SITE LOCATION

GENERAL NOTES

1. GENERAL CONTRACTOR TO FIELD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO PRICING OR BEGINNING ANY WORK. NOTIFY ARCHITECT OF ANY INCONSISTENCIES.

2. DRAWINGS HAVE BEEN PREPARED AT FULL SCALE ON 22x34 SHEETS.

3. GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR ALL LOCAL FEES INCLUDING, BUT NOT LIMITED TO, PERMITS, TEMPORARY POWER, TAP MATERIAL + INSTALLATION COMPLETE, ETC.

4. OWNER TO OCCUPY EXISTING BUILDING THROUGHOUT CONSTRUCTION OF NEW ADDITION AND NOT IMPACT THEIR OPERATION. CONTRACTOR TO COORDINATE ANY WORK THAT MIGHT IMPACT THEIR OPERATION.

5. GENERAL CONTRACTOR TO PROVIDE THE DESIGN AND INSTALLATION OF A FULLY OPERATIONAL SPRINKLER SYSTEM FOR NEW ADDITION, THAT MEETS THE REQUIREMENTS OF NFPA 13 AND ALL OTHER BUILDING CODES HAVING JURISDICTION.

6. G.C. SHALL BE RESPONSIBLE FOR BOTH LOCAL INSPECTIONS APPROVAL AND CERTIFICATE OF OCCUPANCY AND NC DHSR INSPECTION AND APPROVAL.

LEGEND

DRAWING NUMBER — 1/A1.1 (DETAIL/PLAN # (01 IN THIS CASE) / SHEET # (A1.1 IN THIS CASE))

KEYNOTE TAG — 5

SECTION TAG — 1 / A3.5 (DETAIL # / SHEET #)

PLAN/DETAIL TAG — 1 / A4.2 (DETAIL # / SHEET #)

ROOM TAG — LOBBY 101 (ROOM NAME / ROOM #)

INTERIOR ELEVATION TAG — A, B, C, D, 4 (ELEVATION MARK / DETAIL #)

WINDOW TAG — A

DOOR TAG — 100

WALL TAG — B

ELEVATION TAG — T.O.S. 199.97' (HORIZONTAL SURFACE / ELEVATION)

ROLLER SHADE — RS NOTE: TO BE SUPPLIED BY OWNER & INSTALLED BY CONTRACTOR.

TACKBOARD — TB-4 (LENGTH / TACKBOARD)

COLUMN GRID LINE — B

INDEX OF DRAWINGS

SCOPE OF WORK

THE WORK SHALL CONSIST OF THE FOLLOWING ITEMS AND ALL OTHER WORK AS SHOWN ON THE PLANS, IN THE PROJECT MANUAL AND AS REQUIRED BY CODE.

1. CONSTRUCT NEW 12,930 S.F.SINGLE STORY BUILDING ADDITION TO EXISTING SINGLE STORY BUILDING.
2. PROVIDE NEW EXTERIOR PATIENT ACTIVITY SPACE (1,760 S.F.) ON EAST SIDE OF ADDITION ENCLOSED WITH 10' HIGH SPLIT FACE CMU WALL.
3. RENOVATE TWO (2) EXISTING PATIENT ROOMS TO ACCOMMODATE NEW CONNECTING CORRIDOR FROM NEW TO EXISTING.
4. CONSTRUCT NEW STAIR ACCESS TO REAR OF EXISTING VACANT BUILDING WITH NEW CONCRETE RETAINING WALL AND WOOD FRAMED WALLS AND ROOF ABOVE.
5. PROVIDE NEW ELECTRICAL TRANSFORMER ON NEW CONCRETE SUPPORT PAD, LOCATED NEXT TO EXISTING EMERGENCY GENERATOR.
6. NEW SITE WORK TO INCLUDE:
   1. NEW PAVED PARKING AREA WITH17 NEW PARKING SPACES
   2. NEW DROP-OFF LANE.
   3. NEW CONCRETE WALKWAYS.
   4. NEW CONCRETE DUMPSTER PAD AND BOLLARDS.
   5. NEW LANDSCAPING.

BEFORE YOU DIG! CALL 1-800-632-4949 N.C. ONE-CALL CENTER IT'S THE LAW!

GOOD HOPE HOSPITAL

410 DENIM DRIVE ERWIN , NORTH CAROLINA

ADDITION and RENOVATIONS

REVISIONS

NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.
APPROVED
Limited building only review
Permit holder responsible for full compliance with the code
01/12/2021
Harnett COUNTY NORTH CAROLINA

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURE CORPORATION CERT. NO. C-0893 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT ROCKINGHAM, NORTH CAROLINA

SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

INDEX OF DRAWINGS, LEGEND, SCOPE OF WORK, GENERAL NOTES AND SITE LOCATION

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.:	4535
DRAWN BY:	JKM
CHECKED BY:	DWS
DATE:	9/11/2020
SHEET NO.	COVER

O:\NON-HUD PROJECTS\ERWIN\4535 SCMH - Erwin\DRAWINGS\XCADD\G1-0 Cover Sheet-BLDG Code.aec

ABBREVIATIONS

A	AMPERES	DR	DOOR	INCL.	"INCLUDE, INCLUSIVE"	R	RADIUS
A.B.	ANCHOR BOLT	E.A.	EXPANSION ANCHOR	INSUL.	INSULATION	R.D.L.	ROOF DRAIN LEADER
A.F.F.	ABOVE FINISHED FLOOR	E.F.	EXHAUST FAN	INT.	INTERIOR	R.D.O.	ROOF DRAIN OVERFLOW
A.F.G.	ABOVE FINISHED GRADE	E.J.	EXPANSION JOINT	J-BOX	JUNCTION BOX	R.O.	ROUGH OPENING
A/C	AIR CONDITIONING	E.N.	END NAILING	JCT	JUNCTION	R.O.W. or R/W	RIGHT OF WAY
ABC	AGGREGATE BASE COURSE	E.W.	EACH WAY	JST.	JOIST	REF	REFRIGERATOR
ABS	ACRYLONITRILE-BUTADIENE-STYRENE	EA.	EACH	JT.	JOINT	REF.	REFERENCE
ABV.	ABOVE	EL	ELEVATION	K-D	KNOCK DOWN	REINF.	REINFORCED
ACB	ASBESTOS-CEMENT BOARD	ELECT.	"ELECTRIC, ELECTRICAL"	KD	KILN DRIED	REQ'D.	REQUIRED
ACOU.	ACOUSTIC	ELEV.	ELEVATOR	KO	KNOCK OUT	RET.	RETURN
ACT	ACOUSTICAL CEILING TILE	EMC	ELECTRICAL METALLIC CONDUIT	L.E.D.	LIGHT EMITTING DIODE	REV.	REVISION
ADD.	ADDITION or ADDENDUM	EMT	ELECTRICAL METALLIC TUBING	L.F.T.	LINEAR FEET	RM	ROOM
AG	ABOVE GRADE	ENT	ELECTRICAL NON-METALLIC TUBING	LAM	LAMINATE	RMV.	REMOVE
AHU	AIR HANDLER UNIT	EQ.	EQUAL	LAT.	LATERAL	S.C.	SOLID CORE
AL. or ALUM.	ALUMINUM	EQUIP.	EQUIPMENT	LAV	LAVATORY	S.D.	SMOKE DETECTOR
ALT.	ALTERNATE	EST.	ESTIMATE	LD.	LEAD	S.O.V.	SHUT OFF VALVE
ANL	ANNEALED	EVAP.	EVAPORATIVE COOLER	LIN.	LINEAR	S/L	SKYLIGHT
ASPH.	ASPHALT	EWC	ELECTRIC DRINKING COOLER	LINO.	LINOLEUM	S/S	STAINLESS STEEL
AVG	AVERAGE	EXC	EXCAVATE	LT.	LIGHT	SC	SELF CLOSING
AWG	AMERICAN WIRE GAUGE	EXH.	EXHAUST	LTG.	LIGHTING	SCHED.	SCHEDULE
∠	ANGLE	EXIST. or E	EXISTING	LVL	LAMINATED VENEER LUMBER	SECT.	SECTION
B.M.	BENCH MARK	EXT.	EXTERIOR	M.B.	MACHINE BOLT	SES	SERVICE ENTRANCE SECTION
B.N.	BOUNDARY NAILING	F.A.	FIRE ALARM	M.H.	MANHOLE	SH	SHEET
B.O.	BOTTOM OF	F.C.	FAN COIL	M.I.	MALLEABLE IRON	SHT'G.	SHEATHING
B.O.F.	BOTTOM OF FOOTING	F.C.O.	FLOOR CLEAN OUT	M.O.	MASONRY OPENING	SIM.	SIMILAR
B.U.	BUILT UP	F.D.	FLOOR DRAIN	MAR.	MARBLE	SPA.	SPACE
B/C	BACK OF CURB	F.E.	FIRE EXTINGUISHER	MAS.	MASONRY	SPECS	SPECIFICATIONS
BD.	BOARD	F.N.	FIELD NAILING	MAT'L	MATERIAL	SPKR.	SPEAKER
BLDG	BUILDING	F.O.	FACE OF	MAX.	MAXIMUM	SQ. FT.	SQUARE FEET
BLK.	BLOCK	F.S.	FLOOR SINK	MECH.	MECHANICAL	SQ. IN.	SQUARE INCHES
BLKG.	BLOCKING	F/G	FIBERGLASS	MED.	MEDIUM	STC	SOUND TRANSMISSION CLASS
BM.	BEAM	FAB.	FABRICATE	MFG.	MANUFACTURING	STD.	STANDARD
BR	BRASS	FACP	FIRE ALARM CONTROL PANEL	MFR.	MANUFACTURER	STL.	STEEL
BRG.	BEARING	FDC	FIRE DEPARTMENT CONNECTION	MIN.	MINIMUM	SUSP.	SUSPENDED
BRZ	BRONZE	FDN.	FOUNDATION	MISC.	MISCELLANEOUS	SW	SWITCH
C.A.P.	CONCRETE ASBESTOS PIPE	FHC	FIRE HOSE CABINET	MOD	MODULAR	SYM	SYMMETRICAL
C.D.	CONSTRUCTION DOCUMENTS	FIN.	FINISH	MTL.	METAL	SYS.	SYSTEM
C.I.P.	CAST IN PLACE	FL	FLOOR	MUL	MULLION	T & G	TONGUE AND GROOVE
C.J.	CONTROL JOINT	FLG.	FLOORING	N.I.C.	NOT IN CONTRACT	T.B.	THROUGH BOLT
C.O.	CLEAN OUT	FLUOR.	FLUORESCENT	N.T.S.	NOT TO SCALE	T.M.B.	TELEPHONE MOUNTING BOARD
C.T.	CERAMIC TILE	FP	FIRE PROOF	NCM	NON-CORROSIVE METAL	T.O.	TOP OF
CAB	CABINET	FTG.	FOOTING	NFC	NOT FOR CONSTRUCTION	T.O.B.	TOP OF BEAM
CAM.	CAMBER	FURN.	FURNISH	NLR.	NAILER	T.O.C.	TOP OF CURB
CCTV	CLOSED CIRCUIT TELEVISION	G.I.	GALVANIZED IRON	NO.	NUMBER	T.O.F.	TOP OF FOOTING
CEM.	CEMENT	GA.	GAUGE	NOM.	NOMINAL	T.O.J.	TOP OF JOIST
CER	CERAMIC	GALV.	GALVANIZED	O.C.	ON CENTER	T.O.M.	TOP OF MASONRY
CFM	CUBIC FEET PER MINUTE	GAR.	GARAGE	O.D.	OUTSIDE DIAMETER	T.O.S.	TOP OF SLAB
CH or ⊏	CHANNEL	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	O.H.	OVER HANG	T.O.W.	TOP OF WALL
CKT. BKR.	CIRCUIT BREAKER	GFI	GROUND FAULT INTERRUPTER	O.I.	ORNAMENTAL IRON	T.S.	TUBE STEEL
CL or ℄	CENTERLINE	GL	GLASS	O.R.	OUTSIDE RADIUS	T.V.	TELEVISION OUTLET
CLG.	CEILING	GLB	GLUE LAMINATED BEAM	OAI	OUTSIDE AIR INTAKE	TEL.	TELEPHONE
CLKG.	CAULKING	GM	GRADE MARK	OH	OVER HEAD	TH.	THRESHOLD
CLO.	CLOSET	GM	GATE VALVE	OPNG.	OPENING	THD.	THREADED
CLR.	CLEAR	GRC	GALVANIZED RIGID TUBING	OPPO.	OPPOSITE	THK.	THICK
CMU	CONCRETE MASONRY UNIT	GYP.	GYPSUM	P.C.	PRECAST CONCRETE	THRU	THROUGH
CNTRD.	CENTERED	GYP. BD.	GYPSUM BOARD	P.L. or ℙ	PROPERTY LINE	TLT.	TOILET
COL.	COLUMN	H.B.	HOSE BIBB	P.LAM.	PLASTIC LAMINATE	TRANS.	TRANSFORMER
COMB.	COMBINATION	H.C.	HOLLOW CORE	P.O.C.	POINT OF CONNECTION	TYP.	TYPICAL
CONC.	CONCRETE	H.M.	HOLLOW METAL	PERF.	PERFORATED	UNF.	UNFINISHED
CONST.	CONSTRUCTION	H/C	HANDICAPPED	PERP. or ⊥	PERPENDICULAR	UR	URINAL
CONT.	CONTINUOUS	HDBD.	HARDBOARD	PH or	PHASE	V.B.	VAPOR BARRIER
CONTR.	CONTRACTOR	HDW	HARDWARE	PL.	PLASTER	V.I.F.	VERIFY IN FIELD
CU	COPPER	HGT.	HEIGHT	PL. or ℙ	PLATE	VA	VOLT AMPERE
d	PENNY	HOR.	HORIZONTAL	PLAS.	PLASTIC	VCT	VINYL COMPOSITION TILE
D.F.	DRINKING FOUNTAIN	HTR	HEATER	PLUMB.	PLUMBING	VERT.	VERTICAL
D.G.	DECOMPOSED GRANITE	HVAC	"HEATING, VENTILATING & AIR CONDITIONING"	PLYWD.	PLYWOOD	W/C	WATER CLOSET
D.S.	DOWN SPOUT	HW	HOT WATER	PORC.	PORCELAIN	WDW	WINDOW
D/W	DISHWASHER	HYD.	HYDRAULIC	PREFAB.	PREFABRICATED	WCT	WAINSCOT
DBL.	DOUBLE	I.C.	INTERCOM OUTLET	PSF	POUNDS PER SQUARE FOOT	WP	WEATHER PROOF
DEMO	DEMOLITION	I.D.	INSIDE DIAMETER	PSI	POUNDS PER SQUARE INCH	WT.	WEIGHT
DIA. or ø	DIAMETER	I.F.	INSIDE FACE	PTN.	PARTITION	W/	WITH
DIAG.	DIAGONAL	ID	IDENTIFICATION	PVC	POLYVINYLCLORIDE	W/O	WITHOUT
DIM.	DIMENSION	IG	ISOLATED GROUND	PWR.	POWER	WD.	WOOD
DL	DEAD LOAD	IMC	INTERMEDIATE METALLIC CONDUIT	Q.T.	QUARRY TILE	W.I.	WROUGHT IRON
DN.	DOWN	IMPG	IMPREGNATED	QTY.	QUANTITY	YD.	YARD

REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50898 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.

SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
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Phone 910-895-6874 Fax 910-895-1111

ABBREVIATIONS

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.:	4535
DRAWN BY:	JKM
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DATE:	9/11/2020
SHEET NO.	G1.0

O:\NON-HUD PROJECTS\ERWIN\4535 SCMH - Erwin\DRAWINGS\XCADD\G1-0 Cover Sheet-BLDG Code.aec

BUILDING CODE SUMMARY

Name of Project: Good Hope Hospital, Inc.
Address: 410 Denim Drive, Erwin, NC 28339 Zip Code 27203
Proposed Use: Hospital (Mental Health)
Owner/Authorized Agent: Matthew Bertagnole Phone (910 230-4011 E-Mail matthew.bertagnole@horizonhealth.com
Owned By: ☐ City/County ☒ Private ☐ State
Code Enforcement Jurisdiction: ☒ City of Erwin ☒ County ☒ State

LEAD DESIGN PROFESSIONAL: Stogner Architecture, PA

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	Stogner Architecture, PA	David W. Stogner	NC 12661	(910) 895-6874	dstogner@stognerarchitecture.com
Civil	LKC Engineering, PLLC	Bill Lester, P.E.	NC 17651	(910) 420-1437	tim@lkcengineering.com
Electrical	Lighthouse Engineering	Paul S. Scott, P.E.	NC 26585	(919) 835-9781	jrs@lighthouseengineering.com
Fire Alarm	Lighthouse Engineering	Paul S. Scott, P.E.	NC 26585	(919) 835-9781	pss@lighthouseengineering.com
Plumbing	Lighthouse Engineering	Scott A. Brown, P.E.	NC 28385	(919) 835-9781	sab@lighthouseengineering.com
Mechanical	Lighthouse Engineering	Scott A. Brown, P.E.	NC 28385	(919) 835-9781	sab@lighthouseengineering.com
Sprinkler	(By General Contractor)	.	.	.	.
Structural	Stogner Architecture. PA	David W. Stogner	NC 12661	(910) 895-6874	dstogner@stognerarchitecture.com
Retaining Walls>5' High	N.A.	.	.	( )___-____	_____
Other	N.A.	.	.	( )___-____	_____

2018 EDITION OF NC CODE FOR: ☐ New Construction ☒ Addition ☐ Upfit
EXISTING: ☐ Reconstruction ☐ Alteration ☐ Repair ☒ Renovation
CONSTRUCTED: (date) _____ **ORIGINAL USE(S) (Ch. 3):** _____
RENOVATED: (date) _____ **CURRENT USE(S) (Ch. 3):** _____
PROPOSED USE(S) (Ch. 3): _____

BASIC BUILDING DATA:

Construction Type : (Existing) (check all that apply) ☐ I-A ☐ I-B ☐ II-A ☒ II-B ☐ III-A ☐ III-B ☐ IV ☐ V-A ☐ V-B (1)
Mixed construction: ☒ No ☐ Yes Types_____

Construction Type : (New) (check all that apply) ☐ I-A ☐ I-B ☐ II-A ☒ II-B ☐ III-A ☐ III-B ☐ IV ☐ V-A ☐ V-B
Mixed construction: ☒ No ☐ Yes Types_____

Sprinklers: ☐ No ☐ Partial ☒ Yes ☒ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☒ No ☐ Yes Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Fire District: ☒ No ☐ Yes (Primary) Flood Hazard Area: ☒ No ☐ Yes
Building Height: Feet 28'-0"

Gross Building Area

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
6th Floor			
5th Floor			
4th Floor			
3rd Floor			
2nd Floor			
Mezzanine			
1st Floor	15,000 SF +/-	12,930 SF	27,930 SF
Basement			
TOTAL	15,000 SF	12,930 SF	27,930 SF

ALLOWABLE AREA

Occupancy:
Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business ☐
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 ☒ I-2 ☐ I-3 ☐ I-4
I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Mercantile ☐
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☐

Accessory Occupancies:
Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
Business ☐
Educational ☐
Factory ☐ F-1 Moderate ☐ F-2 Low
Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
Institutional ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Mercantile ☐
Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled
☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
Utility and Miscellaneous ☐

Incidental Uses (Table 509):
☐ Furnace room where any piece of equipment is over 400,000 Btu per hour input
☐ Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower
☐ Refrigerant machine room
☐ Hydrogen cutoff rooms, not classified as Group H
☐ Incinerator rooms
☐ Paint shops, not classified as Group H, located in occupancies other than Group F
☐ Laboratories and vocational shops, not classified as Group H, located in a Group E or I-2 occupancy
☐ Laundry rooms over 100 square feet
☐ Group I-3 cells equipped with padded surfaces
☒ Group I-2 waste and linen collection rooms
☐ Waste and linen collection rooms over 100 square feet
☐ Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons, or a lithium-ion capacity of 1,000 pounds used for facility standby power, emergency power or uninterrupted power supplies
☐ Rooms containing fire pumps
☐ Group I-2 storage rooms over 100 square feet
☐ Group I-2 commercial kitchens
☐ Group I-2 laundries equal to or less than 100 square feet
☐ Group I-2 rooms or spaces that contain fuel-fired heating equipment

Special Uses: ☐ 402 ☐ 403 ☐ 404 ☐ 405 ☐ 406 ☒ 407 ☐ 408 ☐ 409 ☐ 410 ☐ 411 ☐ 412 ☐ 413 ☐ 414 ☐ 415 ☐ 416 ☐ 417 ☐ 418 ☐ 419 ☐ 420 ☐ 421 ☐ 422 ☐ 423 ☐ 424 ☐ 425 ☐ 426 ☐ 427

Special Provisions: ☐ 509.2 ☐ 509.3 ☐ 509.4 ☐ 509.5 ☐ 509.6 ☐ 509.7 ☐ 509.8 ☐ 509.9

Mixed Occupancy: ☒ No ☐ Yes Separation: ____Hr. Exception: _____

☒ Non-Separated Use (508.3)
The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

☐ Separated Use (508.4) – See below for area calculations
For each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} + \ldots\ldots\ldots = \leq 1.00$$

$$\frac{\quad}{\quad} + \frac{\quad}{\quad} + \ldots\ldots\ldots = \leq 1.00$$

REVISIONS
1 12/29/2020 EXISTING BUILDING CONSTRUCTION TYPE ADDED PER OSFM

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50898 NORTH CAROLINA ROCKINGHAM, N.C.

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BUILDING CODE SUMMARY - PAGE 1

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.: 4535
DRAWN BY: JKM
CHECKED BY: DWS
DATE: 9/11/2020
SHEET NO. G1.1

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BUILDING CODE SUMMARY

ALLOWABLE AREA CONTINUED

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) [4] TABLE 506.2 AREA	(C) AREA FOR FRONTAGE INCREASE[1]	(D) AREA FOR SPRINKLER INCREASE	(E) ALLOWABLE AREA OR UNLIMITED[2]	(F) MAXIMUM BUILDING AREA[3]
1st	HOSPITAL	27,930 SF	11,000 SF	6,270 SF	33,000 SF	ALLOWABLE	50,270 SF

[1] **Frontage area increases from Section 506.3 are computed thus:**

a. Perimeter which fronts a public way or open space having 20 feet minimum width = 430.00' (F)
b. Total Building Perimeter = 448.00' (P)
c. Ratio (F/P) = .96 (F/P)
d. W = Minimum width of public way = 24 (W)
e. Percent of frontage increase I_f = [F/P – 0.25] x W/30 = .57 (%)

HOSPITAL
[430.00/448.00 – 0.25] X 24/30 = .57%
11,000 SF X .57 = 6,270 SF
11,000 SF + 6,270 SF = 17,270 SF

[2] Unlimited area applicable under conditions of Section 507.
[3] Maximum Building Area = total number of stories in the building x E (506.4).
[4] The maximum area of open parking garages must comply with Table 406.3.5. The maximum area of air traffic control towers must comply with Table 412.3.2.

ALLOWABLE HEIGHT

	ALLOWABLE (Table 504.3)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type II-B		Type II-B	
Building Height in Feet	Feet 55'	Feet = H + 20' = 75'	28'-0"	
Building Height in Stories	Stories 1	Stories + 1 = 2	Stories 1	

BUILDING CODE SUMMARY
STRUCTURAL DESIGN

1

DESIGN LOADS:

Importance Factors: Snow (I_s) 1.0
Seismic (I_E) 1.0

Live Loads: Roof 20 psf
Mezzanine 60 psf
Floor N/A psf

Ground Snow Load: 10 psf

Wind Load: Ultimate Wind Speed 120 mph (ASCE-7)
Exposure Category C

SEISMIC DESIGN CATEGORY: ☐ A ☐ B ☒ C ☐ D

Provide the following Seismic Design Parameters:
Risk Category (Table 1604.5) ☐ I ☐ II ☒ III ☐ IV
Spectral Response Acceleration S_s 27.8 %g S_1 11.3 %g
Site Classification (ASCE 7) ☐ A ☐ B ☒ C ☐ D ☐ E ☐ F
Data Source: ☐ Field Test ☒ Presumptive ☐ Historical Data
Basic structural system ☐ Bearing Wall ☐ Dual w/Special Moment Frame
☒ Building Frame ☐ Dual w/Intermediate R/C or Special Steel
☐ Moment Frame ☐ Inverted Pendulum
Analysis Procedure: ☐ Simplified ☒ Equivalent Lateral Force ☐ Dynamic
Architectural, Mechanical, Components anchored? ☒ Yes ☐ No

LATERAL DESIGN CONTROL: Earthquake ☐ Wind ☒

SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) N/A psf
Presumptive Bearing capacity 2,500 psf
Pile size, type, and capacity N/A

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (Feet)	RATING REQ'D	RATING PROVIDED (w/ ____# REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR RATED PENETRATION	DESIGN # FOR RATED JOINTS
Structural frame including columns, girders, trusses		N/A					
Bearing Walls		N/A					
Exterior							
North							
East							
West							
South							
Interior							
Non-Bearing Walls and Partitions		N/A					
Exterior Walls							
North							
East							
West							
South							
Interior walls and partitions							
Floor construction including supporting beams and joists		1 HR.		3/G1.5	D914		
Roof construction including supporting beams and joists		N/A					
Shaft Enclosures – Exit		N/A					
Shaft Enclosures – Other		N/A					
Corridor Separation		20 MIN.					
Occupancy Separation		N/A					
Party/Fire Wall Separation		N/A					
Smoke Barrier Separation		1 HR.		1/G1.5	U419		
Smoke Partition Separation		20 MIN.					
Horizontal Assembly		1 HR.		2/G1.5	U415 SYSTEM A		
Tenant Separation		N/A					
Incidental Use Separation		1 HR.		1/G1.5	U419		

* Indicate section number permitting reduction

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting:	☐ NO	☒ YES	
Exit Signs:	☐ NO	☒ YES	
Fire Alarm:	☐ NO	☒ YES	
Smoke Detection Systems:	☐ NO	☒ YES	☐ PARTIAL
Panic Hardware:	☐ NO	☒ YES	

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REVISIONS
1 12/29/2020 BUILDING CODE SUMMARY STRUCTURAL DESIGN ADDED PER OSFM

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50898 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.
SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

BUILDING CODE SUMMARY - PAGE 2

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.: 4535
DRAWN BY: JKM
CHECKED BY: DWS
DATE: 9/11/2020
SHEET NO. G1.2

BUILDING CODE SUMMARY

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: G1.4

- ☒ Fire and/or smoke rated wall locations (Chapter 7)
- ☐ Assumed and real property line locations
- ☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
- ☐ Existing structures within 30' of proposed building
- ☒ Occupancy loads for each area
- ☒ Exit access travel distances (1016)
- ☐ Common path of travel distances (1014.3 & 1028.8)
- ☒ Dead end lengths (1018.4)
- ☒ Clear exit widths for each exit door
- ☒ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.1)
- ☒ Actual occupant load for each exit door
- ☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- ☒ Location of doors with panic hardware (1008.1.10)
- ☒ Location of doors with delayed egress locks and the amount of delay (1008.1.9.7)
- ☐ Location of doors with electromagnetic egress locks (1008.1.9.8)
- ☒ Location of doors equipped with hold-open devices
- ☐ Location of emergency escape windows (1029)
- ☐ The square footage of each fire area (902)
- ☐ The square footage of each smoke compartment (407.4)
- ☐ Note any exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS & SLEEPING UNITS (NEW ADDITION) (SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED
16	2	8	2	8	8	8	16

ACCESSIBLE PARKING (SECTION 1106)

LOT OR PARKING AREA	TOTAL NO. OF PARKING SPACES		NO. OF ACCESSIBLE SPACES PROVIDED			TOTAL NO. ACCESSIBLE	TOTAL NO. ACCESSIBLE
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 8' ACCESS AISLE	REQUIRED	PROVIDED
ALL PARKING	41	55	0	0	7	3	7
TOTAL	41	55	0	0	7	3	7

PLUMBING FIXTURE REQUIREMENTS (TABLE 403.1)

USE		WATERCLOSETS			URINALS	LAVATORIES		SHOWERS/ TUBS	DRINKING FOUNTAINS	
		MALE	FEMALE	UNISEX		MALE	FEMALE		REGULAR	ACCESSIBLE
EMPLOYEES - (I-2)	NEW	0	0	2	0	1	1	0	1	1
	REQUIRED	0	0	2	0	1	1	0	1	1
INPATIENT FBC (I-2)	NEW	4	4	1	0	4	4	8	0	0
	REQUIRED PER DHSR	4	4	0	0	4	4	8	0	0

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, ICC, etc., describe below)

REQUIRED TO HAVE DHHS REVIEW AND APPROVAL

ENERGY SUMMARY

ENERGY REQUIREMENTS

The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs. annual energy cost for the proposed design.

Climate Zone: ☐ 3 ☒ 4 ☐ 5

Method of Compliance:

- ☒ Prescriptive (Energy Code)
- ☐ Performance (Energy Code)
- ☐ Prescriptive (ASHRAE 90.1)
- ☐ Performance (ASHRAE 90.1)

THERMAL ENVELOPE

	METAL BUILDING	CONNECTOR
Roof/ceiling Assembly (each assembly)		
Description of assembly	OUTSIDE AIR FILM – 0.17 STANDING SEAM METAL ROOF – 0.00 VAPOR BARRIER – 0.00 9 1/4" FIBERGLASS INSULATION – 30.00 INSIDE FILM – 0.68 LAY-IN CEILING – 0.61	OUTSIDE AIR FILM – 0.17 STANDING SEAM METAL ROOF – 0.00 VAPOR BARRIER – 0.00 1/2" DENSDECK BOARD – 0.56 5" POLYISOCYANURATE INSULATION – 30.00 1 1/2" METAL ROOF DECK – 0.00 INSIDE FILM – 0.68 LAY-IN CEILING – 0.61
U-Value of total assembly	0.032	0.031
R-Value of insulation	31.46	32.02
Skylights in each assembly	N/A	N/A
U-Value of skylight	N/A	N/A
total square footage of skylights in each assembly	N/A	N/A
Exterior Walls (each assembly)		
Description of assembly	OUTSIDE AIR FILM – 0.17 METAL WALL PANEL – 0.00 VAPOR BARRIER – 0.00 8" FIBERGLASS INSULATION – 25.00 7/8" METAL FURRING – 1.00 5/8" GYPSUM BOARD – 0.56 INSIDE FILM – 0.68	OUTSIDE AIR FILM – 0.17 METAL WALL PANEL – 0.00 3" POLYISOCYANURATE INSULATION – 18.00 VAPOR BARRIER – 0.00 5/8" DENSGLASS GOLD SHEATHING – 0.67 6" METAL STUD FRAMING – 1.00 5/8" GYPSUM BOARD – 0.56 INSIDE FILM – 0.68
U-Value of total assembly	0.036	0.047
R-Value of insulation	27.41	21.08
Openings (windows or doors with glazing)		
U-Value of assembly	0.580	
solar heat gain coefficient	0.450	
projection factor	XX	
Door R-Values	1.72 GLASS AND ALUMINUM, 15.00 INSULATED METAL	
Floors over unconditioned space (each assembly)		
Description of assembly	N/A	
U-Value of total assembly	N/A	
R-Value of insulation	N/A	
Walls below grade (each assembly)		
Description of assembly	N/A	
U-Value of total assembly	N/A	
R-Value of insulation	N/A	
Floors slab on grade		
Description of assembly	VINYL – 0.05 4" CONCRETE SLAB – 0.28 VAPOR BARRIER – 0.00	
U-Value of total assembly	3.03	
R-Value of insulation	0.33	
Horizontal/vertical requirement	N/A	
Slab heated	N/A	

STRUCTURAL SUMMARY - SEE STRUCTURAL DRAWINGS

ELECTRICAL SUMMARY - SEE ELECTRICAL DRAWINGS

MECHANICAL SUMMARY - SEE MECHANICAL DRAWINGS

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REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, REGISTERED ARCHITECTURE CORPORATION, CERT. NO. C-50898, NORTH CAROLINA, ROCKINGHAM, N.C.

DAVID W. STOGNER, REGISTERED ARCHITECT, ROCKINGHAM, N.C.

SEPT. 11, 2020

Stogner Architecture, PA

ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD

615 East Broad Avenue, Rockingham, North Carolina, 28379

Phone 910-895-6874 Fax 910-895-1111

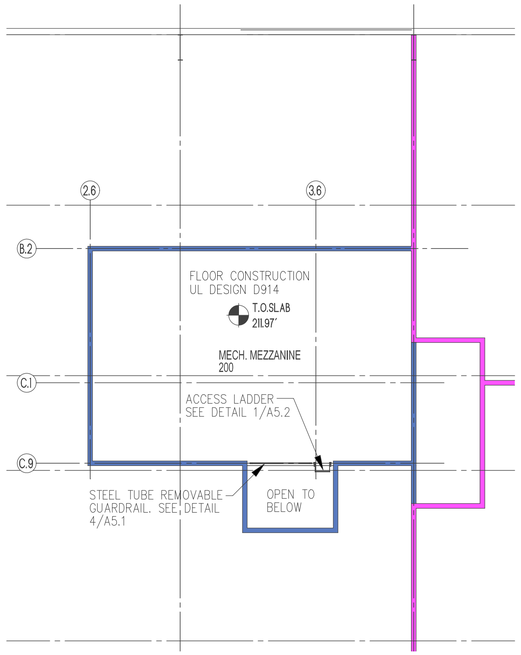
BUILDING CODE SUMMARY - PAGE 3

GOOD HOPE HOSPITAL

410 DENIM DRIVE ERWIN, NORTH CAROLINA

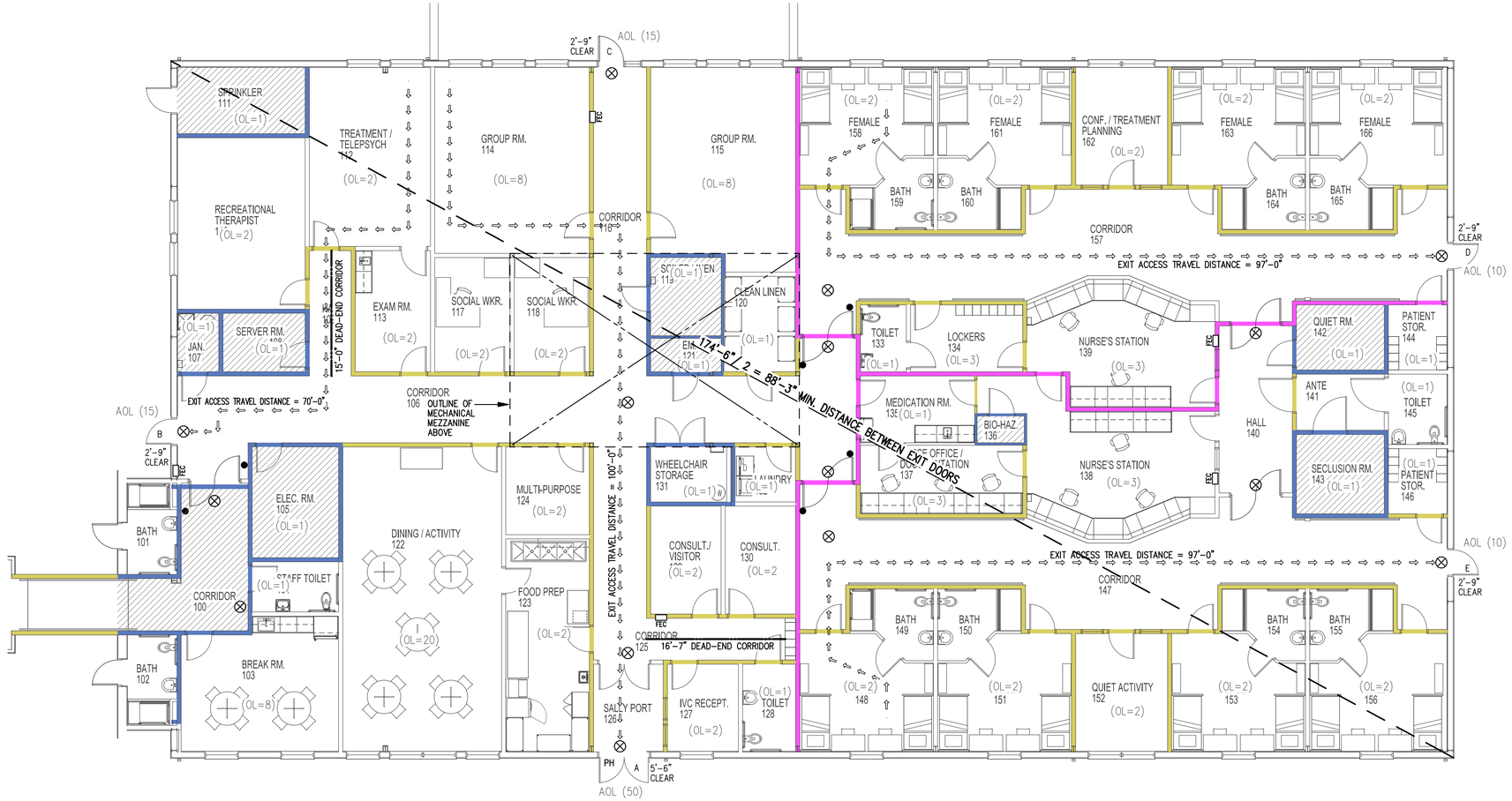
ADDITION and RENOVATIONS

COMM. NO.: 4535
DRAWN BY: JKM
CHECKED BY: DWS
DATE: 9/11/2020
SHEET NO.
G1.3



2 MECHANICAL MAZZANINE

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



1 LIFE SAFETY PLAN

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

LEGEND

- DEAD-END LENGTH
- ⇨ ⇨ EXIT ACCESS TRAVEL DISTANCE
- PH - PANIC HARDWARE PROVIDED
- (OL=X) - OCCUPANT LOAD
- AOL (X) - ACTUAL OCUPANT LOAD AT EXIT DOOR
- ⊗ - EXIT SIGN
- FEC - FIRE EXTINGUISHER & CABINET (COORDINATE FINAL LOCATIONS W/ OWNER + FIRE MARSHAL)
- ● - MAGNETIC DOOR HOLD OPENS

- 1 HOUR FIRE RATED PARTITION – U419 (WALL TO EXTEND FROM FLOOR TO 8" ABOVE CEILING @ MAIN FLOOR LEVEL, RUN TO UNDERSIDE OF ROOF @ MECHANICAL MEZZANINE)
- SMOKE BARRIER-1 HOUR FIRE RATED – U419 (WALL TO EXTEND FROM FLOOR TO UNDERSIDE OF ROOF DECK)
- SMOKE PATITION (WALL TO EXTEND 8" MIN. ABOVE CEILING)
- 1 HOUR FIRE RATED CEILING – UL DESIGN U415 SYSTEM A (HORIZONTAL ASSEMBLY)

1. MAXIMUM CALCULATED OCCUPANT LOAD CAPACITY OF EACH EXIT DOOR.
   DOOR A = 330
   DOOR B = 165
   DOOR C = 165
   DOOR D = 165
   DOOR E = 165

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

12" 0 5' 10' 15'

REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50898 ROCKINGHAM, N.C. NORTH CAROLINA

DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.

SEPT. 11, 2020

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ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

LIFE SAFETY PLAN

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.:	4535
DRAWN BY:	JKM
CHECKED BY:	DWS
DATE:	9/11/2020
SHEET NO.	G1.4

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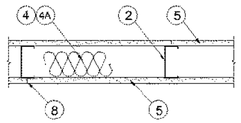
1 UL DESIGN NO. U419

NONBEARING WALL RATING - 1 HR



1. Floor and Ceiling Runners – (Not Shown) – For use with Item 2 – Channel shaped, fabricated from min 25 MSG corrosion–protected steel, min depth to accommodate stud size, with min 1–1/4 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 depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

4. Batts and Blankets* – (Required as indicated under Item 5) – Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

5. 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:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2, 2C, 2D, 2F, 2G, 20	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4)
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.

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

USG BORAL DRYWALL SFZ LLC – 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE

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 Types IP–X3 or ULTRACODE

6. Fasteners – (Not Shown) – For use with Items 2 and 2F – Type S or S–12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). 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.

8. 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.

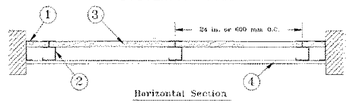
10. Caulking and Sealants* – (Optional, Not Shown) – A bead of acoustical sealant applied around the partition perimeter for sound control.

UNITED STATES GYPSUM CO – Type ASe

2 UL DESIGN NO. U415

HORIZONTAL ASSEMBLY RATING - 1 HR

SYSTEM A - 1 HR.



Horizontal Section

1. Floor, Side and Ceiling Runners – "J" – shaped runner, min 2–1/2 in. deep (min 4 in. deep when System C is used), with unequal legs of 1 in. and 2 in., fabricated from min 24 MSG (min 20 MSG when Item 4A, 4B, 4C, 4D or 7 are used) galv steel. Runners positioned with short leg toward finished side of wall. Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. OC. "E" – shaped studs (Item 2A) may be used as side runners in place of "J" – shaped runners.
2. Steel Studs – "C–H" – shaped studs, min 2–1/2 in. deep (min 4 in. deep when System C is used), fabricated from min 25 MSG (min 20 MSG when Items 2D, 4A, 4B, 4C, 4D or 7 is used) galv steel. Cut to lengths 3/8 to 1/2 in. less than floor to–ceiling height and spaced 24 in. or 600 mm OC (max 16 in. OC when Items 4A, 4B, 4C, or 4D are used).

3. Gypsum Board* – Gypsum liner panels, nom 1 in. thick, 24 in. or 600 mm (for metric spacing) wide. Panels cut 1 in. less in length than floor to ceiling height. Vertical edges inserted in "H" portion of "C–H" studs or the gap between the two 3/4 in. legs of the "E" studs. Free edge of end panels attached to long leg of vertical "J" – runners with 1–5/8 in. long Type S steel screws spaced not greater than 12 in. OC. When wall height exceeds liner panel length, liner panel may be butted to extend to the full height of the wall. Horizontal joints need not be backed by steel framing. In System I, butt joints in liner panels are staggered min 36 in. Butt joints backed with 6 in. by 22 in. strips of 3/4 in. thick gypsum wallboard (Item 4). Wallboard strips centered over butt joints and secured to liner panels with six 1–1/2 in. long Type G steel screws, three screws along the 22 in. dimension at the top and bottom of the strips.
CGC INC – Type SLX

UNITED STATES GYPSUM CO – Type SLX

USG BORAL DRYWALL SFZ LLC – Type SLX

USG MEXICO S A DE C V – Type SLX

4. Gypsum Board* – System A – 1 Hr Gypsum panels, with beveled, square or tapered edges, nom 5/8 in. thick, 48 in. or 1200 mm wide, applied vertically or horizontally, attached to studs with 1 in. long Type S steel screws spaced 12 in. when installed vertically or 8 in OC when installed horizontally. Horizontal joints need not be backed by steel framing.
CGC INC – Types AR, C, IP–AR, IP–X1, IP–X2, IPC–AR, SCX, SHX, ULX, USGX, WRC, WRX

UNITED STATES GYPSUM CO – Types AR, C, FRX–G, IP–AR, IP–X1, IP–X2, IPC–AR, SCX, SGX, SHX, ULIX, ULX, WRC, WRX, USGX. When ULIX is used insulation, Item 6, Batts and Blankets* is required and minimum stud depth is 4 in.

USG BORAL DRYWALL SFZ LLC – Types C, SCX, SGX, USGX

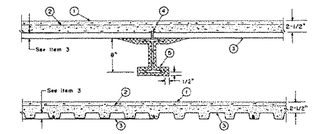
USG MEXICO S A DE C V – Types AR, C, IP–AR, IP–X1, IP–X2, IPC–AR, SCX, SHX, ULX, USGX, WRC, WRX

5. Joint Tape and Compound – (Not Shown)
Systems A, B, C, E, F, G, H, I
Joints on outer layers of gypsum boards (Item 4 and 4A) covered with paper tape and joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges. Exposed screw heads covered with joint compound.

6. Batts and Blankets* – Systems A, (Optional) – Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or glass fiber batt mineral bearing the UL Classification Marking as to Fire Resistance. System A with Type ULIX Gypsum Boards Placed in stud cavities, any min. 3–1/2 in. thick glass fiber 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.

3 UL DESIGN NO. D914

FLOOR / CEILING RATING - 1 HR



Beam – W8x28, min size.
1. Light Weight Concrete – Expanded shale, clay, or slate aggregate by rotary–kiln method, or pelletized expanded blast furnace slag aggregate, 110 pcf unit weight, 3500 psi compressive strength, vibrated, 4 to 7 percent entrained air.

2. Welded Wire Fabric – 6x6 – W1.4xW1.4.

3. Steel Floor and Form Units* – Composite 1–1/2, 2 or 3 in. deep galv units. Min gauges are 22 MSG for fluted and 20/20 MSG for cellular. Fluted units may be phos/ptd. The following combinations of units may be used:
(1) All 24 or 36 in. wide cellular;
(2) All fluted;
(3) One or two 3 in. deep 12 in. wide, 18/18 MSG min cellular alternating with 3 in. deep fluted or other cellular;
(4) Any blend of fluted and 24 or 36 in. wide cellular.
ASC STEEL DECK, DIV OF ASC PROFILES L L C – 32 in. wide Types NH–32, NHN–32, NHF–32; 36 in. wide Types BH–36, BHN–36,BHN–35–1/4, BHF–36, BHF–36A, 2WH–36, 2WHS–36, 2WHF–36, 2WHF–36A, 3WxH–36, 3WxHF–36, 3WxHF–36A, 3WH–36, 3WHF–36, 3WHF–36A, 3W–36, 3WF–36, DG3W–36, DG3WF–36. All units may be galvanized or Prime Shield. Non–cellular decks may be vented designated with a "V" suffix to the product name. Cellular deck top and bottom sections may be riveted together (designated with "Fr") vs. arc spot welded, "F".

Spacing of welds attaching units to supports shall be at each side and not to exceed 16 in. OC between sides. Unless noted otherwise, adjacent units button–punched or welded together 36 in. OC alongside joints.

4. Joint Cover – (Use with fluted units optional) 2 in. wide cloth adhesive tape applied following the contour of the steel form units.

5. Spray–Applied Fire Resistive Materials* – Applied by spraying with water in one coat after surface has been wetted with water, to a final tamped or untamped thickness as shown above, to steel surfaces which are free of dirt, oil or scale. Use of adhesive is optional. Tamping is optional. Min avg untamped density is 13 pcf with a min individual untamped density of 11 pcf for Types II, II HS, or DC/F. Min avg and min ind untamped densities of 22 and 19 pcf, respectively, for Type HP. For method of density determination refer to Design Information Section.
ISOLATEK INTERNATIONAL – Type D–C/F, HP, II, or Type II HS, Type EBS or Type X adhesive. Type E.B.S. adhesive may also be used as a surface sealer.

6. Shear Connector Studs – Optional – (Not Shown) – Studs, 3/4 in. diam, by 3 in. long for 1–1/2 in. deep form units to 5–1/4 in. deep for 3 in. units, headed type or equivalent per AISC specifications. Welded to top flange of beam through form units.

7. Electrical Inserts – (Not shown) Classified as "Outlet Boxes and Fittings Classified for Fire Resistance."
Restrained Assembly rating is 3/4 hr. with Tapmate II–FS–1 and 1 hr with Tapmate II–FS–2 inserts.
Installed over factory–punched holes in QL–WKX steel floor units per accompanying installation instructions. Spacing shall not be more than one insert in each 14 sq ft. of floor area with spacing along floor units not less than 48 in. OC. The holes cut in insert cover for passage of wires shall be no more than 1/8 in larger diam. than wire.
KAM INDUSTRIES LTD, DBA CORDECK – Tapmate II–FS–1, II–FS–2; Series KEB.

NOTE:
UL DESIGNS LISTED ARE IN ABBREVIATED FORMAT.
REFER TO THE UL WEBSITE FOR THE FULL DESCRIPTION.

O:\NON-HUD PROJECTS\ERWIN\4535 SCMH - Erwin\DRAWINGS\XCADD\G1-0 Cover Sheet-BLDG Code.oec

REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURE CORPORATION CERT. NO. 50898 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.
SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

UL DESIGN ASSEMBLIES

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.: 4535
DRAWN BY: JKM
CHECKED BY: DWS
DATE: 9/11/2020
SHEET NO.
G1.5

GENERAL NOTES

ALL GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND OTHER INFORMATION INDICATED ON THIS SHEET SHALL APPLIED TO ALL CONTRACT DOCUMENTS AND SHEETS IN THIS SET.

1. THE GENERAL CONTRACTOR SHALL FIELD VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AT THE JOB SITE.
2. ALL ELEVATIONS SHOWN ARE IN REFERENCE TO THE BENCHMARK AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR WITH THE SURVEYOR OF RECORD PRIOR TO BEGINNING CONSTRUCTION. ONE BENCHMARK IS A NAIL SET IN THE PAVEMENT NEAR THE SOUTHWEST CORNER OF THE PARKING LOT WITH AN ELEVATION OF 202.82. THE OTHER BENCHMARK IS LOCATED IN A LOT NORTH OF E H STREET WITH AN ELEVATION OF 193.69.
3. THE VERTICAL DATUM FOR THIS SURVEY IS BASED ON NAVD 88.
4. ALL DIMENSIONS AND ALL ELEVATIONS ARE MEASURED TO BACK OF CURB UNLESS OTHERWISE NOTED.
5. THE INTENT OF THE LIMITS OF DISTURBANCE/CONSTRUCTION (LOD/C) SHOWN ON THE DRAWINGS IS TO DEFINE THE GENERAL PROJECT AREA TO CONSTRUCT, INSTALL AND/OR MODIFY THE SITE. TYPICALLY, THE LOD/C WILL FOLLOW RIGHT-OF-WAY OR PROPERTY LINES. THE CONTRACTOR SHALL CONTACT THE OWNER'S REPRESENTATIVE REGARDING ANY QUESTIONS AS TO THE EXACT LOCATION OF THE LOD/C PRIOR TO BID AND PRIOR TO BEGINNING CONSTRUCTION. ALL ITEMS SHOWN ON THESE PLANS THAT DO NOT SPECIFICALLY STATE 'NOT-IN-CONTRACT (NIC), SHALL BE INCLUDED IN THE BID COST, INCLUDING ITEMS THAT MAY BE OUTSIDE THE PROJECT LIMITS.
6. LOCATIONS OF EXISTING UTILITY LINES HAVE BEEN TAKEN FROM UTILITY RECORDS SUPPLEMENTED BY FIELD INSPECTIONS AND SHOULD INDICATE IN GENERAL THE TYPE OF UNDERGROUND UTILITIES NOW IN SERVICE. LOCATIONS SHOWN ARE NOT GUARANTEED. DEVELOPERS AND/OR CONTRACTORS SHALL NOT ONLY MAKE SUBSURFACE INVESTIGATIONS BUT SHALL ALSO ALLOW FOR CONTINGENCIES WHICH MIGHT ARISE BY REASON OF ENCOUNTERING UNRECORDED LINES OR LINES BEING IN DIFFERENT LOCATIONS THAN INDICATED ON THESE PLANS. AT LEAST 48-HOURS PRIOR OR SOONER IF REQUIRED BY THE LOCAL MUNICIPALITY TO ANY CONSTRUCTION ACTIVITY, EXCAVATION, GRADING, OR DIGGING ON THE SITE, THE GENERAL CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES TO VERIFY AND/OR FIELD-LOCATE THEIR RESPECTIVE UTILITIES (THE NORTH CAROLINA ONE CALL CENTER - 1-800-632-4949). ALL DAMAGE INCURRED TO EXISTING UTILITY LINES DURING CONSTRUCTION SHALL BE REPAIRED AT THE GENERAL CONTRACTORS EXPENSE.
7. ALL WASTE MATERIAL TO BE BROUGHT OFF-SITE SHALL BE DISPOSED OF IN A LEGALLY PERMITTED DISPOSAL SITE.
8. A FORMAL EROSION AND SEDIMENTATION CONTROL PERMIT IS REQUIRED FOR THIS SITE UNDER THE REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (NCDENR). THE GENERAL CONTRACTOR IS REQUIRED TO AND SHALL FOLLOW ALL LOCAL, STATE AND FEDERAL REGULATIONS TO MINIMIZE EROSION AND THE TRANSPORT OF SEDIMENT OFF-SITE DURING, INCLUDING THE PLACEMENT AND MAINTENANCE OF CONTROL MEASURES. ALL MEASURES REQUIRED SHALL BE INCLUDED IN THE BID COST WHETHER SPECIFICALLY INDICATED OR NOT.
9. ANY AND ALL PARKING STRIPES SHALL BE 4" WIDE AND SHALL BE MARKED WITH STANDARD WHITE TRAFFIC PAINT. ALL ISLANDS AND TRAFFIC ARROWS SHALL BE MARKED WITH STANDARD WHITE TRAFFIC PAINT.
10. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL ERWIN, HARNETT COUNTY & STATE REQUIREMENTS.
11. DISTURBED AREAS NOT COVERED BY ASPHALT OR OTHER IMPERMEABLE SURFACES SHALL BE SEEDED AND STABILIZED PER SPECIFICATIONS.
12. ACCESSIBLE PARKING SPACES, ACCESS AISLES, & SIGNAGE SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AND INSTALLED PER FEDERAL, STATE, AND LOCAL REQUIREMENTS UNDER THE AMERICANS WITH DISABILITIES ACT (ADA). STANDARD R7-8 RESERVED PARKING AND MAXIMUM PENALTY $250 NCGS 20.37.6 SIGNS MUST BE INSTALLED IN FRONT OF ALL ACCESSIBLE PARKING SPACES. "VAN ACCESSIBLE" SIGNS MUST BE PROVIDED IN FRONT OF THE VAN ACCESSIBLE PARKING SPACE(S).
13. ALL TRAFFIC CONTROL DEVICES, PAVEMENT MARKINGS, SIGNS, AND SIGNALS SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN CONFORMANCE WITH THE STANDARDS SET FORTH IN THE NORTH CAROLINA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
14. SURVEY, BASE MAPPING, & TOPOGRAPHICAL DATA PROVIDED BY LKC ENGINEERING, PLLC; JEFFREY GREEN, PLS, LIC. # L-3972; 140 AQUA SHED CT., ABERDEEN, NC 28315, TEL #: 910-420-1436.
15. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING TREE PROTECTION FENCING AROUND ALL "AT-RISK" TREES WITHIN THE VICINITY OF THE CONSTRUCTION ACTIVITY WHETHER SPECIFICALLY INDICATED ON THE PLANS OR NOT. TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO BEGINNING ANY CONSTRUCTION OR OTHER DEVELOPMENT ACTIVITIES, AND SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE DURATION OF THE PROJECT UNTIL FINAL SITE INSPECTION. REFER TO CONSTRUCTION PLAN DETAIL SHEETS FOR TREE PROTECTION DETAIL(S).
16. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY & THE NORTH CAROLINA DEPARTMENT OF WATER QUALITY FOR APPROVAL TO REMOVE ALL CONSTRUCTED TEMPORARY & PERMANENT EROSION & SEDIMENTATION CONTROL MEASURES, AND FOR THE APPROVAL OF PERMANENT GROUND COVER.
17. CONTRACTOR SHALL INSTALL A RAIN GAUGE AND MAINTAIN A MONITORING LOG ACCORDING TO NCDENR REQUIREMENTS UNTIL THE AGENCY HAS RELEASED THE SITE.
18. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL ACCORDING TO NCDOT REQUIREMENTS DURING THE CONSTRUCTION OF IMPROVEMENTS IN THE RIGHT-OF-WAY.
19. CONTRACTOR SHALL PROVIDE RED-LINE PRINTS OF ALL CHANGES AND MODIFICATIONS. THIS INFORMATION SHALL BE PROVIDED TO THE DESIGNER OF RECORD AT THE TIME OF SUBSTANTIAL COMPLETION.
20. CONTRACTOR SHALL INSTALL 6-FT HIGH TEMPORARY CHAIN LINK CONSTRUCTION FENCING IN ALL AREAS WHERE DIRECT ACCESS TO CONSTRUCTION ACTIVITY IS POSSIBLE, AND SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH THE OWNER REGARDING THE LOCATION OF THE CONSTRUCTION FENCE AND PEDESTRIAN TRAFFIC CONTROL DURING CONSTRUCTION. ALL FENCING SHALL BE INCLUDED IN THE BID COST WHETHER SPECIFICALLY INDICATED OR NOT.
21. FINAL INSPECTION AND APPROVAL SHALL BE MADE PRIOR TO CERTIFICATE OF OCCUPANCY BEING ISSUED.
22. CONTRACTOR SHALL MAINTAIN A COPY OF THE LOCAL AUTHORITY'S APPROVED PLANS ALONG WITH ANY PERMIT LETTERS THAT HAVE BEEN MARKED "APPROVED" OR "APPROVED AS CORRECTED" ON SITE DURING CONSTRUCTION.
23. ALL EXCAVATION IN THE PROJECT AREA SHALL BE UNCLASSIFIED. CONTRACTOR SHALL INCLUDE ALL COST ASSOCIATED WITH SOIL MATERIAL REMOVAL, REPAIR AND DISPOSAL UNDER THE BASE BID SCOPE OF WORK.

ABBREVIATIONS

ABBREVIATION:	DESCRIPTION:	ABBREVIATION:	DESCRIPTION:
A/C	AIR CONDITIONING	NIC	NOT IN CONTRACT
ADJ	ADJACENT	NTS	NOT TO SCALE
AL	AREA LIGHT		
APROX	APPROXIMATE	O.C.	ON CENTER
ASSM	ASSEMBLY	OHE	OVERHEAD ELECTRIC
ASPH	ASPHALT		
		PC	POINT OF CURVATURE
BLDG	BUILDING	PI	POINT OF INTERSECTION
B.O.	BLOW-OFF	PIV	POST INDICATION VALVE
BOC	BACK OF CURB	PP	POWER POLE
BOW	BOTTOM OF WALL	PT	POINT OF TANGENCY
BX	BOX	PVC	POLYVINYL CHLORIDE
		PVMT	PAVEMENT
C.F.	CUBIC FOOT		
CI	CURB INLET	R	RADIUS
CL	CENTER LINE	R.J.	RESTRAINED JOINT
CONC	CONCRETE	R/W, ROW	RIGHT OF WAY
CONST	CONSTRUCTION	RCP	REINFORCED CONCRETE PIPE
CY	CUBIC YARD	RDCO	ROOF DRAIN CLEAN OUT
		REQD	REQUIRED
DEMO	DEMOLISH (DEMOLITION)	RQMT	REQUIREMENT
DP	DEEP	RT	RIGHT
DI	DUCTILE IRON	RWM	RIGHT OF WAY MONUMENT
D.I.P.	DUCTILE IRON PIPE		
DIA	DIAMETER	SCH	SCHEDULE
DIM	DIMENSION	SD	STORM DRAIN
DWG	DRAWING	SDCO	STORM DRAIN CLEAN OUT
		SDMH	STORM DRAIN MANHOLE
ECM	EXISTING CONCRETE MONUMENT	SED	SEDIMENT
EIP	EXISTING IRON PIPE	SF	SQUARE FOOT
EIS	EXISTING IRON STAKE	SPEC	SPECIFICATION
ELEC	ELECTRIC	SQ	SQUARE
ELEV	ELEVATION	SS	SANITARY SEWER
ELMH	ELECTRICAL MANHOLE	SSCO	SANITARY SEWER CLEAN OUT
ENCL	ENCLOSURE	SSMH	SANITARY SEWER MANHOLE
EOC	EDGE OF CONCRETE	STA	STATION
EOP	EDGE OF PAVEMENT	SY	SQUARE YARD
EQPT	EQUIPMENT		
ESMT	EASEMENT	TBM	TEMPORARY BENCHMARK
EX	EXISTING	TEL	TELEPHONE
		TEMP	TEMPORARY
FES	FLARED END SECTION	THK	THICK
FFE	FINISH FLOOR ELEVATION	TOC, T/C	TOP OF CURB
FH	FIRE HYDRANT	TOW	TOP OF WALL
FNC	FENCE	TPED	TELEPHONE PEDESTAL
FO	FIBER OPTIC	TS&V	TAPPING SADDLE & VALVE
FOC	FACE OF CURB	TYP	TYPICAL
FT	FOOT		
		UGE	UNDERGROUND ELECTRIC
G.V.	GATE VALVE	UTIL	UTILITY
GALV	GALVANIZE		
GND	GROUND		
GRAV	GRAVEL		
HDPE	HIGH DENSITY POLYETHYLENE		
L	LENGTH		
LF	LINEAR FOOT		
LFT	LEFT		
MAX	MAXIMUM		
MIN	MINIMUM		
MISC	MISCELLANEOUS		
M.J.	MECHANICAL JOINT		

LEGEND / KEY

NAME:	EXISTING	NEW
ASPHALT PAVEMENT		
CABLE TV	CA	
CENTERLINE		
CURB & GUTTER		
CONCRETE		
CONTOUR MAJOR	100	100
CONTOUR MINOR	99	99
EASEMENT		
FENCE	X	X
FIBER OPTIC	FO	
FORCE MAIN	FM	FM
GAS LINE	G	
GAS VALVE	GV	
GRAVEL		
LIMITS OF DIST/CONST		LOD/C
LIGHT POLE		
OVERHEAD ELECTRIC	OE OE	
POWER POLE		
PROPERTY LINE		
PROPERTY LINE - ADJ		
RAILROAD		
RIGHT-OF-WAY (ROW)	R/W	R/W
SANITARY SEWER LINE	SS	
SANITARY SEWER MH	S	S
SANITARY SEWER CO		
SPOT EL. GS	+100.00	100.00
SPOT EL. TOC	+100.00	TOC 100.00
SPOT EL. TOW	+100.00	TOW 100.00
STORM DRAIN LINE	SD	
STORM DRAIN FES	SD	
STORM DRAIN MH	D	D
STORM DRAIN CI		
STORM DRAIN GI		
STORM DRAIN YI		
TELEPHONE LINE	T	
TELEPHONE PEDESTAL	T	
UNDERGROUND ELEC.	UE	
UTILITY POLE		
WATER LINE	W W	
WATER VALVE	WV	WV
FIRE HYDRANT		
WATER METER	M	
WATER LINE BACKFLOW		
WATER LINE REDUCER		
IRON ROD/PIPE		
CONCRETE MONUMENT		
BENCHMARK		

EROSION CONTROL:	NEW
TEMP. CONST ENT.	
TEMP. SILT FENCE	SF
TEMP. DIVERSION	TD
TEMP. INLET PROTECT.	
TEMP. ROCK PIPE INLET PROTECTION	
RIPRAP DISSIPATOR	
TEMP. SILT FENCE OUTLET	
TEMP. SKIMMER BASIN WITH BAFFLES	
FAIRCLOTH SKIMMER	
TEMP. SEDIMENT TRAP WITH BAFFLES	
TEMP. SLOPE DRAIN	
TREE PROTECTION	TP TP
ROLLED EROSION CONTROL MATTING	
DEMOLITION LIMITS	

FOR CONSTRUCTION

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

NORTH CAROLINA PROFESSIONAL SEAL 17851 ENGINEER BILL LESTER

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

Engineering
Landscape Architecture
Surveying

LKC

GENERAL NOTES AND LEGEND

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: JULY, 2020
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
C-01

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

TBM: NAIL
N: 574485.46
E: 2098343.31
ELEV: 193.69

EX. SD INLET
RIM 193.74
12" INV. 192.45

EX. SD INLET
RIM 193.74
15" INV. 191.71 (S)
18" INV. 190.95 (E)

EX. UTILITY POLE

EX. UTILITY POLE

EX. SSMH
RIM 194.28
INV. 187.59
SERVICE INV. 190.22

EX. UTILITY POLE

EX. UTILITY POLE

EX. SD INLET
RIM 193.01
30" INV. 187.01

EX. UTILITY POLE

EX. SSMH
RIM 194.25
INV. 188.56 (E)
INV. 188.65 (S)

E H STREET
PUBLIC ROW

EX. SD INLET
RIM 193.74
12" INV. 192.45

EX. CONC. SIDEWALK

EX. GV

EX. WL

EX. WM

EX. CONC. SIDEWALK

EX. GAS

EX. 8"WL

EX. GV

EX. SD INLET
RIM 194.65
12" INV. 192.56

LOADING DOCK

EX. CONC. PAD

EX. BRICK WALL

EX. ASPHALT PAVEMENT

EX. CONC. SIDEWALK

EX. BLDG.
FFE 198.97

EX. SSMH
RIM 196.48
INV. 190.27

FFE
+198.97

EX. SD INLET
RIM 197.36
4" INV. 196.03

EX. OPEN AREA
TO BASEMENT
FFE 188.10

FFE
+198.97

EX. LIGHT POLE

EX. AC PAD

EX. GAS

RAMP

EX. CONC. PAVEMENT

EX. SD INLET
RIM 194.64
12" INV. 192.92
EXISTING OUTLET UNKNOWN
– SEE DRAINAGE PLAN

EX. RETAINING WALL

FFE
+199.03

FFE
+198.95

EX. GENERATOR PAD

EX. SD INLET
RIM 198.54
12" INV. 195.99

EX. FDC

EX. TRANSFORMER PAD

PARCEL LINES (TYP.)

EX. BOLLARDS (3EA)

EX. SD INLET
RIM 198.72
15" INV. 197.68

EX. SD INLET
30" INV. 191.17

EX. LIGHT POLE

EX. SSMH
RIM 199.78
INV. 194.68

EX. SSMH
RIM 200.11
INV. 192.40

EX. 4' HIGH VINYL FENCE

EX. TRANSFORMER PAD

EX. BOLLARDS (4EA)

EX. ASPHALT PAVEMENT

POSSIBLE JUNCTION OF STORM DRAIN PIPES – POSSIBLE BURIED STRUCTURE

EX. SD INLET
RIM 200.10
15" INV. IN: 197.36
15" INV. OUT: 197.25

EX. FIRE HYDRANT

EX. PLANTER

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. DRIVEWAY ENTRANCE

EX. DRIVEWAY ENTRANCE

EX. DRIVEWAY ENTRANCE

EX. DRIVEWAY ENTRANCE

TBM: NAIL
N: 574124.26
E: 2098304.49
ELEV: 202.82

DENIM DRIVE (SR 1718)
PUBLIC ROW

EX. SANITARY SEWER
PIPE EXTENDS 231.70 LF
TO THE SOUTH TO AN EX.
SSMH @ 0.51% SLOPE

EX. CURB INLET
HOOD 200.10
RIM 199.56
30" INV. 192.73

NOTES:

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2. THE PURPOSE OF THE PLAN IS FOR INFORMATIONAL PURPOSES ONLY. THOUGH THIS PLAN IS FROM AN ACTUAL FIELD SURVEY IT IS NOT AND SHOULD NOT BE CONSIDERED A RECORDABLE DOCUMENT.
3. ALL ELEVATIONS SHOWN ARE IN REFERENCE TO THE BENCHMARKS AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR WITH THE SURVEYOR OF RECORD PRIOR TO BEGINNING CONSTRUCTION. ONE BENCHMARK IS A NAIL SET IN THE PAVEMENT NEAR THE SOUTHWEST CORNER OF THE PARKING LOT WITH AN ELEVATION OF 202.82. THE OTHER BENCHMARK IS LOCATED IN A LOT NORTH OF E H STREET WITH AN ELEVATION OF 193.69.
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5. THE HORIZONTAL DATUM FOR THIS SURVEY IS NC GRID NAD83 AND THE VERTICAL DATUM IS NAVD88.
6. ALL DISTANCES ARE HORIZONTAL GROUND.
7. AREA BY COORDINATE COMPUTATION.
8. SURVEY INFORMATION FROM THE SURVEYOR OF RECORD, LKC ENGINEERING, PLLC; JEFFREY GREEN, PLS, LIC. # L-3972; 140 AQUA SHED CT., ABERDEEN, NC 28315, TEL #: 910-420-1436.

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
FULL SIZE SHEET 22"x34"

FOR CONSTRUCTION

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

Engineering
Landscape Architecture
Surveying

LKC

EXISTING TOPOGRAPHIC SURVEY

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: JULY, 2020
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
C-02

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

TBM: NAIL
N: 574485.46
E: 2098343.31
ELEV: 193.69

EX. SD INLET
RIM 193.74
12" INV. 192.45

EX. SD INLET
RIM 193.74
15" INV. 191.71 (S)
18" INV. 190.95 (E)

EX. UTILITY POLE

EX. SSMH
RIM 194.28
INV. 187.59
SERVICE INV. 190.22

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. SD INLET
RIM 193.01
30" INV. 187.01

EX. SSMH
RIM 194.25
INV. 188.56 (E)
INV. 188.65 (S)

E H STREET
PUBLIC ROW

EX. SD INLET
RIM 193.74
12" INV. 192.45

EX. CONC. SIDEWALK

EX. GV

EX. WM

EX. WL

EX. CONC. SIDEWALK

EX. GAS

EX. 8"WL

EX. GV

EX. SD INLET
RIM 194.65
12" INV. 192.56

EX. ASPHALT PAVEMENT

EX. CONC. SIDEWALK

LOADING DOCK

EX. CONC. PAD

SAWCUT, DEMOLISH AND REMOVE EX. CONC. STOOP

REMOVE AND GRUB EXISTING TREE

EX. BRICK WALL

EX. ASPHALT PAVEMENT

EX. BLDG.
FFE 198.97

EX. SSMH
RIM 196.48
INV. 190.27

EX. OPEN AREA TO BASEMENT
FFE 188.10

FFE
+198.97

EX. SD INLET
RIM 197.36
4" INV. 196.03

FFE
+198.97

RAMP

EX. GAS

EX. AC PAD

EX. LIGHT POLE

DEMOLISH AND REMOVE EX. INLET – EXISTING OUTLET UNKNOWN

EX. SD INLET
RIM 194.64
12" INV. 191.99

EX. RETAINING WALL PORTION TO REMAIN

FILL IN AREA OF EXISTING BASEMENT AFTER NEW WALL IS INSTALLED

REMOVE EX. PAVEMENT MARKINGS BY GRINDING OUT STRIPING

REMOVE EX. PAVEMENT MARKINGS BY GRINDING OUT STRIPING

FFE
+199.03

FFE
+198.95

DEMOLISH AND REMOVE EX. SD PIPE

SAWCUT, DEMOLISH AND REMOVE EX. ASPHALT PAVEMENT TO SUBGRADE

EX. GENERATOR AND PAD

EX. FDC

DEMOLISH AND REMOVE EX. TRANSFORMER PAD

EX. TRANSFORMER AND PAD

EX. SD INLET
RIM 198.54
12" INV. 195.99

EX. BOLLARDS (3EA)

SAWCUT, DEMOLISH AND REMOVE EX. ASPHALT PAVEMENT TO SUBGRADE

EX. SD INLET
30" INV. 191.17

EX. SD INLET
RIM 198.72
15" INV. 196.00

DEMOLISH AND REMOVE EX. INLET – SEE DRAINAGE PLAN

DEMOLISH AND REMOVE EX. SD PIPE

DEMOLISH AND REMOVE EXISTING SANITARY SEWER LINE – SEE UTILITY PLAN

EX. LIGHT POLE TO BE RELOCATED

EX. SSMH
RIM 199.78
INV. 194.68

DEMOLISH AND REMOVE EXISTING SANITARY SEWER MANHOLE

DEMOLISH AND REMOVE EX. PAD AND BOLLARDS

EX. SSMH
RIM 200.11
INV. 192.40

EX. 4' HIGH VINYL FENCE

SAWCUT, DEMOLISH AND REMOVE EX. ASPHALT PAVEMENT TO SUBGRADE

EX. TRANSFORMER PAD

EX. BOLLARDS (4EA)

DEMOLISH AND REMOVE EXISTING SANITARY SEWER LINE – SEE UTILITY PLAN

POSSIBLE JUNCTION OF STORM DRAIN PIPES – POSSIBLE BURIED STRUCTURE

DEMOLISH AND REMOVE EX. INLET – SEE DRAINAGE PLAN

EX. SD INLET
RIM 200.10
15" INV. IN: 197.36
15" INV. OUT: 197.25

DEMOLISH AND REMOVE EX. SD PIPE

SAWCUT, DEMOLISH AND REMOVE EX. CONC. CURB AND GUTTER

SAWCUT, DEMOLISH AND REMOVE EX. CONC. SIDEWALK AND CURB AND GUTTER

DEMOLISH AND REMOVE EX. PLANTERS

EX. FIRE HYDRANT

EX. PLANTER

EX. UTILITY POLE

TBM: NAIL
N: 574124.26
E: 2098304.49
ELEV: 202.82

EX. DRIVEWAY ENTRANCE

SAWCUT, DEMOLISH AND REMOVE EX. CONC. CURB AND GUTTER

EX. UTILITY POLE

SAWCUT, DEMOLISH AND REMOVE EX. CONC. SIDEWALK AND CURB AND GUTTER

EX. DRIVEWAY ENTRANCE

EX. UTILITY POLE

SAWCUT, DEMOLISH AND REMOVE EX. CONC. CURB AND GUTTER

DENIM DRIVE (SR 1718)
PUBLIC ROW

EX. UTILITY POLE

EX. DRIVEWAY ENTRANCE

EX. UTILITY POLE EX. UTILITY POLE

EX. DRIVEWAY ENTRANCE

EX. UTILITY POLE

EX. CURB INLET
HOOD 200.10
RIM 199.56
30" INV. 192.73

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4. LOCATIONS OF EXISTING UTILITY LINES HAVE BEEN TAKEN FROM UTILITY RECORDS SUPPLEMENTED BY FIELD INSPECTIONS AND SHOULD INDICATE IN GENERAL THE TYPE OF UNDERGROUND FACILITIES NOW IN SERVICE. HOWEVER, LOCATIONS SHOWN ARE NOT GUARANTEED AND ANY FURTHER DEVELOPERS OR CONTRACTORS SHOULD NOT ONLY MAKE SUBSURFACE INVESTIGATIONS BUT SHOULD ALSO ALLOW FOR CONTINGENCIES WHICH MIGHT ARISE BY REASON OF ENCOUNTERING UNRECORDED LINES OR LINES BEING IN DIFFERENT LOCATIONS THAN INDICATED ON THIS PLAT.
5. THE HORIZONTAL DATUM FOR THIS SURVEY IS NC GRID NAD83 AND THE VERTICAL DATUM IS NAVD88.
6. ALL DISTANCES ARE HORIZONTAL GROUND.
7. AREA BY COORDINATE COMPUTATION.
8. SURVEY INFORMATION FROM THE SURVEYOR OF RECORD, LKC ENGINEERING, PLLC; JEFFREY GREEN, PLS, LIC. # L-3972; 140 AQUA SHED CT., ABERDEEN, NC 28315, TEL #: 910-420-1436.

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
FULL SIZE SHEET 22"x34"

FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17651 BILL TESTER

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

Engineering
Landscape Architecture
Surveying

LKC

DEMOLITION PLAN

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: JULY, 2020
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
C-03

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

TBM: NAIL
N: 574485.46
E: 2098343.31
ELEV: 193.69

EX. SD INLET
EX. SD INLET
EX. UTILITY POLE
EX. UTILITY POLE
EX. SSMH
EX. UTILITY POLE
EX. UTILITY POLE
EX. SSMH
EX. UTILITY POLE
EX. SD INLET
EX. CONC. SIDEWALK
EX. GV
EX. WL
EX. WM
6 SPACES
EX. GV
EX. SD INLET
E H STREET
PUBLIC ROW
EX. CONC. SIDEWALK
EX. GAS
EX. 8"WL
LOADING DOCK
EX. CONC. PAD
EX. BRICK WALL
EX. ASPHALT PAVEMENT
EX. CONC. SIDEWALK
EX. BLDG.
FFE 198.97
EX. SD INLET
STAIRWAY TO BASEMENT
NEW ENCLOSURE SEE ARCHITECTURAL
FFE +198.97
EX. SSMH
13 SPACES
EX. LIGHT POLE
16 SPACES
EX. GAS
11 SPACES
RAMP
FFE +198.97
EX. AC PAD
FFE +199.03
FFE +198.95
9 EACH (TYP.)
NEW BLDG.
FFE 199.97
44.00'
20.00'
9 SPACES
8 SPACES
R25'
LIGHT POLE RELOCATED
SIDEWALK AT PARKING TO BE 6" THICK
R14.00'
R12.5'
EX. 4' HIGH VINYL FENCE
EX. FIRE HYDRANT
EX. PLANTER
EX. UTILITY POLE
EX. UTILITY POLE
EX. UTILITY POLE
EX. UTILITY POLE
EX. UTILITY POLE
EX. CURB INLET
HOOD 200.10
RIM 199.56
30" INV. 192.73
TBM: NAIL
N: 574124.26
E: 2098304.49
ELEV: 202.82
DENIM DRIVE (SR 1718)
PUBLIC ROW

GENERAL NOTES:

1. ALL GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND OTHER INFORMATION INDICATED ON THE GENERAL NOTES, LEGEND AND ABBREVIATIONS SHEET, SHEET G-01 SHALL APPLY TO THIS PLAN.
2. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF ERWIN AND HARNETT COUNTY STANDARDS AND SPECIFICATIONS.
3. ALL ELEVATIONS SHOWN ARE IN REFERENCE TO THE BENCHMARK AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR WITH THE SURVEYOR OF RECORD PRIOR TO BEGINNING CONSTRUCTION.

SITE KEY NOTING:

SYM.	DESCRIPTION	SHEET REFERENCE
2	INSTALL CONCRETE STANDARD SIDEWALK	SHT. D-01, #1
3	INSTALL ASPHALT PAVEMENT	SHT. D-01, #2
4	INSTALL 30" CONCRETE CURB & GUTTER	SHT. D-01, #3
5	INSTALL HANDICAP PARKING SIGN	SHT. D-01, #5
6	INSTALL "IN-LINE" HANDICAP ACCESSIBLE RAMP	SHT. D-01, #6
7	INSTALL FENCE	SEE ARCHITECTS DRAWINGS
8	INSTALL CROSSWALK STRIPING	SHT. D-01, #8
9	INSTALL CONCRETE FILLED BOLLARD	SHT. D-01, #9
10	INSTALL SIGN POST	SHT. D-01, #10
11	INSTALL "STOP" SIGN	SHT. D-01, #11
12	INSTALL PRECAST WHEELSTOP	SHT. D-02, #1
13	INSTALL 4' PEDESTRIAN GATE	SEE ARCHITECTS DRAWINGS
14	INSTALL "DO NOT ENTER" SIGN	SHT. D-02, #2
15	INSTALL GRAVEL YARD W/FILTER FABRIC UNDERLINER	SHT. D-02, #3
16	INSTALL "STOP BAR" STRIPING	SHT. D-02, NCDOT STD
17	INSTALL "DIRECTIONAL ARROW" STRIPING	SHT. D-02, NCDOT STD
18	INSTALL CONCRETE PAVEMENT	SHT. D-02, #4

GRAPHIC SCALE
FULL SIZE SHEET 22"x34"
20 0 10 20 40
(IN FEET)

FOR CONSTRUCTION

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

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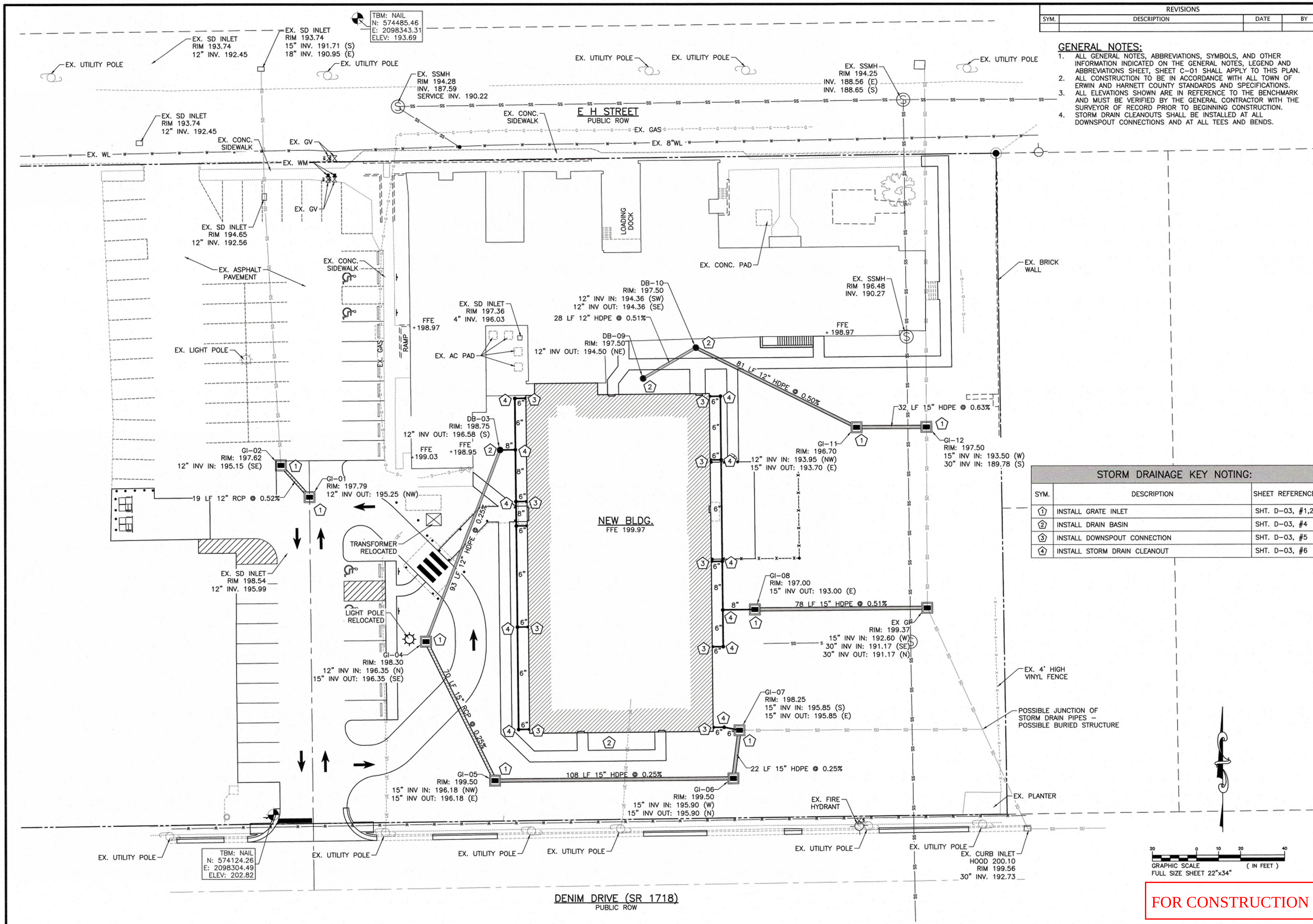
SITE LAYOUT PLAN

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: JULY, 2020
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
C-04


TBM: NAIL
N: 574485.46
E: 2098343.31
ELEV: 193.69
EX. SD INLET
RIM 193.74
12" INV. 192.45
EX. SD INLET
RIM 193.74
15" INV. 191.71 (S)
18" INV. 190.95 (E)
EX. UTILITY POLE
EX. SSMH
RIM 194.28
INV. 187.59
SERVICE INV. 190.22
E H STREET
PUBLIC ROW
EX. CONC. SIDEWALK
EX. GAS
EX. 8"WL
EX. WL
EX. WM
EX. GV
EX. SSMH
RIM 194.25
INV. 188.56 (E)
INV. 188.65 (S)
EX. SD INLET
RIM 194.65
12" INV. 192.56
EX. ASPHALT PAVEMENT
LOADING DOCK
EX. CONC. PAD
EX. BRICK WALL
EX. SSMH
RIM 196.48
INV. 190.27
DB-10
RIM: 197.50
12" INV IN: 194.36 (SW)
12" INV OUT: 194.36 (SE)
28 LF 12" HDPE @ 0.51%
DB-09
RIM: 197.50
12" INV OUT: 194.50 (NE)
EX. SD INLET
RIM 197.36
4" INV. 196.03
FFE +198.97
EX. AC PAD
RAMP
EX. LIGHT POLE
81 LF 12" HDPE @ 0.50%
32 LF 15" HDPE @ 0.63%
GI-11
RIM: 196.70
12" INV IN: 193.95 (NW)
15" INV OUT: 193.70 (E)
GI-12
RIM: 197.50
15" INV IN: 193.50 (W)
30" INV IN: 189.78 (S)
DB-03
RIM: 198.75
12" INV OUT: 196.58 (S)
FFE +199.03
FFE +198.95
GI-02
RIM: 197.62
12" INV IN: 195.15 (SE)
GI-01
RIM: 197.79
12" INV OUT: 195.25 (NW)
19 LF 12" RCP @ 0.52%
NEW BLDG.
FFE 199.97
TRANSFORMER RELOCATED
93 LF 12" HDPE @ 0.25%
EX. SD INLET
RIM 198.54
12" INV. 195.99
GI-08
RIM: 197.00
15" INV OUT: 193.00 (E)
78 LF 15" HDPE @ 0.51%
EX GI
RIM: 199.37
15" INV IN: 192.60 (W)
30" INV IN: 191.17 (SE)
30" INV OUT: 191.17 (N)
LIGHT POLE RELOCATED
GI-04
RIM: 198.30
12" INV IN: 196.35 (N)
15" INV OUT: 196.35 (SE)
70 LF 15" RCP @ 0.25%
EX. 4' HIGH VINYL FENCE
GI-07
RIM: 198.25
15" INV IN: 195.85 (S)
15" INV OUT: 195.85 (E)
POSSIBLE JUNCTION OF STORM DRAIN PIPES - POSSIBLE BURIED STRUCTURE
22 LF 15" HDPE @ 0.25%
GI-05
RIM: 199.50
15" INV IN: 196.18 (NW)
15" INV OUT: 196.18 (E)
108 LF 15" HDPE @ 0.25%
GI-06
RIM: 199.50
15" INV IN: 195.90 (W)
15" INV OUT: 195.90 (N)
EX. FIRE HYDRANT
EX. PLANTER
TBM: NAIL
N: 574124.26
E: 2098304.49
ELEV: 202.82
EX. CURB INLET
HOOD 200.10
RIM 199.56
30" INV. 192.73
DENIM DRIVE (SR 1718)
PUBLIC ROW
GRAPHIC SCALE
(IN FEET)
FULL SIZE SHEET 22"x34"

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

GENERAL NOTES:

1. ALL GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND OTHER INFORMATION INDICATED ON THE GENERAL NOTES, LEGEND AND ABBREVIATIONS SHEET, SHEET C-01 SHALL APPLY TO THIS PLAN.
2. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF ERWIN AND HARNETT COUNTY STANDARDS AND SPECIFICATIONS.
3. ALL ELEVATIONS SHOWN ARE IN REFERENCE TO THE BENCHMARK AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR WITH THE SURVEYOR OF RECORD PRIOR TO BEGINNING CONSTRUCTION.
4. STORM DRAIN CLEANOUTS SHALL BE INSTALLED AT ALL DOWNSPOUT CONNECTIONS AND AT ALL TEES AND BENDS.

STORM DRAINAGE KEY NOTING:

SYM.	DESCRIPTION	SHEET REFERENCE
1	INSTALL GRATE INLET	SHT. D-03, #1,2
2	INSTALL DRAIN BASIN	SHT. D-03, #4
3	INSTALL DOWNSPOUT CONNECTION	SHT. D-03, #5
4	INSTALL STORM DRAIN CLEANOUT	SHT. D-03, #6

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Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
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STORM DRAINAGE PLAN

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: JULY, 2020
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC

FOR CONSTRUCTION

NO. C-05

File: L:\Stogner-19.01 Good Hope Hosp\800 - Drawings\810 Design Drawings\02 Civil\STOGNER-19.01 C05 DRAINAGE.dwg, By: frank, Plotted: Thu Jul 23, 2020 at 8:53am

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

TBM: NAIL
N: 574485.46
E: 2098343.31
ELEV: 193.69

EX. SD INLET
RIM 193.74
15" INV. 191.71 (S)
18" INV. 190.95 (E)

EX. SD INLET
RIM 193.74
12" INV. 192.45

EX. UTILITY POLE

EX. SSMH
RIM 194.28
INV. 187.59
SERVICE INV. 190.22

EX. SD INLET
RIM 193.74
12" INV. 192.45

EX. CONC. SIDEWALK

EX. GV

EX. WM

EX. WL

E H STREET
PUBLIC ROW

EX. GAS

EX. 8"WL

EX. CONC. SIDEWALK

EX. SSMH
RIM 194.25
INV. 188.56 (E)
INV. 188.65 (S)

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. GV

EX. SD INLET
RIM 194.65
12" INV. 192.56

EX. CONC. SIDEWALK

EX. ASPHALT PAVEMENT

EX. LIGHT POLE

EX. GAS

RAMP

LOADING DOCK

EX. CONC. PAD

EX. BRICK WALL

EX. BLDG.
FFE 198.97

EX. SSMH
RIM 196.48
INV. 190.27

FFE +198.97

EX. SD INLET
RIM 197.36
4" INV. 196.03

EX. AC PAD

DB-10
197.50

FFE 198.97

DB-09
197.50

DB-03
198.75

FFE +198.95

FFE 199.03

LIMITS OF CONSTRUCTION/ DISTURBANCE: 1.70 ACS

GI-11
196.70

15"

GI-12
197.50

EX. RETAINING WALL

GI-02
197.62

GI-01
197.79

NEW BLDG.
FFE 199.97

GI-08
197.00

15"

EX GI
199.37

EX. SSMH
RIM 199.78
INV. 194.68

GI-04
198.30

EX. 4' HIGH VINYL FENCE

EX. ASPHALT PAVEMENT

GI-07
198.25

GI-05
199.50

15"

GI-06
199,50

EX. PLANTER

EX. FIRE HYDRANT

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. UTILITY POLE

EX. CURB INLET
HOOD 200.10
RIM 199.56
30" INV. 192.73

TBM: NAIL
N: 574124.26
E: 2098304.49
ELEV: 202.82

DENIM DRIVE (SR 1718)
PUBLIC ROW

EROSION CONTROL SEQUENCE:

1. OBTAIN ALL NECESSARY PERMITS AND APPROVALS AND HOLD PRE-CONSTRUCTION CONFERENCE.
2. INSTALL TEMPORARY SILT FENCE WITH SILT FENCE OUTLETS AND GRAVEL CONSTRUCTION ENTRANCE AS SHOWN ON PLAN.
3. APPLY TEMPORARY SEEDING TO ALL DISTURBED AREAS.
4. INSTALL SANITARY SEWER LINES.
5. INSTALL NEW STORM DRAINAGE SYSTEM AND IMMEDIATELY INSTALL INLET PROTECTION AS INLETS ARE INSTALLED AT ALL STORM DRAINAGE STRUCTURES.
6. WHEN INLET GI-01C AND GI-01A1 ARE INSTALLED, INSTALL THE TEMPORARY DIVERSION SWALES.
7. SEED THE DIVERSION SWALES WITHIN 7 DAYS IN ACCORDANCE WITH THE NPDES REQUIREMENTS.
8. ROUGH GRADE THE PROPOSED BUILDING PAD, PARKING FACILITY, DRIVEWAYS, AND OTHER RELATED SITE AMENITIES.
9. INSTALL WATER LINES AND ROOF DRAINS.
10. CONSTRUCT BUILDING, SIDEWALKS, AND THE DRIVE AND PARKING AREAS WHILE MAINTAINING ALL EROSION CONTROL DEVICES.
11. AREAS THAT ARE GETTING NEW PAVEMENT WITH ABC SUB-BASE SHALL BE INSTALLED TO THE ABC ONLY, ASPHALT SHALL NOT BE INSTALLED AT THIS TIME.
12. COMPLETE FINE GRADING AND SEEDING/SODDING OF THE SITE.
13. ONCE THE CONSTRUCTION OF THE IMPERVIOUS AREAS ARE ACCOMPLISHED AND ALL UPSTREAM AREAS ARE STABILIZED, CALL FOR AN INSPECTION BY THE NCDEQ EROSION CONTROL INSPECTOR.
14. ASPHALT SURFACE SHALL BE INSTALLED AT THIS TIME.
15. ALL EXCAVATED SOILS, NO LONGER REQUIRED FOR THE PROJECT AREA ARE TO BE REMOVED FROM THE SITE AND DISPOSED OF IN A LEGALLY PERMITTED BORROW PIT.
16. ONCE ALL WORK IS COMPLETED AND ALL AREAS STABILIZED, CONTRACTOR SHALL REQUEST AN INSPECTION BY NCDEQ LAND QUALITY SECTION.

NOTES:

1. ALL GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND OTHER INFORMATION INDICATED ON SHEET C-01 SHALL APPLY TO THIS PLAN.
2. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF ERWIN AND HARNETT COUNTY STANDARDS AND SPECIFICATIONS.
3. CONTRACTOR SHALL ENSURE THAT THE EXISTING UTILITIES ARE LOCATED AND MARKED PRIOR TO INSTALLATION OF NEW UTILITIES.
4. PURSUANT TO G.S.113A-57(2), THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, WITHIN 7 OR 14 DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION. PURSUANT TO G.S. 113A-57(3), PROVISIONS FOR PERMANENT GROUND COVER SUFFICIENT TO RESTRAIN EROSION MUST BE ACCOMPLISHED FOR ALL DISTURBED AREAS WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT. ALL SEEDED AREAS WILL BE FERTILIZED, RE-SEEDED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATION COVER. IF ANY SEEDING FAILURE OCCURS, THOSE AREAS SHALL BE RE-SEEDED WITH RYE GRAIN FOR TEMPORARY STABILIZATION AND PREPARED FOR PERMANENT SEEDING.
5. STABILIZE ALL TEMPORARY OR PERMANENT DIVERSIONS WITHIN SEVEN DAYS OF CONSTRUCTION.
6. CONTRACTOR SHALL MAINTAIN THE NCDEQ'S "SELF INSPECTION" REPORT LOCATED ON THE NCDEQ'S WEBSITE.

EROSION CONTROL KEY NOTING:

SYM.	DESCRIPTION	SHEET REFERENCE
1	INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCE	SHT. D-04, #1
2	INSTALL TEMPORARY SILT FENCE	SHT. D-04, #2
3	INSTALL TEMPORARY SILT FENCE OUTLET	SHT. D-04, #3
5	INSTALL TEMPORARY INLET PROTECTION	SHT. D-04, #5
6	INSTALL TEMPORARY INLET PROTECTION WITH STONE	SHT. D-04.1, #1
7	INSTALL EXCAVATED DROP INLET PROTECTION	SHT. D-04.1, #2

DWQ CONSTRUCTION GENERAL PERMIT GROUND STABILIZATION REQUIREMENTS

SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS
Perimeter dikes, swales, ditches and slopes	7 days	None
High Quality Water (HQW) Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
Slopes 3:1 or flatter	14 days	7-days for slopes greater than 50 feet in length
All other areas with slopes flatter than 4:1	14 days	None (except for perimeters and HQW Zones)

* "Extensions of time may be approved by the permitting authority based on weather or other site-specific condition that make compliance impracticable." (Section II.B(2)(b))

20 0 10 20 40
GRAPHIC SCALE (IN FEET)
FULL SIZE SHEET 22"x34"

FOR CONSTRUCTION

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

Engineering
Landscape Architecture
Surveying

LKC

GRADING AND EROSION CONTROL PLAN

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: JULY, 2020
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
C-06

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

TBM: NAIL
N: 574485.46
E: 2098343.31
ELEV: 193.69

EX. SD INLET
RIM 193.74
12" INV. 192.45

EX. SD INLET
RIM 193.74
15" INV. 191.71 (S)
18" INV. 190.95 (E)

EX. UTILITY POLE

EX. SSMH
RIM 194.28
INV. 187.59
SERVICE INV. 190.22

EX. CONC. SIDEWALK

E H STREET
PUBLIC ROW

EX. GAS

EX. 8"WL

EX. WL

EX. GV

EX. WM

EX. SD INLET
RIM 194.65
12" INV. 192.56

EX. ASPHALT PAVEMENT

EX. LIGHT POLE

EX. GAS

RAMP

LOADING DOCK

EX. CONC. PAD

EX. BRICK WALL

EX. BLDG.
FFE 198.97

EX. SSMH
RIM 194.25
INV. 188.56 (E)
INV. 188.65 (S)

EX. SSMH
RIM 196.48
INV. 190.27

FFE
+198.97

EX. SD INLET
RIM 197.36
4" INV. 196.03

EX. AC PAD

DB-10

DB-09

12" HDPE

4" FDC FIRE LINE
CONNECTION 5FT
OUTSIDE BUILDING

4" DIP
FDC
6" F

GI-11

15" HDPE

GI-12

EX. RETAINING WALL

FFE
198.95
+
FFE
199.03

DB-03

6" FIRE LINE
CONNECTION 5FT
OUTSIDE BUILDING

GI-02

12" RCP

GI-01

RELOCATED
TRANSFORMER

12" HDPE

EX. FDC W/
BOLLARDS

NEW BLDG.
FFE 199.97

20 LF DIP
WATERLINE CENTERED
UNDER STORM MIN.
18" SPACING

GI-08

15" HDPE

EX. SD INLET
30" INV. 191.17

LIGHT POLE
RELOCATED

GI-04

SSMH-05B
RIM: 198.00

6" SANITARY SEWER
SERVICE CONNECTION
5FT OUTSIDE BUILDING

EX. SSMH
RIM 200.11
INV. 192.40

2" W

2" DOMESTIC WATER
CONNECTION 5FT
OUTSIDE BUILDING

EX. 4' HIGH
VINYL FENCE

EX. HARNETT
REGIONAL WATER
SEWER MAIN

15" RCP

15" HDPE

GI-05

GI-06

6" FIRE LINE RPZ
BACKFLOW PREVENTER

2-4" 45° BEND (TYP.)

FIRE DEPT.
CONNECTION

EX. PLANTER

2" DOMESTIC WATER
BACKFLOW PREVENTER
AND WATER METER

EX. FIRE
HYDRANT

EX. UTILITY POLE

EX. CURB INLET
HOOD 200.10
RIM 199.56
30" INV. 192.73

TBM: NAIL
N: 574124.26
E: 2098304.49
ELEV: 202.82

SAWCUT, DEMOLISH AND
REMOVE EX. CONC.
PAVEMENT

DENIM DRIVE (SR 1718)
PUBLIC ROW

GRAPHIC SCALE
FULL SIZE SHEET 22"x34"
20 0 10 20 40
(IN FEET)

GENERAL NOTES:

1. ALL GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND OTHER INFORMATION INDICATED ON THE GENERAL NOTES, LEGEND AND ABBREVIATIONS SHEET, SHEET C-01 SHALL APPLY TO THIS PLAN.
2. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF ERWIN AND HARNETT COUNTY STANDARDS AND SPECIFICATIONS.
3. SEE NOTES ON SHEETS D-05 AND D-07 FOR HARNETT COUNTY SPECIFICATIONS FOR WATER AND SANITARY SEWER.

UTILITY KEY NOTING:

SYM.	DESCRIPTION	SHEET REFERENCE
2	INSTALL VALVE BOX	SHT. D-06, #2
3	INSTALL TAPPING SLEEVE AND GATE VALVE	SHT. D-06, #3
4	INSTALL 2" WATER METER	SHT. D-06, #4
5	INSTALL TRACER WIRE ON ALL NEW WATERLINES	SHT. D-06, #5
6	INSTALL FIRE DEPARTMENT CONNECTION (FDC)	SHT. D-06, #6
7	INSTALL FIRE LINE RPZ BACKFLOW PREVENTER	SHT. D-07, #1, 3
8	INSTALL DOMESTIC RPZ BACKFLOW PREVENTER	SHT. D-07, #2, 4
9	INSTALL SANITARY SEWER MANHOLE	SHT. D-09, #1-4
10	INSTALL SANITARY SEWER CLEANOUT	SHT. D-09, #5

FOR CONSTRUCTION

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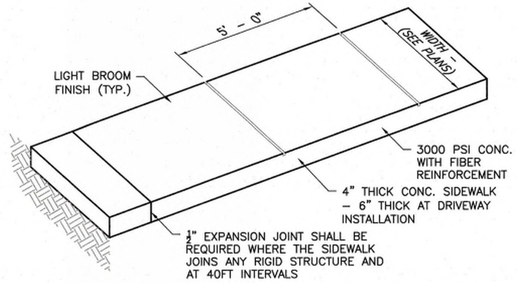
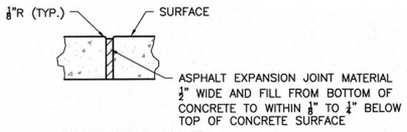
UTILITY PLAN

GOOD HOPE HOSPITAL
RENOVATIONS
Erwin, North Carolina

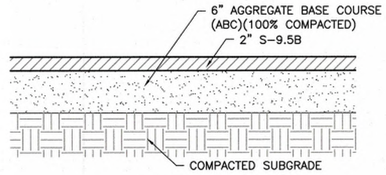
DATE: JULY, 2020
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
C-07





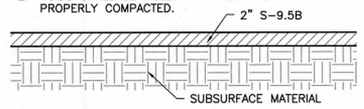
EXPANSION JOINT

1 CONCRETE SIDEWALK
NOT TO SCALE



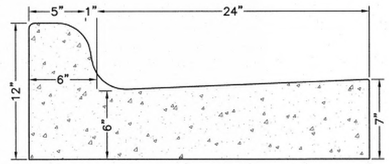
LIGHT DUTY

OVERLAY NOTES:
1. SUBSURFACE MATERIAL SHALL BE ROLLED OUT AND COMPACTED TO 100% PROCTOR.
2. VOIDS SHALL BE FILLED WITH ABC AND PROPERLY COMPACTED.

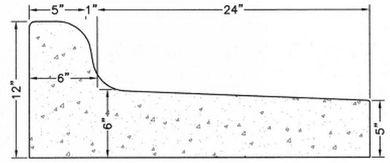


OVERLAY PAVEMENT

2 ASPHALT PAVEMENT SECTIONS
NOT TO SCALE



STANDARD SECTION



SPILL SECTION

NOTES:
1. ALL WORK AND MATERIALS SHALL COMPLY WITH NCDOT SECTION 846

3 30" CONCRETE CURB AND GUTTER
NOT TO SCALE

4

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

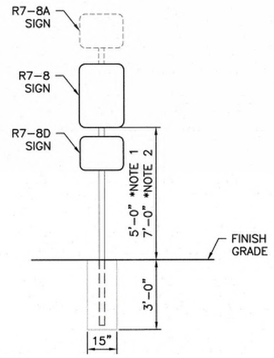
FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17651 BILL LESTER, PE

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

Engineering
Landscape Architecture
Surveying

LKC

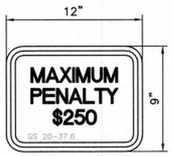


NOTE:

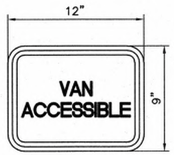
CONSTRUCTION AND INSTALLATION OF SIGNS AND POST SHALL COMPLY WITH GENERAL STATUTE 20-37.6

R7-8

SIGN APPROVED FOR USE UNDER GENERAL STATUTE 20-37.6



R7-8D



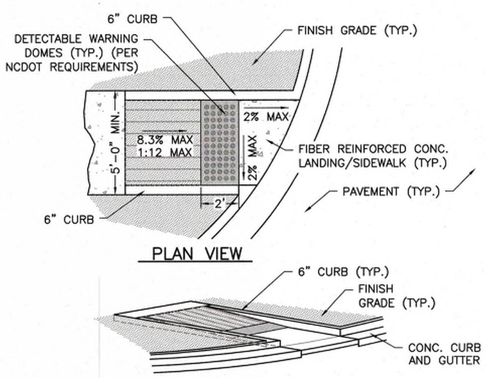
R7-8A

COLORS:

LEGEND AND BORDER – GREEN
WITH WHITE SYMBOL ON BLUE BACKGROUND
BACKGROUND – WHITE

*NOTE 1 – PEDESTRIAN PATH DOES NOT PASS UNDER OR AROUND SIGN
*NOTE 2 – PEDESTRIAN PATH GOES BY, UNDER OR AROUND SIGN

5 HANDICAP PARKING SIGN
NOT TO SCALE



PLAN VIEW

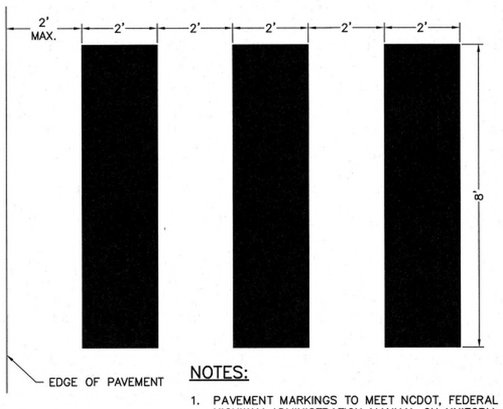
ISOMETRIC VIEW

GENERAL NOTES:

1. RAMP SLOPES SHALL NOT EXCEED 1:12.
2. RAMP SHALL CONFORM TO ALL CURRENT LOCAL, STATE AND FEDERAL CODE REQUIREMENTS.
3. CONTRACTOR SHALL INSTALL DETECTABLE WARNING DOMES ON ALL RAMPS PER NCDOT REQUIREMENTS.

6 HANDICAP RAMP – "IN-LINE" TYPE
NOT TO SCALE

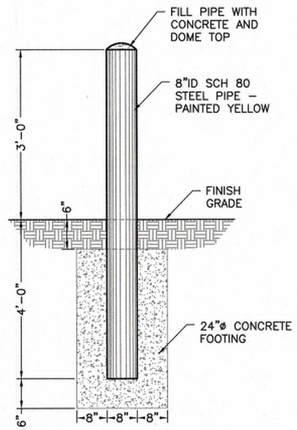
7



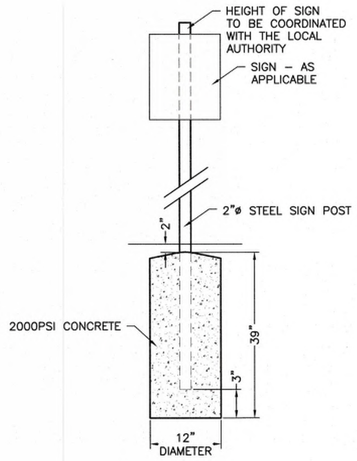
NOTES:

1. PAVEMENT MARKINGS TO MEET NCDOT, FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS.
2. CROSSWALK SHALL BE PLACED CENTERED ON PEDESTRIAN TRAVEL PATH.

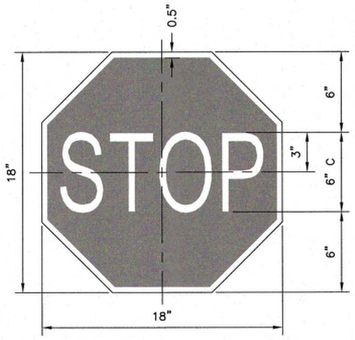
8 CROSSWALK
NOT TO SCALE



9 CONCRETE FILLED BOLLARD
NOT TO SCALE



10 SIGN POST
NOT TO SCALE



COLORS:

LEGEND: WHITE (RETROREFLECTIVE)
BACKGROUND: RED (RETROREFLECTIVE)

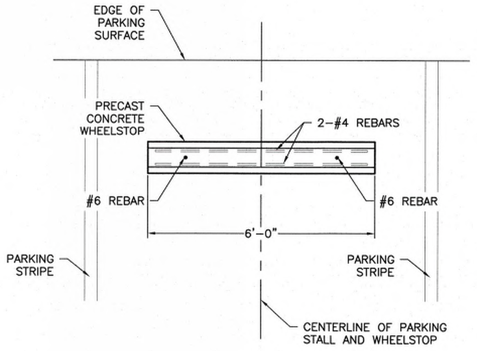
11 "STOP" SIGN
NOT TO SCALE

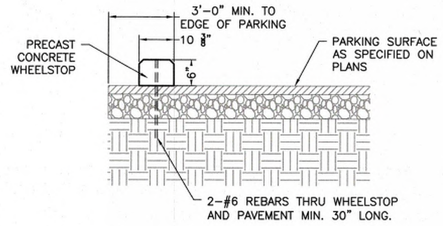
SITE DETAILS

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

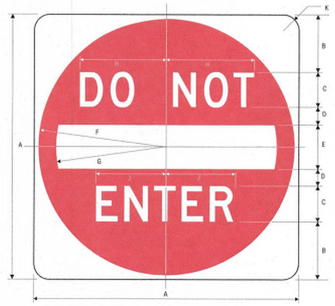
DATE: JULY, 2020
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
D-01

File: L:\Shoptran-19.01 Good Hope Hosp\800 – Drawings\810 Design Drawings\02 Civil\STOCKER-19.01 D01 DETAILS.dwg, By: frank, Plotted: Thu Jul 23, 2020 at 8:53am





1 CONCRETE WHEELSTOP
NOT TO SCALE

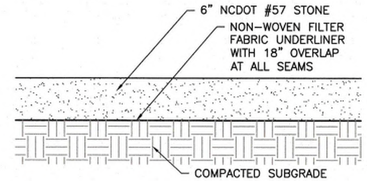


C	A	B	C	D	E	F	G	H	J	K
	300	65	40.0	20	50	140	120	100	76	40
	750	162	100.0	50	125	362	305	250	193	50
	900	190	125.0	60	150	435	374	305	236.5	60
	1200	275	150.0	75	200	580	498	410	288	70

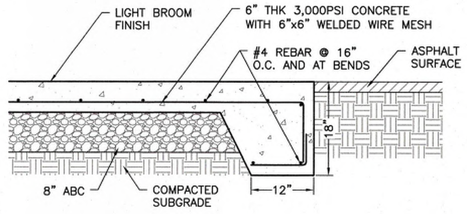
COLORS: SYMBOL – RED (RETROREFLECTIVE)
LEGEND & BACKGROUND – WHITE (RETROREFLECTIVE)

2 "DO NOT ENTER" SIGN
NOT TO SCALE

NOTE:
USE SIGN POST AT HEIGHT TO PUT SIGN AT 5' HIGH AND SECURE POST 3' IN GROUND.



3 GRAVEL YARD
NOT TO SCALE



NOTE:
CONTROL JOINTS TO BE PLACE AT 20' INTERVALS

4 CONCRETE PAVEMENT
NOT TO SCALE

5

6

7

8

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

ENGLISH STANDARD DRAWING FOR **PAVEMENT MARKINGS** LINE TYPES AND OFFSETS

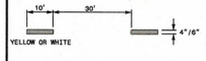
SHEET 1 OF 2 **1205.01**

CONTINUOUS LINES

- EDGE LINE — YELLOW OR WHITE — 4"/6"
- LANE LINE — WHITE — 4"/6"
- CENTER LINE — YELLOW — 4"/6"
- GORE LINE — WHITE — 6"/12"
- DIAGONAL LINE — YELLOW OR WHITE — 12" 45 MPH OR HIGHER; 8" LESS THAN 45 MPH
- CROSSWALK LINE — WHITE — 8" TRANSVERSE; 24" LONGITUDINAL
- RxR LINE — WHITE — 16"
- STOP OR TRANSVERSE BAR — WHITE — 24"

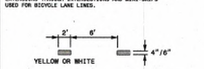
10'-30'/SP SKIP LINE

UNLESS OTHERWISED SHOWN, USE 10'-30'/SP SKIPS FOR SKIP LANE LINES AND SKIP CENTER LINES.



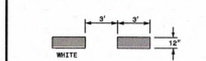
2'-6'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 2'-6'/SP MINI-SKIPS FOR LANE LINE EXTENSIONS THROUGH INTERSECTIONS, EDGE LINE EXTENSIONS THROUGH INTERSECTIONS AND MINI-SKIPS USED FOR BICYCLE LANE LINES.



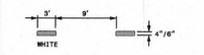
3'-3'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3'-3'/SP MINI-SKIPS FOR THE WHITE EDGE LINE EXTENSIONS AT ROUNDABOUTS.



3'-9'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3'-9'/SP MINI-SKIPS FOR MINI-SKIP LANE LINES AND LINE EXTENSIONS THROUGH TAPERS.



GENERAL NOTES:
1- USE 6" LANE, EDGE, AND CENTER LINES ON ALL FULL CONTROL OF ACCESS FACILITIES AND OTHER ROUTES AS DIRECTED BY THE ENGINEER.
2- LANE LINES INDICATED AS "WIDE" ON THE ROADWAY STANDARD DRAWINGS SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE.
3- GORE LINES SHALL BE TWICE THE WIDTH OF THE NORMAL LINE.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

ENGLISH STANDARD DRAWING FOR **PAVEMENT MARKINGS** LINE TYPES AND OFFSETS

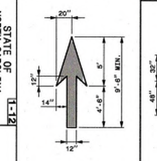
SHEET 1 OF 2 **1205.01**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

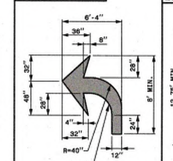
ENGLISH STANDARD DRAWING FOR **PAVEMENT MARKINGS** SYMBOLS AND WORD MESSAGES

SHEET 1 OF 7 **1205.08**

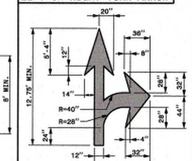
STRAIGHT ARROW



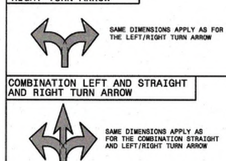
RIGHT OR LEFT TURN ARROW



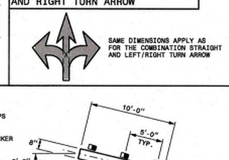
COMBINATION STRAIGHT AND LEFT OR RIGHT TURN ARROW



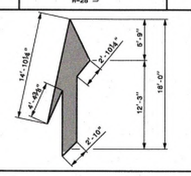
COMBINATION LEFT AND RIGHT TURN ARROW



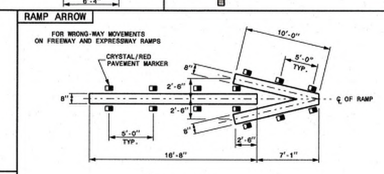
COMBINATION LEFT AND STRAIGHT AND RIGHT TURN ARROW



MERGE ARROW



RAMP ARROW



GENERAL NOTES:
1- USE THE COLOR WHITE FOR ALL PAVEMENT MARKING SYMBOLS.
2- DO NOT LOCATE PAVEMENT MARKING SYMBOLS AS TO ENCROACH INTO INTERSECTION AREAS.
3- DO NOT PLACE PAVEMENT MARKING SYMBOLS ACROSS TRANSVERSE EXPANSION JOINTS ON PORTLAND CEMENT CONCRETE PAVEMENTS, UNLESS APPROVED BY THE ENGINEER.
4- CONFORM ALL SYMBOLS TO THE FHWA "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", (REFER TO SHEETS 5 THRU 6). SYMBOL DIMENSIONS CAN VARY AMONG MANUFACTURERS, THEREFORE SLIGHT VARIANCES ARE ACCEPTABLE; HOWEVER, ALL SYMBOLS ARE REQUIRED TO BE APPROVED BY THE DEPARTMENT.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

ENGLISH STANDARD DRAWING FOR **PAVEMENT MARKINGS** SYMBOLS AND WORD MESSAGES

SHEET 1 OF 8 **1205.08**

NO.	DATE	BY

FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 17851 ENGINEER BILL T. SISTER

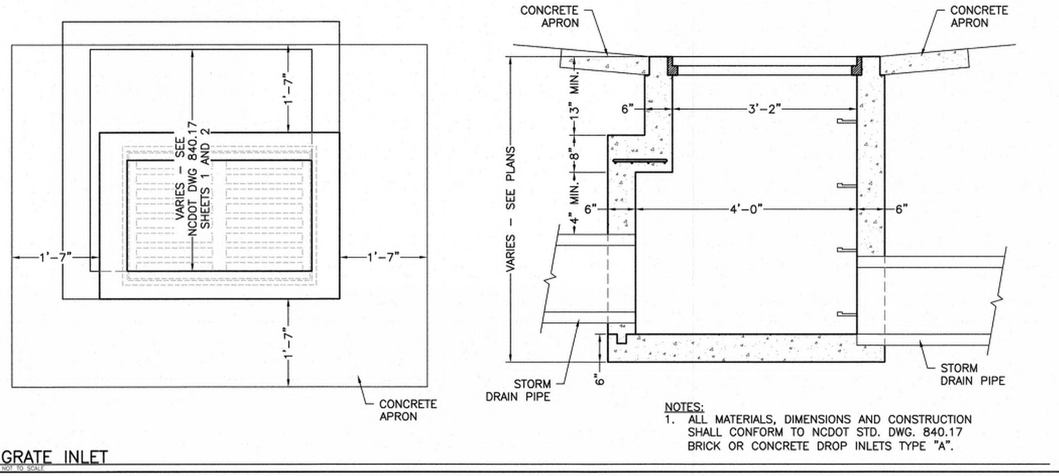
LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

LKC
Engineering
Landscape Architecture
Surveying

SITE DETAILS

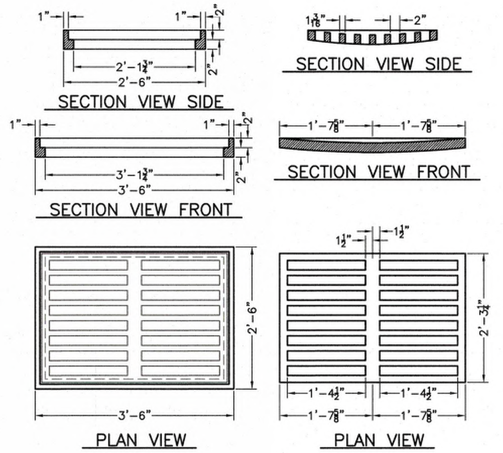
GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: JULY, 2020
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO. D-02



NOTES:
1. ALL MATERIALS, DIMENSIONS AND CONSTRUCTION SHALL CONFORM TO NCDOT STD. DWG. 840.17 BRICK OR CONCRETE DROP INLETS TYPE "A".

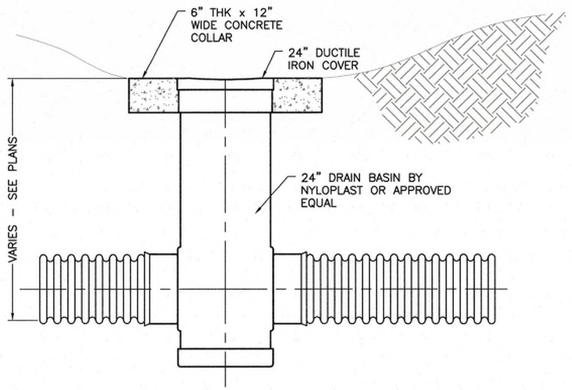
1 GRATE INLET
NOT TO SCALE

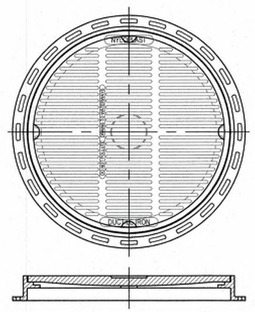


2 24"x36" FRAME AND GRATE
NOT TO SCALE

3

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

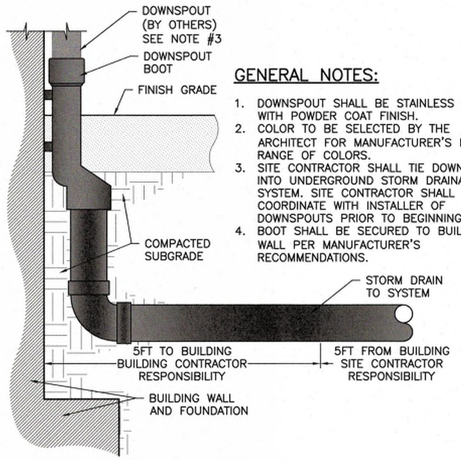




GRATE SPECIFICATIONS:

GRATE MEETS H-10 LOAD 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. 7001-110-023

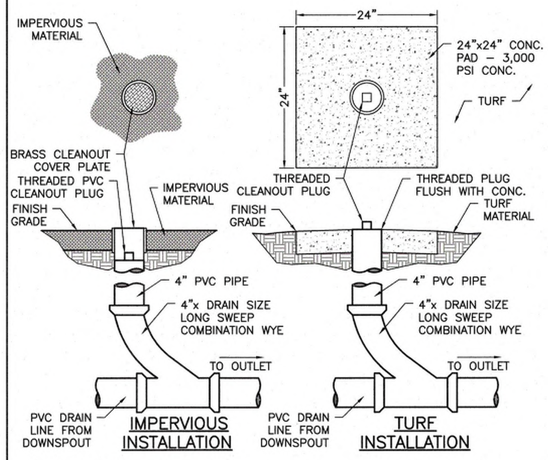
4 DRAIN BASIN
NOT TO SCALE



GENERAL NOTES:

1. DOWNSPOUT SHALL BE STAINLESS STEEL WITH POWDER COAT FINISH.
2. COLOR TO BE SELECTED BY THE ARCHITECT FOR MANUFACTURER'S FULL RANGE OF COLORS.
3. SITE CONTRACTOR SHALL TIE DOWNSPOUTS INTO UNDERGROUND STORM DRAINAGE SYSTEM. SITE CONTRACTOR SHALL COORDINATE WITH INSTALLER OF DOWNSPOUTS PRIOR TO BEGINNING WORK.
4. BOOT SHALL BE SECURED TO BUILDING WALL PER MANUFACTURER'S RECOMMENDATIONS.

5 DOWNSPOUT TO DRAINAGE TIE-IN
NOT TO SCALE



6 STORM DRAIN CLEANOUT
NOT TO SCALE

7

8

9

10

FOR CONSTRUCTION

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

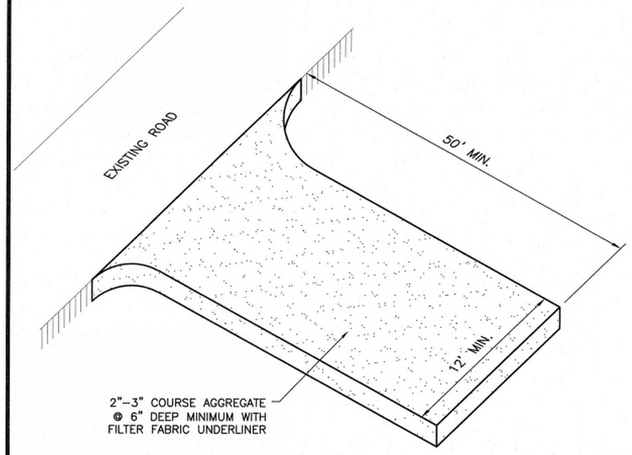
Engineering
Landscape Architecture
Surveying

LKC

DRAINAGE DETAILS

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE:	JULY, 2020
DESIGNED:	FDW
DRAWN:	FDW
CHECKED:	TAC
NO.	D-03



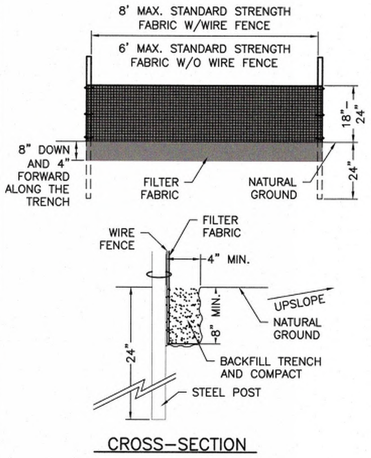
CONSTRUCTION SPECIFICATIONS:

1. CLEAR THE ENTRANCE AND EXIT AREA OF ALL VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL AND PROPERLY GRADE IT.
2. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS AND SMOOTH IT.
3. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
4. USE GEOTEXTILE FABRICS BECAUSE THEY IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.

MAINTENANCE:

MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH 2" STONE. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED OR TRACKED ONTO PUBLIC ROADWAYS.

1 TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
NOT TO SCALE



CROSS–SECTION

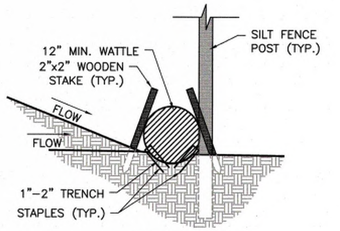
CONSTRUCTION SPECIFICATIONS:

1. CONSTRUCT THE SEDIMENT BARRIER OF STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS.
2. ENSURE THAT THE HEIGHT OF THE SEDIMENT FENCE DOES NOT EXCEED 24 INCHES ABOVE THE GROUND SURFACE. (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE).
3. CONSTRUCT THE FILTER FABRIC FROM CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS. WHEN JOINTS ARE NECESSARY, SECURELY, FASTEN THE FILTER CLOTH ONLY AT SUPPORT POST WITH 4 FEET MINIMUM OVERLAP TO THE NEXT POST.
4. SUPPORT STANDARD STRENGTH FILTER FABRIC BY WIRE MESH FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS. EXTEND THE WIRE MESH SUPPORT TO THE BOTTOM OF THE TRENCH. FASTEN THE WIRE REINFORCEMENT, THE FABRIC ON THE UPSLOPE SIDE OF THE FENCE POST. WIRE OR PLASTIC ZIP TIES SHOULD HAVE MINIMUM 50 POUND TENSILE STRENGTH.
5. WHEN A WIRE MESH SUPPORT FENCE IS USED, SPACE POSTS A MAXIMUM OF 8 FEET APART. SUPPORT POSTS SHOULD BE DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 24 INCHES.
6. EXTRA STRENGTH FILTER FABRIC WITH 6 FEET POST SPACING DOES NOT REQUIRE WIRE MESH SUPPORT FENCE. SECURELY FASTEN THE FILTER FABRIC DIRECTLY TO POSTS. WIRE OR PLASTIC ZIP TIES SHOULD HAVE A MINIMUM 50 POUND TENSILE STRENGTH.
7. EXCAVATE A TRENCH APPROXIMATELY 4 INCHES WIDE AND 8 INCHES DEEP ALONG THE PROPOSED LINE OF POSTS AND UPSLOPE FROM THE BARRIER (FIGURE 6.62A, NORTH CAROLINA EROSION AND SEDIMENTATION CONTROL DESIGN MANUAL)
8. PLACE 12 INCHES OF THE FABRIC ALONG THE BOTTOM AND SIDE OF THE TRENCH.
9. BACKFILL THE TRENCH WITH SOIL PLACED OVER THE FILTER FABRIC AND COMPACT. THOROUGH COMPACTION OF THE BACKFILL IS CRITICAL TO SILT FENCE PERFORMANCE.

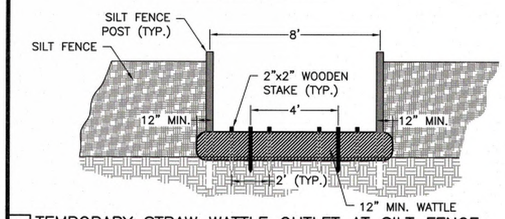
MAINTENANCE:

INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

2 TEMPORARY SILT FENCE
NOT TO SCALE



SECTION VIEW



3 TEMPORARY STRAW WATTLE OUTLET AT SILT FENCE
NOT TO SCALE

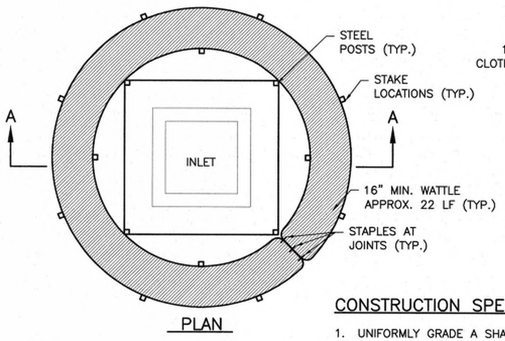
CONSTRUCTION SPECIFICATIONS:

1. USE A MINIMUM 12" DIAMETER WATTLE WITH A MINIMUM LENGTH OF 10 FT.
2. USE 2" X 2" X 2 FT. LONG WOODEN STAKES.
3. EXCAVATE A 1" TO 2" TRENCH FOR WATTLE TO BE PLACED.
4. INSTALL A MINIMUM OF 2 UPSLOPE AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE THE WATTLE TO THE GROUND.
5. PROVIDE STAPLES MADE OF 0.125" DIAMETER STEEL WIRE FORMED INTO A "U" SHAPE AND NOT LESS THAN 12" LENGTH.
6. INSTALL STAPLES APPROXIMATELY EVERY 12" ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
7. WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
8. INSTALL TEMPORARY SEDIMENT FENCE IN ACCORDANCE WITH NCDENR REGULATIONS.
9. OUTLETS TO BE PLACED AS SHOWN ON PLANS ALONG SILT FENCE.

MAINTENANCE:

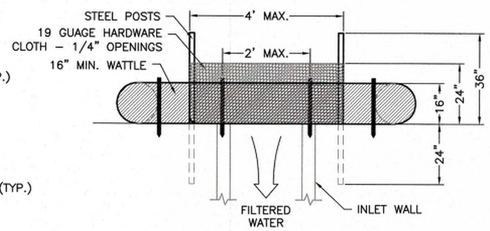
1. INSPECT OUTLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2" OR GREATER) RAINFALL EVENT.
2. CLEAR THE OUTLET OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS.
3. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE OUTLET DURING SEDIMENT REMOVAL.
4. REPLACE WATTLE AS NEEDED.

4

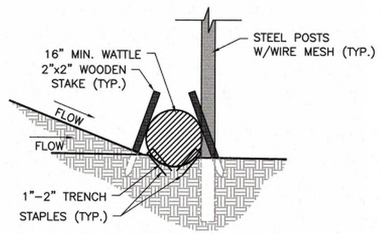


PLAN

NOTE:
INLET TOPS TO REMAIN OFF INLET STRUCTURES WHILE INLET PROTECTION IS IN PLACE.



SECTION A–A



SECTION VIEW

CONSTRUCTION SPECIFICATIONS:

1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
2. DRIVE 5' STEEL POST 2' INTO THE GROUND SURROUNDING THE INLET SPACE POSTS EVENLY AROUND THE PERIMETER ON THE INLET, MAX. 4' APART.
3. SURROUND THE POSTS WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE AND BOTTOM. PLACING A 2' FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
4. USE A MINIMUM 16" DIAMETER WATTLE WITH A LENGTH TO SURROUND WIRE MESH HARDWARE CLOTH FITTING SNUG AGAINST THE GROUND.
5. USE 2" X 2" X 30" LONG WOODEN STAKES.
6. EXCAVATE A 1" TO 2" TRENCH FOR WATTLE TO BE PLACED.
7. INSTALL A MINIMUM OF 2 UPSLOPE STAKES AT AN ANGLE TO WEDGE THE WATTLE TO THE GROUND AND UP AGAINST THE HARDWARE CLOTH.
8. PROVIDE STAPLES MADE OF 0.125" DIAMETER STEEL WIRE FORMED INTO A "U" SHAPE AND NOT LESS THAN 12" LENGTH.
9. INSTALL STAPLES APPROXIMATELY EVERY 12" ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
10. WATTLE INSTALLATION SHALL BE ON THE OUTSIDE OF THE HARDWARE CLOTH.
11. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING ELEVATIONS.
12. COMPACT THE AREA PROPERLY AND STABILIZE IT WITH GROUND COVER.

MAINTENANCE:

INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2" OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.

5 TEMPORARY INLET PROTECTION
NOT TO SCALE

FOR CONSTRUCTION

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

NORTH CAROLINA PROFESSIONAL SEAL 17851 ENGINEER BILL TUCKER

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

LKC
Engineering
Landscape Architecture
Surveying

EROSION CONTROL DETAILS

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE:	JULY, 2020
DESIGNED:	FDW
DRAWN:	FDW
CHECKED:	TAC
NO.	D-04

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes		
Site Area Description	**Stabilize within this many calendar days after ceasing land disturbance**	**Timeframe variations**
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

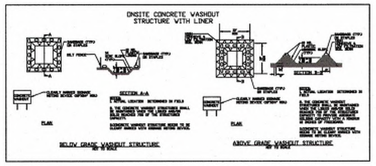
1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, flooding or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

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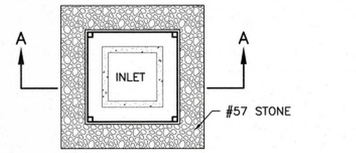


1 TEMPORARY INLET PROTECTION
NOT TO SCALE

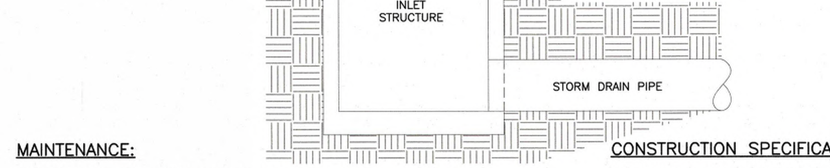
CONSTRUCTION SPECIFICATIONS:

1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
2. DRIVE 5' STEEL POST 2' INTO THE GROUND SURROUNDING THE INLET SPACE POSTS EVENLY AROUND THE PERIMETER ON THE INLET, MAX. 4' APART.
3. SURROUND THE POSTS WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE AND BOTTOM. PLACING A 2' FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
4. PLACE CLEAN GRAVEL (NCDOT #5 OR #57 STONE) ON A 2:1 SLOPE WITH A HEIGHT OF 16" AROUND THE WIRE, AND SMOOTH TO AN EVEN LEVEL.
5. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING ELEVATIONS.
6. COMPACT THE AREA PROPERLY AND STABILIZE IT WITH GROUND COVER.

MAINTENANCE:

INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2" OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.

NOTES:
1. INLET TOPS TO REMAIN OFF INLET STRUCTURES WHILE INLET PROTECTION IS IN PLACE.



MAINTENANCE:

INSPECT, CLEAN AND PROPERLY MAINTAIN THE EXCAVATED BASIN AFTER EVERY STORM UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED. TO PROVIDE SATISFACTORY BASIN HAS BEEN REDUCED BY ONE–HALF. SPREAD ALL EXCAVATED MATERIAL EVENLY OVER THE SURROUNDING LAND AREA OR STOCKPILE AND STABILIZE IT APPROPRIATELY.

CONSTRUCTION SPECIFICATIONS:

1. CLEAR THE AREA OF ALL DEBRIS THAT MIGHT HINDER EXCAVATION AND DISPOSAL OF SPOIL.
2. GRADE THE APPROACH TO THE INLET UNIFORMLY.
3. PROTECT WEEP HOLES BY GRAVEL.
4. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED, SEAL WEEP HOLES, FILL THE BASIN WITH STABLE SOIL TO FINAL GRADING ELEVATIONS, COMPACT IT PROPERLY, AND STABILIZE.

2 EXCAVATED DROP INLET PROTECTION
NOT TO SCALE

4

FOR CONSTRUCTION

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

PROFESSIONAL ENGINEER SEAL 17651 NORTH CAROLINA BILL LISTER

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

Engineering
Landscape Architecture
Surveying

LKC

NCG01 STORMWATER DETAILS AND NOTES

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: JULY, 2020
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO. D-04.1

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

2019 HRW REQUIRED UTILITY NOTES
(REVISION 7 – NOVEMBER 2019)

WATER

A. THE FIRE MARSHAL'S OFFICE SHALL APPROVE ALL HYDRANT TYPES AND LOCATIONS IN NEW SUBDIVISIONS. HOWEVER, HARNETT REGIONAL WATER (HRW) PREFERS THE CONTRACTORS TO INSTALL ONE OF THE FOLLOWING FIRE HYDRANTS:
   1. MUELLER – SUPER CENTURION 250 A–423 MODEL WITH A 5¼" MAIN VALVE OPENING THREE WAY (TWO HOSE NOZZLES AND ONE PUMPER NOZZLE);
   2. AMERICAN DARLING – MARK B–84–B MODEL WITH A 5¼" MAIN VALVE OPENING THREE WAY (TWO HOSE NOZZLES AND ONE PUMPER NOZZLE);
   3. WATEROUS – PACER B–67–250 MODEL WITH A 5¼" MAIN VALVE OPENING THREE WAY (TWO HOSE NOZZLES AND ONE PUMPER NOZZLE) OR APPROVED EQUAL FOR STANDARDIZATION.

B. FIRE HYDRANTS ARE INSTALLED AT CERTAIN ELEVATIONS. ANY GRADE CHANGE IN THE VICINITY OF ANY FIRE HYDRANT WHICH IMPEDES ITS OPERATION SHALL BECOME THE RESPONSIBILITY OF THE UTILITY CONTRACTOR FOR CORRECTION. CORRECTIONS WILL BE MONITORED BY THE HRW UTILITY CONSTRUCTION INSPECTOR AND THE HARNETT COUNTY FIRE MARSHAL.

C. THE PROFESSIONAL ENGINEER (PE) SHALL OBTAIN AND PROVIDE THE NCDEQ "AUTHORIZATION TO CONSTRUCT" PERMIT TO THE UTILITY CONTRACTOR BEFORE THE CONSTRUCTION OF THE WATER LINE SHALL BEGIN. THE UTILITY CONTRACTOR MUST POST A COPY OF THE NCDEQ "AUTHORIZATION TO CONSTRUCT" PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ) ON SITE PRIOR TO THE START OF CONSTRUCTION. THE PERMIT MUST BE MAINTAINED ON SITE THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS OF THE PROPOSED WATER LINES THAT WILL SERVE THIS PROJECT.

D. THE UTILITY CONTRACTOR SHALL NOTIFY HARNETT REGIONAL WATER (HRW) AND THE PROFESSIONAL ENGINEER (PE) AT LEAST TWO DAYS PRIOR TO CONSTRUCTION COMMENCING. THE UTILITY CONTRACTOR MUST SCHEDULE A PRE–CONSTRUCTION CONFERENCE WITH MR. ALAN MOSS, HRW UTILITY CONSTRUCTION INSPECTOR AT LEAST TWO (2) DAYS BEFORE CONSTRUCTION WILL BEGIN AND THE UTILITY CONTRACTOR MUST COORDINATE WITH HRW FOR REGULAR INSPECTION VISITATIONS AND ACCEPTANCE OF THE WATER SYSTEM(S). CONSTRUCTION WORK SHALL BE PERFORMED ONLY DURING THE NORMAL WORKING HOURS OF HRW WHICH IS 8:00 AM – 5:00 PM MONDAY THROUGH FRIDAY. HOLIDAY AND WEEKEND WORK IS NOT PERMITTED BY HRW.

E. THE PROFESSIONAL ENGINEER (PE) SHALL PROVIDE HRW AND THE UTILITY CONTRACTOR WITH A SET OF NCDEQ APPROVED PLANS MARKED "RELEASED FOR CONSTRUCTION" AT LEAST TWO DAYS PRIOR TO CONSTRUCTION COMMENCING. THE REGISTERED LAND SURVEYOR (RLS) SHOULD STAKE OUT ALL LOT CORNERS AND THE GRADE STAKES FOR THE PROPOSED FINISH GRADE FOR EACH STREET BEFORE THE UTILITY CONTRACTOR BEGINS CONSTRUCTION OF THE WATER LINE(S). THE GRADE STAKES SHOULD BE SET WITH A CONSISTENT OFFSET FROM THE STREET CENTERLINE SO AS NOT TO INTERFERE WITH THE STREET GRADING AND UTILITY CONSTRUCTION.

F. THE UTILITY CONTRACTOR SHALL PROVIDE THE HRW UTILITY CONSTRUCTION INSPECTOR WITH MATERIAL SUBMITTALS AND SHOP DRAWINGS FOR ALL PROJECT MATERIALS PRIOR TO THE CONSTRUCTION OF ANY WATER LINE EXTENSION(S), AND ASSOCIATED WATER SERVICES IN HARNETT COUNTY. THE MATERIALS TO BE USED ON THE PROJECT MUST MEET THE ESTABLISHED SPECIFICATIONS OF HRW AND BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION. ALL SUBSTANDARD MATERIALS OR MATERIALS NOT APPROVED FOR USE IN HARNETT COUNTY FOUND ON THE PROJECT SITE MUST BE REMOVED IMMEDIATELY WHEN NOTIFIED BY THE HRW UTILITY CONSTRUCTION INSPECTOR.

G. THE WATER MAIN(S), FIRE HYDRANTS, SERVICE LINES, METER SETTERS AND ALL ASSOCIATED APPURTENANCES SHALL BE CONSTRUCTED IN STRICT IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE HARNETT REGIONAL WATER (HRW). THE UTILITY CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE THE NEWLY INSTALLED WATER MAIN(S), WATER SERVICE LINES AND ALL ASSOCIATED METER SETTERS AND METER BOXES FOR OTHER UTILITY COMPANIES AND THEIR CONTRACTORS UNTIL THE NEW WATER MAIN(S) HAVE BEEN APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF ENVIRONMENTAL HEALTH, PUBLIC WATER SUPPLY SECTION (NCDEQ, DEH, PWS) AND ACCEPTED BY HRW.

H. PRIOR TO ACCEPTANCE, ALL SERVICES WILL BE INSPECTED TO INSURE THAT THEY ARE INSTALLED AT THE PROPER DEPTH. ALL METER BOXES MUST BE FLUSH WITH THE GROUND LEVEL AT FINISH GRADE AND THE METER SETTERS MUST BE A MINIMUM OF 8" BELOW THE METER BOX LID. METER SETTERS SHALL BE CENTERED IN THE METER BOX AND SUPPORTED BY BRICK, BLOCK OR STONE.

I. THE UTILITY CONTRACTOR SHALL PROVIDE THE PROFESSIONAL ENGINEER (PE) AND HRW UTILITY CONSTRUCTION INSPECTOR WITH A SET OF RED LINE DRAWINGS IDENTIFYING THE COMPLETE WATER SYSTEM INSTALLED FOR EACH PROJECT. THE RED LINE DRAWINGS SHOULD IDENTIFY THE MATERIALS, PIPE SIZES AND APPROXIMATE DEPTHS OF THE WATER LINES AS WELL AS THE GATE VALVES, FIRE HYDRANTS, METER SETTERS, BLOW OFF ASSEMBLIES AND ALL ASSOCIATED APPURTENANCES FOR ALL WATER LINE(S) CONSTRUCTED IN HARNETT COUNTY. THE RED LINE DRAWINGS SHOULD CLEARLY IDENTIFY ANY DEVIATIONS FROM THE NCDEQ APPROVED PLANS. ALL CHANGE ORDERS MUST BE APPROVED BY HRW AND THE PROFESSIONAL ENGINEER (PE) IN WRITING AND PROPERLY DOCUMENTED IN THE RED LINE FIELD DRAWINGS.

J. POTABLE WATER MAINS CROSSING OTHER UTILITIES AND NON–POTABLE WATER LINES (SANITARY SEWER, STORM SEWER, RCP, ETC.) SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWENTY–FOUR (24") INCHES BETWEEN THE POTABLE WATER MAIN AND ALL OTHER UTILITIES. NCDOT REQUIRES THE NEW WATER MAINS TO BE INSTALLED UNDER THE STORM WATER LINES. THE POTABLE WATER MAIN SHALL BE INSTALLED WITH TWENTY–FOUR (24") INCHES OF VERTICAL SEPARATION AND WITH DUCTILE IRON PIPE WHEN DESIGNED TO BE PLACED UNDER A NON–POTABLE WATER LINE SUCH AS SANITARY SEWER OR STORM SEWER LINES. IF THESE SEPARATIONS CANNOT BE MAINTAINED THEN THE WATER MAIN SHALL BE INSTALLED WITH DUCTILE IRON PIPE. BOTH THE POTABLE WATER MAIN AND THE NON–POTABLE WATER LINE MUST BE CAST IRON OR DUCTILE IRON PIPE (DIP) IF THE STATE MINIMUM SEPARATIONS CANNOT BE MAINTAINED. THE DUCTILE IRON PIPE MUST BE LAID SO THE MECHANICAL JOINTS ARE AT LEAST (10') FEET FROM THE POINT WHERE THE POTABLE WATER MAIN CROSSES THE NON–POTABLE WATER LINE.

K. POTABLE WATER MAINS INSTALLED PARALLEL TO NON–POTABLE WATER LINES (SANITARY SEWER, STORM SEWER, RCP, ETC.) SHALL BE LAID TO PROVIDE A MINIMUM HORIZONTAL DISTANCE OF TEN (10') FEET BETWEEN THE POTABLE WATER MAIN AND SANITARY SEWER MAINS, SEWER LATERALS AND SERVICES. THE HORIZONTAL SEPARATION BETWEEN THE POTABLE WATER MAIN AND ANY OTHER UTILITY OR STORM SEWER SHALL NOT BE LESS THAN FIVE (5') FEET. THE POTABLE WATER MAIN MUST BE DUCTILE IRON PIPE IF THIS HORIZONTAL SEPARATION OF TEN (10') FEET CANNOT BE MAINTAINED. THE DUCTILE IRON PIPE SHALL EXTEND AT LEAST TEN (10') FEET BEYOND THE POINT WHERE THE MINIMUM REQUIRED HORIZONTAL SEPARATION OF TEN (10') FEET CAN BE RE–ESTABLISHED.

L. METER SETTERS SHALL BE INSTALLED IN PAIRS ON EVERY OTHER LOT LINE WHERE POSSIBLE TO LEAVE ADEQUATE SPACE FOR OTHER UTILITIES TO BE INSTALLED AT A LATER TIME. THE METER SETTERS SHALL BE INSTALLED AT LEAST ONE (1') FOOT INSIDE THE RIGHT–OF–WAY AND AT LEAST THREE (3') TO FIVE (5') FEET FROM THE PROPERTY LINE BETWEEN THE LOTS.

M. HRW REQUIRES THAT METER BOXES FOR ¾" SERVICES SHALL BE 12" WIDE X 17" LONG ABS PLASTIC BOXES AT LEAST 18" IN HEIGHT WITH CAST IRON LIDS/COVERS. METER BOXES FOR 1" SERVICES SHALL BE 17" WIDE X 21" LONG ABS PLASTIC BOXES AT LEAST 18" IN HEIGHT WITH PLASTIC LIDS AND CAST IRON FLIP COVERS IN THE CENTER OF THE LIDS. METER BOXES FOR 2" SERVICES SHALL BE 20" WIDE X 32" LONG ABS PLASTIC BOXES AT LEAST 20" IN HEIGHT WITH PLASTIC LIDS AND CAST IRON FLIP COVERS IN THE CENTER OF THE LIDS.

N. MASTER METERS MUST BE INSTALLED IN CONCRETE VAULTS SIZED FOR THE METER ASSEMBLY AND ASSOCIATED APPURTENANCES SO AS TO PROVIDE AT LEAST EIGHTEEN (18") INCHES OF CLEARANCE BETWEEN THE BOTTOM OF THE CONCRETE VAULT AND THE BOTTOM OF THE METER SETTER. THE MASTER METER MUST BE PROVIDED TEST PORTS IF THE METER IS NOT EQUIPPED WITH TEST PORTS FROM THE MANUFACTURER IN ACCORDANCE WITH THE HRW ESTABLISHED STANDARD SPECIFICATIONS AND DETAILS. DUCTILE IRON PIPE MUST BE USED FOR THE MASTER METER VAULT PIPING AND VALVE VAULT PIPING. THE UTILITY CONTRACTOR MUST PROVIDE SHOP DRAWINGS FOR THE METER VAULTS TO HRW PRIOR TO ORDERING THE CONCRETE VAULTS.

O. THE UTILITY CONTRACTOR WILL INSTALL POLYETHYLENE SDR–9 WATER SERVICE LINES THAT CROSS UNDER THE PAVEMENT INSIDE A SCHEDULE 40 PVC CONDUIT TO ALLOW FOR REMOVAL AND REPLACEMENT IN THE FUTURE. TWO (2) INDEPENDENT ¾" WATER SERVICE LINES MAY BE INSTALLED INSIDE ONE (1) – TWO (2") INCH SCHEDULE 40 PVC CONDUIT OR TWO (2) INDEPENDENT 1" WATER SERVICE LINES MAY BE INSTALLED INSIDE ONE (1) – THREE (3") INCH SCHEDULE 40 PVC CONDUIT, BUT EACH WATER SERVICE SHALL BE TAPPED DIRECTLY TO THE WATER MAIN. SPLIT SERVICES ARE NOT ALLOWED BY HRW.

P. THE WATER MAIN(S), FIRE HYDRANTS, GATE VALVES, SERVICE LINES, METER SETTERS AND ASSOCIATED APPURTENANCES MUST BE RATED FOR 200 PSI AND HYDROSTATICALLY PRESSURE TESTED TO 200 PSI. THE HYDROSTATIC PRESSURE TEST(S) MUST BE WITNESSED BY THE HRW UTILITY CONSTRUCTION INSPECTOR. THE UTILITY CONTRACTOR MUST NOTIFY HRW WHEN THEY ARE READY TO BEGIN FILLING IN LINES AND COORDINATE WITH HARNETT REGIONAL WATER TO WITNESS ALL PRESSURE TESTING.

Q. THE UTILITY CONTRACTOR SHALL CONDUCT A PNEUMATIC PRESSURE TEST USING COMPRESSED AIR OR OTHER INERT GAS ON THE STAINLESS STEEL TAPPING SLEEVE(S) PRIOR TO MAKING THE TAP ON THE EXISTING WATER MAIN. THIS PNEUMATIC PRESSURE TEST MUST BE WITNESSED BY THE HRW UTILITY CONSTRUCTION INSPECTOR. THE UTILITY CONTRACTOR SHALL USE ROMAC BRAND STAINLESS STEEL TAPPING SLEEVE(S) OR APPROVED EQUAL FOR ALL TAPS MADE IN HARNETT COUNTY. ALL NEW WATER LINE EXTENSIONS MUST BEGIN WITH A RESILIENT WEDGE TYPE GATE VALVE SIZED EQUAL TO THE DIAMETER OF THE NEW WATER LINE EXTENSION IN ORDER TO PROVIDE A MEANS OF ISOLATION BETWEEN HARNETT REGIONAL WATER'S EXISTING WATER MAINS AND THE NEW WATER LINE EXTENSIONS UNDER CONSTRUCTION.

R. ALL WATER MAINS WILL BE CONSTRUCTED WITH SDR–21 PVC PIPE OR CLASS 50 DUCTILE IRON PIPE RATED FOR AT LEAST 200 PSI OR GREATER. ALL PIPES MUST BE PROTECTED DURING LOADING, TRANSPORT, UNLOADING, STAGING, AND INSTALLATION. PVC PIPE MUST BE PROTECTED FROM EXTENDED EXPOSURE TO SUNLIGHT PRIOR TO INSTALLATION.

S. ALL WATER MAINS WILL BE FLUSHED AND DISINFECTED IN STRICT ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE HARNETT REGIONAL WATER. ALL WATER SAMPLES COLLECTED FOR BACTERIA TESTING WILL BE COLLECTED BY THE HRW UTILITY CONSTRUCTION INSPECTOR AND TESTED IN THE HRW LABORATORY.

T. ALL FITTINGS LARGER THAN TWO (2") INCHES DIAMETER SHALL BE DUCTILE IRON. HRW REQUIRES THAT MECHANICAL JOINTS BE ASSEMBLED WITH GRIP RINGS AS "MEGALUG" FITTINGS ARE NOT APPROVED BY HARNETT REGIONAL WATER FOR PIPE SIZES SMALLER THAN TWELVE INCHES (12") DIAMETER. PVC PIPE USED FOR WATER MAINS SHALL BE CONNECTED BY SLIP JOINT OR MECHANICAL JOINT WITH GRIP RINGS. GLUED PIPE JOINTS ARE NOT ALLOWED ON PVC PIPE USED FOR WATER MAINS IN HARNETT COUNTY.

U. HRW REQUIRES THAT THE UTILITY CONTRACTOR INSTALL TRACER WIRE IN THE TRENCH WITH ALL WATER LINES. THE TRACER WIRE SHALL BE 12 GA. INSULATED, SOLID COPPER CONDUCTOR AND IT SHALL BE TERMINATED AT THE TOP OF THE VALVE BOXES OR MANHOLES. NO SPLICED WIRE CONNECTIONS SHALL BE MADE UNDERGROUND ON TRACER WIRE INSTALLED IN HARNETT COUNTY. THE TRACER WIRE MAY BE SECURED WITH DUCT TAPE TO THE TOP OF THE PIPE BEFORE BACKFILLING.

V. THE UTILITY CONTRACTOR WILL PROVIDE PROFESSIONAL ENGINEER (PE) AND THE HRW UTILITY CONSTRUCTION INSPECTOR WITH A SET OF RED LINE FIELD DRAWINGS TO IDENTIFY THE INSTALLED LOCATIONS OF THE WATER LINE(S) AND ALL ASSOCIATED SERVICES. ALL CHANGE ORDERS MUST BE PRE–APPROVED BY HRW AND THE PROFESSIONAL ENGINEER (PE) IN WRITING AND PROPERLY DOCUMENTED IN THE RED LINE FIELD DRAWINGS.

W. THE UTILITY CONTRACTOR SHALL SPOT DIG TO EXPOSE EACH UTILITY PIPE OR LINE WHICH MAY CONFLICT WITH CONSTRUCTION OF PROPOSED WATER LINE EXTENSIONS WELL IN ADVANCE TO VERIFY LOCATIONS OF THE EXISTING UTILITIES. THE UTILITY CONTRACTOR SHALL PROVIDE BOTH HORIZONTAL AND VERTICAL CLEARANCES TO THE PROFESSIONAL ENGINEER (PE) TO ALLOW THE PE TO ADJUST THE WATER LINE DESIGN IN ORDER TO AVOID CONFLICTS WITH EXISTING UNDERGROUND UTILITIES. THE UTILITY CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER AND BE RESPONSIBLE FOR TEMPORARY RELOCATION AND/OR SECURING EXISTING UTILITY POLES, PIPES, WIRES, CABLES, SIGNS AND/OR UTILITIES INCLUDING SERVICES IN ACCORDANCE WITH THE UTILITY OWNER REQUIREMENTS DURING WATER LINE INSTALLATION, GRADING AND STREET CONSTRUCTION.

X. PRIOR TO THE COMMENCEMENT OF ANY WORK WITHIN ESTABLISHED UTILITY EASEMENTS OR NCDOT RIGHT–OF–WAYS THE UTILITY CONTRACTOR IS REQUIRED TO HAVE A SIGNED NCDOT ENCROACHMENT AGREEMENT POSTED ON SITE AND NOTIFY ALL CONCERNED UTILITY COMPANIES IN ACCORDANCE WITH G.S. 87–102. THE UTILITY CONTRACTOR MUST CALL THE NC ONE CALL CENTER AT 811 OR (800) 632–4949 TO VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION. EXISTING UTILITIES SHOWN IN THESE PLANS ARE TAKEN FROM MAPS FURNISHED BY VARIOUS UTILITY COMPANIES AND HAVE NOT BEEN PHYSICALLY LOCATED OR VERIFIED BY THE P.E. (I.E. TELEPHONE, CABLE, WATER, SEWER, ELECTRICAL POWER, FIBER OPTIC, NATURAL GAS, ETC.). THE UTILITY CONTRACTOR WILL BE RESPONSIBLE TO REPAIR ANY AND ALL DAMAGES TO THE SATISFACTION OF THE RELATED UTILITY COMPANY.

Y. THE UTILITY CONTRACTOR SHALL PROVIDE HRW WITH AT LEAST ONE (1) FIRE HYDRANT WRENCH AND ONE (1) BREAK–AWAY FLANGE KIT FOR EVERY SUBDIVISION WITH FIRE HYDRANTS DEVELOPED IN HARNETT COUNTY. THESE ITEMS MUST BE PROVIDED TO HRW BEFORE THE FINAL INSPECTION WILL BE SCHEDULED BY THE HRW UTILITY CONSTRUCTION INSPECTOR. IN ADDITION, THE UTILITY CONTRACTOR SHALL INSTALL A 4" X 4" CONCRETE VALVE MARKER AT THE EDGE OF THE RIGHT–OF–WAY TO IDENTIFY THE LOCATION OF EACH GATE VALVE INSTALLED IN THE NEW WATER SYSTEM WITH THE EXCEPTION OF THE FIRE HYDRANT ISOLATION VALVES. THE CONTRACTOR SHALL MEASURE THE DISTANCE FROM THE CENTER OF THE CONCRETE MARKER TO THE CENTER OF THE VALVE BOX. THIS DISTANCE (IN LINEAR FEET) SHALL BE STAMPED ON THE BRASS PLATE LOCATED ON THE TOP OF THE CONCRETE VALVE MARKER. IN LIEU OF INSTALLING THE CONCRETE VALVE MARKERS, THE UTILITY CONTRACTOR MAY PROVIDE AT LEAST TWO MEASUREMENTS FROM TWO INDEPENDENT PERMANENT ABOVE GROUND STRUCTURES TO THE PROFESSIONAL ENGINEER (PE) IN THE RED LINE DRAWINGS TO IDENTIFY THE VALVE LOCATIONS. THE PROFESSIONAL ENGINEER (PE) MUST INCLUDE THESE MEASUREMENTS IN THE AS–BUILT RECORD DRAWINGS SUBMITTED TO HRW.

Z. THE UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL REPAIRS DUE TO LEAKAGE DAMAGE FROM POOR WORKMANSHIP DURING THE ONE (1) YEAR WARRANTY PERIOD ONCE THE WATER SYSTEM IMPROVEMENTS HAVE BEEN ACCEPTED BY HARNETT REGIONAL WATER. HARNETT REGIONAL WATER WILL PROVIDE MAINTENANCE AND REPAIRS WHEN REQUESTED AND BILL THE DEVELOPER AND/OR UTILITY CONTRACTOR IF NECESSARY DUE TO LACK OF RESPONSE WITHIN 48 HOURS OF NOTIFICATION OF WARRANTY WORK. THE UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL REPAIRS DUE TO DAMAGES RESULTING FROM FAILURE TO LOCATE THE NEW WATER LINES AND ASSOCIATED APPURTENANCES FOR OTHER UTILITIES AND THEIR CONTRACTORS UNTIL THE WATER LINES HAVE BEEN APPROVED BY NCDEQ AND ACCEPTED BY HRW. THE FINAL INSPECTION OF WATER SYSTEM IMPROVEMENTS CANNOT BE SCHEDULED WITH HRW UNTIL THE STREETS HAVE BEEN PAVED; THE RIGHTS–OF–WAY AND UTILITY EASEMENTS HAVE BEEN SEEDED AND STABILIZED WITH AN ADEQUATE STAND OF GRASS IN PLACE TO PREVENT EROSION ISSUES ON SITE.

AA. THE ENGINEER OF RECORD IS RESPONSIBLE TO INSURE THAT CONSTRUCTION IS, AT ALL TIMES, IN COMPLIANCE WITH ACCEPTED SANITARY ENGINEERING PRACTICES AND APPROVED PLANS AND SPECIFICATIONS. NO FIELD CHANGES TO THE APPROVED PLANS ARE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL BY HRW. A COPY OF EACH ENGINEER'S FIELD REPORT IS TO BE SUBMITTED TO HRW AS EACH SUCH INSPECTION IS MADE ON SYSTEM IMPROVEMENTS OR TESTING IS PERFORMED BY THE CONTRACTOR. WATER AND SEWER INFRASTRUCTURE MUST PASS ALL TESTS REQUIRED BY HRW SPECIFICATIONS AND THOSE OF ALL APPLICABLE REGULATORY AGENCIES. THESE TESTS INCLUDE, BUT ARE NOT LIMITED TO: AIR TEST, VACUUM TEST, MANDREL TEST, VISUAL TEST, PRESSURE TEST, BACTERIOLOGICAL TEST, ETC. A HRW INSPECTOR MUST BE PRESENT DURING TESTING AND ALL TEST RESULTS SHALL BE SUBMITTED TO HRW. ALL TESTS MUST BE SATISFIED BEFORE THE FINAL INSPECTION WILL BE SCHEDULED WITH THE HRW INSPECTOR. THE ENGINEER OF RECORD MUST REQUEST IN WRITING TO SCHEDULE THE FINAL INSPECTION ONCE ALL CONSTRUCTION IS COMPLETE. THE DEVELOPER'S ENGINEER OF RECORD AND THE HRW UTILITY CONSTRUCTION INSPECTOR SHALL PREPARE A WRITTEN PUNCH LIST OF ANY DEFECTS OR DEFICIENCIES NOTED DURING THE FINAL INSPECTION, SHOULD ANY EXIST. UPON COMPLETION OF THE PUNCH LIST, THE DEVELOPER'S ENGINEER OF RECORD WILL SCHEDULE ANOTHER INSPECTION. IN THE EVENT THE NUMBER OF INSPECTIONS PERFORMED BY THE HRW EXCEEDS TWO, ADDITIONAL FEES MAY BE ACCESSED TO THE DEVELOPER.

FOR CONSTRUCTION

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

Engineering
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 17851 BILL LESTER

WATER DISTRIBUTION NOTES

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

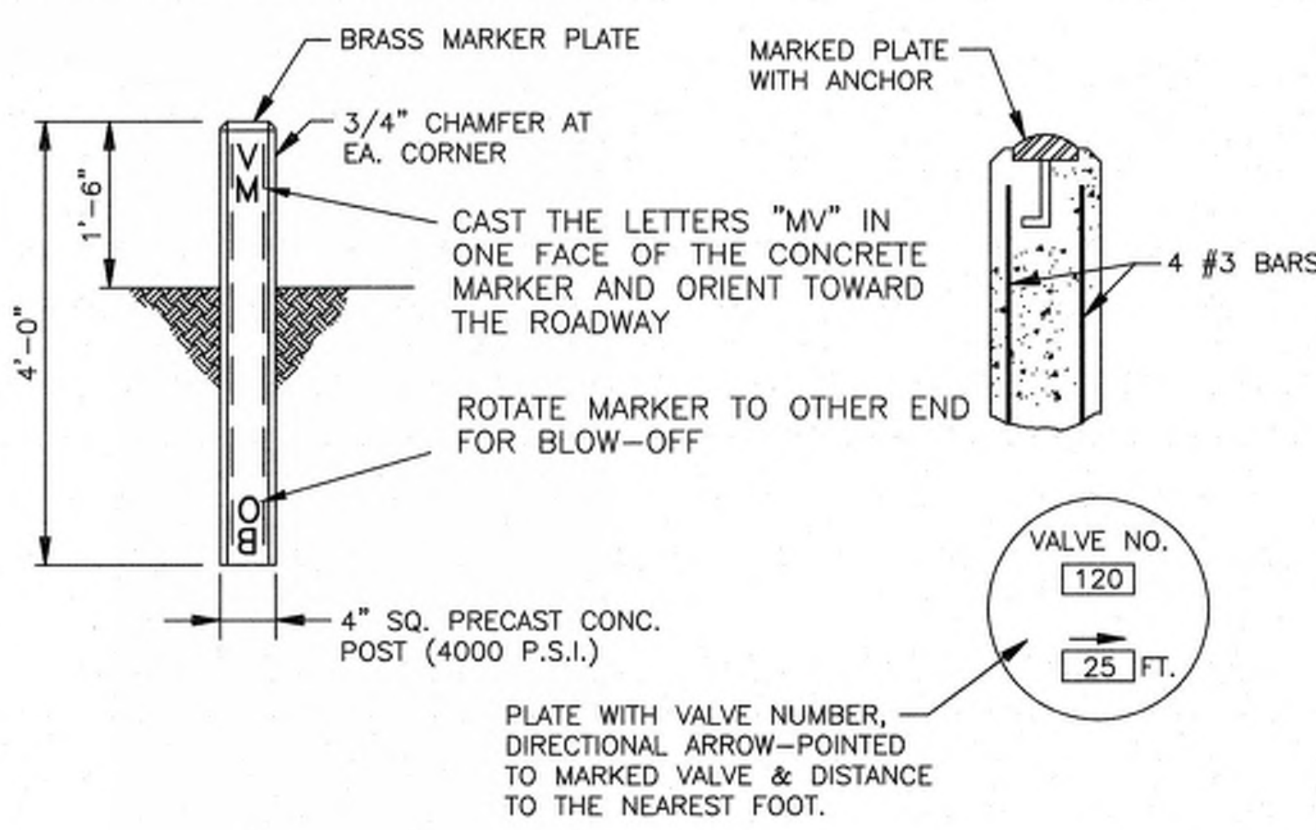
DATE: JULY, 2020
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC

NO.
D-05

REVISIONS

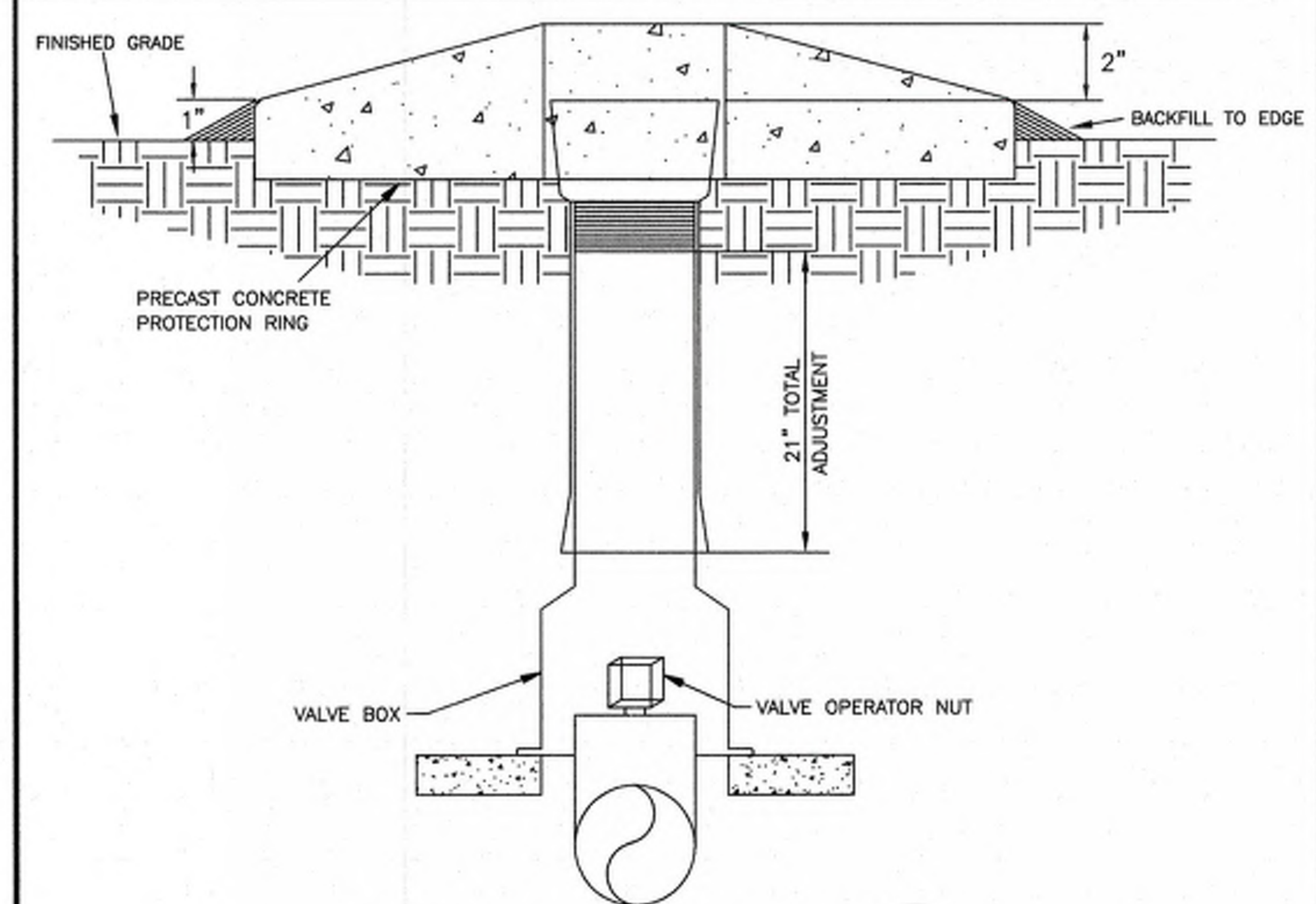
SYM.	DESCRIPTION	DATE	BY

NOTES:
PAINT MARKER BLUE AFTER INSTALLATION



TYPICAL VALVE MARKER DETAIL (W / 1)
NO SCALE

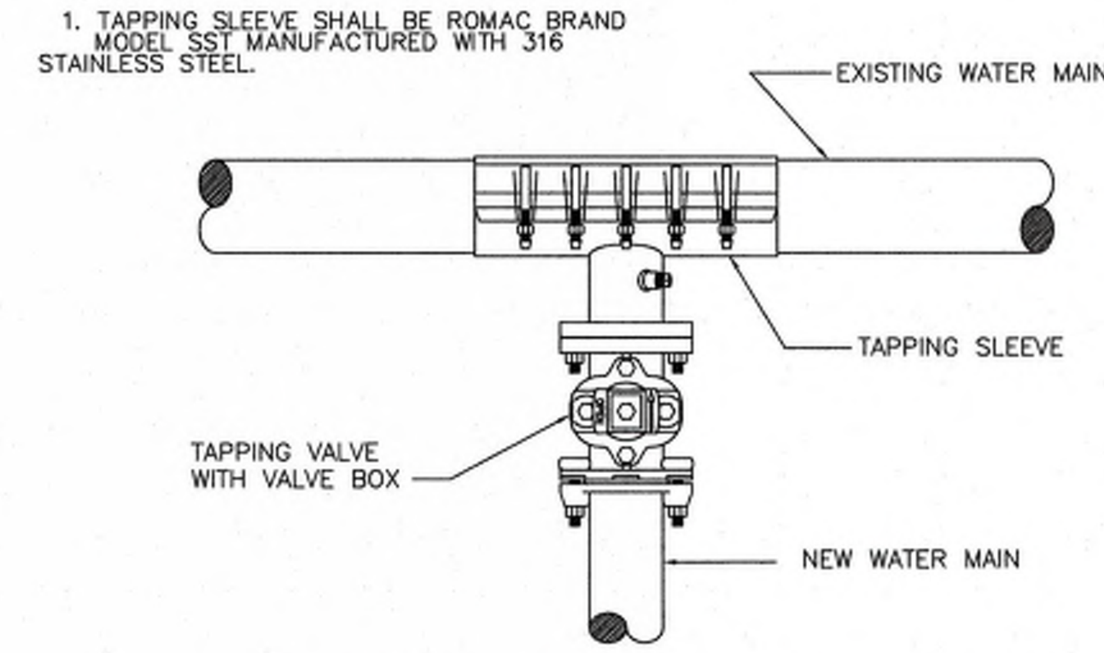
1



TYPICAL VALVE BOX DETAIL (W / 2)
NO SCALE

2

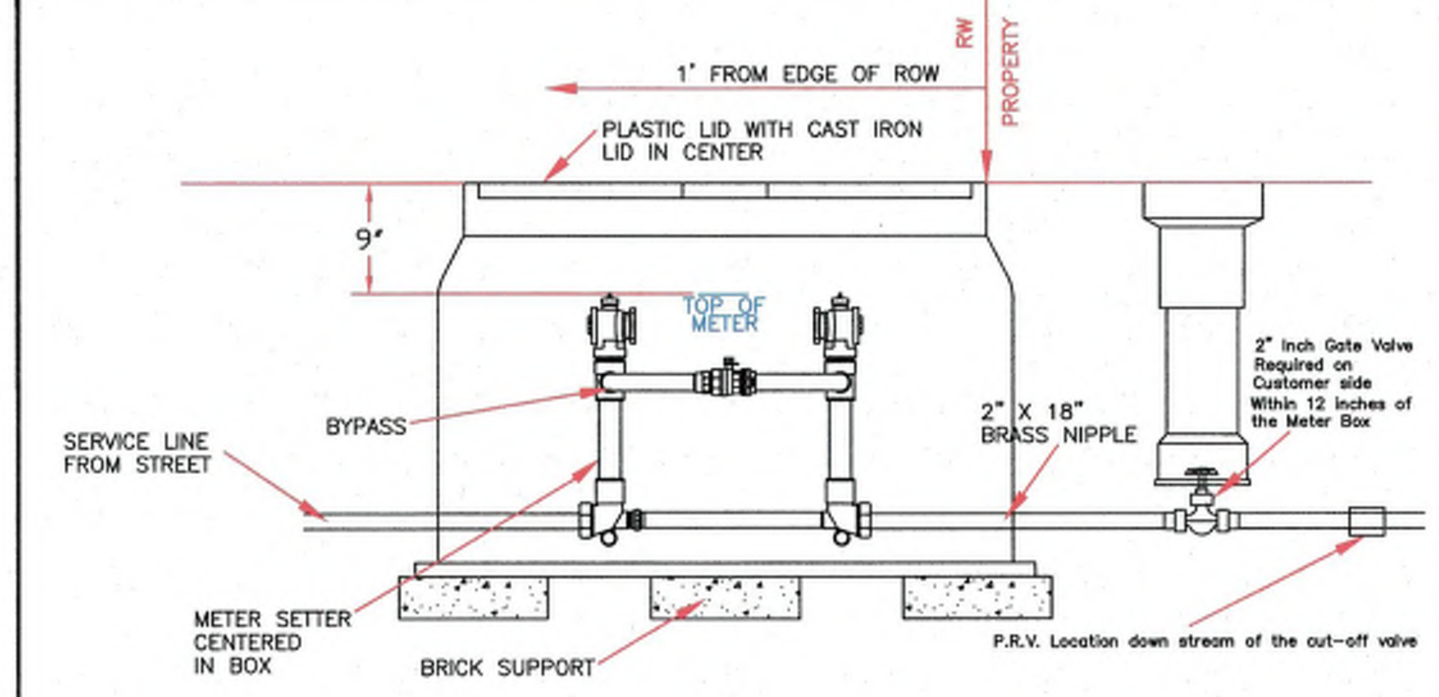
NOTES:
1. TAPPING SLEEVE SHALL BE ROMAC BRAND MODEL SST MANUFACTURED WITH 316 STAINLESS STEEL.



NOTE: TAPPING SLEEVE SHALL BE 316 STAINLESS STEEL ONLY

TYPICAL TAPPING SLEEVE AND VALVE ASSEMBLY DETAIL (W / 5)
NO SCALE

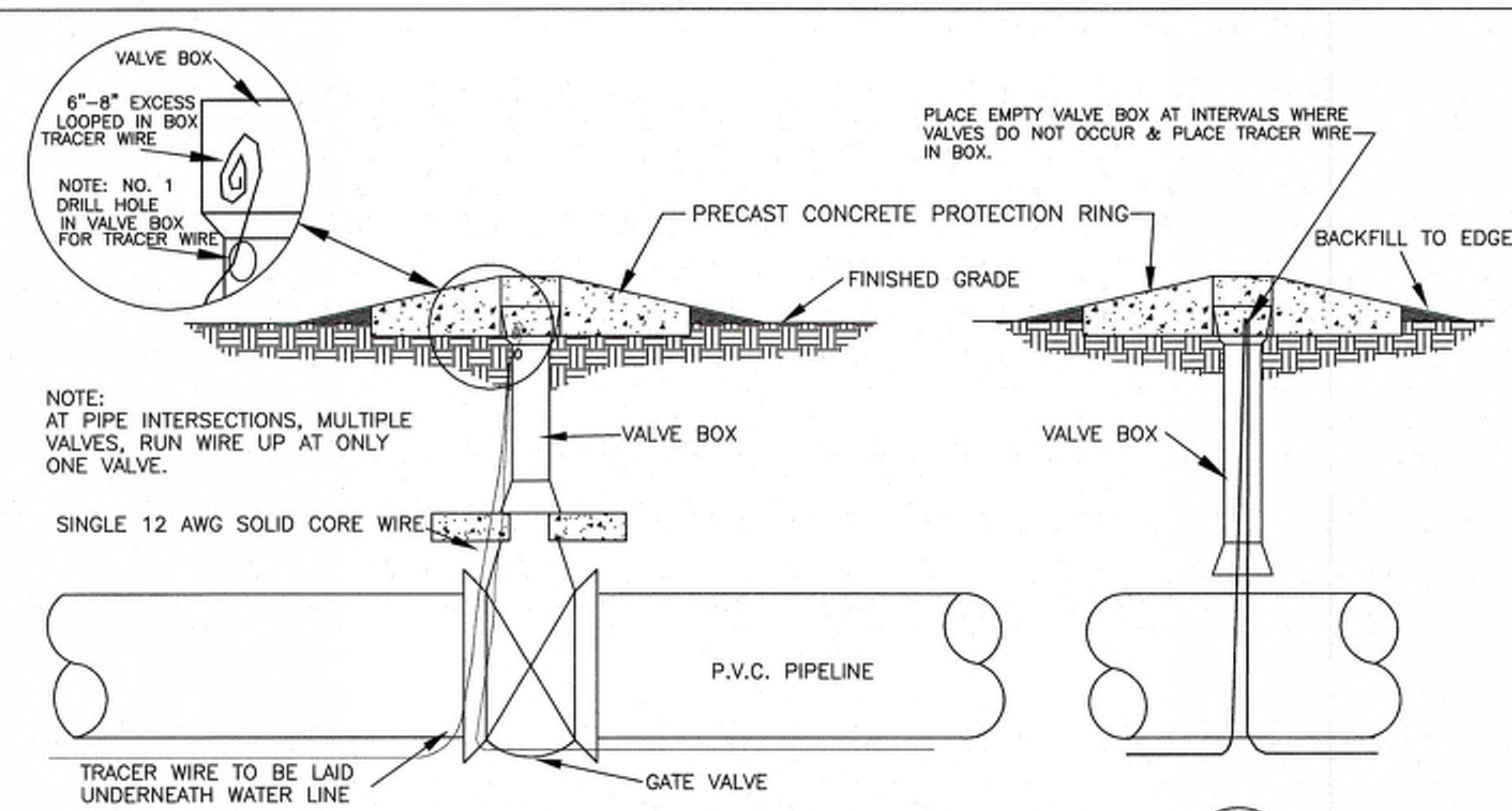
3



1. METER AND PRIVATE SERVICE LINE NOT IN CONTRACT UNLESS SPECIFIED
2. INCLUDE STONE IN PRICE OF METER BOX.
3. METER SETTER SIZE AS NOTED ON PLANS.
4. ALL BRASS FITTINGS SHALL BE COMPRESSION TYPE.

TYPICAL 2" METER SETTER INSTALLATION DETAIL (W / 18)
NO SCALE

4



TYPICAL TRACER WIRE INSTALLATION DETAIL (W / 3)
NO SCALE

NOTES:
1. DRILL HOLE IN VALVE BOX TO INSERT TRACER WIRE,BRING UP TO INSIDE AND ROLL UP AT LEAST 6"-8" EXCESS
2. PLACE TRACER WIRE IN VALVE BOX AT 1,000" INTERVALS OR AS NOTED ON THE PLANS, TYPICAL.
3. DO NOT SPLICE WIRE WHEN BEGINNING A NEW SPOOL. INSTEAD INSTALL A VALVE BOX AND ATTACH EACH WIRE WITH A BRASS SCREW TO THE VALVE BOX.

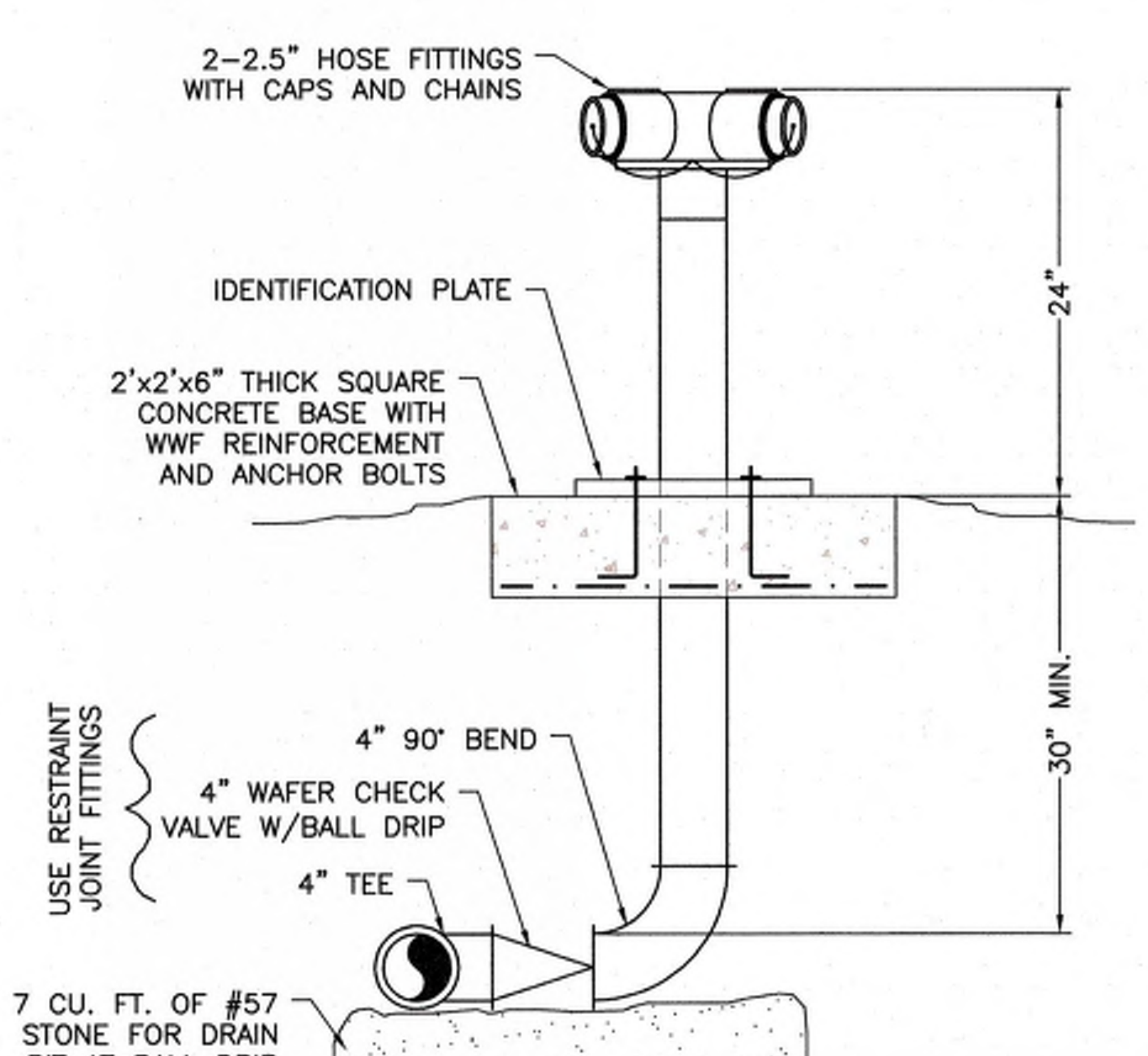
5

GENERAL WATERLINE NOTES

1. CONTRACTOR SHALL REPAIR ALL WATER LATERALS, AND MAINS DAMAGED DURING CONSTRUCTION. THE CONTRACTOR SHALL REPORT IMMEDIATELY ALL WATER MAIN AND LATERAL BREAKS TO HARNETT COUNTY DISPATCHER AND TO THE OWNER'S REPRESENTATIVE AND SHALL INITIATE IMMEDIATE REPAIRS TO HARNETT COUNTY STANDARDS. CONTRACTOR SHALL NOT OPERATE HARNETT COUNTY WATER MAIN VALVES WITHOUT HARNETT COUNTY APPROVAL AND SHALL COORDINATE ALL VALVE CLOSINGS WITH THE HARNETT COUNTY WATER AUTHORITY. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH WATER SYSTEM IN THE AREA SO AS TO LESSEN THE CHANCE OF SERVICE INTERRUPTION.

2. THE CONTRACTOR SHALL NOT USE HOUSE HOSE BIBBS OR ANY OTHER METHOD OF BLOW OFF WHICH ALLOWS DOMESTIC WATER CONTAINING SEDIMENTS OR HIGH LEVELS OF CHLORINE TO PASS THRU RESIDENT'S METERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES RESULTING FROM ALLOWING "DIRTY" WATER TO ENTER RESIDENT'S PLUMBING SYSTEM, SUCH AS WATER HEATERS, STAINED CLOTHING, CLOGGED SCREENS, ETC.

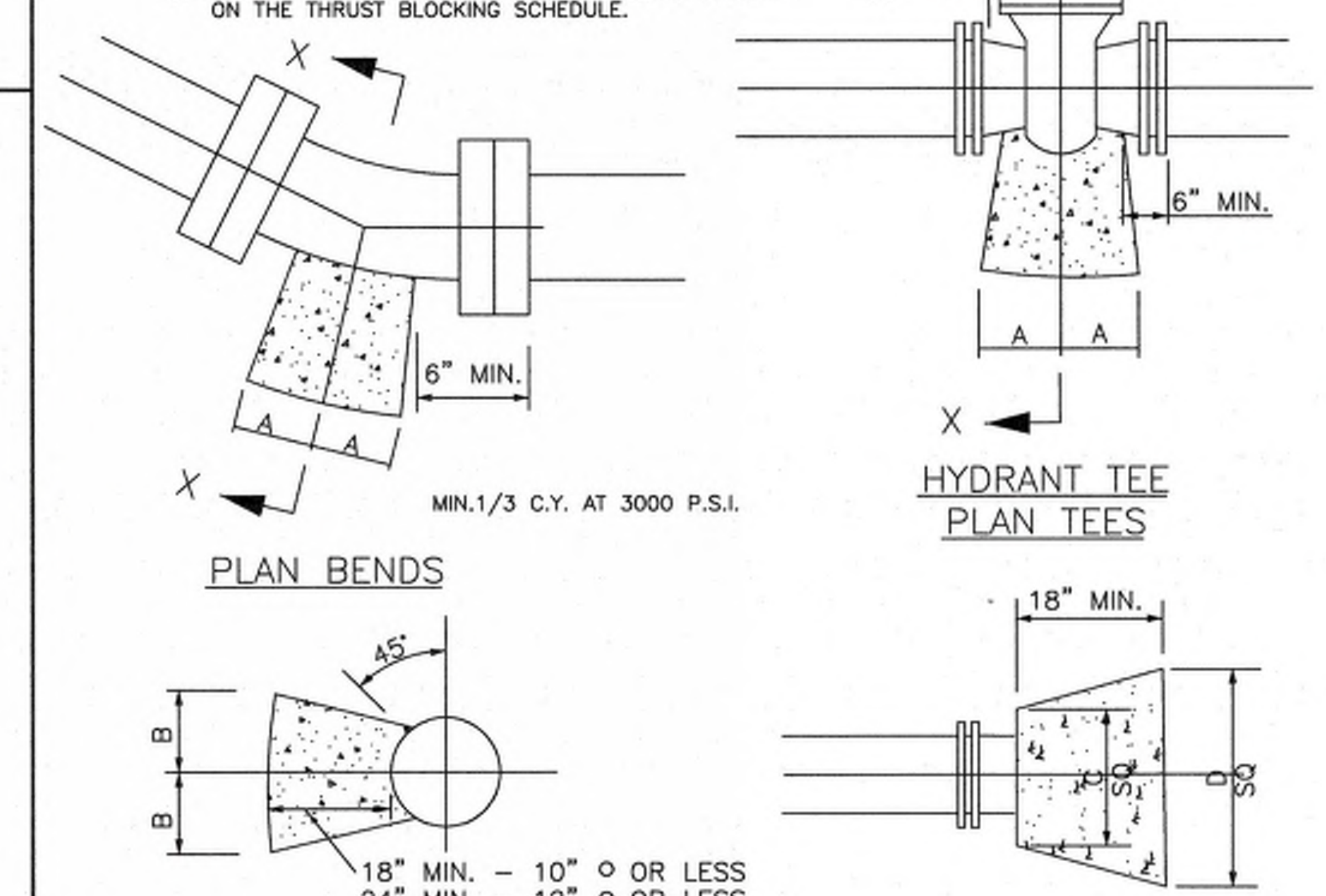
FOR CONSTRUCTION



6 SIAMESE FIRE DEPARTMENT CONNECTION

7

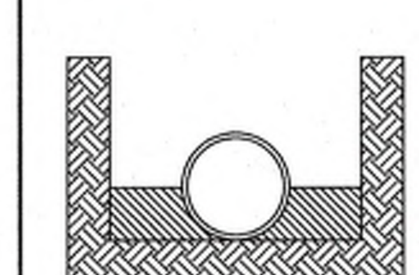
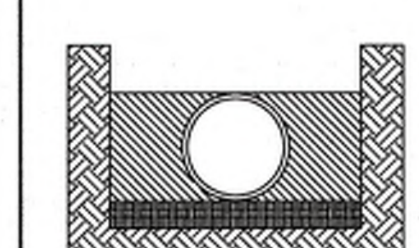
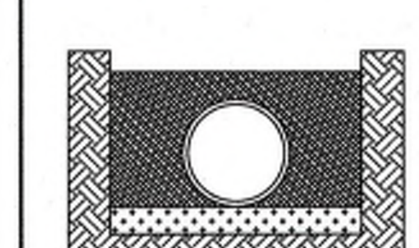
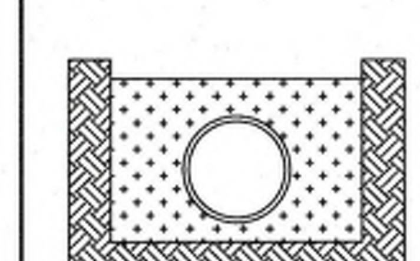
NOTES:
1. CONCRETE SHALL BE 3,000 PSI MIN.
2. CONCRETE FOR THRUST BLOCKING SHALL BE KEPT FAIRLY DRY, THUS MAKING THE CONCRETE WEDGE SHAPE MORE EASILY FORMED WITH THE WIDEST PART (BLOCKING AREA) AGAINST UNDISTURBED SOIL.
3. NO CONCRETE SHALL COVER ANY BOLTS OR GLANDS.
4. ALL PIPING AND ACCESSORIES TO BE WRAPPED WITH 10 MIL. POLYETHYLENE PRIOR TO POURING BLOCKING.
5. VOLUME OF THRUST BLOCKING SHALL BE AS SHOWN ON THE THRUST BLOCKING SCHEDULE.



PIPE SIZE	90° BEND		45° BEND		221/2° BEND		11/4° BEND		TEE		PLUG	
	A	B	A	B	A	B	A	B	A	B	C	D
4"	8"	12"	8"	8"	6"	6"	6"	6"	8"	9"	10"	16"
6"	10"	12"	8"	10"	8"	8"	8"	8"	10"	10"	12"	18"
8"	15"	13"	10"	10"	8"	8"	8"	8"	10"	12"	12"	24"
10"	16"	14"	10"	12"	6"	10"	6"	10"	11"	14"	14"	25"
12"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
14"	22"	18"	14"	16"	10"	14"	10"	14"	16"	18"	18"	34"
16"	26"	20"	16"	18"	12"	16"	12"	16"	18"	20"	20"	36"

TYPICAL THRUST BLOCK DETAIL (W / 7)
NO SCALE

8

LAYING CONDITIONS	DESCRIPTION	PROJECT USE
 TYPE 1	FLAT BOTTOM UNDISTURBED EARTH TRENCH, LOOSE BACKFILL	NOT USED.
 TYPE 2	FLAT BOTTOMED UNDISTURBED EARTH TRENCH. BACKFILL LIGHTLY CONSOLIDATED TO CENTERLINE OF PIPE.	NOT USED.
 TYPE 3	PIPE BEDDED IN 4" MININUM JOB EXCAVATED MATERIAL. BACKFILL LIGHTLY CONSOLIDATED TO TOP OF PIPE.	ALL DUCTILE IRON GRAVITY SEWER LINE.
 TYPE 4	PIPE BEDDED IN SAND, GRANULAR MATERIAL OR GRADED GRAVEL TO THE DEPTH OF 1/8 PIPE DIAMETER, 4" MIN. JOB EXCAVATED MATERIAL COMPACTED TO 4" ABOVE TOP OF PIPE. (APPROX. 95% STANDARD PROCTOR, AASHTO T-99)	ALL PVC WATER LINE AND PVC FORCE MAIN.
 TYPE 5	PIPE BEDDED TO ITS CENTERLINE IN COMPACTED GRANULAR MATERIAL 4" MIN. UNDER PIPE. COMPACTED GRANULAR OR SAND MATERIAL TO 4"ABOVE TOP OF PIPE. (APPROX. 95% STANDARD PROCTOR, AASHTO T-99)	ALL PVC GRAVITY SEWER LINE.

TYPICAL LAYING CONDITIONS DETAIL (W / 11)
NO SCALE

9

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

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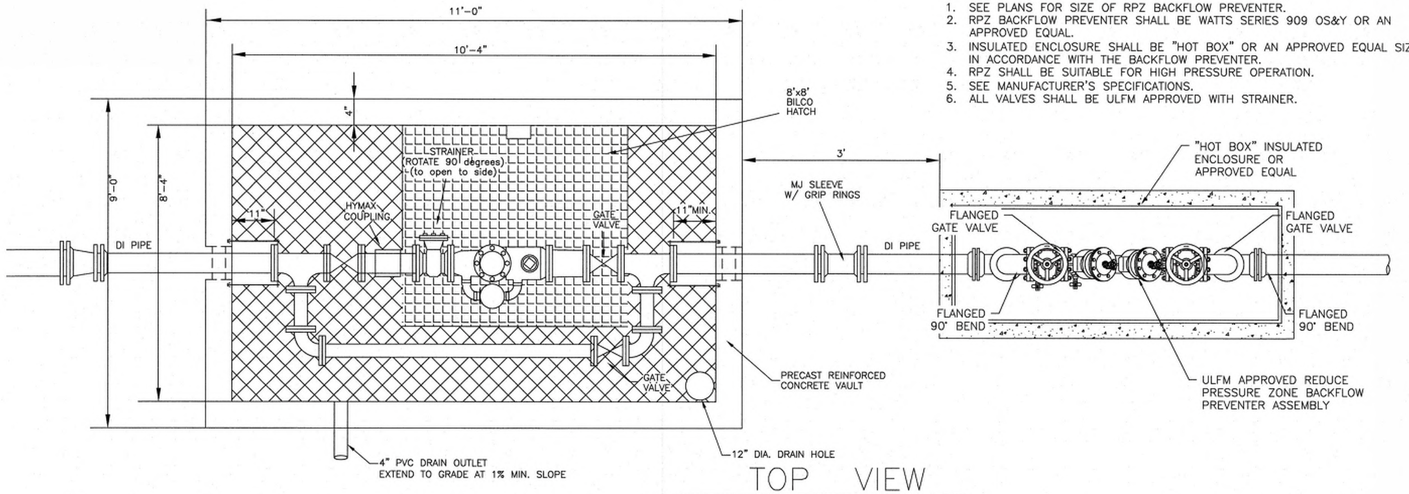
WATER DISTRIBUTION DETAILS

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: JULY, 2020
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
D-06

File: L:\Stogner-19.01 Good Hope Hosp\800 - Drawings\810 Design Drawings\02 Civil\STOGNER-19.01 D01 DETAILS.dwg, By: frank, Plotted: Thu Jul 23, 2020 at 8:54am



TOP VIEW

NO SCALE

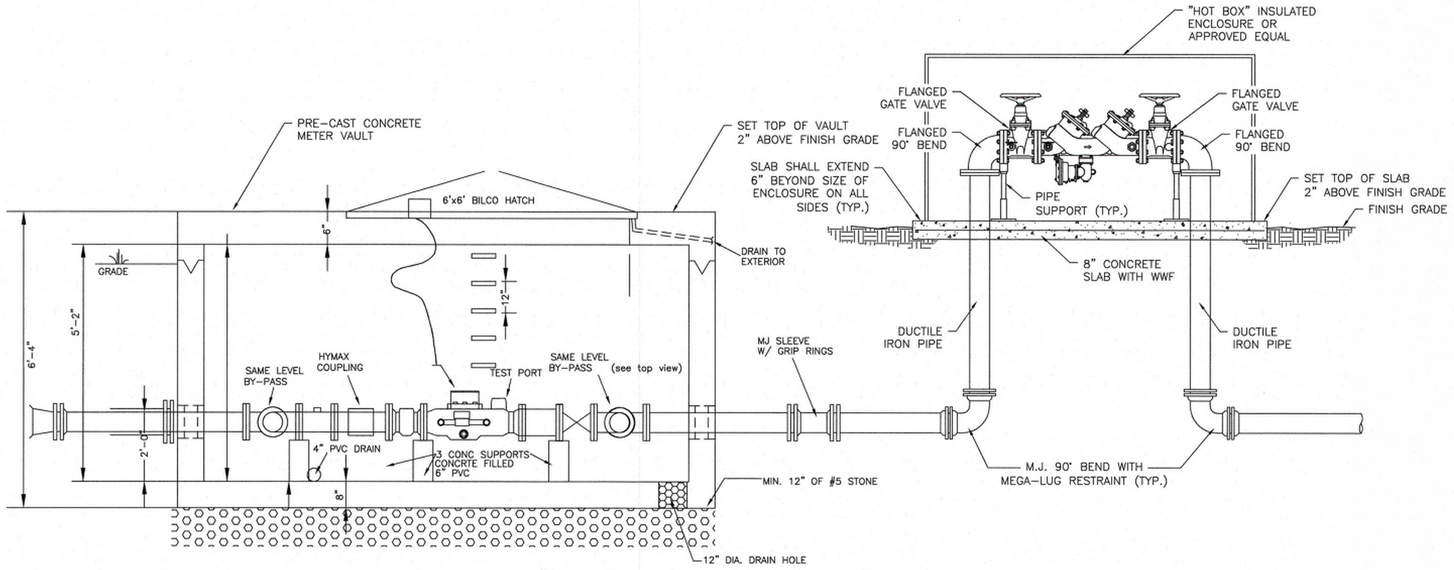
PLAN VIEW

GENERAL NOTES:

1. SEE PLANS FOR SIZE OF RPZ BACKFLOW PREVENTER.
2. RPZ BACKFLOW PREVENTER SHALL BE WATTS SERIES 909 OS&Y OR AN APPROVED EQUAL.
3. INSULATED ENCLOSURE SHALL BE "HOT BOX" OR AN APPROVED EQUAL SIZE IN ACCORDANCE WITH THE BACKFLOW PREVENTER.
4. RPZ SHALL BE SUITABLE FOR HIGH PRESSURE OPERATION.
5. SEE MANUFACTURER'S SPECIFICATIONS.
6. ALL VALVES SHALL BE ULFM APPROVED WITH STRAINER.

NOTE: METER TO BE ABB OR AMCO METER.
BACKFLOW PREVENTER TO BE FROM APROVED LIST
USE CONCRETE SUPPORTS ALSO FOR BY-PASS
ALL PIPE SHALL BE DUCTILE IRON
HCDPU STANDARD VAULTS

ALL BACKFLOW AND METER VAULT EQUIPMENT, ETC. TO BE AS PER HARNETT COUNTY DEPT. OF PUBLIC UTILITIES, ENGINEERING DIVISION SPECIFICATIONS.



SIDE VIEW

NO SCALE

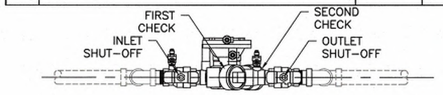
TYPICAL 4" METER & RPZ BACKFLOW ASSEMBLY LAYOUT

NO SCALE

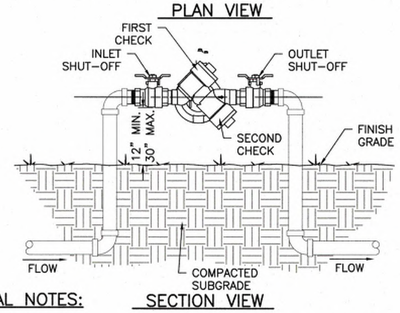
W
20

FOR CONSTRUCTION

REVISIONS			
SYM.	DESCRIPTION	DATE	BY



PLAN VIEW

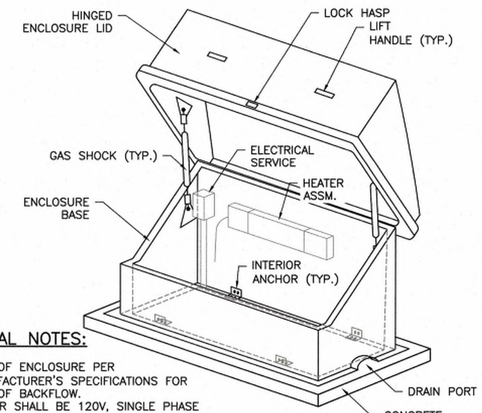


SECTION VIEW

GENERAL NOTES:

1. ASSEMBLY SHALL BE HOUSED IN AN ALUMINUM INSULATED ENCLOSURE.
2. ASSEMBLY SHALL BE WATTS SERIES 009QT OR APPROVED EQUAL.
3. SEE PLANS FOR SIZE.

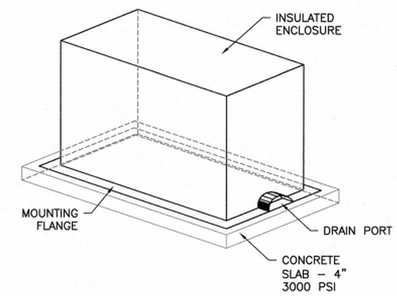
2 RPZ BACKFLOW PREVENTER
NOT TO SCALE



GENERAL NOTES:

1. SIZE OF ENCLOSURE PER MANUFACTURER'S SPECIFICATIONS FOR SIZE OF BACKFLOW.
2. HEATER SHALL BE 120V, SINGLE PHASE WITH WATTAGE PER MANUFACTURER'S SPECIFICATIONS.
3. INSTALLATION SHALL BE PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS.

3 "HOT BOX" ENCLOSURE – HEATED
NOT TO SCALE



GENERAL NOTES:

1. ENCLOSURE IS DESIGNED FOR PIPES OF 0.75"–2" DIAMETER.
2. SIZE OF ENCLOSURE PER MANUFACTURER'S SPECIFICATIONS FOR SIZE OF BACKFLOW.
3. ENCLOSURE SHALL HAVE A LOCKING MECHANISM TO SECURE BFP.
4. INSTALLATION SHALL BE PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS.
5. HEAT TRACE ON RPZ.

4 BFP ENCLOSURE – INSULATED
NOT TO SCALE

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
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WATER DISTRIBUTION DETAILS

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE:	JULY, 2020
DESIGNED:	FDW
DRAWN:	FDW
CHECKED:	TAC
NO.	D-07

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

2019 HRW REQUIRED UTILITY NOTES
(REVISION 7 – NOVEMBER 2019)

SANITARY SEWER

A. THE PROFESSIONAL ENGINEER (PE) SHALL OBTAIN AND SUPPLY A COPY OF THE SEWER PERMIT FOR THE CONSTRUCTION AND OPERATION OF THE WASTEWATER COLLECTION SYSTEM TO THE UTILITY CONTRACTOR BEFORE THE CONSTRUCTION OF THE SANITARY SEWER LINE, SEWER LIFT STATION AND ASSOCIATED FORCE MAIN SHALL BEGIN. THE UTILITY CONTRACTOR MUST POST A COPY OF THE SEWER PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ) ON SITE PRIOR TO THE START OF CONSTRUCTION. THE PERMIT MUST BE MAINTAINED ON SITE DURING THE CONSTRUCTION OF THE SEWER SYSTEM IMPROVEMENTS.

B. THE UTILITY CONTRACTOR SHALL NOTIFY HARNETT REGIONAL WATER (HRW) AND THE PROFESSIONAL ENGINEER (PE) AT LEAST TWO DAYS PRIOR TO CONSTRUCTION COMMENCING. THE UTILITY CONTRACTOR MUST SCHEDULE A PRE–CONSTRUCTION CONFERENCE WITH MR. ALAN MOSS, HRW UTILITY CONSTRUCTION INSPECTOR AT LEAST TWO (2) DAYS BEFORE CONSTRUCTION WILL BEGIN AND THE UTILITY CONTRACTOR MUST COORDINATE WITH HRW FOR REGULAR INSPECTION VISITATIONS AND ACCEPTANCE OF THE WASTEWATER SYSTEM(S). CONSTRUCTION WORK SHALL BE PERFORMED ONLY DURING THE NORMAL WORKING HOURS OF HRW WHICH IS 8:00 AM – 5:00 PM MONDAY THROUGH FRIDAY. HOLIDAY AND WEEKEND WORK IS NOT PERMITTED BY HRW.

C. THE PROFESSIONAL ENGINEER (PE) SHALL PROVIDE HRW WITH A SET OF NCDEQ APPROVED PLANS MARKED "RELEASED FOR CONSTRUCTION" AT LEAST TWO DAYS PRIOR TO CONSTRUCTION COMMENCING. HRW WILL STAMP THE APPROVED PLANS AS "RELEASED FOR CONSTRUCTION" AND PROVIDE COPIES TO THE UTILITY CONTRACTOR. THE REGISTERED LAND SURVEYOR (RLS) SHALL STAKE OUT ALL LOT CORNERS AND ESTABLISH GRADE STAKES FOR THE PROPOSED FINISH GRADE FOR EACH STREET AND SEWER LINE BEFORE THE UTILITY CONTRACTOR BEGINS CONSTRUCTION OR INSTALLATION OF THE MANHOLES, SANITARY SEWER GRAVITY LINE(S), SEWER LIFT STATIONS AND/OR SANITARY SEWER FORCE MAIN(S). THE GRADE STAKES SHOULD BE SET WITH A CONSISTENT OFFSET FROM THE STREET CENTERLINE SO AS NOT TO INTERFERE WITH THE STREET GRADING OR UTILITY CONSTRUCTION.

D. THE UTILITY CONTRACTOR SHALL PROVIDE THE HRW UTILITY CONSTRUCTION INSPECTOR WITH MATERIAL SUBMITTALS AND SHOP DRAWINGS FOR ALL PROJECT MATERIALS PRIOR TO THE CONSTRUCTION OF ANY GRAVITY SEWER LINE(S), MANHOLE(S), SEWER LIFT STATION(S) AND ASSOCIATED FORCE MAIN(S) IN HARNETT COUNTY. THE MATERIALS TO BE USED ON THE PROJECT MUST MEET THE ESTABLISHED SPECIFICATIONS OF HRW AND BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION. ALL SUBSTANDARD MATERIALS OR MATERIALS NOT APPROVED FOR USE IN HARNETT COUNTY FOUND ON THE PROJECT SITE MUST BE REMOVED IMMEDIATELY WHEN NOTIFIED BY THE HRW UTILITY CONSTRUCTION INSPECTOR.

E. THE SANITARY SEWER LATERAL CONNECTIONS SHOULD BE INSTALLED 90° (PERPENDICULAR) TO THE SANITARY SEWER GRAVITY LINES WITH SCHEDULE 40 PVC PIPE. HRW REQUIRES THE UTILITY CONTRACTOR TO PROVIDE THE PROFESSIONAL ENGINEER (PE) WITH ACCURATE MEASUREMENTS FOR LOCATING SANITARY SEWER SERVICE LATERAL AND ASSOCIATED EACH SANITARY SEWER CLEAN–OUT. THESE MEASUREMENTS SHOULD BE TAKEN FROM THE NEAREST DOWNSTREAM MANHOLE UP ALONG THE SANITARY SEWER MAIN TO THE IN–LINE WYE FITTING (OR TAPPING SADDLE) AND THEN ANOTHER MEASUREMENT FROM THE IN–LINE WYE FITTING (OR TAPPING SADDLE) TO THE 4" X 4" LONG SWEEP COMBINATION WYE FITTING AT THE BOTTOM OF THE SEWER CLEAN–OUT STACK. THESE FIELD MEASUREMENTS MUST BE PROVIDED TO THE PROFESSIONAL ENGINEER (PE) IN THE RED LINE DRAWINGS FROM THE UTILITY CONTRACTOR FOR PROPER DOCUMENTATION IN THE AS–BUILT RECORD DRAWINGS SUBMITTED TO HRW.

F. THE UTILITY CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE THE NEWLY INSTALLED SANITARY SEWER GRAVITY LINE(S), SANITARY SEWER FORCE MAIN(S), SANITARY SEWER SERVICE LATERAL(S) AND ALL ASSOCIATED SEWER CLEAN–OUT(S) IN THE PROPOSED SANITARY SEWER SYSTEM FOR OTHER UTILITY COMPANIES AND THEIR CONTRACTORS UNTIL THE NEW SANITARY SEWER LINE(S) AND ASSOCIATED APPURTENANCES HAVE BEEN APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ) AND ACCEPTED BY HRW. ALL NEW SANITARY SEWER LINES MUST HAVE AT LEAST THREE (3 FT.) FEET OF COVER AND EXTEND UNDER ALL EXISTING WATER MAIN AND STORM WATER LINES WITH A LEAST 24" OF VERTICAL CLEARANCE BELOW THE BOTTOM OF THE EXISTING WATER MAIN AND STORM WATER LINES.

G. THE SANITARY SEWER GRAVITY LINE(S), MANHOLE(S), SANITARY SEWER SERVICE LATERAL(S) AND ASSOCIATED CLEAN–OUT(S) SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE HARNETT REGIONAL WATER. THE SANITARY SEWER GRAVITY LINE(S) MUST PNEUMATICALLY PRESSURE TESTED WITH COMPRESSED AIR AT 5 PSI AND THE SANITARY SEWER FORCE MAIN(S) MUST HYDROSTATICALLY PRESSURE TESTED WITH WATER OR AIR AT 200 PSI. SANITARY SEWER MANHOLES MUST BE VACUUM TESTED TO 10 INCHES OF MERCURY AND CANNOT DROP BELOW 9 INCHES IN 60 SECONDS FOR 4 FT. DIAMETER MANHOLES, 75 SECONDS FOR 5 FT. DIAMETER MANHOLES. ALL TESTS MENTIONED ABOVE MUST BE WITNESSED BY THE HRW UTILITY CONSTRUCTION INSPECTOR AND ENGINEER.

H. PRIOR TO ACCEPTANCE, ALL SEWER SERVICE LATERALS WILL BE INSPECTED TO INSURE THAT THEY ARE INSTALLED AT THE PROPER DEPTH. ALL SEWER CLEAN–OUTS MUST BE INSTALLED SO THE 4" X 4" LONG SWEEP COMBINATION WYE IS AT LEAST THREE (3') FEET BUT NO MORE THAN FOUR (4') FEET BELOW THE FINISH GRADE UNLESS OTHERWISE APPROVED IN WRITING BY HRW. THE SEWER CLEANOUTS SHALL HAVE A FOUR (4") SCHEDULE 40 PVC PIPE STUBBED UP FROM BOTH ENDS OF THE 4" X 4" LONG SWEEP COMBINATION WYE TO BE AT LEAST TWO (2') FEET ABOVE THE FINISH GRADE AND COVER EACH END WITH A FOUR (4") INCH TEMPORARY CAP TO KEEP OUT DIRT, SAND, ROCKS, WATER AND CONSTRUCTION DEBRIS. THE VERTICAL STACK ON EACH CLEAN–OUT MUST BE PROVIDED WITH A CONCRETE DONUT FOR PROTECTION.

I. ONCE THE SANITARY SEWER GRAVITY LINE(S) HAVE BEEN INSTALLED, PNEUMATICALLY PRESSURE TESTED AND IN PLACE FOR AT LEAST 30 DAYS, THE UTILITY CONTRACTOR MUST CONTACT THE HRW UTILITY CONSTRUCTION INSPECTOR TO WITNESS THE MANDREL TEST ON EACH PVC SANITARY SEWER GRAVITY LINE. THE UTILITY CONTRACTOR WILL NOTIFY HRW TO SCHEDULE THE MANDREL TESTING. THE MANDREL AND PROVING RING MUST BE SUPPLIED BY THE UTILITY CONTRACTOR. CLOSED CIRCUIT VIDEO CAMERA INSPECTIONS (AT THE UTILITY CONTRACTOR'S EXPENSE) MAY BE REQUIRED BY THE HRW UTILITY CONSTRUCTION INSPECTOR IF THE MANDREL AND MIRROR TAMPING TESTING CANNOT BE COMPLETED WITH SATISFACTORY RESULTS. THE SANITARY SEWER LINES SHOULD BE FLUSHED CLEAN USING A SEWER BALL OF THE PROPER DIAMETER BEFORE ANY MANDREL TESTING CAN BE PERFORMED. THE UTILITY CONTRACTOR IS RESPONSIBLE TO REMOVE ALL DIRT, SAND, SILT, GRAVEL, MUD AND DEBRIS FROM THE NEWLY CONSTRUCTED SEWER LINES EXERCISING CARE TO KEEP THE HARNETT REGIONAL WATER'S EXISTING SANITARY SEWER SYSTEMS CLEAN. SANITARY SEWER FORCE MAIN(S) SHALL BE PRESSURE TESTED TO 200 PSI FOR AT LEAST 2 HOURS LIKE WATER LINES.

J. THE UTILITY CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE THE NEWLY INSTALLED SANITARY SEWER SYSTEM(S) FOR OTHER UTILITY COMPANIES AND THEIR CONTRACTORS UNTIL THE NEW SANITARY SEWER SYSTEM(S) HAVE BEEN APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ) AND ACCEPTED BY HRW.

K. HRW REQUIRES THAT THE UTILITY CONTRACTOR INSTALL TRACER WIRE IN THE TRENCH WITH ALL SANITARY SEWER FORCE MAINS. THE TRACER WIRE SHALL BE 12 GA. INSULATED, SOLID COPPER CONDUCTOR AND IT SHALL BE TERMINATED AT THE TOP OF THE VALVE BOXES OR MANHOLES. NO SPLICED WIRE CONNECTIONS SHALL BE MADE UNDERGROUND ON TRACER WIRE INSTALLED IN HARNETT COUNTY. THE TRACER WIRE MAY BE SECURED WITH DUCT TAPE TO THE TOP OF THE PIPE BEFORE BACKFILLING. THE TRACER WIRE IS NOT REQUIRED FOR THE GRAVITY SEWER LINE(S) BETWEEN MANHOLES.

L. THE UTILITY CONTRACTOR SHALL PROVIDE THE PROFESSIONAL ENGINEER (PE) AND HRW UTILITY CONSTRUCTION INSPECTOR WITH A SET OF RED LINE DRAWINGS IDENTIFYING THE COMPLETE SEWER SYSTEM INSTALLED FOR EACH PROJECT. THE RED LINE DRAWINGS SHOULD IDENTIFY THE MATERIALS, PIPE SIZES AND APPROXIMATE DEPTHS OF THE SEWER LINES AS WELL AS THE INSTALLED LOCATIONS OF THE MANHOLE(S), SANITARY SEWER GRAVITY LINE(S), SANITARY SEWER SERVICE LATERALS, CLEAN–OUTS, SEWER LIFT STATION(S) AND ASSOCIATED FORCE MAIN(S). THE RED LINE DRAWINGS SHOULD CLEARLY IDENTIFY ANY DEVIATIONS FROM THE NCDEQ APPROVED PLANS. ALL CHANGE ORDERS MUST BE APPROVED BY HRW AND THE PROFESSIONAL ENGINEER (PE) IN WRITING AND PROPERLY DOCUMENTED IN THE RED LINE FIELD DRAWINGS.

M. PRIOR TO THE COMMENCEMENT OF ANY WORK WITHIN ESTABLISHED UTILITY EASEMENTS OR NCDOT RIGHT–OF–WAYS THE UTILITY CONTRACTOR IS REQUIRED TO NOTIFY ALL CONCERNED UTILITY COMPANIES IN ACCORDANCE WITH G.S. 87–102. THE UTILITY CONTRACTOR MUST CALL THE NC ONE CALL CENTER AT 811 OR (800) 632–4949 TO VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION. EXISTING UTILITIES SHOWN IN THESE PLANS ARE TAKEN FROM MAPS FURNISHED BY VARIOUS UTILITY COMPANIES AND HAVE NOT BEEN PHYSICALLY LOCATED BY THE P.E. (I.E. TELEPHONE, CABLE, WATER, SEWER, ELECTRICAL POWER, FIBER OPTIC, NATURAL GAS, ETC.).

N. THE UTILITY CONTRACTOR SHALL SPOT DIG TO EXPOSE EACH EXISTING UTILITY PIPE OR LINE WHICH MAY CONFLICT WITH CONSTRUCTION OF PROPOSED SANITARY SEWER LINE EXTENSIONS WELL IN ADVANCE TO VERIFY LOCATIONS OF THE EXISTING UTILITIES. THE UTILITY CONTRACTOR SHALL PROVIDE BOTH HORIZONTAL AND VERTICAL CLEARANCES TO THE PROFESSIONAL ENGINEER (PE) TO ALLOW THE PE TO ADJUST THE SANITARY SEWER LINE DESIGN IN ORDER TO AVOID CONFLICTS WITH EXISTING UNDERGROUND UTILITIES. THE UTILITY CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER AND BE RESPONSIBLE FOR TEMPORARY RELOCATION OF EXISTING UTILITIES AND/OR SECURING EXISTING UTILITY POLES, PIPES, WIRES, CABLES, SIGNS AND/OR UTILITIES INCLUDING SERVICES IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS DURING SANITARY SEWER LINE INSTALLATION, GRADING AND STREET CONSTRUCTION.

O. WHEN MAKING A TAP ON AN EXISTING SEWER FORCE MAIN, THE UTILITY CONTRACTOR MUST HAVE A PERMIT FROM THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ) PRIOR TO BEGIN THE TAP WORK. THE UTILITY CONTRACTOR SHALL CONDUCT A PNEUMATIC PRESSURE TEST USING COMPRESSED AIR OR OTHER INERT GAS ON THE STAINLESS STEEL TAPPING SLEEVE AND GATE VALVE PRIOR TO MAKING THE TAP ON AN EXISTING SANITARY SEWER FORCE MAIN. THIS PNEUMATIC PRESSURE TEST MUST BE WITNESSED BY THE HRW UTILITY CONSTRUCTION INSPECTOR. THE UTILITY CONTRACTOR SHALL USE ROMAC BRAND STAINLESS STEEL TAPPING SLEEVE(S) OR APPROVED EQUAL FOR ALL TAPS MADE ON SANITARY SEWER FORCE MAINS IN HARNETT COUNTY. THE UTILITY CONTRACTOR SHALL USE ROMAC BRAND STYLE "CB" SEWER SADDLES WITH STAINLESS STEEL BANDS OR APPROVED EQUAL FOR ALL TAPS MADE ON EXISTING SANITARY SEWER GRAVITY LINES IN HARNETT COUNTY.

P. THE UTILITY CONTRACTOR SHALL PROVIDE A GREASE TRAP FOR EACH SANITARY SEWER SERVICE LATERAL THAT WILL BE CONNECTED TO A RESTAURANT, FOOD PROCESSING FACILITY AND ANY OTHER COMMERCIAL OR INDUSTRIAL FACILITY AS REQUIRED BY THE HARNETT COUNTY FAT, OIL & GREASE ORDINANCE. THE GREASE TRAP MUST BE RATED FOR A MINIMUM CAPACITY OF AT LEAST 1,000 GALLONS UNLESS OTHERWISE APPROVED IN WRITING BY THE HRW PRE–TREATMENT COORDINATOR. GARBAGE DISPOSALS SHOULD NOT BE INSTALLED IN HOMES AND BUSINESSES THAT DISCHARGE WASTEWATER TO THE HARNETT REGIONAL WATER'S SANITARY SEWER SYSTEM AS THEY ARE NOT APPROVED BY HRW.

Q. EACH SEWER LIFT STATION MUST BE PROVIDED WITH THREE PHASE POWER (AT LEAST 480 VOLTS) AND CONSTRUCTED TO MEET THE MINIMUM REQUIREMENTS OF THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE (NEC) AND HARNETT REGIONAL WATER STANDARD SPECIFICATIONS AND DETAILS. IF THREE PHASE POWER IS NOT AVAILABLE FROM THE POWER COMPANY OTHER ARRANGEMENTS MUST BE APPROVED BY HRW ENGINEERING PRIOR TO THE START OF CONSTRUCTION.

R. WHERE A NEW SANITARY SEWER FORCE MAIN IS CONNECTED TO AN EXISTING MANHOLE IN THE HARNETT REGIONAL WATER SEWER COLLECTIONS SYSTEM, THE UTILITY CONTRACTOR MUST PROVIDE A PROTECTIVE COATING (COAL TAR EPOXY) FOR THE INTERIOR SURFACES OF THE MANHOLE TO PROTECT IT AGAINST CORROSION, EROSION AND DETERIORATION FROM THE RELEASE OF SEWER GASES SUCH AS METHANE AND HYDROGEN SULFIDE.

S. THE SEWER LIFT STATION DESIGN AND ASSOCIATED EQUIPMENT MUST MEET OR EXCEED THE MINIMUM REQUIREMENTS FOR HARNETT COUNTY SEWER LIFT STATIONS 2009 EDITION. EACH SANITARY SEWER LIFT STATION MUST BE CONSTRUCTED WITH AN ALL–WEATHER ACCESS ROAD THAT IS AT LEAST 20 FEET WIDE. THE LIFT STATION SITE MUST BE COVERED WITH WEED BLOCKING MATERIAL AND AT LEAST SIX (6") INCHES OF # 57 STONE (CRUSH AND RUN).

T. ONCE A SEWER LIFT STATION HAS BEEN INSTALLED, THE UTILITY CONTRACTOR IS RESPONSIBLE TO SCHEDULE A DRAW DOWN TEST WITH HRW ENGINEERING AND COLLECTIONS STAFF, THE PROFESSIONAL ENGINEER (PE), THE ELECTRICIAN, THE ORIGINAL EQUIPMENT MANUFACTURER'S (OEM) REPRESENTATIVES [FOR BOTH THE PUMPS AND THE GENERATOR]. THIS DRAW DOWN TEST MUST BE COMPLETED WITH POWER SUPPLIED FROM THE ELECTRICAL UTILITY COMPANY AND WITH POWER SUPPLIED BY THE EMERGENCY GENERATOR WITH SATISFACTORY RESULTS BEFORE FINAL INSPECTIONS ARE CONDUCTED BY THE HRW UTILITY CONSTRUCTION INSPECTOR.

U. ONCE THE UTILITY CONTRACTOR COMPLETES THE INSTALLATION OF A SEWER LIFT STATION, THE PROFESSIONAL ENGINEER (PE) MUST SUBMIT THE SEWER PERMIT CERTIFICATION AND AS–BUILT RECORD DRAWINGS TO THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ) AND HRW FOR FINAL APPROVAL. THE UTILITY CONTRACTOR MUST SUPPLY HRW ENGINEERING STAFF WITH THREE ORIGINAL OPERATION & MAINTENANCE (O&M) MANUALS ALONG WITH THE ASSOCIATED PUMP CURVES AND ELECTRICAL SCHEMATICS FOR THE ASSOCIATED SEWER LIFT STATION EQUIPMENT INCLUDING ALL WARRANTY INFORMATION AND DOCUMENTATION.

V. ONCE THE UTILITY CONTRACTOR COMPLETES THE INSTALLATION OF A SEWER LIFT STATION, THE DEVELOPER MUST PAY HRW THE ESTABLISHED SYSTEM CONTROL AND DATA ACQUISITION (SCADA) FEES BEFORE THE SCADA SYSTEM WILL BE INSTALLED AT THE NEW SEWER LIFT STATION. THE SCADA SYSTEM MUST BE INSTALLED AND OPERATIONAL BEFORE THE UTILITIES MAY BE ACCEPTED BY HRW AND PLACED INTO OPERATION.

W. HRW REQUIRES THE UTILITY CONTRACTOR TO PROVIDE ALL NECESSARY EQUIPMENT AND DEVICES FOR THE TESTING AND INSPECTION OF THE SANITARY SEWER SYSTEM. THE EQUIPMENT AND DEVICES MAY INCLUDE BUT NOT LIMITED TO LAMPING WITH MIRRORS, MANDRELS, SEWER BALLS, PLUGS, AIR COMPRESSORS AND ASSOCIATED COMPRESSED AIR LINES. IF THE HRW UTILITY CONSTRUCTION INSPECTOR DEEMS THAT A CLOSED CIRCUIT VIDEO CAMERA INSPECTION OF THE NEWLY CONSTRUCTED SEWER SYSTEM IS NECESSARY, THEN ALL COSTS FOR THE CLOSED CIRCUIT CAMERA INSPECTION WILL BE THE RESPONSIBILITY OF THE UTILITY CONTRACTOR. ALL CLOSED CIRCUIT VIDEO CAMERA INSPECTIONS MUST BE RECORDED ON VHS TAPES THAT WILL RELEASED TO HRW FOR RECORD KEEPING, REVIEW AND APPROVAL OF THE SEWER SYSTEM.

X. ANY USE OF SEWER PLUGS TO TEMPORARILY BLOCK HARNETT REGIONAL WATER'S EXISTING SANITARY SEWER LINES MUST BE COORDINATED WITH THE HRW COLLECTIONS SUPERVISOR AT LEAST TWO (2) DAYS IN ADVANCE OF INSTALLING THE PLUGS. THE SEWER PLUGS MUST BE REMOVED AS SOON AS POSSIBLE ONCE THE NEW SANITARY SEWER LINES HAVE BEEN INSPECTED, PRESSURE TESTED, MANDREL TESTED, APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ) AND ACCEPTED BY HRW TO ALLOW THE SEWER TO FLOW AS DESIGNED IN HARNETT REGIONAL WATER'S EXISTING SANITARY SEWER LINES OR WHEN SO ORDERED BY THE HRW COLLECTIONS SUPERVISOR TO LIMIT INTERRUPTIONS TO THE NORMAL FLOW OF THE SANITARY SEWER COLLECTION SYSTEM(S). THE UTILITY CONTRACTOR MUST PROVIDE THE PUMPS HOSES AND NECESSARY CONNECTORS FOR A TEMPORARY PUMP AROUND SETUP IF REQUIRED BY THE HRW COLLECTIONS SUPERVISOR. MR. RANDOLPH CLEGG, HRW COLLECTIONS SUPERVISOR MAY BE CONTACTED BETWEEN 8:00 AM AND 5:00 PM MONDAY THROUGH FRIDAY AT (910) 893–7575 EXTENSION 3241.

Y. THE UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL REPAIRS DUE TO LEAKAGE OR DAMAGE RESULTING FROM POOR WORKMANSHIP DURING THE ONE (1) YEAR WARRANTY PERIOD ONCE THE SEWER SYSTEM IMPROVEMENTS HAVE BEEN APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ) AND ACCEPTED BY HRW. THE UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL REPAIRS DUE TO DAMAGES RESULTING FROM FAILURE TO LOCATE THE NEW SANITARY SEWER LINES AND ASSOCIATED APPURTENANCES FOR OTHER UTILITIES AND THEIR CONTRACTORS UNTIL THE SANITARY SEWER LINES HAVE BEEN APPROVED BY NCDEQ AND ACCEPTED BY HRW. HRW WILL PROVIDE MAINTENANCE AND WARRANTY REPAIRS IF NECESSARY DUE TO LACK OF RESPONSE WITHIN 48 HOURS OF NOTIFICATION OF WARRANTY WORK. HRW WILL INVOICE THE DEVELOPER AND/OR UTILITY CONTRACTOR FOR MATERIALS AND LABOR IN SUCH CASES.

Z. IN DEVELOPMENTS AND PROJECTS THAT REQUIRE UTILITY EASEMENTS TO BE ESTABLISHED FOR FUTURE HRW RIGHT–OF–WAY, THE REGISTERED LAND SURVEYOR (RLS) MUST PROVIDE THE HRW RIGHT–OF–WAY AGENT WITH AN OFFICIAL COPY OF THE RECORDED PLAT AND LEGAL DESCRIPTION OF THE SAID EASEMENT AS RECORDED WITH THE HARNETT COUNTY REGISTER OF DEEDS. THE RECORDED DOCUMENTS MUST BE PROVIDED TO THE HRW RIGHT–OF–WAY AGENT BEFORE THE UTILITY IMPROVEMENTS WITHIN THE SAID EASEMENT CAN BE PLACED INTO OPERATION. ANY AND ALL EASEMENTS THAT MUST BE OBTAINED FROM ADJOINING PROPERTY OWNERS MUST BE PROVIDED TO HRW BY THE DEVELOPER AT NO COST TO HARNETT COUNTY. THE FINAL INSPECTION OF ALL SANITARY SEWER SYSTEM IMPROVEMENTS CANNOT BE SCHEDULED WITH HRW UNTIL THE STREETS HAVE BEEN PAVED; THE RIGHTS–OF–WAY AND UTILITY EASEMENTS HAVE BEEN SEEDED AND STABILIZED WITH AN ADEQUATE STAND OF GRASS IN PLACE TO PREVENT EROSION ISSUES ON SITE.

AA. THE ENGINEER OF RECORD IS RESPONSIBLE TO INSURE THAT CONSTRUCTION IS, AT ALL TIMES, IN COMPLIANCE WITH ACCEPTED SANITARY ENGINEERING PRACTICES AND APPROVED PLANS AND SPECIFICATIONS. NO FIELD CHANGES TO THE APPROVED PLANS ARE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL BY HRW. A COPY OF EACH ENGINEER'S FIELD REPORT IS TO BE SUBMITTED TO HRW AS EACH SUCH INSPECTION IS MADE ON SYSTEM IMPROVEMENTS OR TESTING IS PERFORMED BY THE CONTRACTOR. WATER AND SEWER INFRASTRUCTURE MUST PASS ALL TESTS REQUIRED BY HRW SPECIFICATIONS AND THOSE OF ALL APPLICABLE REGULATORY AGENCIES. THESE TESTS INCLUDE, BUT ARE NOT LIMITED TO: AIR TEST, VACUUM TEST, MANDREL TEST, VISUAL TEST, PRESSURE TEST, BACTERIOLOGICAL TEST, ETC. A HRW INSPECTOR MUST BE PRESENT DURING TESTING AND ALL TEST RESULTS SHALL BE SUBMITTED TO HRW. ALL TESTS MUST BE SATISFIED BEFORE THE FINAL INSPECTION WILL BE SCHEDULED WITH THE HRW INSPECTOR. THE ENGINEER OF RECORD MUST REQUEST IN WRITING TO SCHEDULE THE FINAL INSPECTION ONCE ALL CONSTRUCTION IS COMPLETE. THE DEVELOPER'S ENGINEER OF RECORD AND THE HRW UTILITY CONSTRUCTION INSPECTOR SHALL PREPARE A WRITTEN PUNCH LIST OF ANY DEFECTS OR DEFICIENCIES NOTED DURING THE FINAL INSPECTION, SHOULD ANY EXIST. UPON COMPLETION OF THE PUNCH LIST, THE DEVELOPER'S ENGINEER OF RECORD WILL SCHEDULE ANOTHER INSPECTION. IN THE EVENT THE NUMBER OF INSPECTIONS PERFORMED BY THE HRW EXCEEDS TWO, ADDITIONAL FEES MAY BE ACCESSED TO THE DEVELOPER.

FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 17651 ENGINEER BILLY C. KEARNS

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

Engineering
Landscape Architecture
Surveying

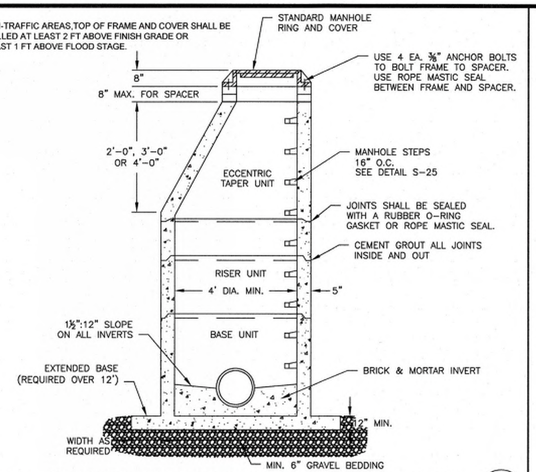
LKC

SANITARY SEWER NOTES

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: JULY, 2020
DESIGNED: FDW
DRAWN: FDW
CHECKED: TAC
NO.
D-08

NOTE:
IN NON-TRAFFIC AREAS,TOP OF FRAME AND COVER SHALL BE INSTALLED AT LEAST 2 FT ABOVE FINISH GRADE OR AT LEAST 1 FT ABOVE FLOOD STAGE.



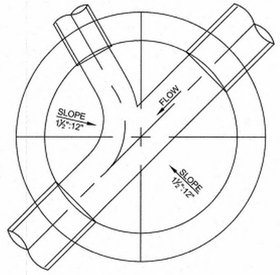
TYPICAL STANDARD PRECAST CONCRETE MANHOLE DETAIL — S 24

NO SCALE

NOTES:
1. SEE DETAIL S-28 FOR TYPICAL INVERT.

1

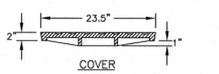
NOTE:
1. THE FLOW CHANNEL THROUGH MANHOLES SHOULD BE MADE TO CONFORM IN SHAPE AND SLOPE TO THE SEWER MAIN.
2. CHANGE IN DIRECTION OF THE CHANNEL SHALL NOT BE EXCEED 90 DEGREES.
3. SEE DETAIL S-24 FOR TYPICAL MANHOLE STRUCTURE.



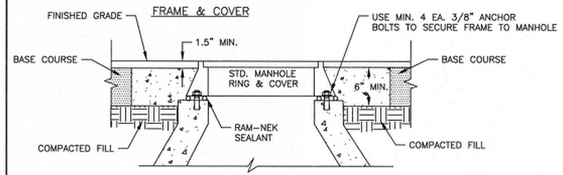
TYPICAL MANHOLE INVERT DETAIL — S 28

NO SCALE

2



COVER



FRAME

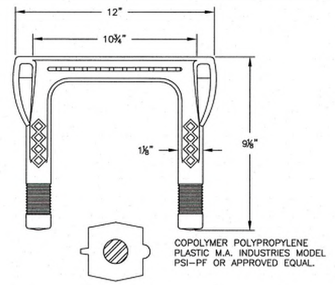
NOTE:
CONCRETE ENCASEMENT SHALL ONLY BE USED IN AREAS WHERE COVER IS TO BE FLUSH WITH PAVEMENT OR CONCRETE. CONCRETE ENCASEMENT SHALL NOT BE USED IN NON-TRAFFIC AREAS AND ABOVE GRADE INSTALLATIONS.

TYPICAL STANDARD MANHOLE FRAME & COVER DETAIL — S 21

NO SCALE

3

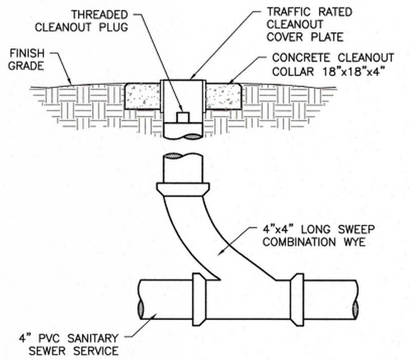
REVISIONS			
SYM.	DESCRIPTION	DATE	BY



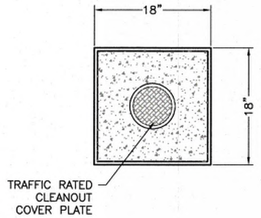
TYPICAL POLYPROPYLENE PLASTIC STEP DETAIL — S 27

NO SCALE

4



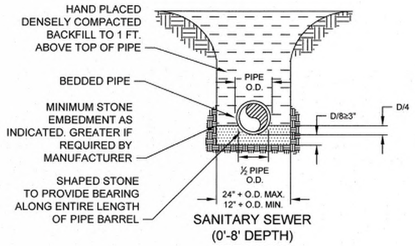
ELEVATION



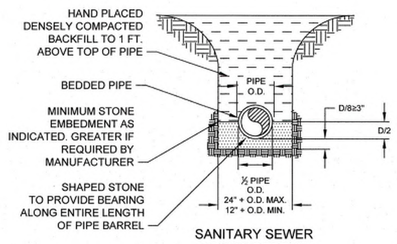
PLAN VIEW

5 SANITARY SEWER CLEANOUT

NO SCALE



SANITARY SEWER (0'-8' DEPTH) PIPE LAYING CONDITION "A"



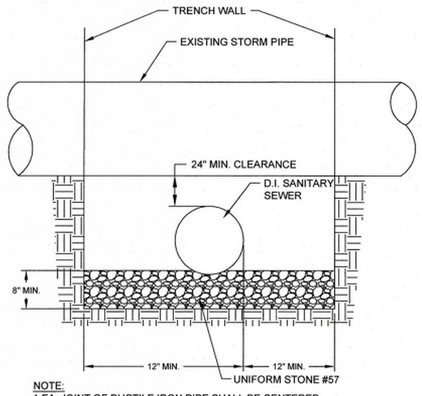
SANITARY SEWER (<8'-16' DEPTH) PIPE LAYING CONDITION "B"

TYPICAL PIPE LAYING CONDITION DETAIL — S 16

NO SCALE

NO SCALE

6

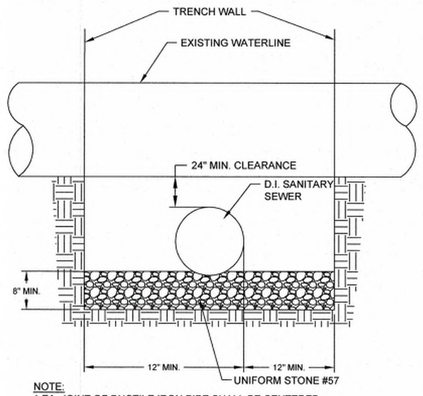


NOTE:
1 EA. JOINT OF DUCTILE IRON PIPE SHALL BE CENTERED UNDER WATER LINE FOR ALL CROSSINGS.

TYPICAL STORM SEWER CROSSING FOR SANITARY SEWER DETAIL — S 31

NO SCALE

7



NOTE:
1 EA. JOINT OF DUCTILE IRON PIPE SHALL BE CENTERED UNDER WATER LINE FOR ALL CROSSINGS.

TYPICAL WATER LINE CROSSING FOR SANITARY SEWER DETAIL — S 32

NO SCALE

8

9

10

FOR CONSTRUCTION

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

Engineering
Landscape Architecture
Surveying

LKC

SANITARY SEWER DETAILS

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE:	JULY, 2020
DESIGNED:	FDW
DRAWN:	FDW
CHECKED:	TAC
NO.	D-09

REVISIONS			
SYM.	DESCRIPTION	DATE	BY

QTY.	BOTANICAL NAME	COMMON NAME	SIZE
TREES			
4	LAGERSTROEMIA INDICA 'MUSKOGEE'	MUSKOGEE CREPE MYRTLE	10'-12' HT, MULTI-STEM
6	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM MAGNOLIA	6'-7' HT. MIN.
4	PRUNUS x YEDOENSIS 'AKEBONO'	AKEBONO YOSHINO CHERRY	7'-8' HT. MIN.
3	ULMUS AMERICANA 'PRINCETON'	PRINCETON ELM	2" CAL., 8'-10' HT. MIN.
SHRUBS & GROUNDCOVERS			
49	ABELIA GRANDIFLORA 'KALEIDOSCOPE'	KALEIDOSCOPE ABELIA	15"-18" HT, 3 GAL. MIN.
35	AZALEA INDICA 'G.G. GERBING'	G.G. GERBING AZALEA	36" HT, 5 GAL. MIN.
36	DISTYLIUM x 'PIIDIST-II' PP244094	BLUE CASCADE DISTYLIUM	3 GAL.
31	JUNIPERUS CONFERTA 'BLUE PACIFIC'	BLUE PACIFIC SHORE JUNIPER	3 GAL.
30	ILEX CORNUTA 'BURFORDII NANA'	DWARF BURFORD HOLLY	36" HT., 5 GAL. MIN.
52	ILEX CRENATA 'GREENLUSTRE'	GREENLUSTRE HOLLY	15"-18" HT., 3 GAL. MIN.
6	ILEX GRENATA 'SKYPENCIL'	SKYPENCIL HOLLY	3' - 4' HT.
221	LIRIOPE MUSCARI 'VARIEGATA'	VARIEGATED LIRIOPE	6 BIB CLUMPS
35	NANDINA DOMESTICA 'FIREPOWER'	FIREPOWER DWARF NANDINA	1 GAL.
38	RHODODENDRON 'ROBLEG' PP15227	AUTUMN ANGEL AZALEA	12" -15" HT., 3 GAL. MIN.
11	THUJA OCCIDENTALIS 'SMARAGD'	EMERALD GREEN ARBORVITAE	4' -5' HT.
TURF			
12,275sf	ZOYSIA	ZOYSIA GRASS	SOD
21,475sf	ZOYSIA	ZOYSIA GRASS	SEED

NOTE:

THIS PLAN DOES NOT INCLUDE AN IRRIGATION PLAN. IT IS THE LANDSCAPE CONTRACTORS RESPONSIBILITY TO PROVIDE 1" OF WATER PER WEEK TO ALL NEWLY INSTALLED PLANTINGS UNTIL TO OWNER HAS BEEN ISSUED A CERTIFICATE OF OCCUPANCY. ONCE A CERTIFICATE OF OCCUPANCY HAS BEEN ISSUED, IT IS THE OWNERS RESPONSIBILITY TO PROVIDE SUFFICIENT WATER TO MAINTAIN PLANT HEALTH AND VIABILITY. THE LANDSCAPE CONTRACTOR MAY ALSO PROVIDE SHOP DRAWINGS OF AN IRRIGATION SYSTEM FOR THE OWNERS APPROVAL WITH A COST ESTIMATE OF THE PROPOSED IRRIGATION DESIGN. THIS PLAN SHALL BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION OF PAVING SO IRRIGATION SLEEVES CAN BE INSTALLED WITHOUT THE NEED TO CUT AND PATCH NEW PAVING.

PLANT LEGEND

- PRINCETON ELM
- YOSHINO CHERRY
- LITTLE GEM MAGNOLIA
- MUSKOGEE CREPE MYRTLE
- EMERALD GREEN ARBORVITAE
- DWARF BURFORD HOLLY
- G.G. GERBING AZALEA
- GREENLUSTRE HOLLY
- BLUE PACIFIC JUNIPER
- SKYPENCIL HOLLY
- DISTYLIUM
- KALEIDOSCOPE ABELIAA
- AUTUMN ANGEL AZALEA
- VARIEGATED LIRIOPE
- FIREPOWER DWARF NANDINA

NOTE:

ALL PLANTING AROUND PERIMETER OF BUILDING IS OPTIONAL AND SHALL BE INSTALLED AT OWNERS DISCRETION. ALL SHRUB BEDS SHALL BE PREPARED IS IF PLANTING IS TO BE INSTALLED AND MULCHED WITH 3" THICK LAYER OF PINESTRAW.

GRAVEL MULCH (575sf)

ZOYSIA SOD (650sf)

ZOYSIA SOD (600sf)

ZOYSIA SOD (725sf)

ZOYSIA SOD (1,150sf)

ZOYSIA SOD (875sf)

ZOYSIA SOD (1,525sf)

ZOYSIA SOD (21,250sf)

ZOYSIA SOD (150sf)

ZOYSIA SOD (6,750sf)

10' TYPE 'A' BUFFER

31- BLUE PACIFIC JUNIPER (3' O.C.)

3- PRINCETON ELM

35- G.G. GERBING AZALEA (5' O.C.)

4- MUSKOGEE CREPE MYRTLE (25' O.C.)

36- BLUE CASCADE DISTYLIUM (5' O.C.)

49- KALEIDOSCOPE ABELIA (2.5' O.C.)

52- GREENLUSTRE HOLLY (3' O.C.)

221- VARIEGATED LIRIOPE (18" O.C.)

38- AUTUMN ANGEL AZALEA (2.5' O.C.)

35- FIREPOWER DWARF NANDINA (18" O.C.)

6- SKYPENCIL HOLLY

11- EMERALD GREEN ARBORVITAE (CENTERED BETWEEN WINDOWS, OR 5' O.C.)

6- LITTLE GEM MAGNOLIA (30' O.C.)

30- DWARF BURFORD HOLLY (5' O.C.)

3- AKEBONO YOSHINO CHERRY (40' O.C.)

PARKING STREET YARD:

PARKING AREA: 9,500sf
LENGTH: 40 lf
WIDTH: 10'
TREES: 1 / 40 lf
40 /40 = 1 CANOPY TREE REQUIRED
1 CANOPY TREE PROVIDED
SHRUBS: 8/ 40 lf = 8 SHRUBS REQUIRED
10 SHRUBS PROVIDED

TYPE 'A BUFFER:

LENGTH: 188 lf
WIDTH: 10'
AREA: 1,880 sf
TREES: 3/ 1000sf = 6 TREES
SHRUBS: 12/1000sf = 23 SHRUBS

GRAPHIC SCALE 20 0 10 20 40 (IN FEET)
FULL SIZE SHEET 22"x34"

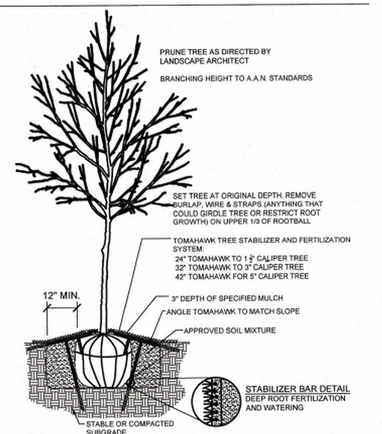
FOR CONSTRUCTION

1 L-01 PLANTING PLAN
SCALE: 1"= 20'-0"

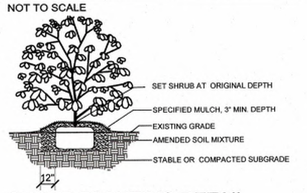
2 L-01 PLANT SCHEDULE

1. THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH COMPETENT RELIABLE SOURCES TO ENSURE THAT AN ADEQUATE SUPPLY OF THE REQUIRED PLANT MATERIAL IS AVAILABLE. THIS SHALL BE COMPLETED A MINIMUM OF THREE MONTHS PRIOR TO PLANTING TIME TO ALLOW FOR PLANT COLLECTIONS, STORAGE, AND PREPARATION. CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL PLANT MATERIAL IN THE APPROPRIATE SEASON FOR EACH PLANT TYPE.
2. ALL PLANT MATERIAL RECEIVED FROM COMMERCIAL NURSERIES SHALL CONFORM TO THE CURRENT ISSUE OF THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, EXCEPT WHERE OTHERWISE SPECIFIED.
3. ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE UNIFORMLY BRANCHED AND HAVE A VIGOROUS ROOT SYSTEM. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS AND FREE FROM DEFECTS, DECAY, ABRASIONS OF THE BARK, PLANT DISEASES, INSECT PEST EGGS, AND ALL FORMS OF INFESTATIONS. ALL PLANT MATERIAL SHALL BE FRESH, FREE FROM TRANSPLANT SHOCK OR VISIBLE WILT. UNHEALTHY STOCK IS UNACCEPTABLE. PLANTS FROM COLD STORAGE ARE UNACCEPTABLE.
4. PLANT MATERIAL SHALL BE INSPECTED BY THE OWNER'S REPRESENTATIVE UPON ARRIVAL AT THE PROJECT SITE. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT OR ACCEPT ANY PLANT MATERIAL FOLLOWING FINAL INSPECTION.
5. PLANTS NOT INSTALLED ON THE DAY OF ARRIVAL AT THE SITE WILL BE STORED AND PROTECTED. OUTSIDE STORAGE LOCATIONS WILL BE CONTINUALLY SHADED AND PROTECTED FROM THE WIND AND SUN. PLANTS STORED ON SITE WILL BE PROTECTED FROM ANY DRYING AT ALL TIMES BY COVERING THE BALLS OR ROOTS WITH MOIST SAWDUST, WET BURLAP, WOODCHIPS, SHREDDED BARK, PEAT MOSS, OR OTHER SIMILAR MULCHING MATERIAL.
6. THE FINAL LOCATION AND ORIENTATION OF ALL PLANT MATERIAL AS WELL AS THE LOCATION OF ALL PLANTING ZONES WILL BE SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE. CONTRACTOR MAY BE RESPONSIBLE FOR REPLANTING ANY PLANT MATERIAL INSTALLED WITHOUT APPROVAL BY THE OWNER'S REPRESENTATIVE.
7. THE OWNER'S REPRESENTATIVE SHALL HAVE FINAL APPROVAL FOR THE SELECTION OF SPECIES SUBSTITUTIONS USED IN PLANTINGS. ALL REQUESTS FOR SUBSTITUTIONS MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO PLANTING.
8. OSMOCOTE, NUTRICOTE, OR OTHER CONTROLLED RELEASE COMMERCIAL GRADE GRANULAR FREE FLOWING (18-6-12) FERTILIZER SHALL BE APPLIED IN EACH PLANTING HOLE ACCORDING TO MANUFACTURER'S LABEL OR OTHER SPECIFICATIONS. THE SELECTION OF FERTILIZER AND ALL APPLICATION SPECIFICATIONS SHALL BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
9. THE CONTRACTOR SHALL BE REQUIRED TO GUARANTEE AND MAINTAIN ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE OF FINISHED PLANTING IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE SPECIAL PROVISIONS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING CONDITIONS AS A RESULT OF ITS WORK PERFORMED DURING THE CONTRACT PERIOD.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING ALL PLANT QUANTITIES FOR BIDDING PURPOSES.
12. PLANT LOCATIONS ARE APPROXIMATE. FIELD STAKING SHOULD BE DONE TO AVOID UNDERGROUND UTILITIES.
13. PROVIDE CONTINUOUS PINE STRAW MULCH (3" THICK) IN ALL SHRUB AND TREE AREAS AND AT THE BASE OF SPECIMEN TREES IN A 5' MINIMUM DIAMETER.
14. SIZES OF PLANT MATERIAL IN PANT SCHEDULE ARE TO BE CONSIDERED MINIMUMS.
15. ALL UTILITIES SHALL BE LOCATED AND MARKED IN FIELD PRIOR TO INSTALLATION OF PLANTS. NO PLANTS SHALL BE LOCATED ABOVE UTILITIES OR WITHIN EASEMENTS UNLESS SHOWN OTHERWISE.
16. ALL AREAS TO BE SODDED SHALL RECEIVE 4" LOAM SOIL AND TILLED INTO EXISTING SOIL 12" DEEP. COORDINATE WITH GRADING CONTRACTOR TO ACHIEVE FINISH GRADE.

3 L-01 PLANTING NOTES



4 L-01 TREE PLANTING DETAIL
NOT TO SCALE



5 L-01 SHRUB PLANTING DETAIL
NOT TO SCALE

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

LKC Engineering, pllc
140 Aqua Shed Court
Aberdeen, NC 28315
O: 910.420.1437
F: 910.637.0096
lkcengineering.com
License No. P-1095

Engineering
Landscape Architecture
Surveying

LKC

LANDSCAPE PLAN

GOOD HOPE HOSPITAL RENOVATIONS
Erwin, North Carolina

DATE: JULY,2020
DESIGNED: WLS
DRAWN: WLS
CHECKED: TAC
NO. L-01

NORTH CAROLINA PROFESSIONAL SEAL 17851 ENGINEER WILLIAM L. ESTES, JR.

File: L:\Stogner---19.01 Good Hope Hosp\800 -- Drawings\810 Design Drawings\12 Landscape\STOGNER--19.01 L01 LANDSCAPE PLAN.dwg, By: lou, Plotted: Thu Jul 23, 2020 at 10:35am

1 KEY FLOOR PLAN

SCALE: 3/32"=1'-0"

SCALE: 3/32" = 1'-0"
12" 0 5' 10' 15' 20'

EXISTING BUILDING AREA: 8,856 S.F.
NEW BUILDING AREA: 12,930 S.F.
NEW EXTERIOR ACTIVITY SPACE: 1,212 +/- S.F.

C:\NON-HUD PROJECTS\ERWIN\4535 SCMH - Erwin\DRAWINGS\XCADD\A1-0 Floor Plan.dwg

REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. C-0898 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.

SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

KEY FLOOR PLAN

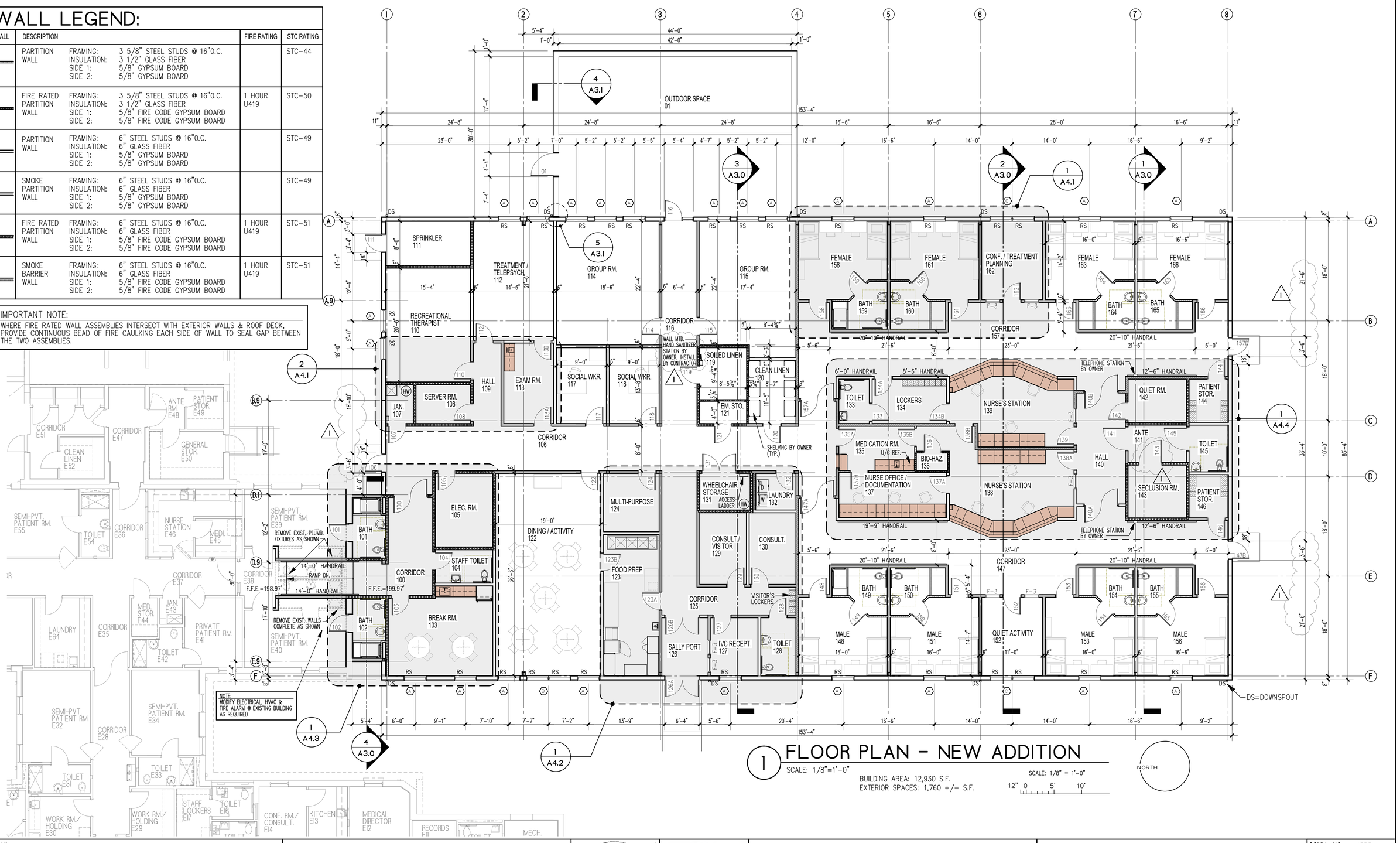
GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.:	4535
DRAWN BY:	JKM
CHECKED BY:	DWS
DATE:	9/11/2020
SHEET NO.	A1.0

WALL LEGEND:

WALL	DESCRIPTION			FIRE RATING	STC RATING
	PARTITION WALL	FRAMING:	3 5/8" STEEL STUDS @ 16"O.C.		STC-44
		INSULATION:	3 1/2" GLASS FIBER		
		SIDE 1:	5/8" GYPSUM BOARD		
		SIDE 2:	5/8" GYPSUM BOARD		
	FIRE RATED PARTITION WALL	FRAMING:	3 5/8" STEEL STUDS @ 16"O.C.	1 HOUR U419	STC-50
		INSULATION:	3 1/2" GLASS FIBER		
		SIDE 1:	5/8" FIRE CODE GYPSUM BOARD		
		SIDE 2:	5/8" FIRE CODE GYPSUM BOARD		
	PARTITION WALL	FRAMING:	6" STEEL STUDS @ 16"O.C.		STC-49
		INSULATION:	6" GLASS FIBER		
		SIDE 1:	5/8" GYPSUM BOARD		
		SIDE 2:	5/8" GYPSUM BOARD		
	SMOKE PARTITION WALL	FRAMING:	6" STEEL STUDS @ 16"O.C.		STC-49
		INSULATION:	6" GLASS FIBER		
		SIDE 1:	5/8" GYPSUM BOARD		
		SIDE 2:	5/8" GYPSUM BOARD		
	FIRE RATED PARTITION WALL	FRAMING:	6" STEEL STUDS @ 16"O.C.	1 HOUR U419	STC-51
		INSULATION:	6" GLASS FIBER		
		SIDE 1:	5/8" FIRE CODE GYPSUM BOARD		
		SIDE 2:	5/8" FIRE CODE GYPSUM BOARD		
	SMOKE BARRIER WALL	FRAMING:	6" STEEL STUDS @ 16"O.C.	1 HOUR U419	STC-51
		INSULATION:	6" GLASS FIBER		
		SIDE 1:	5/8" FIRE CODE GYPSUM BOARD		
		SIDE 2:	5/8" FIRE CODE GYPSUM BOARD		

IMPORTANT NOTE:
WHERE FIRE RATED WALL ASSEMBLIES INTERSECT WITH EXTERIOR WALLS & ROOF DECK, PROVIDE CONTINUOUS BEAD OF FIRE CAULKING EACH SIDE OF WALL TO SEAL GAP BETWEEN THE TWO ASSEMBLIES.



1 FLOOR PLAN - NEW ADDITION

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

BUILDING AREA: 12,930 S.F.
EXTERIOR SPACES: 1,760 +/- S.F.

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

NORTH

O:\WON-HUD PROJECTS\ERWIN\4535 SCMH - Erwin\DRAWINGS\CADD\A1-0 Floor Plan.dwg

REVISIONS
1 11/20/2020 DHHS REVIEW COMMENTS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA ROCKINGHAM, N.C. CERT. NO. 50898

DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.
SEPT. 11, 2020

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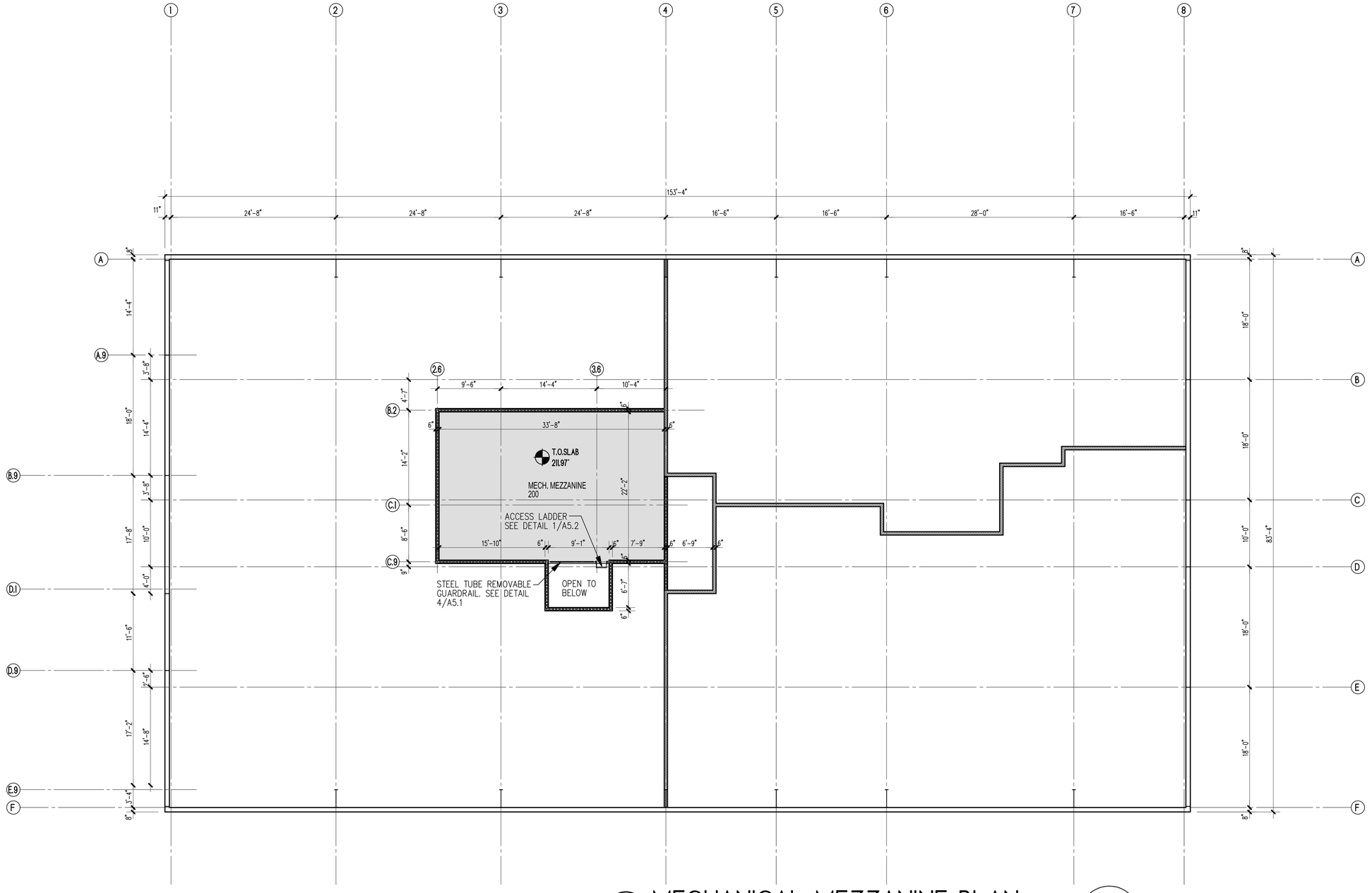
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

FLOOR PLAN - NEW ADDITION

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.:	4535
DRAWN BY:	JKM
CHECKED BY:	DWS
DATE:	9/11/2020
SHEET NO.	A1.1



1 MECHANICAL MEZZANINE PLAN

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

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

12" 0 5' 10'

NORTH

C: \NON-HUD PROJECTS\ERWIN\4535 SCMH - Erwin\DRAWINGS\XCADD\A1-0 Floor Plan.dwg

REVISIONS

1 7/18/19 ADDED HANDRAILS @ ACTIVITY AREAS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50898 ROCKINGHAM, N.C. NORTH CAROLINA

DAVID W. STOGNER REGISTERED ARCHITECT ROCKINGHAM, N.C. NORTH CAROLINA

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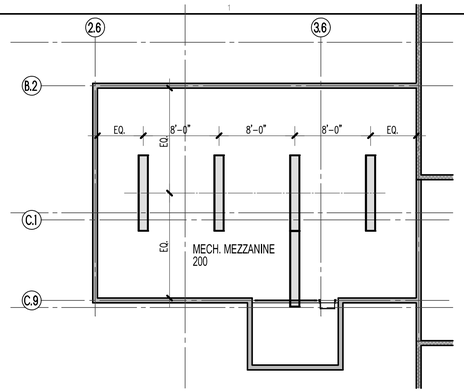
MECHANICAL MEZZANINE PLAN

GOOD HOPE HOSPITAL

410 DENIM DRIVE ERWIN, NORTH CAROLINA

ADDITION and RENOVATIONS

COMM. NO.:	4535
DRAWN BY:	JKM
CHECKED BY:	DWS
DATE:	9/11/2020
SHEET NO.	A1.2

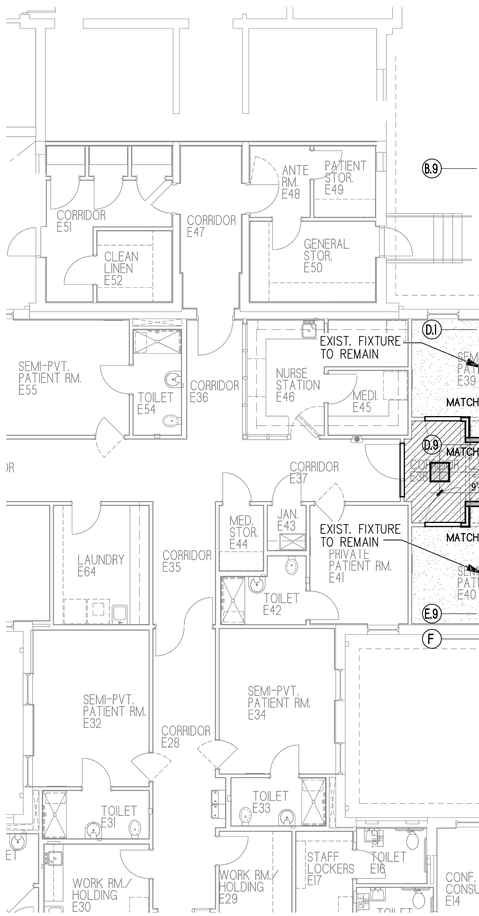


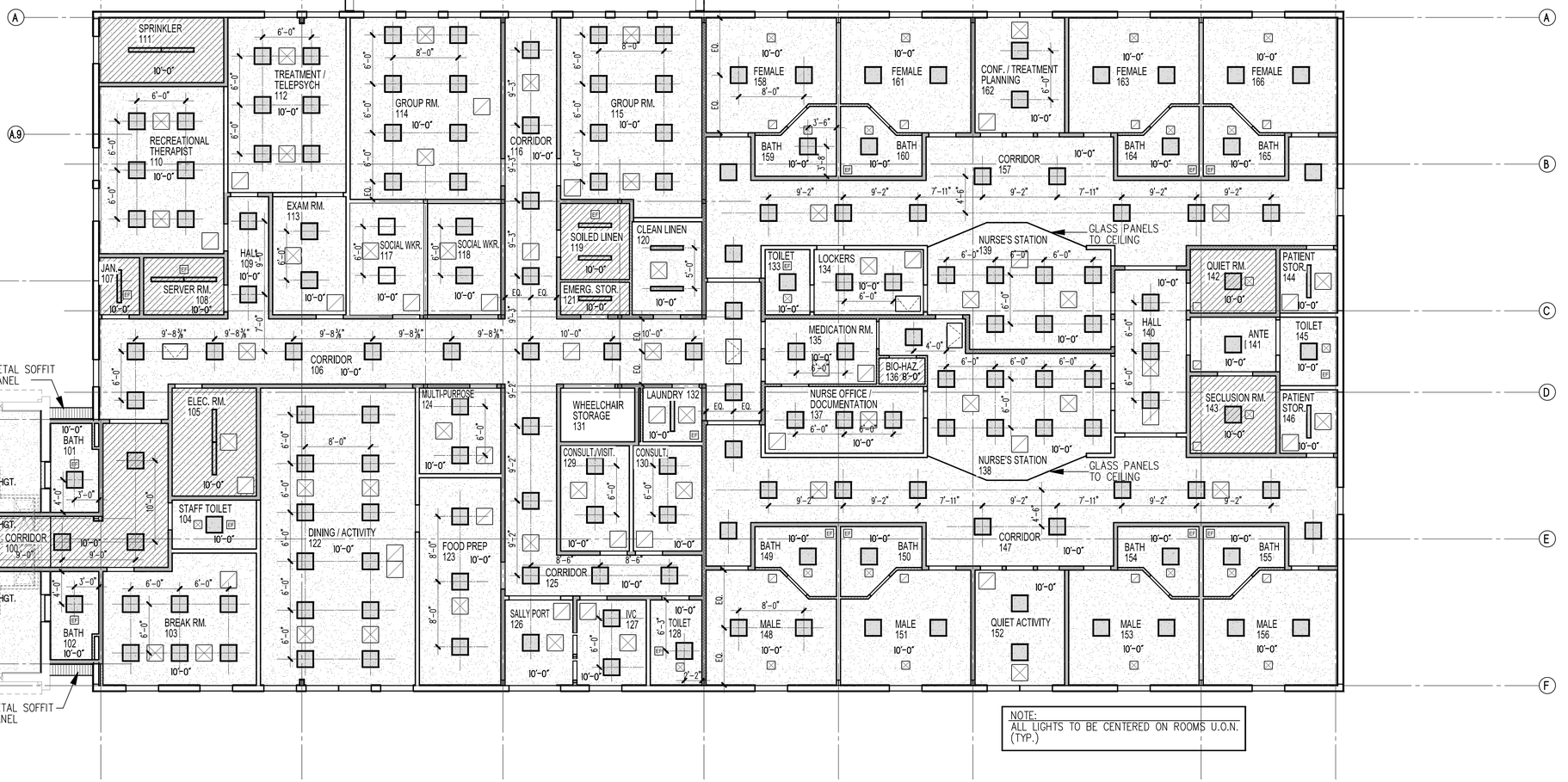
2 MEZZANINE CEILING PLAN

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

CEILING LEGEND:

- SCHEDULED LIGHT FIXTURES SEE ELECTRICAL DWG'S.
- MECHANICAL LOUVERS SEE MECHANICAL DWG'S.
- EF EXHAUST FAN SEE MECHANICAL DWG'S.
- 10'-0" CEILING HEIGHT A.F.F.
- GYPSUM BOARD - PAINTED
- GYPSUM BOARD - PAINTED 1 HOUR FIRE RATED - U415 SYSTEM A - HORIZ. ASSEMBLY
- 22"X36" INSULATED FIRE-RATED ACCESS DOOR BY: NYSTROM; MODEL: IWM22X36G





NOTE:
ALL LIGHTS TO BE CENTERED ON ROOMS U.O.N. (TYP.)

1 REFLECTED CEILING PLAN

SCALE: 1/8"=1'-0" (NEW ADDITION)

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

12" 0 5' 10' 15'

O:\NON-HUD PROJECTS\ERWIN\4535 SCMH - Erwin\DRAWINGS\XCADD\A1-0 Floor Plan.dwg

REVISIONS
1 7/18/19 ADDED HANDRAILS @ ACTIVITY AREAS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURE CORPORATION NORTH CAROLINA ROCKINGHAM, N.C. CERT. NO. 50898

DAVID W. STOGNER REGISTERED ARCHITECT ROCKINGHAM, N.C.
SEPT. 11, 2020

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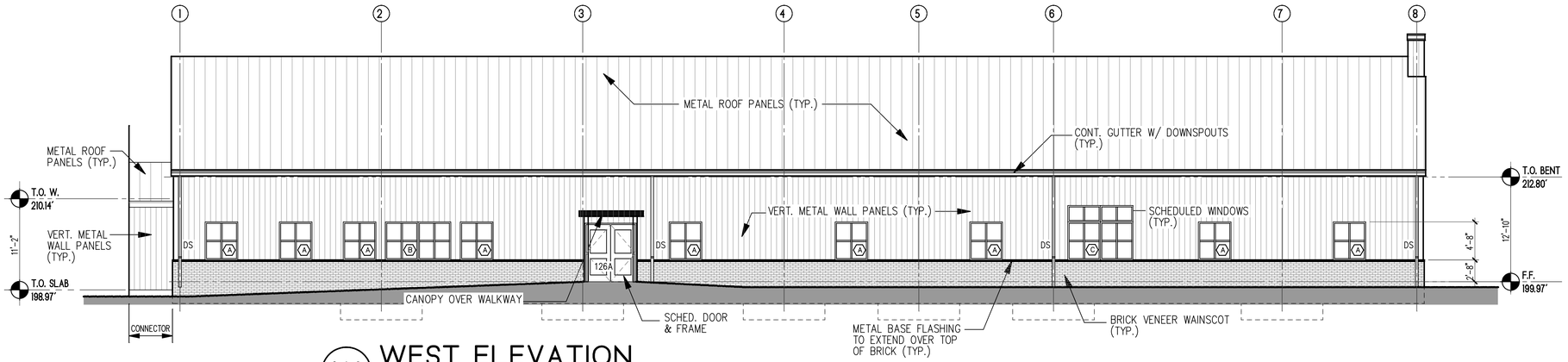
REFLECTED CEILING PLAN (NEW ADDITION) & MEZZANINE CEILING PLAN

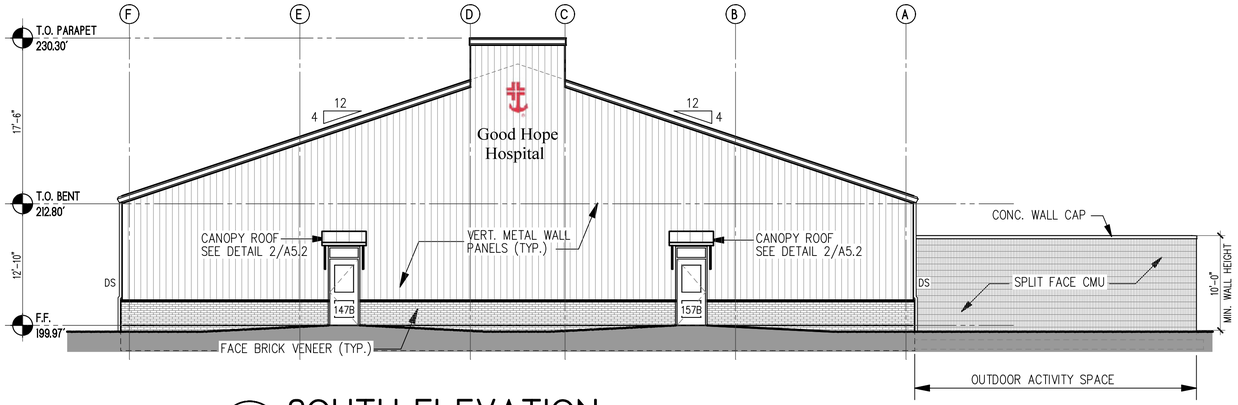
GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.: 4535
DRAWN BY: JKM
CHECKED BY: DWS
DATE: 9/11/2020
SHEET NO. A1.3



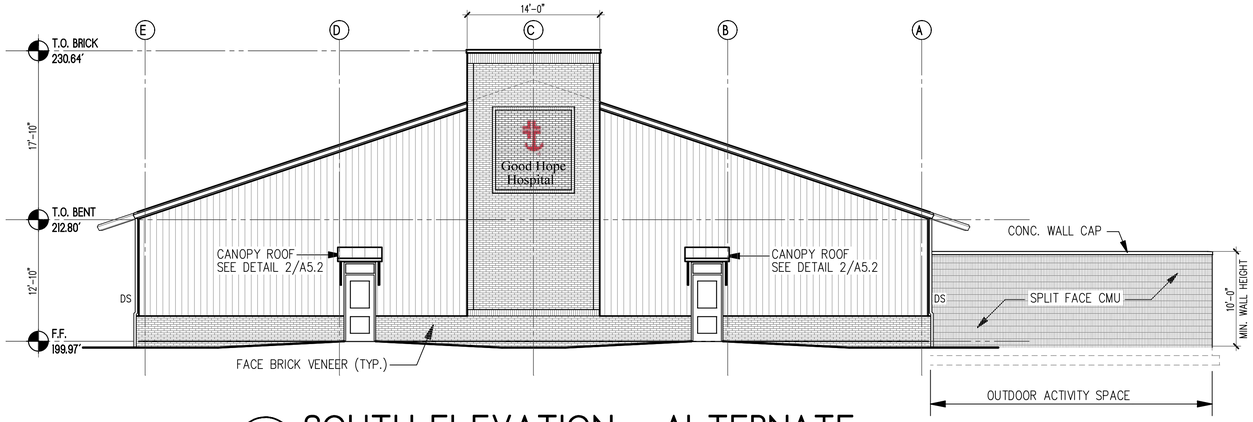
W WEST ELEVATION

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



S SOUTH ELEVATION

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



S SOUTH ELEVATION - ALTERNATE

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

SCALE: 1/8" = 1'-0"
12" 0 5' 10' 15'

0:\NON-HUD PROJECTS\ERWIN\4535 SCMH - Erwin\DRAWINGS\XCADD\A2-0 Exterior Elevations.dwg

REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURE CORPORATION CERT. NO. C-0898 50898 NORTH CAROLINA ROCKINGHAM, N.C.

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SEPT. 11, 2020

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EXTERIOR ELEVATIONS

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.:	4535
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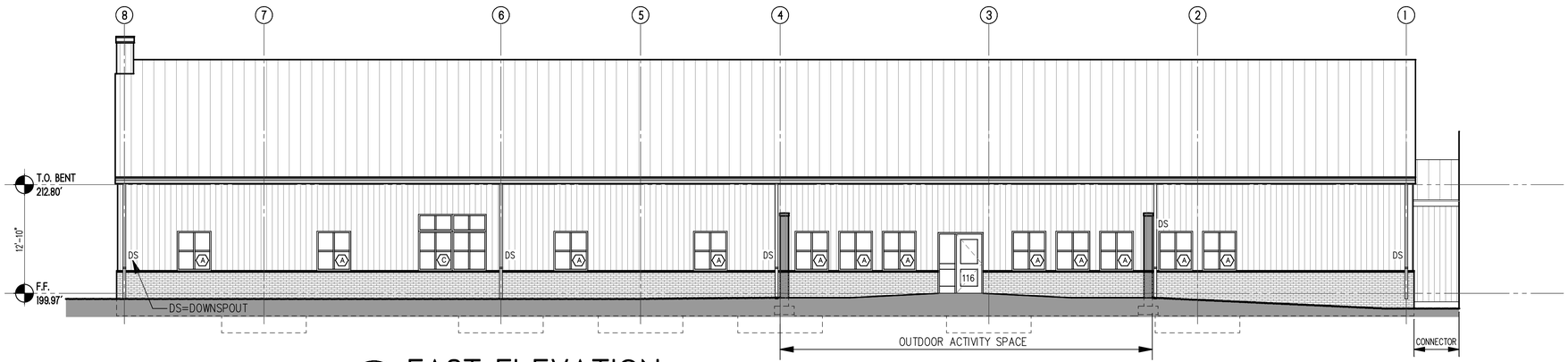
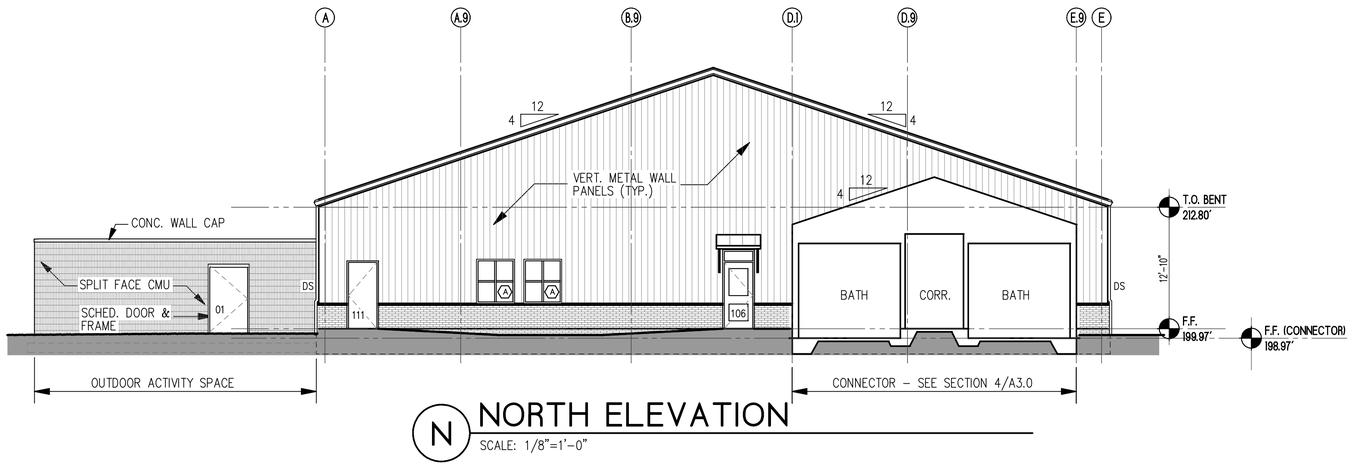
DATE:	9/11/2020
SHEET NO.	A2.0



E EAST ELEVATION

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



N NORTH ELEVATION

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

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

12" 0 5' 10' 15'

0:\NON-HUD PROJECTS\ERWIN\4535 SCMH – Erwin\DRAWINGS\XCADD\A2-0 Exterior Elevations.dwc

REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURE CORPORATION CERT. NO. C-0898 50898 NORTH CAROLINA ROCKINGHAM, N.C.

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SEPT. 11, 2020

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EXTERIOR ELEVATIONS

GOOD HOPE HOSPITAL

410 DENIM DRIVE ERWIN, NORTH CAROLINA

ADDITION and RENOVATIONS

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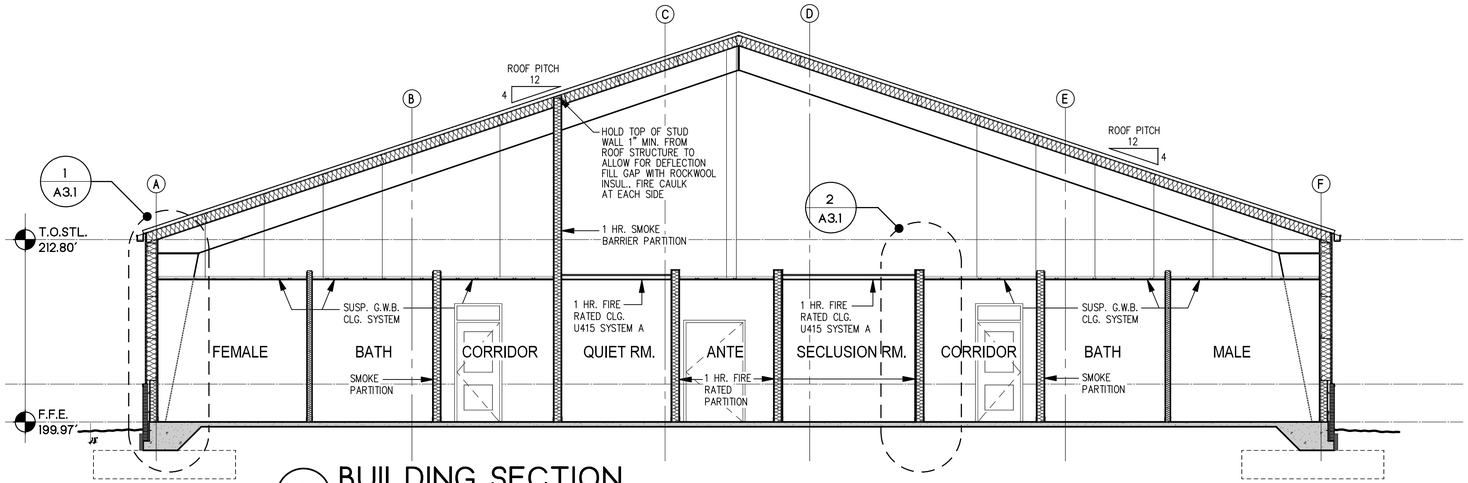
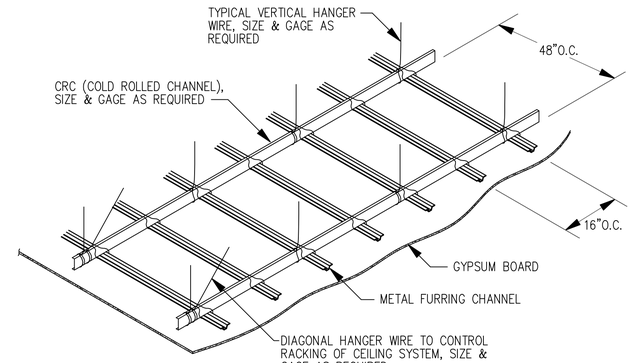
DATE:	9/11/2020
SHEET NO.	A2.1



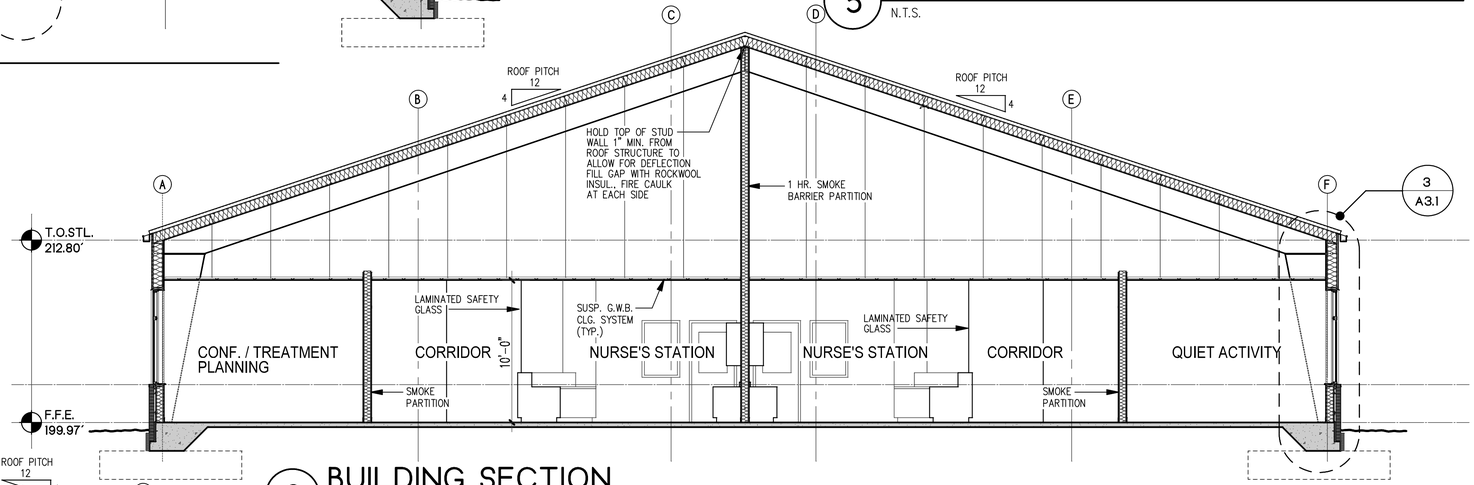
1 BUILDING SECTION

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



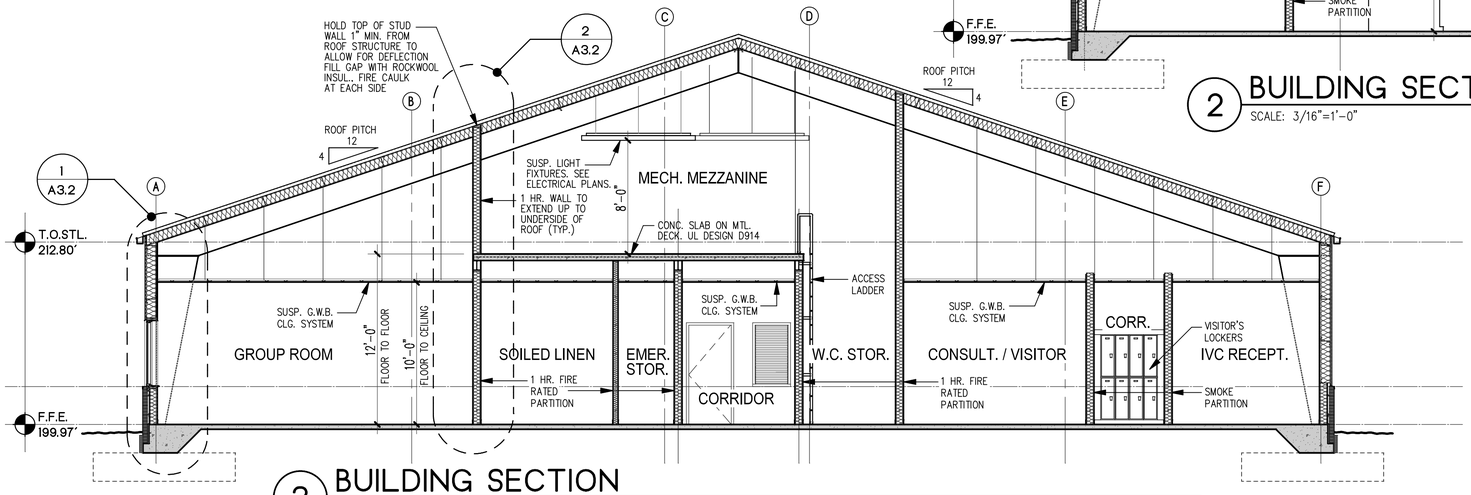
5 TYPICAL INTERIOR NON-RATED SUSPENDED CEILING

N.T.S.



2 BUILDING SECTION

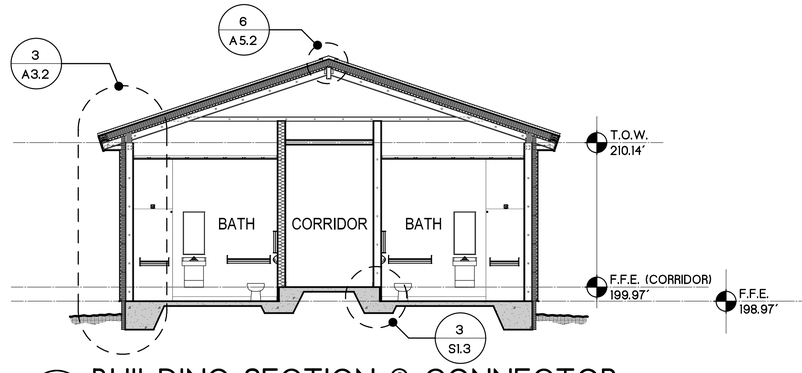
SCALE: 3/16"=1'-0"



3 BUILDING SECTION

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

SCALE: 3/16" = 1'-0"
1' 0 5' 10'



4 BUILDING SECTION @ CONNECTOR

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

C:\NON-HUD PROJECTS\ERWIN\4535 SCMH - Erwin\DRAWINGS\XCADD\A3-0 Building Section.dec

REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION NORTH CAROLINA ROCKINGHAM, N.C. CERT. NO. 50898

DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.

SEPT. 11, 2020

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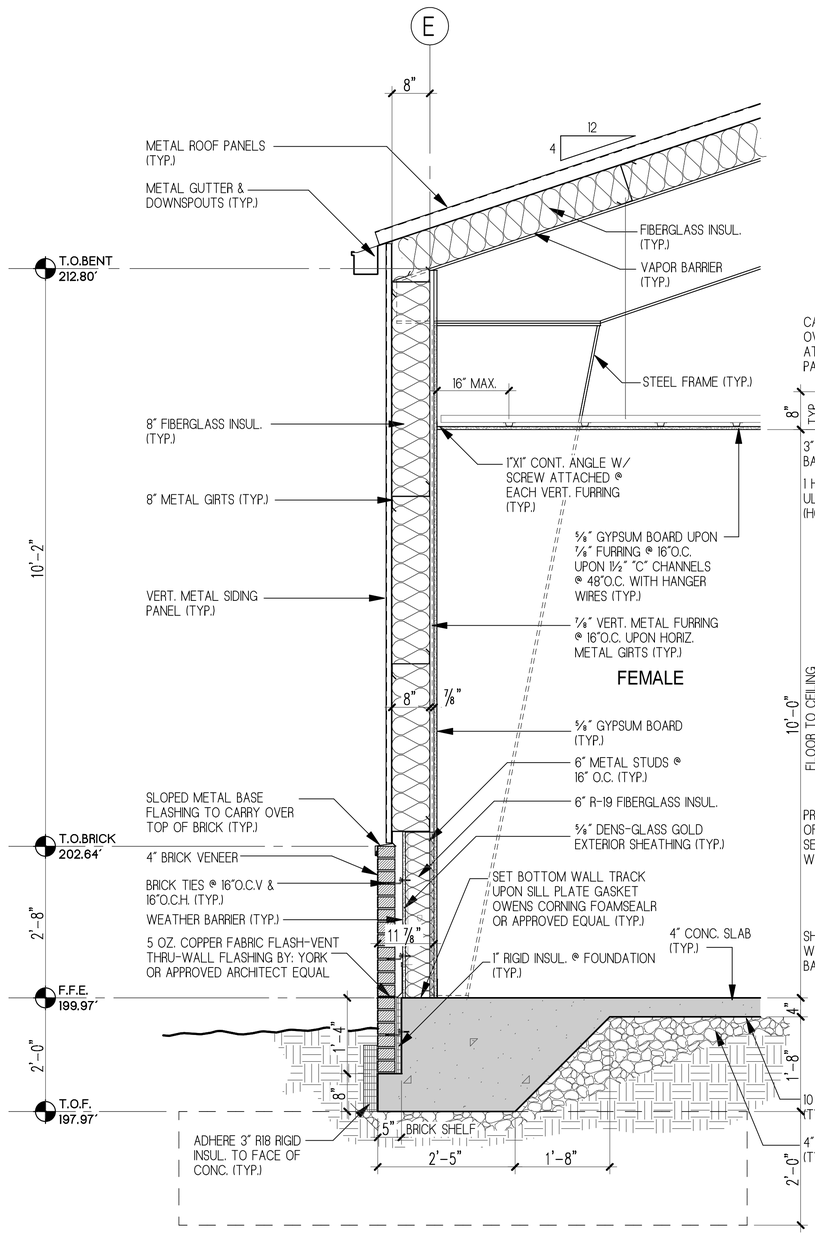
BUILDING SECTIONS

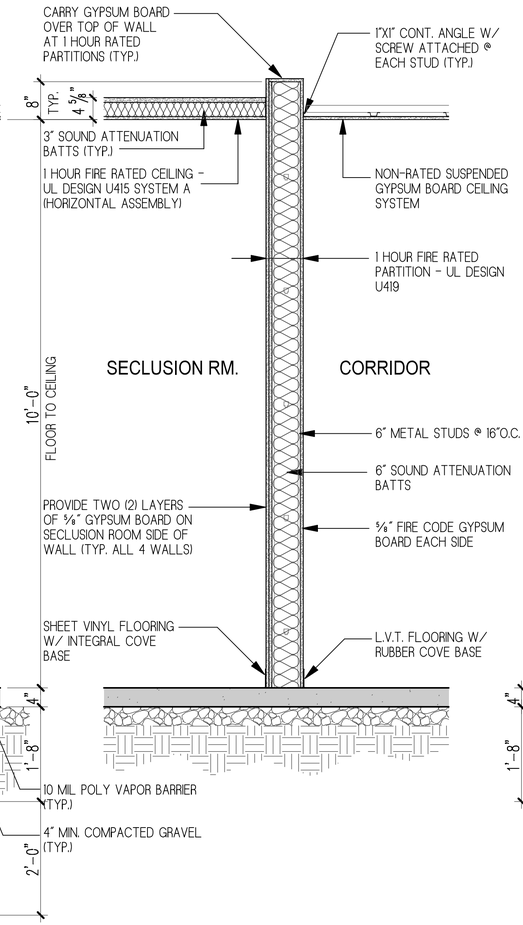
GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.:	4535
DRAWN BY:	JKM
CHECKED BY:	DWS
DATE:	9/11/2020
SHEET NO.	A3.0



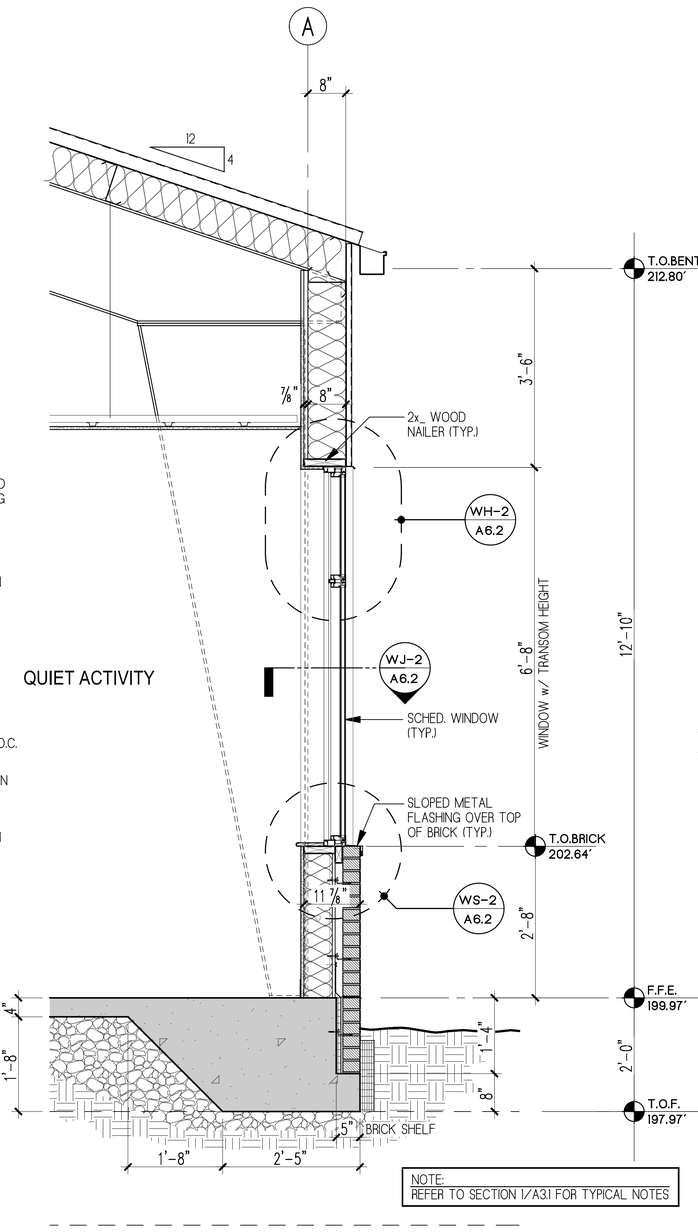
1 WALL SECTION

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



2 WALL SECTION

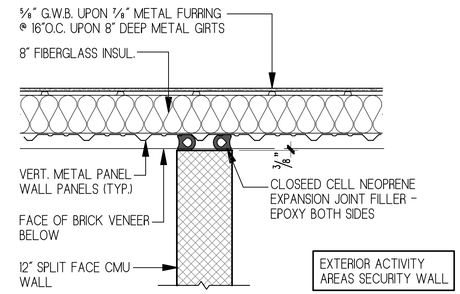
SCALE: 3/4"=1'-0"



NOTE:
REFER TO SECTION 1/A3.1 FOR TYPICAL NOTES

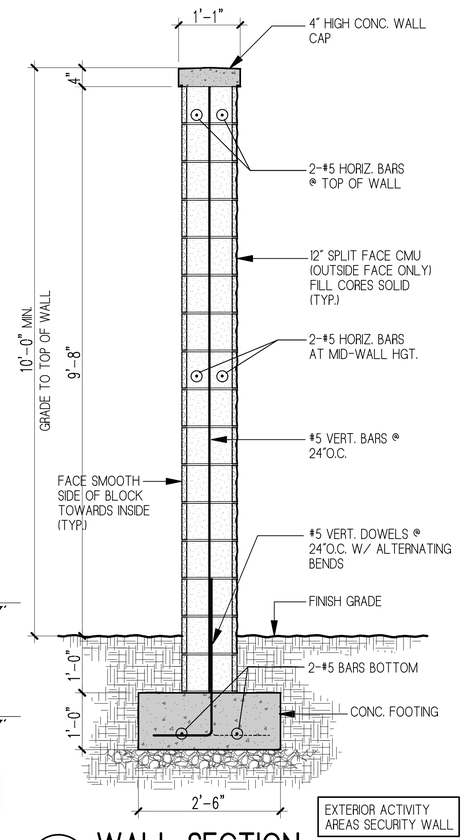
3 WALL SECTION

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



5 PLAN of WALL JUNCTION @ BUILDING

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



4 WALL SECTION

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

SCALE: 3/4" = 1'-0"
12" 6" 0 1' 2'

NOTE:
REFER TO LIFE SAFETY PLAN, G1.4 FOR RATED ASSEMBLY LOCATIONS

O:\NON-HUD PROJECTS\ERWIN\4535 SCMH - Erwin\DRAWINGS\ACADD\A3-1 Wall Sections.dwg

REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50898 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT ROCKINGHAM, N.C. NORTH CAROLINA

SEPT. 11, 2020

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WALL SECTIONS

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.:	4535
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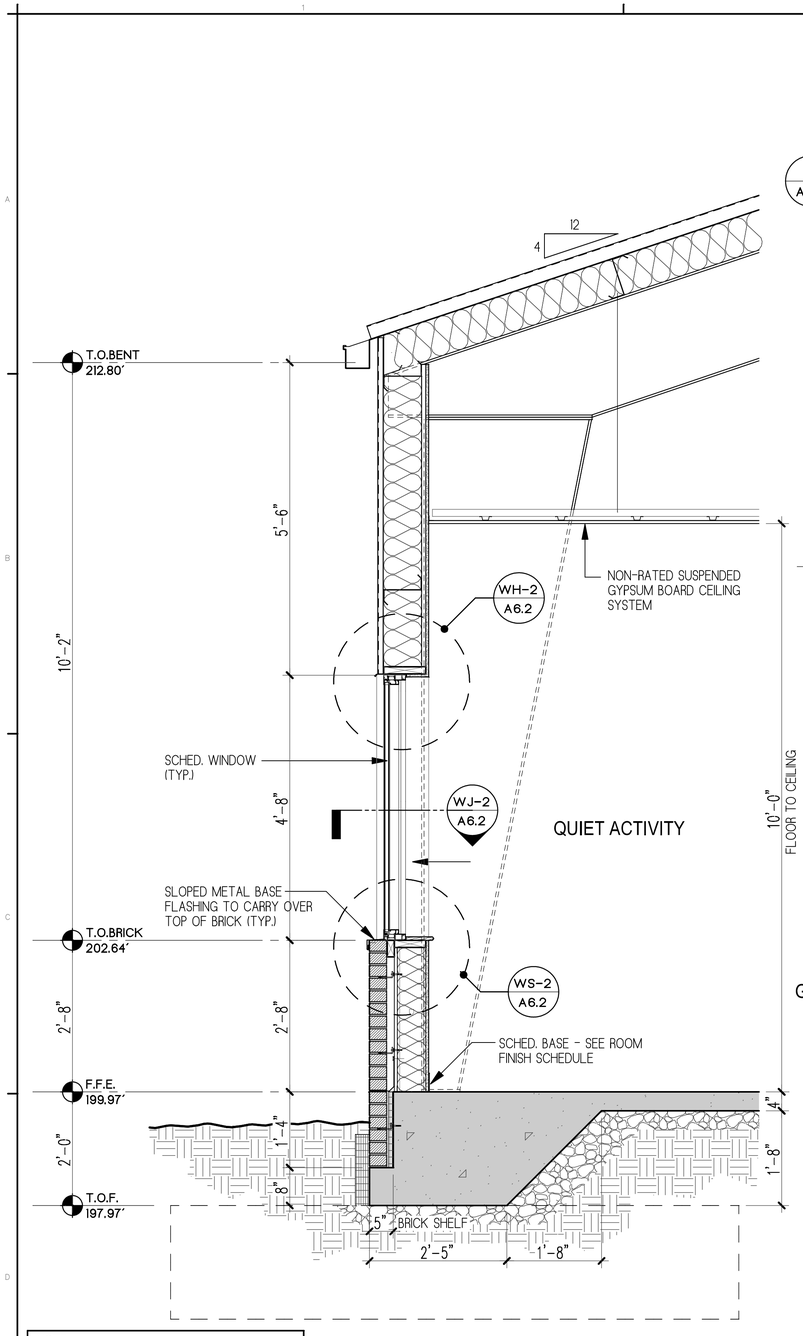
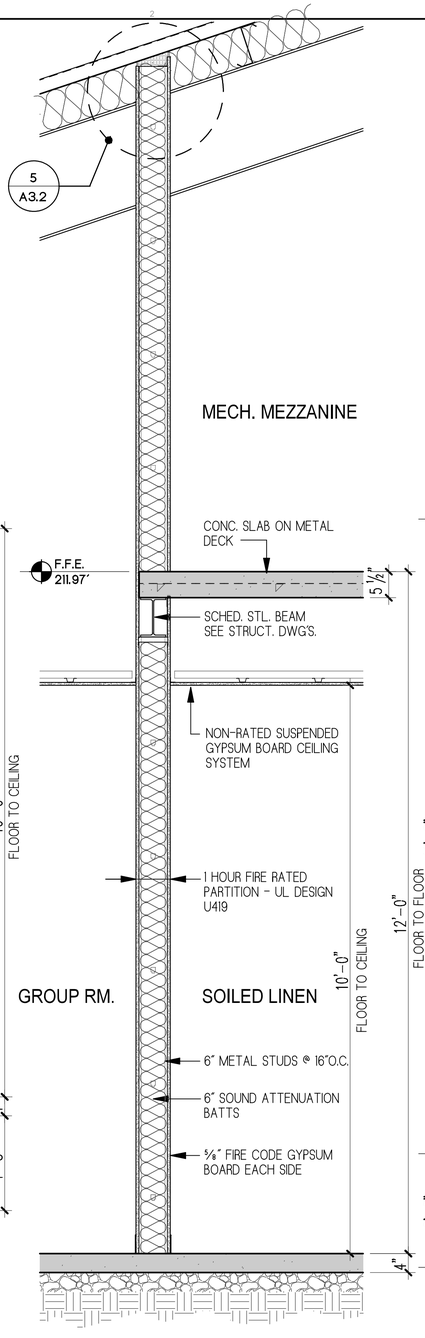
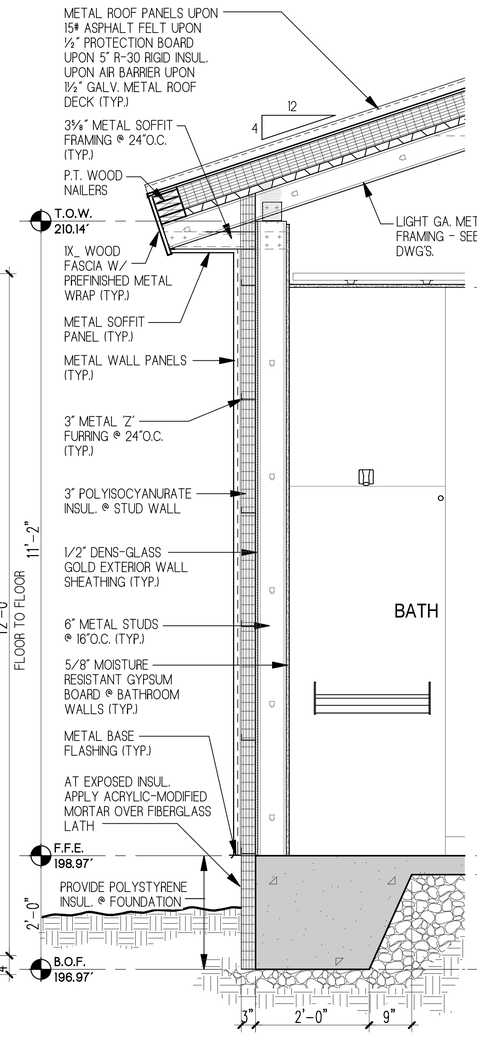


NOTE:
REFER TO SECTION 1/A3.1 FOR TYPICAL NOTES

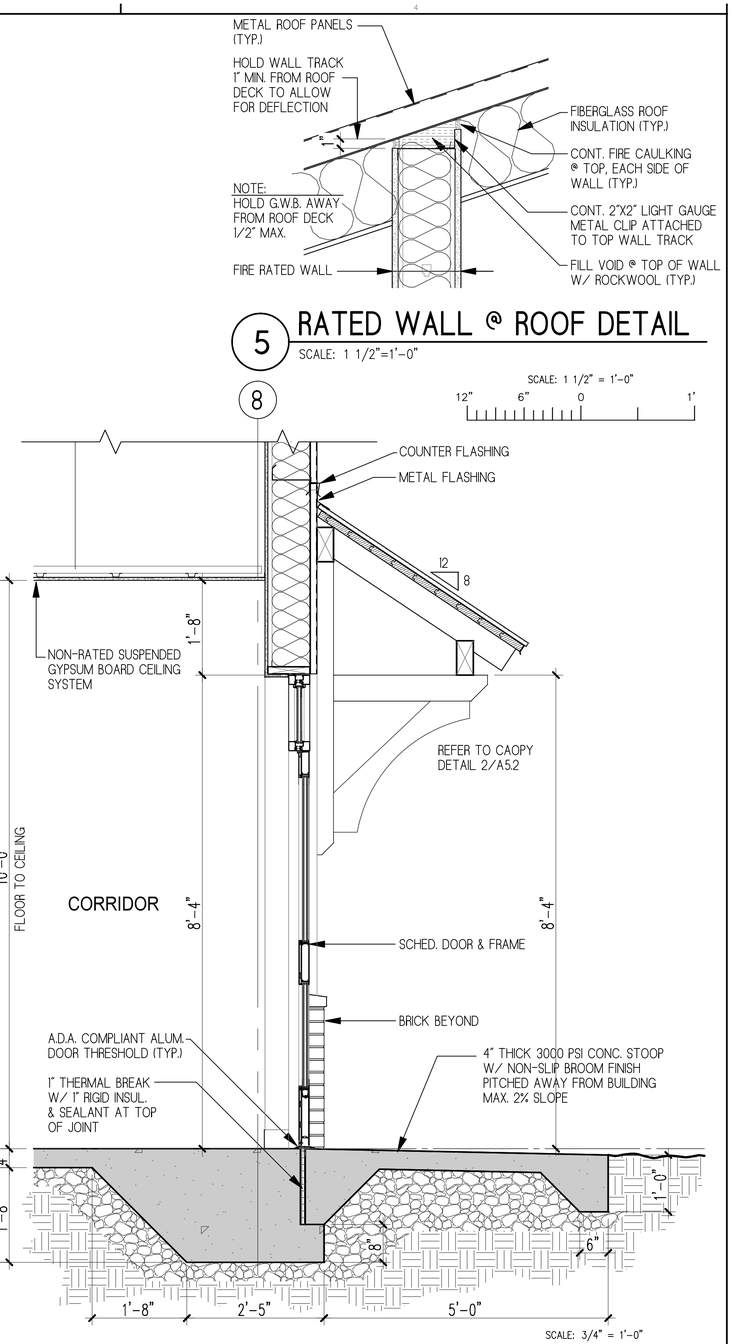
1 WALL SECTION
SCALE: 3/4"=1'-0"



2 WALL SECTION
SCALE: 3/4"=1'-0"



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



5 RATED WALL @ ROOF DETAIL
SCALE: 1 1/2"=1'-0"

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

NOTE:
REFER TO LIFE SAFETY PLAN, G1.4 FOR RATED ASSEMBLY LOCATIONS

O:\NON-HUD PROJECTS\ERWIN\4535 SCMH - Erwin\DRAWINGS\XCADD\A3-1 Wall Sections.aec

REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50898 NORTH CAROLINA ROCKINGHAM, N.C.

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SEPT. 11, 2020

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WALL SECTIONS

GOOD HOPE HOSPITAL
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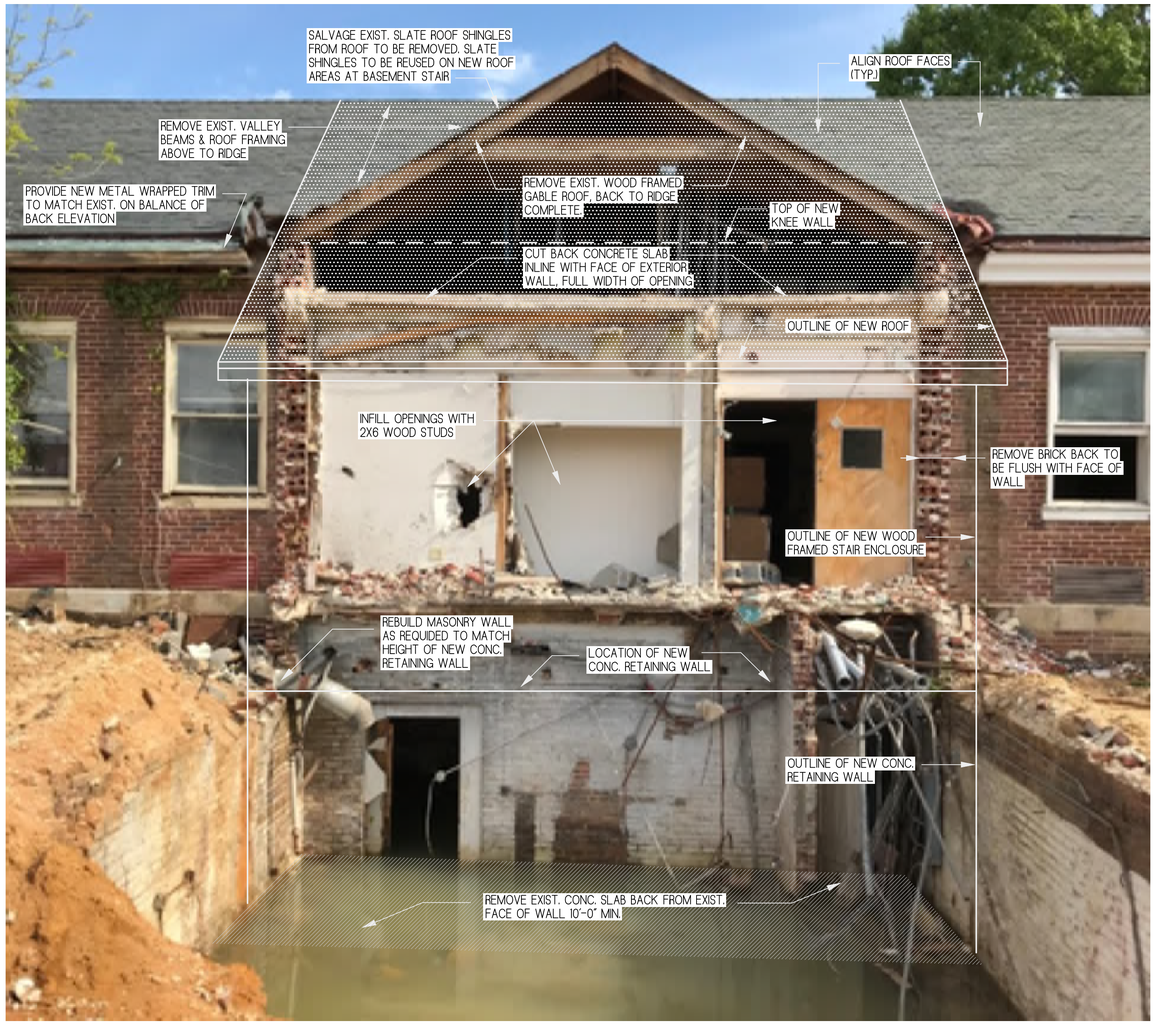
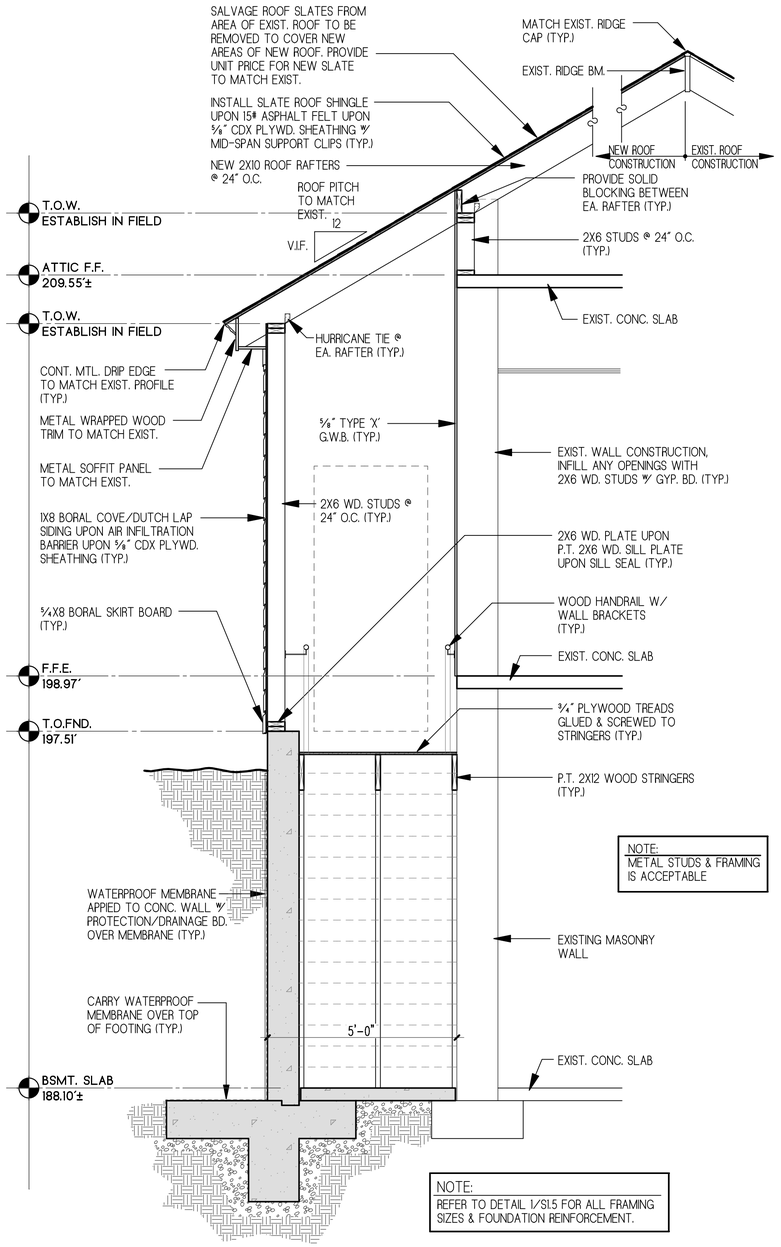
DATE:	9/11/2020
SHEET NO.	A3.2



2 REMEDIAL WORK @ OLD BASEMENT AREA

N.T.S.



1 SECTION @ NEW BASEMENT STAIR

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

SCALE: 1/2" = 1'-0"
12" 0 2'

NOTE:
REFER TO LIFE SAFETY PLAN, G1.4 FOR RATED ASSEMBLY LOCATIONS

REVISIONS

FOR CONSTRUCTION

SIGGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL FIRM CERT. NO. C-0898 50898 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.

SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

EXISTING BASEMENT REMEDIAL WORK

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.:	4535
DRAWN BY:	JKM
CHECKED BY:	DWS
DATE:	9/11/2020
SHEET NO.	A3.3

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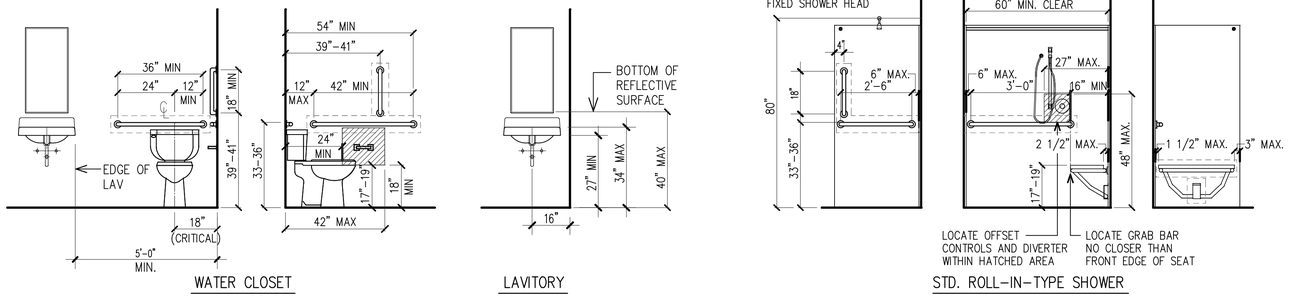

1 HANDICAP ACCESSORY MOUNTING ILLUSTRATION

SCALE: 3/8"=1'–0"

GENERAL NOTES

G1. CONTRACTOR SHALL COORDINATE WITH P & E DRAWINGS.

G2. CONTRACTOR TO FIELD MEASURE EACH ELEVATION PRIOR TO PREPARING SHOP DRAWINGS OR ORDERING MATERIALS.

G3. CONTRACTOR SHALL COORDINATE WALL DIMENSIONS WITH ACCESSIBLE SHOWER.

G4. DIMENSIONS ON ELEVATIONS ARE FROM FINISHED FACE TO FINISHED FACE.

G5. DIMENSIONS ON ENLARGED PLANS ARE FROM FACE OF STUD TO FACE OF STUD, UNLESS OTHERWISE NOTED.

G6. FLOOR TILE AND GROUT SHALL RECIEVE 2 SEAL COATS SUCH THAT WATER WILL "BEAD" ON GROUT.

G7. GC SHALL INSTALL NEW PAPER TOWEL DISPENSER AND WASTE RECEPTACLE – COORDINATE MOUNTING LOCATION W/ OWNER. PAPER TOWEL DISPENSER & WASTE RECEPTACLE SHALL BE FURNISHED BY OWNER.

G8. INCLUDE IN BASE BID PROVIDING 12 ANTI–LIGATURE COAT HOOKS – EXACT LOCATION OF INSTALLATION T.B.D. BY OWNER DURING CONSTRUCTION. PROVIDE CAPE COD SYSTEMS SECURITY HOOK MODEL #CCSA18 OR APPROVED EQUAL.

G9. G.C. SHALL COORDINATE ALL ELECTRICAL, PHONE/DATA OUTLETS UNDER COUNTERS TO BE FREE OF BASE CABINETS.

CASEWORK LEGEND

B – BASE CABINET
D – DRAWER
W – WALL CABINET
F – FILLER
SB – SINK BASE

CASEWORK KEYNOTES

C1 – PROVIDE NEW LAMINATE WALL CABINETS.
C2 – PROVIDE NEW LAMINATE BASE CABINETS. NOTE: PROVIDE CLOSED CORNER FOR FREE PASSAGE OF DRAWERS/HARDWARE.
C3 – PROVIDE NEW LAMINATE COUNTER TOP W/ 4" BACKSPLASH & RETURNS.
C4 – PROVIDE NEW DRAWER/CABINET LOCK.
C5 – PROVIDE NEW COMPUTER KEYPAD PULL–OUT SHELF. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO INSTALLATION.
C6 – PROVIDE 4" HIGH TOE SPACE – TYPICAL.
C7 – OPEN KNEE SPACE.
C8 – PROVIDE 8 1/2 X 11 FILE HANGING HARDWARE AT ALL FILE DRAWERS.
C9 – PROVIDE DATA OPG. IN DESK WITH FINISH 1 1/4"ø GROMMET. COORDINATE LOCATION WITH OWNER. QUANTITY (2).
C10 – COORDINATE ALL DATA AND POWER OUTLETS WITH CASEWORK. COORDINATE LOCATION WITH ELECTRICIAN.
C11 – SCHEDULED DOOR & FRAME. SEE DOOR SCHEDULE.
C12 – NOT USED.
C13 – WALL. SEE FINISH SCHEDULE.
C14 – PROVIDE NEW SINGLE BOWL STAINLESS STEEL SINK WITH FAUCET SET. SEE PLUMBING DRAWINGS.
C15 – PROVIDE NEW COUNTER FIRE/SMOKE SHUTTER – 1–HR RATED MIN. WITH LOCKING CAPABILITY.
C16 – PROVIDE NEW SUPPORT PANEL W/ H.P.L. ON ALL SURFACES. PROVIDE WOOD BLOCKING AS REQ'D.
C17 – NEW MINI–FRIDGE – FURNISHED BY OTHERS.

TOILET ROOM KEYNOTES

T1 – PROVIDE NEW WALL–HUNG SINK W/ HEAVY DUTY MOUNTING BRACKET/ANCHORS AND FAUCET SET. SEE ELECTRICAL AND PLUMBING DRAWINGS.
T1A – PROVIDE NEW ANTI–LIGATURE WALL–HUNG SINK W/ HEAVY DUTY MOUNTING BRACKET/ANCHORS AND ANTI–LIGATURE FAUCET SET.
T2 – PROVIDE NEW MIRROR AND FRAME. (18" x 36")
T2A – PROVIDE NEW UNBREAKABLE MIRROR AND FRAME. (18" x 36")
T3 – INSTALL NEW 2–ROLL TOILET TISSUE DISPENSER. FURNISHED BY OWNER.
T3A – PROVIDE NEW ANTI–LIGATURE TOILET TISSUE DISPENSER.
T4 – PROVIDE NEW WATER CLOSET.
T4A – PROVIDE NEW ANTI–LIGATURE WATER CLOSET.
T5 – PROVIDE NEW S.S. GRAB BARS. SIZE AS INDICATED. PROVIDE 2x8 WOOD BLOCKING IN WALL.
T5A – PROVIDE NEW ANTI–LIGATURE S.S. GRAB BARS. SIZE AS INDICATED. PROVIDE 2x8 WOOD BLOCKING IN WALL.
T6 – PROVIDE PRE–FORMED ROLL–IN TYPE FIBERGLASS SHOWER PAN WITH TILING SHIM, WATER DAM AND FRONT TRENCH DRAIN – FLEURCO #ABF3763AD–18–DC03–25 OR APPROVED EQUAL. PROVIDE CERAMIC TILE SHOWER SURROUND TO 6'–6"A.F.F. WITH ANSI 117.1 AND TO INCLUDE THE FOLLOWING COMPONENTS:
  a. 1 1/2"ø S.S. ANTI–LIGATURE GRAB BAR.
  b. HAND HELD/FIXED SHOWER ON 60" MIN. HOSE ON LONG WALL WITH ANTI–LIGATURE RELEASE. MUST ALLOW FIXED POSITION. FIXED ANTI–LIGATURE SHOWER HEAD ON SHORT WALL. (NOTE: SHOWER SHALL ALLOW FOR REMOVABLE/QUICK RELEASE SHOWER HOSE/HEAD. PROVIDE HOSE/HEAD(S) TO OWNER. INSTALL SHOWER HEAD IN FIXED POSITION.)
  c. FIXED, ANTI–LIGATURE, ADA SEAT.
  d. 1"ø ANTI–LIGATURE CURTAIN ROD W/ WEIGHTED CURTAIN.
  e. BRASS DRAIN.
  f. ADA 1 1/2" COMPRESSIBLE WATER DAMN.
  g. ANTI–LIGATURE SHOWER CONTROLS & DIVERTER VALVE.
T7 – INSTALL NEW WALL MTD. SOAP DISPENSOR. FURNISHED BY OWNER.
T8 – PROVIDE EPOXY PAINT FROM FLOOR TO CEILING.
T9 – PROVIDE NEW SANITARY NAPKIN DISPOSAL
T10 – DOOR AND FRAME – SEE DOOR SCHEDULE.
T11 – REFER TO ROOM FINISH SCHEDULE FOR WALL FINISH.
T12 – PROVIDE NEW COMBINATION PAPER TOWEL DISPENSER & WASTE RECEPTACLE, FULLY RECESSED INTO WALL.
T13 – PROVIDE NEW PROTECTIVE INSULATION WRAP.
T14 – PROVIDE 2X8 WOOD BLOCKING IN WALL FOR FUTURE GRAB BARS.

JANITOR CLOSET KEYNOTES

J1 – PROVIDE NEW MOP BASIN. SEE PLUMBING DRAWINGS.
J2 – PROVIDE NEW FAUCET SET. SEE PLUMBING DRAWINGS.
J3 – PROVIDE NEW STAINLESS STEEL BACKSPLASH.
J4 – PROVIDE NEW HOSE HOLDER.
J5 – PROVIDE NEW MOP HOLDER.
J6 – WALL. SEE FINISH SCHEDULE.

REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. C-0898 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT N.C. ROCKINGHAM, NORTH CAROLINA

SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE – CONSTRUCTION MANAGEMENT – DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910–895–6874 Fax 910–895–1111

HANDICAP ACCESSORY MOUNTING ILLUSTRATION & KEYNOTES

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.: 4535
DRAWN BY: JKM
CHECKED BY: DWS
DATE: 9/11/2020
SHEET NO. A4.0

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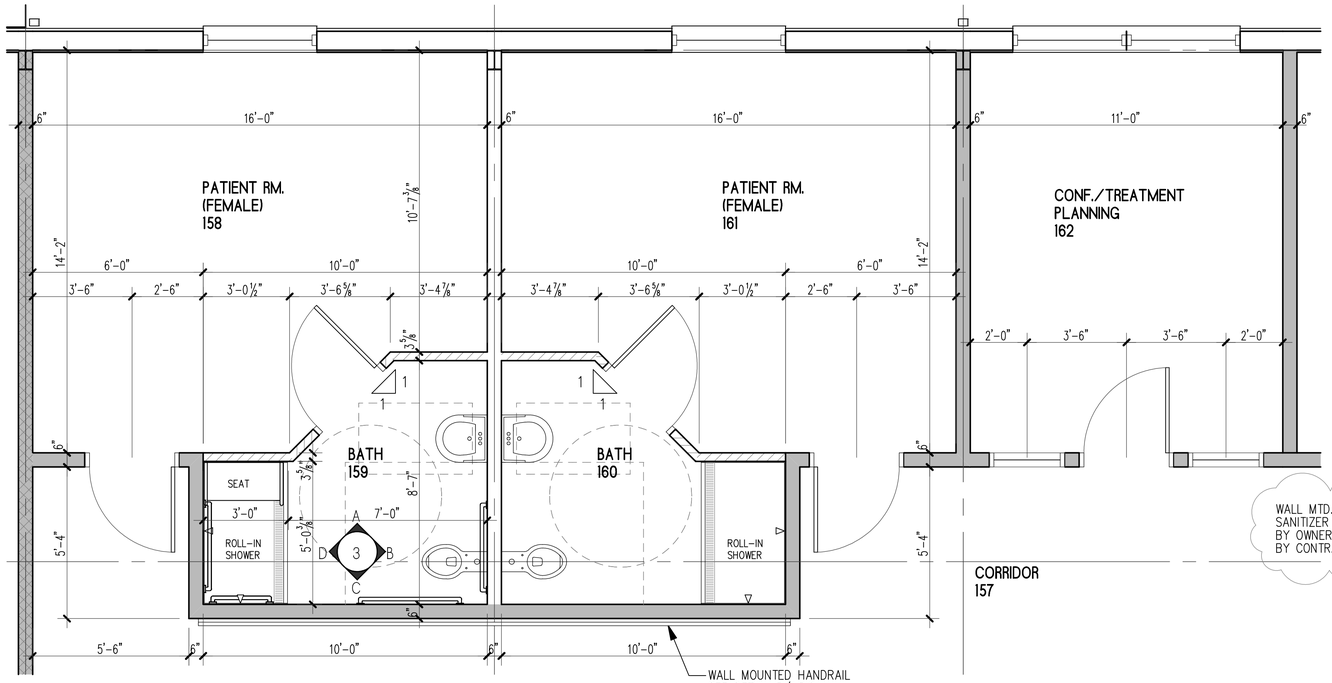
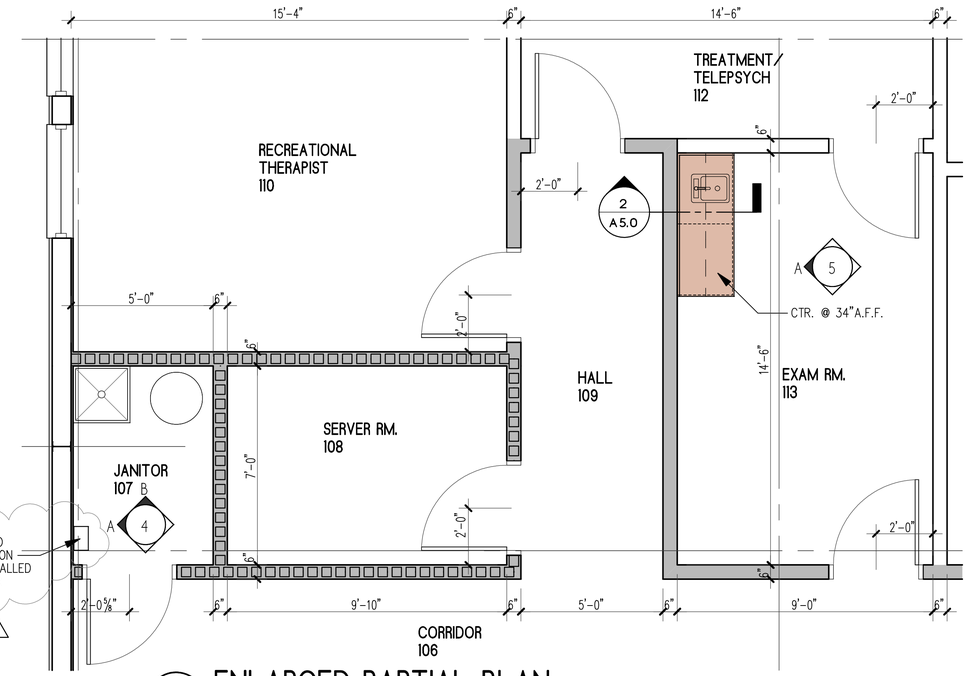


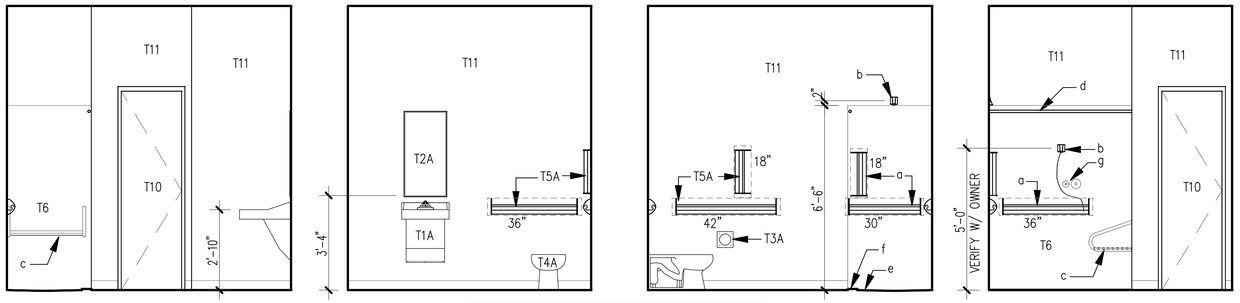
1 ENLARGED TYPICAL PATIENT ROOM

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



2 ENLARGED PARTIAL PLAN

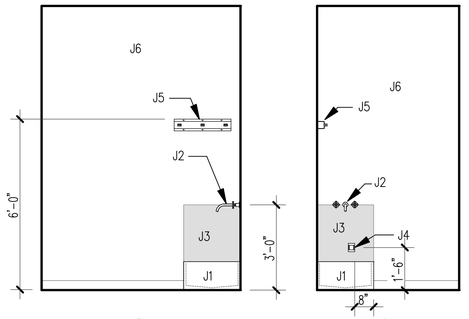
SCALE: 3/8"=1'-0"



NOTE:
PROVIDE GRAB BARS & SHOWER SEATS IN BATH 149 & 159 ONLY. PROVIDE WOOD BLOCKING IN ALL OTHERS FOR FUTURE GRAB BARS & SEAT(S).

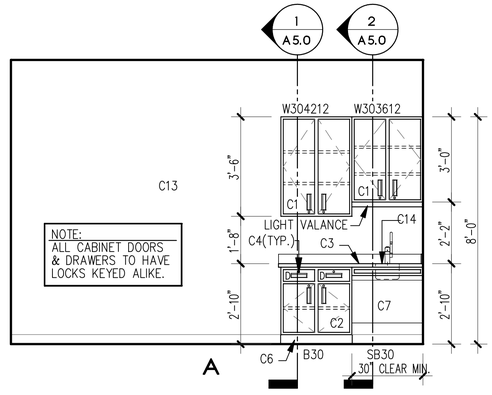
3 TYPICAL PATIENT BATH

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



4 JANITOR 107

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



NOTE:
ALL CABINET DOORS & DRAWERS TO HAVE LOCKS KEYED ALIKE.

5 EXAM ROOM 113

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

SCALE: 3/8" = 1'-0"
12" 0 3'

REVISIONS
1 11/20/2020 DHHS REVIEW COMMENTS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50898 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.
SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

ENLARGED PLANS & INTERIOR ELEVATIONS

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

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SHEET NO.	A4.1

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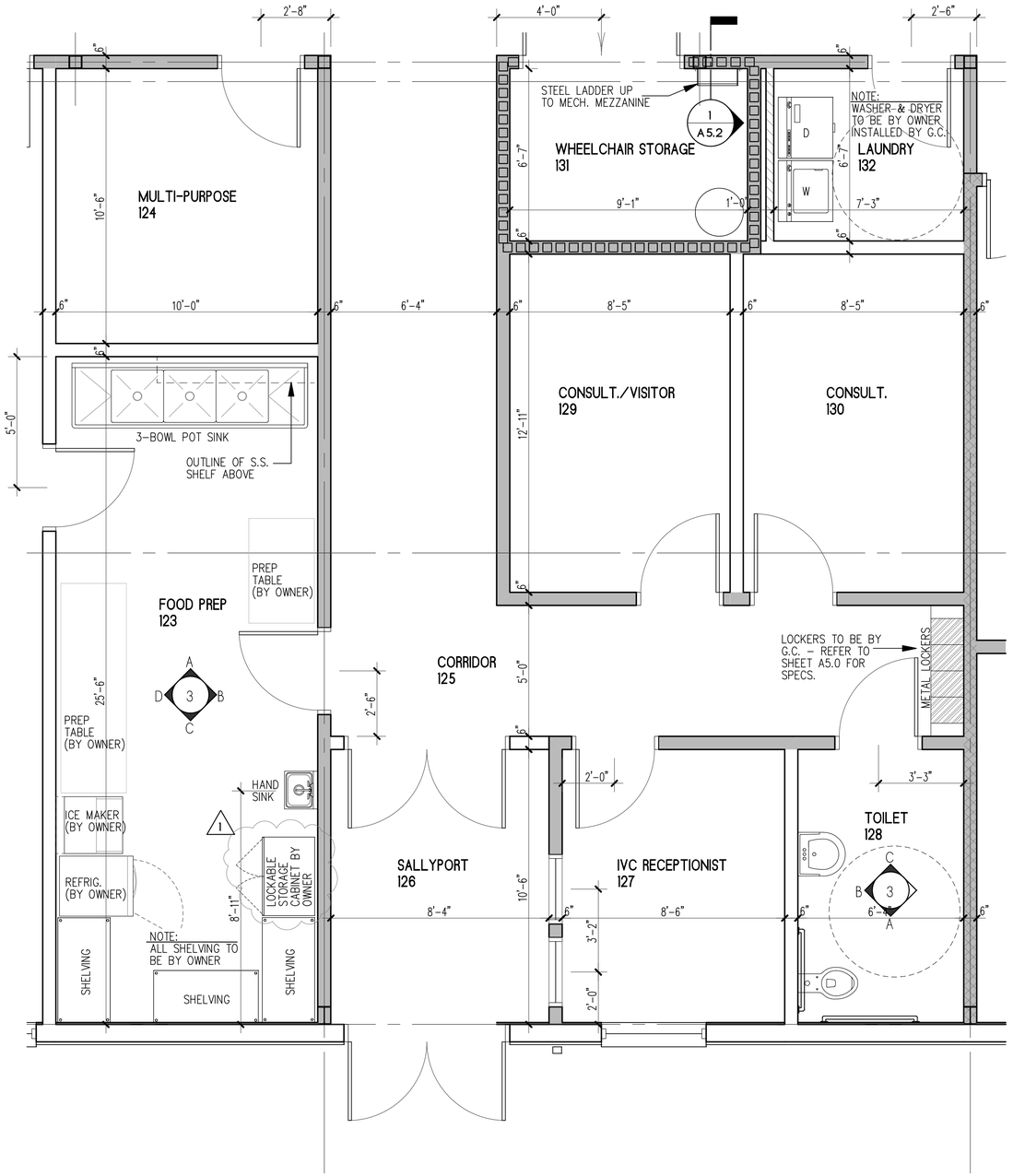
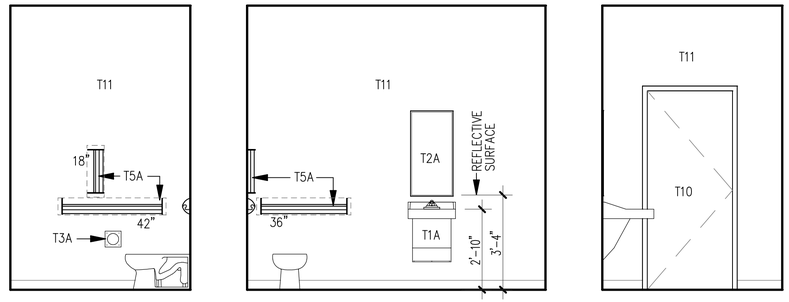


1 ENLARGED PARTIAL PLAN

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

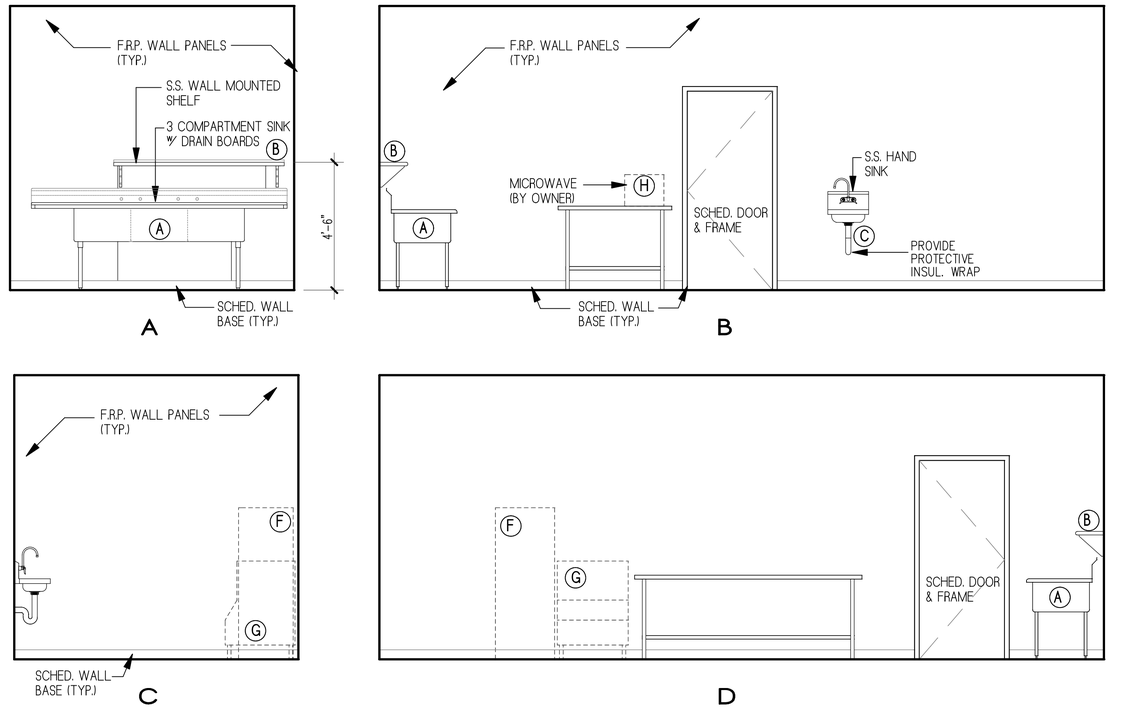
KITCHEN EQUIPMENT LIST:

- (A) 14 GA. TYPE 304 STAINLESS STEEL THREE (3) COMPARTMENT SINK WITH DRAINBOARDS BOTH SIDES, BY: ADVANCE TABCO; MODEL #: FS-3-2424-18RL, WITH SPLASH MOUNTED FAUCET; MODEL #: K-105
- (B) 18 GA. 304 STAINLESS STEEL WALL SHELF, BY: ADVANCE TABCO; MODEL #: WS-12-72-16
- (C) STAINLESS STEEL HAND SINK BY: ADVANCE TABCO; MODEL #: 7-PS-60
- (D) 14 GA. TYPE 304 STAINLESS STEEL PREP WORK TABLE WITH 18 GA. STAINLESS STEEL BOTTOM SHELF BY: ADVANCE TABCO; MODEL #: SS-304
- (E) 14 GA. TYPE 304 STAINLESS STEEL PREP WORK TABLE WITH 18 GA. STAINLESS STEEL BOTTOM SHELF BY: ADVANCE TABCO; MODEL #: SS-308
- (F) REFRIGERATOR: PROVIDED BY OWNER
- (G) ICE MAKER: PROVIDED BY OWNER
- (H) MICROWAVE OVEN: PROVIDED BY OWNER



3 TOILET 128

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



2 FOOD PREP 123

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

SCALE: 3/8" = 1'-0"
12" 0 3'

REVISIONS
1 11/20/2020 DHHS REVIEW COMMENTS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50898 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.
SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

ENLARGED PLANS & INTERIOR ELEVATIONS

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410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

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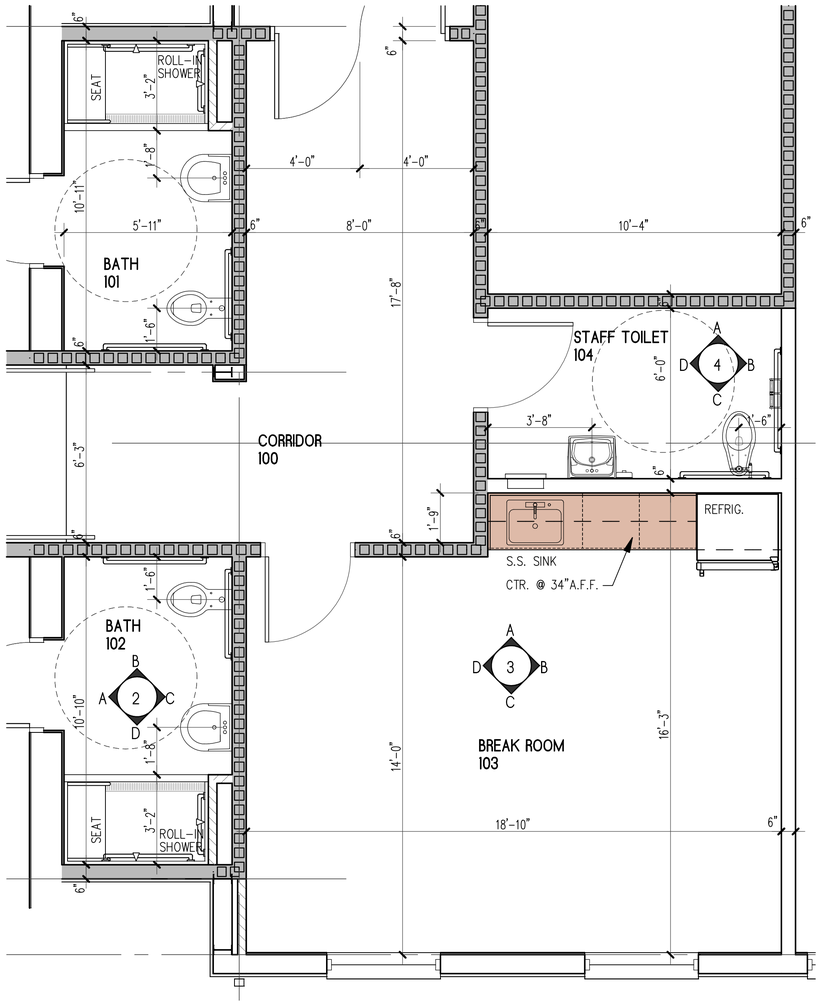
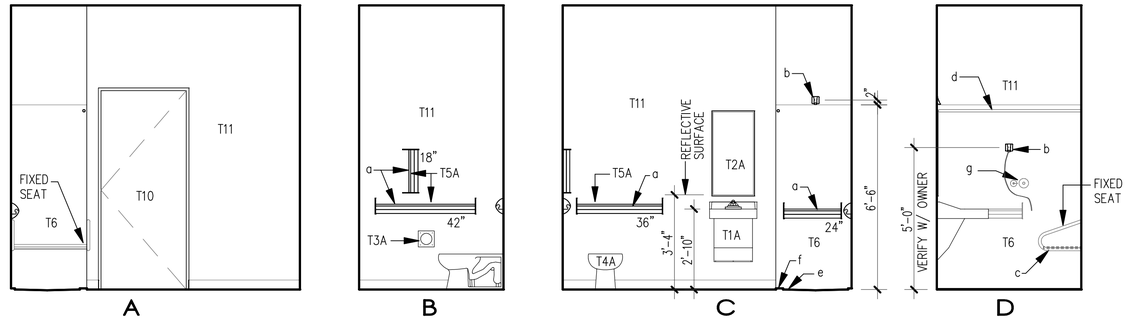


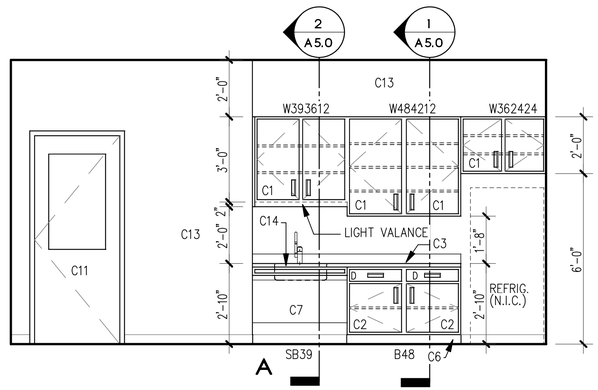
1 ENLARGED PARTIAL PLAN @ BREAK ROOM AREA

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



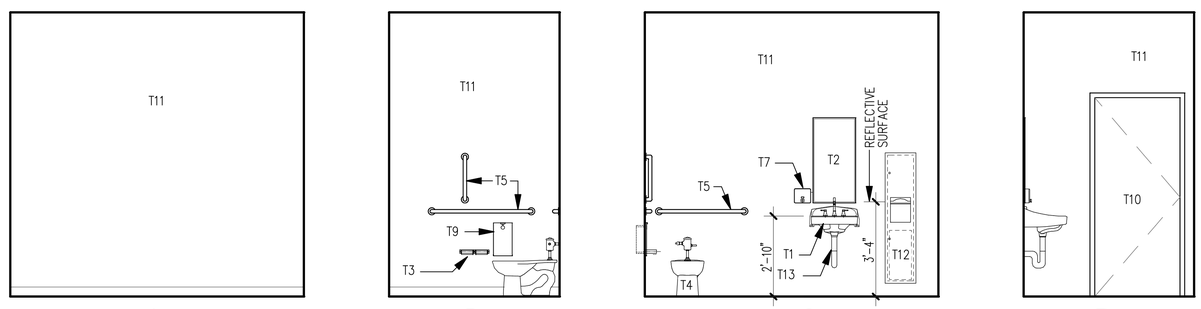
2 BATH 102 (101 OPPOSITE HAND)

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



3 BREAK ROOM 136

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



4 TOILET 104 - INTERIOR ELEVATIONS

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

NOTE:
REFER TO DETAIL 1/A4.0 FOR HANDICAP ACCESSORIES MOUNTING ILLUSTRATION

SCALE: 3/8" = 1'-0"
12" 0 3'

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REVISIONS

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STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURE CORPORATION CERT. NO. 50898 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.

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Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

ENLARGED PLANS & INTERIOR ELEVATIONS

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ADDITION and RENOVATIONS

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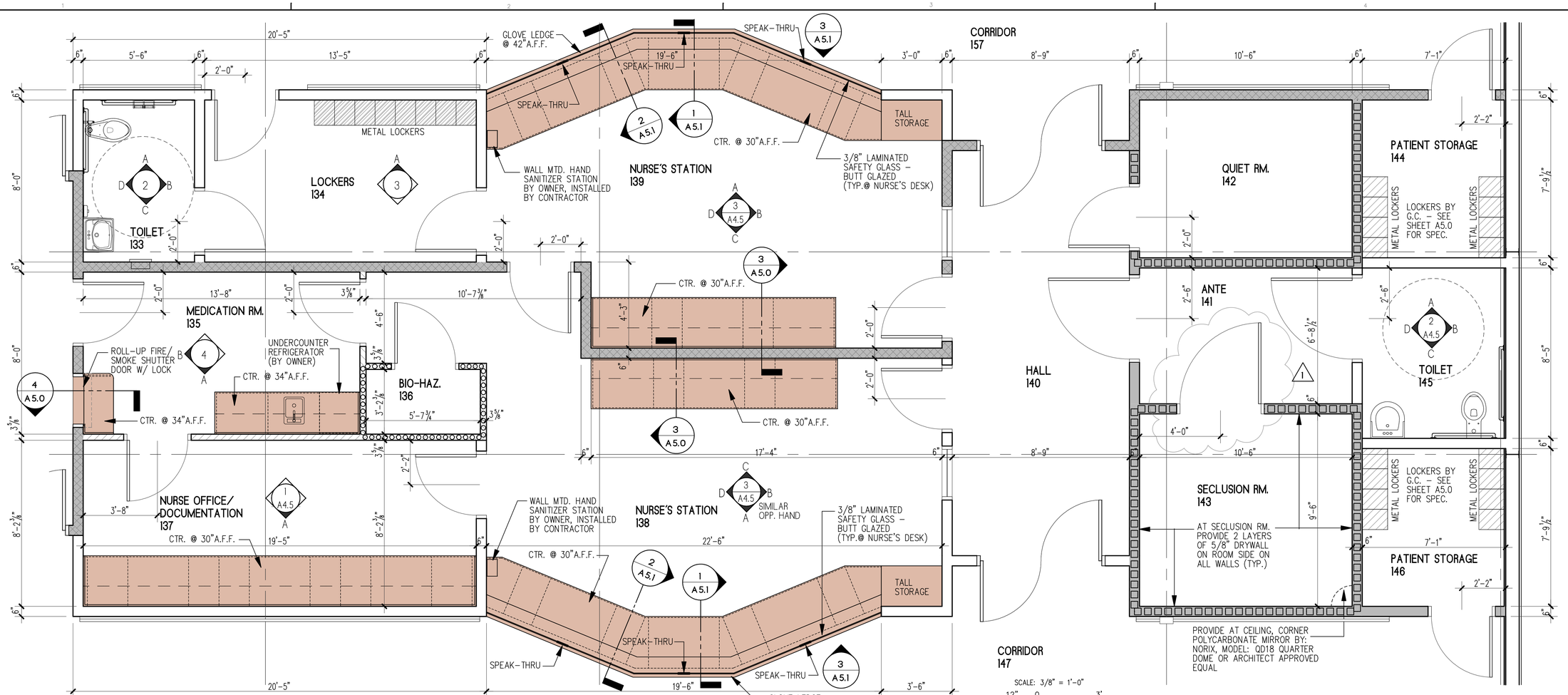
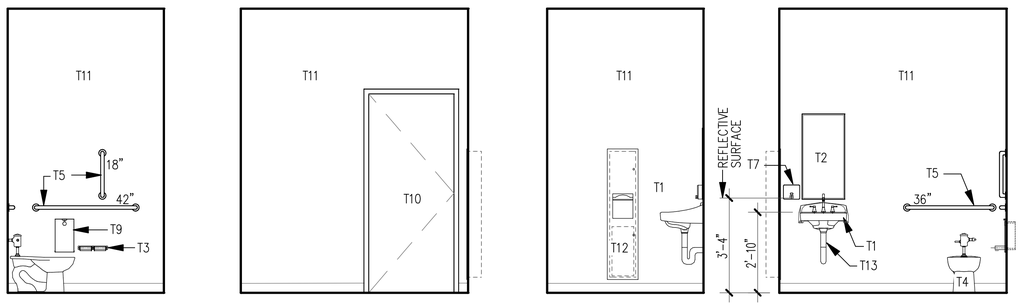
SHEET NO.	A4.3



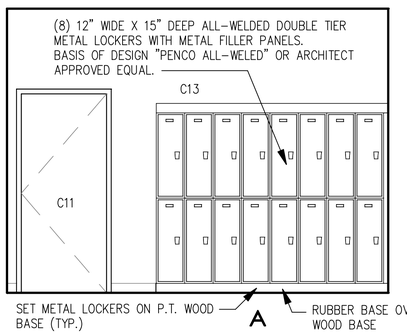
1 ENLARGED NURSE'S STATION PLAN

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



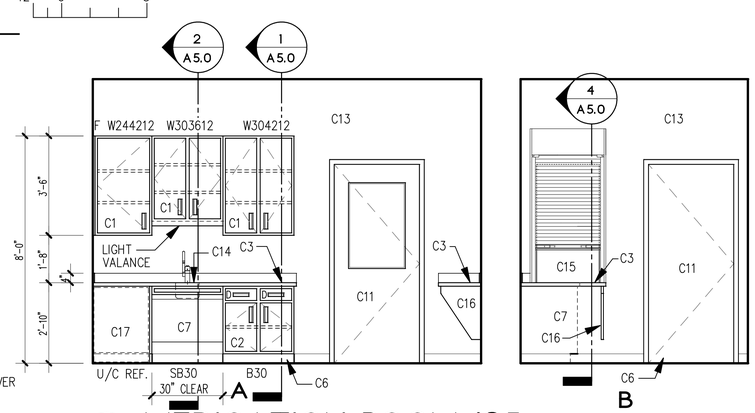
2 TOILET 133

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



3 LOCKERS 134

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



4 MEDICATION ROOM 135

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

REVISIONS

1 11/20/2020 DHHS REVIEW COMMENTS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50898 NORTH CAROLINA ROCKINGHAM, N.C.

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SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

ENLARGED PLANS & INTERIOR ELEVATIONS

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ADDITION and RENOVATIONS

COMM. NO.:	4535
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SHEET NO.	A4.4

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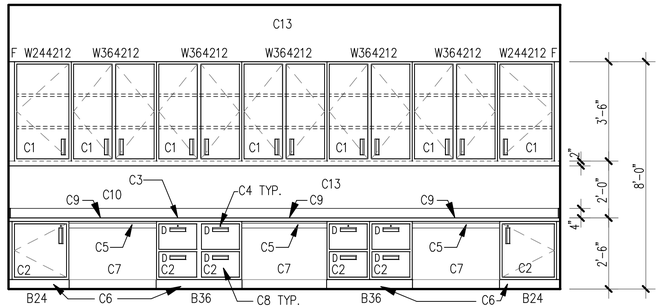

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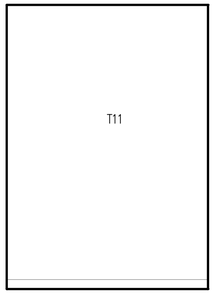

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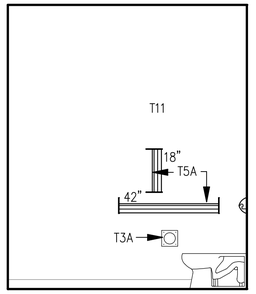

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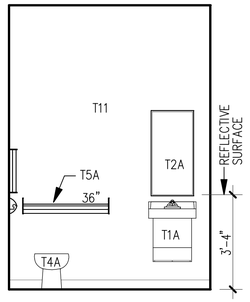

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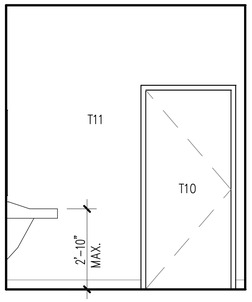
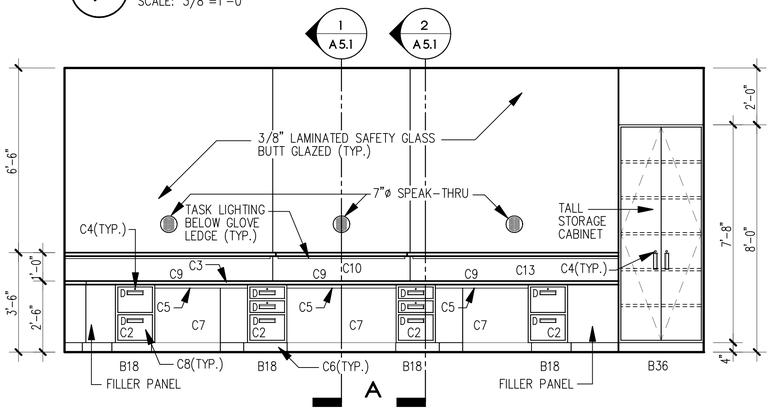


D

1 NURSE OFFICE/DOCUMENTATION 137

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



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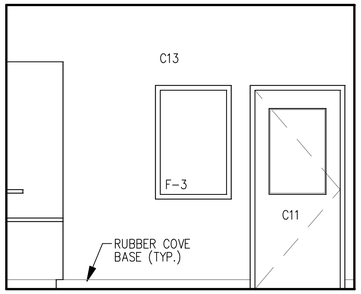
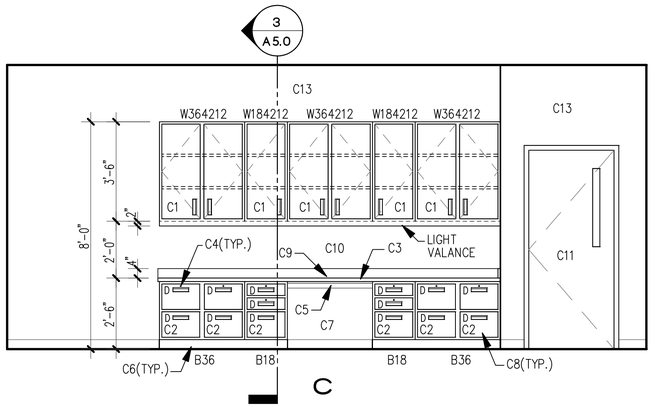


B

2 TOILET 145

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



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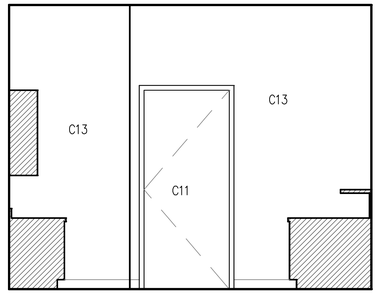

D

3 NURSE'S STATION 139

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

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

12" 0 3'

REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50898 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.

SEPT. 11, 2020

Stogner Architecture, PA

ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD

615 East Broad Avenue, Rockingham, North Carolina, 28379

Phone 910-895-6874 Fax 910-895-1111

INTERIOR ELEVATIONS

GOOD HOPE HOSPITAL

410 DENIM DRIVE ERWIN, NORTH CAROLINA

ADDITION and RENOVATIONS

COMM. NO.:	4535
DRAWN BY:	JKM
CHECKED BY:	DWS
DATE:	9/11/2020
SHEET NO.	A4.5

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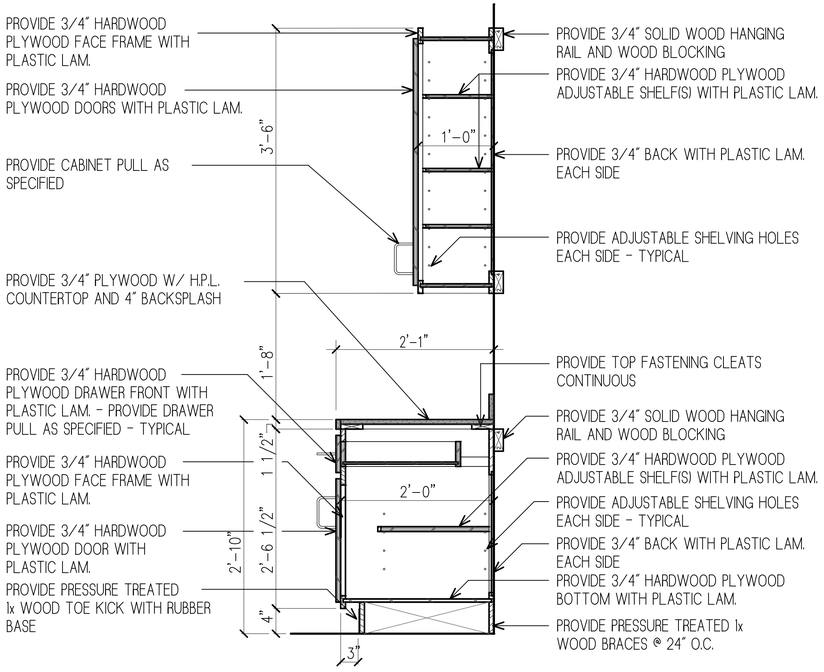
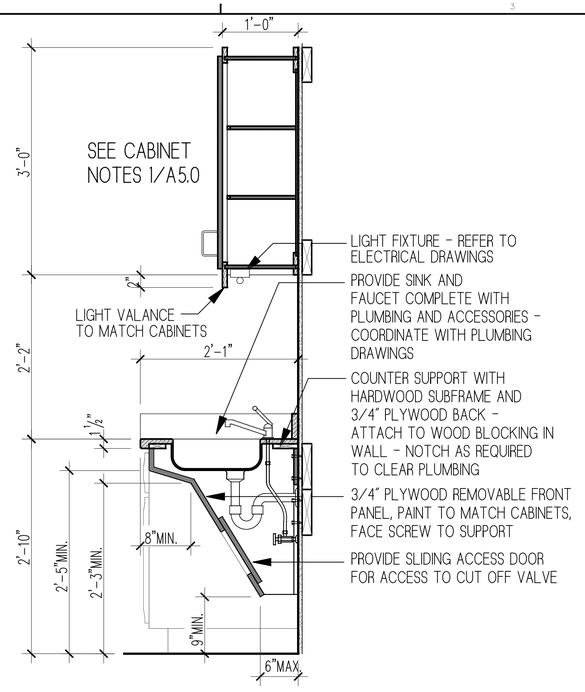


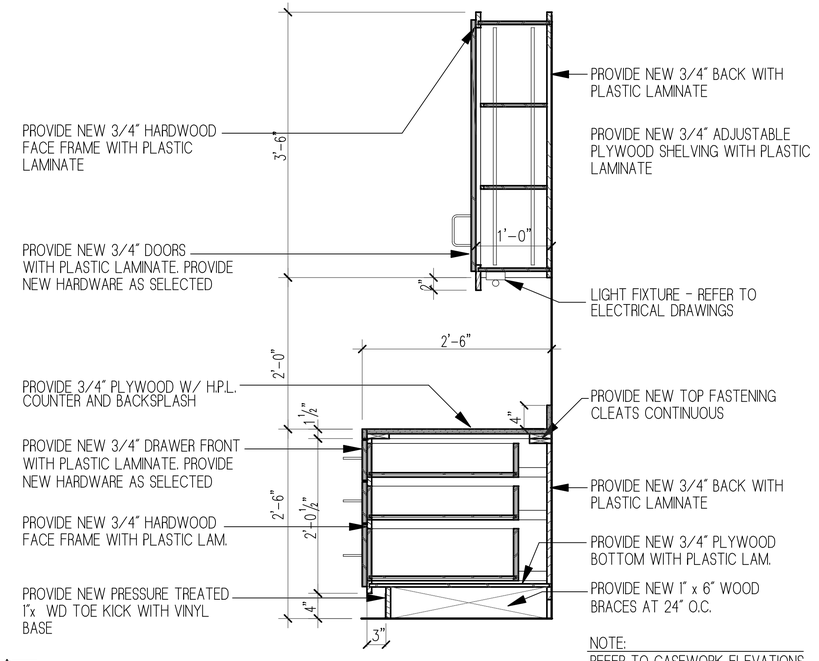
1 CASEWORK SECTION

SCALE: 1"=1'-0"



2 CASEWORK SECTION

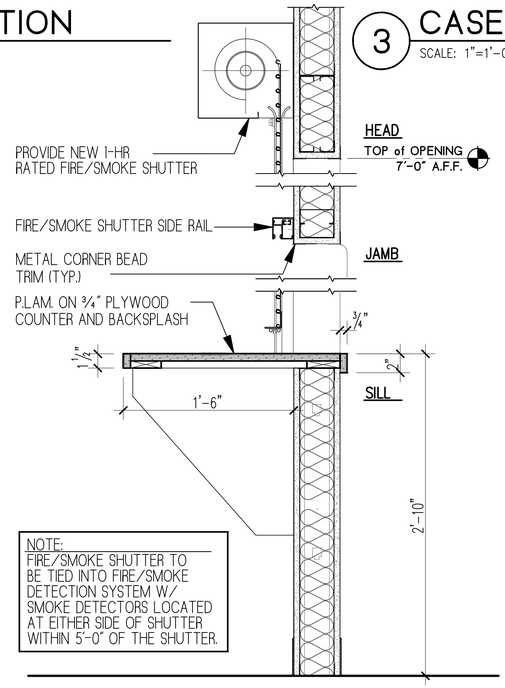
SCALE: 1"=1'-0"



NOTE:
REFER TO CASEWORK ELEVATIONS FOR NUMBER OF DRAWERS.

3 CASEWORK SECTION

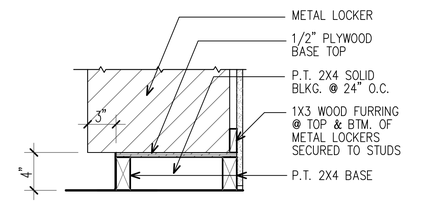
SCALE: 1"=1'-0"



NOTE:
FIRE/SMOKE SHUTTER TO BE TIED INTO FIRE/SMOKE DETECTION SYSTEM W/ SMOKE DETECTORS LOCATED AT EITHER SIDE OF SHUTTER WITHIN 5'-0" OF THE SHUTTER.

4 CASEWORK SECTION

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



5 LOCKER BASE DETAIL

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

VISITORS LOCKERS AT CORRIDOR 125:
BY PENCO PRODUCTS, INC OR ARCHITECT APPROVED EQUAL
2 TIER HEAVEY DUTY WELDED LOCKERS WITH DOORS – NO VENTILATION, NO BASE, CONTINUOUS HINGES, MULTI POINT LATCHING WITH RECESSED HANDLES. PROVIDE FILLERS AND SLOPED TOP.

LOCKERS AT LOCKERS 134 & PATIENT STORAGE 144 & 146:
BY PENCO PRODUCTS, INC OR ARCHITECT APPROVED EQUAL
2 TIER HEAVEY DUTY WELDED LOCKERS WITH DOORS – STANDARD LOUVERS, NO BASE, CONTINUOUS HINGES, MULTI POINT LATCHING WITH RECESSED HANDLES. PROVIDE FILLERS AND SLOPED TOP.

SCALE: 1" = 1'-0"
12" 0 1' 2'

O:\NON-HUD PROJECTS\ERWIN\4535 SCMH - Erwin\DRAWINGS\XCADD\A5-0 Details.aec

REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50898 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT ROCKINGHAM, N.C. NORTH CAROLINA

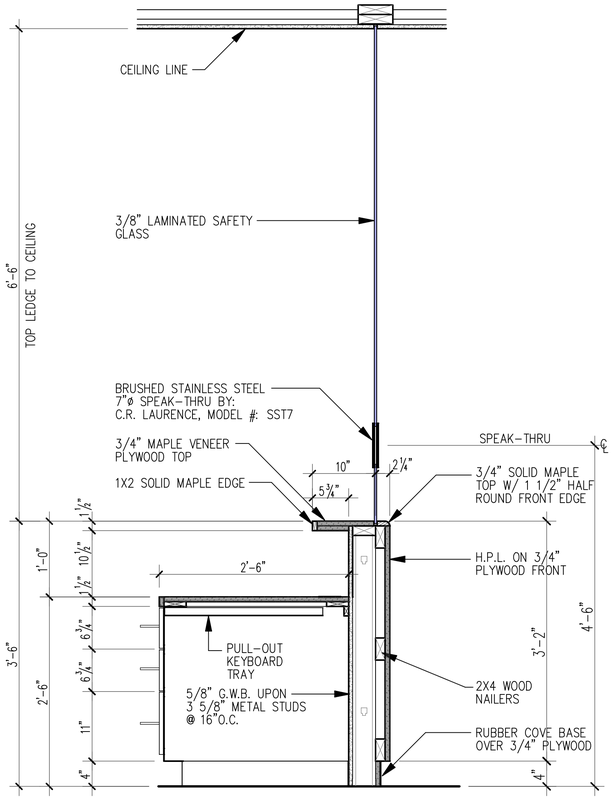
SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

CASEWORK DETAILS

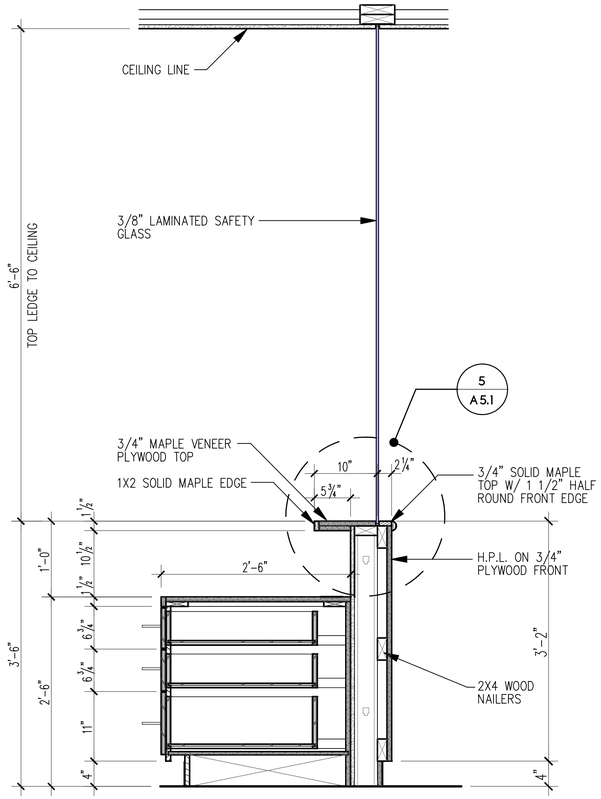
GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.:	4535
DRAWN BY:	JKM
CHECKED BY:	DWS
DATE:	9/11/2020
SHEET NO.	A5.0



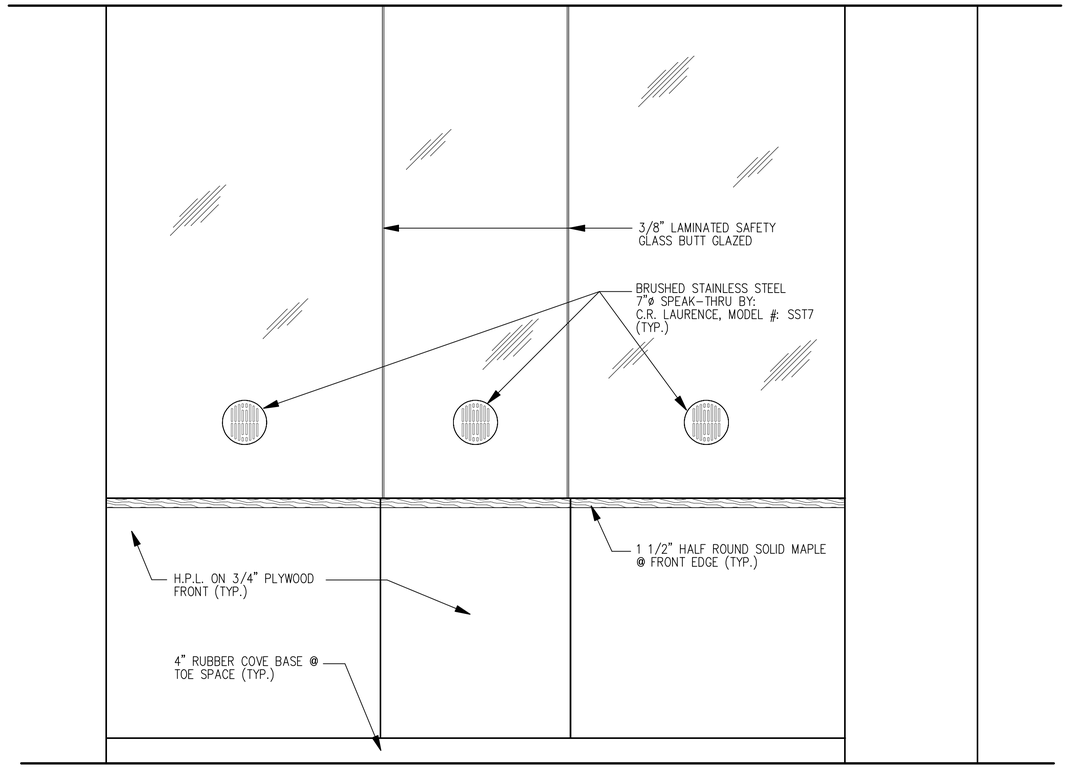
1 NURSE'S STATION DESK

SCALE: 1"=1'-0"



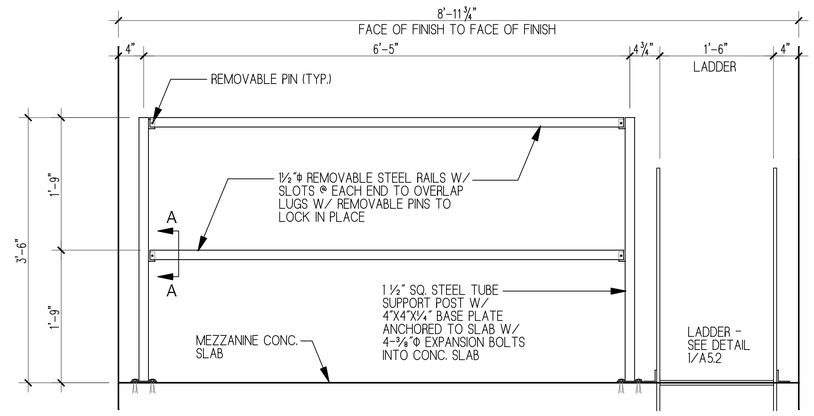
2 NURSE'S STATION DESK

SCALE: 1"=1'-0"



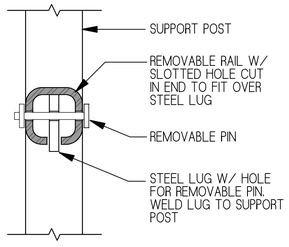
3 ELEVATION of NURSE'S STATION DESK

SCALE: 1"=1'-0"



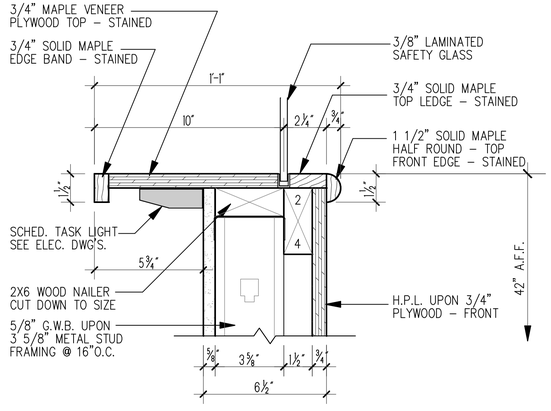
4 ELEVATION of MEZZANINE GUARDRAIL

SCALE: 1"=1'-0"



AA RAIL CONNECTION DETAIL

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



5 COUNTER LEDGE DETAIL

SCALE: 3"=1'-0"

REVISIONS

FOR CONSTRUCTION

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Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
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CASEWORK & BUILDING DETAILS

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.:	4535
DRAWN BY:	JKM
CHECKED BY:	DWS
DATE:	9/11/2020
SHEET NO.	A5.1

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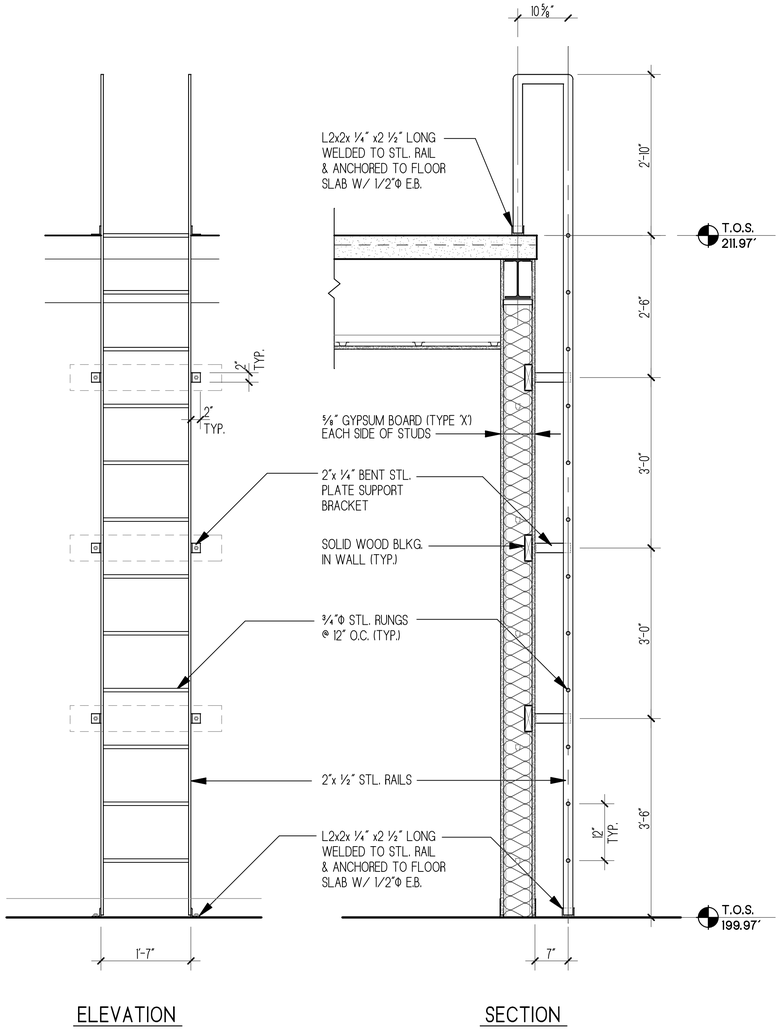
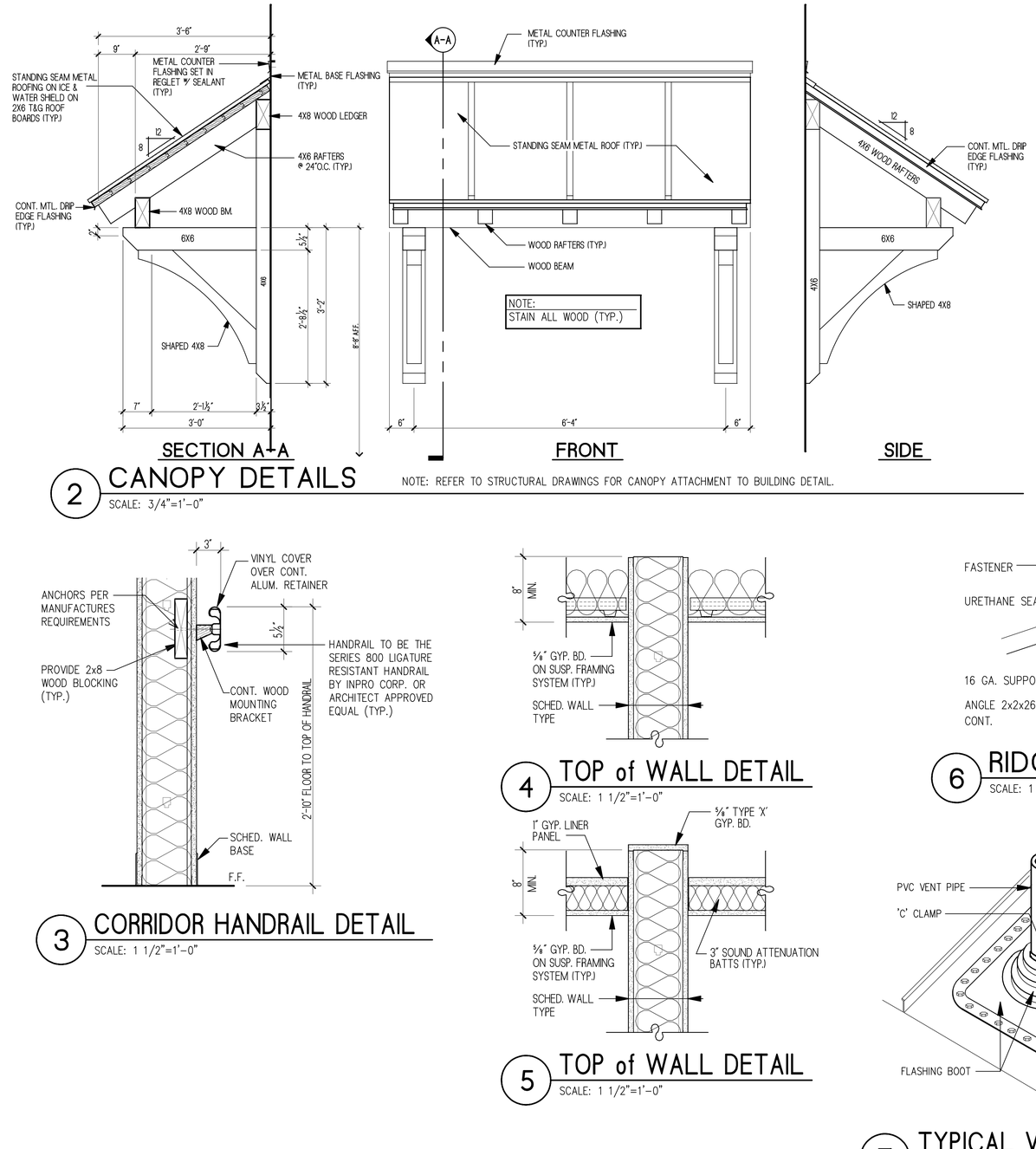


ELEVATION SECTION

1 MECHANICAL PLATFORM ACCESS LADDER

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



SECTION A-A FRONT SIDE

2 CANOPY DETAILS

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

NOTE: REFER TO STRUCTURAL DRAWINGS FOR CANOPY ATTACHMENT TO BUILDING DETAIL.

SCALE: 3/4" = 1'-0"
12" 6" 0 1' 2'

SCALE: 1 1/2" = 1'-0"
12" 6" 0 1'

3 CORRIDOR HANDRAIL DETAIL

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

4 TOP of WALL DETAIL

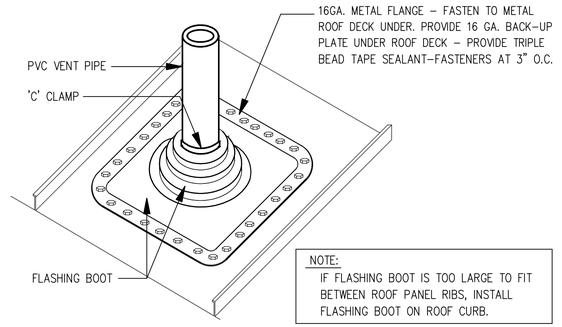
SCALE: 1 1/2"=1'-0"

5 TOP of WALL DETAIL

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

6 RIDGE DETAIL

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



7 TYPICAL VENT PIPE FLASHING DETAIL

N.T.S.

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REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50898 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT ROCKINGHAM, NORTH CAROLINA

SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

BUILDING DETAILS

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.:	4535
DRAWN BY:	JKM
CHECKED BY:	DWS
DATE:	9/11/2020
SHEET NO.	A5.2

ROOM FINISH SCHEDULE

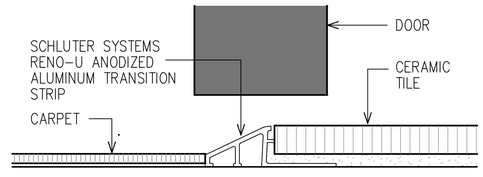
ROOM NAME	NO.	FLOOR MATERIAL	BASE MAT'L.	BASE HT.	WALLS MATERIAL	WALLS FINISH	CEILING MATERIAL	CEILING HT.	CEILING ACT TYPE	CEILING FINISH	REMARK
CORRIDOR	100	L.V.T.	RUBBER	4"	GYPSUM BD.	PAINT	GYPSUM BD.	10'-0"	N/A	PAINT	
BATH	101	SHEET VINYL (HEAT WELD)	VINYL w/ INTEGRAL COVE			EPOXY PAINT					1
BATH	102	SHEET VINYL (HEAT WELD)	VINYL w/ INTEGRAL COVE			EPOXY PAINT					1
BREAK ROOM	103	L.V.T.	RUBBER			PAINT					
STAFF TOILET	104	CERAMIC TILE	C.T.			EPOXY PAINT					
ELECTRICAL ROOM	105	CONC. SEALER	RUBBER			PAINT					
CORRIDOR	106	L.V.T.				PAINT					
JANITOR	107	CONC. SEALER				EPOXY PAINT					
SERVER ROOM	108	L.V.T.				PAINT					
HALL	109										
RECREATIONAL THERAPIST	110										
SPRINKLER ROOM	111	CONC. SEALER									
TREATMENT/TELEPSYCH	112	L.V.T.									
EXAM ROOM	113										
GROUP ROOM	114										
GROUP ROOM	115										
CORRIDOR	116										
SOCIAL WORKER	117										
SOCIAL WORKER	118										
SOILED LINEN	119										
CLEAN LINEN	120										
EMERGENCY STORAGE	121										
DINING/ACTIVITY	122										
FOOD PREP	123					F.R.P.					
MULTI-PURPOSE	124					PAINT					
CORRIDOR	125										
SALLY PORT	126	WALK-OFF CARPET TILE									
IVC RECEPTIONIST	127	L.V.T.									
TOILET	128	SHEET VINYL (HEAT WELD)	VINYL w/ INTEGRAL COVE			EPOXY PAINT					
CONSULTATION/VISITOR	129	L.V.T.	RUBBER			PAINT					
CONSULTATION	130										
WHEELCHAIR STORAGE	131										
LAUNDRY	132										
TOILET	133	CERAMIC TILE	C.T.			EPOXY PAINT					
LOCKERS	134	L.V.T.	RUBBER			PAINT					
MEDICATION ROOM	135					PAINT					
BIO-HAZARD	136					EPOXY PAINT					
NURSE OFFICE/DOCUMENTATION	137					PAINT					
NURSE'S STATION	138										
NURSE'S STATION	139										
HALL	140										
ANTE	141	SHEET VINYL (HEAT WELD)	VINYL w/ INTEGRAL COVE								
QUIET ROOM	142										
SECLUSION ROOM	143										
PATIENT STORAGE	144	L.V.T.	RUBBER								

ROOM FINISH SCHEDULE

ROOM NAME	NO.	FLOOR MATERIAL	BASE MAT'L.	BASE HT.	WALLS MATERIAL	WALLS FINISH	CEILING MATERIAL	CEILING HT.	CEILING ACT TYPE	CEILING FINISH	REMARK
TOILET	145	SHEET VINYL (HEAT WELD)	VINYL w/ INTEGRAL COVE	4"	GYPSUM BD.	EPOXY PAINT	GYPSUM BD.	10'-0"	N/A	PAINT	
PATIENT STORAGE	146	L.V.T.	RUBBER			PAINT					
CORRIDOR	147	L.V.T.	RUBBER								
PATIENT ROOM (MALE)	148	SHEET VINYL (HEAT WELD)	VINYL w/ INTEGRAL COVE								
BATH	149					EPOXY PAINT					1
BATH	150					EPOXY PAINT					1
PATIENT ROOM (MALE)	151					PAINT					
QUIET ACTIVITY ROOM	152	L.V.T.	RUBBER								
PATIENT ROOM (MALE)	153	SHEET VINYL (HEAT WELD)	VINYL w/ INTEGRAL COVE								
BATH	154					EPOXY PAINT					1
BATH	155					EPOXY PAINT					1
PATIENT ROOM (MALE)	156					PAINT					
CORRIDOR	157	L.V.T.	RUBBER								
PATIENT ROOM (FEMALE)	158	SHEET VINYL (HEAT WELD)	VINYL w/ INTEGRAL COVE								
BATH	159					EPOXY PAINT					1
BATH	160					EPOXY PAINT					1
PATIENT ROOM (FEMALE)	161					PAINT					
CONFERENCE/TREATMENT PLANNING	162	L.V.T.	RUBBER								
PATIENT ROOM (FEMALE)	163	SHEET VINYL (HEAT WELD)	VINYL w/ INTEGRAL COVE								
BATH	164					EPOXY PAINT					1
BATH	165					EPOXY PAINT					1
PATIENT ROOM (FEMALE)	166					PAINT					
CORRIDOR	E38	SHEET VINYL (HEAT WELD)	VINYL w/ INTEGRAL COVE	4"	GYPSUM BD.	PAINT	GYPSUM BD.	EXIST.	N/A	PAINT	
SEMI-PVT. PATIENT ROOM	E39										
SEMI-PVT. PATIENT ROOM	E40										

KEY NOTES

1 AT ROLL-IN SHOWER PROVIDE CERAMIC TILE SURROUND, 6'-6" A.F.F.. INSTALL TILE OVER 5/8" SCHLUTER, KERDI-BOARD. INSTALL PER MANUFACTURE'S DETAILS.



1 VINYL FLOOR / CERAMIC TILE TRANSITION
FULL SCALE

REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE REGISTERED ARCHITECTURAL CORPORATION CERT. NO. C-1898 50898 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.

SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
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ROOM FINISH SCHEDULE

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.:	4535
DRAWN BY:	JKM
CHECKED BY:	DWS
DATE:	9/11/2020
SHEET NO.	A6.0

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DOOR SCHEDULE

DOOR NUMBER	DOOR SIZE WxHxT	DOOR MAT'L	DOOR TYPE	FRAME MAT'L	FRAME TYPE	DETAILS* HEAD	DETAILS* JAMB	DETAILS* SILL	FIRE RATE.	REMARKS
100	(2) 3'-0"x 7'-0"x 1 3/4"	WD	NL	HM	F-1	DH-4	DJ-4		45 MIN.	PROVIDE 45 MIN. FIRE RATED GLAZING DOUBLE EGRESS DOORS
101	3'-2"x 7'-0"x 1 3/4"		F		F-2	DH-7	DJ-7			
102	3'-2"x 7'-0"x 1 3/4"		F		F-2	DH-7	DJ-7			
103	3'-0"x 7'-0"x 1 3/4"		NL		F-1	DH-2	DJ-2		45 MIN.	PROVIDE 45 MIN. FIRE RATED GLAZING
104	▼	▼	F	▼	▼	▼	▼		45 MIN.	
105	▼	▼	F	▼	▼	▼	▼		45 MIN.	1
106	3'-2"x 7'-0"x 1 3/4"	ALUM.	FG	AL	F-4	DH-8	DJ-8	DS-8		PROVIDE 1" INSULATED ALUM. PANELS
107	3'-0"x 7'-0"x 1 3/4"	WD	F	HM	F-1	DH-2	DJ-2		45 MIN.	
108	3'-0"x 7'-0"x 1 3/4"	▼	F			▼	▼		45 MIN.	
110	3'-2"x 7'-0"x 1 3/4"	▼	NL			▼	▼			PROVIDE 20 MIN. FIRE RATED GLAZING
111	3'-0"x 7'-0"x 1 3/4"	HM	F			DH-5	DJ-5	DS-5		
112	3'-2"x 7'-0"x 1 3/4"	WD	NL			DH-2	DJ-2			PROVIDE 20 MIN. FIRE RATED GLAZING
113A	▼	▼	F	▼	▼	▼	▼	▼	▼	▼
113B	1		F							
114			NL							PROVIDE 20 MIN. FIRE RATED GLAZING
115		▼	NL	▼	▼	▼	▼	▼	▼	PROVIDE 20 MIN. FIRE RATED GLAZING
116		ALUM.	FG	AL	F-5	DH-9	DJ-8	DS-8		PROVIDE 1" INSULATED TEMPERED GLASS
117		WD	HG	HM	F-1	DH-2	DJ-2			PROVIDE 20 MIN. FIRE RATED GLAZING
118	▼	▼	HG	▼	▼	▼	▼	▼	▼	PROVIDE 20 MIN. FIRE RATED GLAZING
119			F						45 MIN.	
120			F							
121			F						45 MIN.	
122			HG							PROVIDE 20 MIN. FIRE RATED GLAZING
123A			NL							PROVIDE 20 MIN. FIRE RATED GLAZING
123B			NL							PROVIDE 1/4" TEMPERED GLASS
124	▼	▼	NL	▼	▼	▼	▼	▼	▼	PROVIDE 20 MIN. FIRE RATED GLAZING
126A	(2) 3'-0"x 7'-0"x 1 3/4"	ALUM.	FG	AL	F-6	DH-9	DJ-8	DS-8		PROVIDE 1" INSULATED TEMPERED GLASS
126B	(2) 3'-0"x 7'-0"x 1 3/4"	WD	NL	HM	F-1	DH-2	DJ-2			PROVIDE 1/4" TEMPERED GLASS
127	3'-2"x 7'-0"x 1 3/4"		NL							PROVIDE 20 MIN. FIRE RATED GLAZING
128	▼	▼	F	▼	▼	▼	▼	▼	▼	▼
129	1		NL							PROVIDE 20 MIN. FIRE RATED GLAZING
130	▼	▼	NL	▼	▼	▼	▼	▼	▼	PROVIDE 20 MIN. FIRE RATED GLAZING
131	(2) 3'-0"x 7'-0"x 1 3/4"		F						45 MIN.	
132	3'-2"x 7'-0"x 1 3/4" 1		NL							PROVIDE 20 MIN. FIRE RATED GLAZING
133	3'-0"x 7'-0"x 1 3/4"		F							
134A	▼	▼	F	▼	▼	▼	▼	▼	▼	▼
134B			F							
135A			F						45 MIN.	
135B			HG			▼	▼			PROVIDE 20 MIN. FIRE RATED GLAZING
136			F			DH-1	DJ-1		45 MIN.	
137A			HG			DH-2	DJ-2			PROVIDE 20 MIN. FIRE RATED GLAZING
137B			HG							PROVIDE 1/4" TEMPERED GLASS
138A	▼	▼	HG	▼	▼	▼	▼	▼	▼	PROVIDE 1/4" TEMPERED GLASS

DOOR SCHEDULE

DOOR NUMBER	DOOR SIZE WxHxT	DOOR MAT'L	DOOR TYPE	FRAME MAT'L	FRAME TYPE	DETAILS* HEAD	DETAILS* JAMB	DETAILS* SILL	FIRE RATE.	REMARKS
138B	3'-0"x 7'-0"x 1 3/4"	WD	HG	HM	F-1	DH-2	DJ-2		45 MIN.	PROVIDE 45 MIN. FIRE RATED GLAZING
139	3'-0"x 7'-0"x 1 3/4"		HG			DH-2	DJ-2		45 MIN.	PROVIDE 45 MIN. FIRE RATED GLAZING
140A	1 (2) 3'-0"x 7'-0"x 1 3/4"		NL			DH-4	DJ-4			PROVIDE 20 MIN. FIRE RATED GLAZING DOUBLE EGRESS DOORS
140B	(2) 3'-0"x 7'-0"x 1 3/4"		NL			DH-4	DJ-4		45 MIN.	PROVIDE 45 MIN. FIRE RATED GLAZING DOUBLE EGRESS DOORS
141	4'-0"x 7'-0"x 1 3/4"		NL			DH-2	DJ-2			PROVIDE 20 MIN. FIRE RATED GLAZING
142	3'-2"x 7'-0"x 1 3/4" 1		NL			DH-2	DJ-2		45 MIN.	PROVIDE 45 MIN. FIRE RATED GLAZING
143	4'-0"x 7'-0"x 1 3/4"		NL			DH-3	DJ-3		45 MIN.	PROVIDE 45 MIN. FIRE RATED IMPACT RESISTANT GLAZING 1
144	3'-0"x 7'-0"x 1 3/4"		F			DH-2	DJ-2		45 MIN.	
145	4'-0"x 7'-0"x 1 3/4"		F			▼	▼			
146	3'-0"x 7'-0"x 1 3/4"		F			▼	▼			
147A	(2) 3'-0"x 7'-0"x 1 3/4"	▼	NL	▼	▼	DH-4	DJ-4		45 MIN.	PROVIDE 45 MIN. FIRE RATED GLAZING DOUBLE EGRESS DOORS
147B	3'-2"x 7'-0"x 1 3/4"	ALUM.	FG	AL	F-4	DH-8	DJ-8	DS-8		PROVIDE 1" INSULATED ALUM. PANELS
148		WD	NL	HM	F-1	DH-2	DJ-2			PROVIDE 20 MIN. FIRE RATED GLAZING
149	1		F			DH-1	DJ-1			
150			F			DH-1	DJ-1			PROVIDE 20 MIN. FIRE RATED GLAZING
151			NL			DH-2	DJ-2			
152			HG			▼	▼			PROVIDE 20 MIN. FIRE RATED GLAZING
153			NL			▼	▼			PROVIDE 20 MIN. FIRE RATED GLAZING
154			F			DH-1	DJ-1			
155			F			DH-1	DJ-1			
156	▼		NL			DH-2	DJ-2			PROVIDE 20 MIN. FIRE RATED GLAZING
157A	(2) 3'-0"x 7'-0"x 1 3/4"	▼	NL	▼	▼	DH-4	DJ-4		45 MIN.	PROVIDE 45 MIN. FIRE RATED GLAZING DOUBLE EGRESS DOORS
157B	3'-2"x 7'-0"x 1 3/4"	ALUM.	FG	AL	F-4	DH-8	DJ-8	DS-8		PROVIDE 1" INSULATED ALUM. PANELS
158		WD	NL	HM	F-1	DH-2	DJ-2			PROVIDE 20 MIN. FIRE RATED GLAZING
159			F			DH-1	DJ-1			
160	1		F			DH-1	DJ-1			
161			NL			DH-2	DJ-2			PROVIDE 20 MIN. FIRE RATED GLAZING
162			HG			▼	▼			PROVIDE 20 MIN. FIRE RATED GLAZING
163			NL			▼	▼			PROVIDE 20 MIN. FIRE RATED GLAZING
164			F			DH-1	DJ-1			
165			F			DH-1	DJ-1			
166	▼	▼	NL	▼	▼	DH-2	DJ-2			PROVIDE 20 MIN. FIRE RATED GLAZING
01	4'-0"x 7'-0"x 1 3/4"	HM	F	HM	F-2	DH-6	DJ-6			DOOR & FRAME TO BE GALV., SHOP PRIMED & PTD.

NOTE:
REFER TO SPECIFICATIONS FOR DOOR HARDWARE SCHEDULE.

REVISIONS
1 11/20/2020 DHHS REVIEW COMMENTS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50898 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.
SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

DOOR SCHEDULE

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.: 4535
DRAWN BY: JKM
CHECKED BY: DWS
DATE: 9/11/2020
SHEET NO. A6.1

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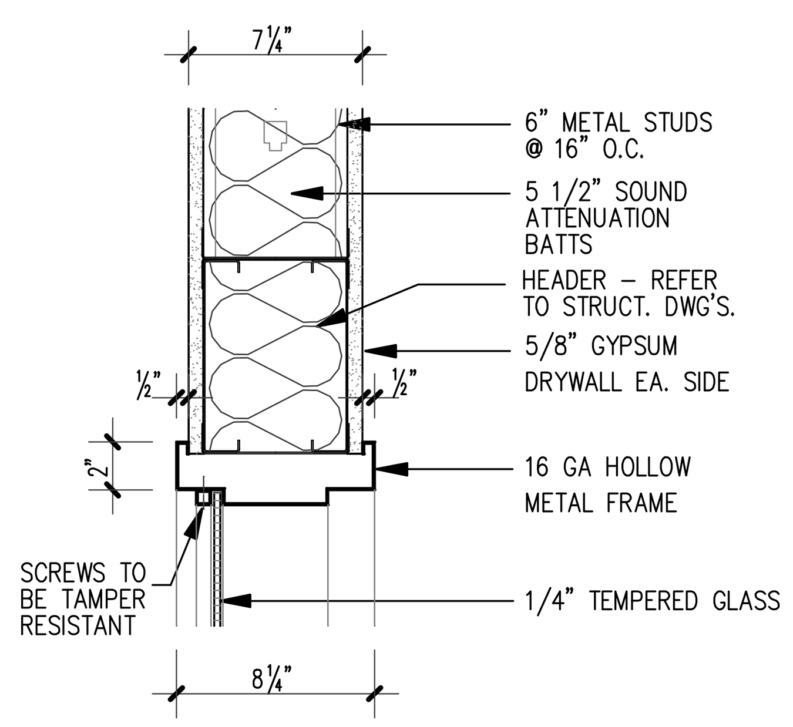
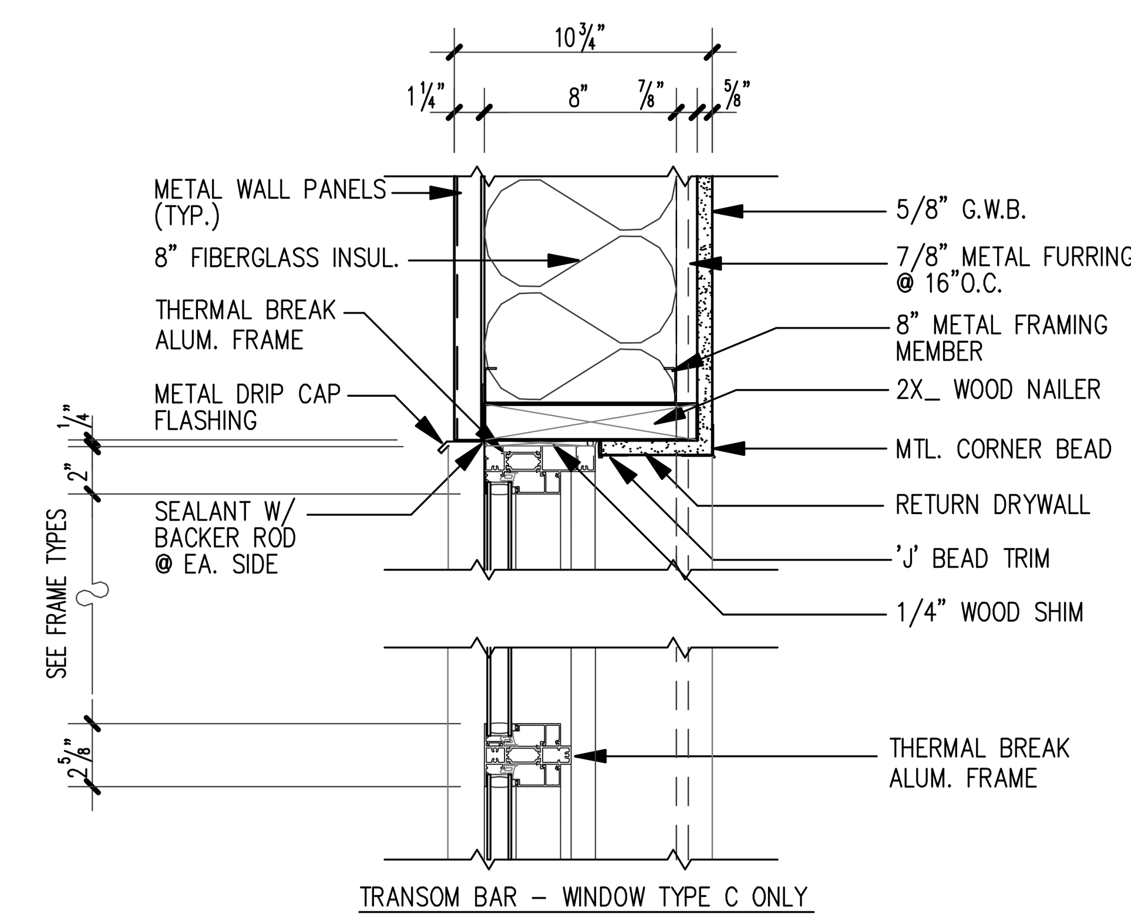


WH-1 **HEAD DETAIL**

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



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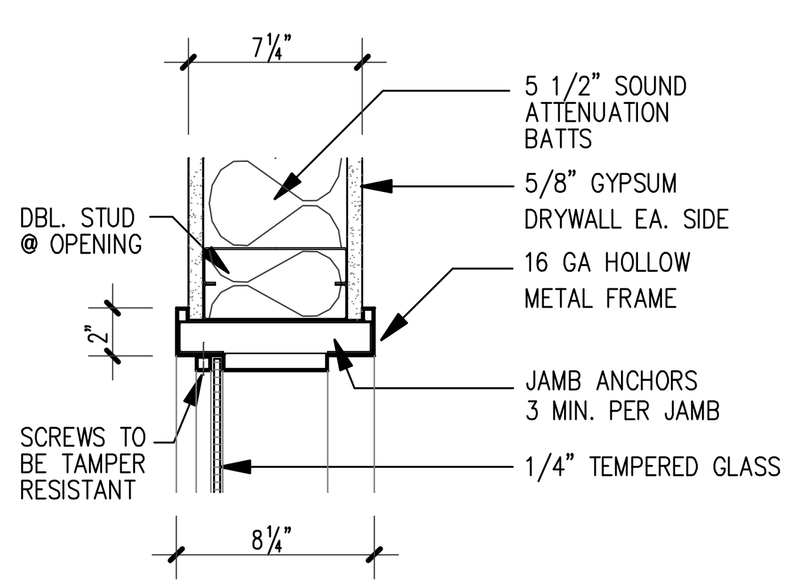

WJ-1 **JAMB DETAIL**

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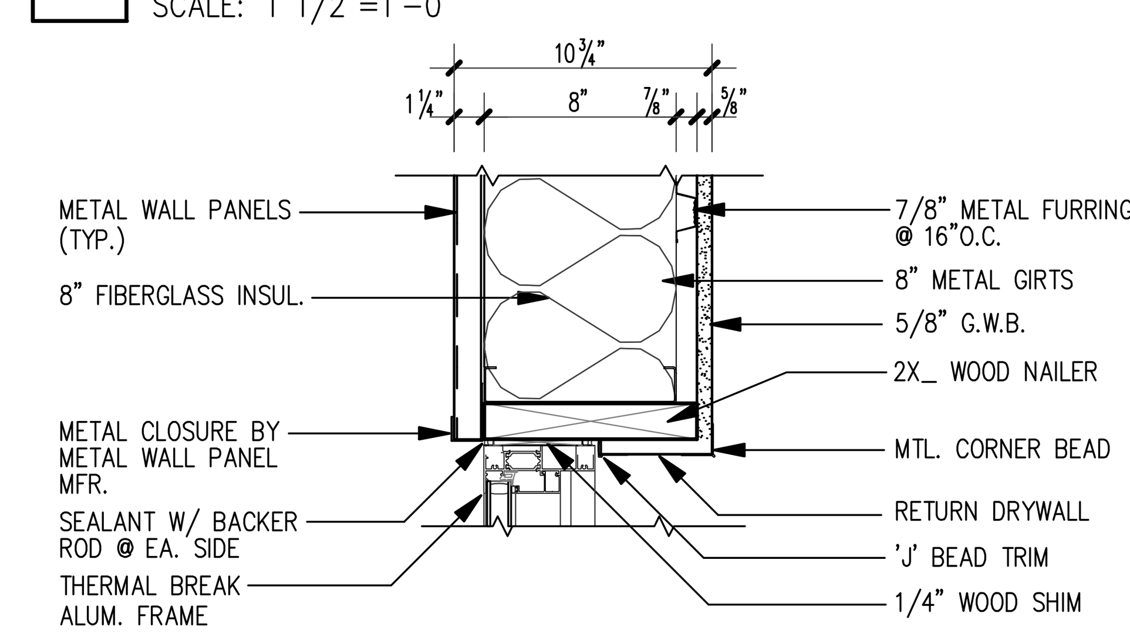

WJ-2 **JAMB DETAIL**

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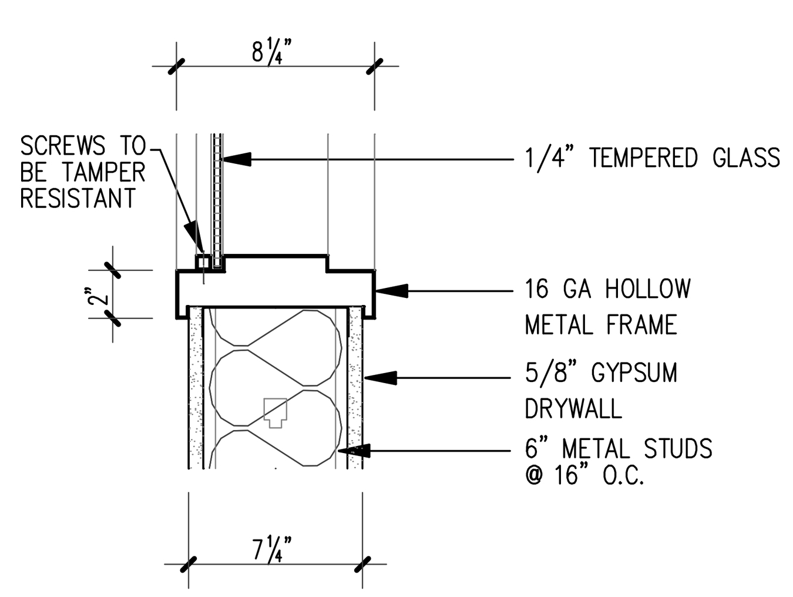

WS-1 **SILL DETAIL**

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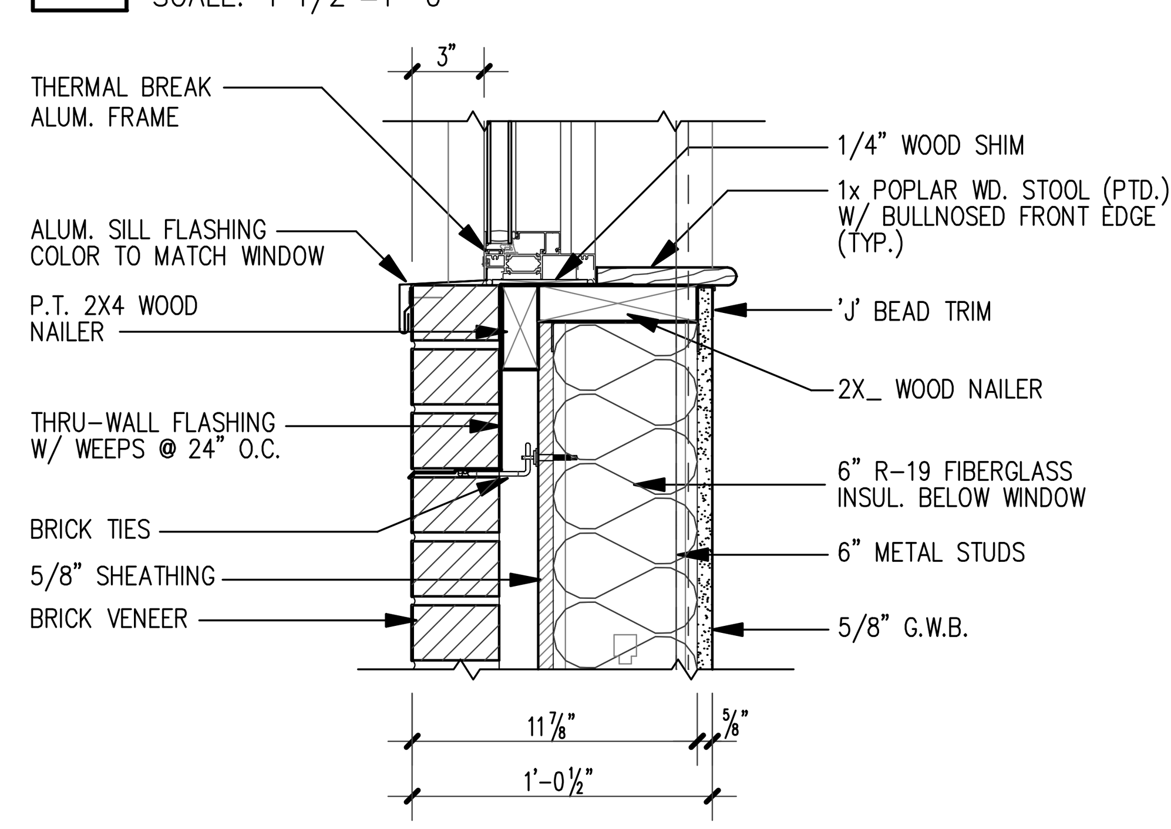

WS-2 **SILL DETAIL**

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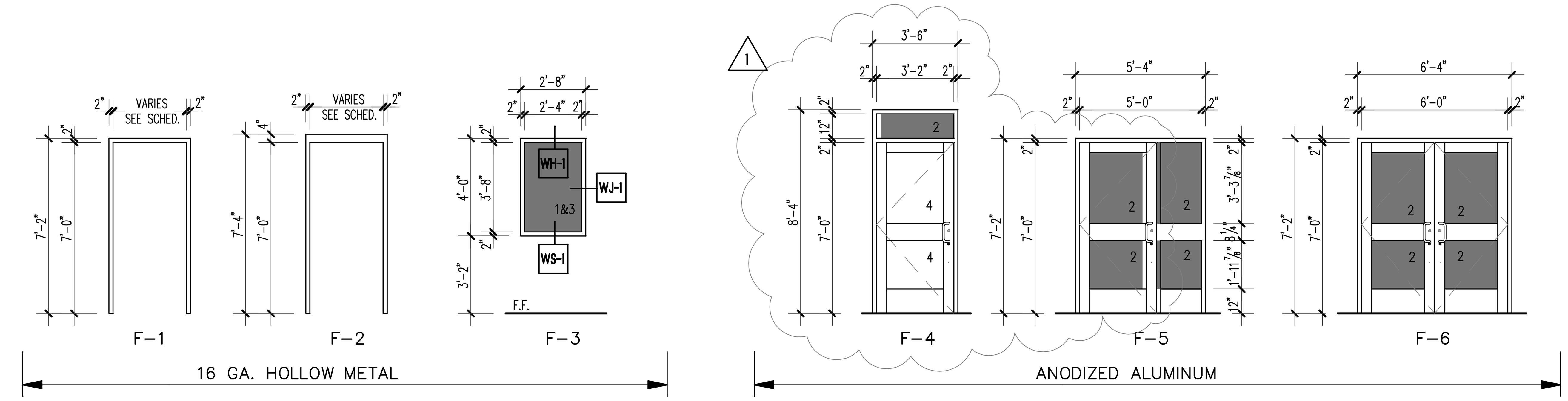
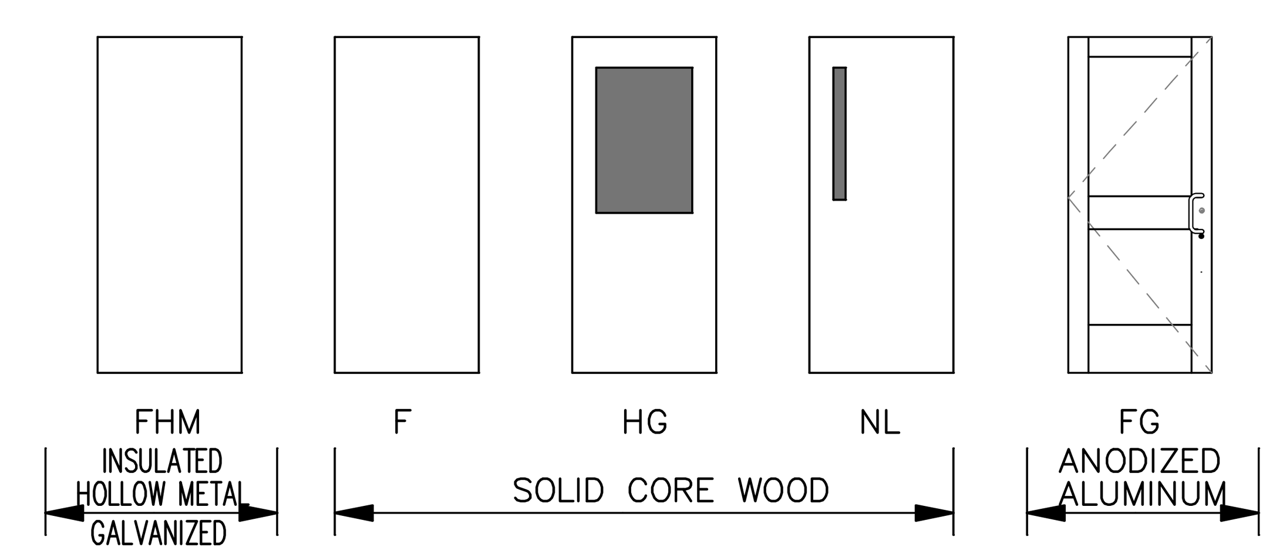


DOOR FRAME TYPES

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

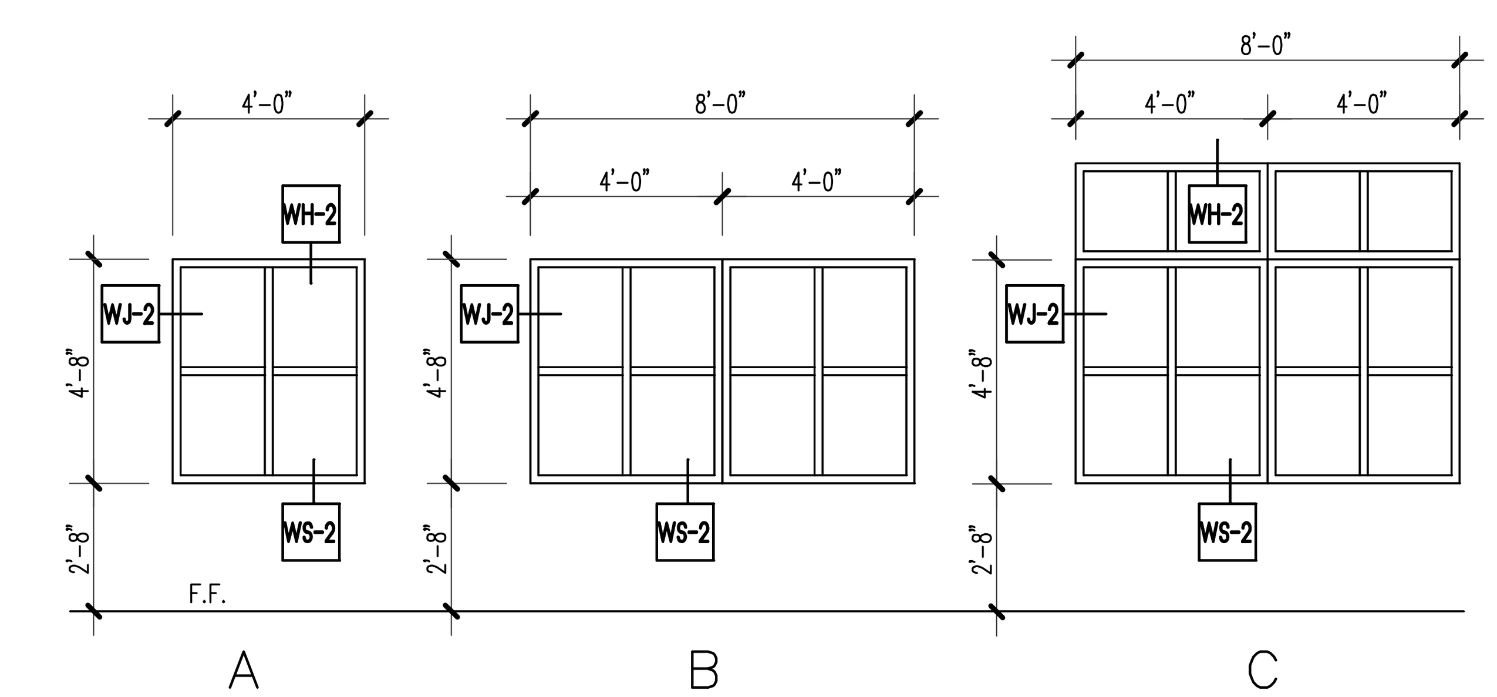
DOOR FRAME TYPES - KEYNOTES

1. 1/4" TEMPERED GLASS.
2. 1" INSULATED TEMPERED GLASS.
3. FIRE-PROTECTION-RATED GLAZING; 45 MINUTES RATED MINIMUM @ NURSE'S STATION 139 ONLY.
4. 1" INSULATED ALUMINUM PANEL



DOOR TYPES

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



WINDOW TYPES

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

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REVISIONS

1 11/20/2020 DHHS REVIEW COMMENTS

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Stogner Architecture, PA

ARCHITECTURE – CONSTRUCTION MANAGEMENT – DESIGN BUILD

615 East Broad Avenue, Rockingham, North Carolina, 28379

Phone 910-895-6874 Fax 910-895-1111

DOOR & FRAME TYPES - WINDOW TYPES & WINDOW DETAILS

GOOD HOPE HOSPITAL

410 DENIM DRIVE ERWIN, NORTH CAROLINA

ADDITION and RENOVATIONS

COMM. NO.:	4535
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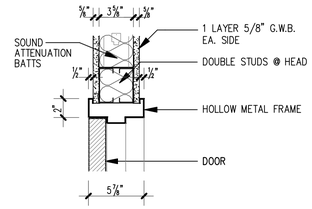

DH-1 HEAD DETAIL
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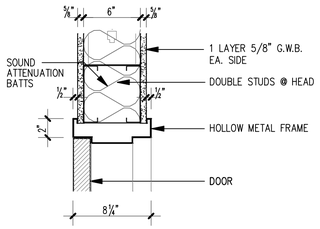

DH-2 HEAD DETAIL
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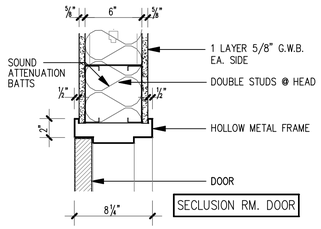

DH-3 HEAD DETAIL
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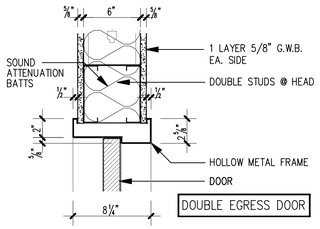

DH-4 HEAD DETAIL
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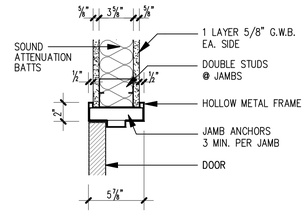
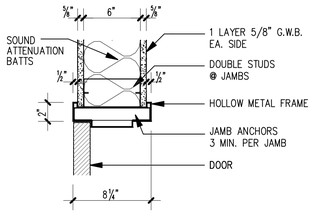


DJ-1 JAMB DETAIL
SCALE: 1 1/2"=1'-0"



DJ-2 JAMB DETAIL
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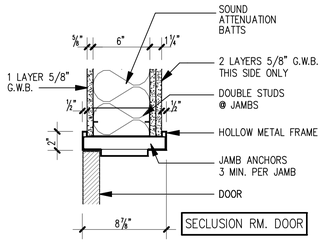

DJ-3 JAMB DETAIL
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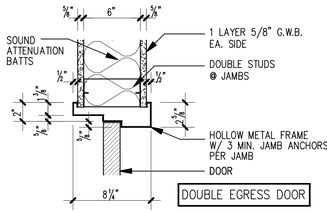

DJ-4 JAMB DETAIL
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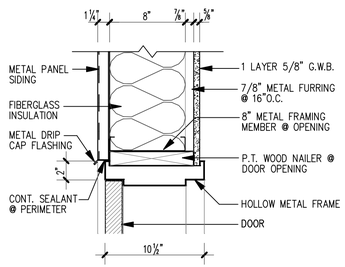
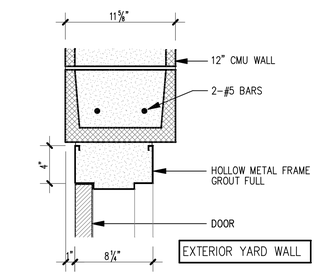


DH-5 HEAD DETAIL
SCALE: 1 1/2"=1'-0"



DH-6 HEAD DETAIL
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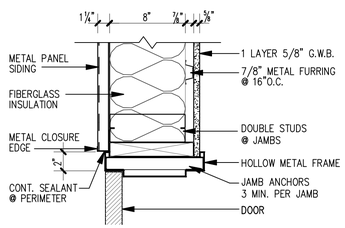

DJ-5 JAMB DETAIL
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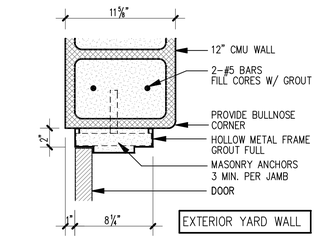

DJ-6 JAMB DETAIL
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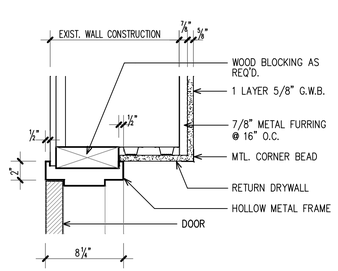

DH-7 HEAD DETAIL
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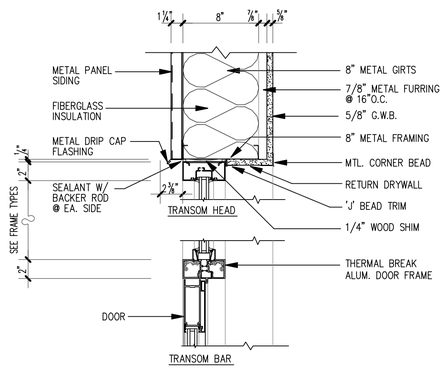

DH-8 HEAD DETAIL
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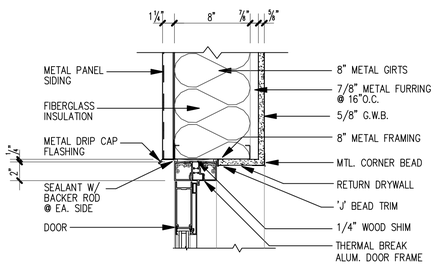

DH-9 HEAD DETAIL
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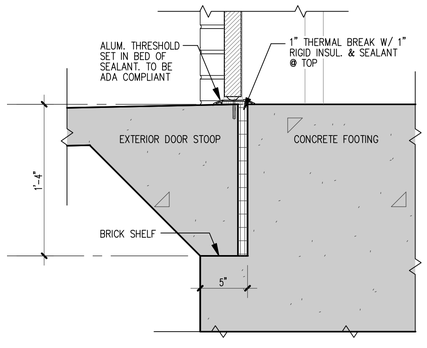
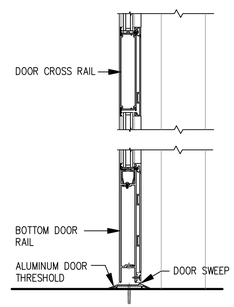


DS-5 SILL DETAIL
SCALE: 1 1/2"=1'-0"

DJ-7 JAMB DETAIL
SCALE: 1 1/2"=1'-0"

DJ-8 JAMB DETAIL
SCALE: 1 1/2"=1'-0"



DS-8 SILL DETAIL
SCALE: 1 1/2"=1'-0"

REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURE CORPORATION CERT. NO. 50898 NORTH CAROLINA ROCKINGHAM, N.C.

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DOOR DETAILS

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GENERAL NOTES:

COORDINATION:

1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH AND COORDINATED WITH ARCHITECTURAL DRAWINGS AND OTHER CONTRACT DOCUMENTS.

2. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL OF THE CONTRACT DOCUMENTS AND LATEST ADDENDA AND FOR SUBMITTING SUCH DOCUMENTS TO SUBCONTRACTORS AND MATERIAL SUPPLIERS PRIOR TO THE SUBMITTAL OF SHOP DRAWINGS, FABRICATION OF ANY STRUCTURAL MEMBERS, AND ERECTION IN THE FIELD.

3. THE GENERAL CONTRACTOR SHALL COMPARE THE STRUCTURAL DRAWINGS AND OTHER CONTRACT DRAWINGS AND REPORT ANY DISCREPANCY BETWEEN AND WITHIN EACH SET OF DRAWINGS WITH THE PROJECT ARCHITECT AND THE STRUCTURAL ENGINEER PRIOR TO THE FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBERS.

4. THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, ELEVATIONS AND CONDITIONS OF THE EXISTING BUILDING AT THE JOB SITE AND REPORT ANY DISCREPANCIES FROM THE ASSUMED CONDITIONS SHOWN ON THE STRUCTURAL DRAWINGS TO THE PROJECT ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO THE FABRICATION AND ERECTION OF ANY STRUCTURAL MEMBERS.

5. DRAWINGS SHOW GENERAL AND TYPICAL SECTIONS/DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY SHOWN, SIMILAR SECTIONS/DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO THE APPROVAL OF THE ENGINEER.

6. THE STRUCTURAL MEMBERS OF THIS PROJECT HAVE BEEN DESIGNED BY THE STRUCTURAL ENGINEER TO RESIST THE REQUIRED CODE GRAVITY AND LATERAL FORCES THAT COULD OCCUR IN THE FINAL COMPLETED STRUCTURE ONLY. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL REQUIRED BRACING DURING CONSTRUCTION TO MAINTAIN THE STABILITY AND SAFETY OF ALL STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PROCESS UNTIL THE STRUCTURE IS TIED TOGETHER AND COMPLETED.

7. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION, BRACING, AND SHORING OF EXISTING STRUCTURE AS REQUIRED TO INSTALL NEW BEAMS, WALLS, COLUMNS, AND FOUNDATIONS SHOWN ON THE STRUCTURAL DRAWINGS. GENERAL CONTRACTOR SHALL RETAIN AN INDEPENDENT ENGINEER FOR ALL SHORING DESIGN REQUIRED.

8. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR THE METHODS, TECHNIQUES, AND SEQUENCES OF PROCEDURES TO PERFORM THE WORK. THE SUPERVISION OF THE WORK IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

9. LOADS APPLIED TO THE STRUCTURE DURING CONSTRUCTION SHALL NOT EXCEED THE SAFE LOAD-CARRYING CAPACITY OF THE STRUCTURAL MEMBERS. THE LIVE LOADS USED FOR THE DESIGN OF THE STRUCTURE ARE INDICATED IN THE GENERAL NOTES. DO NOT APPLY ANY CONSTRUCTION LOADS UNTIL STRUCTURAL FRAMING IS PROPERLY INSTALLED AND ALL TEMPORARY BRACING IS IN PLACE.

10. ALL ASTM AND OTHER REFERENCES ARE PER THE LATEST EDITIONS UNLESS NOTED OTHERWISE.

11. EQUIPMENT PADS SHALL BE PROVIDED BY THE MECHANICAL, ELECTRICAL, OR PLUMBING CONTRACTORS REQUIRING THE PAD.

12. COORDINATE THE EXACT SIZE AND LOCATION OF ALL SLEEVES AND OPENINGS THROUGH CONCRETE WALLS, CONCRETE SLABS, OR MASONRY WALLS WITH ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS.

13. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. CONTRACTOR SHALL REVIEW, APPROVE, AND SIGN EACH SHEET PRIOR TO SUBMISSION. THE STRUCTURAL ENGINEER'S REVIEW SHALL BE FOR CONFORMANCE WITH THE DESIGN CONCEPT AND GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW, CHECK, AND COORDINATE THE SHOP DRAWINGS PRIOR TO SUBMISSION. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF THE SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, DIMENSIONS, ETC. SUBMIT ONE (1) REPRODUCIBLE AND TWO (2) PRINTS TO THE ENGINEER. ADDITIONAL COPIES WILL NOT BE RETURNED.

14. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID TO ASCERTAIN CONDITIONS WHICH MAY ADVERSELY AFFECT THE WORK OR COST THEREOF.

16. WHERE CONFLICTS OCCUR BETWEEN GENERAL NOTES AND SPECIFICATIONS, THE MOST STRINGENT REQUIREMENT SHALL APPLY.

17. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE WORK. THE ENGINEER WILL NOT ADVISE NOR ISSUE DIRECTION AS TO SAFETY PRECAUTIONS AND PROGRAMS.

FOUNDATIONS:

1. FOUNDATION DESIGN OF FOOTINGS ARE BASED ON AN ALLOWABLE SOIL BEARING PRESSURE OF 2,500 PSF.

2. FOOTING SIZES WERE DETERMINED USING ASCE 07-05 LOAD COMBINATION FACTORS FROM ESTIMATED LOADS. ONCE PREFABRICATED BUILDING PLANS ARE PROVIDED FOOTING SIZES WILL HAVE TO BE RE-EVALUATED.

3. FOUNDATION WALLS WITH BACKFILL ON EACH SIDE SHALL BE BACKFILLED EVENLY ON EACH SIDE. THESE WALLS HAVE NOT BEEN DESIGNED FOR UNBALANCED SOIL LOADS.

4. COORDINATE FOUNDATION WORK WITH EXISTING UTILITIES. FOUNDATIONS SHALL BE LOWERED WHERE REQUIRED TO AVOID UTILITIES. NOTIFY PROJECT ARCHITECT AND STRUCTURAL ENGINEER TO PROVIDE REINFORCED CONCRETE PIER FOR COLUMN FOOTINGS.

5. UNLESS NOTED OTHERWISE COLUMN CENTERLINES SHALL BE CENTERLINES OF COLUMN FOOTINGS.

6. HEAVY GRADING EQUIPMENT SHALL NOT BE ALLOWED WITHIN THE HEIGHT OF THE WALL (HORIZONTALLY) OF BASEMENT OR CANTILEVER RETAINING WALLS.

CONCRETE:

1. CONCRETE SHALL BE PROPORTIONED TO MEET THE REQUIREMENTS OF THE FOLLOWING:

	28-DAY STRENGTH (PSI)	SLUMP RANGE (IN.)	UNIT WEIGHT (PCF)
COLUMN FOOTINGS	3000	3 - 5	150
WALL FOOTINGS	3000	3 - 5	150
SLAB ON GRADE	3000	3 - 5	150
SUPPORTED SLABS	3000	3 - 5	150
EXTERIOR CONCRETE	3000	3 - 5	150

2. PORTLAND CEMENT SHALL BE ASTM C -50, TYPE I. FLY ASH SHALL BE ASTM C-618, CLASS F AND SHALL NOT EXCEED 25% OF CEMENT CONTENT BY WEIGHT. NORMAL WEIGHT AGGREGATE SHALL BE ASTM C-33.

3. CONCRETE AGGREGATE GRADATION SHALL BE IN ACCORDANCE WITH ASTM C-33 SPECIFICATION, "SPECIFICATION FOR CONCRETE AGGREGATE." FINE AGGREGATE SHALL CONSIST OF NATURAL SAND OR A COMBINATION THEREOF, WITH A FINENESS MODULUS BETWEEN 2.3 AND 3.1. COARSE AGGREGATE CONTENT IS TO BE BETWEEN 35% AND 45% BY WEIGHT OR VOLUME OF THE TOTAL AGGREGATE CONTENT. LARGER COARSE AGGREGATE MIXES UP TO #467 ARE ACCEPTABLE FOR FLOOR SLAB CONCRETE TO MINIMIZE SHRINKAGE CRACKING.

4. FLY ASH SHALL NOT BE PERMITTED IN CONCRETE PLACED SUBJECT TO COLD WEATHER PLACEMENT PRODUCERS.

5. ALL REINFORCING STEEL SHALL BE ASTM A615 GRADE 60, UNLESS NOTED OTHERWISE. ALL WELDED WIRE FABRIC (WWF) SHALL BE ASTM A82 AND A185 COLD DRAWN STEEL WIRE. WWF SHALL BE DELIVERED TO THE JOB SITE IN FLAT SHEETS (NO ROLLS). PLACE SHEETS ON BOLSTERS AT 48" MAXIMUM TO LOCATE IN UPPER THIRD OF SLAB.

6. LAP CONTINUOUS REINFORCING BARS 36 BAR DIAMETERS UNLESS NOTED OTHERWISE. PROVIDE CORNER BARS IN ALL WALLS AND FOOTINGS.

7. BAR SUPPORTS, DESIGN, DETAILING, FABRICATION, AND PLACING OF REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE ACI CODE AND DETAILING MANUAL AND CRSI'S "MANUAL OF STANDARD PRACTICE."

8. MINIMUM CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE:

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER:	
No. 6 THROUGH No. 18 BARS	2"
No. 5 AND SMALLER	1½"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
No. 14 AND No. 18 BARS	1½"
No. 11 AND SMALLER	3/4"
BEAMS AND COLUMNS:	
PRIMARY REINFORCEMENT, TIES, STIRRUPS, AND SPIRALS	1½"

9. ANCHOR RODS FOR COLUMNS SHALL BE POSITIONED WITH A TEMPLATE PRIOR TO PLACING CONCRETE IN PIER OR FOOTING. NUTS SHALL BE TIGHTENED ON EACH SIDE OF THE TEMPLATE TO HOLD THE ANCHOR BOLTS IN PLACE.

10. CONCRETE DESIGN AND REINFORCEMENT SHALL BE IN ACCORDANCE WITH THE "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONTENT" (ACI 318-LATEST EDITION) AND WITH "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" (ACI 315-LATEST EDITION). CONCRETE PLACED DURING HOT WEATHER SHALL CONFORMTO ACI 305 AND CONCRETE PLACED DURING COLD WEATHER SHALL CONFORM TO ACI 306.

11. CONCRETE MIXER SHALL BE DESIGNED IN ACCORDANCE WITH ACI 301.

12. UNLESS OTHERWISE SHOWN ON ARCHITECTURAL DRAWINGS, PROVIDE 3/4" CHAMFER AT ALL COLUMN, WALL SLAB, AND BEAM EDGES THAT ARE EXPOSED TO VIEW IN THE FINAL STRUCTURE.

SLAB ON GRADE:

1. CONTROL JOINTS FOR SLAB ON GRADE SHALL BE LOCATED AS SHOWN ON PLAN, WITH A MAXIMUM JOINT SPACING OF 3 TIMES THE SLAB THICKNESS IN FEET. JOINTS SHALL BE FORMED USING SAW CUTS 1/8" WIDE (MAXIMUM) BY T/4 (1¼" MINIMUM) DEEP. SAW CUT AS SOON AS PRACTICAL AND WITHIN 12 HOURS AFTER PLACING CONCRETE. JOINTS SHALL BE FILLED WITH SEMI-RIGID EPOXY JOINT FILLER (CONSPEC POLUREA JOINT FILL (OR EQUIVALENT).

2. SIDEWALKS AND OTHER EXTERIOR SLABS ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS. SEE ARCHITECTURAL, SITE, AND CIVIL DRAWINGS FOR LOCATIONS, DIMENSIONS, AND ELEVATIONS.

3. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF DEPRESSED SLAB AREAS AND DRAINS. SLOPE SLAB TO DRAIN WHERE INDICATED.

4. ALL INTERIOR AND EXTERIOR FLOOR SLABS ARE TO RECEIVE ONE (1) COAT OF EVAPORATION REDUCER (CONSPEC AQUAFILM (OR EQUIVALENT) APPLIED TO FRESHLY PLACED CONCRETE IMMEDIATELY AFTER SCREEDING AND/OR AFTER THE FIRST FLOATING OPERATION. EVAPORATION REDUCER IS NOT RECOMMENDED FOR USE DURING COLD WEATHER PLACEMENT.

5. FLOOR SLABS ARE TO RECEIVE TWO COATS OF 25% MINIMUM SOLID ACRYLIC HARDENER AND SEAL (CONSPEC INTRASEAL OR EQUIVALENT). APPLICATION IS TO CONFORM TO MANUFACTURER'S SPECIFICATIONS. FIRST COAT IS FOR CURING. SECOND COAT IS FOR SEALING AND DUST PROOFING AFTER BUILDING CONSTRUCTION COMPLETION.

6. FLOOR SLAB MAY RECEIVE DENSIFIER APPLICATION (NOX-CRETE DURONOX, CONSPEC INTRASEAL, ASHFORD FORMULA, OR EQUIVALENT) IN PLACE OF ACRYLIC FLOOR SEALER. DENSIFIERS DO NOT CONFORM WITH ASTM C-309 AND MAY REQUIRE A CURING COMPOUND PRIOR TO APPLICATION OF DENSIFIER. CURING COMPOUND REQUIREMENT IS TO BE BASED ON CLIMATE CONDITIONS DURING TIME OF CONCRETE PLACEMENT. CONTRACTOR TO CONTACT ENGINEER FOR RECOMMENDATIONS.

7. SLAB ON GRADE SHALL HAVE SECONDARY REINFORCEMENT CONSISTING OF FIBERMESH SYNTHETIC FIBERS - FIBRILLATED POLYPROPYLENE FIBERS ENGINEERED AND DESIGNED FOR USE IN CONCRETE, COMPLYING WITH ASTM C-1116, TYPE III, ¾" LONG MAXIMUM, UNIFORMLY DISPERSED IN CONCRETE MIX AT MANUFACTURER'S RECOMMENDED RATE, BUT NOT LESS THAN 1.5 Rb/CUBIC YARD.
THIS IS HIGHLY RECOMMENDED TO MINIMIZE SURFACE CRACKING, IN LIEU OF A DOUBLE LAYER OF REBAR.

8. SEE PLAN FOR VAPOR RETARDER AND UNDERSLAB DRAINAGE FILL REQUIREMENTS.

BUILDING CODE SUMMARY
STRUCTURAL DESIGN

DESIGN LOADS:

Importance Factors: Snow (I_S) 1.0; Seismic (I_E) 1.0

Live Loads: Roof 20 psf; Mezzanine 60 psf; Floor N/A psf

Ground Snow Load: 10 psf

Wind Load: Ultimate Wind Speed 120 mph (ASCE-7); Exposure Category C

SEISMIC DESIGN CATEGORY: ☐ A ☐ B ☒ C ☐ D

Provide the following Seismic Design Parameters:

Risk Category (Table 1604.5) ☐ I ☐ II ☒ III ☐ IV

Spectral Response Acceleration S_S 27.8 %g S_1 11.3 %g

Site Classification (ASCE 7) ☐ A ☐ B ☒ C ☐ D ☐ E ☐ F

Data Source: ☐ Field Test ☒ Presumptive ☐ Historical Data

Basic structural system ☐ Bearing Wall ☐ Dual w/Special Moment Frame; ☒ Building Frame ☐ Dual w/Intermediate R/C or Special Steel; ☐ Moment Frame ☐ Inverted Pendulum

Analysis Procedure: ☐ Simplified ☒ Equivalent Lateral Force ☐ Dynamic

Architectural, Mechanical, Components anchored? ☒ Yes ☐ No

LATERAL DESIGN CONTROL: Earthquake ☐ Wind ☒

SOIL BEARING CAPACITIES:

Field Test (provide copy of test report) N/A psf

Presumptive Bearing capacity 2,500 psf

Pile size, type, and capacity N/A

REVISIONS

1 12/29/2020 BUILDING CODE SUMMARY STRUCTURAL DESIGN ADDED PER OSFM

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURAL CORPORATION CERT. NO. 50898 ROCKINGHAM, N.C. NORTH CAROLINA

DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.

SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

STRUCTURAL GENERAL NOTES

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
ADDITION and RENOVATIONS

COMM. NO.: 4535
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CHECKED BY: DWS
DATE: 9/11/2020
SHEET NO. S1.0

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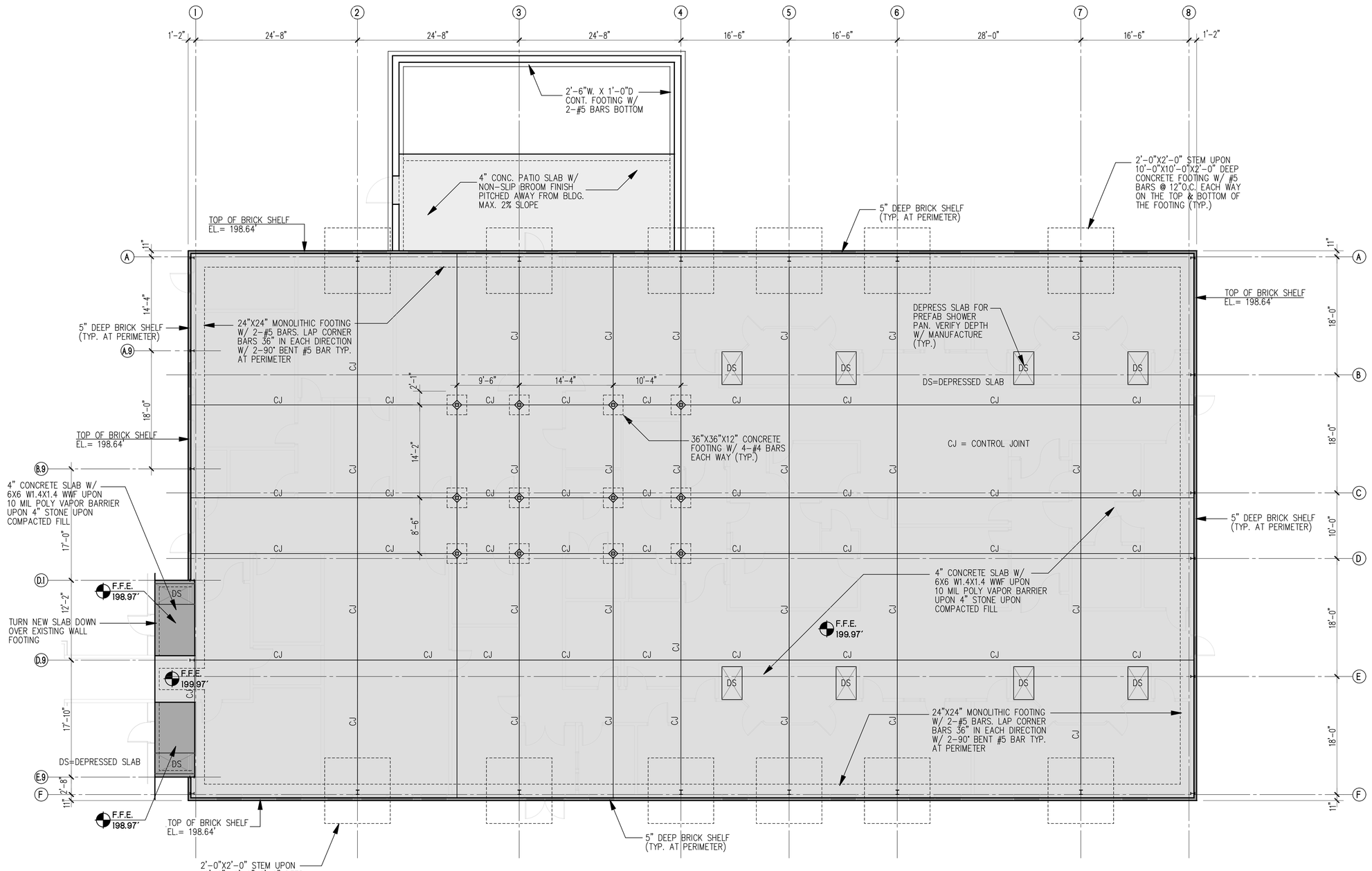

1 FOUNDATION PLAN

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

REVISIONS

FOR CONSTRUCTION

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DAVID W. STOGNER REGISTERED ARCHITECT ROCKINGHAM, NORTH CAROLINA

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Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
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FOUNDATION PLAN

GOOD HOPE HOSPITAL
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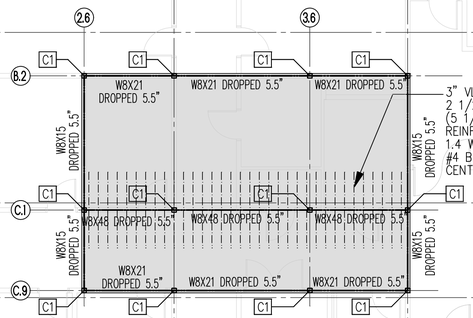
C1 HSS 5"X5"X1/4" STEEL COLUMN UPON 12"X12"X1/2" STEEL BASE PLATE. SEE CONNECTION DETAILS ON SHEET S1.4

SEE ARCHITECTURAL SHEETS FOR ALL DIMENSIONS



(600S162-54) 6" LIGHT GAUGE STEEL RAFTERS @ 24"O.C.

RIDGE BM. TO BE (2) 10" (1000S162-68) LIGHT GAUGE STEEL MEMBERS W/ 3 1/2" WIDE X 33 MIL TOP & BOTTOM CHANNELS.

(600S162-54) 6" LIGHT GAUGE STEEL RAFTERS @ 24"O.C.

NOTE:
ALL LIGHT GAUGE STEEL ROOFS TO BE SHEATHED W/ 1 1/2" METAL ROOF DECKING FASTENED W/ #8 SELF-TAPPING SCREWS @ 6"O.C.

NOTE:
SEE ARCHITECTURAL PLANS FOR ALL DIMENSIONS.

1 MEZZANINE FLOOR & CONNECTOR ROOF FRAMING PLAN

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

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DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.

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615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

MEZZANINE FLOOR & CONNECTOR ROOF FRAMING PLAN

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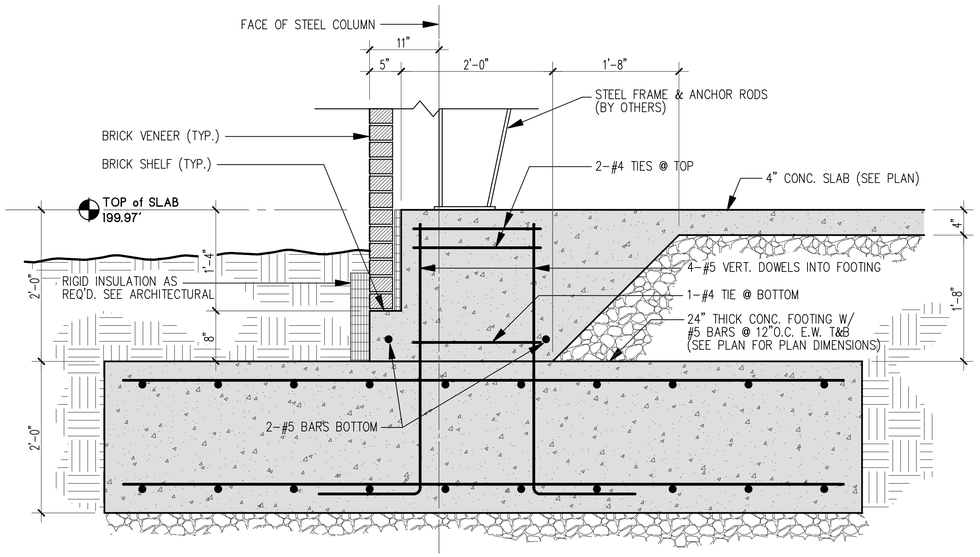
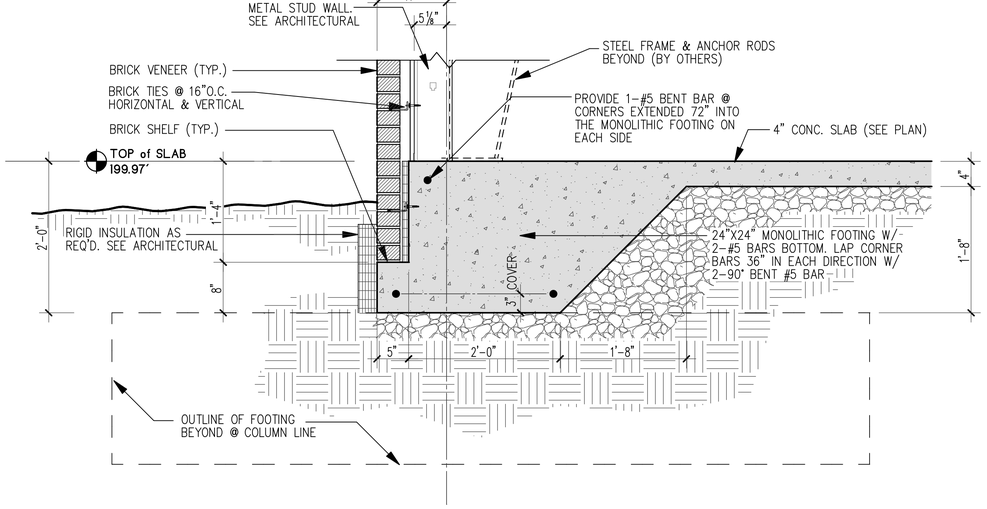
SHEET NO. S1.2



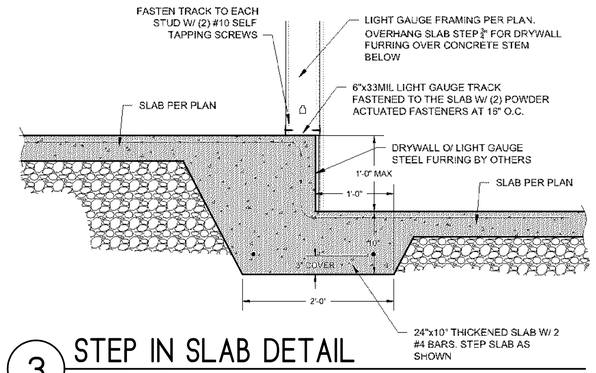
1 FOUNDATION DETAIL @ PREFAB STEEL COLUMNS

SCALE: 1"=1'-0"



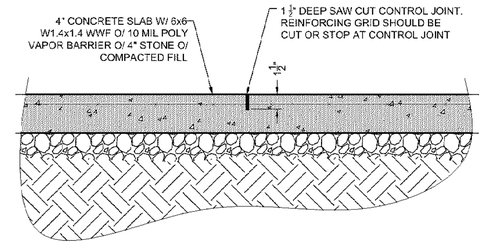
2 TYPICAL FOUNDATION DETAIL @ PREFAB BUILDING

SCALE: 1"=1'-0"



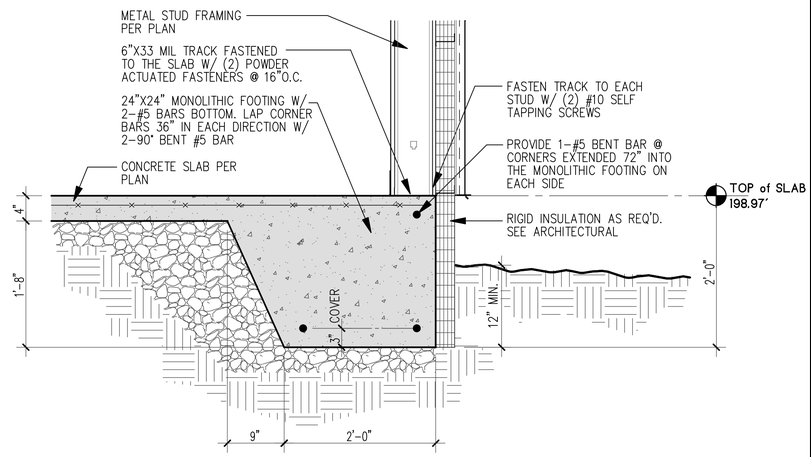
3 STEP IN SLAB DETAIL

SCALE: 1"=1'-0"



5 TYPICAL SLAB CONTROL JOINT DETAIL

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



4 FOUNDATION DETAIL @ CONNECTOR

SCALE: 1"=1'-0"

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DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.

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Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

FOUNDTION DETAILS

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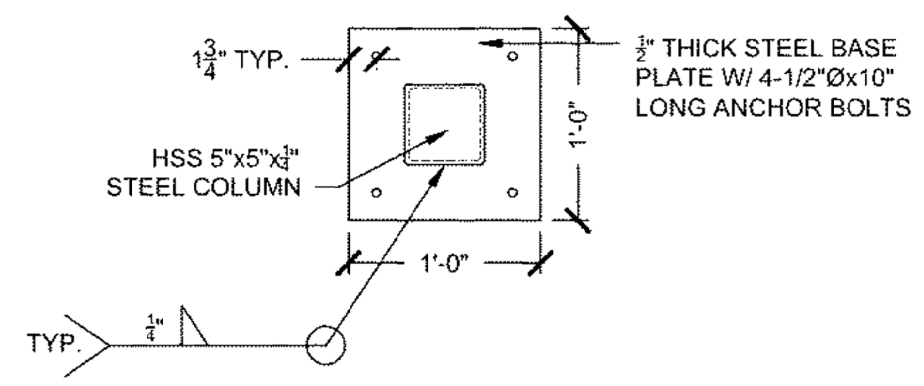
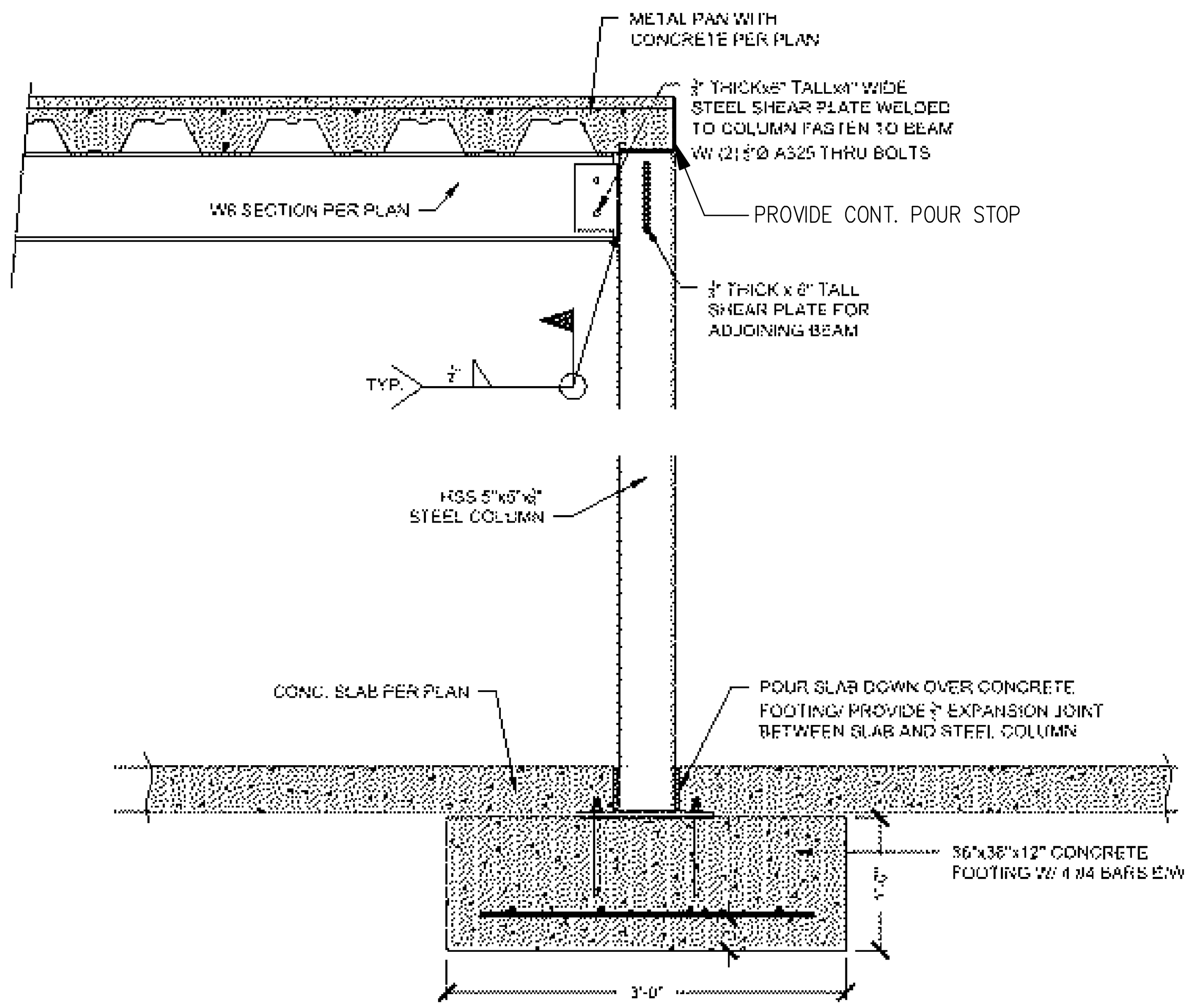


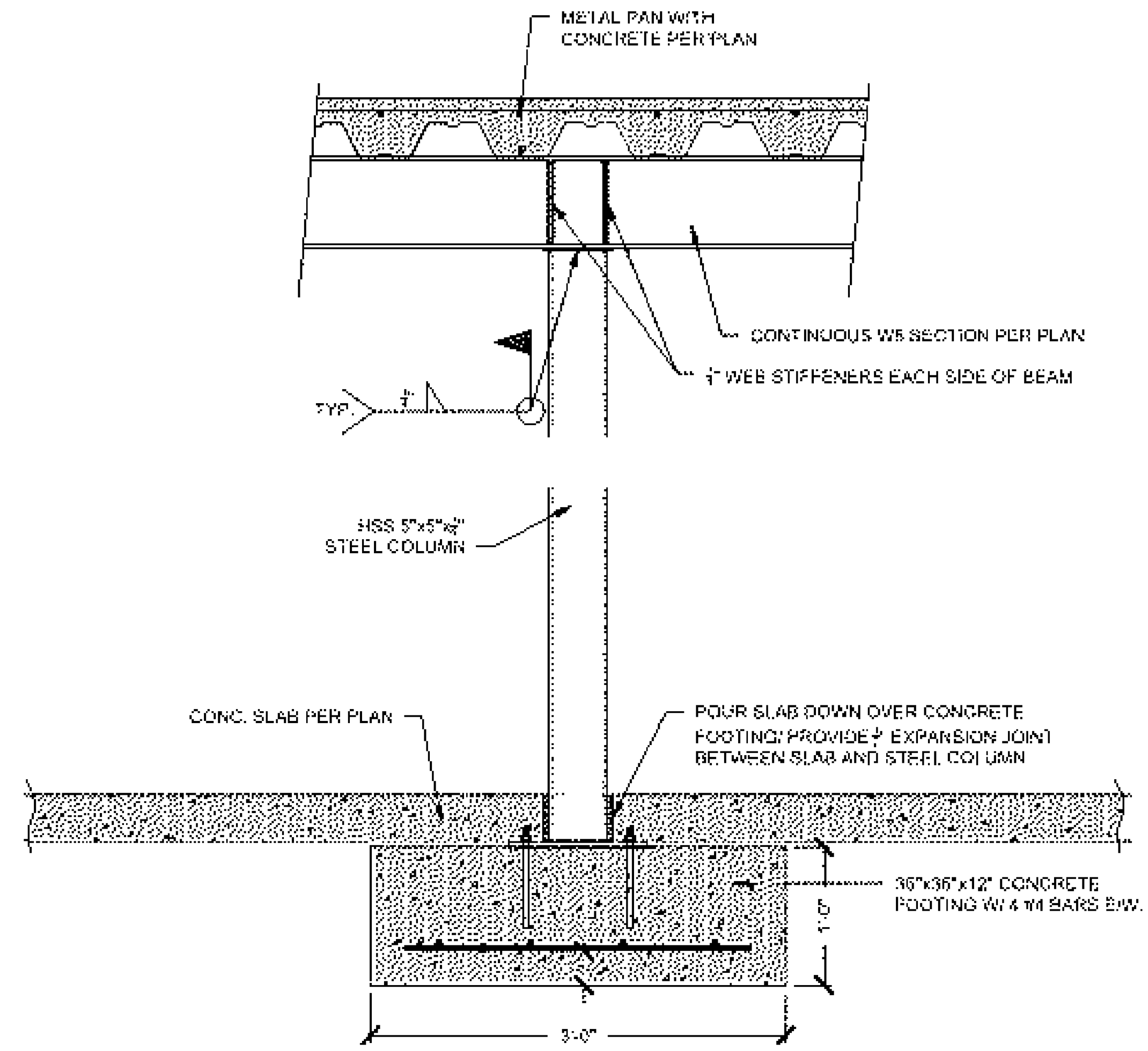
1 TYPICAL BASE PLATE DETAIL

SCALE: 1"=1'-0"



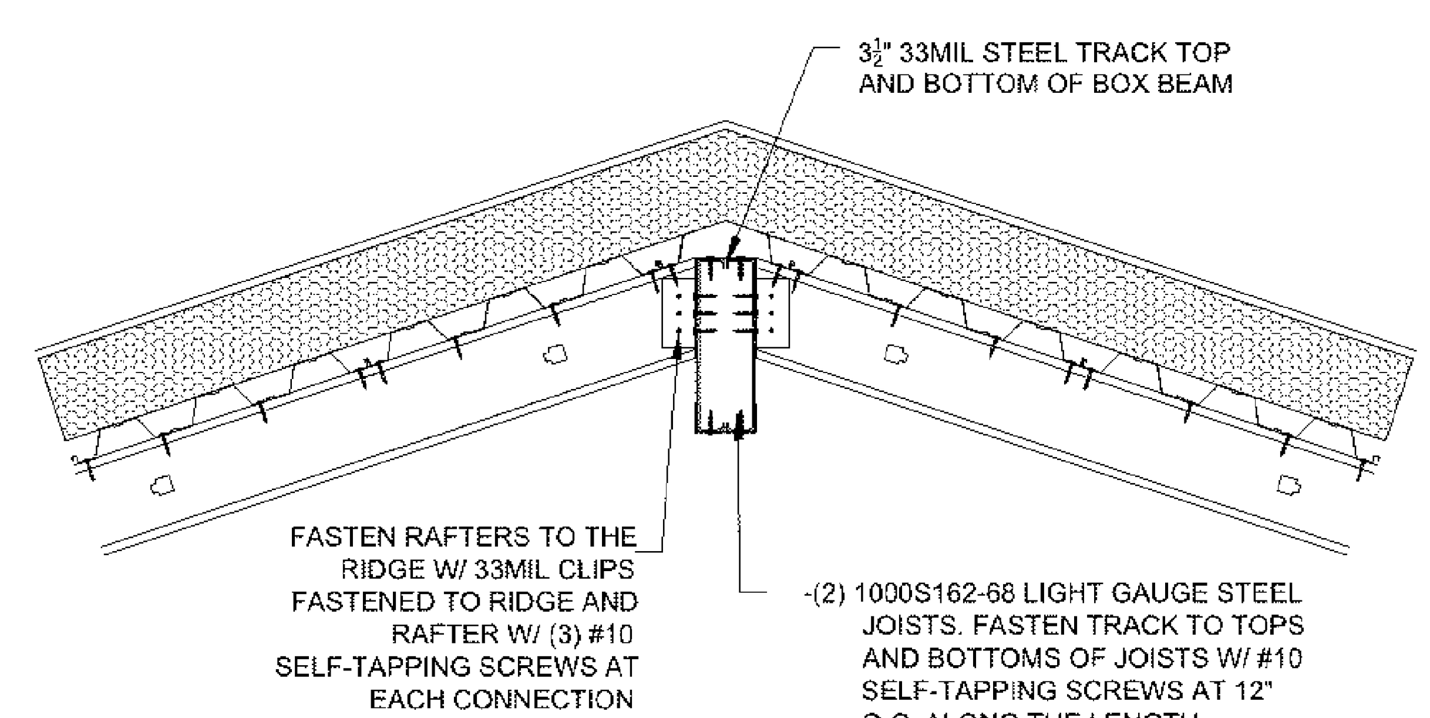
2 TYPICAL MEZZANINE COLUMN DETAIL

SCALE: 1"=1'-0"



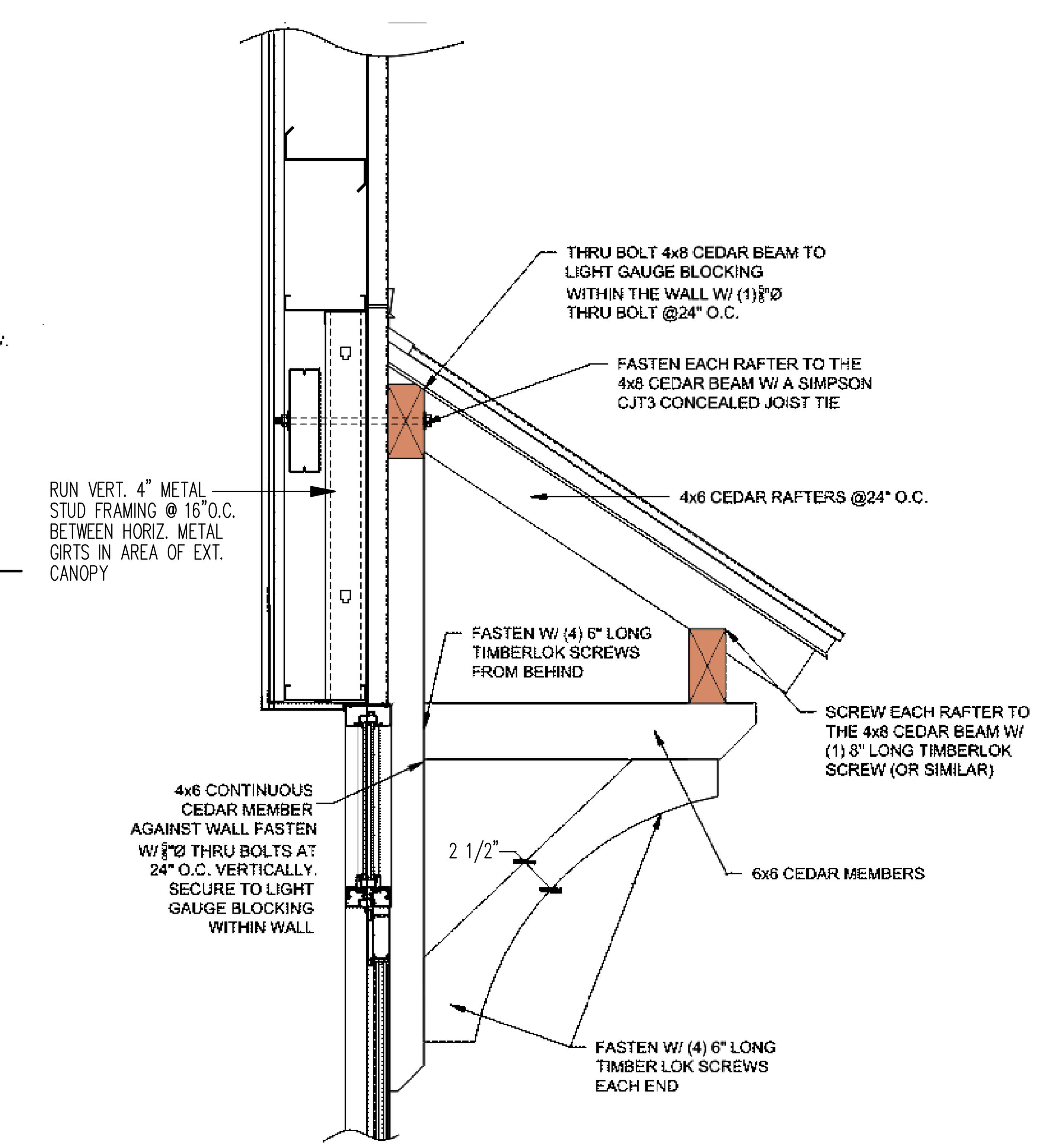
3 TYPICAL MEZZANINE COLUMN DETAIL (CONTINUOUS BEAM)

SCALE: 1"=1'-0"



4 TYPICAL RIDGE CONNECTION DETAIL @ CONNECTOR

SCALE: 1"=1'-0"



5 CANOPY ATTACHMENT DETAIL

SCALE: 1"=1'-0"

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FOR CONSTRUCTION

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DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.

SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

STRUCTURAL SECTIONS

GOOD HOPE HOSPITAL
410 DENIM DRIVE ERWIN, NORTH CAROLINA
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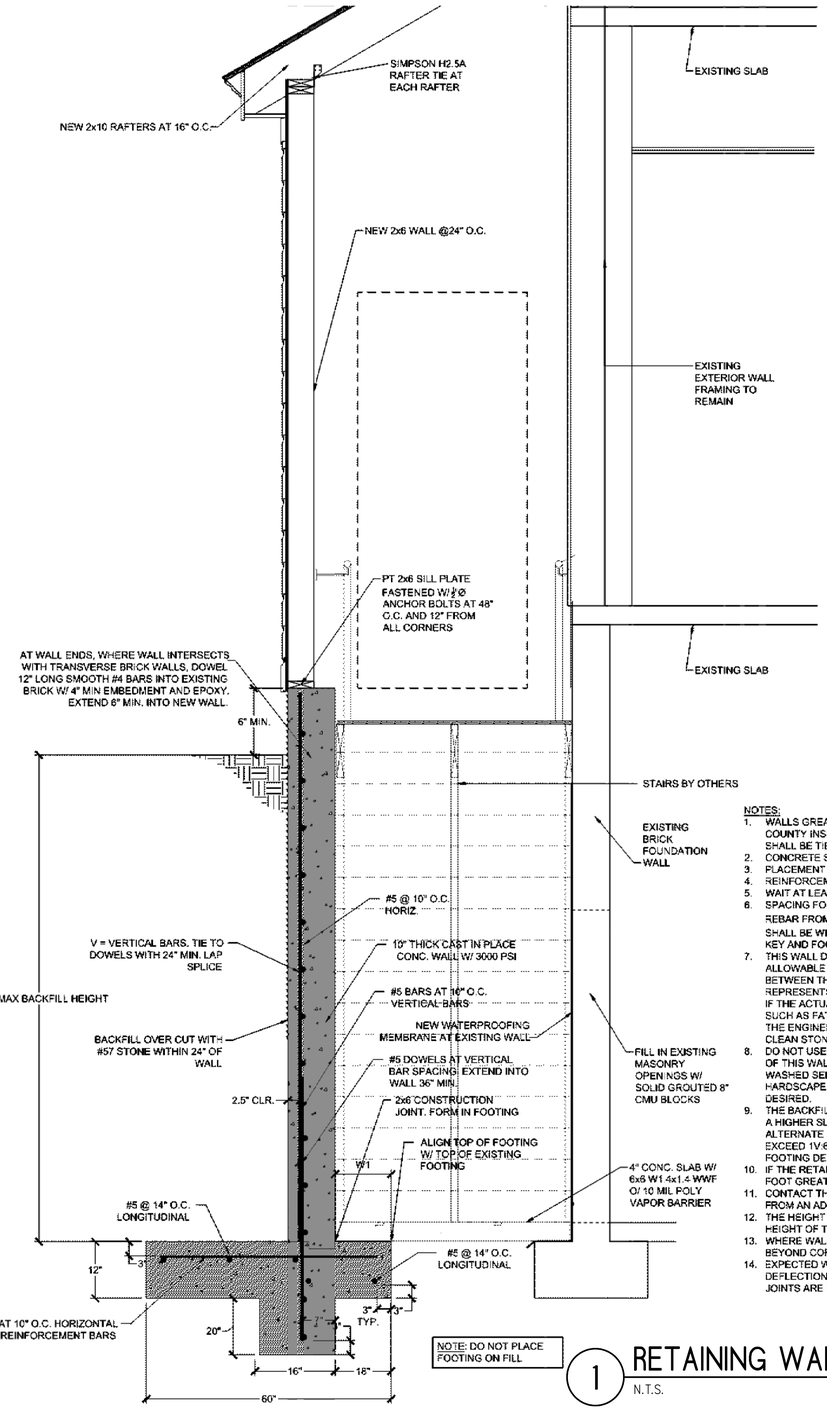

NOTE: DO NOT PLACE FOOTING ON FILL

1 RETAINING WALL DETAIL @ EXISTING BUILDING
N.T.S.

NOTES:
1. WALLS GREATER THAN 48" IN WALL HEIGHT SHALL BE INSPECTED AS REQ'D BY THE COUNTY INSPECTOR PRIOR TO POURING CONCRETE. ALL REINFORCEMENT STEEL SHALL BE TIED OFF FOR INSPECTION.
2. CONCRETE SHALL BE 3,000 PSI AT 28 DAYS
3. PLACEMENT OF CONCRETE SHALL CONFORM TO ACI 318
4. REINFORCEMENT SHALL BE GRADE 60
5. WAIT AT LEAST 7 DAYS BEFORE BACKFILLING
6. SPACING FOR REBAR SHALL BE WITHIN 1" OF DIMENSION SHOWN. DISTANCE OF REBAR FROM EDGE OF WALL SHALL BE WITHIN ½". WALL AND FOOTING THICKNESS SHALL BE WITHIN ¼" TOLERANCE. FOOTING WIDTHS SHALL BE WITHIN 2" TOLERANCE. KEY AND FOOTING DEPTHS SHALL BE WITHIN 1".
7. THIS WALL DESIGN IS BASED ON AN EQUIVALENT FLUID PRESSURE OF 35 PCF AND ALLOWABLE SOIL BEARING CAPACITY OF 2000 PSF AND A COEFFICIENT OF FRICTION BETWEEN THE FOOTING AND SOIL OF 0.35. A FLUID PRESSURE OF 35 PCF REPRESENTS SAND OR GRAVEL WITH LITTLE FINES AND GOOD DRAINAGE QUALITIES. IF THE ACTUAL FIELD VALUES ARE LESS FAVORABLE THAN THESE ASSUMED VALUES SUCH AS FAT CLAYS OR SIMILAR SOILS WITH POOR DRAINAGE QUALITIES, CONTACT THE ENGINEER FOR REANALYSIS, OTHERWISE BACKFILL AGAINST THE WALL WITH CLEAN STONE OR DRAINABLE FILL.
8. DO NOT USE COMPACTION MACHINES OR ENGINEERED COMPACTED FILL WITHIN 5 FT. OF THIS WALL WITHOUT WRITTEN APPROVAL FROM THE ENGINEER. ONLY CLEAN, WASHED SELF COMPACTING #57 STONE MAY BE PLACED AGAINST WALLS WHERE HARDSCAPE WILL BE PLACED ON BACKFILL SURFACE AND NO SETTLEMENT IS DESIRED.
9. THE BACKFILL AGAINST THE WALL IS ASSUMED LEVEL OR SLOPE DOWN AND AWAY. IF A HIGHER SLOPE IS ANTICIPATED, CONTACT THE ENGINEER OF RECORD FOR AN ALTERNATE DETAIL. THE SLOPE ON THE TOE (NON-BACKFILL) SIDE SHALL NOT EXCEED 1V:6H FOR A DISTANCE EQUAL TO THE HEIGHT OF THE BACKFILL. DIG FOOTING DEEPER AND INCREASE WALL HEIGHT AS NEEDED TO ACHIEVE THIS.
10. IF THE RETAINING SIDE WILL SUPPORT A DRIVEWAY, INCREASE THE WALL DESIGN A FOOT GREATER THAN THE ACTUAL RETAINING HEIGHT.
11. CONTACT THE ENGINEER IF THE WALL WILL NEED TO RETAIN A SURCHARGE LOAD FROM AN ADJACENT STRUCTURE OR POOL.
12. THE HEIGHT OF THE WALL IS MEASURED FROM THE TOP OF THE FOOTING TO THE HEIGHT OF THE BACKFILL.
13. WHERE WALLS CHANGE DIRECTION CONTINUE HORIZONTAL REBAR MINIMUM 24" BEYOND CORNERS. ALL LAP SPLICES SHALL BE AT LEAST 40 BAR DIAMETERS.
14. EXPECTED WALL DEFLECTION UNDER THIS DESIGN CAN BE UP TO 1". IF LESS DEFLECTION IS DESIRED CONTACT ENGINEER FOR A STIFFER DESIGN. EXPANSION JOINTS ARE REQUIRED EVERY 50 FT.

REVISIONS

FOR CONSTRUCTION

STOGNER ARCHITECTURE, P.A. REGISTERED ARCHITECTURE CORPORATION CERT. NO. 50898 NORTH CAROLINA ROCKINGHAM, N.C.

DAVID W. STOGNER REGISTERED ARCHITECT NORTH CAROLINA ROCKINGHAM, N.C.

SEPT. 11, 2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

RETAINING WALL DETAIL @ EXISTING BUILDING

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PLUMBING GENERAL NOTES

1. FURNISH ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED FOR THE COMPLETION AND OPERATION OF ALL SYSTEMS IN THIS SECTION OF WORK IN ACCORDANCE WITH ALL APPLICABLE CODES.
2. ALL PLUMBING FIXTURES AND PLUMBING SYSTEM EQUIPMENT SHALL BE PROVIDED COMPLETE WITH ALL ACCESSORIES, HANGERS, VALVES, STOPS, TAILPIECES, TRAPS, FAUCETS, STRAINERS, ETC. SEE FIXTURE SCHEDULE.
3. FURNISH AND INSTALL COMPLETE SYSTEMS OF SOIL, WASTE, VENT, HOT AND COLD WATER PIPING FROM ALL PLUMBING FIXTURES, AND/OR OTHER EQUIPMENT.
4. CLEANOUT PLUGS SHALL BE INSTALLED IN ACCORDANCE WITH PLUMBING CODE REQUIREMENTS. PROVIDE CLEANOUTS AT THE BASE OF ALL WASTE STACKS, AT EVERY FOUR 45 DEGREE TURNS, AND AT EVERY 100 FEET. CLEANOUTS SHALL BE PLACED IN READILY ACCESSIBLE LOCATIONS.
5. ALL SOIL, WASTE, AND VENT LINES SHALL BE CONCEALED IN THE BUILDING CONSTRUCTION.
6. COPPER PIPING SHALL BE PROTECTED AGAINST CONTACT WITH MASONRY OR DISSIMILAR METALS. ALL HANGERS, SUPPORTS, ANCHORS, AND CLIPS SHALL BE COPPER OR COPPER PLATED. WHERE COPPER PIPING IS CARRIED ON IRON TRAPEZE HANGERS WITH OTHER PIPING, SATISFACTORY AND PERMANENT ELECTROLYTIC ISOLATION MATERIAL SHALL PROTECT THE COPPER AGAINST CONTACT WITH OTHER METALS.
7. WHERE COPPER PIPING IS SLEEVED THROUGH MASONRY, SLEEVES SHALL BE COPPER OR RED BRASS. WHERE COPPER MUST BE CONCEALED IN A MASONRY PARTITION OR AGAINST MASONRY, CONTACT SHALL BE PREVENTED BY COATING THE COPPER HEAVILY WITH ASPHALTIC ENAMEL AND PROVIDING 15# ASPHALT SATURATED FELT BETWEEN THE PIPE AND MASONRY.
8. THE PLUMBING CONTRACTOR SHALL COORDINATE CLOSELY WITH THE MECHANICAL AND THE ELECTRICAL CONTRACTORS TO AVOID CONFLICT WITH OTHER TRADES.
9. CEILING AREA HAS LIMITED SPACE. CONTRACTOR MUST COORDINATE WITH OTHER TRADES FOR ALL STRUCTURES, PIPING, CONDUIT, DUCTWORK, LIGHTING, ETC. TO PROPERLY BE INSTALLED.
10. ALL PIPE INSULATION SHALL RUN CONTINUOUSLY THROUGH FLOORS, WALLS, AND PARTITIONS.
11. PROVIDE DRAIN VALVES IN THE HOT AND COLD WATER SYSTEM AT ALL LOW POINTS TO ALLOW FOR COMPLETE DRAINAGE. PROVIDE SHUT-OFF VALVES AT THE BASE OF ALL STACKS.
12. PROVIDE BALL VALVES IN ALL BRANCH LINES OF THE HOT AND COLD WATER DISTRIBUTION SYSTEM ON ¾" AND LARGER CW & HW AND AS SHOWN ON PLANS, RISERS, AND SCHEMATIC DETAILS. PROVIDE SHUT OFF VALVES ON THE FIXTURE SUPPLY TO EACH PLUMBING FIXTURE, APPLIANCE, OR MECHANICAL EQUIPMENT.
13. VACUUM BREAKERS SHALL BE PROVIDED FOR ALL FIXTURES TO WHICH HOSES MAY BE ATTACHED. VACUUM BREAKERS SHALL BE PERMANENTLY ATTACHED.
14. WASTE AND VENT PIPING SHALL BE AS FOLLOWS:
    BELOW SLAB: PVC PIPE, PVC SOCKET FITTINGS, AND SOLVENT-CEMENTED FITTINGS.
    ABOVE SLAB: PVC PIPE, PVC SOCKET FITTINGS, AND SOLVENT-CEMENTED FITTINGS.
15. DOMESTIC WATER PIPING ABOVE SLAB SHALL BE TYPE 'L' COPPER. DOMESTIC WATER PIPING BELOW SLAB SHALL BE TYPE 'K' COPPER. INSULATION IS REQUIRED ON ALL WATER SUPPLY PIPING ABOVE FINISHED FLOOR. INSULATION TO HAVE A MINIMUM R FACTOR OF 6.5 OR PER LOCAL JURISDICTION.
16. EXPOSED LAVATORY DRAINS AND HOT WATER LINES MUST BE INSULATED AND COVERED PER ADA REQUIREMENTS.
17. ALL PLUMBING VENT LOCATIONS TO BE VERIFIED WITH ARCHITECT BEFOR INSTALLATION.
18. ALL PLUMBING LINES REQUIRED TO BE JETTED PRIOR TO TURNOVER.
19. PIPING SHOULD BE COORDINATED WITH ALL STRUCTURAL FOOTINGS AND FOUNDATIONS. PIPE SHOULD BE OFFSET TO AVOID CONTACT WITH FOOTINGS AND FOUNDATION WALLS. IF PIPING MUST RUN UNDERNEATH A FOOTING OR THROUGH A FOUNDATION WALL, THE PIPE MUST BE INSTALLED WITH A RELIEVING ARCH OR IN A PIPE SLEEVE.
20. INVERT ELEVATIONS SHALL BE ESTABLISHED AND VERIFIED BEFORE WASTE PIPING IS INSTALLED SO THAT PROPER SLOPES WILL BE MAINTAINED.
21. THE PLUMBING CONTRACTOR SHALL PROVIDE WATER HAMMER PROTECTION ON ALL WATER DISTRIBUTION PIPING. INSTALLATION OF AIR CHAMBERS OR SHOCK ARRESTORS SHALL BE IN ACCORDANCE WITH PDI-WH201. SEE SHOCK ARRESTOR SCHEDULE (IF PROVIDED).
22. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS OF PLUMBING FIXTURES.
23. PROVIDE ACCESS DOORS FOR ALL VALVES AND DEVICES REQUIRING ACCESS WHEN LOCATED IN WALLS OR ABOVE INACCESSIBLE CEILING CONSTRUCTION. ACCESS DOORS TO BE RATED WHERE INSTALLED IN RATED ASSEMBLIES.
24. PROVIDE DEEP SEAL TRAPS FOR ALL FLOOR DRAINS.
25. WHERE EARTHQUAKE LOADS ARE APPLICABLE IN ACCORDANCE WITH THE NC INTERNATIONAL PLUMBING CODE, PIPING AND EQUIPMENT SUPPORTS SHALL BE DESIGNED AND INSTALLED FOR THE SEISMIC FORCES IN ACCORDANCE WITH THE NC BUILDING CODE.
26. PROVIDE A U.L. LISTED ASSEMBLY FOR ALL PENETRATIONS THRU FIRE RATED WALLS AND FLOORS.
27. PROVIDE PRESSURE REDUCING VALVE IF PRESSURE EXCEEDS 80 PSI.
28. COORDINATE ALL WORK WITH KITCHEN PLANS AND SPECIFICATIONS.

PLUMBING LEGEND

- DOMESTIC COLD WATER PIPING
- DOMESTIC COLD WATER PIPING (UNDRSLAB)
- DOMESTIC HOT WATER PIPING
- HWR — DOMESTIC HOT WATER RETURN
- VENT PIPING
- WASTE (SANITARY SEWER)
- EXISTING PIPING
- BALL VALVE
- CHECK VALVE
- BV — BALANCING VALVE
- PIPE UP
- PIPE DOWN
- FLOOR DRAIN
- FLOOR SINK
- CONNECT TO EXISTING
- FIRE SPRINKLER RISER

AAV	AIR ADMITTANCE VALVE
ABV	ABOVE
AFF	ABOVE FINISHED FLOOR
CW	COLD WATER
DN	DOWN
E.C.	ELECTRICAL SUB-CONTRACTOR
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FR	FROM
FS	FLOOR SINK
G.C.	GENERAL CONTRACTOR
HB	HOSE BIBB
HD	HUB DRAIN
HW	HOT WATER
M.C.	MECHANICAL SUB-CONTRACTOR
P.C.	PLUMBING SUB-CONTRACTOR
V	VENT
W	WASTE

PLUMBING FIXTURE SPECIFICATIONS AND CONNECTION SCHEDULE

MARK	FIXTURE	TYPE	MANUFACTURER	MODEL NO.	MATERIAL	STYLE	FAUCET/VALVE MANUFACT. MODEL NO.	FAUCET/VALVE SPOUT	FAUCET/VALVE HANDLES	FAUCET/VALVE CENTERS	DRAIN TYPE	DRAIN SIZE	SUPPLIES AND STOPS	PIPE SIZES WASTE	PIPE SIZES VENT	PIPE SIZES CW	PIPE SIZES HW	MOUNTING	REMARKS
P-1	WATER CLOSET	FLUSH VALVE	AMERICAN STANDARD	3043.102	VITREOUS CHINA	ADA ELONGATED	SLOAN ROYAL III	-	-	-	-	-	-	3"	2"	1½"	-	FLOOR	PROVIDE WITH OPEN FRONT SEAT WITH NO LID. 1.6 GPF SEE NOTE 5
P-1A	WATER CLOSET	FLUSH VALVE	WHITEHALL	WH2142-ADA-W-2-EGE10-HET	STAINLESS STEEL	ADA ELONGATED	-	-	-	-	-	-	-	3½"	2"	1½"	-	FLOOR MOUNT/WALL WASTE	SEAT INCLUDED. PROVIDE W/ 1.28 GPF FLUSH VALVE OPTION. LIGATURE RESISTANT SEE NOTE 5
P-3A	LAVATORY	WALL HUNG	AMERICAN STANDARD	0355.012	VITREOUS CHINA	ADA COMPLIANT	CFG 47713L	CENTERSET	SINGLE LEVER	4"	GRID	1½"	McGUIRE 175	2"	1¼"	½"	½"	WALL HUNG	MOUNT AT ADA HEIGHT
P-3B	LAVATORY	WALL HUNG	WHITEHALL	WH3775-3373	SOLID SURFACE	ADA COMPLIANT	BEHAVIORAL SAFETY PROD. SF-390	CENTERSET	SENSOR	4"	GRID	1½"	McGUIRE 175	2"	1¼"	½"	½"	WALL HUNG	DRAIN: ODDBALL SP-11-GDK MOUNT AT ADA HEIGHT LIGATURE RESISTANT HARD WIRED 120V CONNECTION
P-5A	SHOWER PAN	PREFAB	FLEURCO	ABF3763AD	ACRYLIC	ADA 40" x 40"	WHITEHALL WHSV16	-	TWIST KNOB	-	INTEGRAL	2"	-	2"	1½"	½"	½"	FLOOR	HOSE: ODDBALL SP-7WC SEAT: BREY KRAUSE S-6510-SS GRAB BAR: WHITEHALL WH1140 DRAIN: WHITEHALL WHFD LIGATURE RESISTANT SEE NOTES 2,3,7
P-6	BAR SINK	SINGLE COMP'T	ELKAY	LRAD2022	STAINLESS STEEL	5⅜" DEEP 3-HOLE HANDICAPPED	T&S BRASS B-2866-05	8" SWING	DUAL LEVER	8"	CRUMB CUP	1½"	McGUIRE LF2165	1½"	1½"	½"	½"	COUNTER TOP	CUP STRAINER: ELKAY LK-35 PROVIDE OFFSET TAILPIECE INSULATE TRAP
P-6A	KITCHEN SINK	SINGLE COMP'T	DAYTON	GE125214	STAINLESS STEEL	5⅜" DEEP 4-HOLE HANDICAPPED	CFG 47513B	8" SWING	SINGLE LEVER	8"	CRUMB CUP	1½"	McGUIRE 165	1½"	1½"	½"	½"	COUNTER TOP	PROVIDE WITH ELKAY LK-35 INSULATE TRAP
P-7	REFRIGERATOR BOX	BOTTOM SUPPLY	SPECIALTY PRODUCTS	OB-807 / OBFS-8020	PVC / FIRE-RESISTANT	RECESSED BOX	-	-	-	-	-	-	-	-	-	½"	-	WALL	SHUT-OFF VALVE & THREADED CW CONNECTION. PROVIDE F.R. MODEL WHEN IN RATED WALL.
P-8	MOP SINK	FLOOR MOUNTED	FIAT	TSB	TERRAZZO	24" X 24" 12" HIGH	FIAT 830-AA	THREADED	TWO HANDLES	8"	-	-	-	3"	1½"	¾"	¾"	FLOOR	PROVIDE MOP HANGER, HOSE, HOSE BRACKET, AND VACUUM BREAKER.
P-9	WASHER WALL BOX	BOTTOM SUPPLY	SPECIALTY PRODUCTS	OB-351 / OBFS-2020	PVC / FIRE-RESISTANT	RECESSED BOX	-	-	-	-	-	-	-	3"	1½"	¾"	¾"	WALL	SHUT-OFF VALVES & HOSE CONNECTION FOR WASTE. PROVIDE F.R. MODEL WHEN IN RATED WALL
P-10	3-COMP SINK	TRIPLE COMP'T	ADVANCE TABCO	FS-3-1824-24RL	STAINLESS STEEL	18"x24"x14" BOWL	ADVANCE TABCO K-105	14" SWING	TWO HANDLE	8"	BASKET	1½"	McGUIRE 165	1½"	1½"	½"	½"	FLOOR	WASTE DRAINS INCLUDED. INDIRECT DRAIN TO FLOOR SINK BELOW
P-11	HAND SINK	SINGLE COMP'T	ADVANCE TABCO	7-PS-60	STAINLESS STEEL	5" DEEP	-	-	TWO HANDLE	4"	BASKET	1½"	McGUIRE 165	1½"	1½"	½"	½"	WALL HUNG	PROVIDED WITH MFG SPLASH MOUNTED FAUCET AND 2 SS SUPPORT BRACKETS
WH-1	WATER HEATER	ELECTRIC	RHEEM	ELD120-TB	GLASS LINED	TALL	-	-	-	-	-	-	-	-	-	¾"	¾"	FLOOR	120 GAL. STORAGE, 15KW, 208V, 3Φ, 49 GPH REC AT 100°F RISE PROVIDE DRAIN PAN; SEE NOTE 4
WH-2	WATER HEATER	ELECTRIC	RHEEM	ELD80-TB	GLASS LINED	TALL	-	-	-	-	-	-	-	-	-	¾"	¾"	FLOOR	80 GAL. STORAGE, 12KW, 208V, 3Φ, 49 GPH REC AT 100°F RISE PROVIDE DRAIN PAN; SEE NOTE 4
FPHB	HOSE BIBB	FREEZE PROOF	WOODFORD	25	CAST BRASS	WALL FAUCET	-	-	-	-	-	-	-	-	-	½"	-	WALL	
GCO	GRADE CLEAN-OUT	ROUND TOP	J.R. SMITH	4240	CAST IRON	CAST IRON TOP	-	-	-	-	-	-	-	-	-	-	-	GRADE	PROVIDE WITH 24"x24"x8" THK CONCRETE PAD AT GRADE.
WCO	WALL CLEAN-OUT	ROUND COVER	J.R. SMITH	4472	CAST IRON	S.S. COVER	-	-	-	-	-	-	-	-	-	-	-	WALL	
RP-1	RECIRC PUMP	-	BELL & GOSSETT	SERIES PR	CAST IRON	-	-	-	-	-	-	-	-	-	-	-	-	-	1/6 HP, 115V, 1Φ
SI-1	SOLIDS INTERCEPTOR	-	STRIEM	AA-M	HDPE	-	-	-	-	-	-	-	-	-	-	-	-	-	3" SCH. 40 PLAIN END INLET/OUTLETS
FD	FLOOR DRAIN	SQUARE TOP	J.R. SMITH	2010	CAST IRON	NIKALOY TOP	-	-	-	-	-	-	-	-	-	-	-	FLOOR	PROVIDE WITH TRAP PRIMER CONNECTION WHEN HB IS NOT SHOWN ON PLANS. SEE NOTE 6
FFD	FUNNEL FLOOR DRAIN	ROUND TOP	J.R. SMITH	3510C	CAST IRON	NIKALOY TOP	-	-	-	-	-	-	-	3"	-	-	-	FLOOR	PROVIDE WITH TRAP PRIMER SEE NOTE 6
FS	FLOOR SINK	SQUARE TOP	J.R. SMITH	3150 WITH HALF GRATE	CAST IRON	NIKALOY TOP	-	-	-	-	-	-	-	-	-	-	-	FLOOR	ACID RESISTING ENAMEL INTERIOR DOME BOTTOM STRAINER FLASHING CLAMP

NOTES:
1. CATALOG NUMBERS AND MANUFACTURERS ARE TO INDICATE TYPE AND QUALITY OF FIXTURE DESIRED. SUBMIT CUTSHEETS OF THESE AND ALTERNATE MANUFACTURERS FOR ARCHITECT AND OWNER APPROVAL PRIOR TO PURCHASE OF ANY FIXTURES. INFORMATION ON ALTERNATE FIXTURES PROPOSED BY THE CONTRACTOR SHALL INCLUDE THE ADD/DEDUCT ASSOCIATED WITH ACCEPTANCE OF THAT FIXTURE (OR THE ALTERNATE PACKAGE AS A WHOLE).
2. SHOWER HOSE SHALL BE QUICK-RELEASE TYPE AND FAUCET SHALL BE SET UP TO ACCEPT BOTH HOSE AND FIXED POSITION SHOWER HEAD.
3. PROVIDE WITH LIGATURE RESISTANT DIVERTER VALVE. MOUNT FIXED SPRAYER (WHITEHALL WHCSH16) SO THAT SPRAY IS DIRECTED TO SEAT WALL AND NOT AT SHOWER CURTAIN.
4. SET LEAVING WATER TEMPERATURE TO 110°F.
5. PROVIDE ALL TOILETS WITH FLUSH CONTROL ON OPEN SIDE OF TOILET.
6. TRAP PRIMER FROM NEAREST WATER SUPPLY. PROVIDE ACCESS.
7. CERAMIC SURROUND BY G.C.

Drawing Sheet List

Number	Title
P0.0	PLUMBING LEGEND, NOTES AND SCHEDULES
P0.1	PLUMBING DETAILS
P1.0	PLUMBING FLOOR PLAN
P2.0	PLUMBING RISER DIAGRAM
P2.1	PLUMBING RISER DIAGRAM

FOR CONSTRUCTION

REVISIONS
1 DHHS COMMENTS 11/23/20

LIGHTHOUSE ENGINEERING
400 W. Morgan Street, Suite 100
Raleigh, North Carolina, 27603
tel 919.835.9781
fax 919.835.9754
MECHANICAL ELECTRICAL PLUMBING

NORTH CAROLINA LIGHTHOUSE ENGINEERING,PA No. C-2714 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 049239 ENGINEER MATTHEW J. PARKS
11-30-2020

Stogner Architecture, PA
ARCHITECTURE – CONSTRUCTION MANAGEMENT – DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

GOOD HOPE HOSPITAL
ADDITION and RENOVATIONS
410 DENIM DRIVE
ERWIN, NORTH CAROLINA

PLUMBING NOTES AND SCHEDULES

COMM. NO.: 4535
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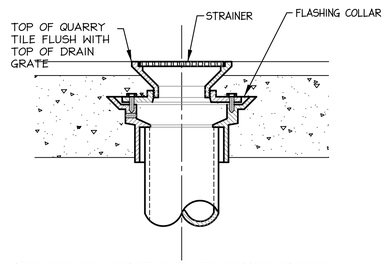
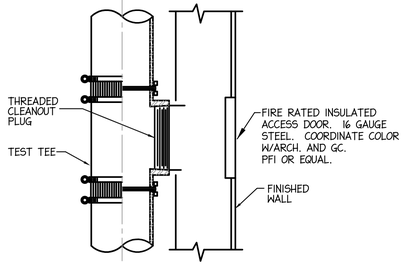
CHECKED BY: SAB
DATE: SEPT 11, 2020
SHEET NO.
P0.0

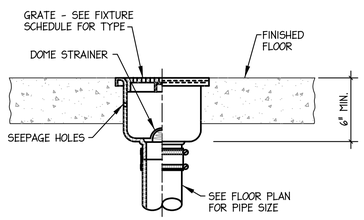


NOTE: PROVIDE WITH TRAP PRIMER CONNECTION FROM NEAREST WATER SUPPLY. PROVIDE ACCESS.

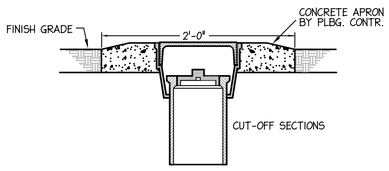
6 FLOOR DRAIN DETAIL
NO SCALE



5 WALL CLEANOUT DETAIL
NO SCALE (WCO)

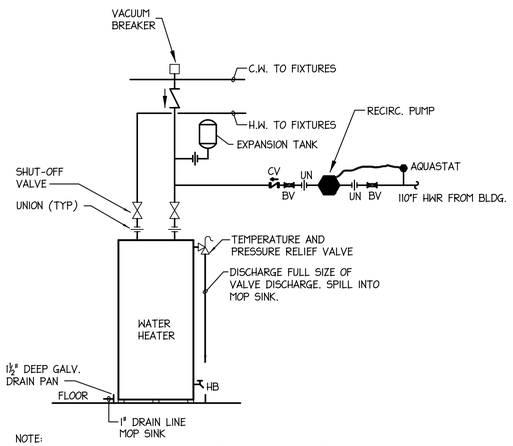


4 FLOOR SINK DETAIL
NO SCALE



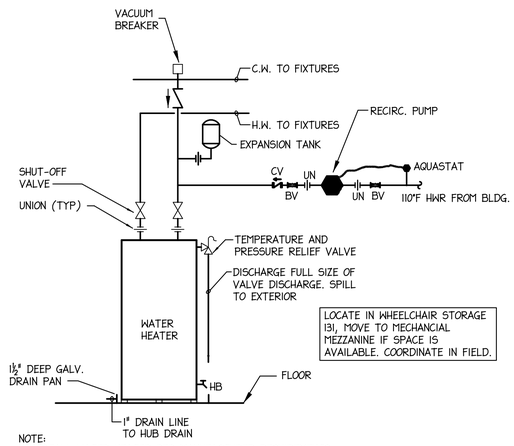
SECTION
GCO , YCO - EXTERIOR

3 EXTERIOR CLEANOUT DETAIL
NO SCALE



NOTE:
1. INSTALL WATER HEATER PER MANUFACTURER REQUIREMENTS
2. PROVIDE HEAT TRAP ON CW AND HW LINES PER ENERGY CODE
3. ELEVATE DRAIN PAN AS NECESSARY TO ALLOW PROPER FLOW

2 WATER HEATER DETAIL (WH-2)
NO SCALE



NOTE:
1. INSTALL WATER HEATER PER MANUFACTURER REQUIREMENTS
2. PROVIDE HEAT TRAP ON CW AND HW LINES PER ENERGY CODE
3. ELEVATE DRAIN PAN AS NECESSARY TO ALLOW PROPER FLOW

1 WATER HEATER DETAIL (WH-1)
NO SCALE

FOR CONSTRUCTION

REVISIONS

LIGHTHOUSE ENGINEERING
400 W. Morgan Street, Suite 100
Raleigh, North Carolina, 27603
tel 919.835.9781
fax 919.835.9754
MECHANICAL ELECTRICAL PLUMBING

NORTH CAROLINA CERTIFICATE OF AUTHORIZATION
LIGHTHOUSE ENGINEERING, PA
No. C-2714

NORTH CAROLINA REGISTERED
SEAL 049239
ENGINEER
MATTHEW J. PARKS
9-11-2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

GOOD HOPE HOSPITAL
ADDITION and RENOVATIONS
410 DENIM DRIVE
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PLUMBING DETAILS

COMM. NO.: 4535
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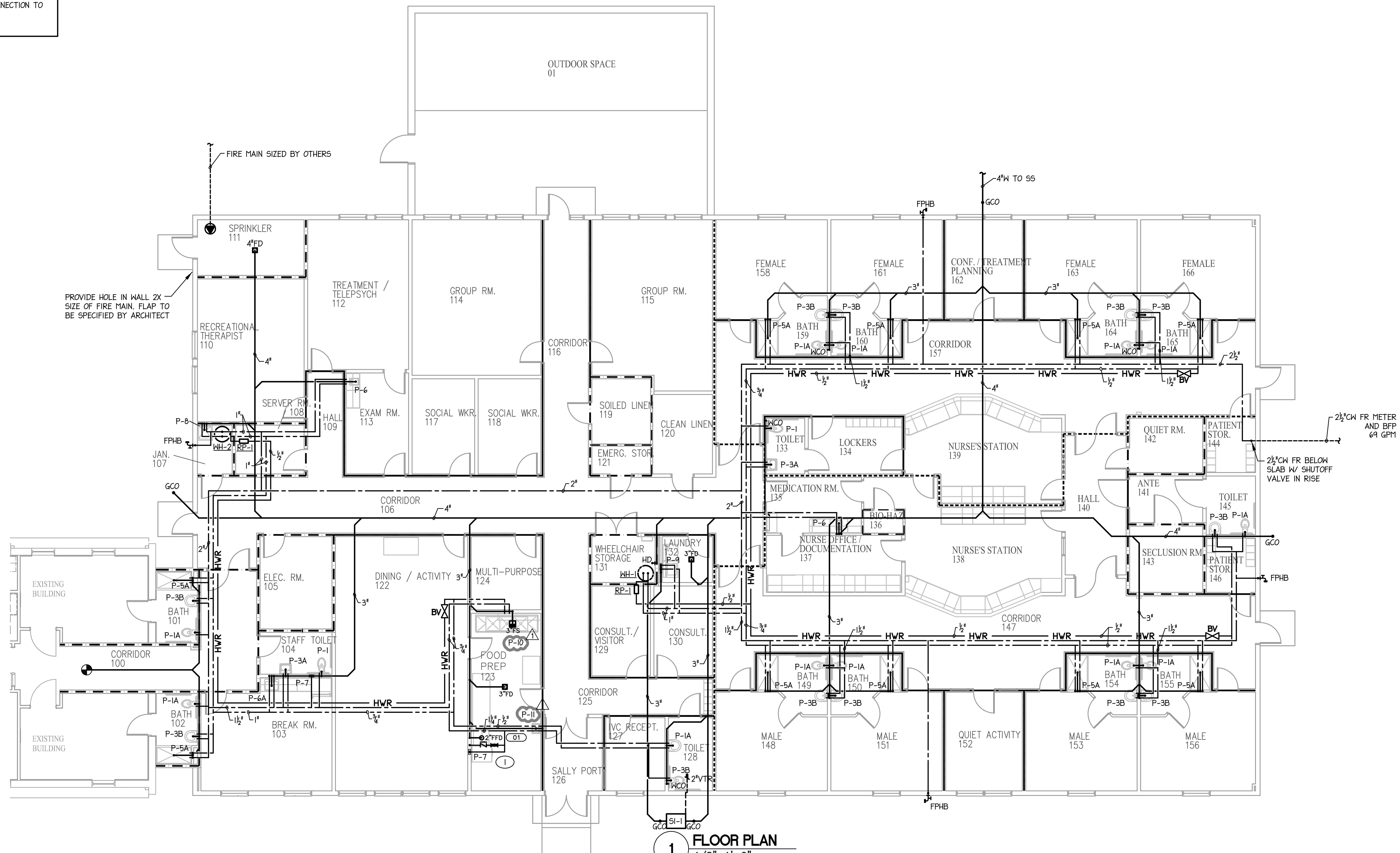
SHEET NO. P0.1

FOOD SERVICE EQUIPMENT SCHEDULE											
ITEM	EQUIPMENT DESCRIPTION	CW (in)	HW (in)	AFF (in)	DIRECT DRAIN (in)	AFF (in)	INDIRECT AIR GAP	GAS (in)	AFF (in)	MBTUH	REMARKS
01	ICE CUBE MACHINE	0.5	0.5				3" FFD				CONNECT CW TO FILTER THEN ICE CUBE MACHINE

TAGGED NOTES - THIS SHEET

(1) P.C. TO PROVIDE ½" CW LINE WITH WATTS SD-3 MF BFP TO FILTER. PROVIDE ½" STUB WITH SHUT OFF FROM FILTER FOR CONNECTION TO ICE MAKER.

WALL LEGEND: (SEE ARCH. PLANS FOR INFO)
- 1-HR FIRE RATED PARTITION
- 1-HR FIRE RATED SMOKE BARRIER
- SMOKE PARTITION



1 FLOOR PLAN
1/8"=1'-0"

REVISIONS
DHHS COMMENTS 11/23/20

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NORTH CAROLINA PROFESSIONAL SEAL 049239 ENGINEER MATTHEW J. PARKS

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

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PLUMBING FLOOR PLAN

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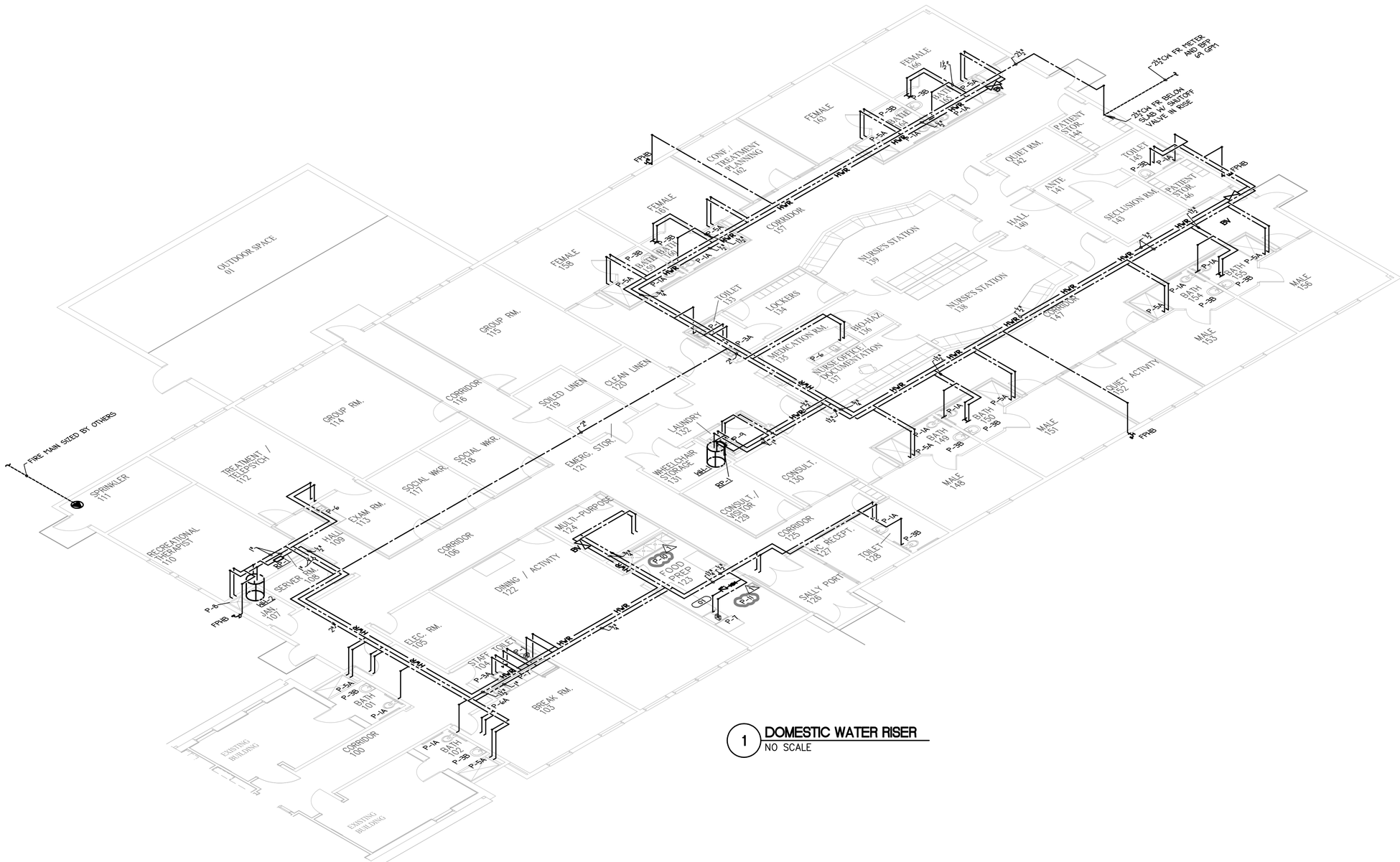
FOR CONSTRUCTION



1 **DOMESTIC WATER RISER**
NO SCALE

FOR CONSTRUCTION

REVISIONS
1 DHHS COMMENTS 11/23/20

LIGHTHOUSE ENGINEERING
400 W. Morgan Street, Suite 100
Raleigh, North Carolina, 27603
tel 919.835.9781
fax 919.835.9754
MECHANICAL ELECTRICAL PLUMBING

NORTH CAROLINA CERTIFICATE OF AUTHORIZATION
LIGHTHOUSE ENGINEERING,PA
No. C-2714

NORTH CAROLINA PROFESSIONAL SEAL 049239 ENGINEER MATTHEW J. PARKS
11-2020

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

GOOD HOPE HOSPITAL
ADDITION and RENOVATIONS
410 DENIM DRIVE
ERWIN, NORTH CAROLINA

PLUMBING
RISER DIAGRAM

COMM. NO.: 4535
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SHEET NO. P2.0

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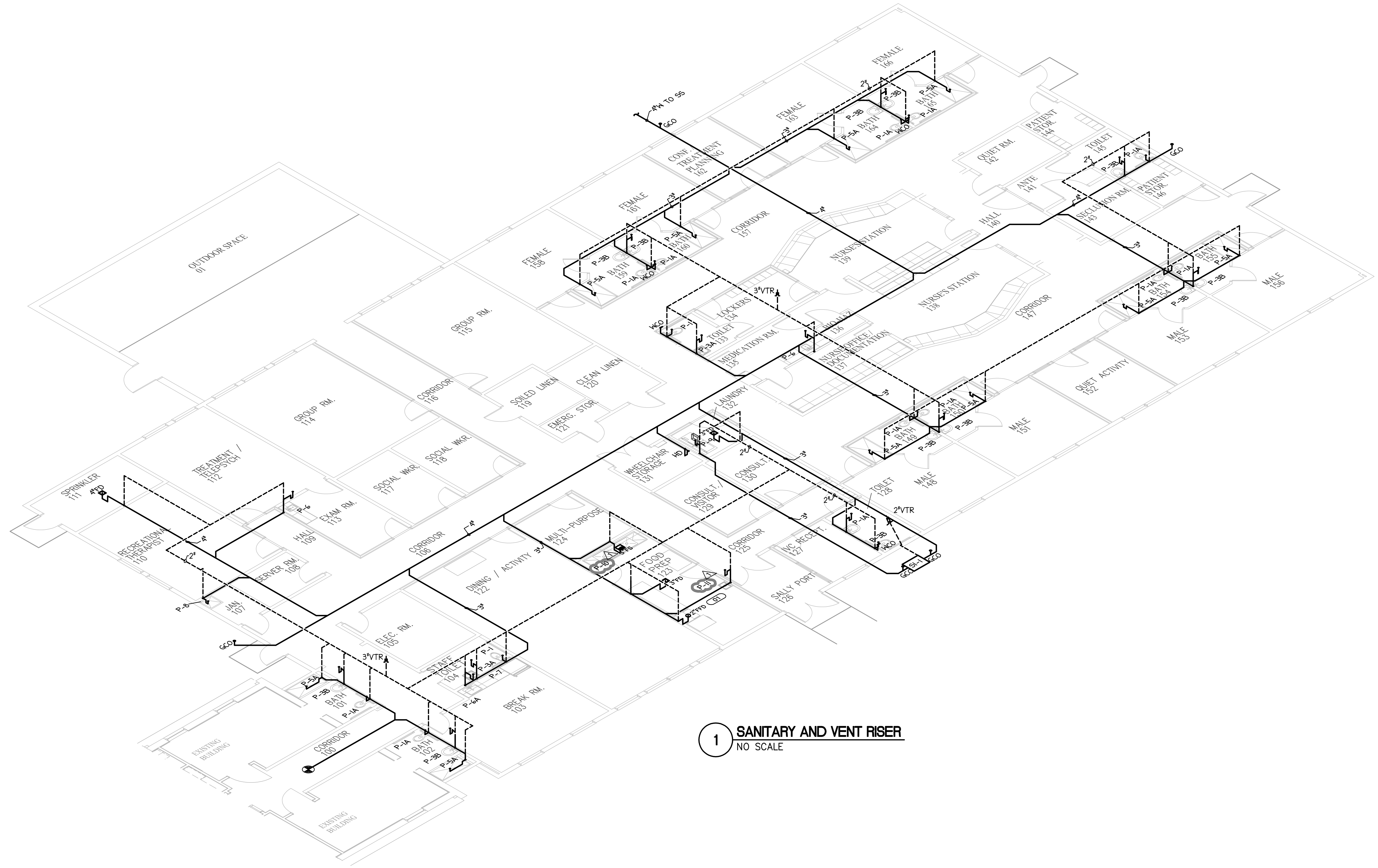
Nov 30, 2020 12:22pm



1 **SANITARY AND VENT RISER**
NO SCALE

FOR CONSTRUCTION

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DHHS COMMENTS 11/23/20

LIGHTHOUSE ENGINEERING
400 W. Morgan Street, Suite 100
Raleigh, North Carolina, 27603
MECHANICAL ELECTRICAL PLUMBING

NORTH CAROLINA LIGHTHOUSE ENGINEERING,PA No. C-2714 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 049239 ENGINEER MATTHEW J. PARKS

Stogner Architecture, PA
ARCHITECTURE – CONSTRUCTION MANAGEMENT – DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

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ADDITION and RENOVATIONS
410 DENIM DRIVE
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PLUMBING RISER DIAGRAM

COMM. NO.:	4535
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SHEET NO.	P2.1

HVAC GENERAL NOTES

1. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT IN STRICT ACCORDANCE WITH THE 2018 NORTH CAROLINA MECHANICAL CODE, ALL STATE AND LOCAL CODES AND STANDARDS, AND PER MANUFACTURER'S DIRECTIONS.
2. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL NECESSARY PERMITS, LICENSE, INSPECTIONS, APPROVALS, AND FEES.
3. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES BEFORE INSTALLATION OF ANY MATERIALS OR EQUIPMENT.
4. THESE DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL LOCATION AND ARRANGEMENT OF ALL MATERIALS AND EQUIPMENT. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS BUILDING CONSTRUCTION AND ALL OTHER WORK WILL PERMIT.
5. DO NOT SCALE DRAWINGS FOR MEASUREMENTS.
6. ALL DUCT DIMENSIONS SHOWN ARE INTERIOR DUCT DIMENSIONS.
7. ALL PENETRATIONS THROUGH EXTERIOR WALLS & ROOF SHALL BE FLASHED & COUNTERFLASHED IN A WATERPROOF MANNER (COLOR TO MATCH EXTERIOR).
8. SEAL ALL PENETRATIONS OF RATED WALLS WITH FIRE DAMPER OR SEALANT MATERIAL APPROVED BY LOCAL CODE. TO BE INSTALLED PER MFG. INSTRUCTIONS.
9. ALL SUSPENDED MATERIALS AND EQUIPMENT SHALL BE INDIVIDUALLY SUPPORTED FROM THE BUILDING STRUCTURE. DO NOT SUSPEND ITEMS FROM THE CEILING OR ITS SUPPORT SYSTEM.
10. INSTALL ALL CONTROL DEVICES, INCLUDING THERMOSTATS AND SWITCHES, 4'-0" ABOVE FINISHED FLOOR TO TOP OF DEVICE. PROVIDE THE REQUIRED DEVICE(S) FOR ALL SYSTEMS WHETHER LOCATED ON THE PLANS OR NOT.
11. LOCATE CEILING DIFFUSERS IN ACCORDANCE WITH ARCHITECTURAL REFLECTED CEILING PLANS (IF PROVIDED).
12. PROVIDE MANUFACTURER'S RECOMMENDED CLEARANCES AROUND MECHANICAL UNITS FOR MAINTENANCE AND FILTER REMOVAL.
13. ALL PIPING AND DUCTWORK LOCATIONS SHALL BE COORDINATED W/ WORK UNDER OTHER DIVISIONS OF THE SPECIFICATIONS, TO AVOID INTERFERENCE.
14. ALL SUPPLY, RETURN AND OUTSIDE AIR DUCTS SHALL BE INSULATED AS FOLLOWS:

    CONDITIONED SPACES — R-6 MINIMUM
    NON-CONDITIONED SPACES — R-8 MINIMUM

    CONCEALED SHEET METAL DUCT MAY BE EXTERNALLY INSULATED WITH MINERAL FIBER BOARD OR BLANKET OR MAY BE INTERNALLY INSULATED WITH DUCT LINER. THE FIRST 15' FROM THE AIR HANDLER SHALL BE INTERNALLY LINED.
15. CERTIFIED TEST AND BALANCE CONTRACTOR SHALL BALANCE SYSTEM TO AIR QUANTITIES INDICATED ON PLANS AND PROVIDE OWNER'S REPRESENTATIVE WITH COMPLETE BALANCE REPORT. IF BALANCING DAMPERS ARE NOT PROVIDED IN RETURN DUCTWORK, CONTRACTOR SHALL BALANCE SUPPLY SIDE TO AIR QUANTITIES INDICATED ON PLANS AND SHALL BALANCE OUTSIDE AIR AND RETURN AIR FLOWS AT THE AIR HANDLER TO AIR QUANTITIES INDICATED IN THE SCHEDULE. PROVIDE NEW AIR FILTERS FOR EACH UNIT.
16. AS REQUIRED BY LOCAL CODES, MECHANICAL CONTRACTOR SHALL PROVIDE U.L. LISTED FIRE DAMPERS WHERE REQUIRED FOR FIRE PROTECTION REQUIREMENTS OF THE HVAC SYSTEM & THE UL ASSEMBLY.
17. PROVIDE 1 YEAR WARRANTY ON ALL EQUIPMENT AND 5 YEAR WARRANTY ON ALL COMPRESSORS.
18. ALL INTAKE OPENINGS SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ALL EXHAUST LOCATIONS.
19. CONDENSATE DRAIN PIPING AND FITTINGS SHALL BE SCHEDULE 40 PVC WHEN LOCATED IN NON-PLENUM LOCATIONS. PIPING TO BE SCHEDULE 40 CPVC RATED FOR PLENUM INSTALLATION OR PVC WRAPPED WITH PLENUM RATED INSULATION WHEN LOCATED IN PLENUM LOCATIONS. DRAINS FROM AIR HANDLING UNITS SHALL BE TRAPPED.
20. A COMPLETE SYSTEM OF SEISMIC RESTRAINTS SHALL BE DESIGNED BY MASON INDUSTRIES & SEALED BY THEIR REGISTERED ENGINEER, AS REQ'D BY APPLICABLE CODES FOR THE LOCALE OF THIS PROJECT.
21. ALL MAIN DUCTWORK SHALL BE GALVANIZED SHEET METAL CONSTRUCTED IN ACCORDANCE WITH SMACNA STANDARDS. RUNOUTS FROM MAIN/BRANCH DUCTS MAY BE FLEXIBLE DUCT CONFORMING TO THE REQUIREMENTS OF UL 181 FOR CLASS 1 FLEXIBLE AIR DUCTS.
22. THE MECHANICAL CONTRACTOR SHALL PROVIDE REFRIGERANT AND LOW VOLTAGE CONTROL LINES FROM THE CONDENSER(S) TO THE AIR HANDLING UNIT(S). COORDINATE ROUTING AND INSTALLATION WITH THE GENERAL CONTRACTOR. SIZE REFRIGERANT LINES PER MANUFACTURER'S REQUIREMENTS.
23. ELECTRICAL CONTRACTOR TO PROVIDE ALL HIGH VOLTAGE ELECTRICAL WIRING, CONDUIT, DISCONNECT SWITCHES, FUSES, ETC. TO SPLIT SYSTEM UNIT(S). ALL FINAL ELECTRICAL CONNECTIONS ARE BY ELECTRICAL CONTRACTOR.
24. OUTSIDE AIR DUCTWORK SHALL BE WRAPPED WITH 1½" FIBERGLASS DUCT WRAP WITH VAPOR BARRIER.
25. REFRIGERANT PIPING, NOT SHOWN ON PLANS, SHALL BE SIZED & INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, INSTALLATION INSTRUCTIONS AND LOCAL CODES.
26. MECHANICAL CONTRACTOR SHALL VERIFY LOCATION OF ALL PENETRATIONS FOR RELIEF HOODS, OUTSIDE AIR HOODS, LOUVERS, AND WALL CAPS WITH ARCHITECT & OWNER PRIOR TO INSTALLATION.
27. MECHANICAL CONTRACTOR SHALL PAINT ALL RELIEF HOODS, INTAKE HOODS, LOUVERS, AND VENT CAPS. CONFIRM COLOR WITH ARCHITECT & OWNER PRIOR TO INSTALLATION.
28. PENETRATIONS OF RATED WALLS, PARTITIONS AND FLOORS OF NON-COMBUSTIBLE CONSTRUCTION SHALL BE FIRESTOPPED WITH NONCOMBUSTIBLE MATERIALS. PENETRATIONS OF NONRATED WALLS, PARTITIONS AND FLOOR OF COMBUSTIBLE CONSTRUCTION SHALL BE FIRESTOPPED WITH MATERIALS EQUIVALENT TO TWO INCHES OF WOOD. FIRESTOPPING SHALL COMPLY WITH ASTM E-814.
29. ALL CUTTING AND PATCHING OF WALLS AND FLOORS FOR MECHANICAL EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
30. G.C. SHALL ENSURE SMOKE DETECTORS ARE INSTALLED IN ACCESSIBLE WORK AREA/CLEARANCE AT MECHANICAL PLATFORMS.

SPLIT SYSTEM HEAT PUMP UNIT SCHEDULE

AIR HANDLING UNIT DATA

UNIT TAG	AREA SERVED	MANUF. MODEL	FAN DATA: FAN CFM	FAN DATA: ESP (" OF WG)	FAN DATA: MOTOR (HP)	FAN DATA: OA (CFM)	COOLING: TOTAL (MBH)	COOLING: SENS. (MBH)	HEAT: TOTAL (MBH)	AUX.: HEAT (KW@240)	ELECTRICAL DATA: VOLTAGE (V/PH)	ELECTRICAL DATA: MCA (A)	ELECTRICAL DATA: MOCP (A)
AH-1	DINING	CARRIER FV4CNB006	1600	0.5"	3/4	240	47	35.2	27.4	15	208/1ϕ	76.3	80
AH-2	CONSULT.	CARRIER FV4CNF002	1000	0.5"	1/2	150	28.8	21.6	17.2	10	208/1ϕ	53.8	60
AH-3	SOCIAL WORKER	CARRIER FV4CNF002	1000	0.5"	1/2	150	28.8	21.6	17.2	10	208/1ϕ	53.8	60
AH-4	GROUP	CARRIER FV4CNF003	1200	0.5"	1/2	180	33.4	25.0	20.4	15	208/1ϕ	76.3	80
AH-5	MALE	CARRIER FV4CNF003	1200	0.5"	1/2	180	33.4	25.0	20.4	15	208/1ϕ	76.3	80
AH-6	NURSE	CARRIER FV4CNF005	1400	0.5"	1/2	210	40.0	30.0	25.2	15	208/1ϕ	76.3	80
AH-7	FEMALE	CARRIER FV4CNF003	1200	0.5"	1/2	180	33.4	25.0	20.4	15	208/1ϕ	76.3	80
AH-8	NURSE	CARRIER FV4CNF002	700	0.5"	1/2	105	22.0	16.5	13.1	8	208/1ϕ	44.7	45

HEAT PUMP

UNIT TAG	GENERAL DATA: MANUF. MODEL	GENERAL DATA: TONNAGE	GENERAL DATA: EFF. (SEER)	GENERAL DATA: HSPF	ELECTRICAL DATA: VOLTAGE (V/PH)	ELECTRICAL DATA: MCA (A)	ELECTRICAL DATA: MOCP (A)	NOTES
HP-1	CARRIER 25HCE4048	4.0	15.0	8.5	208/1ϕ	25.2	40	1-5,6A,7-14
HP-2	CARRIER 25HCE430	2.5	14.0	8.2	208/1ϕ	16.9	30	1-5,6A,7-14
HP-3	CARRIER 25HCE430	2.5	14.0	8.2	208/1ϕ	16.9	30	1-5,6A,7-14
HP-4	CARRIER 25HCE437	3.0	15.0	8.2	208/1ϕ	19.5	30	1-5,6A,7-14
HP-5	CARRIER 25HCE437	3.0	15.0	8.2	208/1ϕ	19.5	30	1-5,6B,7-14
HP-6	CARRIER 25HCE437	3.5	14.5	8.2	208/1ϕ	24.0	40	1-5,6A,7-14
HP-7	CARRIER 25HCE437	3.0	15.0	8.2	208/1ϕ	19.5	30	1-5,6B,7-14
HP-8	CARRIER 25HCE430	2.0	14.5	8.2	208/1ϕ	14.2	25	1-5,6A,7-14

NOTES:

1. COOLING CAPACITIES ARE RATED IN ACCORDANCE WITH ARI STANDARD 210/240 AT 95°F AMBIENT OUTDOOR AIR TEMP., 80°F DRY BULB, 67°F WET BULB ENTERING AIR TEMP., AND AIR QUANTITY LISTED BY MFG. UNITS ABOVE 5 TONS ARE RATED IN ACCORDANCE WITH ARI STANDARD 340.
2. REFRIG. PIPING TO BE SIZED PER TOTAL INSTALL. EQUIV. LENGTH. LONG-LINE APP.TO BE PROVIDED WHENEVER MFG. RECOMM. LENGTHS ARE EXCEEDED, INCL. LIQ. LINE SOLENOID VALVES, ACCUMULATOR, ETC. MAX T.E.L. IS PER MFG.
3. PROVIDE SINGLE POINT ELECTRICAL CONNECTION FOR AIR HANDLING UNIT.
4. PROVIDE 3 SETS OF NEW FILTERS FOR EACH UNIT. PROVIDE ONE AT INSTALLATION, ONE PRIOR TO AIR BALANCE AND ONE AT TURNOVER TO OWNER.
5. SYSTEMS SHALL HAVE A MINIMUM 14 SEER RATING AS SHOWN IN SCHEDULE.

6A. PROVIDE MANUFACTURER'S 7 DAY PROGRAMMABLE THERMOSTAT WITH HUMIDITY CONTROL AND MANUAL OVERRIDE WITH PROTECTIVE LOCK BOX.

6B. PROVIDE MANUFACTURER'S 7 DAY PROGRAMMABLE THERMOSTAT W/ REMOTE SENSOR AND HUMIDITY CONTROL WITH PROTECTIVE LOCK BOX. REMOTE SENSOR TO BE EQUIPPED WITH MANUAL OVERRIDE.

7. PROVIDE BI-FLOW TXV FOR HEAT PUMP OPERATION.
8. AHU TO USE HORIZONTAL APPLICATION.
9. RUN CONDENSATE TO EXTERIOR DOWN TO GRADE, AWAY FROM FOOT TRAFFIC, TOWARDS STORM RUN-OFF. IF NOT POSSIBLE FOR A GRAVITY RUN, PROVIDE CONDENSATE PUMP.
10. OUTDOOR THERMOSTAT TO LOCK-OUT ELECTRIC HEAT WHEN TEMPERATURE IS 45°F OR HIGHER. PROVIDE UNIT WITH EMERGENCY HEAT OVERRIDE OPTION.
11. CYCLE PROTECTOR AND TIME DELAY RELAY (IF AVAILABLE).
12. LOW AMBIENT KIT DOWN TO 0°F.
13. MINIMUM FILTRATION EFFICIENCY OF MERV 7 REQUIRED.
14. CATALOG NUMBERS AND MANUFACTURERS ARE TO INDICATE TYPE AND QUALITY OF UNIT DESIRED. SUBMIT CUTSHEETS OF THESE AND ALTERNATE MANUFACTURERS FOR ARCHITECT AND OWNER APPROVAL PRIOR TO PURCHASE OF ANY UNITS. INFORMATION ON ALTERNATE UNITS PROPOSED BY THE CONTRACTOR SHALL INCLUDE THE ADD/DEDUCT ASSOCIATED WITH ACCEPTANCE OF THAT UNIT (OR THE ALTERNATE PACKAGE AS A WHOLE).

DIFFUSER SCHEDULE

SYMBOL	CFM	NECK SIZE	MODULE SIZE	FRAME TYPE	PATTERN	DAMPER	MATERIAL	SERVICE	FINISH	MANUFACTURER & MODEL NO.	NOTES
A	AS NOTED	AS NOTED	24x24	SURFACE	4-WAY	YES	STEEL	SUPPLY	NOTE 2	TITUS TDC	1-3
B	AS NOTED	AS NOTED	12x12	SURFACE	4-WAY	YES	STEEL	SUPPLY	NOTE 2	TITUS TDC	1-3
C	AS NOTED	AS NOTED	AS NOTED	SURFACE	PERFORATED	YES	STEEL	SUPPLY	NOTE 2	TITUS SG-SD	1-4
D	AS NOTED	AS NOTED	24x24	SURFACE	-	NO	STEEL	RETURN	NOTE 2	TITUS PAR	1-3
E	AS NOTED	AS NOTED	AS NOTED	SURFACE	PERFORATED	YES	STEEL	RETURN	NOTE 2	TITUS SG-PRT	1-4

NOTES:

1. DIFFUSER DESIGNATIONS ON PLANS AS FOLLOWS:

   DIFFUSER OR NECK SIZE. → 8x4 / 75 (A) ← DIFFUSER TYPE AS NOTED ABOVE
   AIR QUANTITY → 75

2. FINISH TO MATCH / BE ABLE MATCH CEILING OR WALL OR DOOR.
3. FACTORY INSULATION BACKING ON GRILLES EXPOSED TO NON-CONDITIONED AREAS. ALTERNATELY, FIELD SUPPLY AND INSTALL.
4. DIFFUSER/GRILLE SHALL BE MAXIMUM SECURITY/SUICIDE DETERRENT.

MECHANICAL LEGEND

Symbol	Description
18x14	RECTANGULAR DUCT
6ϕ	ROUND METAL DUCT
6ϕ	FLEXIBLE ROUND DUCT
	ELBOW WITH TURNING VANES
	VOLUME DAMPER
	SUPPLY TAP WITH VOLUME DAMPER
	SUPPLY TAP
	SUPPLY DIFFUSER/GRILLE OR RISER
	RETURN REGISTER/GRILLE OR RISER
	EXHAUST REGISTER/GRILLE OR RISER
	SIDEWALL DIFFUSER/GRILLE
	CEILING EXHAUST FAN
(T)	T-STAT
(RS)	REMOTE SENSOR
(MD)	MOTORIZED DAMPER
(SD)	DUCT SMOKE DETECTOR W/ ACCESS DOOR
(S)	MANUAL EMERGENCY STOP (TO BE INSTALLED AT ALL AH UNITS SERVING MUTLIPLE ROOMS WITHIN THE I-2 CONSTRUCTION)
	1" DOOR UNDER CUT
FD	U.L. FIRE DAMPER W/ ACCESS DOOR
FSD	FIRE/SMOKE DAMPER (120V, CONTROL WIRING BY E.C.)
RD	U.L. CEILING RADIATION DAMPER

SYSTEM COMMISSIONING NOTES (NCECC C408)

1. THE CONTRACTOR SHALL ENGAGE A COMMISSIONING AGENT, WHO SHALL BE A REGISTERED DESIGN PROFESSIONAL, TO DEVELOP A COMMISSIONING PLAN PER NCECC C408.2.1. THE CONTRACTOR SHALL BE REQUIRED TO FOLLOW THE PLAN.
2. ALL NON-EXEMPT HVAC SYSTEMS SHALL BE ADJUSTED AND BALANCED PER C408.2.2.
3. ALL NON-EXEMPT HVAC SYSTEMS SHALL BE TESTED PER C408.2.3.
4. DOCUMENTATION, INCLUDING MANUALS AND TEST AND BALANCE REPORTS SHALL BE PROVIDED TO THE OWNER PER C408.2.5.
5. THE STATEMENT OF SYSTEM COMMISSIONING (NCECC APPENDIX C1) SHALL BE COMPLETED AND PROVIDED TO THE OWNER AND CODE OFFICIAL PER C408.4.

FAN SCHEDULE

UNIT NO.	SERVICE	AREA SERVED	CFM	S.P.	RPM	TYPE & ARRANGEMENT	MIN. MOTOR HP & VOLTAGE	MANUFACTURER & MODEL NO.	DRIVE	CONTROL SCHEME	REMARKS
EF-1	EXHAUST	BATHROOMS	140	0.25"	900	IN-LINE	54 WATTS/0.46A 120/1ϕ	GREENHECK MODEL CSP-A200	DIRECT	A	1-6
EF-2	EXHAUST	SERVER	100	0.25"	950	CEILING	19.2 WATTS/0.16A 120/1ϕ	GREENHECK MODEL SP-A110	DIRECT	B	1-5
EF-3	EXHAUST	JANITOR	100	0.25"	950	CEILING	19.2 WATTS/0.16A 120/1ϕ	GREENHECK MODEL SP-A110	DIRECT	C	1-5
EF-4	EXHAUST	SOILED LINEN	170	0.25"	1400	CEILING	48.7 WATTS/1.3A 120/1ϕ	GREENHECK MODEL SP-A190	DIRECT	C	1-5
EF-5	EXHAUST	LAUNDRY	100	0.25"	950	IN-LINE	20 WATTS/0.19A 120/1ϕ	GREENHECK MODEL CSP-A110	DIRECT	C	1-5
EF-6	EXHAUST	STAFF TOILET	140	0.25"	900	CEILING	54 WATTS/0.46A 120/1ϕ	GREENHECK MODEL CSP-A200	DIRECT	A	1-5

NOTES:

1. SCREEN
2. BACKDRAFT DAMPER
3. COLOR BY ARCHITECT
4. INTEGRAL DISCONNECT SWITCH
5. SPEED CONTROLLER
6. PROVIDE WITH CEILING ACCESS DOOR

CONTROL OPTIONS:

A. CONTROL W/ ROOM LIGHTS
B. CONTROL W/ THERMOSTAT
C. CONTROL W/ SWITCH

Air Purification Schedule

Zone Tag	Flow	S/A Flow	O/A Flow	GPS Model	GPS Quantity	Pressure Drop	Voltage (AC)	Watts	Mounting Location	Min Ion Density (ions/cc)	Notes
AH-1	CV	1600	240	GPS-FC48-AC	1	0.05" W.C.	24-240	10.0	AHU	200 Million	1 to 8
AH-2	CV	1000	150	GPS-FC48-AC	1	0.05" W.C.	24-240	10.0	AHU	200 Million	1 to 8
AH-3	CV	1000	150	GPS-FC48-AC	1	0.05" W.C.	24-240	10.0	AHU	200 Million	1 to 8
AH-4	CV	1200	180	GPS-FC48-AC	1	0.05" W.C.	24-240	10.0	AHU	200 Million	1 to 8
AH-5	CV	1200	180	GPS-FC48-AC	1	0.05" W.C.	24-240	10.0	AHU	200 Million	1 to 8
AH-6	CV	1400	210	GPS-FC48-AC	1	0.05" W.C.	24-240	10.0	AHU	200 Million	1 to 8
AH-7	CV	1200	180	GPS-FC48-AC	1	0.05" W.C.	24-240	10.0	AHU	200 Million	1 to 8
AH-8	CV	700	105	GPS-FC48-AC	1	0.05" W.C.	24-240	10.0	AHU	200 Million	1 to 8

1. Basis of Design: Global Plasma Solutions: Approved equals by Airgenics and Bioxgen subject to specification compliance
2. Mount bi-polar ion generator where indicated on schedule
3. If contractor substitutes basis of design with another manufacturer, contractor shall coordinate all electrical and mechanical changes
4. Bi-polar ionization systems requiring perishable glass tubes are not acceptable
5. All manufacturers must pass UL-867-2007 ozone chamber testing by either UL or ETL
6. Provide with integral BAS alarm contacts
7. Provide with integral self-cleaning system. Systems without self-cleaning shall not be acceptable
8. Provide with rare earth magnets for ease of mounting

UNIT HEATER SCHEDULE

TAG	LOCATION	TYPE	INPUT (BTUH)	OUTPUT (BTUH)	ELECTRICAL DATA: W	ELECTRICAL DATA: V	ELECTRICAL DATA: AMPS	ELECTRICAL DATA: HZ	MANUFACTURER & MODEL NO.	NOTES
UH-1	SPRINKLER	ELEC	-	-	750	120	6.25	60	MARKEL E3321TD-RP	1-5

NOTES:

1. INTERNAL THERMOSTAT
2. SURFACE MOUNT.
3. MOUNT HEATER @ 12" A.F.F.
4. UNIT DISCONNECT
5. U.L. LISTED

Drawing Sheet List

Number	Title
M0.0	MECHANICAL LEGEND, NOTES AND SCHEDULES
M0.1	MECHANICAL DETAILS
M0.2	MECHANICAL DETAILS
M0.3	MECHANICAL DETAILS
M0.4	MECHANICAL DETAILS
M1.0	MECHANICAL SUPPLY - FLOOR PLAN
M1.1	MECHANICAL RETURN - FLOOR PLAN
M1.2	MECHANICAL MEZZANINE PLAN

FOR CONSTRUCTION

REVISIONS

LIGHTHOUSE ENGINEERING
MECHANICAL ELECTRICAL PLUMBING

NORTH CAROLINA — LIGHTHOUSE ENGINEERING,PA — No. C-2714 — CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 28385 ENGINEER SCOTT A. BROWN 9/11/20

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

GOOD HOPE HOSPITAL
ADDITION and RENOVATIONS
410 DENIM DRIVE
ERWIN, NORTH CAROLINA

MECHANICAL LEGEND, NOTES AND SCHEDULES

COMM. NO.: 4535
DRAWN BY: PWI
CHECKED BY: SAB
DATE: SEPT 11, 2020
SHEET NO. M0.0

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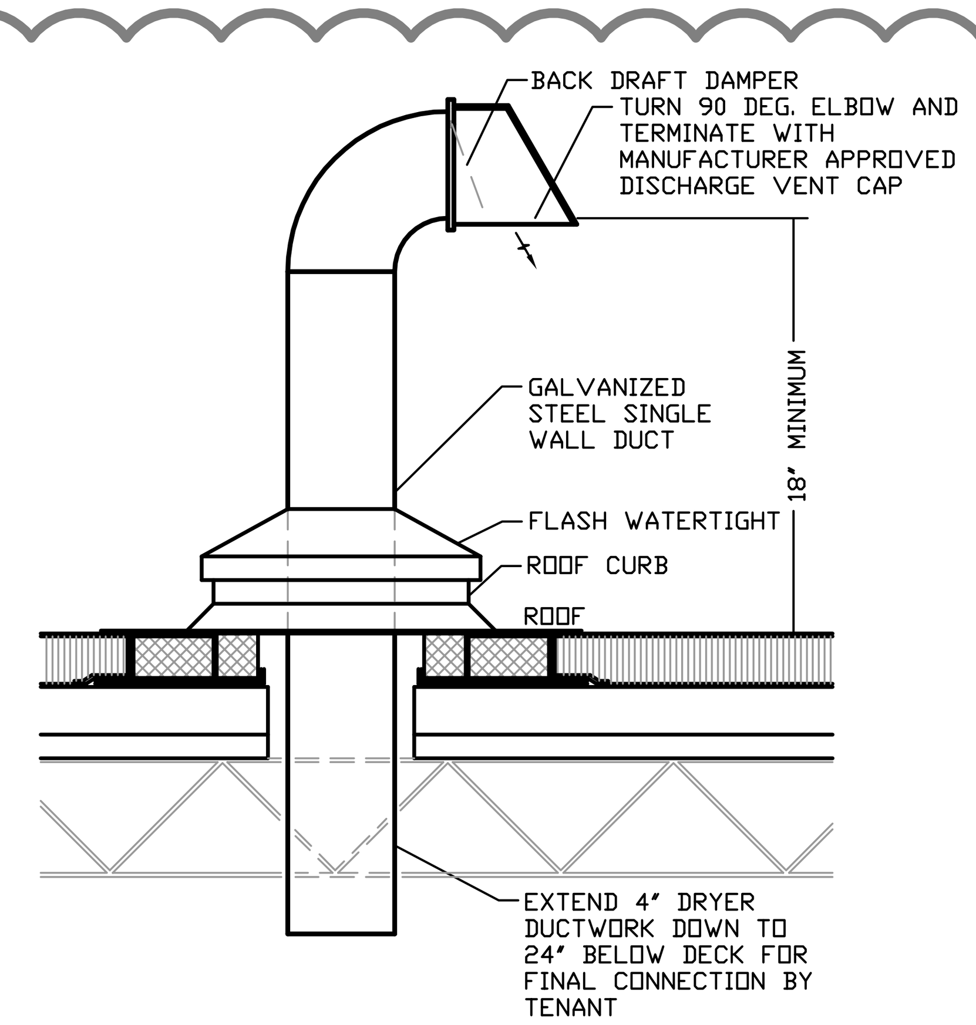
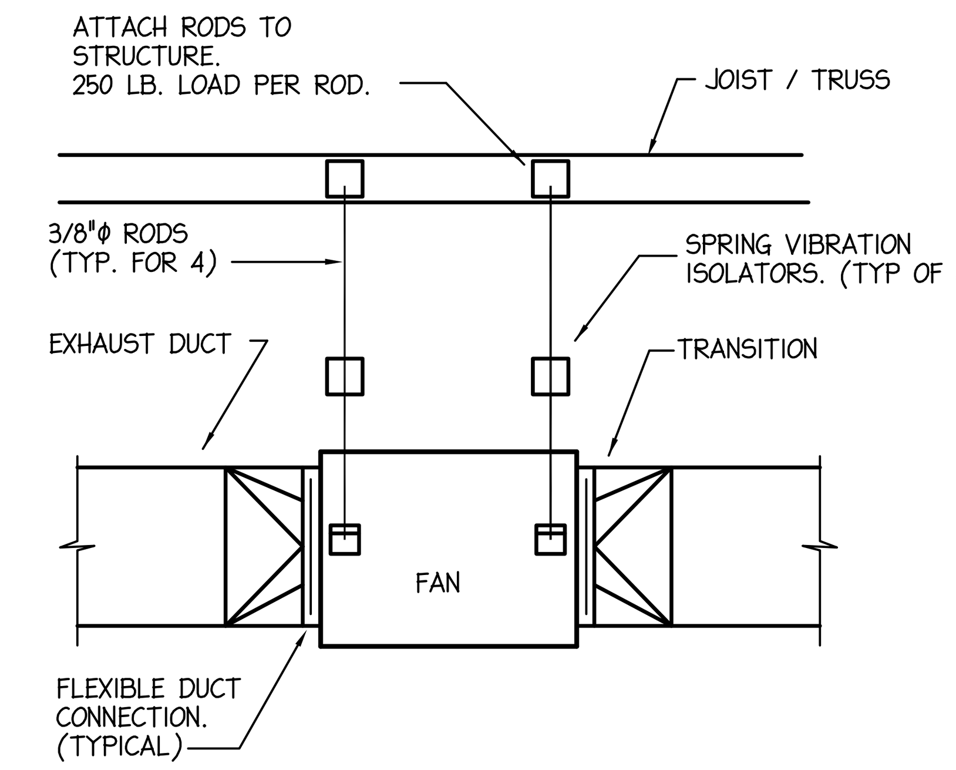
Sep 11, 2020-5:05pm



11 DRYER VENT DETAIL
NO SCALE



10 IN-LINE FAN DETAIL
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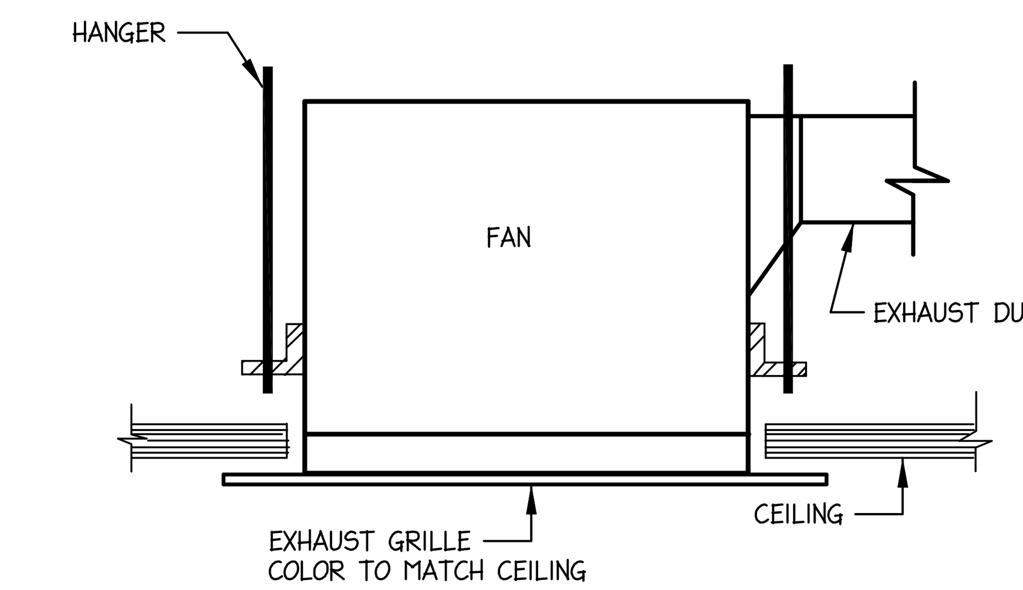

9 EXHAUST FAN DETAIL
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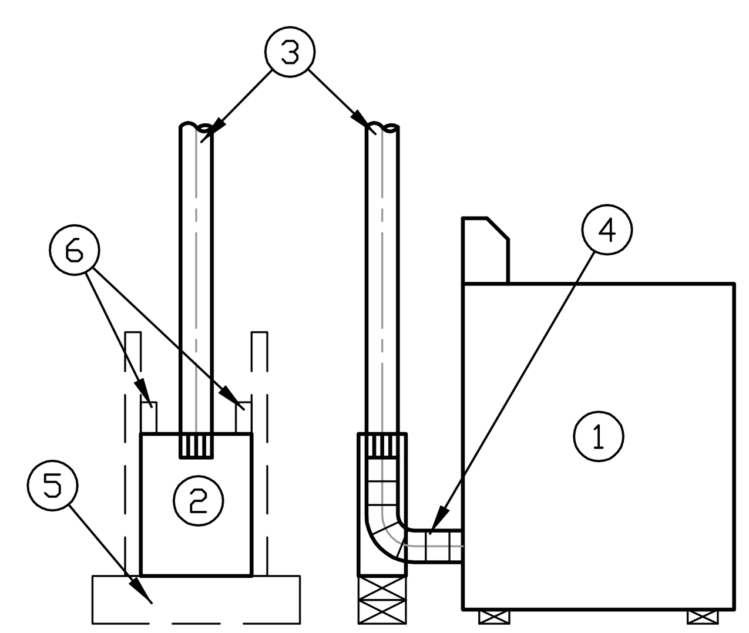
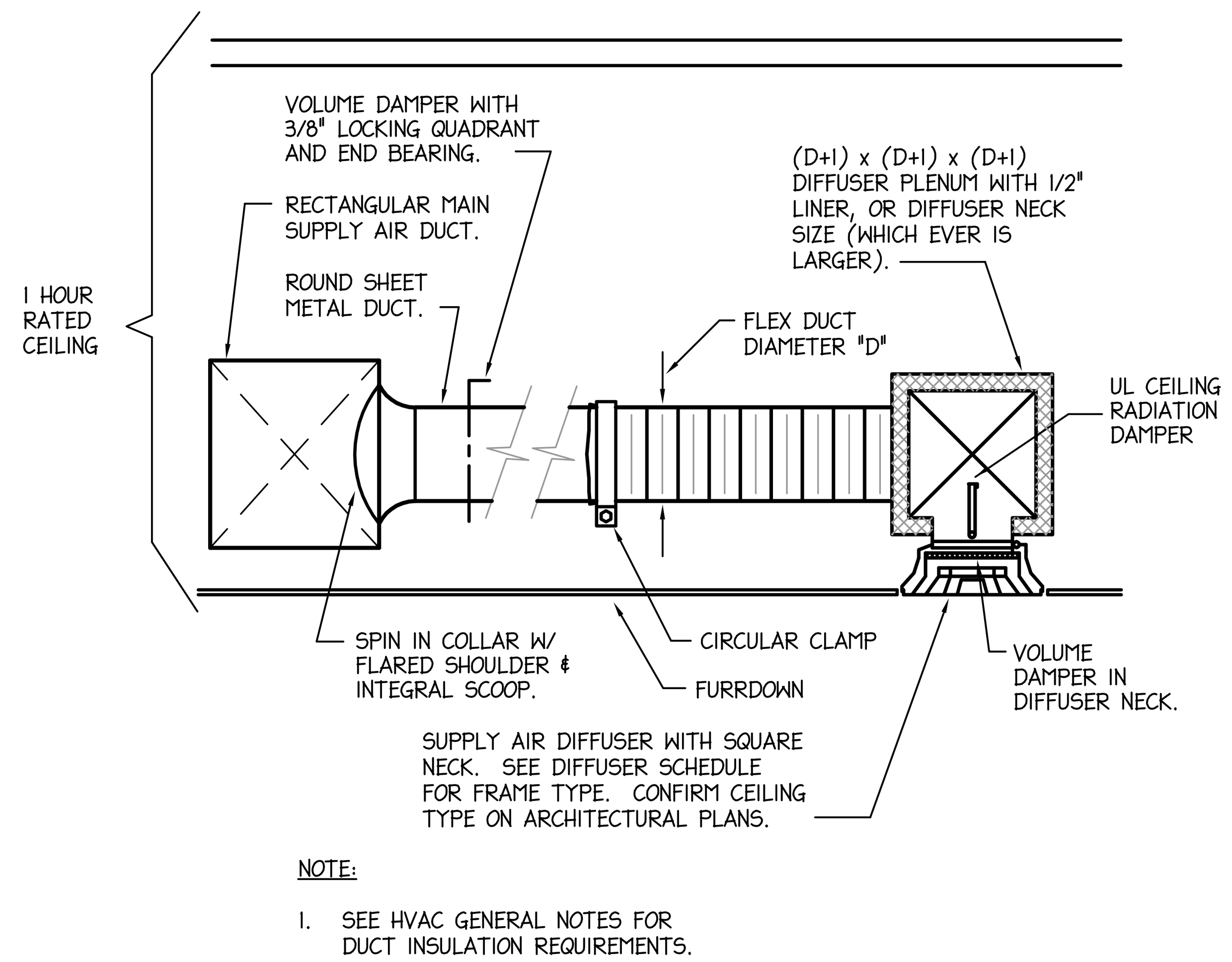


1. RESIDENTIAL DRYER
2. RECESSED METAL BOX (18"x14"x5½")
3. 4" DRYER VENT
4. DRYER FLEX HOSE
5. ONE 2x6 BLOCK ON BOTTOM PLATE
6. 2x4 BLOCKING

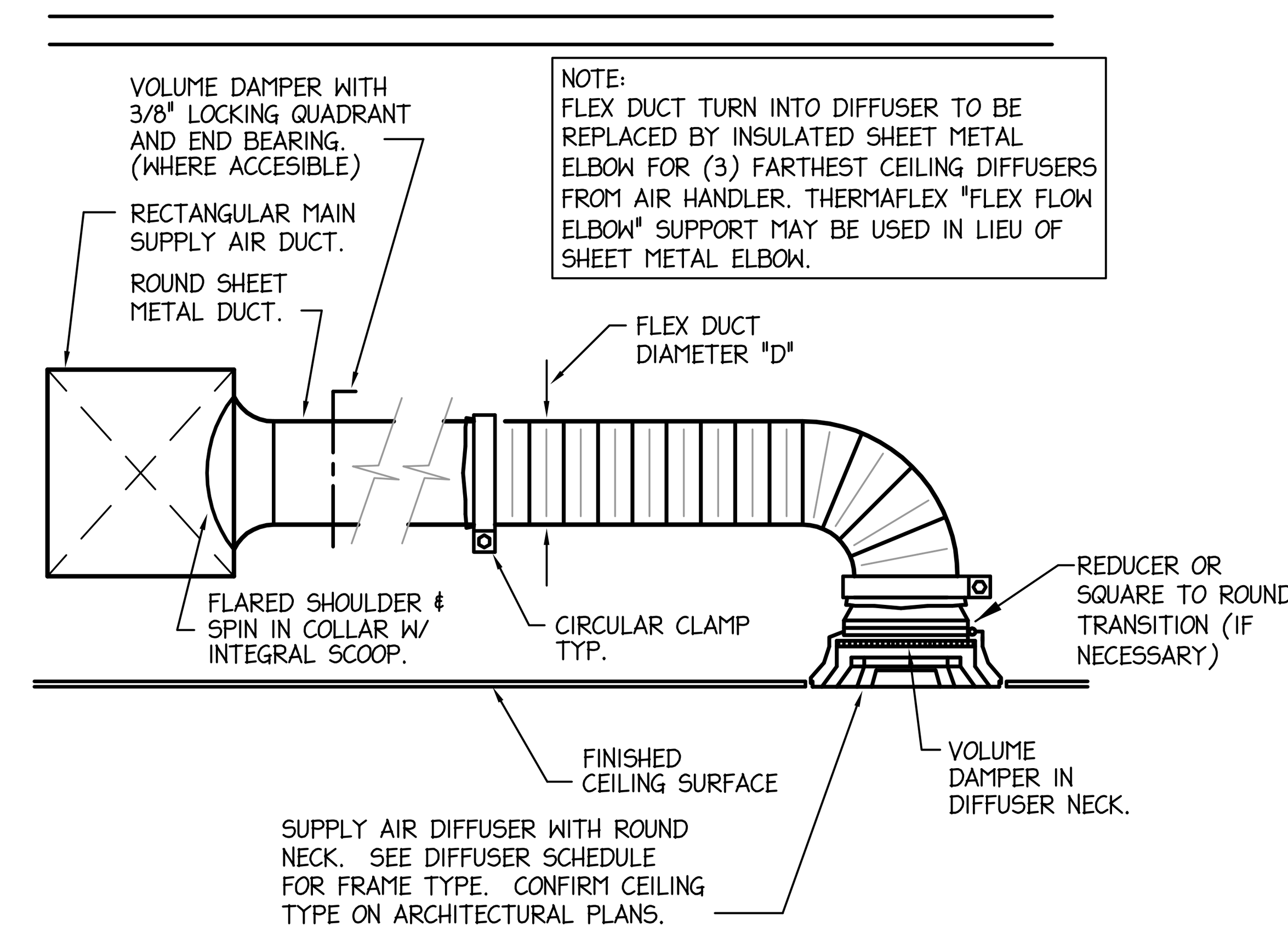
8 RECESSED METAL BOX FOR DRYER EXHAUST
NO SCALE



NOTE:

1. SEE HVAC GENERAL NOTES FOR DUCT INSULATION REQUIREMENTS.

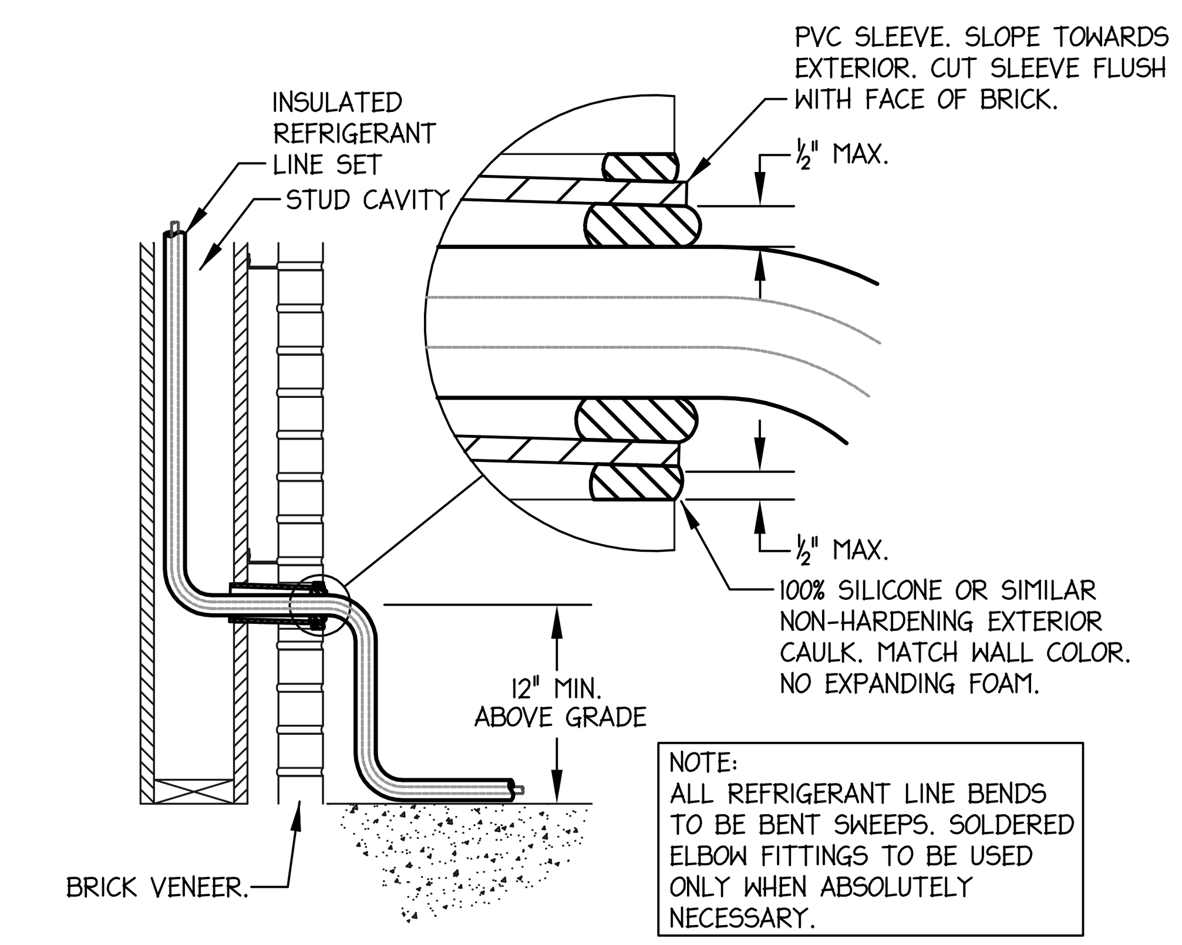
7 SUPPLY AIR DIFFUSER DETAIL (RATED CEILING)
NO SCALE



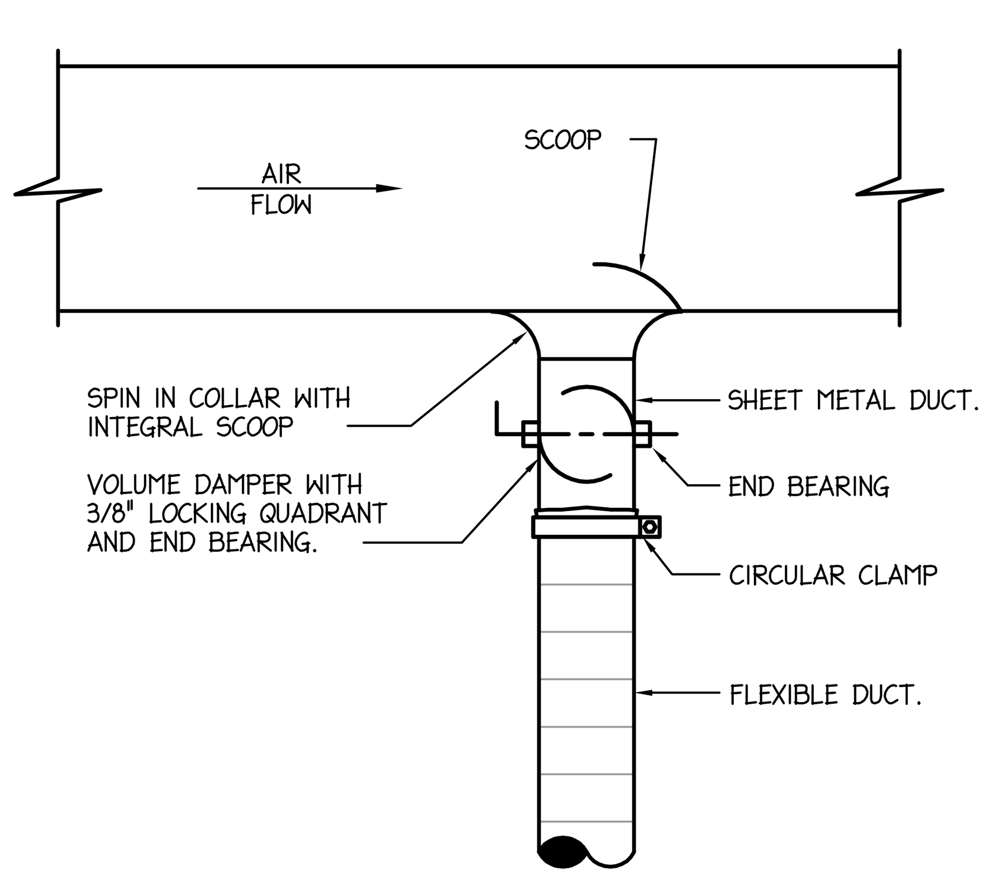
NOTE:

1. SEE HVAC GENERAL NOTES FOR DUCT INSULATION REQUIREMENTS.

6 SUPPLY AIR DIFFUSER DETAIL
NO SCALE



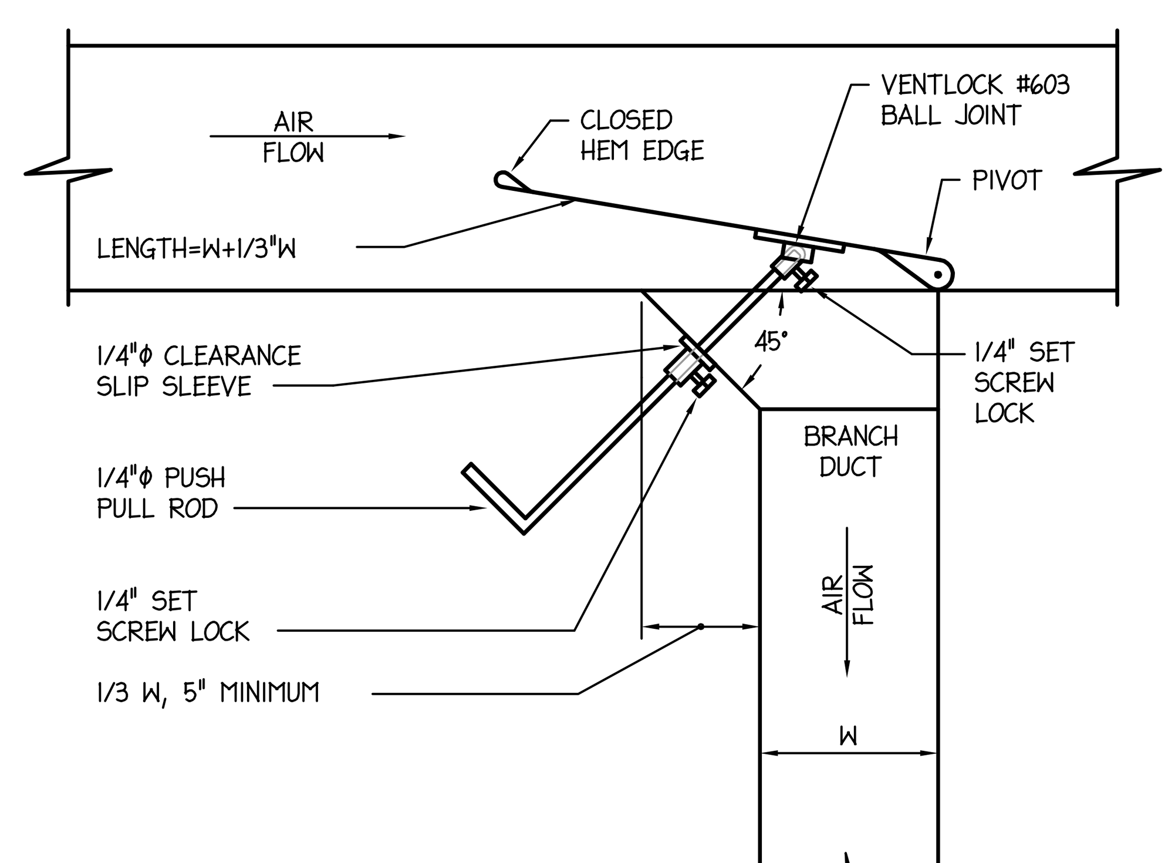
5 HVAC LINE SET PENETRATION DETAIL (BRICK EXT.)
NO SCALE



NOTES:

1. SEE FLOOR PLANS AND SPECIFICATIONS FOR DUCT INSULATION REQUIREMENTS.
2. TAP OFF TOP/SIDE/BOTTOM OF DUCT AS REQUIRED

4 BRANCH TAKEOFF TO SINGLE OUTLET
NO SCALE



NOTES:

1. SEE FLOOR PLANS AND SPECIFICATIONS FOR DUCT INSULATION REQUIREMENTS.
2. TAP OFF TOP/SIDE/BOTTOM OF DUCT AS REQUIRED

3 BRANCH TAKEOFF TO MULTIPLE OUTLETS
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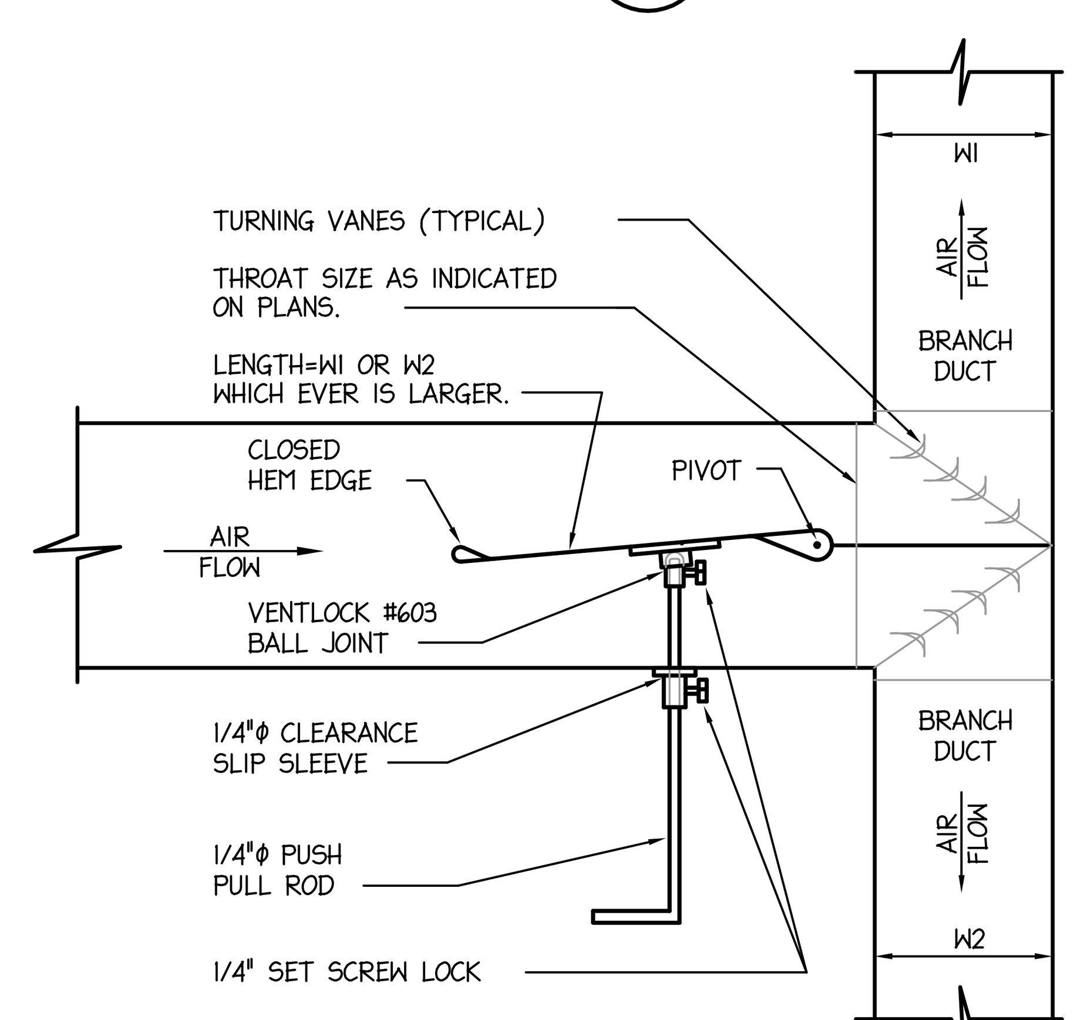
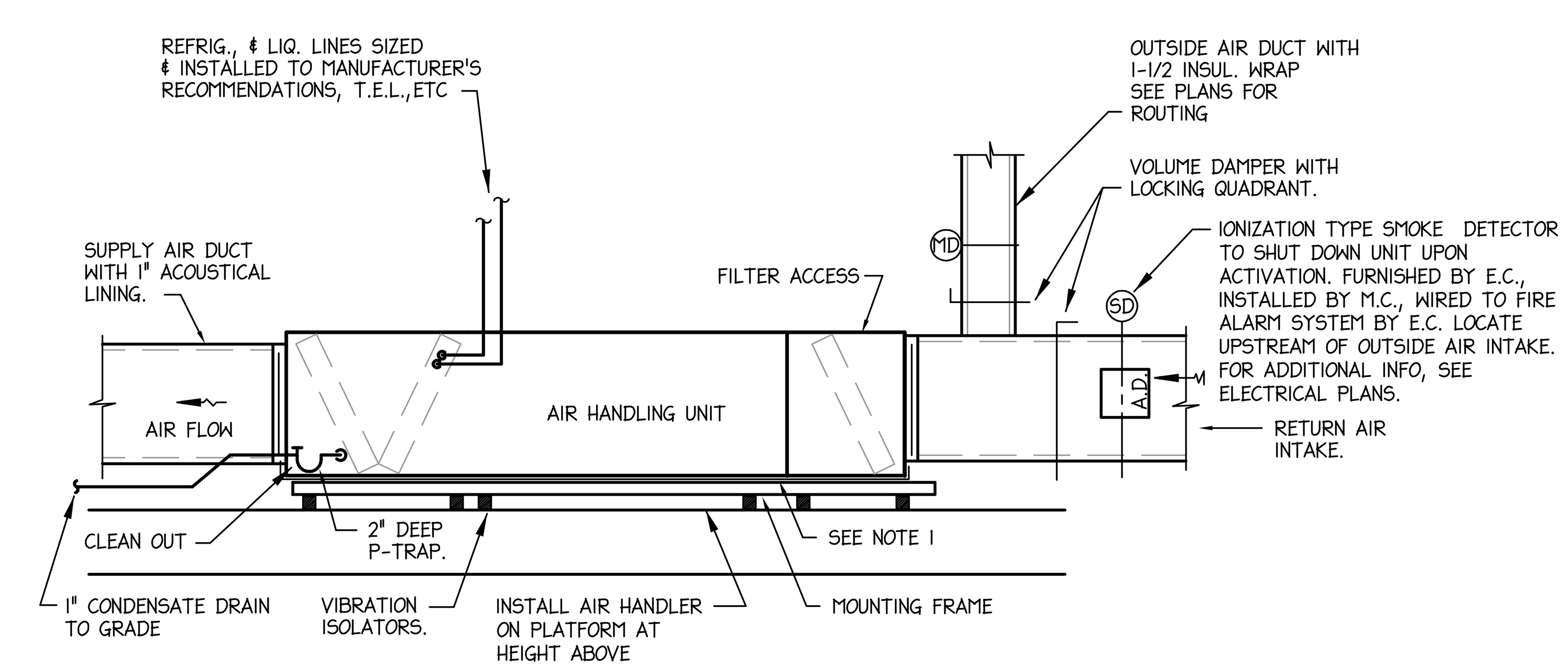


NOTES:

1. SEE FLOOR PLANS AND SPECIFICATIONS FOR DUCT INSULATION REQUIREMENTS.
2. TAP OFF TOP/SIDE/BOTTOM OF DUCT AS REQUIRED

2 DUCT W/ SPLITTER DAMPER
NO SCALE



NOTES:

1. 1½" DEEP AUXILIARY DRAIN PAN WITH MICROFLOAT SWITCH. INTERLOCK FLOAT SWITCH WITH AIR HANDLER. INSTALL FLOAT SWITCH IN ONE CORNER OF PAN AND TILT PAN TO THAT CORNER.
2. AIR HANDLERS SERVING INSTITUTIONAL AREAS SHALL HAVE PUSH-BOTTON SHUTDOWN SWITCH IN OWNER APPROVED LOCATIONS WIRED TO AIR HANDLER.

1 AIR HANDLING UNIT DETAIL
NO SCALE

FOR CONSTRUCTION

REVISIONS
⚠ DHHS COMMENTS 11/23/20

LIGHTHOUSE ENGINEERING
NORTH CAROLINA LIGHTHOUSE ENGINEERING,PA No. C-2714 CERTIFICATE OF AUTHORIZATION
NORTH CAROLINA PROFESSIONAL SEAL 28385 ENGINEER SCOTT A. BROWN

Stogner Architecture, PA
ARCHITECTURE – CONSTRUCTION MANAGEMENT – DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

GOOD HOPE HOSPITAL
ADDITION and RENOVATIONS
410 DENIM DRIVE
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MECHANICAL DETAILS

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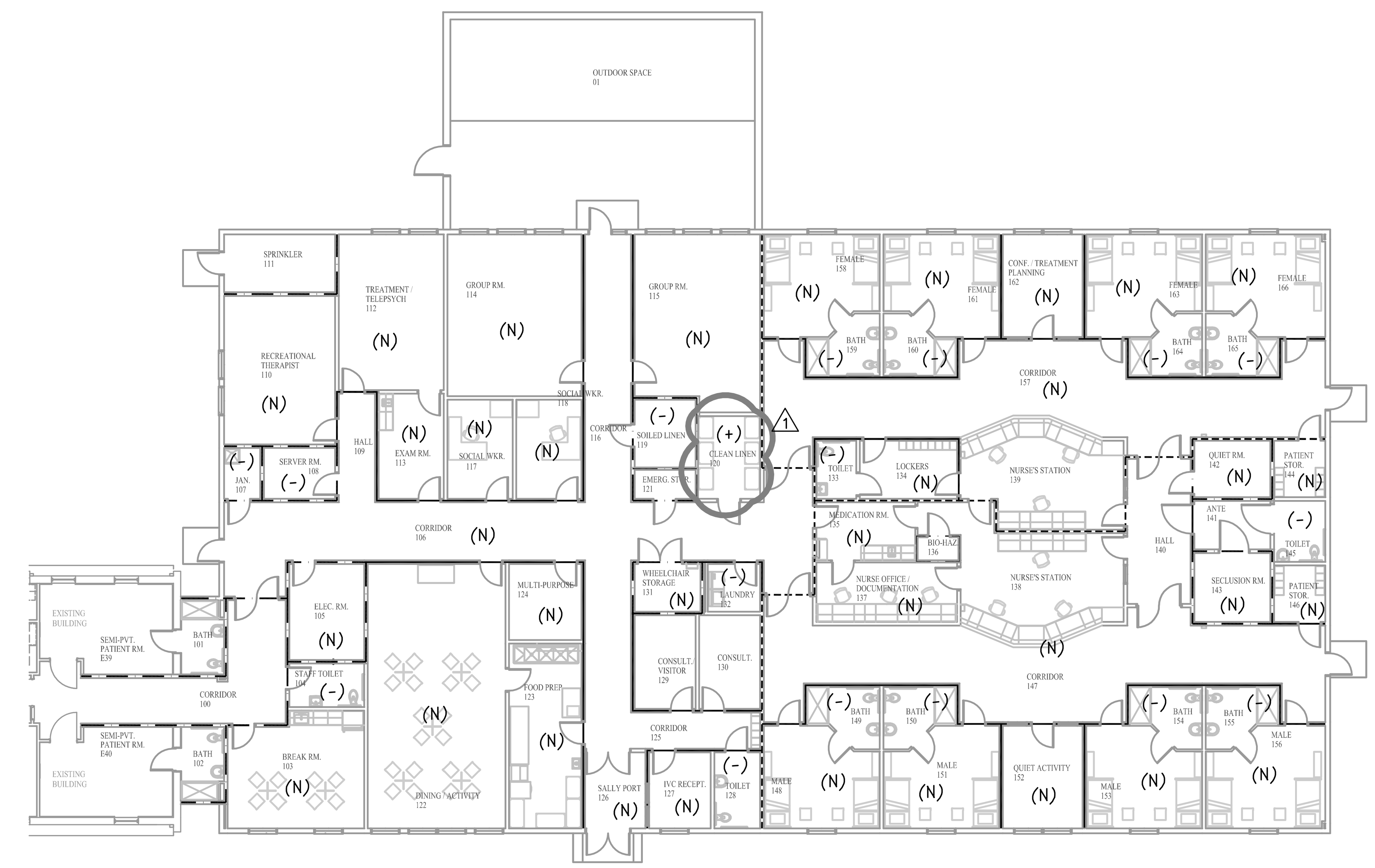

2 PRESSURE RELATIONSHIPS
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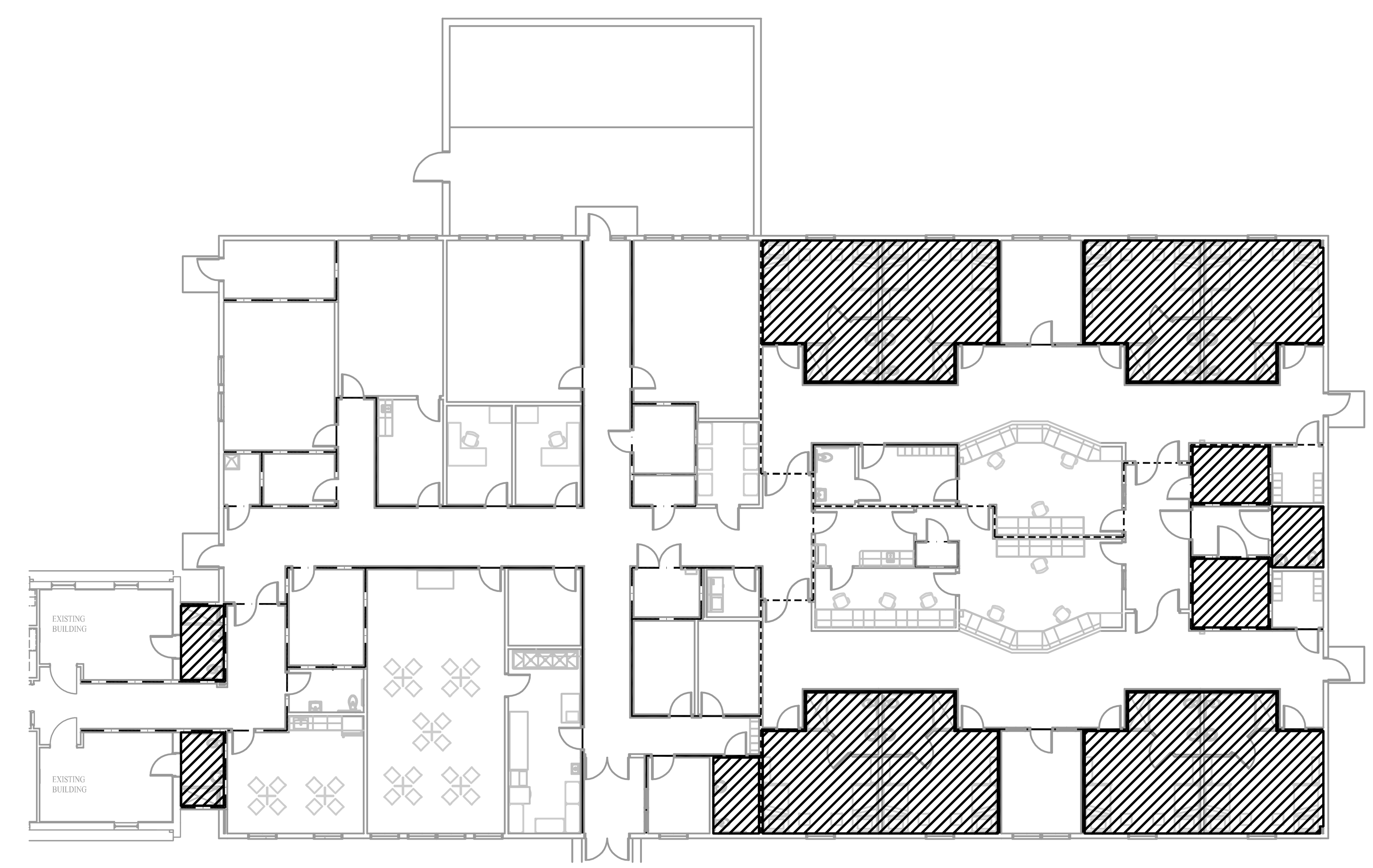

1 KEY PLAN
NO SCALE

NOTE:

DIFFUSERS IN THE SHADED AREAS ARE REQUIRED TO BE TAMPER RESISTANT; CONFIRM WITH OWNER AND ARCHITECT PRIOR TO BIDDING WORK.

FOR CONSTRUCTION

REVISIONS
1 DHHS COMMENTS 11/23/20

LIGHTHOUSE ENGINEERING
400 W. Morgan Street, Suite 100
Raleigh, North Carolina, 27603
tel 919.835.9781
fax 919.835.9754
MECHANICAL ELECTRICAL PLUMBING

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SHEET NO.
M0.2

FOR CONSTRUCTION

Global Plasma Solutions

10 Mall Terrace, Building C
Savannah, GA 31406
Phone: (912) 356-0115 Fax: (912) 356-0114
Email: info@globalplasmasolutions.com Web: www.globalplasmasolutions.com
VERSION 1.7 running ASHRAE 62.1-2013

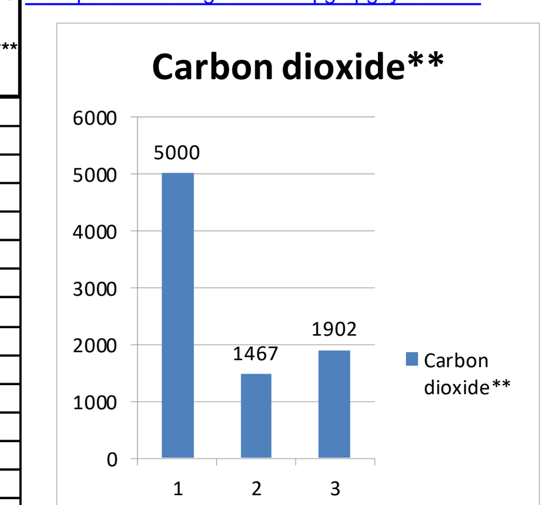
Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
AH-4	Office Buildings	Office Space	1,290.0	24.0	5.0	0.06	120	77	0.8	247 OA required per VRP

Zone Height (feet)	16.0
Desired Outside Air (Vo) IAQP	180
Supply Air (Vs)	1,200
Return Air (Vr)	1020
Recirc. Flow Factor (R)	0.85
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Standing (desk work)
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant

Air Changes Per Hour	3.5	VRP OA CFM per person	10.3
Outside Air Per VRP	247 CFM	IAQ OA CFM per person	7.5
Outside Air Per IAQ	180 CFM		
Outside Air Savings	67 CFM	Winter Heating Savings	
OA Summer Drybulb	94.0	OA Winter Design DB (F)	18
OA Summer Wetbulb	74.0	Supply Air DB Setpoint (F)	95
Coil Leaving Air Drybulb (F	55.0	MBH Saved Winter	5.6
Coil Leaving Air Wetbulb (F	55.0	KW Saved Winter	1.6
OA MBH Saved Summer*	4.3		
OA Tons Saved Summer*	0.4		

*OA = Outside Air
***OSHA, NIOSH & WHO most conservative values u
http://www.cdc.gov/niosh/npg/npgsyn-a.html

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01115	0.00147	Yes	0.00048	50%	OSHA
Acetone	250.0	0.00206	0.00045	Yes	0.00654	50%	NIOSH
Ammonia	25.00	0.02782	0.00956	Yes	0.21460	50%	NIOSH
Benzene	1.0000	0.00253	0.00034	Yes	0.00022	50%	OSHA
2- Butanone (MEK)	200.0	0.00026	0.00007	Yes	0.00133	50%	NIOSH
Carbon dioxide**	5000	1467	1902	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00002	Yes	0.00004	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00084	0.00014	Yes	0.00121	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00005	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00535	0.00071	Yes	0.00032	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00080	0.00012	Yes	0.00058	50%	NIOSH
Xylene	100.0000	0.00230	0.00030	Yes	0.00000	50%	OSHA



1 = ASHRAE & NIOSH C02 Limit
2 = C02 Level at Ventilation Rate OA Flow Rate
3 = C02 Level at IAQ Procedure OA Flow Rate

**Carbon dioxide has been provided for reference only for gathering demand control ventilation (DCV) setpoints. The National Research Council was commissioned by the US Navy to prove C02 is not a contaminant of concern when using air purificati to control the other contaminants of concern, as found on submarines.

Building materials and furnishings assumed to have no VOCs and off-gassing is complete

All yellow shaded boxes require user input or review

Is IAQ acceptable at reduce outside air levels?	Yes

Date	9/11/2020
Job Name	SCMH Erwin - Good Hope
Representative	Lighthouse Engineering
Engineer	PWI
Contractor	-

2018 NCMC ALLOWS FOR ASHRAE 62 IAQP THROUGH THE ENGINEERED EXCEPTION FOUND IN SECTION 403.2.

Global Plasma Solutions

10 Mall Terrace, Building C
Savannah, GA 31406
Phone: (912) 356-0115 Fax: (912) 356-0114
Email: info@globalplasmasolutions.com Web: www.globalplasmasolutions.com
VERSION 1.7 running ASHRAE 62.1-2013

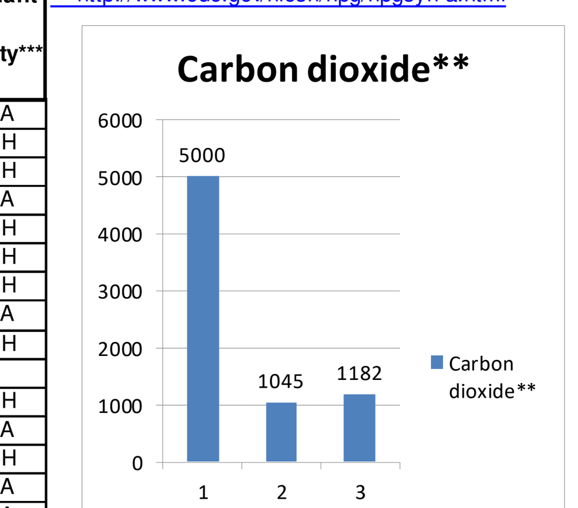
Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
AH-3	Office Buildings	Office Space	1,445.0	11.0	5.0	0.06	55	87	0.8	177 OA required per VRP

Zone Height (feet)	16.0
Desired Outside Air (Vo) IAQP	150
Supply Air (Vs)	1,000
Return Air (Vr)	850
Recirc. Flow Factor (R)	0.85
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Standing (desk work)
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant

Air Changes Per Hour	2.6	VRP OA CFM per person	16.1
Outside Air Per VRP	177 CFM	IAQ OA CFM per person	13.6
Outside Air Per IAQ	150 CFM		
Outside Air Savings	27 CFM	Winter Heating Savings	
OA Summer Drybulb	94.0	OA Winter Design DB (F)	18
OA Summer Wetbulb	74.0	Supply Air DB Setpoint (F)	95
Coil Leaving Air Drybulb (F	55.0	MBH Saved Winter	2.3
Coil Leaving Air Wetbulb (F	55.0	KW Saved Winter	0.7
OA MBH Saved Summer*	1.7		
OA Tons Saved Summer*	0.1		

*OA = Outside Air
***OSHA, NIOSH & WHO most conservative values u
http://www.cdc.gov/niosh/npg/npgsyn-a.html

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01113	0.00146	Yes	0.00048	50%	OSHA
Acetone	250.0	0.00177	0.00032	Yes	0.00654	50%	NIOSH
Ammonia	25.00	0.01839	0.00536	Yes	0.21460	50%	NIOSH
Benzene	1.0000	0.00252	0.00033	Yes	0.00022	50%	OSHA
2- Butanone (MEK)	200.0	0.00021	0.00005	Yes	0.00133	50%	NIOSH
Carbon dioxide**	5000	1045	1182	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00001	Yes	0.00004	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00079	0.00012	Yes	0.00121	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00005	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00533	0.00070	Yes	0.00032	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00078	0.00011	Yes	0.00058	50%	NIOSH
Xylene	100.0000	0.00230	0.00030	Yes	0.00000	50%	OSHA



1 = ASHRAE & NIOSH C02 Limit
2 = C02 Level at Ventilation Rate OA Flow Rate
3 = C02 Level at IAQ Procedure OA Flow Rate

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All yellow shaded boxes require user input or review

Is IAQ acceptable at reduce outside air levels?	Yes

Date	9/11/2020
Job Name	SCMH Erwin - Good Hope
Representative	Lighthouse Engineering
Engineer	PWI
Contractor	-

2018 NCMC ALLOWS FOR ASHRAE 62 IAQP THROUGH THE ENGINEERED EXCEPTION FOUND IN SECTION 403.2.

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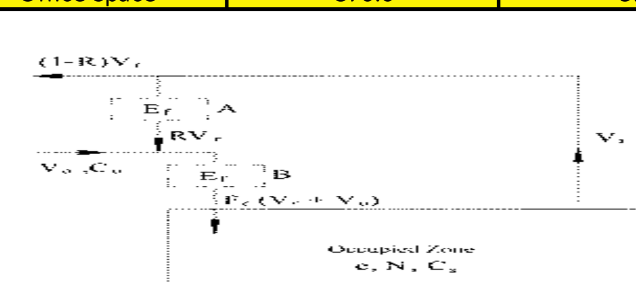
Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
AH-2	Office Buildings	Office Space	870.0	5.0	5.0	0.06	25	52	0.8	97 OA required per VRP

Zone Height (feet)	16.0
Desired Outside Air (Vo) IAQP	150
Supply Air (Vs)	1,000
Return Air (Vr)	850
Recirc. Flow Factor (R)	0.85
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Standing (desk work)
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant



Air Changes Per Hour	4.3	VRP OA CFM per person	19.3
Outside Air Per VRP	97 CFM	IAQ OA CFM per person	30.0
Outside Air Per IAQ	150 CFM		
Outside Air Savings	-54 CFM	Winter Heating Savings	
OA Summer Drybulb	94.0	OA Winter Design DB (F)	18
OA Summer Wetbulb	74.0	Supply Air DB Setpoint (F)	95
Coil Leaving Air Drybulb (F	55.0	MBH Saved Winter	-4.5
Coil Leaving Air Wetbulb (F	55.0	KW Saved Winter	-1.3
OA MBH Saved Summer*	-3.4		
OA Tons Saved Summer*	-0.3		

*OA = Outside Air
***OSHA, NIOSH & WHO most conservative values u
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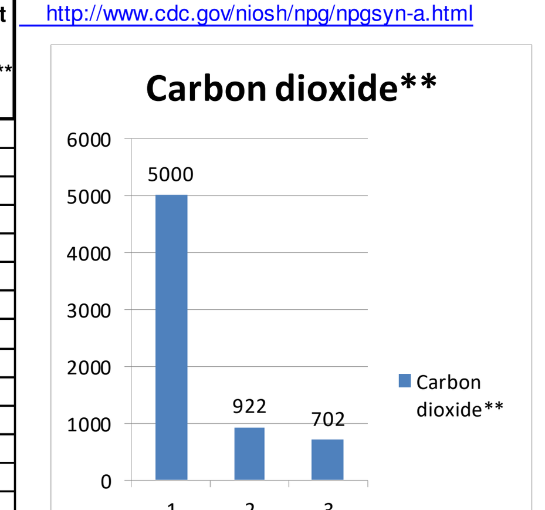
Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01112	0.00145	Yes	0.00048	50%	OSHA
Acetone	250.0	0.00169	0.00024	Yes	0.00654	50%	NIOSH
Ammonia	25.00	0.01562	0.00256	Yes	0.21460	50%	NIOSH
Benzene	1.0000	0.00252	0.00033	Yes	0.00022	50%	OSHA
2- Butanone (MEK)	200.0	0.00019	0.00003	Yes	0.00133	50%	NIOSH
Carbon dioxide**	5000	922	702	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00001	Yes	0.00004	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00077	0.00010	Yes	0.00121	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00005	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00533	0.00070	Yes	0.00032	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00077	0.00010	Yes	0.00058	50%	NIOSH
Xylene	100.0000	0.00230	0.00030	Yes	0.00000	50%	OSHA



1 = ASHRAE & NIOSH C02 Limit
2 = C02 Level at Ventilation Rate OA Flow Rate
3 = C02 Level at IAQ Procedure OA Flow Rate

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Is IAQ acceptable at reduce outside air levels?	Yes

Date	9/11/2020
Job Name	SCMH Erwin - Good Hope
Representative	Lighthouse Engineering
Engineer	PWI
Contractor	-

2018 NCMC ALLOWS FOR ASHRAE 62 IAQP THROUGH THE ENGINEERED EXCEPTION FOUND IN SECTION 403.2.

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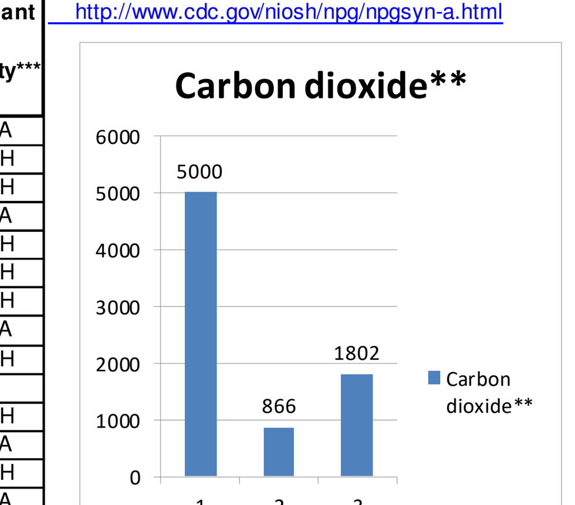
Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp Pz * Rp	Az * Ra Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
AH-1	Public Assembly Spaces	Restaurant Dining Rooms	1,575.0	30.0	7.5	0.18	225	284	0.8	636 OA required per VRP

Zone Height (feet)	16.0
Desired Outside Air (Vo) IAQP	240
Supply Air (Vs)	1,600
Return Air (Vr)	1360
Recirc. Flow Factor (R)	0.85
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Standing (desk work)
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant

Air Changes Per Hour	3.8	VRP OA CFM per person	21.2
Outside Air Per VRP	636 CFM	IAQ OA CFM per person	8.0
Outside Air Per IAQ	240 CFM		
Outside Air Savings	396 CFM	Winter Heating Savings	
OA Summer Drybulb	94.0	OA Winter Design DB (F)	18
OA Summer Wetbulb	74.0	Supply Air DB Setpoint (F)	95
Coil Leaving Air Drybulb (F	55.0	MBH Saved Winter	33.1
Coil Leaving Air Wetbulb (F	55.0	KW Saved Winter	9.7
OA MBH Saved Summer*	25.5		
OA Tons Saved Summer*	2.1		

*OA = Outside Air
***OSHA, NIOSH & WHO most conservative values u
http://www.cdc.gov/niosh/npg/npgsyn-a.html

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01112	0.00147	Yes	0.00048	50%	OSHA
Acetone	250.0	0.00165	0.00043	Yes	0.00654	50%	NIOSH
Ammonia	25.00	0.01439	0.00897	Yes	0.21460	50%	NIOSH
Benzene	1.0000	0.00252	0.00034	Yes	0.00022	50%	OSHA
2- Butanone (MEK)	200.0	0.00018	0.00007	Yes	0.00133	50%	NIOSH
Carbon dioxide**	5000	866	1802	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00002	Yes	0.00004	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00076	0.00014	Yes	0.00121	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00005	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00533	0.00071	Yes	0.00032	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00077	0.00012	Yes	0.00058	50%	NIOSH
Xylene	100.0000	0.00230	0.00030	Yes	0.00000	50%	OSHA



1 = ASHRAE & NIOSH C02 Limit
2 = C02 Level at Ventilation Rate OA Flow Rate
3 = C02 Level at IAQ Procedure OA Flow Rate

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Is IAQ acceptable at reduce outside air levels?	Yes

Date	9/11/2020
Job Name	SCMH Erwin - Good Hope
Representative	Lighthouse Engineering
Engineer	PWI
Contractor	-

2018 NCMC ALLOWS FOR ASHRAE 62 IAQP THROUGH THE ENGINEERED EXCEPTION FOUND IN SECTION 403.2.

REVISIONS

LIGHTHOUSE ENGINEERING
400 W. Morgan Street, Suite 100
Raleigh, North Carolina, 27603
tel 919.835.9781
fax 919.835.9754
MECHANICAL ELECTRICAL PLUMBING

NORTH CAROLINA LIGHTHOUSE ENGINEERING,PA No. C-2714 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 28385 ENGINEER SCOTT A. BROWN 9/11/20

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

GOOD HOPE HOSPITAL
ADDITION and RENOVATIONS
410 DENIM DRIVE
ERWIN, NORTH CAROLINA

MECHANICAL DETAILS

COMM. NO.:	4535
DRAWN BY:	PWI
CHECKED BY:	SAB
DATE:	SEPT 11, 2020
SHEET NO.	M0.3

FOR CONSTRUCTION

Global Plasma Solutions

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Savannah, GA 31406
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AH-8	els Motels Resorts Dormit	Barracks/Sleeping areas	1,275.0	5.0	5.0	0.06	25	77	0.8	127 OA required per VRP

Zone Height (feet)	16.0
Desired Outside Air (Vo) IAQP	105
Supply Air (Vs)	700
Return Air (Vr)	595
Recirc. Flow Factor (R)	0.85
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Standing (desk work)
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant

Air Changes Per Hour	2.1	VRP OA CFM per person	25.4
Outside Air Per VRP	127 CFM	IAQ OA CFM per person	21.0
Outside Air Per IAQ	105 CFM		
Outside Air Savings	22 CFM	Winter Heating Savings	
OA Summer Drybulb	94.0	OA Winter Design DB (F)	18
OA Summer Wetbulb	74.0	Supply Air DB Setpoint (F)	95
Coil Leaving Air Drybulb (F	55.0	MBH Saved Winter	1.8
Coil Leaving Air Wetbulb (F	55.0	KW Saved Winter	0.5
OA MBH Saved Summer*	1.4		
OA Tons Saved Summer*	0.1		

*OA = Outside Air
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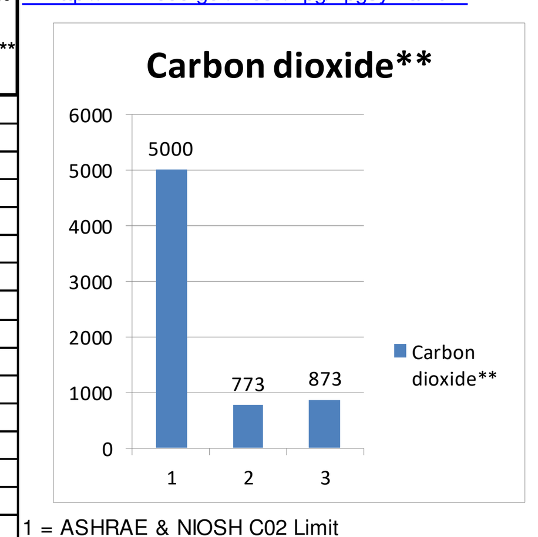
Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01111	0.00145	Yes	0.00048	50%	OSHA
Acetone	250.0	0.00158	0.00027	Yes	0.00654	50%	NIOSH
Ammonia	25.00	0.01230	0.00356	Yes	0.21460	50%	NIOSH
Benzene	1.0000	0.00252	0.00033	Yes	0.00022	50%	OSHA
2- Butanone (MEK)	200.0	0.00017	0.00003	Yes	0.00133	50%	NIOSH
Carbon dioxide**	5000	773	873	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00001	Yes	0.00004	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00075	0.00011	Yes	0.00121	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00005	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00533	0.00070	Yes	0.00032	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00076	0.00010	Yes	0.00058	50%	NIOSH
Xylene	100.0000	0.00230	0.00030	Yes	0.00000	50%	OSHA



1 = ASHRAE & NIOSH C02 Limit
2 = C02 Level at Ventilation Rate OA Flow Rate
3 = C02 Level at IAQ Procedure OA Flow Rate

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Building materials and furnishings assumed to have no VOCs and off-gassing is complete

All yellow shaded boxes require user input or review

Is IAQ acceptable at reduce outside air levels?	Yes

Date	9/11/2020
Job Name	SCMH Erwin - Good Hope
Representative	Lighthouse Engineering
Engineer	PWI
Contractor	-

2018 NCMC ALLOWS FOR ASHRAE 62 IAQP THROUGH THE ENGINEERED EXCEPTION FOUND IN SECTION 403.2.

Global Plasma Solutions

10 Mall Terrace, Building C
Savannah, GA 31406
Phone: (912) 356-0115 Fax: (912) 356-0114
Email: info@globalplasmasolutions.com Web: www.globalplasmasolutions.com
VERSION 1.7 running ASHRAE 62.1-2013

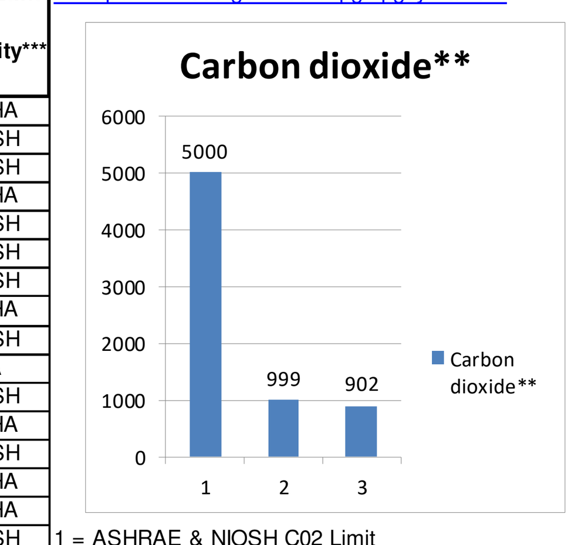
Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp	Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
AH-7	els Motels Resorts Dormit	Barracks/Sleeping areas	1,310.0	9.0	5.0	0.06	45	79	0.8	155 OA required per VRP

Zone Height (feet)	16.0
Desired Outside Air (Vo) IAQP	180
Supply Air (Vs)	1,200
Return Air (Vr)	1020
Recirc. Flow Factor (R)	0.85
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Standing (desk work)
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant

Air Changes Per Hour	3.4	VRP OA CFM per person	17.2
Outside Air Per VRP	155 CFM	IAQ OA CFM per person	20.0
Outside Air Per IAQ	180 CFM		
Outside Air Savings	-26 CFM	Winter Heating Savings	
OA Summer Drybulb	94.0	OA Winter Design DB (F)	18
OA Summer Wetbulb	74.0	Supply Air DB Setpoint (F)	95
Coil Leaving Air Drybulb (F	55.0	MBH Saved Winter	-2.1
Coil Leaving Air Wetbulb (F	55.0	KW Saved Winter	-0.6
OA MBH Saved Summer*	-1.6		
OA Tons Saved Summer*	-0.1		

*OA = Outside Air
***OSHA, NIOSH & WHO most conservative values u
http://www.cdc.gov/niosh/npg/npgsyn-a.html

Indoor Contaminants Generated By People & From Outdoors	Maximum Threshold Value (PPM)	Steady State Using the VRP* (Prescribed OA) Plasma Off	Steady State Using the IAQ Method (Reduced OA) Plasma On	Is Steady State Level Acceptable at Reduced OA Levels?	Contaminant Generation Rate (PPM)	Filtration Effectiveness	Cognizant Authority***
Acetaldehyde	100.0	0.01112	0.00145	Yes	0.00048	50%	OSHA
Acetone	250.0	0.00174	0.00027	Yes	0.00654	50%	NIOSH
Ammonia	25.00	0.01735	0.00372	Yes	0.21460	50%	NIOSH
Benzene	1.0000	0.00252	0.00033	Yes	0.00022	50%	OSHA
2- Butanone (MEK)	200.0	0.00020	0.00004	Yes	0.00133	50%	NIOSH
Carbon dioxide**	5000	999	902	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00001	Yes	0.00004	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00078	0.00011	Yes	0.00121	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00005	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00533	0.00070	Yes	0.00032	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00078	0.00011	Yes	0.00058	50%	NIOSH
Xylene	100.0000	0.00230	0.00030	Yes	0.00000	50%	OSHA



1 = ASHRAE & NIOSH C02 Limit
2 = C02 Level at Ventilation Rate OA Flow Rate
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All yellow shaded boxes require user input or review

Is IAQ acceptable at reduce outside air levels?	Yes

Date	9/11/2020
Job Name	SCMH Erwin - Good Hope
Representative	Lighthouse Engineering
Engineer	PWI
Contractor	-

2018 NCMC ALLOWS FOR ASHRAE 62 IAQP THROUGH THE ENGINEERED EXCEPTION FOUND IN SECTION 403.2.

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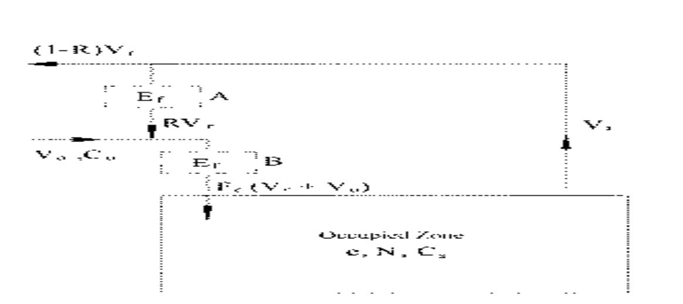
VERSION 1.7 running ASHRAE 62.1-2013

Zone Tag	Facility Type	Zone Use	Zone Floor Area (square ft) Az	Zone Max Occupancy Pz	Table 6.1 OA per Occupant Rp	Table 6.1 cfm/ft2 Ra	Pz * Rp	Az * Ra	Table 6.2 Ventilation Effectiveness Ez	Outdoor Air to Zone (CFM) with Ez correction (Vbz/Ez)
AH-6	els Motels Resorts Dormit	Barracks/Sleeping areas	2,120.0	14.0	5.0	0.06	70	127	0.8	247 OA required per VRP

Zone Height (feet)	16.0
Desired Outside Air (Vo) IAQP	210
Supply Air (Vs)	1,400
Return Air (Vr)	1190
Recirc. Flow Factor (R)	0.85
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Standing (desk work)
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant



Air Changes Per Hour	2.5	VRP OA CFM per person	17.6
Outside Air Per VRP	247 CFM	IAQ OA CFM per person	15.0
Outside Air Per IAQ	210 CFM		
Outside Air Savings	37 CFM	Winter Heating Savings	
OA Summer Drybulb	94.0	OA Winter Design DB (F)	18
OA Summer Wetbulb	74.0	Supply Air DB Setpoint (F)	95
Coil Leaving Air Drybulb (F	55.0	MBH Saved Winter	3.0
Coil Leaving Air Wetbulb (F	55.0	KW Saved Winter	0.9
OA MBH Saved Summer*	2.3		
OA Tons Saved Summer*	0.2		

*OA = Outside Air
***OSHA, NIOSH & WHO most conservative values u
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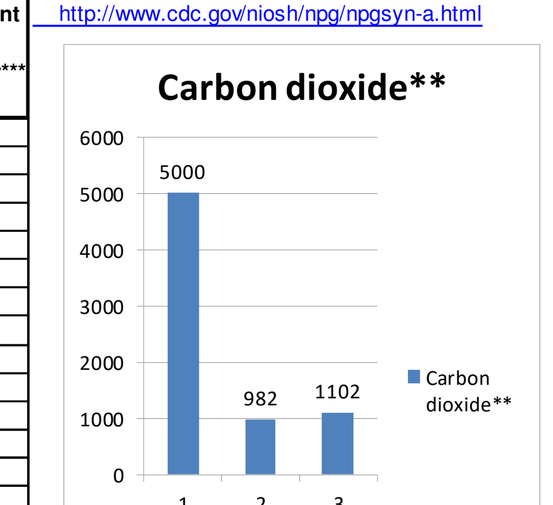
Acetaldehyde	100.0	0.01112	0.00146	Yes	0.00048	50%	OSHA
Acetone	250.0	0.00173	0.00031	Yes	0.00654	50%	NIOSH
Ammonia	25.00	0.01696	0.00489	Yes	0.21460	50%	NIOSH
Benzene	1.0000	0.00252	0.00033	Yes	0.00022	50%	OSHA
2- Butanone (MEK)	200.0	0.00020	0.00004	Yes	0.00133	50%	NIOSH
Carbon dioxide**	5000	982	1102	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00001	Yes	0.00004	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00078	0.00012	Yes	0.00121	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00005	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00533	0.00070	Yes	0.00032	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00077	0.00011	Yes	0.00058	50%	NIOSH
Xylene	100.0000	0.00230	0.00030	Yes	0.00000	50%	OSHA



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Is IAQ acceptable at reduce outside air levels?	Yes

Date	9/11/2020
Job Name	SCMH Erwin - Good Hope
Representative	Lighthouse Engineering
Engineer	PWI
Contractor	-

2018 NCMC ALLOWS FOR ASHRAE 62 IAQP THROUGH THE ENGINEERED EXCEPTION FOUND IN SECTION 403.2.

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AH-5	els Motels Resorts Dormit	Barracks/Sleeping areas	1,290.0	9.0	5.0	0.06	45	77	0.8	153 OA required per VRP

Zone Height (feet)	16.0
Desired Outside Air (Vo) IAQP	180
Supply Air (Vs)	1,200
Return Air (Vr)	1020
Recirc. Flow Factor (R)	0.85
Ventilation Effectiveness (Ez)	0.8
Level of Physical Activity	Standing (desk work)
Filter Location	B
HVAC Flow Type	Constant
Outdoor Air Flow Type	Constant

Air Changes Per Hour	3.5	VRP OA CFM per person	17.0
Outside Air Per VRP	153 CFM	IAQ OA CFM per person	20.0
Outside Air Per IAQ	180 CFM		
Outside Air Savings	-27 CFM	Winter Heating Savings	
OA Summer Drybulb	94.0	OA Winter Design DB (F)	18
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Coil Leaving Air Drybulb (F	55.0	MBH Saved Winter	-2.3
Coil Leaving Air Wetbulb (F	55.0	KW Saved Winter	-0.7
OA MBH Saved Summer*	-1.7		
OA Tons Saved Summer*	-0.1		

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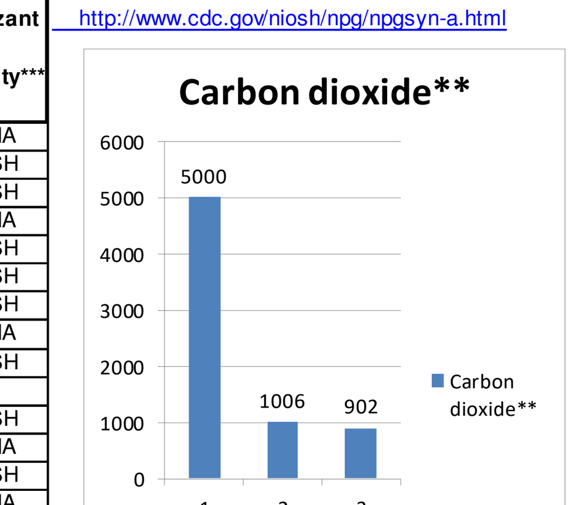
Benzene	1.0000	0.00252	0.00033	Yes	0.00022	50%	OSHA
2- Butanone (MEK)	200.0	0.00020	0.00004	Yes	0.00133	50%	NIOSH
Carbon dioxide**	5000	1006	902	Yes	441	0%	NIOSH
Chloroform	2.0000	0.00011	0.00001	Yes	0.00004	50%	NIOSH
Dioxane	100.0	0.00000	0.00000	Yes	0.00000	50%	OSHA
Hydrogen Sulfide	10.0	0.00000	0.00000	Yes	0.00000	50%	NIOSH
Methane	NA	1.68094	1.68094	Yes	0.00000	0%	NA
Methanol	200.0	0.00000	0.00000	Yes	0.00000	0%	NIOSH
Methylene Chloride	25.0	0.00078	0.00011	Yes	0.00121	50%	OSHA
Propane	1000.0	0.00998	0.00998	Yes	0.00000	0%	NIOSH
Tetrachloroethane	5.0000	0.00000	0.00000	Yes	0.00000	50%	OSHA
Tetrachloroethylene	100.0000	0.00037	0.00005	Yes	0.00001	50%	OSHA
Toluene	100.0000	0.00533	0.00070	Yes	0.00032	50%	NIOSH
1,1,1 - Trichloroethane	350.0000	0.00078	0.00011	Yes	0.00058	50%	NIOSH
Xylene	100.0000	0.00230	0.00030	Yes	0.00000	50%	OSHA



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Is IAQ acceptable at reduce outside air levels?	Yes

Date	9/11/2020
Job Name	SCMH Erwin - Good Hope
Representative	Lighthouse Engineering
Engineer	PWI
Contractor	-

2018 NCMC ALLOWS FOR ASHRAE 62 IAQP THROUGH THE ENGINEERED EXCEPTION FOUND IN SECTION 403.2.

REVISIONS

LIGHTHOUSE ENGINEERING
400 W. Morgan Street, Suite 100
Raleigh, North Carolina, 27603
tel 919.835.9781
fax 919.835.9754
MECHANICAL ELECTRICAL PLUMBING

NORTH CAROLINA LIGHTHOUSE ENGINEERING,PA No. C-2714 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 28385 ENGINEER SCOTT A. BROWN 9/11/20

Stogner Architecture, PA
ARCHITECTURE – CONSTRUCTION MANAGEMENT – DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

GOOD HOPE HOSPITAL
ADDITION and RENOVATIONS
410 DENIM DRIVE
ERWIN, NORTH CAROLINA

MECHANICAL DETAILS

COMM. NO.: 4535
DRAWN BY: PWI
CHECKED BY: SAB
DATE: SEPT 11, 2020
SHEET NO.
M0.4

WALL LEGEND: (SEE ARCH. PLANS FOR INFO)

- 1-HR FIRE RATED PARTITION
- 1-HR FIRE RATED SMOKE BARRIER
- SMOKE PARTITION

TAGGED NOTES - THIS SHEET

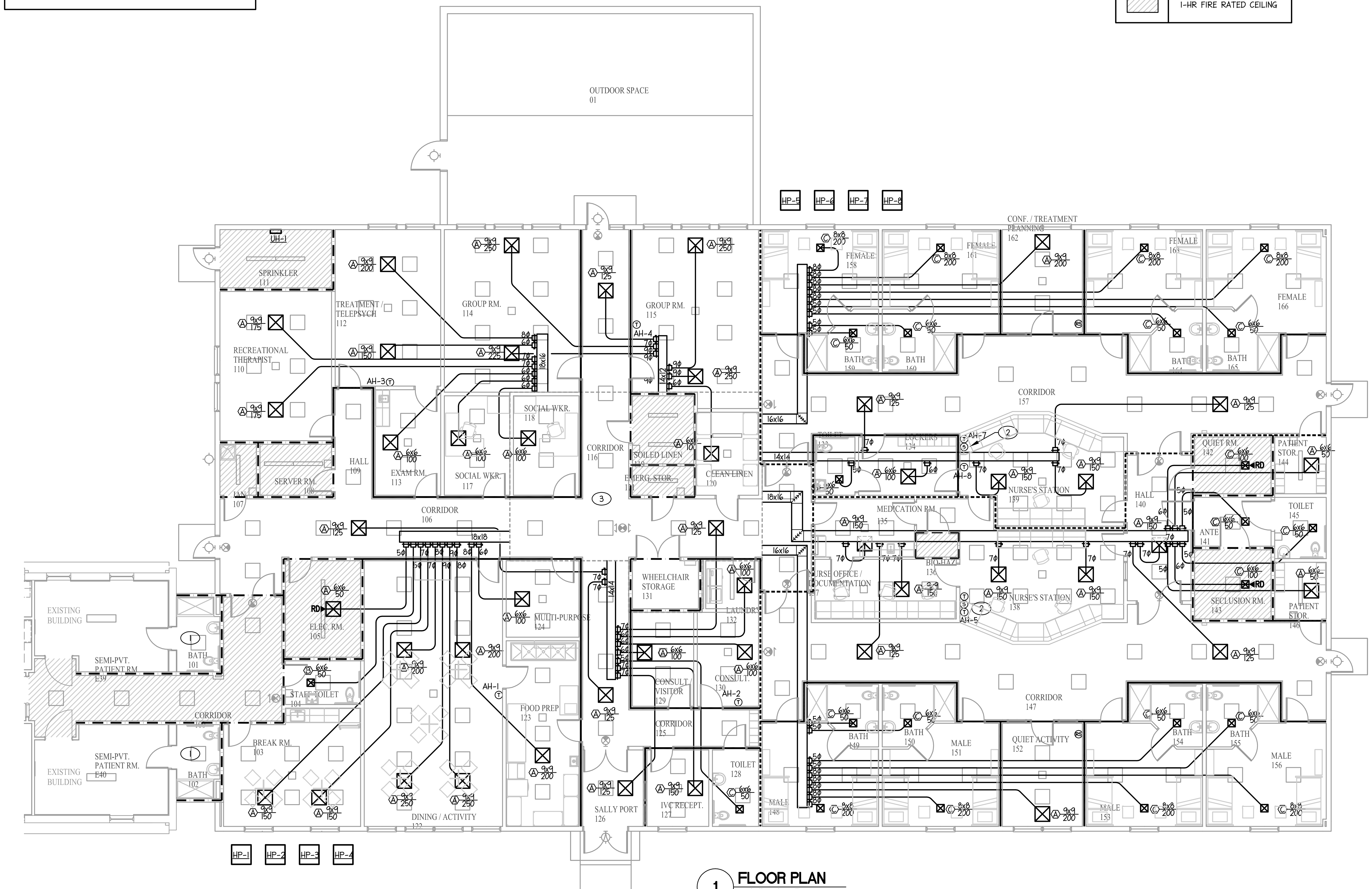
1. EXISTING SUPPLY AND EXHAUST TO BE EXTENDED FROM EXISTING BATHROOM TO NEW LOCATION
2. AIR HANDLER SHUTOFF BUTTON TO BE TIED TO ALL UNITS FOR SHUT DOWN.
3. MECHANICAL PLATFORM ABOVE. SEE SHEET M1.2 FOR DETAILS.

GENERAL NOTES - THIS SHEET

1. COORDINATE FINAL T-STAT LOCATIONS WITH OWNER.
2. ONLY ROOMS WITH A 1-HOUR FIRE RATED CEILING REQUIRE RADIATION DAMPERS.

LEGEND

[hatch]	1-HR FIRE RATED CEILING



1 FLOOR PLAN
1/8"=1'-0"

REVISIONS

LIGHTHOUSE ENGINEERING
NORTH CAROLINA LIGHTHOUSE ENGINEERING, PA No. C-2714 CERTIFICATE OF AUTHORIZATION
NORTH CAROLINA PROFESSIONAL SEAL 28385 ENGINEER SCOTT A. BROWN 9/11/20

Stogner Architecture, PA
ARCHITECTURE – CONSTRUCTION MANAGEMENT – DESIGN BUILD
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GOOD HOPE HOSPITAL
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410 DENIM DRIVE
ERWIN, NORTH CAROLINA

MECHANICAL SUPPLY – FLOOR PLAN

COMM. NO.:	4535
DRAWN BY:	PWI
CHECKED BY:	SAB
DATE:	SEPT 11, 2020
SHEET NO.	M1.0

FOR CONSTRUCTION

EXHAUST CALCULATIONS

EF-1:

BATH 101 & 102
= 58 SQFT X 2 CFM/SQFT
= 116 CFM

STAFF TOILET 104
= 62 SQFT X 2 CFM/SQFT
= 104 CFM

BATH 149, 150, 154 & 155 :
= 68 SQFT X 2 CFM/SQFT
= 136 CFM

BATH 159, 160, 164, & 165
= 68 SQFT X 2 CFM/SQFT
= 136 CFM

TOILET 145
= 60 SQFT X 2 CFM/SQFT
= 120 CFM

EF-1 PROVIDES 140 CFM

EF-3:

JANITOR 182:
= 35 SQFT X 2 CFM/SQFT
= 70 CFM

EF-3 PROVIDES 100 CFM

EF-4:

SOILED LINEN:
= 84 SQFT X 2 CFM/SQFT
= 168 CFM

EF-4 PROVIDES 170 CFM

EF-5:

LAUNDRY:
EF-5
= 48 SQFT X 2 CFM/SQFT
= 96 CFM

EF-5 PROVIDES 100 CFM

EF-6:

TOILET 104:
= 62 SQFT X 2 CFM/SQFT
= 124 CFM

TOILET 128:
= 66 SQFT X 2 CFM/SQFT
= 132 CFM

TOILET 133:
= 44 SQFT X 2 CFM/SQFT
= 88 CFM

EF-6 PROVIDES 140 CFM

DRYER VENT CALCULATION

Vertical Run (ft)	10	
Horizontal Run (ft)	13	
TOTAL LINEAR LENGTH (ft)		**23**
# of 90° Elbows (5ft each)	2	
# of 45° Elbows (2.5ft each)	0	
DUCT FITTING EQUIVALENT LENGTH (ft)		**10**
Equiv. Length (ft) Per 2018 NCMC 504.8.4.1		**33**

NOTE: M.C. IS TO PROVIDE AND INSTALL PERMANENT SIGNS WITHIN 6 FT OF EACH EXHAUST DUCT CONNECTION WHICH STATE THE LINEAR DUCT LENGTH AND NUMBER OF ELBOWS FOR THE DRYER VENT RUN AS INSTALLED.

EQUIVALENT LENGTH CALCULATIONS ARE BASED ON 2018 NCMC SECTION 504.8.4.1 AND ARE PROVIDED FOR CODE COMPLIANCE ONLY. WHEN USING ALTERNATE COMPLIANCE OF MFG INSTRUCTIONS, CALCULATIONS SHOULD BE BASED ON MFG EQUIVALENT LENGTH CALCULATIONS AND NOT THIS TABLE.

TAGGED NOTES - THIS SHEET

(1) PROVIDE EXHAUST AIR LOUVER WITH MINIMUM FREE AREA OF 0.25 SQFT. CONFIRM MODEL AND COLOR WITH ARCHITECT.

(2) MECHANICAL PLATFORM ABOVE. SEE SHEET M1.2 FOR DETAILS.

(3) DRYER VENT WALL CAP.

(4) PROVIDE EXHAUST AIR LOUVER WITH MINIMUM FREE AREA OF 0.2 SQFT. CONFIRM MODEL AND COLOR WITH ARCHITECT.

(5) PROVIDE EXHAUST AIR LOUVER WITH MINIMUM FREE AREA OF 0.34 SQFT. CONFIRM MODEL AND COLOR WITH ARCHITECT.

(6) DRYER VENT TO TERMINATE AT ROOF ABOVE. UTILIZE PROPER DRYER VENT ROOF CAP AND MAINTAIN 25 FT. CLEARANCE FROM ANY BUILDING INTAKE.

GENERAL NOTE - THIS SHEET

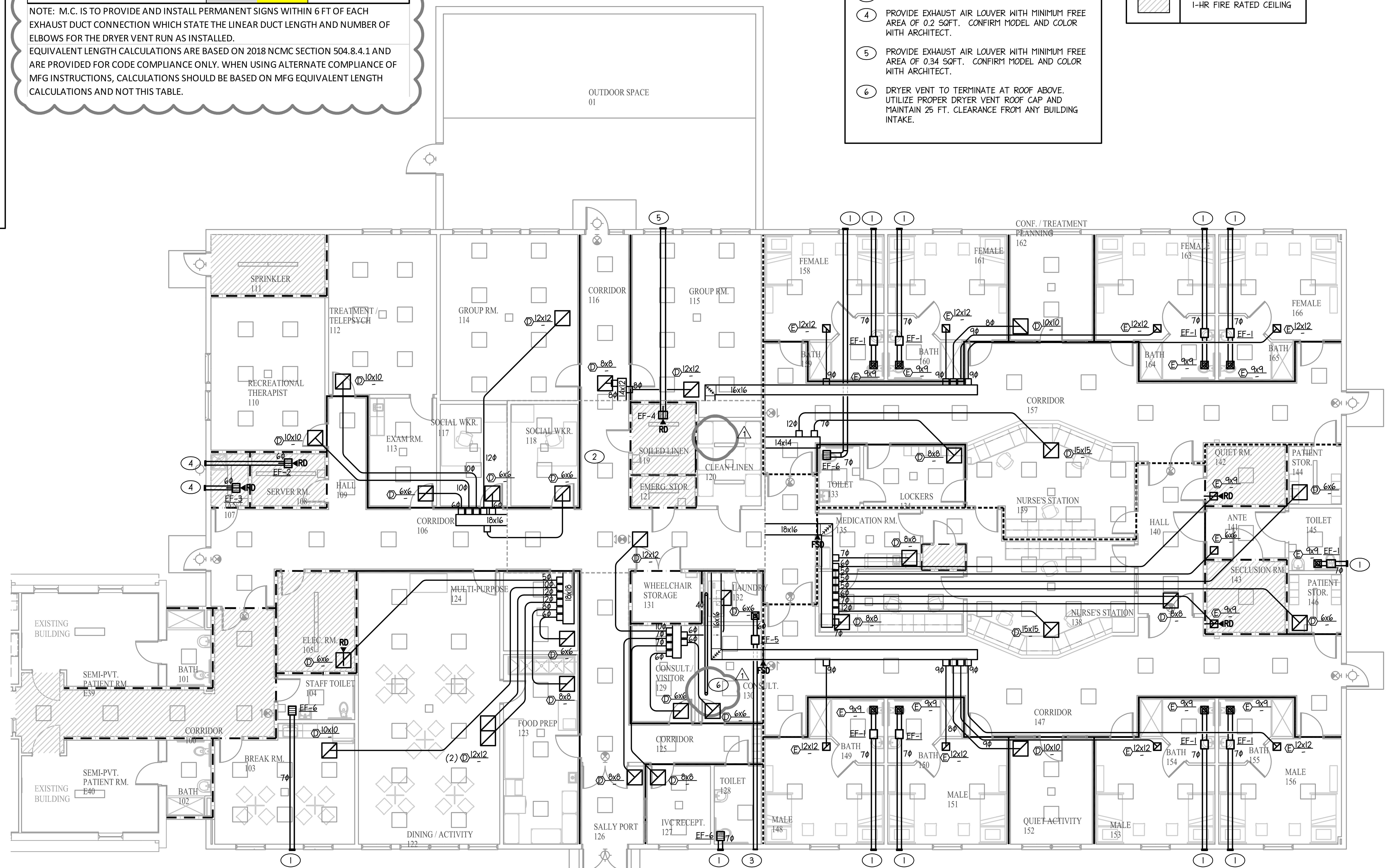
1. ONLY ROOMS WITH A 1-HOUR FIRE RATED CEILING REQUIRE RADIATION DAMPERS.

LEGEND

(hatched)	1-HR FIRE RATED CEILING

WALL LEGEND: (SEE ARCH. PLANS FOR INFO)

- 1-HR FIRE RATED PARTITION
- 1-HR FIRE RATED SMOKE BARRIER
- SMOKE PARTITION



1 FLOOR PLAN
1/8"=1'-0"

FOR CONSTRUCTION

REVISIONS
△1 DHHS COMMENTS 11/23/20

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GOOD HOPE HOSPITAL
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410 DENIM DRIVE
ERWIN, NORTH CAROLINA

MECHANICAL RETURN - FLOOR PLAN

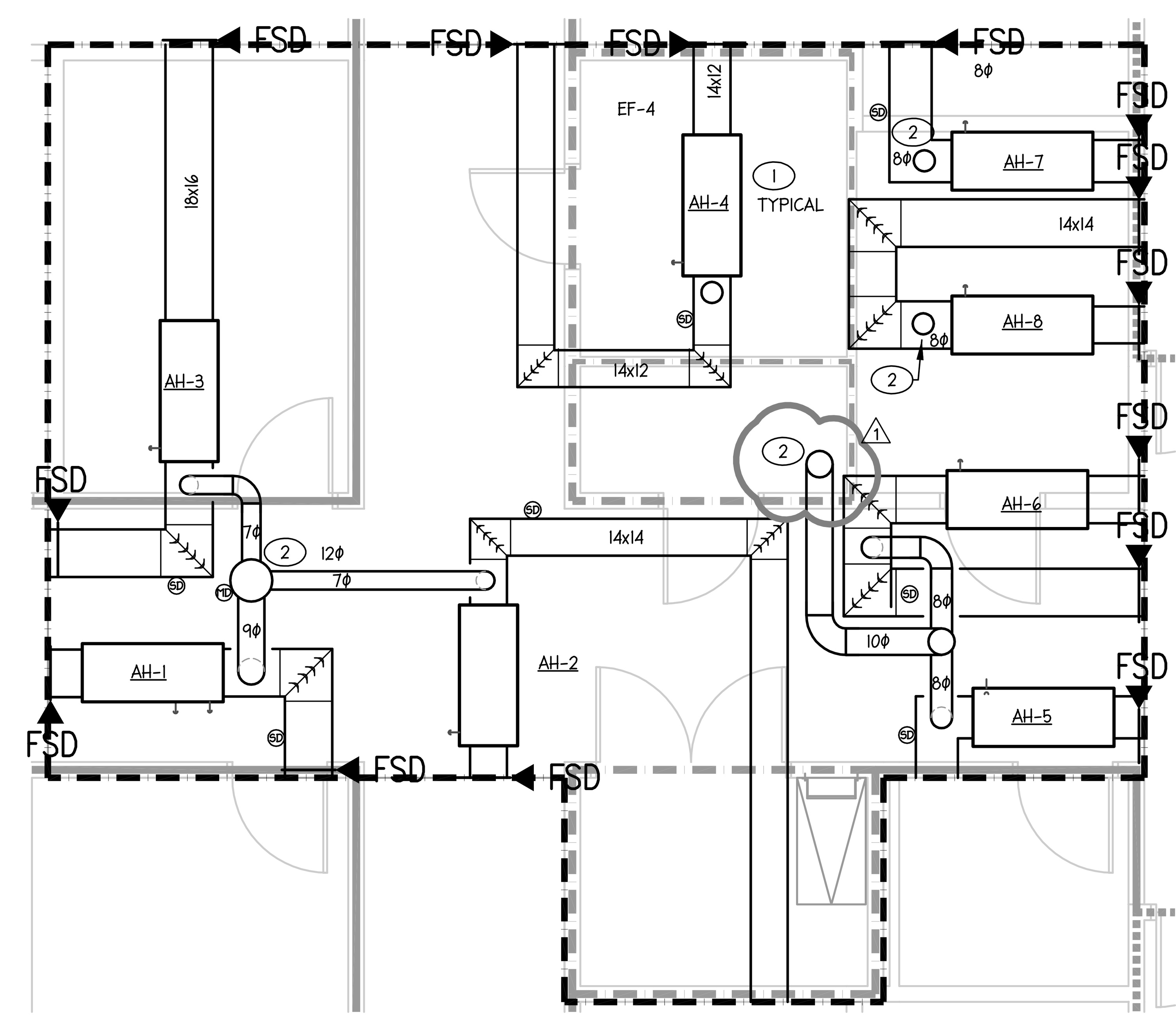
COMM. NO.:	4535
DRAWN BY:	PWI
CHECKED BY:	SAB
DATE:	SEPT 11, 2020
SHEET NO.	M1.1

WALL LEGEND: (SEE ARCH. PLANS FOR INFO)

- 1-HR FIRE RATED PARTITION
- 1-HR FIRE RATED SMOKE BARRIER
- SMOKE PARTITION

TAGGED NOTES - THIS SHEET

1. 1" CONDENSATE DRAIN PIPE FROM ATTIC DOWN IN OUTSIDE WALL TO FRENCH DRAIN AT GRADE.
2. OUTSIDE AIR DUCT ABOVE TO ROOF. MAINTAIN 25 FT. CLEARANCE FROM ANY EXHAUST. COORDINATE ROOF PENETRATION LOCATION WITH ARCHITECT.



1 MEZZANINE PLAN
1/4"=1'0"

REVISIONS
⚠ DHHS COMMENTS 11/23/20

LIGHTHOUSE ENGINEERING
MECHANICAL ELECTRICAL PLUMBING

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MECHANICAL MEZANINE PLAN

COMM. NO.:	4535
DRAWN BY:	PWI
CHECKED BY:	SAB
DATE:	SEPT 11, 2020
SHEET NO.	M1.2

FOR CONSTRUCTION

LIGHTING FIXTURE SCHEDULE

MARK	MANUF.	CATALOG NUMBER	LAMP DATA NO.	LAMP DATA TYPE	VOLTS	BALLAST DATA NO.	BALLAST DATA TYPE	INPUT WATTS	MOUNTING	DESCRIPTION
A	COLUMBIA	LCAT22-35ML-G-EDU-FK22	-	LED	MULTI	-	-	29	RECESSED	2' X 2' LED CONTEMPORARY RECESSED TROFFER.
B	COLUMBIA	LJT22-35HL-G-FS-AI2-EDU-FK22	-	LED	MULTI	-	-	33	RECESSED	2' X 2' LED RECESSED TROFFER WITH LENS.
C	COLUMBIA	LCAT22-35ML-SM-EDU	-	LED	MULTI	-	-	29	SURFACE	2' X 2' LED CONTEMPORARY SURFACE MOUNT TROFFER.
D	NEW STAR LIGHTING	57R22-A/A-L4-35-A/A-UN	-	LED	MULTI	-	-	50	RECESSED	2' X 2' TAMPER RESISTENT, ANTI-LIGATURE, LED RECEESED TROFFER.
DN	NEW STAR LIGHTING	57R22-A/A-L4352C-A/A-UN-LN	-	LED	MULTI	-	-	50	RECESSED	2' X 2' TAMPER RESISTENT, ANTI-LIGATURE, LED RECEESED TROFFER WITH NIGHT LIGHT.
F	NEW STAR LIGHTING	5322-AL4351-A/A-UN	-	LED	MULTI	-	-	50	SURFACE	2' X 2' TAMPER RESISTENT, ANTI-LIGATURE, LED SURFACE MOUNT TROFFER. SEE NOTE 7 BELOW.
G	COLUMBIA	LCL4-35ML-EU	-	LED	MULTI	-	-	42	SURFACE	48" LENSED LED STRIPLIGHT.
H	COLUMBIA	LCL4-35ML-EU-LCLWG4	-	LED	MULTI	-	-	42	SURFACE	48" LENSED LED STRIPLIGHT WITH WIRE GUARD FOR RISER ROOM.
J	COLUMBIA	LCL8-35ML-EU-CSHC	-	LED	MULTI	-	-	84	PENDANT	96" LENSED LED STRIPLIGHT, CHAIN HUNG.
U	COLUMBIA	CUC4-ED120	-	LED	MULTI	-	-	25	SURFACE	48" LED UNDERCOUNTER TASK LIGHT WITH LENS; COORDINATE MOUNTING WITH MILLWORK TO BE PROVIDED.
U2	COLUMBIA	CUC2-ED120	-	LED	MULTI	-	-	14	SURFACE	24" LED UNDERCOUNTER TASK LIGHT WITH LENS; COORDINATE MOUNTING WITH MILLWORK TO BE PROVIDED.
X	HUBBELL	QSP2-24L-30-3K7-3-UNV-BL	-	LED	MULTI	-	-	30	WALL	EXTERIOR - DARK SKY QUARTERSPHERE WALL PACK W/ DIE-CAST HOUSING.
⊗ EX	DUAL LITE (HUBBELL)	EVEURWE	-	LED	120/277	-	-	4	UNIVERSAL	ADMINISTRATION / FRONT WING - THERMOPLASTIC LED EXIT SIGN WITH RED LETTERS AND WHITE HOUSING.
⊗ EX-V	DUAL LITE (HUBBELL)	SEWLRW	-	LED	120/277	-	-	4	UNIVERSAL	PATIENT WING - VANDAL RESISTENT LED EXIT SIGN WITH RED LETTERS AND WHITE HOUSING.

NOTES:
1. CATALOG NUMBERS AND MANUFACTURERS ARE TO INDICATE TYPE AND QUALITY OF FIXTURE DESIRED. SUBMIT CUTSHEETS OF THESE AND ALTERNATE MANUFACTURERS FOR ARCHITECT AND OWNER APPROVAL PRIOR TO PURCHASE OF ANY FIXTURES. INFORMATION ON ALTERNATE FIXTURES PROPOSED BY THE CONTRACTOR SHALL INCLUDE THE ADD/DEDUCT ASSOCIATED WITH ACCEPTANCE OF THAT FIXTURE (OR THE ALTERNATE PACKAGE AS A WHOLE).
2. EXIT LIGHTING FIXTURES SHALL BE CIRCUITED TO AN UNSWITCHED LEG OF THE LOCAL LIGHTING CIRCUIT, UNLESS NOTED OTHERWISE.
3. PROVIDE DISCONNECT FOR LUMINAIRES WITH LINEAR FLUORESCENT LAMPS AND/OR SERVICEABLE BALLASTS PER NEC 410.130(G).
4. WHERE FIXTURE IS LOCATED RECESSED IN A RATED FLOOR/CEILING ASSEMBLY PROVIDE WITH TENMAT 1-HOUR OR 2-HOUR FIRE RATED LIGHT COVER TO MATCH ASSEMBLY RATING. SEE ARCHITECTURAL SHEET G1.4, BY OTHERS, FOR FURTHER INFORMATION ON RATED CEILING LOCATIONS.
5. COLOR TEMPERATURES OF COMPACT FLUORESCENT AND LED LAMPS SHALL BE CONFIRMED WITH THE ARCHITECT.
6. PROVIDE BODINE "GTD" (OR EQUAL) FOR FIXTURES INDICATED TO HAVE NORMAL AND EMERGENCY CIRCUIT FEEDS, UNLESS FIXTURE HAS A STANDARD OPTION FOR EMERGENCY CIRCUIT CONNECTION.
7. PROVIDE DIMMING CONTROL FOR THIS FIXTURE IN ROOMS 142 AND 143; SEE SHEET E1.2 FOR FURTHER INFORMATION.

LIGHTING SYSTEMS
ENERGY CONSERVATION CODE SECTION 405

THIS PROJECT IS CLASSIFIED AS - ☐ RESIDENTIAL ☒ COMMERCIAL (SEE BELOW)

LIGHTING POWER DENSITY CALCULATION COMPLIANCE

INTERIOR LIGHTING POWER DENSITY CALCULATION PER TABLE 405.4.2. SEE LIGHTING FIXTURE SCHEDULE FOR FIXTURE INFORMATION.

INTERIOR WATTAGE SPECIFIED VS. ALLOWED 7,153 VS. 12,471

EXTERIOR LIGHTING POWER DENSITY CALCULATION PER TABLE 405.6.2. SEE LIGHTING FIXTURE SCHEDULE FOR FIXTURE INFORMATION.

TRADABLE EXTERIOR WATTAGE SPECIFIED VS. ALLOWED 210 VS. 600
NONTRADABLE EXTERIOR WATTAGE SPECIFIED VS. ALLOWED NA VS. NA

DESIGNER STATEMENT:

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE LIGHTING SYSTEMS REQUIREMENTS OF THE INTERNATIONAL ENERGY CONSERVATION CODE, SECTION 505 AND ANY LOCAL AMENDMENTS THEREOF.

SIGNED:
NAME: PAUL SCOTT
TITLE: ELECTRICAL ENGINEER

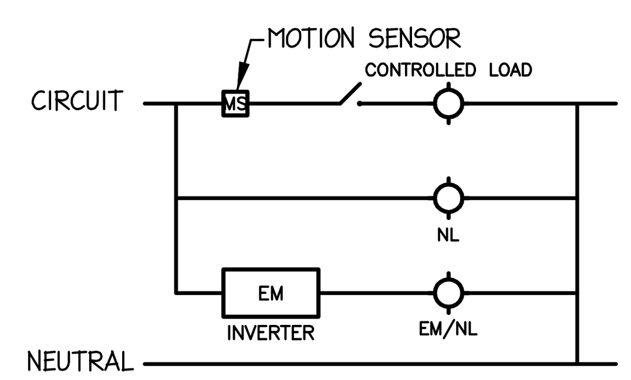
SECTION 406 COMPLIANCE - ☐ N/A ☐ 406.1.1 ☒ 406.1.2 ☐ 406.1.3 ☐ 406.1.4 ☐ 406.1.5 ☐ 406.1.6

ELECTRICAL ABBREVIATIONS

18"	DIMENSION INDICATES HEIGHT ABOVE FINISHED FLOOR AT WHICH CENTER OF DEVICE IS TO BE MOUNTED.
AFF	ABOVE FINISHED FLOOR.
AFG	ABOVE FINISHED GRADE.
E.C.	ELECTRICAL CONTRACTOR.
FPN	FUSE PER EQUIPMENT NAMEPLATE REQUIREMENTS.
G.C.	GENERAL CONTRACTOR.
M.C.	MECHANICAL CONTRACTOR.
P.C.	PLUMBING CONTRACTOR.
WP	INDICATES DEVICE TO HAVE WEATHERPROOF COVER.
UON	UNLESS OTHERWISE NOTED.
FACP	FIRE ALARM CONTROL PANEL.
NL	NIGHT LIGHT, LIGHT NOT SWITCHED.

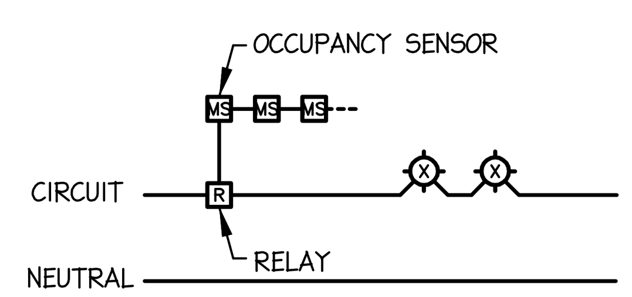
SYSTEM COMMISSIONING NOTES (NCECC C408)

1. ALL NON-EXEMPT LIGHTING SYSTEMS AND CONTROLS SHALL BE ADJUSTED, PROGRAMMED AND TESTED PER C408.3 TO ENSURE PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND THE MANUFACTURER'S INSTRUCTIONS
2. DOCUMENTATION, INCLUDING CUTSHEETS, MANUALS, TEST REPORTS, CALIBRATION REQUIREMENTS AND A NARRATIVE OF SYSTEM INTENDED OPERATION, SHALL BE PROVIDED TO THE OWNER PER C408.3.2.
3. THE STATEMENT OF SYSTEM COMMISSIONING (NCECC APPENDIX C1) SHALL BE COMPLETED AND PROVIDED TO THE OWNER AND CODE OFFICIAL PER C408.4.



MOTION SENSOR AHEAD OF LOCAL SWITCHING FOR CONTROLLED FIXTURES ONLY.

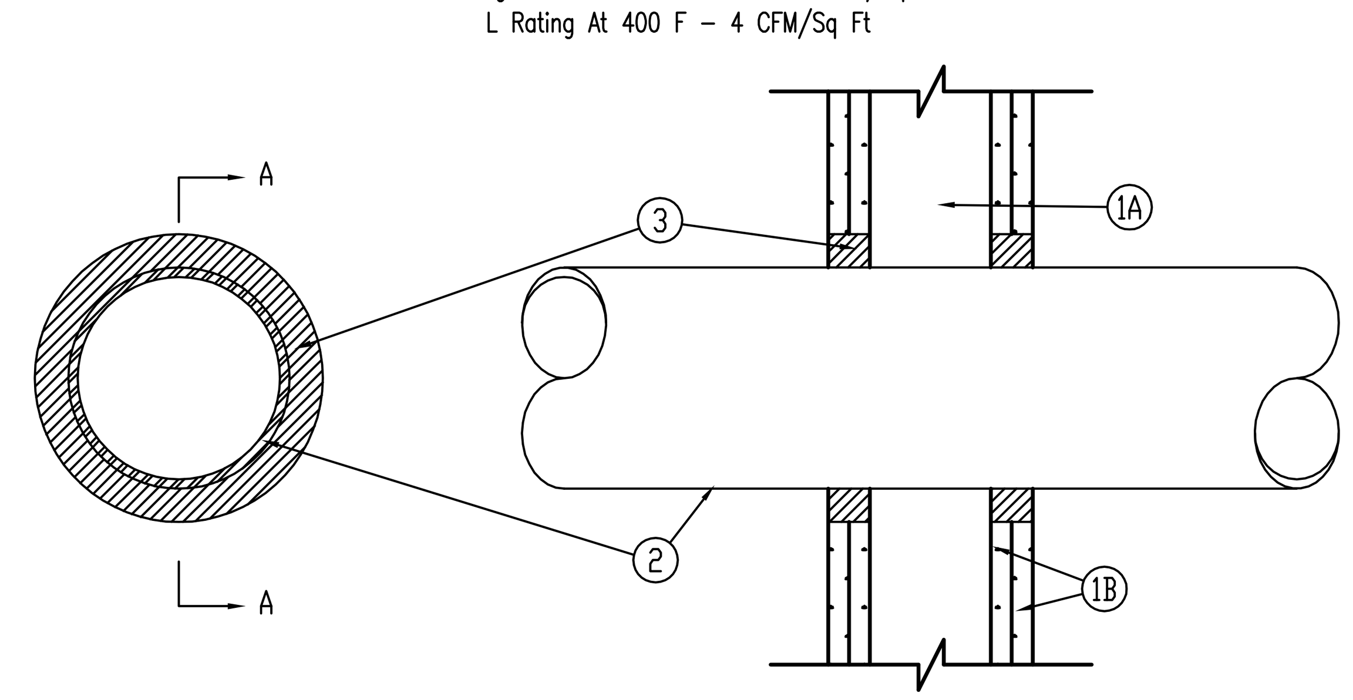
3B LIGHTING CONTROLS
NTS



OCCUPANCY SENSOR GROUP SHALL CONTROL NON-EMERGENCY FIXTURES VIA RELAY.

3A LIGHTING CONTROLS
NTS

System No. W-L-1054
F Ratings – 1 and 2 Hr (See Items 1 and 3)
T Rating – 0 Hr
L Rating At Ambient – Less Than 1 CFM/Sq Ft
L Rating At 400 F – 4 CFM/Sq Ft



SECTION A–A

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

A. Studs Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom. 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2–1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam. of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw–attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam. of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides.

B. Gypsum Board* 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max. diam. of opening is 32–1/4 in. for steel stud walls. Max. diam. of opening is 14–1/2 in. for wood stud walls.

The F Rating of the firestop system is equal to the fire rating of the wall assembly.

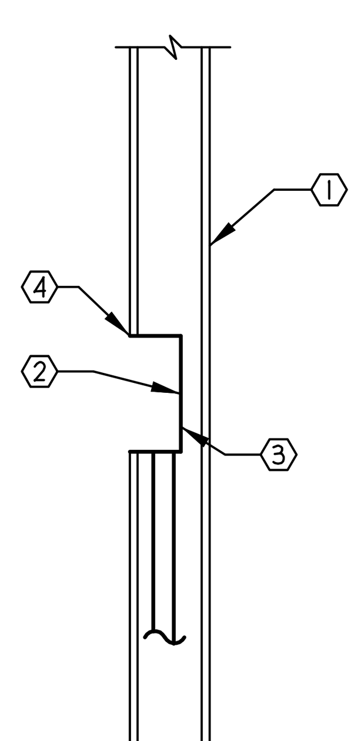
2. Through–Penetrants One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. An annular space of min 0 in. to max 2–1/4 in. is required within firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Steel Pipe Nom. 30 in. diam. (or smaller) schedule 10 (or heavier) steel pipe.
B. Iron Pipe Nom. 30 in. diam. (or smaller) cast or ductile iron pipe.
C. Conduit Nom. 4 in. diam. (or smaller) steel electrical metallic tubing or 6 in. diam. steel conduit.
D. Copper Tubing Nom. 6 in. diam. (or smaller) Type L (or heavier) copper tubing.
E. Copper Pipe Nom. 6 in. diam. (or smaller) regular (or heavier) copper pipe.

3. Fill, Void or Cavity Material* – Sealant Min 5/8 in. or 1–1/4 in. thickness of fill material applied within the annulus, flush with both surfaces of wall for 1 or 2 hr walls, respectivley. At the point contact location between pipe and wall, a min 1/2 in. diam. bead of fill material shall be applied at the pipe covering/wall interface on both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC – FS–One Sealant
*Bearing the UL Classification Mark

1 PENETRATION DETAIL
NO SCALE



NOTE: THIS DETAIL APPLIES TO 1 AND 2 HOUR WALL ASSEMBLIES WITH 4"x4" FLUSH ELECTRICAL BOXES ON OPPOSITE SIDES OF WALLS THAT HAVE LESS THAN 24" SEPARATION BETWEEN THEM AND TO ALL BOXES IN STAGGERED STUD WALLS. BOXES NOT PERMITTED BACK-TO-BACK.

2 PENETRATION DETAIL
NO SCALE

1. 1 OR 2 HOUR WALL ASSEMBLY EQUIVALENT TO UL300 OR UL400 SERIES.
2. ELECTRICAL OUTLET BOX, NOT MORE THAN 100 SQUARE INCHES PER 100 SQUARE FEET WALL AREA.
3. MOLDABLE INTUMESCENT PUTTY PADS ARE TO BE INSTALLED TO COMPLETELY COVER THE EXTERIOR SURFACES OF THE BOX WITHIN THE STUD CAVITY WITH A BALL OF THE PUTTY MATERIAL USED TO PLUG THE END OF EACH ELECTRICAL METALLIC TUBE OR CONDUIT AT ITS CONNECTION TO THE BOX.
4. INTUMESCENT PUTTY PAD EQUIVALENT TO 3M #MPP-4S. 1/8" THICK PADS REQUIRED FOR 1 HOUR WALLS. 1/4" THICK PADS REQUIRED FOR 2 HOUR WALLS. A MAXIMUM 1/8" GAP BETWEEN BOX AND WALLBOARD.

FOR CONSTRUCTION

Drawing Sheet List

REVISIONS
△1 DHHS COMMENTS 11/23/20

LIGHTHOUSE ENGINEERING
400 W. Morgan Street, Suite 100
Raleigh, North Carolina, 27603
tel 919.835.9781
fax 919.835.9754
MECHANICAL ELECTRICAL PLUMBING

NORTH CAROLINA CERTIFICATE OF AUTHORIZATION LIGHTHOUSE ENGINEERING, PA No. C-2714

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26585 PAUL S. SCOTT 12/01/20

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

GOOD HOPE HOSPITAL
ADDITION and RENOVATIONS
410 DENIM DRIVE
ERWIN, NORTH CAROLINA

ELECTRICAL LIGHTING FIXTURE SCHEDULES

COMM. NO.: 4535
DRAWN BY: JRS
CHECKED BY: PSS
DATE: SEPT 11, 2020
SHEET NO. E0.0

GENERATOR SYSTEM GENERAL NOTES

1. A SIGN SHALL BE PLACED AT THE SERVICE ENTRANCE EQUIPMENT INDICATING THE TYPE AND LOCATION OF ON-SITE EMERGENCY POWER SOURCES.
2. TESTING OF THE GENERATOR SHALL CONFORM TO THE STANDARDS SET FORTH IN NFPA 110.
3. ALL BOXES, ENCLOSURES, PANELS AND RECEPTACLES FOR EMERGENCY CIRCUITS SHALL BE PERMANENTLY MARKED SO THEY WILL BE READILY IDENTIFIED AS A COMPONENT OF AN EMERGENCY CIRCUIT OR SYSTEM (PAINTED RED).
4. EMERGENCY GENERATOR OPERATING INSTRUCTIONS SHALL BE POSTED AT A LOCATION READILY ACCESSIBLE TO THE PERSONS OPERATING OR MAINTAINING THE GENERATOR.
5. A DIAGRAM SHOWING LOCATIONS OF THE FUEL SHUTOFF VALVES SHALL BE POSTED AT THE ENGINE.
6. THE SERVICE DISCONNECT FOR ANY GENERATOR SHALL BE LOCATED REMOTE FROM THE GROUPING OF THE NORMAL POWER SERVICE ENTRANCE DISCONNECTING MEANS.
7. ANY GENERATOR SERVICE DISCONNECTING MEANS IS EXEMPT FROM THE MAXIMUM TOTAL OF SIX DISCONNECTS ALLOWED.
8. EMERGENCY SYSTEM WIRING WILL BE MECHANICALLY PROTECTED WHERE INSTALLED AS BRANCH CIRCUITS IN PATIENT CARE AREAS AS REQUIRED BY 2017 NEC 517.13(A)(B).

ELECTRICAL DEMOLITION NOTES

1. DRAWINGS ARE BASED ON EXISTING PLANS AND NON-DESTRUCTIVE FIELD INVESTIGATIONS. THE CONTRACTOR SHALL VISIT THE EXISTING BUILDING AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS. THE CONTRACTOR SHALL EXAMINE RELATED DRAWINGS TO AVOID CONFLICTS.
2. PROVIDE ELECTRICAL DEMOLITION WORK AS NECESSARY TO INSTALL NEW WORK. ELECTRICAL CONTRACTOR SHALL REROUTE AND RECONNECT ANY CIRCUITS THAT WILL REMAIN IN USE BUT INTERFERES WITH NEW CONSTRUCTION.
3. MATERIAL BEING REMOVED UNDER DEMOLITION (AND NOT TO BEING RELOCATED) SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED COMPLETELY FROM THE SITE, UNLESS OTHERWISE NOTED.
4. EXISTING CONDUITS THAT WILL NOT BE REUSED SHALL BE REMOVED IN CEILING PLENUMS AND WALLS. OTHERS MAY BE ABANDONED BELOW FLOOR SLABS. CONTRACTOR SHALL REMOVE ALL WIRING FROM ABANDONED CONDUITS. CUT-OFF ABANDONED CONDUITS BELOW FLOOR AND GROUT FLUSH WITH NON-CONTRACTING GROUT.
5. ABANDONED DEVICES SHALL BE REMOVED WITH THE JUNCTION BOX. WALLS SHALL BE PATCHED TO MATCH ADJACENT SURFACES.
6. CONTRACTOR SHALL EXERCISE CARE IN REMOVING DEMOLITION ITEMS AND SHALL REPAIR OR REPLACE AT HIS COST ANY DAMAGE CAUSED TO EXISTING CONSTRUCTION AND EQUIPMENT TO REMAIN.
7. SCHEDULE WORK IN EXISTING BUILDING AT TIME CONVENIENT TO OWNER.
8. DEVICES TO BE REMOVED AND NOT REINSTALLED SHALL HAVE JUNCTION BOXES, CONDUCTORS, CONDUIT AND ALL ASSOCIATED APPURTENANCES REMOVED BACK TO LAST ACTIVE DEVICE OR PANELBOARD.

<u>GENERAL NOTE 22 ADDITIONAL ITEM:</u>

RECEPTACLES SHALL BE COLORED AS FOLLOWS: (COVERPLATES SHALL MATCH EXCEPT WHERE STAINLESS STEEL IS REQUIRED).

* CRITICAL BRANCH SHALL BE RED.
* LIFE SAFETY BRANCH SHALL BE ORANGE.
* EQUIPMENT BRANCH SHALL BE BLUE.
* OTHERS SHALL BE IVORY.

FOR CONSTRUCTION

GENERAL ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE AND ALL LOCAL AND STATE CODES.
2. ALL MATERIAL, DEVICES, APPLIANCES, AND EQUIPMENT SHALL BE NEW AND SHALL CONFORM TO THE STANDARDS OF THE UNDERWRITER'S LABORATORIES, INC., AND THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION.
3. ALL ELECTRICAL PERMITS AND INSPECTION FEES SHALL BE OBTAINED AND PAID FOR BY THE ELECTRICAL CONTRACTOR. DRAWINGS ARE DIAGRAMMATIC ONLY AND INDICATE ONLY THE GENERAL ARRANGEMENT. SEE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.
4. ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR ONE YEAR EFFECTIVE THE DAY THE PROJECT IS ACCEPTED BY THE OWNER.
5. ELECTRICAL CONTRACTOR SHALL MAKE ALL ELECTRICAL POWER CONNECTIONS TO HVAC, PLUMBING AND OTHER EQUIPMENT AS REQUIRED.
6. A COMPLETE GROUNDING SYSTEM SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH ARTICLE 250 OF THE NEC, AND AS SHOWN ON THE DRAWINGS.
7. ALL CUTTING AND PATCHING OF WALLS AND FLOORS FOR ELECTRICAL EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
8. CONDUCTORS #8 AND SMALLER SHALL BE COPPER RATED AT NOT LESS THAN 600 VOLTS. CONDUCTORS #6 AND LARGER MAY BE ALUMINUM RATED AT NOT LESS THAN 600 VOLTS. MINIMUM SIZE SHALL BE #14 AWG WITHIN RESIDENTIAL UNITS AND #12 ELSEWHERE. ALL WIRE #8 AWG AND LARGER SHALL BE STRANDED. ALL CONDUCTORS #10 AND SMALLER SHALL BE SOLID, UNLESS OTHERWISE NOTED. BRANCH CIRCUIT CONDUCTORS SHALL BE TYPE THHN OR THWN AS REQUIRED.
9. ALL WIRING SHALL BE INSTALLED IN GALVANIZED RIGID CONDUIT, INTERMEDIATE METAL CONDUIT, OR EMT, EXCEPT AS ALLOWED BELOW. EMT SHALL NOT BE USED IN OR UNDER CONCRETE SLABS, OR IN MASONRY WALLS. USE SCHEDULE 40 PVC OUTDOORS WHERE NOT SUBJECT TO PHYSICAL DAMAGE OR BELOW FLOOR SLAB. MINIMUM CONDUIT SIZE TO BE 1/2". TYPE MC AND AC CABLE MAY BE USED WHERE PERMISSIBLE BY NEC. FLEXIBLE CONDUIT SHALL BE USED FOR CONNECTIONS TO VIBRATING EQUIPMENT AND LUMINAIRES, BUT SHALL NOT EXCEED 6' IN LENGTH.
10. PROVIDE A PULLWIRE IN ALL EMPTY CONDUITS.
11. PROVIDE A TYPED DIRECTORY IN ALL PANELBOARDS CLEARLY DESCRIBING THE LOCATION OF AND TYPE OF LOAD BEING SERVED FOR ALL CIRCUITS. PROVIDE ENGRAVED PHENOLIC NAMEPLATES FOR ALL PANELBOARDS AND DISCONNECT SWITCHES, WHITE LETTERS ON BLACK BACKGROUND.
12. FUSES 0 - 600 AMPS SHALL BE UL CLASS "RK-1" LOW PEAK DUAL ELEMENT TIME DELAY WITH 200,000 AMPERE INTERRUPTING RATING AS MANUFACTURED BY BUSSMANN, UNLESS NOTED OTHERWISE.
13. ALL TERMINALS/LUGS SHALL BE 60/75° RATED. ALL TERMINALS, SPLICING CONNECTORS, LUGS, ETC SHALL BE IDENTIFIED FOR USE WITH THE MATERIAL (CU/AL) OF THE CONDUCTOR AND SHALL BE PROPERLY INSTALLED.
14. VERIFY ALL REQUIREMENTS AND COORDINATE EXACT LOCATION OF INCOMING ELECTRICAL SERVICE WITH LOCAL POWER COMPANY PRIOR TO PROJECT START-UP. NOTIFY ENGINEER OF ANY CHANGES AS MAY BE REQUIRED.
15. E.C. TO VERIFY DEVICE PLATE COLOR AND MATERIAL WITH ARCHITECT PRIOR TO PURCHASE. ALL COVERPLATES IN PATIENT CARE SHALL BE STAINLESS STEEL.
16. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL ELECTRICAL EQUIPMENT FROM FOREIGN MATERIAL DURING CONSTRUCTION (PAINT, SPACKLE, ETC.).
17. PENETRATIONS OF REQUIRED SMOKE PARTITIONS SHALL BE SEALED USING METHODS APPROVED UNDER THE STATE BUILDING CODE. COORDINATION WITH THE GENERAL CONTRACTOR SHALL BE MAINTAINED TO ENSURE THAT THIS SMOKE STOPPING IS ACCOMPLISHED.
18. WHERE PENETRATIONS ARE MADE THROUGH A REQUIRED FIRE-RESISTIVE WALL, FLOOR, OR PARTITION FOR THE PURPOSE OF RUNNING RACEWAY CARRYING ELECTRICAL, TELEPHONE, TELEVISION, OR LOCAL COMMUNICATION AND/OR SIGNALING CIRCUITS, THE OPENING AROUND THE RACEWAY SHALL BE FIRE STOPPED PER THE STATE BUILDING CODE. COORDINATION WITH THE GENERAL CONTRACTOR SHALL BE MAINTAINED TO INSURE THAT THIS FIRE STOPPING IS ACCOMPLISHED. USE APPROVED U.L. OR EQUIVALENT ASSEMBLIES.
19. IN REQUIRED FIRE RATED WALLS AND PARTITIONS, OPENINGS FOR INSTALLATION OF BOXES THAT ARE GREATER THAN 16 SQUARE INCHES SHALL BE PROTECTED AS REQUIRED BY U.L. COORDINATE CLOSELY WITH THE GENERAL CONTRACTOR TO INSURE THAT THE INTEGRITY OF THE U.L. RATING IS MAINTAINED.
20. WHERE A HOME RUN IS SHOWN THE CIRCUIT SHALL BE INSTALLED IN A DEDICATED CONDUIT, DO NOT COMBINE WITH OTHER CIRCUITS. WHERE A CIRCUIT HOMERUN IS NOT SHOWN, THE CONTRACTOR SHALL COMBINE CIRCUITS AS FOLLOWS: A MAXIMUM OF THREE 20A BRANCH CIRCUITS MAY BE COMBINED IN A COMMON HOMERUN WITH SEPARATE NEUTRALS FOR A MAXIMUM TOTAL OF SIX CURRENT CARRYING CONDUCTORS. ALL BRANCH CIRCUITS LARGER THAN 20A SHALL BE SEPARATELY HOMERUN TO THE PANEL.
21. COORDINATE WITH THE CABLE TV AND TELEPHONE UTILITIES FOR SERVICE ENTRANCE AND CABLING REQUIREMENTS PRIOR TO ANY PURCHASING. INSTALLATION MUST COMPLY WITH THEIR RESPECTIVE REGULATIONS AND REQUIREMENTS.
22. ALL RECEPTACLES SHALL BE TAMPER RESISTANT AND SPECIFICATION GRADE EQUAL TO HUBBELL BR20 SERIES; GROUND FAULT RECEPTACLES SHALL BE EQUAL TO HUBBELL GFR-5362. LIGHTING SWITCHES SHALL BE SPECIFICATION GRADE EQUAL TO HUBBELL 1200 SERIES. PROVIDE HIGH-ABUSE SECURITY WALL PLATES IN ALL PATIENT AREAS. ENSURE DEVICES ARE INSTALLED IN COMPLIANCE WITH ANSI A117.1 FOR ADA REQUIREMENTS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL ELECTRICAL EQUIPMENT, DEVICES, ETC. IN ACCORDANCE WITH FACILITY REQUIREMENTS AND REGULATIONS.
23. OUTLETS SHALL BE STAGGERED BETWEEN STUDS TO REDUCE SOUND TRANSMISSION.
24. ALL EXTERIOR FIXTURES AND DEVICES SHALL BE RATED FOR OPERATION AT 0° F AND SHALL BE DAMP OR WET LABELED AS REQUIRED.
25. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL ELECTRICAL EQUIPMENT, DEVICES, ETC. IN ACCORDANCE WITH LOCAL SEISMIC CODE REQUIREMENTS. PROVIDE SEISMIC RESTRAINTS, ACCESSORIES AND INSTALLATION DETAIL AS REQUIRED.
26. ALL QUESTIONS MUST BE SUBMITTED IN RFI FORMAT TO THE ARCHITECT AND MUST BE ADDRESSED BY THE APPROPRIATE DESIGNER OF RECORD PRIOR TO BECOMING A PROPOSED CHANGE ORDER.
27. THE MOTION SENSOR LAYOUT SHALL BE REVIEWED AND ADJUSTED BY THE ACTUAL DEVICE MANUFACTURER WHICH THE CONTRACTOR SELECTS. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR THE SYSTEM TO THE ENGINEER FOR REVIEW, PRIOR TO PURCHASE AND INSTALLATION.
28. REVIEWS AND USE OF THESE PLANS SHALL BE DONE IN CONJUNCTION AND COORDINATED WITH ALL OTHER TRADES; THESE DRAWINGS SHALL NOT BE REVIEWED OR USED AS STANDALONE DOCUMENTS.
29. PROVIDE HOSPITAL GRADE RECEPTACLES IN ALL EXAM ROOMS AND PATIENT BEDROOMS, EQUAL TO HUBBELL 8300 SERIES.
30. WIRING METHODS IN PATIENT CARE AREAS SHALL INCLUDE AN INSULATED GROUNDING CONDUCTOR INSTALLED IN METAL RACEWAYS IN ACCORDANCE WITH ARTICLE 517 OF THE NEC.
31. EQUIPMENT REQUIRING BACKUP POWER FOR ORDERLY SHUTDOWN UPON LOSS OF UTILITY POWER SHALL BE PROVIDED WITH INTEGRAL BATTERY BACKUP AS REQUIRED.

ELECTRICAL SYMBOL LEGEND

Symbol	Description
	CIRCUIT CONDUCTORS CONCEALED IN FLOOR, WALL OR CEILING.
	ARROWHEAD INDICATES HOMERUN TO PANEL NOTED.
//	INDICATES HOT LEG OF CIRCUIT TO BE CARRIED OVER TO NEXT DEVICE. SEE PLANS FOR CONTROL SCHEME.
J	JUNCTION BOX CEILING MOUNTED.
J	JUNCTION BOX FLOOR MOUNTED.
J	JUNCTION BOX WALL MOUNTED AT HEIGHT INDICATED ON DRAWINGS.
$	SINGLE POLE SWITCH, 20A, 120/277 VOLT, 46" A.F.F. TO CENTER. "3" INDICATES 3-WAY SWITCH. "4" INDICATES 4-WAY SWITCH. "D" INDICATES DIMMER SWITCH OF TYPE TO SUIT LOAD. "H" INDICATES HINGE MOUNTED PUSH OFF SWITCH. "K" INDICATES KEY OPERATED SWITCH. "M" INDICATES 120V, 20A MOTOR RATED TOGGLE SWITCH.
$$	INDICATES FLUORESCENT FIXTURES DUAL SWITCHED, INBOARD/OUTBOARD SWITCHED SEPARATELY.
	SINGLE RECEPTACLE, 20 AMP, 120 VOLT, 18" A.F.F. TO CENTER.
	DUPLEX RECEPTACLE, 15 AMP, 120 VOLT, 18" A.F.F. TO CENTER. "GFI" INDICATES GROUND FAULT CIRCUIT INTERRUPTER TYPE. "WP" INDICATES WEATHERPROOF. "EWC" INDICATES MOUNT GFI RECEPTACLE BESIDE ENCLOSURE OF ELECTRIC WATER COOLER. GFI RESET MUST BE READILY ACCESSIBLE.
	QUADRUPLEX RECEPTACLE, AS ABOVE, 18" A.F.F.
	DUPLEX RECEPTACLE WITH POWER CONTROLLED VIA REMOTE SWITCH (NOT IN ROOM), 18" A.F.F.
	DUPLEX RECEPTACLE, AS ABOVE, MOUNTED 6" ABOVE COUNTER TOP OR 4" ABOVE BACKSPLASH, AS APPROPRIATE, OR AT HEIGHT INDICATED.
	DUPLEX RECEPTACLE, AS ABOVE, MOUNTED 6" ABOVE COUNTER TOP OR 4" ABOVE BACKSPLASH, AS APPROPRIATE, OR AT HEIGHT INDICATED, WITH GFI PROTECTION.
	RECESSED FLUSH FLOOR DUPLEX RECEPTACLE WITH BRASS COVERPLATE. COORDINATE EXACT FINISH WITH ARCHITECT AND OWNER.
	208V RECEPTACLE, SEE PLANS FOR NEMA CONFIGURATION.
	TELEPHONE OUTLET, 18" A.F.F. TO CENTER OR ALIGN MOUNTING HEIGHT WITH ADJACENT DEVICE, UNLESS OTHERWISE NOTED. COORDINATE CONDUIT REQUIREMENTS AND ROUTING WITH SYSTEM INSTALLER. ALIGN MOUNTING HEIGHT WITH ADJACENT DEVICE.
	DATA OUTLET, 18" A.F.F. TO CENTER OR ALIGN MOUNTING HEIGHT WITH ADJACENT DEVICE, UNLESS OTHERWISE NOTED. COORDINATE CONDUIT REQUIREMENTS AND ROUTING WITH SYSTEM INSTALLER.
	TELEPHONE/DATA OUTLET, 18" A.F.F. TO CENTER OR ALIGN MOUNTING HEIGHT WITH ADJACENT DEVICE, UNLESS OTHERWISE NOTED. COORDINATE CONDUIT REQUIREMENTS AND ROUTING WITH SYSTEM INSTALLER.
30/3/FPN	HEAVY DUTY FUSIBLE/NON-FUSIBLE DISCONNECT SWITCH, NUMBERS INDICATE FRAME SIZE, NUMBER OF POLES AND FUSING. PROVIDE NEMA 1 ENCLOSURE INSIDE. PROVIDE NEMA 3 ENCLOSURE FOR ALL SWITCHES LOCATED OUTSIDE. "FPN" INDICATES FUSE PER EQUIPMENT NAMEPLATE "NF" INDICATES NON-FUSED. "MS" INDICATES MOTOR STARTER OF TYPE TO SUIT LOAD.
	208Y/120V PANEL, SURFACE OR RECESS MOUNTED, SEE SCHEDULE FOR DETAILS.
EF	FAN, PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. PROVIDE DISCONNECTING MEANS AS REQUIRED.
WH	WATER HEATER, PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR. PROVIDE DISCONNECTING MEANS AS REQUIRED.
	TROFFER LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR DETAILS.
	STRIP LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR DETAILS.
	WALL MOUNTED LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR DETAILS.
	SURFACE, RECESSED OR GROUND MOUNTED LIGHTING FIXTURE, SEE FIXTURE SCHEDULE FOR DETAILS.
M	ELECTRIC UTILITY METER LOCATION.
TV	CABLE TV OUTLET, 18" A.F.F. TO CENTER, UNLESS OTHERWISE NOTED.
CR	CARD READER ACCESS, COORDINATE REQUIREMENTS AND FINAL QUANTITIES WITH OWNER AND SYSTEM INSTALLER; LOW VOLTAGE OR CIRCUIT TO NEAREST 120V DEVICE AS REQUIRED.
ES	ELECTRIC STRIKE, COORDINATE REQUIREMENTS AND FINAL QUANTITIES WITH OWNER AND SYSTEM INSTALLER; LOW VOLTAGE OR CIRCUIT TO NEAREST 120V DEVICE AS REQUIRED.
M0	WALL SWITCH PASSIVE INFRARED AND MICROPHONIC OCCUPANCY SENSOR EQUAL TO SENSOR SWITCH MODEL WSD PDT. TIME DELAYS 10 MINUTES FOR ON/OFF.
M1	WALL OR CEILING MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR EQUAL TO SENSOR SWITCH MODEL HW 13. TIME DELAYS 10 MINUTES FOR ON/OFF.
M2	CEILING MOUNTED PASSIVE INFRARED AND MICROPHONIC OCCUPANCY SENSOR EQUAL TO SENSOR SWITCH MODEL CM PDT 9. TIME DELAYS 10 MINUTES FOR ON/OFF.
M3	CEILING MOUNTED PASSIVE INFRARED AND MICROPHONIC OCCUPANCY SENSOR EQUAL TO SENSOR SWITCH MODEL CM PDT 10. TIME DELAYS 30 MINUTES FOR ON/OFF.
M4	CORNER MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR EQUAL TO SENSOR SWITCH MODEL WV 16. TIME DELAYS 10 MINUTES FOR ON/OFF.
M5	CORNER MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR EQUAL TO SENSOR SWITCH MODEL WV 16 R P. TIME DELAYS 10 MINUTES FOR ON/OFF.
M6	CORNER MOUNTED PASSIVE INFRARED AND MICROPHONIC OCCUPANCY SENSOR EQUAL TO SENSOR SWITCH MODEL WV PDT 16 R P. TIME DELAYS 10 MINUTES FOR ON/OFF.
M7	WALL SWITCH PASSIVE INFRARED OCCUPANCY SENSOR EQUAL TO SENSOR SWITCH MODEL WSD. TIME DELAYS 10 MINUTES FOR ON/OFF.
M8	CEILING MOUNTED PASSIVE INFRARED AND MICROPHONIC OCCUPANCY SENSOR EQUAL TO SENSOR SWITCH MODEL CM PDT 10. TIME DELAYS 10 MINUTES FOR ON/OFF.
M9	WALL SWITCH PASSIVE INFRARED OCCUPANCY SENSOR WITH DUAL RELAYS FOR INBOARD/OUTBOARD SWITCHING EQUAL TO SENSOR SWITCH MODEL WSD 2P. TIME DELAYS 10 MINUTES FOR ON/OFF.

REVISIONS

LIGHTHOUSE ENGINEERING
400 W. Morgan Street, Suite 100
Raleigh, North Carolina, 27603
tel 919.835.9781
fax 919.835.9754
MECHANICAL ELECTRICAL PLUMBING

NORTH CAROLINA CERTIFICATE OF AUTHORIZATION LIGHTHOUSE ENGINEERING,PA No. C-2714

NORTH CAROLINA PROFESSIONAL SEAL 26585 ENGINEER PAUL S. SCOTT 09/11/20

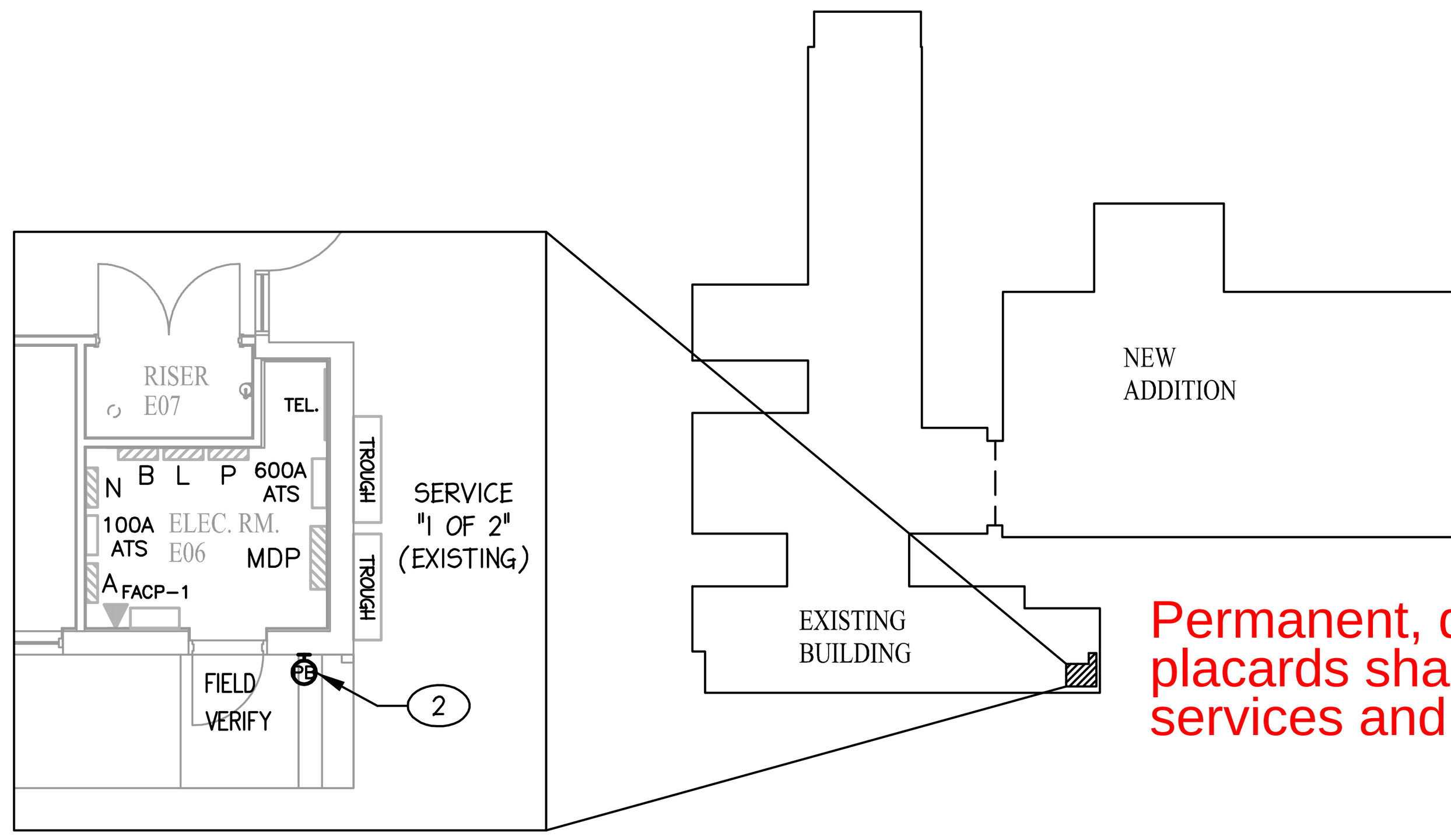
Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

GOOD HOPE HOSPITAL
ADDITION and RENOVATIONS
410 DENIM DRIVE
ERWIN, NORTH CAROLINA

ELECTRICAL LEGEND AND NOTES

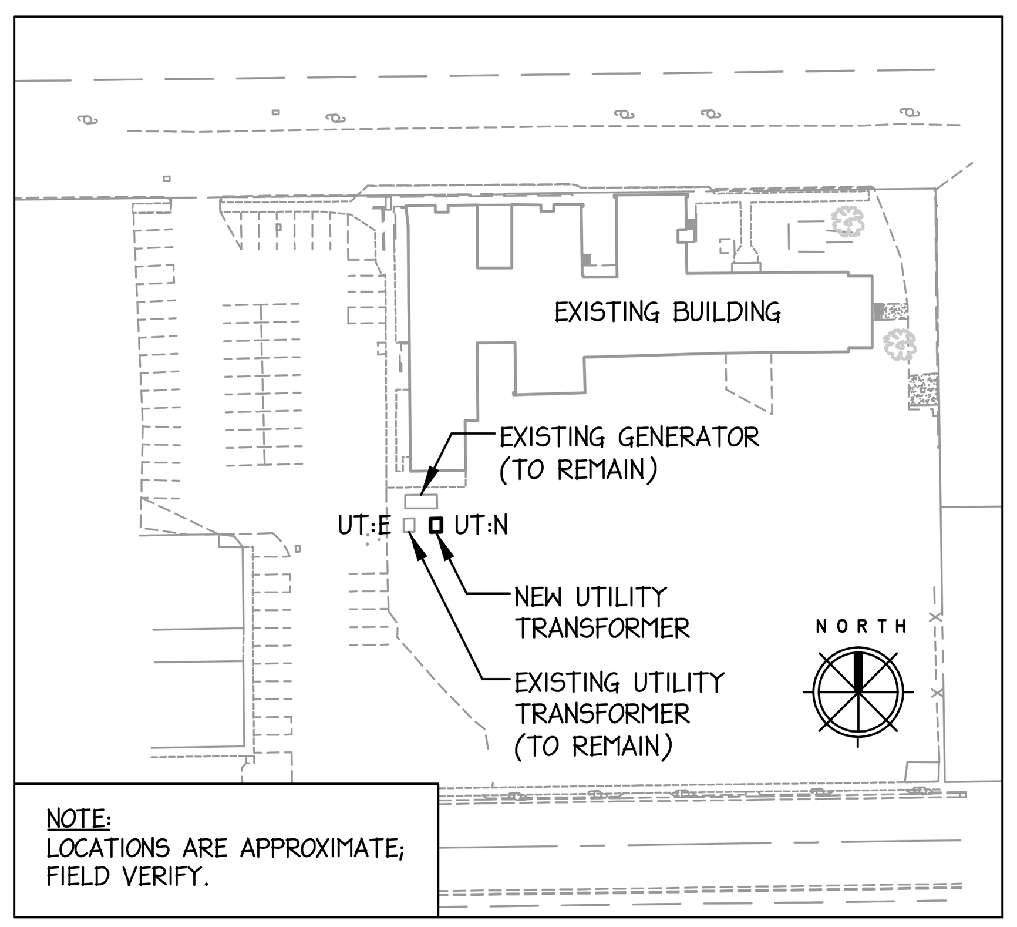
COMM. NO.: 4535
DRAWN BY: JRS
CHECKED BY: PSS
DATE: SEPT 11, 2020
SHEET NO.
E0.1

WALL LEGEND: (SEE ARCH. PLANS FOR INFO)
- 1-HR FIRE RATED PARTITION
- 1-HR FIRE RATED SMOKE BARRIER
- SMOKE PARTITION



Permanent, durable weather proof placards shall be used to denote services and a map of locations.

2 EXISTING ELECTRICAL ROOM PLAN
1/8"=1'-0"



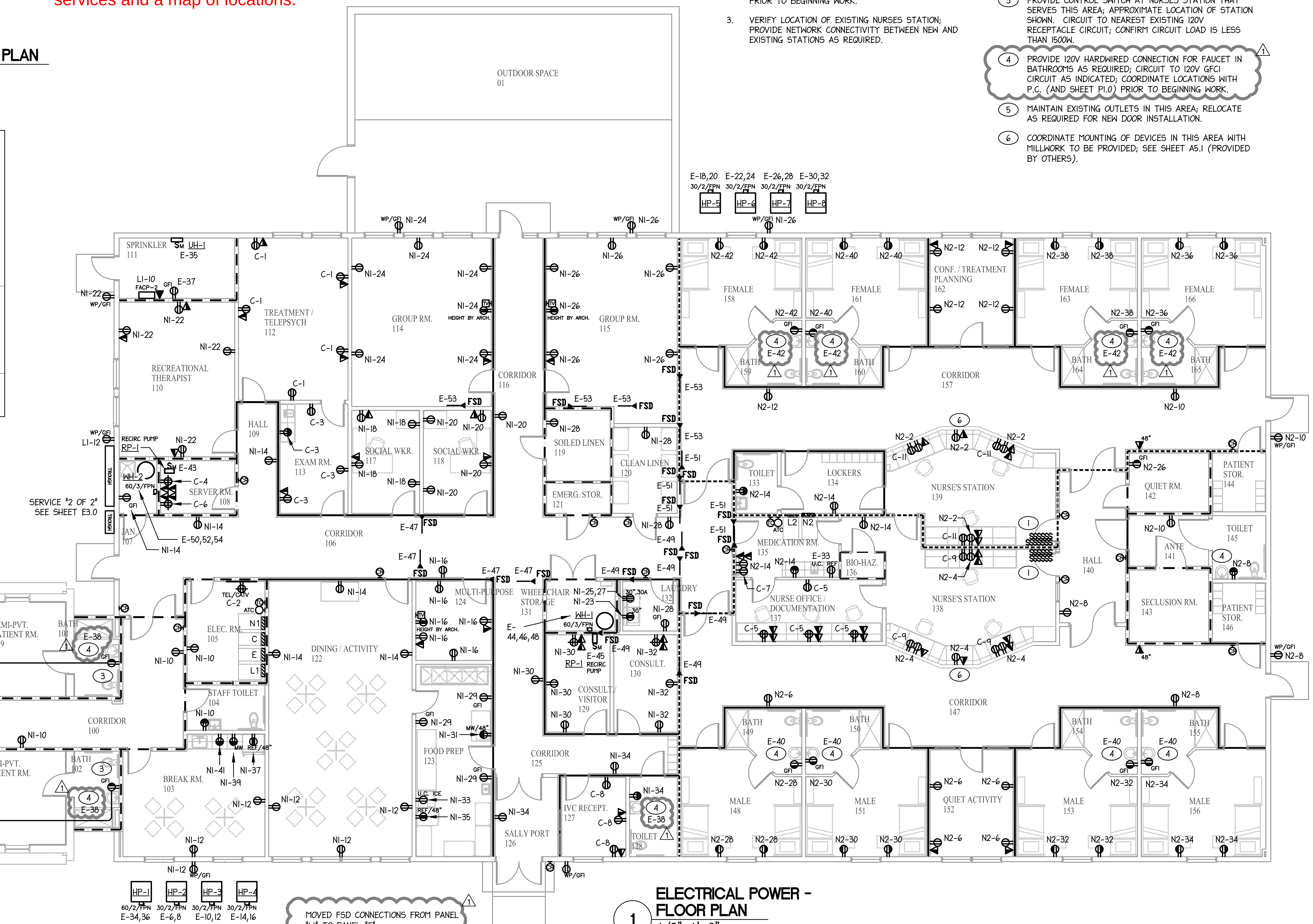
3 ELECTRICAL SITE PLAN
DIAGRAMMATIC ONLY

GENERAL NOTES:

1. EXISTING DEVICES ARE SHOWN FAINT; SPECIFICALLY IN EXISTING ELECTRICAL ROOM E06, GENERATOR AND UTILITY TRANSFORMER. NEW (AND RELOCATED) DEVICES ARE SHOWN **BOLD**. FIELD VERIFY EXACT LOCATION OF ALL DEVICES PRIOR TO STARTING WORK. EXISTING DEVICES SHALL REMAIN, UNLESS NOTED OTHERWISE.
2. EXISTING INFORMATION WAS OBTAINED FROM SITE PHOTOS DATED 01-24-19 AND PERMIT DRAWINGS DATED 03/04/11. E.C. SHALL VERIFY ALL FIELD CONDITIONS PRIOR TO BEGINNING WORK.
3. VERIFY LOCATION OF EXISTING NURSES STATION; PROVIDE NETWORK CONNECTIVITY BETWEEN NEW AND EXISTING STATIONS AS REQUIRED.

TAGGED NOTES:

1. SWITCHES ARE TO CONTROL POWER TO RECEPTACLES IN PATIENT (MALE AND FEMALE) ROOMS AND BATHROOMS IN THIS AREA; ALSO PROVIDE SWITCH FOR QUIET ROOM 142 AT NURSE STATION 139. EACH SWITCH SHALL BE LABELED TO INDICATE THE AREA IT SERVES.
2. PROVIDE EMERGENCY STOP PUSHBUTTON AT THIS LOCATION FOR EXISTING GENERATOR; FINAL APPROVAL ON LOCATION REQUIRED BY LOCAL FIRE MARSHAL AND OWNER.
3. PROVIDE CONTROL SWITCH AT NURSES STATION THAT SERVES THIS AREA; APPROXIMATE LOCATION OF STATION SHOWN. CIRCUIT TO NEAREST EXISTING 120V RECEPTACLE CIRCUIT; CONFIRM CIRCUIT LOAD IS LESS THAN 1500W.
4. PROVIDE 120V HARDWIRED CONNECTION FOR FAUCET IN BATHROOMS AS REQUIRED; CIRCUIT TO 120V GFCI CIRCUIT AS INDICATED; COORDINATE LOCATIONS WITH P.C. (AND SHEET P1.0) PRIOR TO BEGINNING WORK.
5. MAINTAIN EXISTING OUTLETS IN THIS AREA; RELOCATE AS REQUIRED FOR NEW DOOR INSTALLATION.
6. COORDINATE MOUNTING OF DEVICES IN THIS AREA WITH MILLWORK TO BE PROVIDED; SEE SHEET A5.1 (PROVIDED BY OTHERS).



1 ELECTRICAL POWER - FLOOR PLAN
1/8"=1'-0"

REVISIONS
DHHS COMMENTS
11/23/20

LIGHTHOUSE ENGINEERING
MECHANICAL ELECTRICAL PLUMBING

NORTH CAROLINA
LIGHTHOUSE ENGINEERING, PA
No. C-2714
CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL
26585
PAUL S. SCOTT

Stogner Architecture, PA
ARCHITECTURE – CONSTRUCTION MANAGEMENT – DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

GOOD HOPE HOSPITAL
ADDITION and RENOVATIONS
410 DENIM DRIVE
ERWIN, NORTH CAROLINA

ELECTRICAL POWER – FLOOR PLAN

COMM. NO.:	4535
DRAWN BY:	JRS
CHECKED BY:	PSS
DATE:	SEPT 11, 2020
SHEET NO.	E1.0

FOR CONSTRUCTION

WALL LEGEND: (SEE ARCH. PLANS FOR INFO)

- 1-HR FIRE RATED PARTITION
- 1-HR FIRE RATED SMOKE BARRIER
- SMOKE PARTITION

GENERAL NOTES:

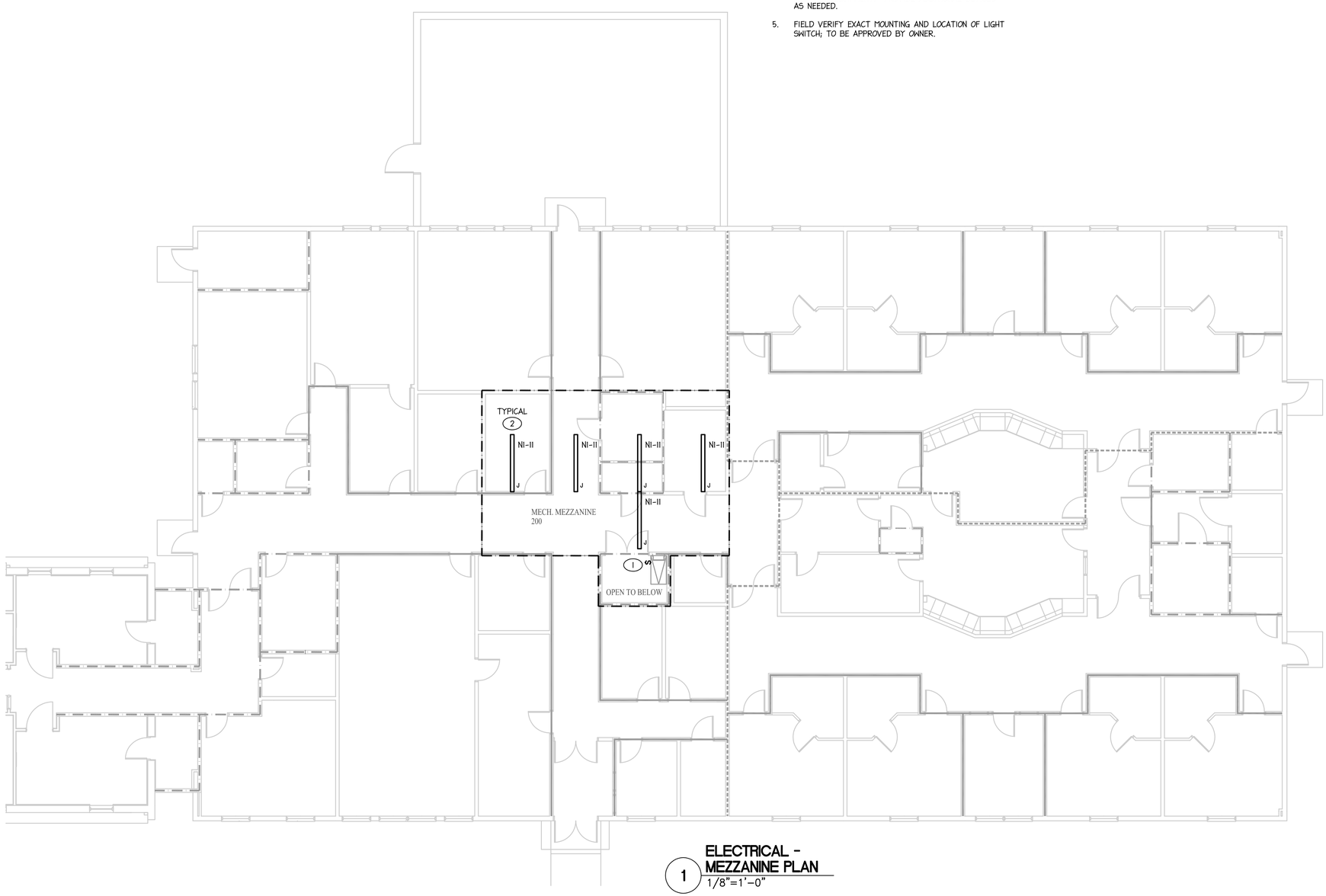
1. COORDINATE ALL DEVICE LOCATIONS WITH OTHER TRADES TO AVOID CONFLICTS.
2. ALL DISCONNECT SWITCHES SHALL BE INSTALLED TO PERMIT REQUIRED WORKING CLEARANCE.
3. ALL CONDUIT RUNS AND ROUTING SHALL BE LAID OUT IN AN ORGANIZED MANNER.
4. CONFIRM A SERVICE RECEPTACLE IS WITHIN 25'-0" OF ALL HVAC EQUIPMENT. PROVIDE ADDITIONAL DEVICES AS NEEDED.
5. FIELD VERIFY EXACT MOUNTING AND LOCATION OF LIGHT SWITCH; TO BE APPROVED BY OWNER.

TAGGED NOTES:

(1) VERIFY MOUNTING LOCATION OF LIGHT SWITCH WITH ARCHITECT PRIOR TO ROUGH-IN.

(2) TYPE 'J' LIGHT FIXTURES SHALL BE PENDANT MOUNTED AT 8'-0" AFF.

2 HAVC - MEZZANINE PLAN
1/8"=1'-0"



1 ELECTRICAL - MEZZANINE PLAN
1/8"=1'-0"

FOR CONSTRUCTION

REVISIONS

LIGHTHOUSE ENGINEERING
400 W. Morgan Street, Suite 100
Raleigh, North Carolina, 27603
tel 919.835.9781
fax 919.835.9754
MECHANICAL ELECTRICAL PLUMBING

NORTH CAROLINA CERTIFICATE OF AUTHORIZATION
LIGHTHOUSE ENGINEERING, PA
No. C-2714

NORTH CAROLINA PROFESSIONAL SEAL 26585 ENGINEER PAUL S. SCOTT

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

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ADDITION and RENOVATIONS
410 DENIM DRIVE
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ELECTRICAL - PLATFORM PLAN

COMM. NO.:	4535
DRAWN BY:	JRS
CHECKED BY:	PSS
DATE:	SEPT 11, 2020
SHEET NO.	E1.1

WALL LEGEND: (SEE ARCH. PLANS FOR INFO)
- I-HR FIRE RATED PARTITION
- I-HR FIRE RATED SMOKE BARRIER
- SMOKE PARTITION

REVISIONS
1. DHHS COMMENTS 11/23/20
2. DHHS COMMENTS 12/04/20

LEGEND

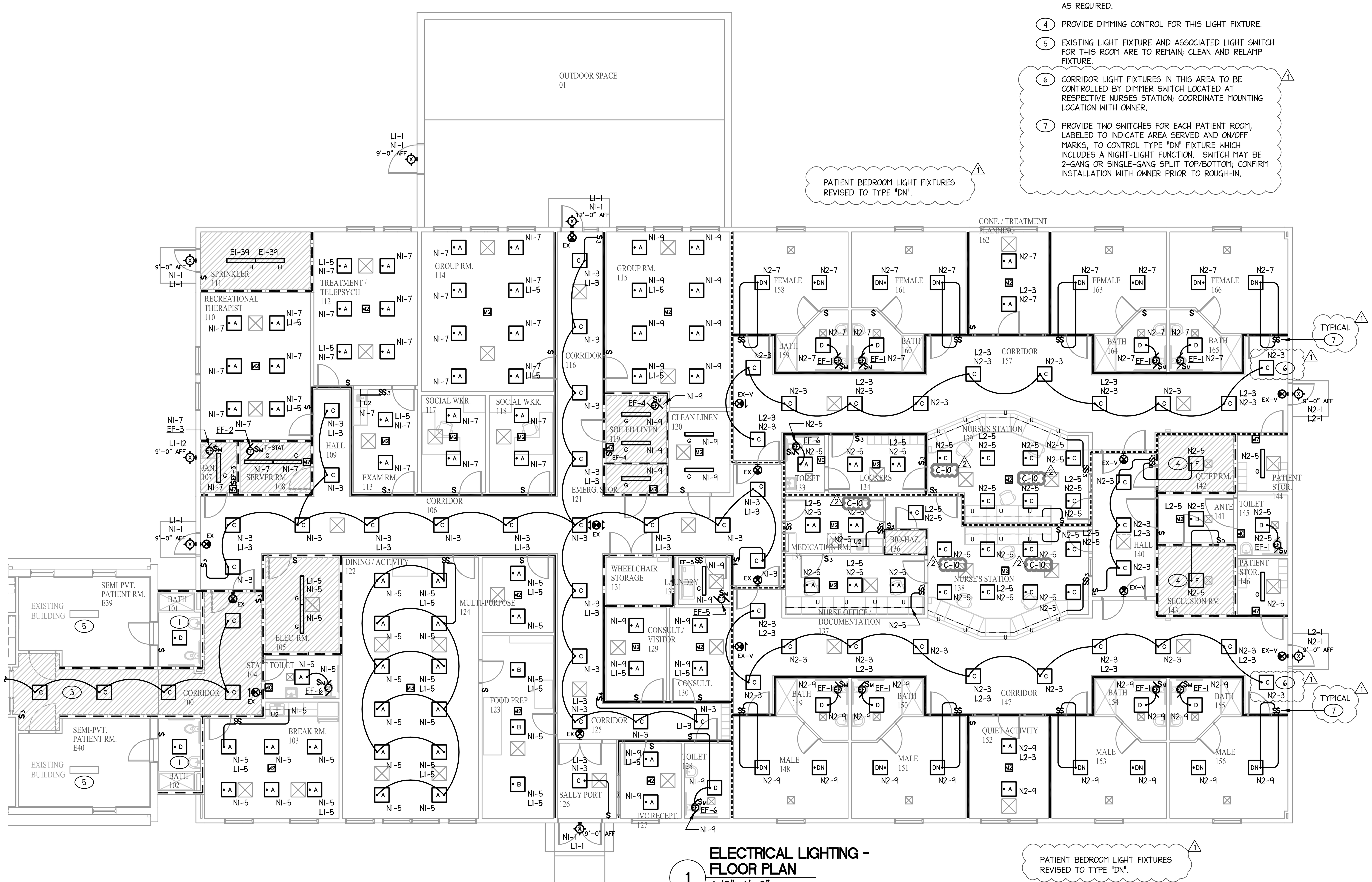
(hatched)	I-HR FIRE RATED CEILING

GENERAL NOTES:

1. GTD TRANSFER DEVICE SHALL BE PROVIDED FOR EACH FIXTURE WHERE AN EMERGENCY CIRCUIT "Lx-x" IS SHOWN; SEE LIGHTING FIXTURE SCHEDULE FOR FURTHER INFORMATION.
2. CONFIRM LOCATIONS AND CONTROL OF ALL EXHAUST FANS WITH M.C. PRIOR TO BEGINNING WORK.

TAGGED NOTES:

1. CIRCUIT NEW BATHROOM LIGHT AND RELOCATED EXHAUST FAN TO EXISTING PATIENT ROOM 120V LIGHTING CIRCUIT; CONFIRM CIRCUIT LOAD IS LESS THAN 1500W.
2. CIRCUIT TO NEAREST EXISTING CORRIDOR 120V LIGHTING CIRCUIT; CONFIRM CIRCUIT LOAD IS LESS THAN 1500W.
3. E.C. TO FIELD VERIFY EXISTING EMERGENCY EGRESS LIGHTING, PROVIDED UNDER PREVIOUS PERMIT, IS ADEQUATE AND FULLY OPERATIONAL IN THIS AREA; PROVIDE AS NEEDED. CLEAN AND RELAMP FIXTURES AS REQUIRED.
4. PROVIDE DIMMING CONTROL FOR THIS LIGHT FIXTURE.
5. EXISTING LIGHT FIXTURE AND ASSOCIATED LIGHT SWITCH FOR THIS ROOM ARE TO REMAIN; CLEAN AND RELAMP FIXTURE.
6. CORRIDOR LIGHT FIXTURES IN THIS AREA TO BE CONTROLLED BY DIMMER SWITCH LOCATED AT RESPECTIVE NURSES STATION; COORDINATE MOUNTING LOCATION WITH OWNER.
7. PROVIDE TWO SWITCHES FOR EACH PATIENT ROOM, LABELED TO INDICATE AREA SERVED AND ON/OFF MARKS, TO CONTROL TYPE "DN" FIXTURE WHICH INCLUDES A NIGHT-LIGHT FUNCTION. SWITCH MAY BE 2-GANG OR SINGLE-GANG SPLIT TOP/BOTTOM; CONFIRM INSTALLATION WITH OWNER PRIOR TO ROUGH-IN.



1 ELECTRICAL LIGHTING - FLOOR PLAN
1/8"=1'-0"

FOR CONSTRUCTION

LIGHTHOUSE ENGINEERING
400 W. Morgan Street, Suite 100
Raleigh, North Carolina, 27603
tel 919.835.9781
fax 919.835.9754
MECHANICAL ELECTRICAL PLUMBING

NORTH CAROLINA LIGHTHOUSE ENGINEERING,PA No. C-2714 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 26585 ENGINEER PAUL S. SCOTT 12/04/20

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

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410 DENIM DRIVE
ERWIN, NORTH CAROLINA

ELECTRICAL LIGHTING - FLOOR PLAN

COMM. NO.:	4535
DRAWN BY:	JRS
CHECKED BY:	PSS
DATE:	SEPT 11, 2020
SHEET NO.	E1.2

PANEL "E" LOAD SUMMARY

LOAD TYPE		kVA CONN	DEM FACT	kVA DEM
LOADS ON 600AMP CB				
LIGHTS		0.1	1.25	0.1
RECEPTACLES	1ST 10kVA	0.6	1.0	0.6
	REMAINDER	-	0.5	-
HVAC	LARGEST MOTOR	8.0	1.25	10.0
	REMAINDER	108.0	1.0	108.0
WATER HEATERS		27.0	1.0	27.0
EQUIPMENT		3.6	1.0	3.6
MISCELLANEOUS		-	1.0	-
TOTALS		147.3		149.3
TOTAL AMPS @ 208V 3Ø	414.4			

EQUIPMENT BRANCH NEC: 517.35

VOLTAGE: 208Y/120V
AMPS: 600 - MLO

NEW
PANEL: E

3 PHASE 4 WIRE
SURFACE MOUNTED
NEMA 1

	- DESCRIPTION -	POLE	WIRE SIZE	BRK SIZE	CCT #	A	B	C	CCT #	BRK SIZE	WIRE SIZE	POLE	- DESCRIPTION -	
	HVAC: AH-1	2	3	80	1	6.4/-			2	-	-	1	SPACE	
					3		6.4/-		4	-	-	1	SPACE	
	HVAC: AH-2	2	4	60	5			4.5/1.4	6	30	10	2	HVAC: HP-2	
					7	4.5/1.4			8					
	HVAC: AH-3	2	4	60	9		4.5/1.4		10	30	10	2	HVAC: HP-3	
					11			4.5/1.4	12					
	HVAC: AH-4	2	3	80	13	6.4/1.6			14	30	10	2	HVAC: HP-4	
					15		6.4/1.6		16					
	HVAC: AH-5	2	3	80	17			6.4/1.6	18	30	10	2	HVAC: HP-5	
					19	6.4/1.6			20					
	HVAC: AH-6	2	3	80	21		6.4/2.0		22	40	8	2	HVAC: HP-6	
					23			6.4/2.0	24					
	HVAC: AH-7	2	3	80	25	6.4/1.6			26	30	10	2	HVAC: HP-7	
					27		6.4/1.6		28					
	HVAC: AH-8	2	6	45	29			3.7/1.2	30	25	10	2	HVAC: HP-8	
					31	3.7/1.2			32					
GFI	REC: U.C. REF	1	12	20	33		0.8/2.1		34	40	8	2	HVAC: HP-1	
	SPR. RM: UH-1	1	12	20	35			0.8/2.1	36					
	SPR. RM: REC	1	12	20	37	0.2/0.2			38	20	12	1	EQ: FAUCET	GFI
	SPR. RM: LTS	1	12	20	39		0.1/0.2		40	20	12	1	EQ: FAUCET	GFI
	REC: PLATFORM	1	12	20	41			0.4/0.2	42	20	12	1	EQ: FAUCET	GFI
	EQ: RP-1 (RECIRC. PUMP)	1	12	20	43	0.3/5.0			44					
	EQ: RP-1 (RECIRC. PUMP)	1	12	20	45		0.3/5.0		46	60	4	3	WH-1, 15kW	
	EQ: FSD	1	12	20	47			0.4/5.0	48					
	EQ: FSD	1	12	20	49	0.4/4.0			50					
	EQ: FSD	1	12	20	51		0.4/4.0		52	45	6	3	WH-2, 12kW	
	EQ: FSD	1	12	20	53			0.4/4.0	54					
	SPACE	1	-	-	55	-/-			56	-	-	1	SPACE	
	SPACE	1	-	-	57		-/-		58	-	-	1	SPACE	
	SPACE	1	-	-	59			-/-	60	-	-	1	SPACE	
	SPACE	1	-	-	61	-/-			62	-	-	1	SPACE	
	SPACE	1	-	-	63		-/-		64	-	-	1	SPACE	
	SPACE	1	-	-	65			-/-	66	-	-	1	SPACE	
	SPACE	1	-	-	67	-/-			68	-	-	1	SPACE	
	SPACE	1	-	-	69		-/-		70	-	-	1	SPACE	
	SPACE	1	-	-	71			-/-	72	-	-	1	SPACE	
						51.3	49.6	46.4						

TOTAL CONNECTED kVA: 147.3 — DEMAND kVA: 149.3
PANEL RMS SYM. AMPS: SEE RISER — DEMAND AMPS: 414

1. PANEL SHALL BE EQUAL TO SQUARE D NQ.
2. PROVIDE HACR BREAKERS FOR HVAC EQUIPMENT.
3. GFI - PROVIDE GFCI BREAKER FOR CIRCUIT. GFCI RECEPTACLES MAY BE USED IN LIEU OF GFCI BREAKERS SO LONG AS THE DEVICE(S) CONFORM TO NEC CODE REQUIREMENTS FOR GFCI PROTECTION AND CAN BE MOUNTED IN A READILY ACCESSIBLE LOCATION.
4. A LISTED SPD SHALL BE INSTALLED IN OR ON ALL EMERGENCY SYSTEMS PANELBOARDS.

PANEL "N1" LOAD SUMMARY

LOAD TYPE		kVA CONN	DEM FACT	kVA DEM
LOADS ON 200AMP CB				
LIGHTS		7.6	1.25	9.5
RECEPTACLES	1ST 10kVA	10.0	1.0	10.0
	REMAINDER	11.6	0.5	5.8
HVAC	LARGEST MOTOR	-	1.25	-
	REMAINDER	-	1.0	-
PREP / BREAK EQUIPMENT		6.2	0.8	5.0
EQUIPMENT		6.5	1.0	6.5
MISCELLANEOUS		-	1.0	-
TOTALS		41.9		36.8
TOTAL AMPS @ 208V 3Ø	102.1			

NORMAL BRANCH

VOLTAGE: 208Y/120V
AMPS: 225 - MLO

NEW
PANEL: N1

3 PHASE 4 WIRE
SURFACE MOUNTED
NEMA 1

	- DESCRIPTION -	POLE	WIRE SIZE	BRK SIZE	CCT #	A	B	C	CCT #	BRK SIZE	WIRE SIZE	POLE	- DESCRIPTION -
ATC	LTS: EXTERIOR	1	12	20	1	0.2/4.4			2				
TC	LTS: CORRIDOR	1	12	20	3		0.8/4.7		4	100	*	3	PANEL "N2"
	LTS: BREAK, ELEC, DINING	1	12	20	5			0.8/4.4	6				
	LTS: GROUP, SOCIAL, TREAT	1	12	20	7	1.0/-			8	20	-	1	SPARE
	LTS: GROUP, CLEAN, LAUND	1	12	20	9		0.9/0.7		10	20	12	1	REC: CORRIDOR, ELEC, RR
	LTS: MEZZANINE	1	12	20	11			0.4/0.9	12	20	12	1	REC: BREAK, DINING
	SPARE	1	-	20	13	-/0.9			14	20	12	1	REC: DINING, HALL, JAN
	SPARE	1	-	20	15		-/1.1		16	20	12	1	REC: MULTIPURPOSE, HALL
	SPARE	1	-	20	17			-/0.7	18	20	12	1	REC: SOCIAL WORKER
	SPARE	1	-	20	19	-/0.9			20	20	12	1	REC: SOCIAL WORKER, HALL
	SPARE	1	-	20	21		-/0.9		22	20	12	1	REC: EXTERIOR, THERAPY
GFI	EQ: WASHER	1	12	20	23			1.5/1.3	24	20	12	1	REC: GROUP, EXTERIOR
	EQ: DRYER	2	10	30	25	2.5/1.3			26	20	12	1	REC: GROUP, EXTERIOR
					27		2.5/0.7		28	20	12	1	REC: LINEN, LAUNDRY
	REC: FOOD PREP	1	12	20	29			0.6/0.9	30	20	12	1	REC: CONSULT, VISITOR
	REC: MICROWAVE	1	12	20	31	1.5/0.7			32	20	12	1	REC: CONSULT
GFI	REC: U.C. ICE	1	12	20	33		0.8/0.6		34	20	12	1	REC: TOILET, HALL, SALLY
GFI	REC: REFRIGERATOR	1	12	20	35			0.8/-	36	-	-	1	SPACE
GFI	REC: REFRIGERATOR	1	12	20	37	0.8/-			38	-	-	1	SPACE
	REC: MICROWAVE	1	12	20	39		1.5/-		40	-	-	1	SPACE
	REC: BREAK COUNTER	1	12	20	41			0.2/-	42	-	-	1	SPACE
						14.2	15.2	12.5					

TOTAL CONNECTED kVA: 41.9 — DEMAND kVA: 36.8
PANEL RMS SYM. AMPS: SEE RISER — DEMAND AMPS: 102

1. PANEL SHALL BE EQUAL TO SQUARE D NQ.
2. PROVIDE SWD/HID RATED BREAKERS FOR LIGHTING CIRCUITS.
3. GFI - PROVIDE GFCI BREAKER FOR CIRCUIT. GFCI RECEPTACLES MAY BE USED IN LIEU OF GFCI BREAKERS SO LONG AS THE DEVICE(S) CONFORM TO NEC CODE REQUIREMENTS FOR GFCI PROTECTION AND CAN BE MOUNTED IN A READILY ACCESSIBLE LOCATION.
4. ATC - CIRCUIT VIA 120V ASTRONOMIC TIMECLOCK WITH BATTERY BACKUP. LOCATE TIMECLOCK ADJACENT TO PANEL.
5. TC - CIRCUIT VIA 24-HR, 7-DAY TIMECLOCK. LOCATE TIMECLOCK ADJACENT TO PANEL.
6. * - SEE RISER DIAGRAM FOR FURTHER INFORMATION.

PANEL "C" LOAD SUMMARY

LOAD TYPE		kVA CONN	DEM FACT	kVA DEM
LOADS ON 100AMP CB				
LIGHTS		-	1.25	-
RECEPTACLES	1ST 10kVA	5.7	1.0	5.7
	REMAINDER	-	0.5	-
HVAC	LARGEST MOTOR	-	1.25	-
	REMAINDER	-	1.0	-
EQUIPMENT		0.4	1.0	0.4
MISCELLANEOUS		-	1.0	-
TOTALS		6.1		6.1
TOTAL AMPS @ 208V 3Ø	16.9			

CRITICAL BRANCH NEC: 517.34

VOLTAGE: 208Y/120V
AMPS: 100 - MLO

NEW
PANEL: C

3 PHASE 4 WIRE
SURFACE MOUNTED
NEMA 1

- DESCRIPTION -	POLE	WIRE SIZE	BRK SIZE	CCT #	A	B	C	CCT #	BRK SIZE	WIRE SIZE	POLE	- DESCRIPTION -
REC: TELEPSYCH	1	12	20	1	0.9/0.4			2	20	12	1	EQ: TEL/CATV BOARD
REC: EXAM	1	12	20	3		0.7/0.4		4	20	12	1	REC: SERVER
REC: NURSE MANAGER	1	12	20	5			1.3/0.4	6	20	12	1	REC: SERVER
REC: MEDICATION	1	12	20	7	0.2/0.6			8	20	12	1	REC: IVC RECEPT
REC: NURSE'S STATION	1	12	20	9		0.6/0.2		10	20	12	1	LTS: NURSE STATION, MED
REC: NURSE'S STATION	1	12	20	11			0.6/-	12	20	12	1	SPARE
SPARE	1	-	20	13	-/-			14	20	12	1	SPARE
SPARE	1	-	20	15		-/-		16	-	-	1	SPACE
SPARE	1	-	20	17			-/-	18	-	-	1	SPACE
SPARE	1	-	20	19	-/-			20	-	-	1	SPACE
SPARE	1	-	20	21		-/-		22	-	-	1	SPACE
SPARE	1	-	20	23			-/-	24	-	-	1	SPACE
SPARE	1	-	20	25	-/-			26	-	-	1	SPACE
SPARE	1	-	20	27		-/-		28	-	-	1	SPACE
SPARE	1	-	20	29			-/-	30	-	-	1	SPACE
SPARE	1	-	20	31	-/-			32	-	-	1	SPACE
SPACE	1	-	-	33		-/-		34	-	-	1	SPACE
SPACE	1	-	-	35			-/-	36	-	-	1	SPACE
SPACE	1	-	-	37	-/-			38	-	-	1	SPACE
SPACE	1	-	-	39		-/-		40	-	-	1	SPACE
SPACE	1	-	-	41			-/-	42	-	-	1	SPACE
					2.1	1.7	2.3					

TOTAL CONNECTED kVA: 6.1 — DEMAND kVA: 6.1
PANEL RMS SYM. AMPS: SEE RISER — DEMAND AMPS: 17

1. PANEL SHALL BE EQUAL TO SQUARE D NQ.
2. A LISTED SPD SHALL BE INSTALLED IN OR ON ALL EMERGENCY SYSTEMS PANELBOARDS.

PANEL "N2" LOAD SUMMARY

LOAD TYPE		kVA CONN	DEM FACT	kVA DEM
LOADS ON 100AMP CB				
LIGHTS		3.5	1.25	4.4
RECEPTACLES	1ST 10kVA	10.0	1.0	10.0
	REMAINDER	-	0.5	-
HVAC	LARGEST MOTOR	-	1.25	-
	REMAINDER	-	1.0	-
EQUIPMENT		-	1.0	-
MISCELLANEOUS		-	1.0	-
TOTALS		13.5		14.4
TOTAL AMPS @ 208V 3Ø	40.0			

NORMAL BRANCH

VOLTAGE: 208Y/120V
AMPS: 100 - MLO

NEW
PANEL: N2

3 PHASE 4 WIRE
FLUSH MOUNTED
NEMA 1

	- DESCRIPTION -	POLE	WIRE SIZE	BRK SIZE	CCT #	A	B	C	CCT #	BRK SIZE	WIRE SIZE	POLE	- DESCRIPTION -	
ATC	LTS: EXTERIOR	1	12	20	1	0.1/0.7			2	20	12	1	REC: NURSE'S STATION	
TC	LTS: CORRIDOR	1	12	20	3		0.8/0.7		4	20	12	1	REC: NURSE'S STATION	
	LTS: NURSES, LOCKER, MED	1	12	20	5			1.0/0.7	6	20	12	1	REC: ACTIVITY, HALL	
	LTS: FEMALE, CONF	1	12	20	7	0.8/0.7			8	20	12	1	REC: TOILET, HALL	
	LTS: MALE, QUIET	1	12	20	9		0.8/0.6		10	20	12	1	REC: ANTE, EXTERIOR, HALL	
	SPARE	1	-	20	11			-/0.9	12	20	12	1	REC: CONF, HALL	
	SPARE	1	-	20	13	-/0.7			14	20	12	1	REC: MEDICATION, TOILET	
	SPARE	1	-	20	15		-/-		16	20	-	1	SPARE	
	SPARE	1	-	20	17			-/-	18	20	-	1	SPARE	
	SPARE	1	-	20	19	-/-			20	20	-	1	SPARE	
	SPARE	1	-	20	21		-/-		22	20	-	1	SPARE	
	SPARE	1	-	20	23			-/-	24	20	-	1	SPARE	
	SPARE	1	-	20	25	-/0.2			26	20	12	1	REC: SLEEPING, BATHRM	GFI
	SPARE	1	-	20	27		-/0.6		28	20	12	1	REC: SLEEPING, BATHRM	GFI
	SPARE	1	-	20	29			-/0.6	30	20	12	1	REC: SLEEPING, BATHRM	GFI
	SPARE	1	-	20	31	-/0.6			32	20	12	1	REC: SLEEPING, BATHRM	GFI
	SPACE	1	-	-	33		-/0.6		34	20	12	1	REC: SLEEPING, BATHRM	GFI
	SPACE	1	-	-	35			-/0.6	36	20	12	1	REC: SLEEPING, BATHRM	GFI
	SPACE	1	-	-	37	-/0.6			38	20	12	1	REC: SLEEPING, BATHRM	GFI
	SPACE	1	-	-	39		-/0.6		40	20	12	1	REC: SLEEPING, BATHRM	GFI
	SPACE	1	-	-	41			-/0.6	42	20	12	1	REC: SLEEPING, BATHRM	GFI
						4.4	4.7	4.4						

TOTAL CONNECTED kVA: 13.5 — DEMAND kVA: 14.4
PANEL RMS SYM. AMPS: SEE RISER — DEMAND AMPS: 40

1. PANEL SHALL BE EQUAL TO SQUARE D NQ.
2. PROVIDE SWD/HID RATED BREAKERS FOR LIGHTING CIRCUITS.
3. GFI - PROVIDE GFCI BREAKER FOR CIRCUIT. GFCI RECEPTACLES MAY BE USED IN LIEU OF GFCI BREAKERS SO LONG AS THE DEVICE(S) CONFORM TO NEC CODE REQUIREMENTS FOR GFCI PROTECTION AND CAN BE MOUNTED IN A READILY ACCESSIBLE LOCATION.
4. ATC - CIRCUIT VIA 120V ASTRONOMIC TIMECLOCK WITH BATTERY BACKUP. LOCATE TIMECLOCK ADJACENT TO PANEL.
5. TC - CIRCUIT VIA 24-HR, 7-DAY TIMECLOCK. LOCATE TIMECLOCK ADJACENT TO PANEL.

FOR CONSTRUCTION

REVISIONS
1. DHHS COMMENTS 11/23/20
2. DHHS COMMENTS 12/04/20

LIGHTHOUSE ENGINEERING
400 W. Morgan Street, Suite 100
Raleigh, North Carolina, 27603
tel 919.835.9781
fax 919.835.9754
MECHANICAL ELECTRICAL PLUMBING

NORTH CAROLINA LIGHTHOUSE ENGINEERING,PA No. C-2714 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 26585 ENGINEER PAUL S. SCOTT 12/04/20

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

GOOD HOPE HOSPITAL
ADDITION and RENOVATIONS
410 DENIM DRIVE
ERWIN, NORTH CAROLINA

ELECTRICAL PANEL SCHEDULES

COMM. NO.: 4535
DRAWN BY: JRS
CHECKED BY: PSS
DATE: SEPT 11, 2020
SHEET NO.
E2.0

L + E + C + N LOAD SUMMARY

LOAD TYPE		kVA CONN	DEM FACT	kVA DEM
LOADS ON NEW TRANSFORMER (UT:N)				
LIGHTS		10.0	1.25	12.5
RECEPTACLES	1ST 10kVA	10.0	1.0	10.0
	REMAINDER	17.9	0.5	9.0
HVAC	LARGEST MOTOR	8.0	1.25	10.0
	REMAINDER	108.0	1.0	108.0
WATER HEATERS		27.0	1.0	27.0
PREP / BREAK EQUIPMENT		6.2	0.8	5.0
EQUIPMENT		10.2	1.0	10.2
MISCELLANEOUS		-	1.0	-
TOTALS		197.3		191.7
TOTAL AMPS @ 208V 3Ø	532.1			

EXISTING GENERATOR (150kW) LOAD JUSTIFICATION

EXISTING CONDITIONS	PEAK DEMAND PER PROGRESS ENERGY FROM PREVIOUS 12 MONTHS UTILITY BILLS EXISTING BUILDING DEMAND / EXISTING BUILDING AREA = 45,200W / 15,000SF = 3.01W / SF
NEW PEAK DEMAND ESTIMATE	NEW BUILDING TOTAL AREA (EXISTING: 15000SF + NEW: 13000SF) 3.01W / SF x 28,000 SF = 84,280W (84.3kW)
	84kW < 150kW EXISTING GENERATOR SIZE **EXISTING GENERATOR IS ADEQUATE**

LIFE SAFETY BRANCH NEC: 517.33

VOLTAGE: 208Y/120V
AMPS: 100 - MLO

NEW
PANEL: L1

3 PHASE 4 WIRE
SURFACE MOUNTED
NEMA 1

- DESCRIPTION -	POLE	WIRE SIZE	BRK SIZE	CCT #	LOAD PER PHASE A	B	C	CCT #	BRK SIZE	WIRE SIZE	POLE	- DESCRIPTION -
LTS: EMERGENCY (EXT.)	1	12	20	1	0.2/0.1			2	60	*	3	PANEL "L2"
LTS: EMERGENCY	1	12	20	3		0.3/0.5		4				
LTS: EMERGENCY	1	12	20	5			0.6/0.3	6				
SPARE	1	-	20	7	-/-			8	20	-	1	SPARE
SPARE	1	-	20	9		-/0.7		10	20	12	1	EQ: FACP-2 L
SPARE	1	-	20	11			-/0.3	12	20	12	1	LTS/REC: EXTERIOR @ ATS
SPARE	1	-	20	13	-/-			14	20	-	1	SPARE
SPACE	1	-	-	15		-/-		16	20	-	1	SPARE
SPACE	1	-	-	17			-/-	18	20	-	1	SPARE
SPACE	1	-	-	19	-/-			20	20	-	1	SPARE
SPACE	1	-	-	21		-/-		22	-	-	1	SPACE
SPACE	1	-	-	23			-/-	24	-	-	1	SPACE
SPACE	1	-	-	25	-/-			26	-	-	1	SPACE
SPACE	1	-	-	27		-/-		28	-	-	1	SPACE
SPACE	1	-	-	29			-/-	30	-	-	1	SPACE
SPACE	1	-	-	31	-/-			32	-	-	1	SPACE
SPACE	1	-	-	33		-/-		34	-	-	1	SPACE
SPACE	1	-	-	35			-/-	36	-	-	1	SPACE
SPACE	1	-	-	37	-/-			38	-	-	1	SPACE
SPACE	1	-	-	39		-/-		40	-	-	1	SPACE
SPACE	1	-	-	41			-/-	42	-	-	1	SPACE
					1.1	1.5	1.6					

TOTAL CONNECTED kVA: 4.2 — DEMAND kVA: 4.8
PANEL RMS SYM. AMPS: SEE RISER — DEMAND AMPS: 13

1. PANEL SHALL BE SERVICE ENTRANCE RATED, EQUAL TO SQUARE D NQ.
2. PROVIDE SWD/HID RATED BREAKERS FOR LIGHTING CIRCUITS.
3. L - INDICATES LOCK-ON ATTACHMENT REQUIRED.
4. A LISTED SPD SHALL BE INSTALLED IN OR ON ALL EMERGENCY SYSTEMS PANELBOARDS.
5. * - SEE RISER DIAGRAM FOR FURTHER INFORMATION.

PANEL "L1" LOAD SUMMARY

LOAD TYPE		kVA CONN	DEM FACT	kVA DEM
LOADS ON 100AMP MCB				
LIGHTS		2.3	1.25	2.9
EQUIPMENT		1.9	1.0	1.9
MISCELLANEOUS		-	1.0	-
TOTALS		4.2		4.8
TOTAL AMPS @ 208V 3Ø	13.3			

LIFE SAFETY BRANCH NEC: 517.33

VOLTAGE: 208Y/120V
AMPS: 60 - MLO

NEW
PANEL: L2

3 PHASE 4 WIRE
FLUSH MOUNTED
NEMA 1

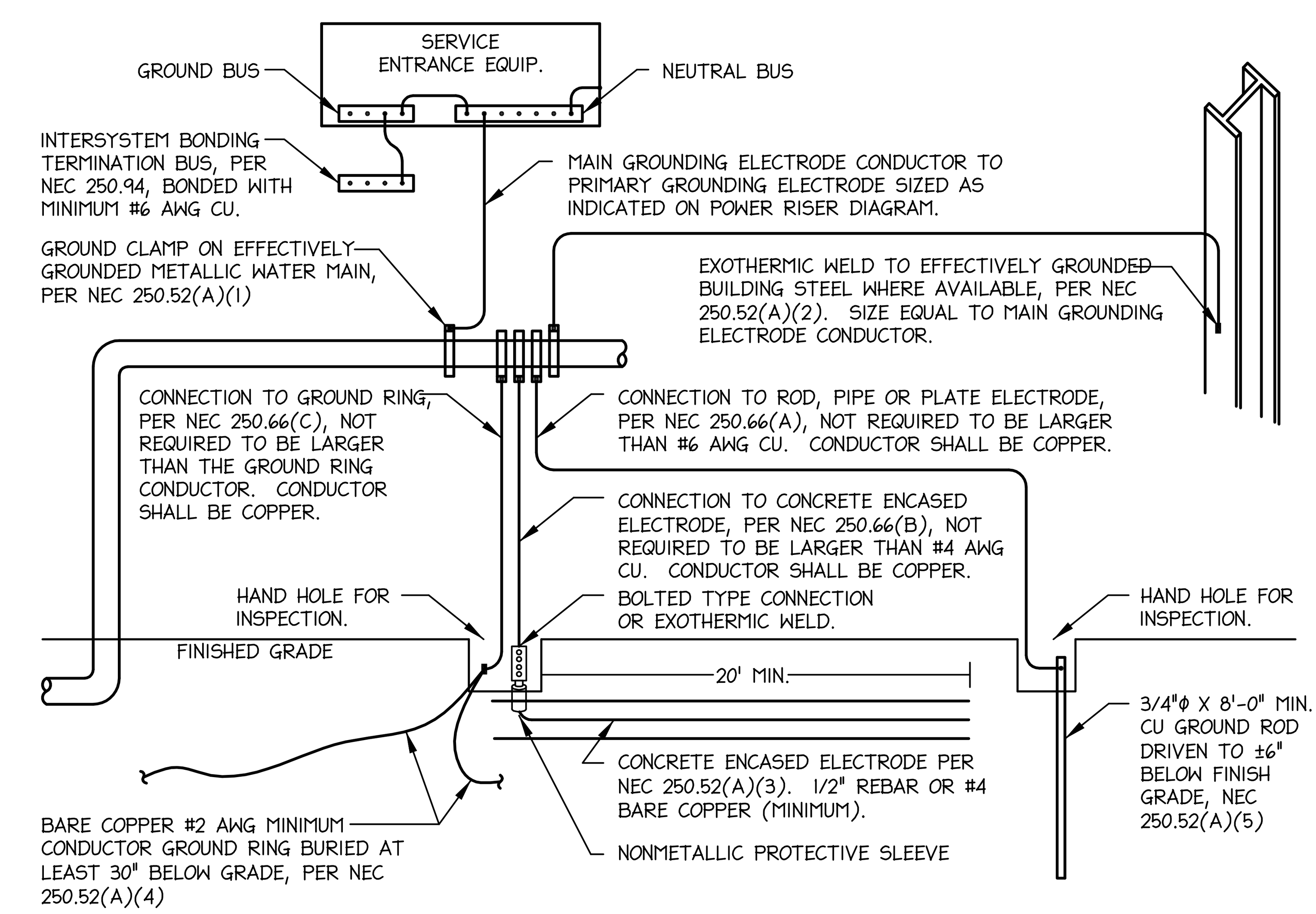
- DESCRIPTION -	POLE	WIRE SIZE	BRK SIZE	CCT #	LOAD PER PHASE A	B	C	CCT #	BRK SIZE	WIRE SIZE	POLE	- DESCRIPTION -
LTS: EMERGENCY (EXT.)	1	12	20	1	0.1/-			2	-	-	1	SPACE
LTS: EMERGENCY	1	12	20	3		0.5/-		4	-	-	1	SPACE
LTS: EMERGENCY	1	12	20	5			0.3/-	6	-	-	1	SPACE
SPACE	1	-	-	7	-/-			8	-	-	1	SPACE
SPACE	1	-	-	9		-/-		10	-	-	1	SPACE
SPACE	1	-	-	11			-/-	12	-	-	1	SPACE
					0.1	0.5	0.3					

TOTAL CONNECTED kVA: 0.9 — DEMAND kVA: 1.1
PANEL RMS SYM. AMPS: SEE RISER — DEMAND AMPS: 3

1. PANEL SHALL BE EQUAL TO SQUARE D QO.
2. PROVIDE SWD/HID RATED BREAKERS FOR LIGHTING CIRCUITS.
3. A LISTED SPD SHALL BE INSTALLED IN OR ON ALL EMERGENCY SYSTEMS PANELBOARDS.

PANEL "L2" LOAD SUMMARY

LOAD TYPE		kVA CONN	DEM FACT	kVA DEM
LOADS ON 60AMP CB				
LIGHTS		0.9	1.25	1.1
MISCELLANEOUS		-	1.0	-
TOTALS		0.9		1.1
TOTAL AMPS @ 208V 3Ø	3.1			



1 **GROUNDING DETAIL**
NTS

GROUNDING ELECTRODES SHALL BE PROVIDED IN ACCORDANCE WITH NEC SECTION 250. ALL GROUNDING ELECTRODE CONDUCTORS SIZED AS INDICATED ON POWER RISER DIAGRAM. **ALL METHODS OF CREATING THE GROUNDING SYSTEM MAY NOT BE REQUIRED OR AVAILABLE.**

FOR CONSTRUCTION

REVISIONS
1 DHHS COMMENTS 11/23/20

LIGHTHOUSE ENGINEERING
MECHANICAL ELECTRICAL PLUMBING

NORTH CAROLINA LIGHTHOUSE ENGINEERING, PA No. C-2714 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 26385 PAUL S. SCOTT 12/01/20

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-6874 Fax 910-895-1111

GOOD HOPE HOSPITAL
ADDITION and RENOVATIONS
410 DENIM DRIVE
ERWIN, NORTH CAROLINA

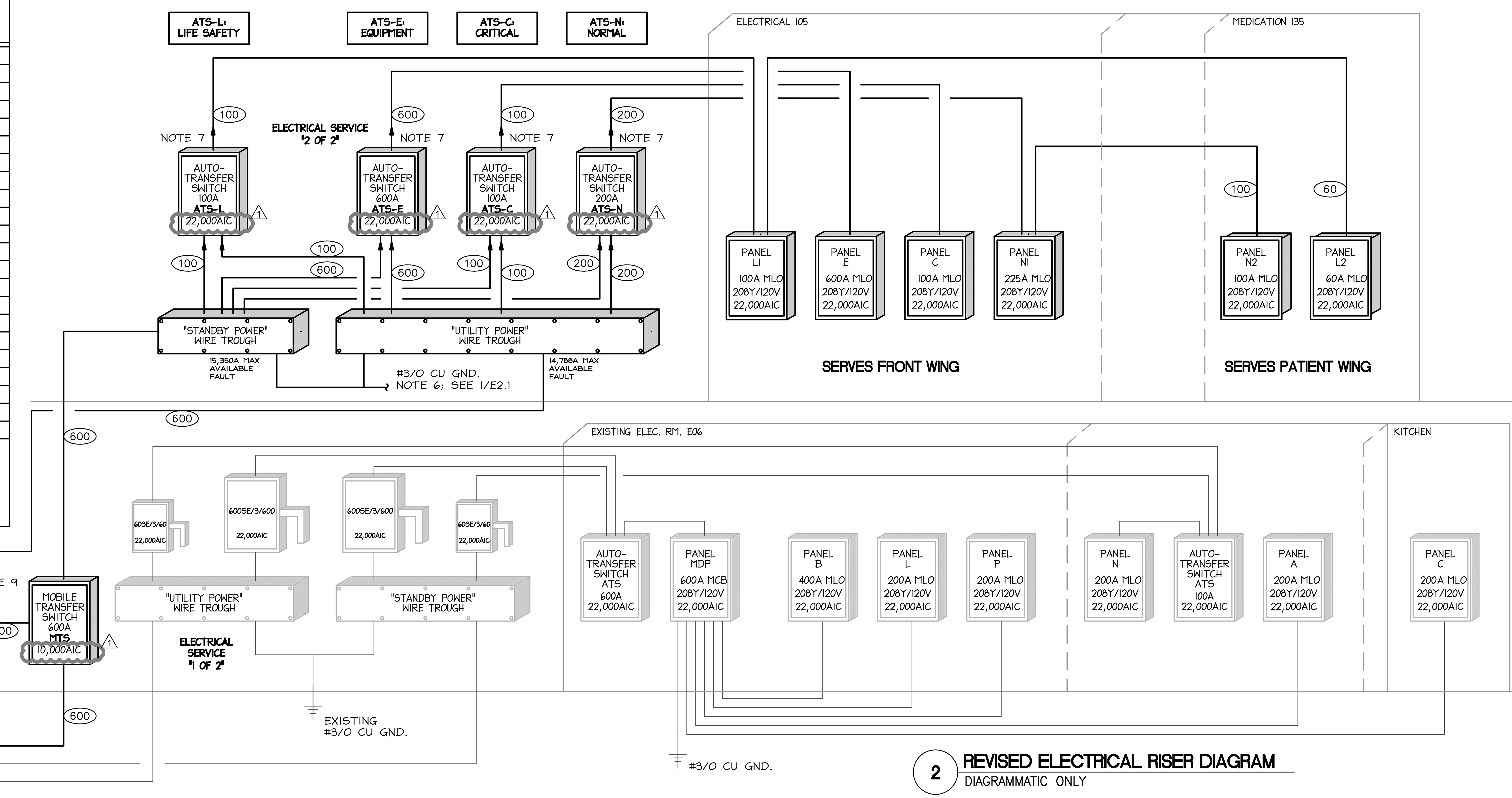
ELECTRICAL PANEL SCHEDULES

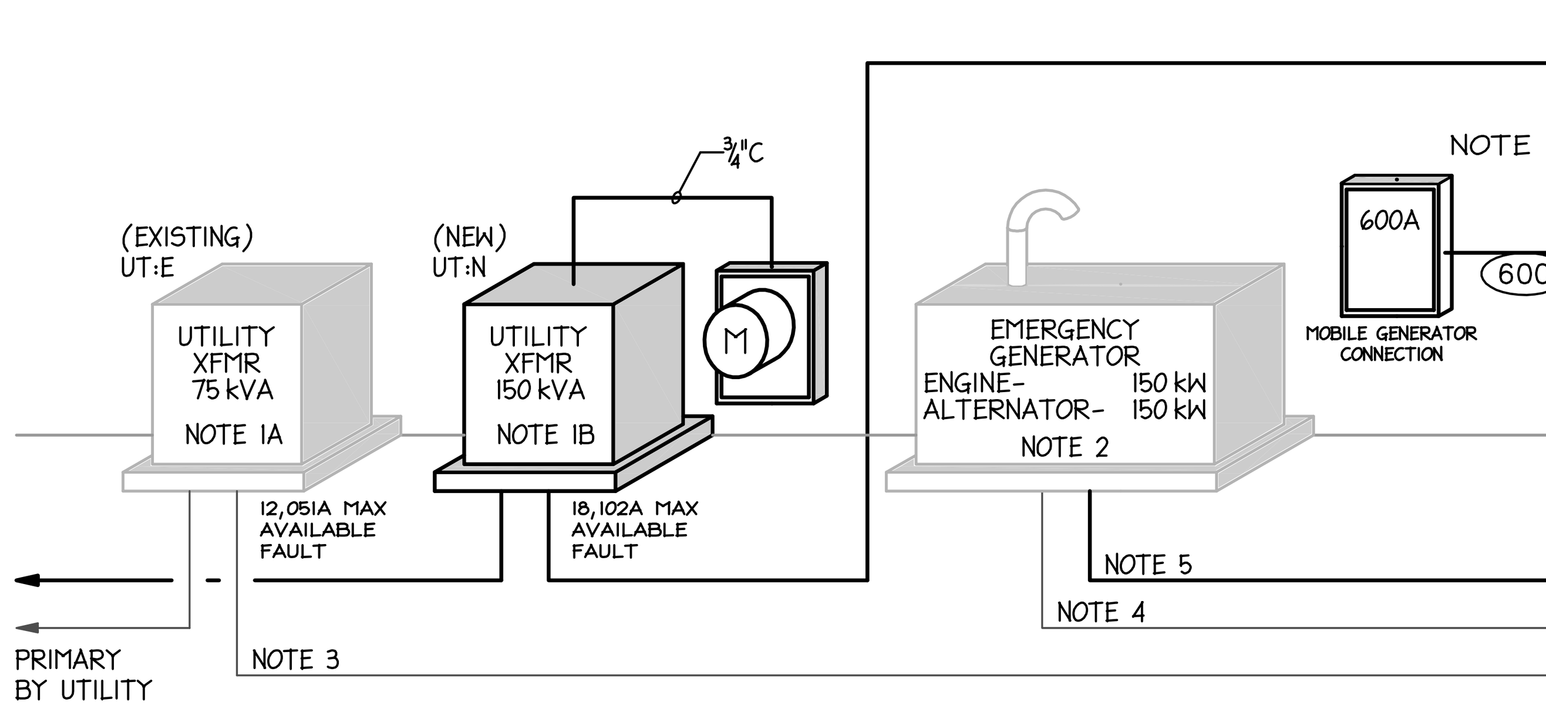
COMM. NO.: 4535
DRAWN BY: JRS
CHECKED BY: PSS
DATE: SEPT 11, 2020
SHEET NO.
E2.1

FEEDER SCHEDULE

STD. FUSE OR C/B TRIP SIZE	COPPER			ALUMINUM		
	# OF SETS	BUILDING WIRE QUANTITY & SIZE. TYPE THHN - DRY TYPE THWN - WET	MINIMUM CONDUIT SIZE	# OF SETS	BUILDING WIRE QUANTITY & SIZE. TYPE THHN - DRY TYPE THWN - WET	MINIMUM CONDUIT SIZE
60	1	4 #6, #10 G	1"	1	4 #3, #8 G	1 1/4"
70	1	4 #4, #8 G	1 1/4"	1	4 #2, #6 G	1 1/4"
80	1	4 #3, #8 G	1 1/4"	1	4 #1, #6 G	1 1/4"
90	1	4 #2, #8 G	1 1/4"	1	4 #1/0, #6 G	1 1/2"
100	1	4 #2, #8 G	1 1/4"	1	4 #1/0, #6 G	1 1/2"
110	1	4 #2, #6 G	1 1/2"	1	4 #1/0, #4 G	1 1/2"
125	1	4 #1, #6 G	1 1/2"	1	4 #2/0, #4 G	2"
150	1	4 #1/0, #6 G	2"	1	4 #3/0, #4 G	2"
175	1	4 #2/0, #6 G	2"	1	4 #4/0, #4 G	2"
200	1	4 #3/0, #6 G	2"	1	4 #250KCM, #4 G	3"
225	1	4 #4/0, #4 G	2 1/2"	1	4 #300KCM, #2 G	3"
250	1	4 #250KCM, #4 G	3"	1	4 #350KCM, #2 G	3"
300	1	4 #350KCM, #4 G	3"	1	4 #500KCM, #2 G	3 1/2"
350	2	4 #2/0, #3 G	2"	2	4 #4/0, #1 G	2 1/2"
400	1	4 #500KCM, #3 G	3 1/2"	2	4 #250KCM, #1 G	3"
450	2	4 #4/0, #2 G	2 1/2"	2	4 #300KCM, #1/0 G	3"
500	2	4 #250KCM, #2 G	3"	2	4 #350KCM, #1/0 G	3"
600	2	4 #350KCM, #1 G	3"	2	4 #500KCM, #2/0 G	3 1/2"
700	2	4 #500KCM, #1/0 G	3 1/2"	2	4 #600KCM, #3/0 G	4"
800	2	4 #500KCM, #1/0 G	3 1/2"	3	4 #400KCM, #3/0 G	3"
1000	3	4 #400KCM, #2/0 G	3"	3	4 #600KCM, #4/0 G	4"
1200	4	4 #350KCM, #3/0 G	3"	4	4 #500KCM, #250KCM G	3 1/2"

NOTES:
1. ALL FEEDER SIZES LISTED MAY NOT BE USED IN PROJECT RISER DIAGRAM.
2. ELECTRICAL CONTRACTOR TO VERIFY CONDUIT SIZE REQUIRED IF WIRE TYPES OTHER THAN THOSE LISTED ABOVE ARE USED.
3. REFER TO LATEST EDITION OF NEC FOR CONDUIT TYPES REQUIRED PER THEIR LOCATION. IF CONDUIT OTHER THAN 'EMT' IS REQUIRED USE SIZE PER MAXIMUM FILL TABLES.





2 REVISED ELECTRICAL RISER DIAGRAM
DIAGRAMMATIC ONLY

MAXIMUM AVAILABLE FAULT CURRENT IS BASED ON 150kVA UTILITY TRANSFORMER WITH 2.3%Z. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF TRANSFORMER CHARACTERISTIC INDICATE A HIGHER FAULT CURRENT IS POSSIBLE.

REVISED ELECTRICAL RISER DIAGRAM NOTES:

* – ITEMS SHOWN FAINT ARE EXISTING, ITEMS SHOWN **BOLD** ARE NEW AND/OR RELOCATED.
* – ALUMINUM CONDUCTORS MAY BE USED AS LONG AS EQUIVALENT AMPACITY IS PROVIDED.
* – SERVICE EQUIPMENT SHALL BE LABELED PER NEC 110.22(A) AND 110.24(A). E.C. SHALL CONFIRM EXISTING ELECTRICAL EQUIPMENT HAS MINIMUM REQUIRED AIC RATING BASED ON MAX FAULT CURRENT AVAILABLE.
* – ALL CIRCUIT BREAKERS IN THE EMERGENCY POWER DISTRIBUTION SYSTEMS SHALL BE SELECTIVELY COORDINATED TO ENSURE THAT ANY FAULT IS CLEARED BY THE NEXT UPSTREAM OVERCURRENT DEVICE. THE GEAR MANUFACTURER SHALL PROVIDE A COORDINATION STUDY FOR REVIEW AND APPROVAL BY THE ENGINEER AND AHJ.

E.C. TO FIELD VERIFY ALL EXISTING CONDITIONS AND LOCATIONS OF EQUIPMENT PRIOR TO BIDDING WORK.

ITEMS SHOWN FAINT ARE EXISTING, ITEMS SHOWN **BOLD** ARE TO BE RELOCATED AND/OR REMOVED.

REVISED ELECTRICAL RISER DIAGRAM NOTES: (CONT'D)

1A. EXISTING UTILITY TRANSFORMER TO REMAIN.
1B. UTILITY TRANSFORMER WITH INTEGRAL METER BY UTILITY. PAD BY E.C. TO UTILITY REQUIREMENTS. COORDINATE EXACT REQUIREMENTS AND FINAL CONNECTIONS WITH UTILITY.
2. EXISTING 150kW, 208V 3Φ, DIESEL GENERATOR SET WITH 850 GALLON FUEL CAPACITY, TO REMAIN; CONFIRM EXISTING SERVICE LIGHT & RECEPTACLE ARE OPERATIONAL.
3. EXISTING TWO SETS 4#350kCM CU., IN TWO 3" CONDUITS.
4. EXISTING TWO SETS 4#350kCM CU., #1 CU. GND, IN TWO 3" CONDUITS.

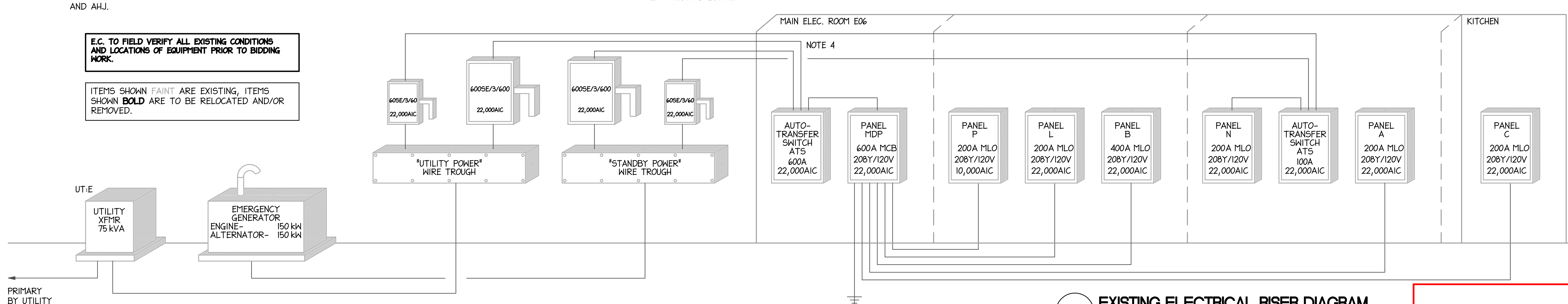
REVISED ELECTRICAL RISER DIAGRAM NOTES: (CONT'D)

5. PROVIDE ONE 600A OUTPUT BREAKER TO FEED EMERGENCY DISTRIBUTION SYSTEM. E.C. TO CONFIRM CONNECTION REQUIREMENTS PRIOR TO BEGINNING WORK.
6. BOND ALL GROUNDS TOGETHER W/ #3/0 TO FORM ONE GROUNDING SYSTEM.
7. 3-POLE (WITH SOLID NEUTRAL) SERVICE ENTRANCE RATED, AUTOMATIC TRANSFER SWITCH. LABEL EACH AS SERVICE DISCONNECT. AUTOMATIC TRANSFER SWITCHES SHALL TRANSFER TO THE GENERATOR IN THE FOLLOWING ORDER:
   1. LIFE SAFETY BRANCH
   2. CRITICAL BRANCH
   3. EQUIPMENT BRANCH
   4. NORMAL BRANCH

REVISED ELECTRICAL RISER DIAGRAM NOTES: (CONT'D)

IF THE GENERATOR OUTPUT VOLTAGE SAGS BELOW 85% OF NOMINAL AT ANY TIME THE TRANSFER SWITCHES SHALL TRANSFER OFF THE GENERATOR IN THE REVERSE ORDER.

8. DEVICE SHALL BE SERVICE ENTRANCE RATED.
9. THE EMERGENCY SYSTEM SHALL INCLUDE PERMANENT SWITCHING MEANS TO CONNECT A PORTABLE OR TEMPORARY ALTERNATE SOURCE OF POWER PER NEC700.3(F). LOCATE ADJACENT TO EXISTING GENERATOR.
10. BOND EQUIPMENT GROUNDING TERMINALS OF ELECTRICAL PANELS L1, L2, C, N1 AND N2 WITH INSULATED #10AWG PER NEC 517.14.



1 EXISTING ELECTRICAL RISER DIAGRAM
DIAGRAMMATIC ONLY

FOR CONSTRUCTION

REVISIONS
DHHS COMMENTS 11/23/20

LIGHTHOUSE ENGINEERING
NORTH CAROLINA LIGHTHOUSE ENGINEERING,PA No. C-2714 CERTIFICATE OF AUTHORIZATION
NORTH CAROLINA PROFESSIONAL SEAL 26585 ENGINEER PAUL S. SCOTT 12/01/20

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ARCHITECTURE – CONSTRUCTION MANAGEMENT – DESIGN BUILD
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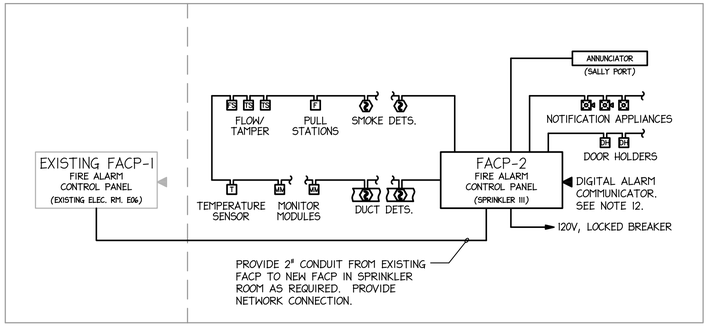
GOOD HOPE HOSPITAL
ADDITION and RENOVATIONS
410 DENIM DRIVE
ERWIN, NORTH CAROLINA

ELECTRICAL RISER DIAGRAM

COMM. NO.:	4535
DRAWN BY:	JRS
CHECKED BY:	PSS
DATE:	SEPT 11, 2020
SHEET NO.	E3.0

FIRE ALARM SYSTEM SCHEDULE

ALARM	RESPONSE: AUDIBLE/VISUAL SIGNALS WITHIN PATIENT CARE AREA (I-2 OCCUPANCY)	AUDIBLE/VISUAL SIGNALS WITHIN OFFICE AREA (B OCCUPANCY)	SEND ALARM TO CENTRAL MONITORING STATION	SEND SUPERVISORY SIGNAL TO CENTRAL MONITORING STATION	SEND TROUBLE SIGNAL TO CENTRAL MONITORING STATION	ACTIVATE HVAC SHUTDOWN	SEND ALARM SIGNAL TO STAFF COMMUNICATION SYSTEM	SEND SUPERVISORY SIGNAL TO STAFF COMMUNICATION SYSTEM	ACTIVATE NURSE'S STATION AND FIRE/SMOKE SHUTTER
GENERAL ALARM (PULL STATIONS) IN PATIENT CARE AREA (I-2 OCCUPANCY)	X		X				X		X
GENERAL ALARM (PULL STATIONS) IN OFFICE AREA (B OCCUPANCY)		X	X					X	
SMOKE DETECTOR IN PATIENT CARE AREA (I-2 OCCUPANCY)	X		X				X		
SMOKE DETECTORS IN OFFICE AREA (B OCCUPANCY)		X	X					X	
SMOKE DETECTORS FOR FIRE/SMOKE SHUTTER (I-2 OCCUPANCY)	X		X				X		X
FLOW SWITCH SIGNAL	X	X	X				X		
TAMPER SWITCH SIGNAL				X				X	
DUCT DETECTORS THROUGHOUT BUILDING				X		X		X	
SPRINKLER RISER ROOM TEMPERATURE MONITOR				X				X	
FACP POWER LOSS OR FAULT CONDITION					X			X	
TROUBLE SIGNAL THROUGHOUT BUILDING					X			X	
GENERATOR MTS MONITORING MODULE - SYSTEM ON MAINTENANCE (SEE 3/FA1.0)				X				X	
GENERATOR ATS MONITORING MODULE - SYSTEM NOT IN AUTOMATIC (NEW)				X				X	
GENERATOR ATS MONITORING MODULE - SYSTEM NOT IN AUTOMATIC (EXISTING)				X				X	
GENERATOR MONITORING MODULE - RUNNING (EXISTING)				X				X	
GENERATOR MONITORING MODULE - LOW FUEL LEVEL (EXISTING)				X				X	

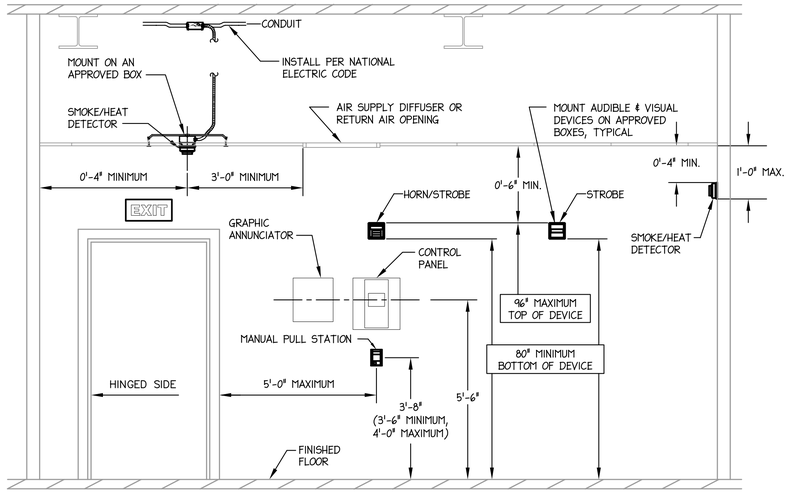


1 FIRE ALARM RISER DIAGRAM
NTS

FIRE ALARM RISER DIAGRAM NOTES:

1. FIRE ALARM SYSTEM SHALL BE ADDRESSABLE, 24V DC, POWER LIMITED, FULLY SUPERVISED, WITH 24 HOUR STANDBY BATTERY. PANEL SHALL BE SIMPLEX 4010ES OR EQUAL, FULLY COMPATIBLE WITH EXISTING SIMPLEX 4010ES FACP. PANEL TO BE SURFACE MOUNTED.
2. FIRE ALARM DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH NFPA 72 AND 'ADA'.
3. ALL FIRE ALARM WIRING SHALL BE IN CONDUIT OR AS ALLOWED BY NEC OR LOCAL AHJ.
4. DEVICE QUANTITIES SHALL BE AS INDICATED ON THE PLANS. VERIFY QUANTITY AND EXACT LOCATION WITH AUTHORITY HAVING JURISDICTION TO ENSURE BID INCLUDES ALL REQUIRED WORK.
5. DUCT MOUNTED SMOKE DETECTORS ARE TO BE PROVIDE AND WIRED BY E.C., INSTALLED BY M.C.
6. ELECTRICAL CONTRACTOR SHALL PROVIDE A FIRE ALARM LAYOUT PLAN AT THE FACP AND THE ANNUNCIATOR PANEL IN THE LOBBY.
7. TESTING OF THE FIRE ALARM SYSTEM SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
8. FIELD COORDINATE EXACT QUANTITY AND LOCATION FOR FLOW AND TAMPER SWITCHES WITH SPRINKLER CONTRACTOR INCLUDING BACK FLOW PREVENTER WHICH MAY BE LOCATED OUTSIDE ON SITE.
9. ALL VISUAL DEVICES IN A COMMON VIEWING AREA SHALL BE SYNCHRONIZED.
10. ALL NOTIFICATION APPLIANCES WITH AUDIBLE NOTIFICATION CAPABILITIES SHALL EMIT A THREE-PULSE TEMPORAL PATTERN TONE COMPLIANT WITH ANSI 53.41.
11. PRIVATE SIGNALING MODE SHALL BE USED WITHIN THE PATIENT CARE PORTIONS OF THE BUILDING (I-2 OCCUPANCY) FOR NOTIFICATION OF INDIVIDUAL OCCUPANTS. AUDIBLE NOTIFICATION APPLIANCES WITHIN THE STAFF AREA SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15DBA ABOVE THE AVERAGE AMBIENT SOUND PRESSURE LEVEL. FACILITY STAFF SHALL BE RESPONSIBLE FOR OCCUPANT NOTIFICATION AND EVACUATION. REFER TO NFPA 72 18.4.4.2 AND 18.6 FOR FURTHER INFORMATION.
12. A DIGITAL CELLULAR COMMUNICATION DEVICE SHALL BE THE PRIMARY MEANS OF COMMUNICATION FOR THE FIRE ALARM SYSTEM CENTRAL STATION. A LAND LINE COMMUNICATION DEVICE OR A HARD WIRED IP DEVICE MAY BE USED AS THE SECONDARY MEANS OF COMMUNICATION.
13. COORDINATE EMERGENCY GENERATOR (AND TRANSFER SWITCH) MONITORING AND CONTROL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
14. MANUAL PULL STATIONS SHALL BE INSTALLED WITH TAMPER PROOF COVER WHICH SOUNDS A LOCAL ALARM WHEN OPENED, EQUAL TO SIMPLEX 2099-9815.

NFPA 72 AND ADA DEVICE
INSTALLATION REQUIREMENTS



2 ADA DEVICE INSTALLATION
DIAGRAMMATIC ONLY

FIRE ALARM SYMBOL LEGEND

FACP	FIRE ALARM CONTROL PANEL, SURFACE MOUNTED.
FAA	FIRE ALARM SYSTEM ANNUNCIATOR PANEL, 48" A.F.F.
F	FIRE ALARM SYSTEM MANUAL PULL STATION, 48" A.F.F. PROVIDE WITH UL LISTED NON-SOUNDING PROTECTIVE COVER.
	FIRE ALARM SYSTEM ALARM INDICATING DEVICE, HORN/STROBE. 80" A.F.F.
	FIRE ALARM SYSTEM ALARM INDICATING DEVICE, HORN/STROBE. CEILING MOUNTED.
	FIRE ALARM SYSTEM ALARM INDICATING DEVICE, STROBE. 80" A.F.F.
	FIRE ALARM SYSTEM ALARM INDICATING DEVICE, STROBE. CEILING MOUNTED.
	FIRE ALARM SYSTEM CEILING MOUNTED SMOKE DETECTOR, MULTI-MODE TYPE.
	FIRE ALARM SYSTEM CEILING MOUNTED COMBINATION FIXED TEMPERATURE AND RATE OF RISE HEAT DETECTOR.
	FIRE ALARM SYSTEM DUCT MOUNTED SMOKE DETECTOR, PROVIDED AND WIRED BY E.C., INSTALLED BY M.C.; PROVIDE CEILING ACCESS PANEL.
TS	FIRE ALARM SYSTEM TAMPER SWITCH. FIELD COORDINATE EXACT QUANTITY AND LOCATIONS.
FS	FIRE ALARM SYSTEM FLOW SWITCH. FIELD COORDINATE EXACT QUANTITY AND LOCATIONS.
T	FIRE ALARM SYSTEM ROOM TEMPERATURE SUPERVISORY SWITCH. ALARM SHALL INDICATE A DECREASE IN ROOM TEMP TO BELOW 40°F AND ITS RESTORATION TO ABOVE 40°F. FIELD COORDINATE EXACT QUANTITY AND LOCATIONS.
MM	DEVICE MONITORING POINT. PROVIDE ALL REQUIRED HARDWARE TO FACILITATE MONITORING OF DEVICE INDICATED.
CM	CONTROL POINT. PROVIDE ALL REQUIRED HARDWARE TO FACILITATE CONTROL OF DEVICE INDICATED.
DH	MAGNETIC DOOR HOLDER (SUPPLIED WITH DOOR HARDWARE), CONNECT TO LOCAL SMOKE DETECTOR.
FSD	U.L. FIRE/SMOKE DAMPER WITH ACCESS DOOR. COORDINATE WITH M.C.

GENERAL FIRE ALARM NOTES

1. AUDIBLE FIRE ALARM NOTIFICATION APPLIANCES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15DBA ABOVE THE AVERAGE AMBIENT SOUND PRESSURE LEVEL AT ALL LOCATIONS WITHIN THE OCCUPIABLE SPACE. TYPICAL AVERAGE AMBIENT SOUND PRESSURE LEVELS ARE GIVEN IN NFPA 72 TABLE A-4-3.2.
2. ALL EXTERIOR FIXTURES AND DEVICES SHALL BE RATED FOR OPERATION AT 0° F AND SHALL BE DAMP OR WET LABELED AS REQUIRED.
3. ALL QUESTIONS MUST BE SUBMITTED IN RFI FORMAT TO THE ARCHITECT AND MUST BE ADDRESSED BY THE APPROPRIATE DESIGNER OF RECORD PRIOR TO BECOMING A PROPOSED CHANGE ORDER.
4. FIRE ALARM SYSTEM POWER SUPPLIES SHALL BE SIZED TO PROVIDE 25% SPARE CAPACITY TO ALLOW FOR ADDITIONAL LOAD DUE TO ADDITIONAL VISIBLE ALARM NOTIFICATION PER IBC SECTION 907.5.2.3.3. FIRE ALARM NOTIFICATION CIRCUITS SHALL ALSO BE SIZED TO PROVIDE FOR 25% SPARE CAPACITY.
5. IF THE LISTED CANDELA RATING OF A STROBE DEVICE IS NOT READILY AVAILABLE FROM THE MANUFACTURER SELECTED FOR THE PROJECT THEN NEXT STANDARD SIZE UP SHALL BE ACCEPTABLE AND VOLTAGE DROP AND BATTERY CALCULATIONS SHALL BE PERFORMED BASED ON THE DEVICES TO PROVIDED.

Drawing Sheet List

Number	Title
FA0.0	FIRE ALARM LEGEND, NOTES AND SCHEDULES
FA1.0	FIRE ALARM PLAN

FOR CONSTRUCTION

REVISIONS

LIGHTHOUSE ENGINEERING
400 W. Morgan Street, Suite 100
Raleigh, North Carolina, 27603
tel 919.835.9781
fax 919.835.9754
MECHANICAL ELECTRICAL PLUMBING

NORTH CAROLINA LIGHTHOUSE ENGINEERING, PA No. C-2714 CERTIFICATE OF AUTHORIZATION

NORTH CAROLINA PROFESSIONAL SEAL 26585 ENGINEER PAUL S. SCOTT 9/11/20

Stogner Architecture, PA
ARCHITECTURE - CONSTRUCTION MANAGEMENT - DESIGN BUILD
615 East Broad Avenue, Rockingham, North Carolina, 28379
Phone 910-895-1111 Fax 910-895-6874

GOOD HOPE HOSPITAL
ADDITION and RENOVATIONS
410 DENIM DRIVE
ERWIN, NORTH CAROLINA

FIRE ALARM LEGEND, NOTES AND SCHEDULES

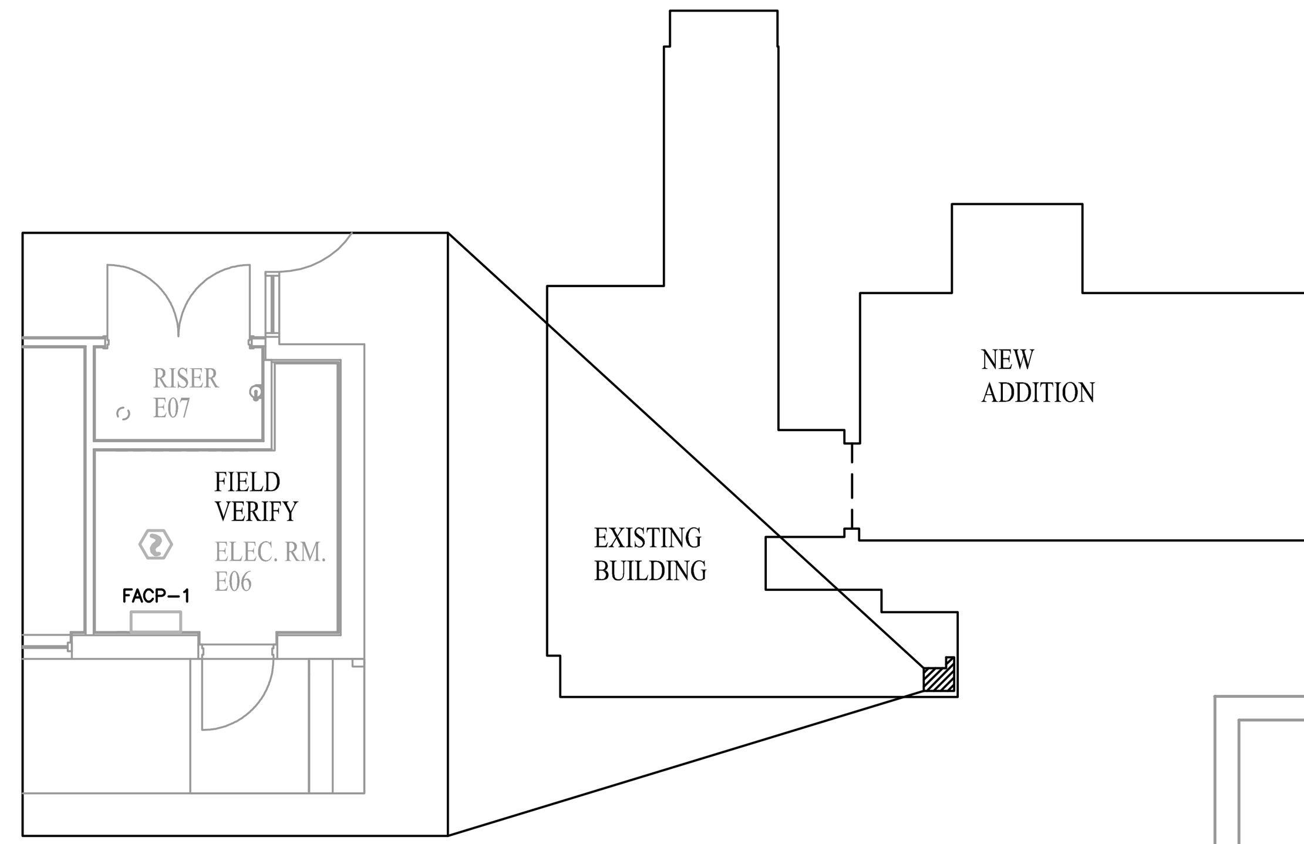
COMM. NO.: 4535
DRAWN BY: JRS
CHECKED BY: PSS
DATE: SEPT 11, 2020
SHEET NO. FA0.0

WALL LEGEND: (SEE ARCH. PLANS FOR INFO)

- 1-HR FIRE RATED PARTITION
- 1-HR FIRE RATED SMOKE BARRIER
- SMOKE PARTITION

REVISIONS

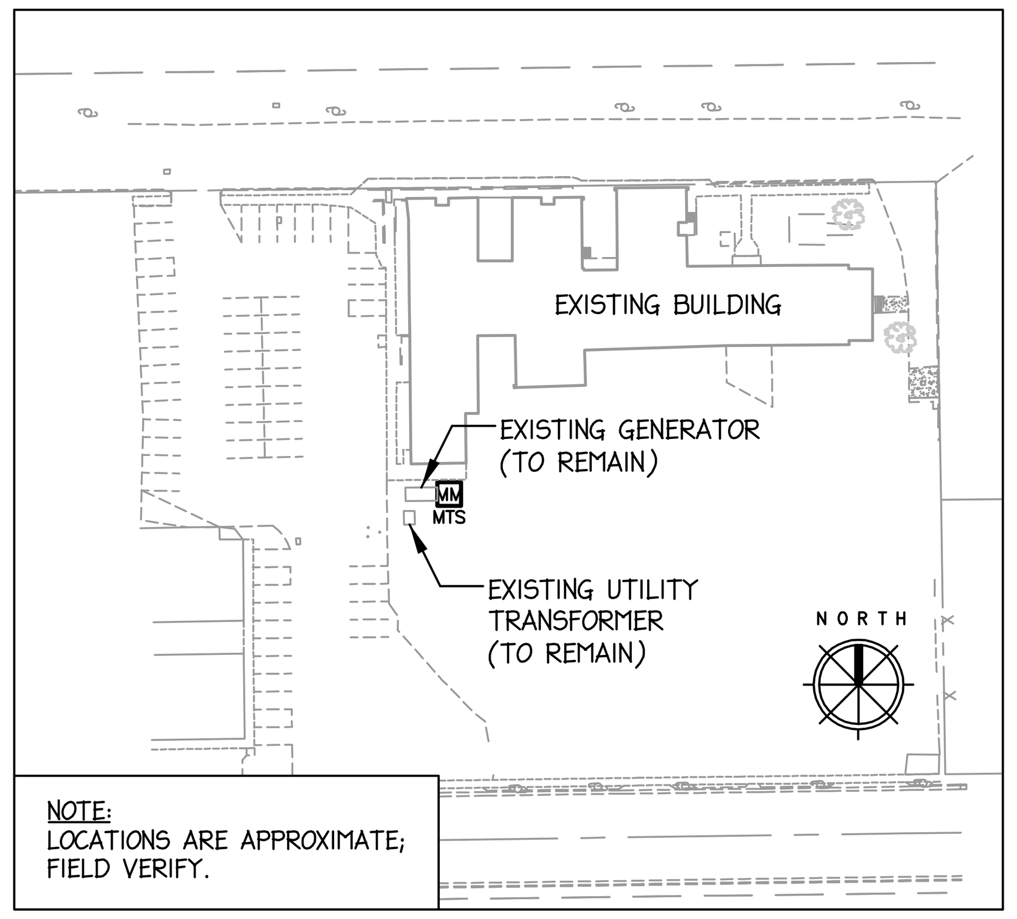
DHHS COMMENTS 11/23/20



4 FIRE ALARM KEY PLAN
1/8"=1'-0"

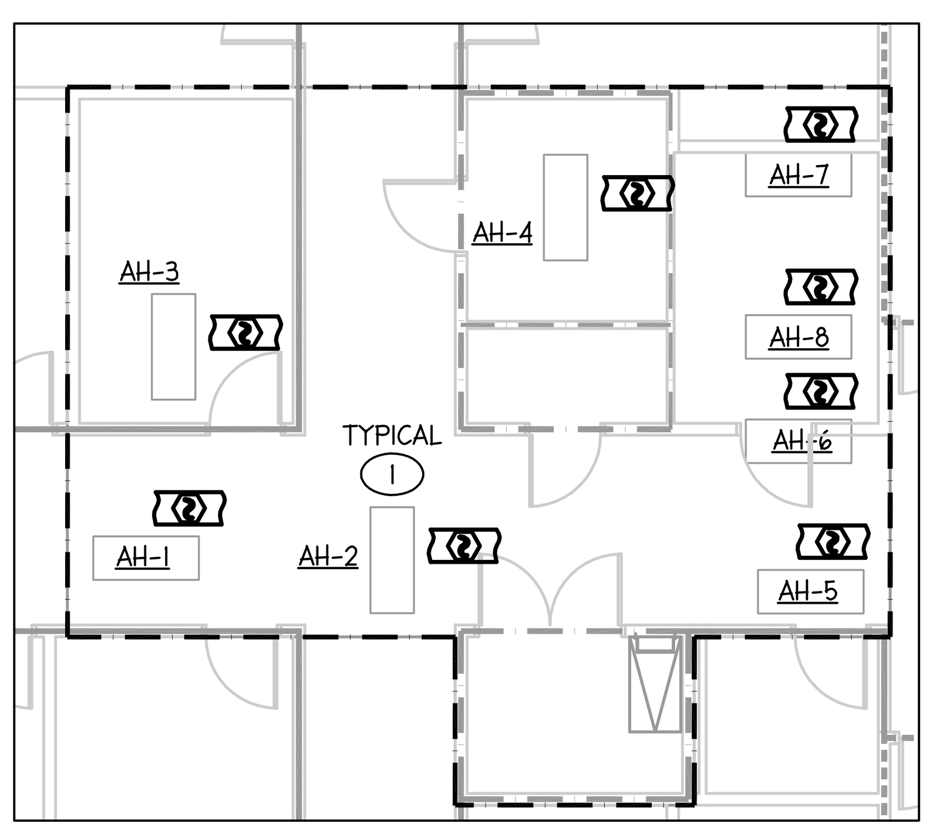
LEGEND

[hatched box]	1-HR FIRE RATED CEILING



NOTE:
LOCATIONS ARE APPROXIMATE;
FIELD VERIFY.

3 FIRE ALARM SITE PLAN
DIAGRAMMATIC ONLY



2 FIRE ALARM - MEZZANINE PLAN
1/8"=1'-0"

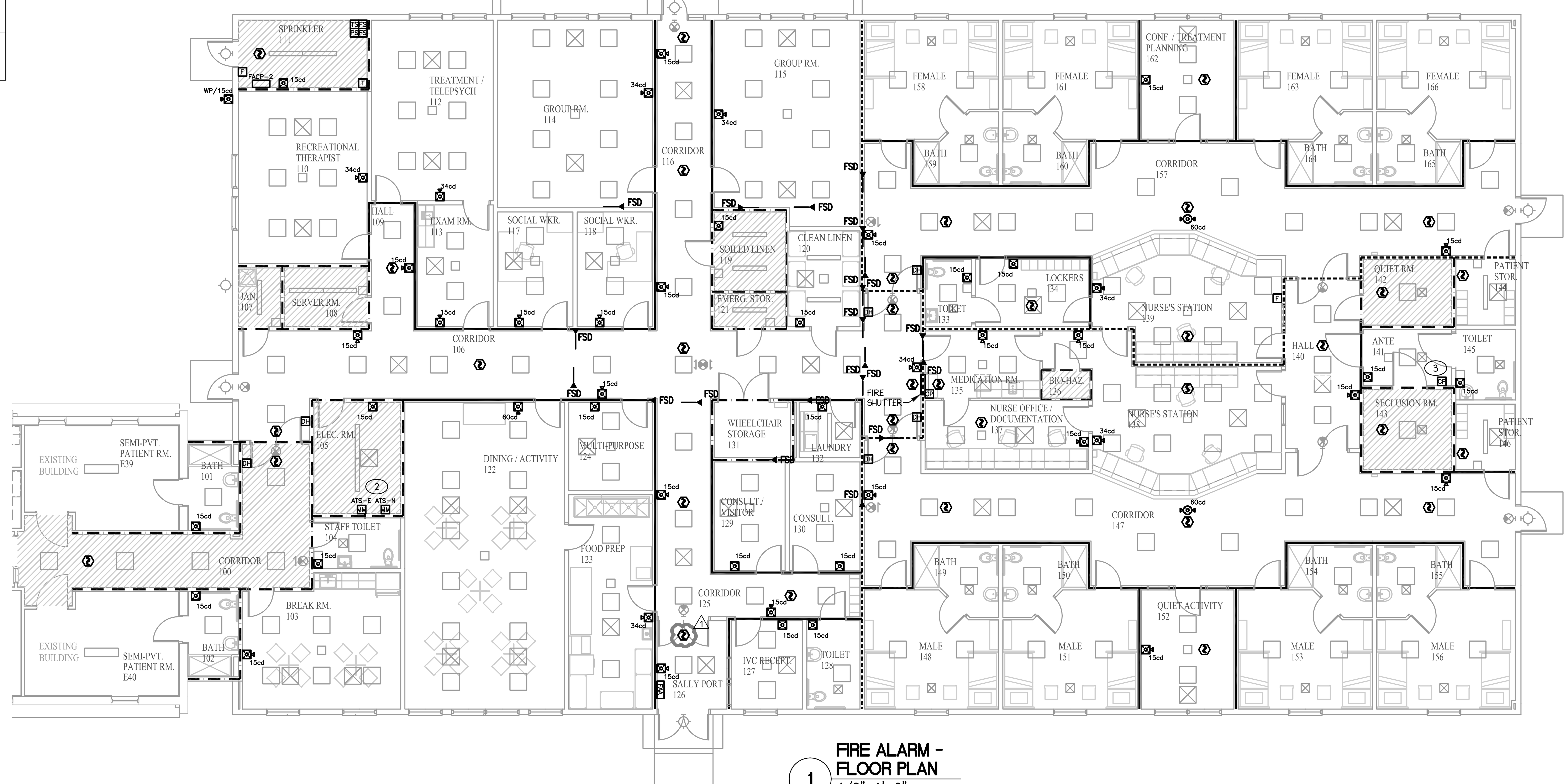
GENERAL NOTES:

1. SMOKE DETECTORS SHALL GENERATE LOCAL ALARM AND NOTIFICATION MESSAGE TO STAFF VIA LOW VOLTAGE COMMUNICATION SYSTEM.
2. PRIVATE SIGNALING MODE SHALL BE USED IN THE PATIENT CARE UNITS.
3. COORDINATE ALL DEVICE LOCATIONS (INCLUDING CEILING DEVICES) WITH OTHER TRADES TO AVOID CONFLICTS.
4. COORDINATE EXACT LAYOUT OF SPRINKLER RISER ROOM 111 WITH SPRINKLER CONTRACTOR.
5. COORDINATE QUANTITY AND LOCATION OF ALL TAMPER, FLOW, AND MONITORED POINTS ON GENERATOR WITH SPRINKLER CONTRACTOR.
6. VERIFY PULLSTATION LOCATIONS WITH LOCAL FIRE MARSHAL PRIOR TO ROUGH-IN.

TAGGED NOTES:

1. AIR HANDLER LOCATED ON MECHANICAL PLATFORM. SEE MECHANICAL PLANS FOR FURTHER INFORMATION.
2. CONFIRM LOCATION AND CONNECTION REQUIREMENTS WITH E.C.
3. SECLUSION ROOM LOCKS MUST BE INTERLOCKED WITH FIRE ALARM SYSTEM SO THAT DOOR AUTOMATICALLY UNLOCKS WHEN FIRE ALARM SYSTEM IS ACTIVATED.

OUTDOOR SPACE
01



1 FIRE ALARM - FLOOR PLAN
1/8"=1'-0"

LIGHTHOUSE ENGINEERING
400 W. Morgan Street, Suite 100
Raleigh, North Carolina 27603
MECHANICAL ELECTRICAL PLUMBING

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FIRE ALARM PLAN

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