROVIDED BY OTHERS. REFER TO ARCHITECTURAL ELEVATION FOR APPROXIMATE SIZE. PROVIDE FIXTURES/LED SHEETS AS REQUIRED TO COMPLETELY COVER BACKBOARD AND PROVIDE 100% BACKLIGHTING COVERAGE OF EXISTING WINDOW. PRODUCT MAY BE CUT TO FIT SPACE AS REQUIRED. PROVIDE POWER SUPPLIES, CONNECTORS, SPLICE CONNECTORS END CAPS, INSULATING PATCHES, CONNECTOR WIRES, ETC. AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. LIGHTING SHALL BE CAPABLE OF BEING DIMMED @ 0-10V. DIMMER LOCATED ON MAIN LEVEL. INSTALL POWER SUPPLIES IN AN ACCESSIBLE LOCATION IN THE EQUIPMENT PLATFORM SPACE.



2 EQUIPMENT PLATFORM ELECTRICAL LIGHTING PLAN

1/4" = 1'-0"

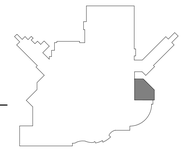
NORTH



1 EQUIPMENT PLATFORM ELECTRICAL POWER PLAN

1/4" = 1'-0"

NORTH



KEYPLAN

NTS

NORTH

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

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REG. NO 12457
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SOUTH DAKOTA
3/7/19

Office of Construction and Facilities Management

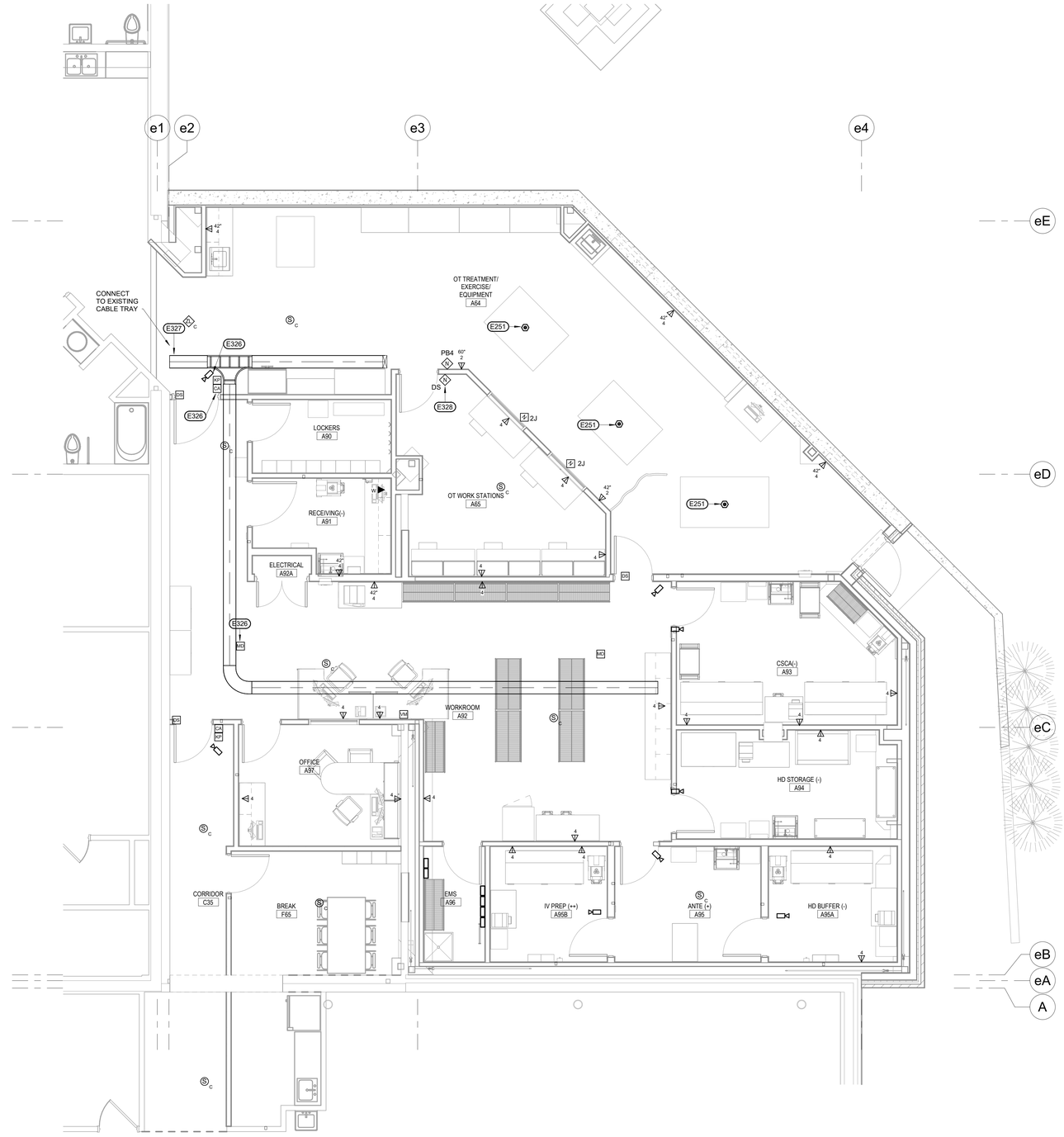
VA U.S. Department of Veterans Affairs

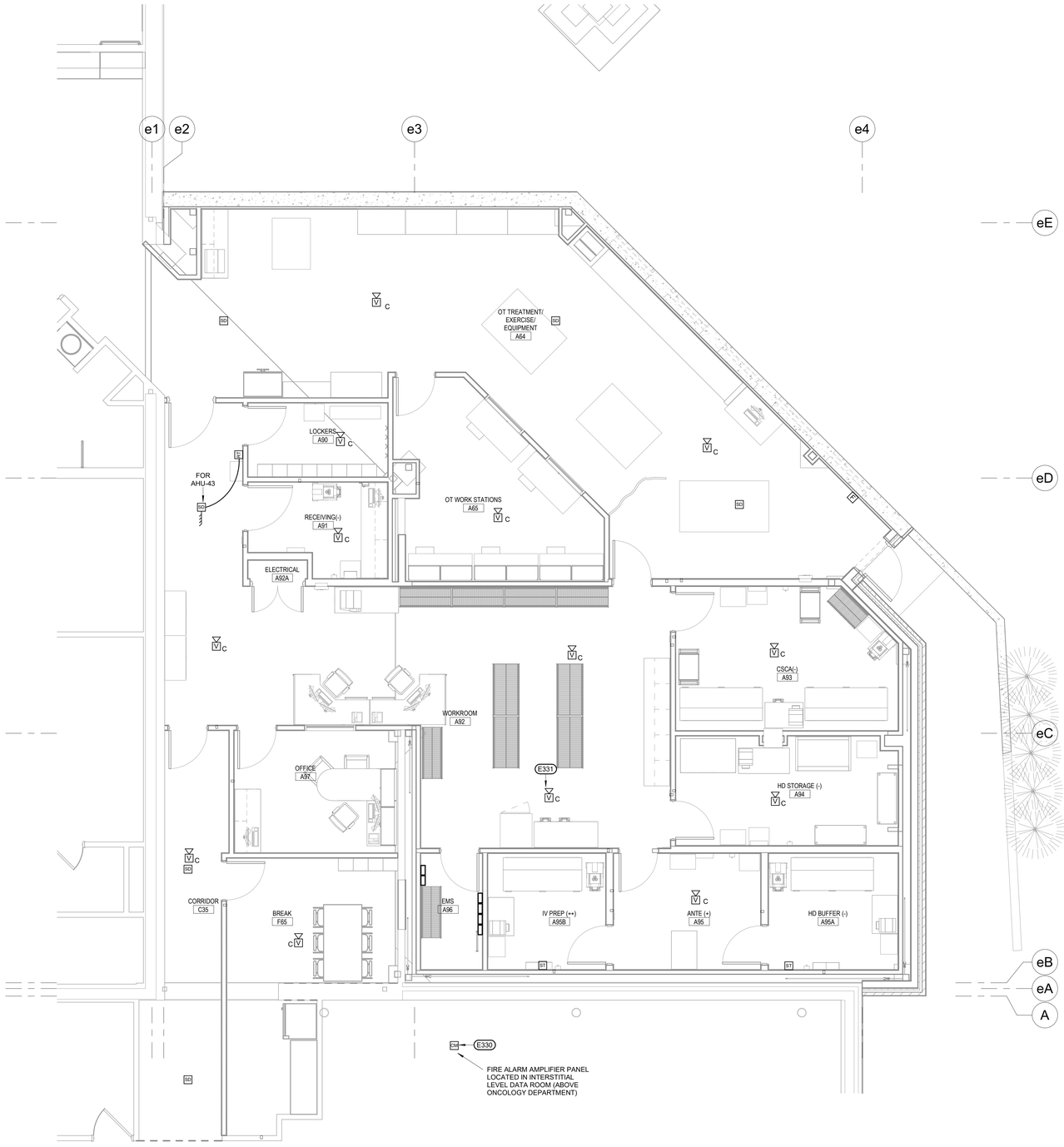
Drawing Title	EQUIPMENT PLATFORM ELECTRICAL POWER PLAN
Approved:	
Phase	100% BID SET
	FULLY SPRINKLERED
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	SO
Drawn	ASA
Project Number	VA #438-500 WPE #BS18069
Building Number	5
Drawing Number	5.EP202

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e4
eE
eD
eC
eB
eA
A
CONNECT TO EXISTING CABLE TRAY
E327
E326
E328
E251
OT TREATMENT/ EXERCISE/ EQUIPMENT A64
PB4
DS
2J
LOCKERS A90
OT WORK STATIONS A65
RECEIVING(-) A91
ELECTRICAL A92A
WORKROOM A92
CSCA(-) A93
HD STORAGE (-) A94
OFFICE A97
CORRIDOR C35
BREAK F65
EMS A96
IV PREP (++) A95B
ANTE (+) A95
HD BUFFER (-) A95A
MD
VM
K1
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K3
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NORTH

1 **FIRST LEVEL ELECTRICAL FIRE ALARM PLAN**

1/4" = 1'-0"

ELECTRICAL MISCELLANEOUS NOTES

A ELECTRICAL ITEMS SHOWN IN DASHED LINES INDICATE EXISTING TO BE REMOVED. ELECTRICAL ITEMS SHOWN IN LIGHT SHADE ARE EXISTING TO REMAIN. ELECTRICAL ITEMS SHOWN IN DARK SOLID LINES ARE NEW.

ELECTRICAL SPECIFIC NOTES

E330 PROVIDE A NEW FIRE ALARM VOICE AMPLIFIER PANEL AND INSTALL IN THE INTERSTITIAL LEVEL DATA ROOM LOCATED DIRECTLY ABOVE THE ONCOLOGY AREA. CONNECT THIS PANEL TO A 20A, 1-POLE CIRCUIT BREAKER IN LIFE SAFETY PANEL LSE3A. CIRCUIT ALL FIRE ALARM VOICE CIRCUITS TO THIS NEW PANEL. CONNECT THE NEW FIRE ALARM VOICE AMPLIFIER PANEL TO THE EXISTING SWITCHBOARD ANNUNCIATOR PANEL. WIRING BETWEEN THE TWO PANELS SHALL BE FURNISHED BY THE FIRE ALARM SUPPLIER AND INSTALLED BY THE CONTRACTOR.

E331 FIRE ALARM STROBES MAY BE FED FROM THE EXISTING HORN-STROBE EXPANDER PANEL LOCATED IN THE ONCOLOGY INTERSTITIAL SPACE. TYPICAL THROUGHOUT.

KEYPLAN

NTS

NORTH

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

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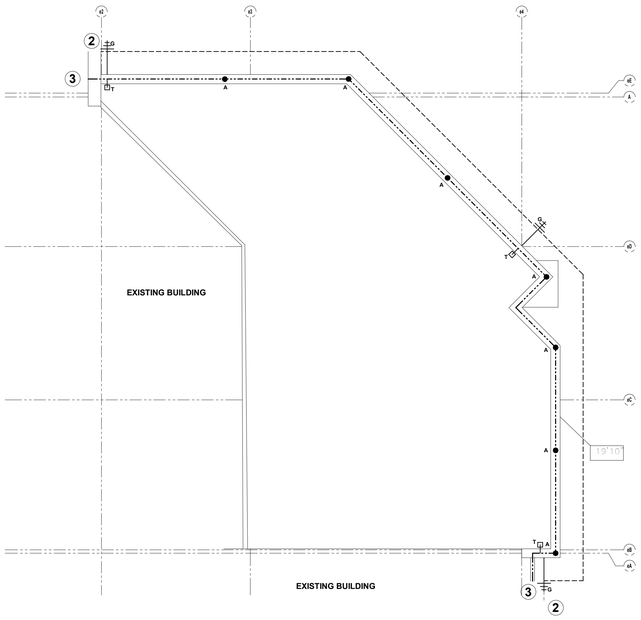
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 12457
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SOUTH DAKOTA

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

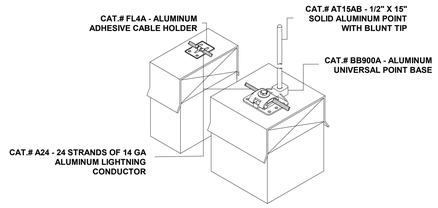
Drawing Title	FIRST FLOOR ELECTRICAL FIRE ALARM PLAN
Approved:	
Phase	100% BID SET
	FULLY SPRINKLERED
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Location	Sioux Falls, South Dakota
Issue Date	03/07/2019
Checked	SO
Drawn	ASA
Project Number	VA #438-500 WPE #BS18069
Building Number	5
Drawing Number	5.ET302

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three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot
VA FORM 08 - 6231



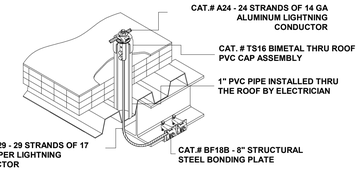
SPECIFIC NOTES:

1. AC LIGHTNING TO BOND ANY NEW METALLIC OBJECTS ON ROOF THAT ARE UNDER ZONE OF PROTECTION BUT WITHIN 6 FEET OF THE LIGHTNING PROTECTION SYSTEM .
2. AC LIGHTNING TO CONNECT NEW GROUND LOOP TO THE GROUND LOOP OF EXISTING ADJACENT BUILDINGS.
3. AC LIGHTNING TO CONNECT NEW L.P. SYSTEM TO THE L.P. SYSTEMS OF EXISTING ADJACENT BUILDINGS WHERE MOST PRACTICAL, AS DETERMINED IN THE FIELD.



DETAIL - A ●A

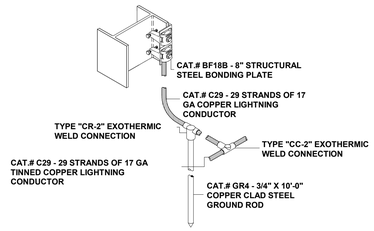
NOTE:
ADHERE TO ROOF WITH APPROVED ADHESIVE THAT SHALL BE COORDINATED IN THE FIELD.



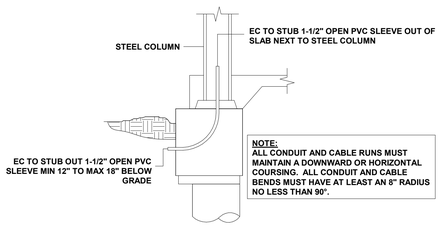
DETAIL - T □T

ROOF PENETRATIONS SEALED AND FLASHED BY ROOFING CONTRACTOR.

0' 10' 20' 30' 40'

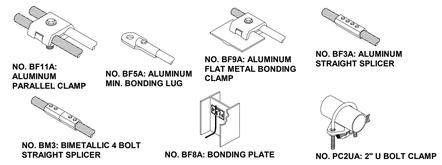


DETAIL - G ⏚G

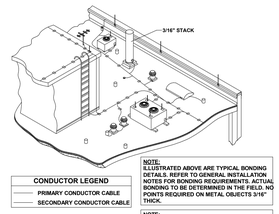


NOTE:
ALL CONDUIT AND CABLE RUNS MUST MAINTAIN A DOWNWARD OR HORIZONTAL COURSING. ALL CONDUIT AND CABLE BENDS MUST HAVE AT LEAST AN 8" RADIUS NO LESS THAN 90".

SLEEVE DETAIL - 100

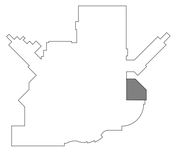


TYPICAL BONDING & SPLICING EQUIPMENT



NOTE:
ILLUSTRATED ABOVE ARE TYPICAL BONDING DETAILS. REFER TO GENERAL INSTALLATION NOTES FOR BONDING REQUIREMENTS. ACTUAL BONDING TO BE DETERMINED IN THE FIELD. NO POINTS REQUIRED ON METAL OBJECTS 3/16" THICK.

NOTE:
NO FURTHER BONDING REQUIRED ON METAL BODIES THAT ARE ELECTRICALLY CONTINUOUS WITH STRUCTURAL STEEL FRAMING



KEYPLAN NTS NORTH

NORTH 1 LIGHTNING PROTECTION
1/8" = 1'-0"

Revision#	Description	Date:
2	100% Bid Set Resubmittal	03/07/2019
1	100% Bid Set	12/21/2018

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REGISTERED PROFESSIONAL ENGINEER REG. NO 12457 JONATHAN N KENNEDY SOUTH DAKOTA

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	LIGHTNING PROTECTION
Phase	100% BID SET
Approved:	
	FULLY SPRINKLERED
Project Title	Phase II - Sioux Falls Pharmacy Addition for USP 800 Compliance
Project Number	VA #438-500 WPE #BS18069
Building Number	5
Location	Sioux Falls, South Dakota
Drawing Number	5.EX200
Issue Date	03/07/2019
Checked	SO
Drawn	ASA

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ELECTRICAL ABBREVIATIONS

A STANDARD LIST. NOT ALL WORDS APPEAR IN THESE DRAWINGS.

SEE SPECIFICATION SECTION "EQUIPMENT WIRING" FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

A or AMP	AMPERE	LA	LIGHTNING ARRESTOR
A/C	AIR CONDITIONING	LT	LIGHT
A/E or AE	ARCHITECT & ENGINEER	LTG	LIGHTING
ac	ABOVE COUNTER	LTS	LIGHTS
AC	ALTERNATING CURRENT		
ADA	AMERICANS WITH DISABILITIES ACT	MC	MECHANICAL CONTRACTOR
AFF	ABOVE FINISH FLOOR	MCB	MAIN CIRCUIT BREAKER
AFG	ABOVE FINISH GRADE	MCC	MOTOR CONTROL CENTER
AFI or AFCI	ARC FAULT CIRCUIT INTERRUPTER	MCM	THOUSAND CIRCULAR MILS
AHJ	AUTHORITY HAVING JURISDICTION	MDP	MAIN DISTRIBUTION PANEL
AHU	AIR HANDLING UNIT	MECH	MECHANICAL
AIC	AMPERES INTERRUPTING CURRENT	MFS	MAIN FUSIBLE SWITCH
AL	ALUMINUM	MH	METAL HALIDE
ANN	ANNUNCIATOR	MLO	MAIN LUG ONLY
AS	AUTOMATIC SENSORS	MSB	MAIN SWITCHBOARD
AWG	AMERICAN WIRE GAUGE	MTD	MOUNTED
		MTS	MOTOR THERMAL SWITCH
bc	BELOW COUNTER	MV	MERCURY VAPOR
BC	BELOW COUNTER	MW	MICROWAVE
BH	BASKETBALL HOOP OPER		
BL	BLEACHER ELECTRIC OPERATOR	NA or N/A	NOT APPLICABLE
BRD or BD	BOARD	NC	NORMALLY CLOSED
BUH	BLAST UNIT HEATER	NEC	NATIONAL ELECTRICAL CODE
		NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
C or COND	CONDUIT		
C/B or CB	CIRCUIT BREAKER	NEU, NEUT or N	NEUTRAL
CAT	CATEGORY	NF	NON-FUSED
CCT or CKT	CIRCUIT	NL	NIGHT LIGHT
CM	CARBON MONOXIDE SENSOR	NO	NORMALLY OPEN
CO	CARBON MONOXIDE		
COMB	COMBINATION	OFF, OF, or OFC	OFFICE
CONF	CONFERENCE	OH	OVERHEAD
CP	CEILING PROJECTOR	OHD	OVERHEAD DOOR
CTC	CABLE TERMINATION CABINET		
Cu or CU	COPPER	P	POLE
CU	CONDENSING UNIT	PA	PUBLIC ADDRESS
CUH	CABINET UNIT HEATER	PB	PUSH BUTTON
		PH	PHASE
DC	DIRECT CURRENT	PLBG	PLUMBING
DC	DISTRIBUTION CABINET	PNL	PANEL
DP	DISTRIBUTION PANEL	PR or pr	PAIR
DISC	DISCONNECT	PRV	POWER ROOF VENTILATOR
DISP	DISPOSAL	PS	PULL SWITCH
DL	DOCK LEVELER	PS	PROJECTION SCREEN
DN or DWN	DOWN	PTZ	PAN TILT ZOOM
DR	DOOR	PVC	POLYVINYL CHLORIDE
DW	DISHWASHER	PWR	POWER
DWG	DRAWING		
		RCP	REFLECTED CEILING PLAN
EC	ELECTRICAL CONTRACTOR	REC or RECEPT	RECEPTACLE
EC	ELECTRICAL CABINET	REF or REFRIG	REFRIGERATOR
EF	EXHAUST FAN	RH	RADIANT HEAT
EH	ELECTRICAL HEAT	RH	RANGE HOOD
ELEC	ELECTRIC OR ELECTRICAL	RLY	RELAY
EHD	ELECTRIC HAND DRYER	RM	ROOM
EM or EMERG	EMERGENCY	RMS	ROOT MEAN SQUARE
EMT	ELECTRICAL METALLIC TUBING		
ENT	ELECTRICAL NON-METALLIC TUBING	SCC	SHORT CIRCUIT CURRENT
EUH	ELECTRIC UNIT HEATER	SD	SMOKE DETECTOR
EWC	ELECTRIC WATER COOLER	SFR	SAFETY RECEPTACLE
EX	EXISTING	SFTY	SAFETY
EXP	EXPLOSION PROOF	SHLD	SHIELD OR SHIELDED
		SIG	SIGNAL
F or FUS	FUSE OR FUSIBLE	SMR	SURFACE MOUNT RACEWAY
FA	FIRE ALARM	SN	SOLID NEUTRAL
FAAP	FIRE ALARM ANNUNCIATOR PANEL	SP	SUMP PUMP
FACP	FIRE ALARM CONTROL PANEL	SPECS	SPECIFICATIONS
FBO	FURNISHED BY OTHERS	SPKR	SPEAKER
FL, FLU or FLUOR	FLUORESCENT	SPR	SPLIT WIRE RECEPTACLE
FLA	FULL LOAD AMPERES	SW	SWITCH
FVNR	FULL VOLTAGE, NON-REVERSING	SWBD	SWITCH BOARD
FVR	FULL VOLTAGE, REVERSING		
		TC	TEMPERATURE CONTROL
GC	GENERAL CONTRACTOR	TC	TELEPHONE CABINET
GD	GARBAGE DISPOSAL	TCC	TEMPERATURE CONTROL CONTRACTOR
GEN	GENERATOR	TEL	TELEPHONE
GFI or GFCI	GROUND FAULT CIRCUIT INTERRUPTER	TL	TWIST LOCK
GRC	GALVANIZED RIGID CONDUIT	TR, TRANS or TRFMR	TRANSFORMER
GND or GRND	GROUND	TTB	TELEPHONE TERMINATION BOARD
		TV	TELEVISION
H & AC	HEATING & AIR CONDITIONING	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
H & V	HEATING & VENTILATING	TYP	TYPICAL
HA	HANDICAP ACCESS DOOR		
HD	HAND DRYER	UG	UNDERGROUND
HID	HIGH INTENSITY DISCHARGE	UH	UNIT HEATER
HP	HORSE POWER	UV	UNIT VENTILATOR
HPS	HIGH PRESSURE SODIUM		
HTG	HEATING	V	VOLT
HTR	HEATER	VFD	VARIABLE FREQUENCY DRIVE
HVAC	HEATING, VENTILATION & AIR CONDITIONING		
HZ	HERTZ (CYCLES/SEC)	W	WATT
		WI	WITH
IC	INTERRUPTING CURRENT	W/O	WITHOUT
IGR	ISOLATED GROUND RECEPTACLE	WP	WEATHERPROOF
IMC	INTERMEDIATE METAL CONDUIT	WTR or H20	WATER
INC	INCANDESCENT	WS	WINDOW SHADE
ISO	ISOLATED OR ISOLATION		
		XFMR	TRANSFORMER
J, JB or J-BOX	JUNCTION BOX		
		Y	WYE CONNECTION
KCMIL	THOUSAND CIRCULAR MILS		
KV	KILOVOLT	ϕ	PHASE
KVA	KILOVOLT - AMPERE		
KVAR	KILOVOLT - AMPERE REACTIVE	Δ	DELTA
KW	KILOWATT		
KWH	KILOWATT - HOUR		

ELECTRICAL SYMBOLS

THESE SYMBOLS COMPRISE A STANDARD LIST; NOT ALL SYMBOLS MAY APPEAR ON THIS PROJECT.
ALL MOUNTING HEIGHTS ARE TO CENTER OF DEVICE ABOVE FINISHED FLOOR, MOUNTING HEIGHTS INDICATED ON ARCH. WALL ELEVATIONS ORAS NOTED
SPECIFICALLY ON THE DRAWINGS OR IN THE SPECIFICATIONS SHALL TAKE PRECEDENCE OVER MOUNTING HEIGHTS LISTED BELOW.

LIGHTING

- CEILING SURFACE MOUNT FIXTURE. (Capital letter indicates fixture type. Small letter indicates switching. Typical for all fixture types).
- EMERGENCY CEILING SURFACE MOUNT FIXTURE
- WALL FIXTURE
- EMERGENCY WALL FIXTURE
- RECESSED FIXTURE
- EMERGENCY RECESSED FIXTURE
- EXTERIOR POLE LIGHT
- BOLLARD LIGHT
- SURFACE MOUNT FIXTURE
- EMERGENCY SURFACE MOUNT FIXTURE
- RECESSED FIXTURE
- EMERGENCY RECESSED FIXTURE
- WALL FIXTURE
- FLOOD LIGHT
- TRACK LIGHT
- PC PHOTO ELECTRIC CELL
- LC LIGHTING CONTACTOR (54"M.H.)
- TC TIME CLOCK (60" M.H.)
- EMERGENCY LIGHTING W/BATTERY PACK
- CEILING EXIT LIGHT (FACE(S) SHADED, ARROW INDICATES CHEVRON)
- WALL EXIT LIGHT (FACE(S) SHADED, ARROW INDICATES CHEVRON)
- OS OCCUPANCY SENSOR
- $ SINGLE POLE SWITCH (46" M.H.)
- $2 DOUBLE POLE SWITCH (46" M.H.)
- $3 THREE-WAY SWITCH (46" M.H.)
- $4 FOUR-WAY SWITCH (46" M.H.)
- $P SWITCH WITH PILOT (46" M.H.)
- $K KEY OPERATED SWITCH (46" M.H.)
- $M MOMENTARY CONTACT SWITCH (60" M.H.)
- $D DIMMER SWITCH (46" M.H.)
- $T TIMER SWITCH (60" M.H.)
- $S VARIABLE SPEED SWITCH
- $F FUSED SWITCH

POWER

- PUSH BUTTON STATION (62" M.H.)
- DOUBLE PUSH BUTTON STATION
- EMERGENCY SHUTDOWN PUSHBUTTON
- ISOLATED GROUND RECEPTACLE (18" M.H.)
- DUPLEX CONVENIENCE RECEPTACLE (18" M.H.)
- SINGLE RECEPTACLE (18" M.H.)
- DOUBLE DUPLEX CONVENIENCE RECEPTACLE (18" M.H.)
- DOUBLE DUPLEX CONVENIENCE RECEPTACLE (18" M.H.)
- SPLIT WIRED DUPLEX RECEPTACLE (18" M.H)
- SAFETY CONVENIENCE RECEPTACLE
- POWER RECEPTACLE
- EMERGENCY DUPLEX RECEPTACLE
- TWIST LOCK RECEPTACLE
- GFI DUPLEX CONVENIENCE RECEPTACLE
- GFI DOUBLE DUPLEX CONVENIENCE RECEPTACLE
- SPECIAL PURPOSE OUTLET OR CONNECTION
- CORD/PLUG
- CORD REEL
- CEILING DUPLEX RECEPTACLE
- FLUSH FLOOR DUPLEX RECEPTACLE
- FLUSH FLOOR DOUBLE DUPLEX RECEPTACLE
- FLUSH FLOOR MULTI-SERVICE OUTLET (WITH DEVICES INDICATED)
- CP MULTI-SERVICE POLE (WITH DEVICES INDICATED)
- B BLANK OUTLET
- J JUNCTION BOX
- P PULL BOX
- MOTOR
- GAP GENERATOR ANNUNCIATOR PANEL
- ATS AUTOMATIC TRANSFER SWITCH
- VFD VARIABLE FREQUENCY DRIVE
- VFD COMBINATION VARIABLE FREQUENCY DRIVE DISCONNECT
- MAGNETIC STARTER
- COMBINATION STARTER/DISCONNECT
- MOTOR THERMAL SWITCH
- TR TRANSFORMER
- ELECTRIC METER
- SWITCHBOARD/DISTRIBUTION PANEL SECTION
- PANELBOARD OR LOAD CENTER
- PANELBOARD OR LOAD CENTER (EXISTING TO REMAIN)
- TVSS TRANSIENT VOLTAGE SURGE SUPPRESSER
- CIRCUIT BREAKER
- FUSE
- H HUMIDISTAT
- T THERMOSTAT
- R REMOTE HVAC SENSOR
- RADIANT HEAT PANEL
- BASEBOARD OR COVE ELEC. HEAT
- ELECTRIC UNIT HEATER
- ELECTRIC CABINET UNIT HEATER
- M MOTORIZED DAMPER
- BUS DUCT
- SURFACE MOUNT RACEWAY
- CEILING PADDLE FAN
- XX # TYPE OF EQUIPMENT.SEE SCHEDULES EQUIPMENT NUMBER
- ROOFTOP EQUIPMENT/CIRCUITING
- EXISTING EQUIPMENT/CIRCUITING
- GROUND
- UG CONDUIT IN FLOOR OR UNDERGROUND
- PNL-1,2,3 CONDUIT IN WALL OR CEILING SPACE. CROSS MARKS INDICATE NUMBER OF W.IRES. NO MARKS INDICATE TWO WIRES. ARROWS INDICATE HOME RUNS TO PANEL. NUMBERS INDICATE PANEL AND CIRCUIT IN PANEL. SWITCHLEG TRAVELER HOT NEUTRAL WIRE INDICATES SEPARATE GROUND WIRE TO BE INSTALLED IN RACEWAY

TELECOM

- SPECIAL EQUIPMENT CABINET-AS NOTED
- TERMINATION BOARD - AS NOTED
- CABLE TRAY
- INTERCOM
- TELEPHONE/VOICE OUTLET (18" M.H.)
- W WALL PHONE (46" M.H.)
- DATA OUTLET (18" M.H.)
- C CEILING MOUNT DATA OUTLET
- COMBINATION VOICE/DATA OUTLET (18" M.H.)
- TV TELEVISION OUTLET (18" M.H.)
- TV C CEILING MOUNT TELEVISION OUTLET

FIRE ALARM

- F FIRE ALARM MANUAL STATION (46" M.H.)
- D HEAT DETECTOR (RATE OF RISE)
- D HEAT DETECTOR (FIXED TEMP. ONLY)
- SD U UNITARY TYPE SMOKE DETECTOR
- SD SMOKE DETECTOR
- SD DUCT SMOKE DETECTOR
- BD BEAM DETECTOR TRANSMITTER
- BD BEAM DETECTOR RECEIVER
- R1 REMOTE TEST STATION
- HS COMB.HEAT/SMOKE DETECTOR
- V FIRE ALARM SPEAKER/STROBE (80"M.H)
- FS FLOW SWITCH
- PS PRESSURE SWITCH
- TS TAMPER SWITCH
- FR FIRE ALARM CUT-OFF RELAY
- RA REMOTE ANNUNCIATOR
- DH DOOR HOLDER
- MM MONITOR MODULE
- CM CONTROL MODULE
- CH FIRE ALARM CHIME/STROBE
- F FIRE ALARM HORN/STROBE (80"M.H)
- F C CEILING MOUNT FIRE ALARM HORN/STROBE
- H MINI FIRE ALARM HORN
- M MINI FIRE ALARM HORN/STROBE
- S PROJECTION HORN
- SIT FIRE ALARM STROBE (80" M.H.)
- SIT C CEILING MOUNT FIRE ALARM STROBE
- F FIRE ALARM BELL (88" M.H.)
- C COMBINATION FIRE/SMOKE DAMPER
- FAAP FIRE ALARM ANNUNCIATOR PANEL
- FACP FIRE ALARM CONTROL PANEL
- F FIRE FIGHTER PHONE JACK
- V C CEILING MOUNT FIRE ALARM SPEAKER/STROBE

NURSE CALL

- N SINGLE PATIENT NURSE CALL STATION (46" M.H.)
- N DUAL PATIENT CURSE CALL STATION (46" M.H.)
- STAFF STATION (46" M.H.)
- STAFF EMERGENCY STATION (46" M.H.)
- E EMERGENCY SHOWER/BATH STATION (46" M.H.)
- A ALARM/REST STATION
- M MASTER STATION
- C CORRIDOR LAMP
- C CEILING MOUNTED CORRIDOR LAMP
- Z ZONE LAMP
- Z C CEILING MOUNTED ZONE LAMP
- ANTENNA (AS NOTED)
- AM AREA CONTROL MODULE
- DS DOOR SWITCH
- D DUTY STATION (46" M.H.)
- DC DOMELESS CONTROLLER
- CB CODE BLUE STATION
- N C NURSE CALL DOME LIGHT 8-INCH SQUARE BOX WITH GANG RING

SOUND AND SECURITY

- S FLUSH SPEAKER
- S SURFACE SPEAKER
- PAGING HORN
- V COLUME CONTROL (46" M.H.)
- M MICROPHONE OUTLET (18" M.H.)
- AUX AUXILIARY OUTLET
- AMP AMPLIFIER
- SURVEILLANCE VIDEO CAMERA
- C CEILING MOUNTED SURVEILLANCE VIDEO CAMERA
- PTZ SURVEILLANCE VIDEO CAMERA - PAN/TILT/ZOOM
- VM SURVEILLANCE VIDEO MONITOR
- VR SURVEILLANCE VIDEO RECORDER
- VS SURVEILLANCE VIDEO SWITCHER
- ACP ALARM CONTROL PANEL
- BAA BURGLAR ALARM ANNUNCIATOR
- ANTENNA (AS NOTED)
- AS ALARM PANIC SWITCH
- DS ALARM DOOR SWITCH
- DR DOOR RELEASE MECHANISM
- MD ALARM MOTION DETECTOR
- SP ALARM SHUNT PAD
- KP ALARM KEYPAD
- CA CARD ACCESS
- IC SECURITY INTERCOM (54" M.H.)
- RX REQUEST EXIT PUSH BUTTON

ELECTRICAL SERVICE/FEEDER SCHEDULE

SERVICE/FEEDER AMPACITY	3 WIRE SERVICE/FEEDER	4 WIRE SERVICE/FEEDER
20A	3/4"C, 3#12 & 1#12 GND	3/4"C, 4#12 & 1#12 GND
25A	3/4"C, 3#10 & 1#10 GND	3/4"C, 4#10 & 1#10 GND
30A	3/4"C, 3#10 & 1#10 GND	3/4"C, 4#10 & 1#10 GND
35A	3/4"C, 3#10 & 1#10 GND	1"C, 4#8 & 1#10 GND
40A	3/4"C, 3#8 & 1#10 GND	1"C, 4#8 & 1#10 GND
45A	3/4"C, 3#8 & 1#10 GND	1"C, 4#8 & 1#10 GND
50A	3/4"C, 3#8 & 1#10 GND	1"C, 4#8 & 1#10 GND
60A	1"C, 3#4 & 1#10 GND	1"C, 4#4 & 1#10 GND
70A	1 1/4"C, 3#4 & 1#8 GND	1 1/4"C, 4#4 & 1#8 GND
80A	1 1/4"C, 3#3 & 1#8 GND	1 1/4"C, 4#4 & 1#8 GND
90A	1 1/2"C, 3#2 & 1#8 GND	1 1/2"C, 4#2 & 1#8 GND
100A	1 1/2"C, 3#1 & 1#8 GND	1 1/2"C, 4#1 & 1#8 GND
110A	1 1/2"C, 3#1 & 1#6 GND	1 1/2"C, 4#1 & 1#6 GND
125A	1 1/2"C, 3#1 & 1#6 GND	1 1/2"C, 4#1 & 1#6 GND
150A	2"C, 3#1/0 & 1#6 GND	2"C, 4#1/0 & 1#6 GND
175A	2"C, 3#2/0 & 1#6 GND	2"C, 4#2/0 & 1#6 GND
200A	2"C, 3#3/0 & 1#6 GND	2"C, 4#3/0 & 1#6 GND
225A	2 1/2"C, 3#4/0 & 1#4 GND	2 1/2"C, 4#4/0 & 1#4 GND
250A	2 1/2"C, 3#250 & 1#4 GND	2 1/2"C, 4#250 & 1#4 GND
300A	3"C, 3#350 & 1#4 GND	3"C, 4#350 & 1#4 GND
350A	3 1/2"C, 3#500 & 1#3 GND	3 1/2"C, 4#500 & 1#3 GND
400A	(2) 2 1/2"C, 3#3/0 & 1#3 GND	(2) 2 1/2"C, 4#3/0 & 1#3 GND
450A	(2) 2 1/2"C, 3#4/0 & 1#2 GND	(2) 2 1/2"C, 4#4/0 & 1#2 GND
500A	(2) 3"C, 3#250 & 1#2 GND	(2) 3"C, 4#250 & 1#2 GND
600A	(2) 3"C, 3#350 & 1#1 GND	(2) 3"C, 4#350 & 1#1 GND
700A	(2) 3 1/2" C, 3#500 & 1#1/0 GND	(2) 3 1/2" C, 4#500 & 1#1/0 GND
800A	(3) 3"C, 3#300 & 1#1/0 GND	(3) 3"C, 4#300 & 1#1/0 GND
1000A	(4) 3"C, 3#250 & 1#2/0 GND	(4) 3"C, 4#250 & 1#2/0 GND
1200A	(4) 3"C, 3#350 & 1#3/0 GND	(4) 3"C, 4#350 & 1#1/0 GND
1600A	(4) 3 1/2"C, 3#600 & 1#4/0 GND	(4) 4"C, 4#600 & 1#4/0 GND
2000A	(6) 3"C, 3#400 & 1#250 GND	(6) 3 1/2"C, 4#400 & 1#250 GND
2500A	(7) 3"C, 3#500 & 1#350 GND	(7) 3 1/2"C, 4#500 & 1#350 GND
3000A	(8) 3 1/2"C, 3#500 & 1#400 GND	(8) 3 1/2"C, 4#500 & 1#400 GND
4000A	(11) 3 1/2"C, 3#500 & 1#500 GND	(11) 4"C, 4#500 & 1#500 GND

XXXAY — XXX AMPERAGE, Y # OF CONDUCTORS

NOTES:
*OPTIONAL INSTALLATION, UNLESS NOTED OTHERWISE.
(#) = PROVIDE PARALLEL SETS OF CONDUCTORS AS INDICATED.

LN6C — 120/208 Wye, 3 PHASE, 4 WIRE, 100 A MAIN CAPACITY; 10,000AIC; ELECTRICAL A92A; MLO; SURFACE; SEE RISER; TYPE 1

CKT	ITEM FED	WIRE SIZE	AMPS	POLES	A (WATTS)	B (WATTS)	C (WATTS)	POLES	AMPS	WIRE SIZE	ITEM FED	CKT
1	REC - ELEC CLOSET	12	20 A	1	360 540			1	20 A	12	REC - OFFICE	2
3	REC - EMS	12	20 A	1		180 720		1	20 A	12	REC - LOCKERS	4
5	LIGHTING	12	20 A	1			388 500	1	15 A	12	EF-2	6
7	FC-1	12	20 A	1	0 900			1	20 A	12	REC - INTERSTITIAL	8
9	TEMP CONTROL PNL	12	20 A	1		500 368		1	20 A	12	CLERESTORY LED LIGHTING	10
11	SPARE		20 A	1			0 0	1	20 A		SPARE	12
13	SPARE		20 A	1	0 0			1	20 A		SPARE	14
15	SPARE		20 A	1		0 0		1	20 A		SPARE	16
17	SPARE		20 A	1			0 0	1	20 A		SPARE	18
19	SPARE		20 A	1	0 0			1	20 A		SPARE	20
21	SPACE	--	--	--		0 0		--	--	--	SPACE	22
23	SPACE	--	--	--			0 0	--	--	--	SPACE	24
25	SPACE	--	--	--	0 0			--	--	--	SPACE	26
27	SPACE	--	--	--		0 0		--	--	--	SPACE	28
29	SPACE	--	--	--			0 0	--	--	--	SPACE	30
31	SPACE	--	--	--	0 0			--	--	--	SPACE	32
33	SPACE	--	--	--		0 0		--	--	--	SPACE	34
35	SPACE	--	--	--			0 0	--	--	--	SPACE	36
37	SPACE	--	--	--	0 0			--	--	--	SPACE	38
39	SPACE	--	--	--		0 0		--	--	--	SPACE	40
41	SPACE	--	--	--			0 0	--	--	--	SPACE	42
	TOTAL CONNECTED LOAD:				1800 W	1768 W	888 W	AMPS:	12 A	LOAD:	4456 W	

LCE3 — 120/208 Wye, 3 PHASE, 4 WIRE, 100 A MAIN CAPACITY; 10,000AIC; SEE RISER; MLO; SEE RISER; TYPE 1

CKT	ITEM FED	WIRE SIZE	AMPS	POLES	A (WATTS)	B (WATTS)	C (WATTS)	POLES	AMPS	WIRE SIZE	ITEM FED	CKT
1	EXISTING LOAD		20 A	1	0 0			1	20 A		EXISTING LOAD	2
3	EXISTING LOAD		20 A	1		0 0		1	20 A		EXISTING LOAD	4
5	EXISTING LOAD		20 A	1			0 0	3	60 A		EXISTING LOAD	6
7	EXISTING LOAD		20 A	1	0 0							8
9	EXISTING LOAD		20 A	1		0 0		1	20 A		EXISTING LOAD	10
11	EXISTING LOAD		20 A	1			0 0					12
13	EXISTING LOAD		20 A	1	0 0			3	15 A		EXISTING LOAD	14
15	EXISTING LOAD		20 A	1		0 0						16
17	EXISTING LOAD		20 A	1			0 0	2	30 A		EXISTING LOAD	18
19	EXISTING LOAD		20 A	1	0 0							20
21	EXISTING LOAD		30 A	2		0 0		2	30 A		EXISTING LOAD	22
23							0 0					24
25	SPACE	--	--	--	0 0			--	--	--	SPACE	26
27	SPACE	--	--	--		0 0		--	--	--	SPACE	28
29	SPACE	--	--	--			0 0	--	--	--	SPACE	30
	TOTAL CONNECTED LOAD:				0 W	0 W	0 W	AMPS:	0 A	LOAD:	0 W	

-PROVIDE WITH SUB-FEED LUGS

LCE3B — 120/208 Wye, 3 PHASE, 4 WIRE, 100 A MAIN CAPACITY; 10,000AIC; ELECTRICAL A92A; MLO; SURFACE; SEE RISER; TYPE 1

CKT	ITEM FED	WIRE SIZE	AMPS	POLES	A (WATTS)	B (WATTS)	C (WATTS)	POLES	AMPS	WIRE SIZE	ITEM FED	CKT
1	REC - ELEC CLOSET	12	20 A	1	360 360			1	20 A	12	REC - COPIER	2
3	REC - WEST	12	20 A	1		360 360		1	20 A	12	REC - WEST	4
5	REC - EAST WORKSTATIONS	12	20 A	1			360 360	1	20 A	12	REC - WEST WORKSTATIONS	6
7	REC - NORTH	12	20 A	1	180 180			1	20 A	12	REC - NORTH	8
9	REC - NORTH	12	20 A	1		180 360		1	20 A	12	REC - EAST	10
11	REC - EAST	12	20 A	1			180 720	1	20 A	12	REC - OFFICE	12
13	REC - CSCA	12	20 A	1	540 540			1	20 A	12	REC - CSCA	14
15	REC - HD STORAGE	12	20 A	1		540 360		1	20 A	12	REC - HD STORAGE	16
17	REC - IV PREP	12	20 A	1			720 720	1	20 A	12	REC - ANTE	18
19	REC - HD BUFFER	12	20 A	1	720 360			1	20 A	12	REC - GENERAL	20
21	REC - RECEIVING	12	20 A	1		720 1366		1	20 A	12	LIGHTING	22
23	LIGHTING	12	20 A	1			572 0	1	15 A	12	UH-1	24
25	REC - SINKS	12	20 A	1	720 500			1	20 A	12	TEMP CONTROL PNL	26
27	SPARE		20 A	1		0 0		1	20 A		SPARE	28
29	SPARE		20 A	1			0 0	1	20 A		SPARE	30
	TOTAL CONNECTED LOAD:				4460 W	4246 W	3632 W	AMPS:	34 A	LOAD:	12337.8 W	

LSE3A — 120/208 Wye, 3 PHASE, 4 WIRE, 100 A MAIN CAPACITY; 10,000AIC; SEE RISER; MLO; SURFACE; SEE RISER; TYPE 1

CKT	ITEM FED	WIRE SIZE	AMPS	POLES	A (WATTS)	B (WATTS)	C (WATTS)	POLES	AMPS	WIRE SIZE	ITEM FED	CKT
1	LIGHTING	12	20 A	1	341 500			1	20 A	12	FIRE ALARM AMPLIFIER PANEL	2
3	SPARE		20 A	1		0 0		1	20 A		SPARE	4
5	SPARE		20 A	1			0 0	1	20 A		SPARE	6
7	SPARE		20 A	1	0 0			1	20 A		SPARE	8
9	SPARE		20 A	1		0 0		1	20 A		SPARE	10
11	SPARE		20 A	1			0 0	1	20 A		SPARE	12
13	SPACE	--	--	--	0 0			--	--	--	SPACE	14
15	SPACE	--	--	--		0 0		--	--	--	SPACE	16
17	SPACE	--	--	--			0 0	--	--	--	SPACE	18
19	SPACE	--	--	--	0 0			--	--	--	SPACE	20
21	SPACE	--	--	--		0 0		--	--	--	SPACE	22
23	SPACE	--	--	--			0 0	--	--	--	SPACE	24
25	SPACE	--	--	--	0 0			--	--	--	SPACE	26
27	SPACE	--	--	--		0 0		--	--	--	SPACE	28
29	SPACE	--	--	--			0 0	--	--	--	SPACE	30
	TOTAL CONNECTED LOAD:				841 W	0 W	0 W	AMPS:	2 A	LOAD:	840.6 W	

LSE3 — 120/208 Wye, 3 PHASE, 4 WIRE, 100 A MAIN CAPACITY; 10,000AIC; SEE RISER; MLO; SURFACE; SEE RISER; TYPE 1

CKT	ITEM FED	WIRE SIZE	AMPS	POLES	A (WATTS)	B (WATTS)	C (WATTS)	POLES	AMPS	WIRE SIZE	ITEM FED	CKT
1	EXISTING LOAD		20 A	1	0 0			1	20 A		EXISTING LOAD	2
3	EXISTING LOAD		20 A	1		0 0		1	20 A		SPARE	4
5	SPACE	--	--	--			0 0	--	--	--	SPACE	6
7	EXISTING LOAD		20 A	1	0 0			1	20 A		SPARE	8
9	EXISTING LOAD		20 A	1		0 0		1	20 A		EXISTING LOAD	10
11	EXISTING LOAD		20 A	1			0 0	1	20 A		EXISTING LOAD	12
13	SPACE	--	--	--	0 0			--	--	--	SPACE	14
15	SPACE	--	--	--		0 0		--	--	--	SPACE	16
17	SPACE	--	--	--			0 0	--	--	--	SPACE	18
19	SPACE	--	--	--	0 0			--	--	--	SPACE	20
21	SPACE	--	--	--		0 0		--	--	--	SPACE	22
23	SPACE	--	--	--			0 0	--	--	--	SPACE	24
25	SPACE	--	--	--	0 0			--	--	--	SPACE	26
27	SPACE	--	--	--		0 0		--	--	--	SPACE	28
29	SPACE	--	--	--			0 0	--	--	--	SPACE	30
	TOTAL CONNECTED LOAD:				0 W	0 W	0 W	AMPS:	0 A	LOAD:	0 W	

-PROVIDE WITH SUB-FEED LUGS, SURGE-PROTECTIVE DEVICE

QH1A — 480/277 Wye, 3 PHASE, 4 WIRE, 100 A MAIN CAPACITY; 22,000AIC; SEE RISER; MLO; SURFACE; SEE RISER; TYPE 1

CKT	ITEM FED	WIRE SIZE	AMPS	POLES	A (WATTS)	B (WATTS)	C (WATTS)	POLES	AMPS	WIRE SIZE	ITEM FED	CKT
1					2106 2106							2
3	EF-4	12	15 A	3		2106 2106		3	15 A	12	EF-3	4
5							2106 2106					6
7					0 0							8
9	AHU-43	12	15 A	3		0 0		3	15 A	12	AHU-43	10
11							0 0					12
13					42 0							14
15	AHU-43 DESSICANT WHEEL	12	15 A	3		42 0						16
17							42 0					18
19	SPACE	--	--	--	0 0			--	--	--	SPACE	20
21	SPACE	--	--	--		0 0		--	--	--	SPACE	22
23	SPACE	--	--	--			0 0	--	--	--	SPACE	24
25	SPACE	--	--	--	0 0			--	--	--	SPACE	26
27	SPACE	--	--	--		0 0		--	--	--	SPACE	28
29	SPACE	--	--	--			0 0	--	--	--	SPACE	30
31	SPACE	--	--	--	0 0			--	--	--	SPAC